LEWIS RIVER WILDLIFE HABITAT MANAGEMENT PLAN
ANNUAL PLAN FOR OPERATION PHASE 2010

Federal Energy Regulatory Commission
Project Nos. 935, 2071, and 2111

PACIFICORP ENERGY
A DIVISION OF PACIFICORP

825 NE Multnomah, Suite 1500
Portland, Oregon 97232

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TCC 30-day review draft

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ACRONYMS & ABBREVIATIONS

To enhance readability, the use of acronyms and abbreviations has been minimized in this document. However, for longer terms that are frequently used throughout, as well as certain units of measurement, the following acronyms and abbreviations have been used.

ac	acre
cm	centimeter
FERC	Federal Energy Regulatory Commission
ft	foot
GIS	Geographic Information System
ha	hectare
in.	inch
IP	International Paper
km	kilometer
m	meter
mi.	mile
ROW	Right-of-way
SOSEA	Spotted Owl Special Emphasis Area
SR	State Route
TCC	Terrestrial Coordination Committee
THA	timber harvest area
WDNR	Washington Department of Natural Resources
WHMP	Wildlife Habitat Management Plan

1.0 Introduction

This Annual Plan fulfills PacifiCorp's obligations for the license's Article 403 and Settlement Agreement 10.8.3(FERC 2008a, FERC 2008b, FERC 2008c, PacifiCorp et al. 2003). The objective of this plan is to detail the terrestrial protection, mitigation, and enhancement measures that are planned to be implemented on Lewis River Wildlife Habitat Management Plan (WHMP) lands in the following operational year (i.e., January 1 to December 31, 2010) (PacifiCorp 2008). This plan also provides details on available WHMP funding, outlines proposed costs, and demonstrates consistency with the Lewis River WHMP goals and objectives, and state and Federal regulations.

Terrestrial Coordination Committee (TCC) members were provided a draft of this report on March 10, 2010 to review and provide comments within 30 days or by April 12, 2010. These comments were either incorporated into this report or if not, an explanation has been provided and included in Appendix A (to be completed before finalizing the report). In accordance with the Settlement Agreement 14.2.6, this report was submitted to the FERC (Federal Energy Regulation Commission) no later than 30 days, or by May 12, 2010, after the close of the TCC's comment period.

Appendix B provides a Gantt chart that lists each of the WHMP's habitat management and plan-wide goals inspections and management actions that are scheduled to occur in 2010. This chart is to be used as a baseline for scheduling inspections and management actions, which are discussed in further detail in the subsequent sections. The 2010 tasks that are described in this plan are identified in the chart as scheduled.

2.0 Wildlife Habitat Management Plan Funding

Settlement Agreement 10.8.2.1 describes the annual funding for PacifiCorp lands managed under the WHMP as $27 (in 2003 dollars, Adjusted for Inflation) per acre owned in fee simple and $13.50 (in 2003 dollars, Adjusted for Inflation) per acre for other Interests in Land (e.g. conservation easements) (PacifiCorp et al. 2004). As of December 31, 2009 PacifiCorp has 10,136 ac (4,104 ha) of WHMP lands owned in fee simple and has 16 ac (6 ha) of Interests in Lands. The 2010 WHMP budget in 2010 dollars will be $322,071.92 ($272,970 in 2003 dollars) minus the $2,546.64 to account for the 2009 WHMP budget overage for a total of $319,525.28. Appendix C provides the overall 2010 budget as well as the budgets for administration, management areas, and plan-wide goals. To accurately reflect costs, the 2010 budget is based on cost expended in 2009 and therefore differs from original estimates in the WHMP (PacifiCorp 2008).

3.0 Land Acquisition

In accordance with the Settlement Agreement 10.1, 10.2, and 10.3, PacifiCorp has established the Yale Land Acquisition and Habitat Protection Fund, the Swift No. 1 and Swift No. 2 Land Acquisition and Habitat Protection Fund, and the Lewis River Land Acquisition and Habitat Protection Fund, which are referred to as the Yale, Swift, and the Lewis River funds respectively. Article 403 in the Yale and Swift 1 licenses require that the annual plan describe how the funds are to be used and the lands proposed to be acquired under these funds.

The Yale Fund is currently at $3,203,742.47 (as of December 31, 2009) and no contributions are scheduled for 2010. In 2009, PacifiCorp purchased 51 ac (21 ha) of habitat in fee simple ownership north of Speelyai Canal. This property is known as the Jackman Property and Appendix D provides an aerial image and vicinity map of the property. In 2010, the TCC will continue to identify and assess land acquisition opportunities within vicinity of the Yale Project.

The Swift No. 1 and Swift No. 2 Fund is currently at $3,222,000.00 (as of December 31, 2009) and no contributions are scheduled for 2010. In 2009 PacifiCorp Energy, with TCC approval, developed an agreement with the Columbia Land Trust to complete a feasibility assessment for acquiring Pope Resource lands surrounding Swift Reservoir by either fee simple or interests in land. This assessment will be completed in 2010 and used to develop a purchase for sale or conservation easement agreement proposal for Pope Resources lands north of Swift Reservoir. In addition, the TCC continues to look for other interests of land opportunities that are within 5.0 mi. (3.1 km) of Swift No. 1 and Swift No. 2 projects.

The Lewis River Fund will not have contributions until the six months following the fourth year of the FERC licenses for Yale and Swift No. 1 Projects, or by December 26, 2012.

4.0 Administration

4.1 WHMP Section 3.1 Terrestrial Coordination Committee

Settlement Agreement Section 14.2.5 requires that the TCC meet at least annually and during the development of the WHMP the TCC met at least monthly. Since the WHMP has been completed and is entering into the second year of the implementation phase, it's anticipated that the TCC meetings may be reduced to every other month or quarterly. TCC meetings for 2010 will be determined on as needed basis.

4.2 WHMP Section 3.3 Annual Report

An Annual Report describing the terrestrial protection, mitigation, and enhancement measures that occurred on WHMP lands during 2009 was submitted to the TCC for the 30-day review by March 31, 2010.

4.3 WHMP Section 3.4 Annual Plan

This Annual Plan was submitted to the TCC for 30-day review on March 10, 2010. The TCC comments were addressed in the final copy and were submitted to FERC on March 25, 2010.

4.4 WHMP Section 3.5 Restoration Plans

No lands were identified as significantly damaged by anthropogenic processes in 2009; therefore there is no restoration plan required in 2010.

5.0 Old-growth Habitat Management

5.1 Inspections

Old-growth aerial surveys will be conducted concurrently with the aerial osprey (*Pandion haliaetus*) and bald eagle (*Haliaeetus leucocephalus*) nest surveys. Differentiating the cost between the two surveys is too difficult; therefore the funds budgeted for the osprey and bald eagle nest survey include the cost of the old-growth aerial survey.

Originally, initial evaluations were scheduled to begin in license year 2 (calendar year 2010) and be completed in license year 3 (calendar year 2011). However because old-growth connectivity is dependent on knowing which current old-growth stands meet old-growth stand criteria, the initial evaluation will be completed in its entirely in 2010.

5.2 Management Actions

Old-growth connectivity evaluations were originally scheduled to begin in 2010 and to be completed in 2011. As stated above this is dependent on the old-growth initial evaluations being completed, therefore these evaluations have been deferred until 2011. No other management actions are expected to occur in 2010.

6.0 Wetland Habitat Management

6.1 Inspections

Annual inspections are the only inspections scheduled to occur in 2010. The initial evaluations are scheduled to occur in license years 3 and 4 (calendar years 2011 and 2012). Post-treatment inspections occur 1 year following the implementation of a management action. No management actions, other than the annually required actions, were implemented in 2009; therefore no post-treatment inspections will be required in 2010.

6.2 Management Actions

The only management actions scheduled to occur in 2010 is the stoplog removal/replacement for bullfrog management and high winters flows, and review the Washington Department of Natural Resources Heritage Database. In addition, old man's beard (*Clematis vitalba*) will be treated at Banker's Creek and along Frasier Creek between Banker's pond and the 900 road and reed canary grass (*Phalaris arundinacea*) will be treated at Bridge Wetland (Appendix H).

7.0 Riparian Habitat Management

7.1 Inspections

Riparian Mixed Forest Stand Evaluations will begin in 2010 (license year 2) and are expected to be completed in 2011 (license year 3).

7.2 Management Actions

The only riparian habitat management actions that are expected to occur in 2010 are establishing buffers around the 2010 timber harvest activities and/or water type modifications. The 2010 proposed timber harvest will require a 200-ft (60-m) shoreline buffer and a 100-foot (31-m) stream buffer. Timber harvest areas that will be pre-commercially thinned and are within the designated riparian buffer will need to have the buffer marked prior to conducting the work. These Timber harvest areas are identified in Section 13.2 in Table 13.2.4 and total approximately 5,800 ft (1,768 m) of stream. At least one water type modification is expected for WHMP lands on the Jackman Property in 2010.

8.0 Shrubland Habitat Management

8.1 Inspections

The initial evaluations were completed in 2009 and the report will be completed in 2010. A schedule for completing the periodic inspections will be included in this report and the inspections may begin as early as 2011.

8.2 Management Actions

No management actions are scheduled for 2010.

9.0 Farmland, Idle Areas, and Meadows Habitat Management

9.1 Inspections

The initial evaluations will be completed in 2010 and the final report completed in license year 3 (calendar year 2011). The annual spring inspections can be completed simultaneously with the initial inspections. The annual fall inspection will occur as scheduled in the WHMP in 2010.

9.2 Management Actions

Regularly scheduled annual management actions will occur in 2010 and will include:

- Annual spring mowing will occur at the Saddle Dam farmland fields, and Upper Winter Creek and Hamm Meadows. Hamm Meadows are the 5 existing meadows on the recently acquired Jackman Property) (Appendix D). Meadows are not typically mowed in the spring, but these meadows have not been managed in several years, so conducting a spring and fall mowing will reduce the thatch on the fields and invigorate new grass growth.
- Annual fall mowing will occur at the Saddle Dam farmland fields, Upper Hanley-Curry, Lower Hanley-Curry, Speelyai, Bridge, Upper McKee, Lower Mckee, Upper Winter Creek, Lower Winter Creek, and Hamm meadows.
- Soil testing for Unit 26, Upper and Lower Winter Creek, Upper and Lower Hanley-Curry, and Hamm meadows and Saddle Dam farmland fields 3, 4, and 5.
- Annual fall fertilizing will occur at the Saddle Dam farmland fields, Upper Hanley-Curry, Lower Hanley-Curry, Speelyai, Bridge, Upper McKee, Lower Mckee, Upper Winter Creek, Lower Winter Creek, and Hamm meadows.
- Upper Winter Meadow will be treated for Canada thistle (*Cirsium arvense*), scotch broom (*Cytisus scoparius*), and bracken fern (*Pteridium aquilinum*) (Appendix H).
- Hamm Meadows will be treated for scotch broom and Himalayan blackberry (*Rubus armeniacus*) (Appendix H).
- The Saddle Dam Farm and surrounding idle areas will be treated for scotch broom (Appendix H).
- In 2009 the scotch broom in Reese Meadow area was mowed to as short as possible to remove all green growth. As a follow up, the new scotch broom growth will be sprayed in 2010 (Appendix H).
- A visual screen will be planted along the northern property line adjacent to the resident to screen the meadows from State Route (SR) 503 (Appendix D). This area is approximately 625 ft (190 m) long and will be planted every 10 feet with a mix of black hawthorn *(Crataegus douglasii*), Douglas-fir *(Pseudotsuga menziesii*), hazel *(Corylus cornuta*), oceanspray *(Holodiscus discolor*), western hemlock *(Tsuga heterophylla*), and western red cedar *(Thuja plicata*) for a total of 63 plants. The shrubs may be planted together into about 6 groupings to reduce the cost of exclosures.

- The Mole Terminator will be contracted to control the mole population in Saddle Dam farm fields using a Rodenator®.

10.0 Orchard Management

10.1 Inspections

Annual winter and summer inspections will occur in 2010 at Yale Dam, ROW (Right-of-Way) 5/12 - 6/12, ROW 7/12 - 8/12, ROW 8/12 - 1/13, ROW 4/13 - 5/13, ROW 3/14 - 4/14, ROW 9/14 - 1/15, ROW 1/15 - 2/15, ROW 1/17- 2/17, ROW 5/17- 6/17, ROW 6/17 - 1/18, and ROW 2/18 - 3/18. The summer inspection will also include these orchards and the orchards that are scheduled to be pruned in 2011, which include Hanley-Curry, ROW 1/11-2/11, ROW 4/11-5/11, ROW5/11-6/11, and ROW 2/1-3/19. Speelyai is scheduled for license year 3 (calendar year 2011); however, this will be deferred to license year 4 (calendar year 2012) to distribute the workload between the years.

10.2 Management Actions

Dormant pruning is expected to occur at each of the ROW orchards. Yale Dam orchard was pruned in 2008, therefore it is unlikely that the trees will require pruning in 2010. Buncombe Hollow Orchard will be mowed to promote forage and reduce invasive plant species. Annual maintenance is expected to require replacement plantings, exclosures repair, and supplemental watering.

11.0 Transmission Line Right-of-Way Habitat Management

11.1 Inspections

The annual inspection and initial evaluation report will be completed in 2010. It is expected that post-treatment inspections will be required at sites that have had hazard tree, invasive plant species, or transmission line structure work.

11.2 Management Actions

The only Transmission Line Right-of-Way management actions that are scheduled to occur in 2010 are the annual mowing and soil sampling for the Speelyai Bay, Woodland Park West, and Wilkinson ROW forage areas. It is expected that the soil sample test results will indicate that each of the ROW forage areas will require a fall fertilizer application. Himalayan blackberry will be treated along the Speelyai Line between towers 2/15 – 4/15 and 7/14-8/14 (Appendix H).

12.0 Unique Area / Habitat Management

12.1 Inspections

The annual inspections for oak stands 6-20, 6-45b, 6-45c, 6-45d, and 6-58 will occur in 2010 and no other inspections actions are expected to occur.

12.2 Management Actions

Several of the oak sites inspected in 2009 have extensive crown contact and competition from adjacent oak trees. This is typical of oak stands that lack natural and regular disturbance to produce a varying age class. The result is a dense stand of tall slender trees that are attempting to outgrow their neighbors to compete for sunlight (Campbell 2003). Removing younger, smaller and less vigorous oak trees is a proven practice for improving an oak stand's structural diversity, crown size, mast production, and overall wildlife habitat (Vesley and Tucker 2004, Campbell 2003, Washington Department of Fish and Wildlife 2008).

Because the crown competition differs widely between oak tree clumps, it is difficult to write a single prescription for thinning the oak trees. A biologist will individually select and mark the trees for thinning. Emphasis will be placed on retaining the largest oak trees and trees with well formed and dominant crowns (Campbell 2003). The work will be conducted between October 15 and December 31. Trees will be cut at the base at a height of less than 8 in. (20 cm) to optimize sprouting from the root crown and provide recruitment for future generation (Vesley and Tucker 2004). Due to the limited access to the oak sites it would be difficult to remove or chip the oak material, therefore trees will be bucked and piled outside of the oak sites in the adjacent forested areas. Below is a photo showing a typical oak tree clump and the crown competition among oak trees.

The following is a list of 2010 work per oak stand. It is difficult to accurately estimate the cost, therefore work will be prioritized for Oak Stand 5-1, 5-2, 6-45, 6-52, and 1-12 respectively and will continue until the budgeted amount is met.

- Oak Stand 1-12 - Treat scotch broom (*Cytisus scoparius*) and remove crown competition by pruning or thinning approximately 26 oak tree clumps (Appendix H).
- Oak Stand 5-1 - Remove the crown competition by pruning or thinning approximately 11 oak tree clumps and remove two Douglas-firs (*Pseudotsuga menziesii*).

- Oak Stand 5-2 - Remove the crown competition by pruning or thinning approximately 25 oak tree clumps, and remove, prune or top 13 Douglas-firs and 1 bigleaf maple (*Acer macrophyllum*).
- Oak Stand 6-45 - Pull all conifer seedlings. Remove the crown competition by pruning or thinning approximately 11 oak tree clumps, and remove, prune or top 2 Douglas-firs and 3 bigleaf maple. Remove all broken oak tree limbs.
- Oak Stand 6-52 - Remove the crown competition by pruning or thinning oak tree clumps and prune 1 Douglas-fir

13.0 Forestland Habitat Management

13.1 Inspections

The annual spring and fall Timber Harvest Area (THA) inspections (i.e., reforestation inspections) will occur in 2010.

13.2 Management Actions

2010 Proposed Forestland Practices

Approximately 33.9 acres (13.7 ha) are proposed for clear-cutting in Management Unit 11. This management unit is within the Spotted Owl Special Emphasis Area (SOSEA) 2.0-mile (3.2-km) buffer. The Timber Harvest Areas are comprised of 2 areas that are approximately 15.5 ac (6.3 ha) and 18.4 ac (7.4 ha) in size (Appendix E). Additionally there is an old meadow (not identified in the vegetation cover type maps) that would have access established and encroaching conifer removed along the margins. Management emphasis in this unit is to enhance northern spotted owl (*Strix occidentals*) habitat and specifically to develop towards 50% of the WHMP lands within the SOSEA buffer as high quality nesting habitat. Currently this management unit has only 14% high quality nesting habitat that is comprised of mature conifer forest (32.0 acres [13.0 ha]) and old growth conifer (23.0 acres [9.3 ha]). The proposed harvests will improve forest diversity by removing red alder (*Alnus rubra*) dominated stands and replanting with mixed conifer species (Appendix E). A portion of one harvest area lies inside an area designated as the Canyon Creek bald eagle roost, but the intent is to remove hardwoods and replant the area with conifer (see Appendix E for details). This has been done in the past in this area. The units upland mixed stands (81.9 acres [33.0 ha]) were examined for enhancing spotted owl habitat but overall the conifer component and size class was considered very suitable as is and any disturbance wasn't considered warranted. Appendix E provides information and maps of the proposed 2010 timber harvest areas, Wildlife/Forestry Evaluation Forms, and sensitive species/habitat assessments from the first pre-cut survey.

Management Unit 18 currently lacks access to WHMP lands for habitat management and any improved forage areas for elk. A road is proposed for development in 2010 (Appendix E) that would provide access for future habitat management and year-round access to the transmission

ROW. A proposed Timber Harvest Area of approximately 28.6 ac (11.6 ha) has been established for this area but budgets may delay this harvest until 2011 (Appendix E).

The winter storm of January 2009 caused significant road damage on WHMP lands that has been largely repaired. However on the 650 road, there is a small landslide on the reservoir-side (south side) of the road that jeopardizes the existing road. For safety, PacifiCorp proposes to move the road approximately 750 ft (228.6 m) north of the slide area in 2010 (Appendix E). The new road layout will require removal of trees in a mid-successional conifer stand that was commercially thinned in 1993. No raptor surveys were performed in this area in 2009, but will be scheduled in 2010 and discussed with the TCC. Because the stand was previously thinned, any raptor nests would be easily visible.

2011 Forestland Harvest Planning

Forest harvest is proposed in Unit 22 of the Siouxon SOSEA (Appendix F). The intent for lands within the Siouxon Spotted Owl Special Emphasis Area is to provide a greater level of protection for the spotted owl than would be provided under the Washington Forest Practices Act and timber management can be conducted specifically for improving spotted owl habitat. The management unit currently consists of a total of 518.5 ac (209.8 ha) of which 240.6 ac (97.4 ha) or 46% is upland deciduous, 6.4 ac (2.6 ha) or 1.2% is old-growth, and 30.9 acres (12.5 ha) or 6.0% is mature conifer forest. The proposed timber harvest areas consists of 3 separate upland deciduous harvests (10.0 ac. [4.0 ha], 17.0 ac. [6.9 ha], and 16.5 ac. [6.7 ha]) that do not provide suitable nesting, roosting, or foraging habitat for spotted owls In addition, if the 2010 budget doesn't support the 2010 proposed timber harvest for Unit 18, then that harvest will be deferred until 2011.

The harvests areas are located along the IP (International Paper) road on the east side of Yale Reservoir and would be accessed from existing Washington Department of Natural Resources (WDNR) roads. Only short spur roads would be necessary to access the harvest areas. Based upon the original plan for this management unit, the remainder of the unit would be unmanaged due to access difficulties. This proposed harvest is pending road repair on WDNR lands to allow access to PacifiCorp property.

First Precut Survey

The first precut survey forms for the 2010 timber harvest areas are in Appendix E. The first precut surveys for the 2011 harvest will be completed prior to the end of fall.

Harvest Area Traverse and Geographic Information System Update

The 2010 timber harvest areas will be traversed and the geographic information system (GIS) database updated following the completion of the timber harvests. The 2011 proposed timber harvest activities will be traversed and entered into the GIS database to develop maps for review with the TCC.

Second Precut Survey

The second precut survey for the 2010 timber harvests will be completed in the spring. Appendix E maps show the timber harvest areas delineated boundaries, roads, and sensitive species/habitat, such as riparian, shoreline, and wetland buffers.

Terrestrial Coordination Committee

The TCC on site meeting to review the proposed 2010 timber harvest areas will be scheduled between April 1 and May 31.

Timber Harvest Area Inspections

A biologist and/or forester will conduct weekly inspections during the logging operations and road construction to ensure that the operations are compliant with best management practices, contract conditions, State Forest Practices Act, and industry standards.

Regeneration Practices

Regeneration practices include management actions that promote tree regeneration following timber harvests and maintaining big game forage and cover. These practices prepare the 2010 timber harvest areas for forage seeding by piling residual slash and scarify with a tractor. All 2010 timber harvest areas will be forage seeded with the clearcut seed mix by September 30.

Planting and Maintenance:

The 2010 planting and seedling maintenance activities will include planting the 2009 timber harvest areas, inter-planting and Vexar® tubing areas that have high seedling mortality due to big game browse or other mortality. Despite using Vexar® tubes on western red cedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*) plantings in 2009, there is still significant seedling loss due to big game browse. Therefore Plantskydd®, a cost effective and environmentally safe animal repellent, will be sprayed on young seedlings to prevent further browse damage. The active ingredient is dried blood (porcine and/or bovine) and it contains no synthetic additives, is non-toxic, and is not harmful to animals, plants or the environment.

All timber harvest areas that require seedling maintenance in 2010 are listed in Table 13.2.1 and locations are mapped in Appendix G:

Table 13.2.1 2010 Seedling Maintenance (planting, Vexar® tube, inter-planting, animal repellent)

Timber Harvest Area	Acres (hectares)	Action[1]
010443CC	13.2 (5.3)	Re-tube THPL, Spray Plantskydd® on THPL
030447CC	24.6 (10.0)	Re-tube THPL
030677CC	16.6 (6.7)	Interplant 300 PIPO in W. root rot pocket
030678 CC	7.9 (3.2)	Re-tube THPL, Spray Plantskydd® on THPL
050771CC	2.3 (0.9)	Re-tube THPL, Spray Plantskydd® on THPL
010837CC	13.3 (5.3)	Re-tube THPL, Spray Plantskydd® on THPL
021236CC	18.4 (7.5)	Interplant 300 PSME, 2 acres on slope; re-tube THPL, Spray Plantskydd® on THPL
051239CC	7.7 (3.1)	Re-tube THPL, Spray Plantskydd® on THPL
041237CC	13.9 (5.6)	Re-tube THPL, Spray Plantskydd® on THPL
051238CC	25.1 (10.2)	Re-tube THPL, Spray Plantskydd ®on THPL
091703CC	22.4 (9.1)	Plant with 800 TSHE, 400 THPL and 5,500 PSME seedlings, Spray Plantskydd® on THPL
091704CC	14.4 (5.8)	Plant with 400 TSHE, 3,400 PSME, and 500 THPL seedlings, Spray Plantskydd® on THPL
091705CC	11.1 (4.5)	Plant with 800 TSHE, 2,000 PSME, and 500 THPL seedlings, Spray Plantskydd® on THPL
952008CC	12.6 (5.1)	Re-tube THPL and inter-plant with 600 PIPO
082603CC	8.2 (3.3)	Re-tube THPL and inter-plant with 300 THPL, Spray Plantskydd® on THPL
082604CC	11.9 (4.8)	Re-tube THPL and inter-plant with 400 THPL Spray Plantskydd® on THPL
082605CC	10.2 (4.2)	Re-tube THPL and inter-plant with 300 THPL Spray Plantskydd® on THPL
Total	**233.8 (94.6)**	**900 PIPO, 11,200 PSME, 2,100 THPL, 2,000 TSHE,**

[1] PIPO = ponderosa Pine (Pinus ponderosa), PSME= Douglas-fir, THPL = western red cedar, TSHE=western hemlock

Invasive Plant Control:

Sulfometuron (Oust®) is sprayed in a radius around seedlings as necessary to reduce competition from the grasses. It typically is applied, during the first 1 to 2 years after planting and as needed for inter-plantings. All timber harvest areas that require Sulfometuron treatment in 2010 are listed in Table 13.2.2 below and locations are identified in Appendix G:

Table 13.2.2 2010 Timber Harvest Areas to be treated with Sulfometuron

Timber Harvest Area	Total Acres (hectares)
050770CC	24.9 (10.1)
050771CC	2.3 (0.9)
091703CC	22.4 (9.1)
091704CC	14.4 (5.8)
091705CC	11.1 (4.5)
082603CC	8.2 (3.3)
082604CC	11.9 (4.8)
082605CC	10.2 (4.1)
Total Acres	**105.4 (42.7)**

Vegetation Control

Invasive plant species and competing vegetation are controlled as necessary to promote big game forage, maintain access, and to reduce seedling competition. Treatments may include both chemical and manual methods. All timber harvest areas that will have vegetation control in 2010 are listed in Table 13.2.3 below (acres are THA acres and do not necessarily represent the total acres treated) and locations are identified in Appendix H:

Table 13.2.3 2010 Timber Harvest Areas Vegetation Control Treatments

Timber Harvest Area	Total THA Acres (hectares)	Target Species (Classification)[1,2]
010676CT	35.2 (14.2)	Spray CYSC (B) (north part of THA)
020523CC	22.6 (9.1)	Spray PTAQ (nc)
000768CC	8.1(3.3)	Spray PTAQ (nc)
000769CC	10.6 (4.3)	Spray PTAQ (nc)
050770CC	24.9 (10.1)	Treat ACMA (nc) sprouts
050771CC	2.3(0.9)	Spray PHAR(C)
840907CC	10.2 (4.1)	Spray CYSC (B)
861103CC	22.9 (9.3)	Spray RUAR (C)
991122CC	5.5 (2.2)	Spray PTAQ (nc)
011124CC	8.6 (3.5)	Spray PTAQ (nc)
011125CC	13.0 (5.3)	Spray PTAQ (nc)
911230CC	2.2 (0.9)	Spray RUSP (nc) Slash RUSP (nc) around seedlings
021236CC	18.4 (7.4)	Spray RUAR (C), Slash RUSP (nc) around seedlings
051238CC	25.1(10.2)	Spray RUAR (C) and RUSP (nc), Slash RUSP (nc) around seedlings
951537CC	17.2 (7.0)	Spray PTAQ (nc)
951538CC	8.7 (3.5)	Spray PTAQ (nc)
001541CC	4.6 (1.9)	Spray PTAQ (nc)
001544CC	4.7 (1.9)	Spray PTAQ (nc)
001545CC	1.2 (0.5)	Spray PTAQ (nc)
851615CC	34.5 (14.0)	Spray RUAR (C) along creek
921631CC	8.6 (3.5)	Slash RUSP (nc) around seedlings
991701CC	26.7 (10.8)	Spray PTAQ (nc), CYSC (B)
991702CC	37.0 (15.0)	Spray PTAQ (nc), RUAR (C)
Total Acres	**352.8 (142.8)**	

[1] ACMA= bigleaf maple, CYSC = scotch broom, PHAR = Reed Canarygrass , PTAQ = bracken fern, RUAR = Himalayan blackberry, RUSP = salmonberry
[2]Noxious Weed Classification = (A) = Class A, (B) = Class B, (Bd) = Class B designated region 8, (C) = Class C, (nc) = not classified

Pre-commercial Thinning:

Pre-commercial thinning and/or pruning are conducted on timber harvest areas that are generally less than 5.0 -7.0 feet (1.5 - 2.1 m) in height and it is required to maintain big game forage. All 2010 pre-commercial thinning or pruning is listed in Table 13.2.4 and locations are identified in Appendix G:

Table 13.2.4 2010 Pre-Commercial Thinning Treatments Areas

Timber Harvest Area	Acres (hectares)	Slash PCT	Hack & Squirt PCT	THA is within Riparian Buffer
020110CC	10.0 (4.0)	X		Yes
860639CC	1.0 (0.4)		X	Yes
860646CC	8.3 (3.4)		X	Yes
890663CC	7.5 (3.0)		X	Yes
880756CC	5.4 (2.2)		X	Yes
010837CC	13.3 (5.4)	X		No
890931CC	21.8 (8.8)		X	No
920932CC	13.8 (5.6)		X	No
920933CC	14.4 (5.8)		X	Yes
871214CC	6.3 (2.6)		X	Yes
021236CC	18.4(7.4)	X		No
051238CC	25.1(10.2)	X		Yes
921631CC	8.6 (3.5)	X		Yes
921633CC	3.4 (1.4)		ALRU	No
752001CC	22.5 (9.1)		X	Yes
952004CC	15.6 (6.3)		X	Yes
Total Acres	**195.4 (79.1)**			

14.0 Invasive Plant Species Management

14.1 Prevention

In 2010 it will be assumed that 5 sites will require a pre-ground evaluation and 10 sites will be identified as significant invasive plant species infestation. The Swift Bypass Upper Release and Constructed Channel areas will be monitored in 2010.

14.2 Detection

The Washington State and Cowlitz County noxious weed list has been updated. Both of these lists are provided in Appendix I. Clark County will be using their 2009 noxious weed list and Skamania County will use the 2010 Washington State Noxious Weed lists.

14.3 Treatment

Several areas have been identified for invasive plant species treatment and are discussed in their corresponding habitat management sections (i.e, Wetland Management, Farmland, Idle Areas, and Meadows Management, and Transmission Line Right-of-Way Management sections). It is assumed that additional 80 ac (32 ha) of upland habitat and 20 ac (8 ha) within the ordinary high water mark will have invasive plant species treated in 2010. This include unidentified infestations that need immediate treatment or areas that do not directly fall under a habitat management area, such as roads, recreation sites, and secondary management areas.

Areas that were treated for invasive plant species in 2009 will be monitored in 2010 to determine the effectiveness of the treatment and the impact to non-target species. The table below lists the areas that will be monitored in 2010. Roads and THAs are not included below because these areas will be evaluated during the spring timber harvest area inspection.

Table 14.2.1 2010 Invasive Plant Species Control Monitoring Sites

Area	Target Species (Classification)1,2	Ac (ha) Treated	Control Method
Upper and Lower McKee	CIVU (C), CIAR(C), ARMI(nc), RUAR(C)	5.0 (2.0)	Chemical
ROW Forage Area between creek and pole 5/15	CYSC (B), RUAR (C), ALRU(nc)	1.0 (0.4)	Chemical
Speelyai Meadow	CIAR (C), CYSC (B), RUAR (C), ALRU (nc)	1.5 (0.6)	Chemical
Speelyai Park	CIAR (C), CYSC (B), RUAR (C), ALRU (nc)	0.5 (0.2)	Chemical
ROW 6/12 and 8/12 ponds	CIAR (C), CYSC (B), RUAR (C), ALRU (nc)	0.5 (0.2)	Chemical
Pumphouse Pond	LYCO (nc)	200ft2 (18.6m2)	Hand Pulled
Frasier Diversion Pond	SODU (nc)	200ft2 (18.6m2)	Hand Pulled
Lower Hanley-Curry Meadow	CIVU (C), CIAR (C), ARMI (nc), RUAR (C)	5.0 (2.0)	Chemical
Reese Meadow	CYSC (B)	3.9 (1.6)	Mowed
Speelyai Line 5/1-7/1	CYSC (B), RUAR (C), ALRU (nc)	4.0 (1.6)	Chemical
Pine Creek School	CYSC (B), RUAR (C), ALRU (nc)	1.5 (0.6)	Chemical
	Total Acres	**22.9 (9.3)**	

[1] ALRU = red alder, ARMI=common burdock, CIAR = Canada thistle, CIVU = Bull thistle, CYSC = scotch broom, LYCO= Lynchus coroneria,, RUAR = Himalayan blackberry , SODU =bitter nightshade.
[2] Noxious Weed Classification = (A) = Class A, (B) = Class B, (Bd) = Class B designated region 8, (C) = Class C, (nc) = not classified

15.0 Raptor Site Management

15.1 Monitoring

Broadcast acoustical surveys for northern goshawks (*Accipiter gentilis*) will be conducted for the second season in Units 11 and 18, and for the first season in Unit 22. The aerial bald eagle and the osprey nest surveys will occur in 2010.

15.2 Habitat Enhancement

Bald Eagle Management Plans will be developed for all nests within 0.5 mi. (0.8 km) and all roost sites within 0.25 mi. (0.40 km) of WHMP lands. This is scheduled to begin in license year 2 (calendar year 2010) and be completed in license year 3 (calendar year 2011).

The old-growth and mature stands raptor habitat quality assessment time will be conducted simultaneously with the initial old-growth evaluations that are scheduled to begin in license year 2 (calendar year 2010) and be completed in license year 3 (calendar year 2011).

15.3 Best Management Practices

Best management practices for general raptors, northern spotted owls, and bald eagles will be implemented per the WHMP.

16.0 Public Access Management

16.1 Inspections

The road closure and trail inspections will be completed per the WHMP. The initial road evaluation is scheduled to occur in license year 3 (calendar year 2011). However, the initial road inspection will be completed for Jackman property, the 51 ac (21 ha) of habitat north of Speelyai Canal, that was acquired in December 2009.

16.2 Management Actions

An inventory of the dispersed shoreline recreation sites was completed in 2009. This information will be used to determine the effects of dispersed shoreline recreation, to develop management strategies for minimizing impacts (e.g. closure, buffers, or seasonal restrictions), and to provide the baseline information for site creep. Site pioneering and site creep monitoring will be conducted every 4 years beginning in 2013 (license year 5). Newly pioneered campsites are often discovered on WHMP lands while conducting other work; therefore money has been designated in the budget to fund time for mapping, documenting, and managing the site, if needed.

It is anticipated that at least 3 sites will require unauthorized motorized vehicle access to be controlled in 2010. The Jackman property requires a gate to be installed on the PacifiCorp road between Road 1801 and Speelyai Line 3/7 (Appendix D). Additional sites will be selected as needed and will be dependent on available resources (e.g. other work scheduled for the same area), severity of trespass, and feasibility.

PacifiCorp will continue to implement road and culvert maintenance projects under the WDNR Road Maintenance and Abandonment Plan. Although these projects are not funded by WHMP dollars, they benefit WHMP lands by controlling access and improving overall habitat. All road and culvert repair will be conducted in accordance to all Federal, state, and county regulations. This is to include, but not limited to, Washington Department of Fish and Wildlife Hydraulic Permit Application, WDNR Forest Practices Act permitting guidelines, and Army Corp of Engineers 404 permit, and/or County Shoreline Permit as necessary.

Due to other license and settlement agreements for fisheries and recreation and potential storm damage repair, it is assumed that at least two major road construction projects may occur on WHMP lands in 2010. Money has been budgeted for a PacifiCorp biologist to determine measures to minimize wildlife impacts on WHMP lands and ensure compliance with state and federal regulations.

17.0 Monitoring

The 51 ac (21 ha) area acquired in 2009 was previously cover-typed during relicensing (PacifiCorp and Cowlitz PUD 2004b). The cover types on these lands have been updated to include the recent timber harvest areas with the same vegetation cover type classification used during relicensing. There are no new or unique vegetation cover types on the property, therefore the existing Habitat Suitability Index values from the 2001 Habitat Evaluation Procedure study will be applied to these lands (PacifiCorp and Cowlitz PUD 2004a).

18.0 References

Campbell, B.H. 2003. Restoring Rare Native Habitats in the Willamette Valley: A Landowner's Guide for Restoring Oak Stands, Wetlands, Prairies, and Bottomland Hardwood and Riparian Forests. Defenders of Wildlife. Portland, Oregon.

Federal Energy Regularly Commission. 2008a. PacifiCorp Merwin Hydroelectric License FERC Project No. P-935. June 26, 2008.

Federal Energy Regularly Commission. 2008b. PacifiCorp Yale Hydroelectric License FERC Project No. P-2071. June 26, 2008.

Federal Energy Regularly Commission. 2008c. PacifiCorp Swift No. 1 Hydroelectric License FERC Project No. P-2111. June 26, 2008.

PacifiCorp, Public Utility District No. 1 of Cowlitz County, National Marine Fisheries Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, USDA Forest Service, Confederated Tribes and Bands of the Yakama Nation, Washington Department of Fish and Wildlife, Washington Interagency Committee for Outdoor Recreation, Cowlitz County, Cowlitz-Skamania Fire District No. 7, North Country Emergency Medical Service, City of Woodland, Woodland Chamber of Commerce, Lewis River Community Council, Lewis River Citizens At-Large, American Rivers, Fish First, Rocky Mountain Elk Foundation, Trout Unlimited, Native Fish Society and Cowlitz Indian Tribe. 2004. Settlement Agreement Concerning the Relicensing of the Lewis River Hydroelectric Projects, FERC Project Nos. 935, 2071, 2111, and 2213, Cowlitz, Clark, and Skamania Counties, Washington. November 30, 2004.

PacifiCorp. 2008. Lewis River Wildlife Habitat Management Plan Volume I through IV. Portland, Oregon. December 2008.

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Commission No. 935, Yale Hydroelectric Project, No. 2071, Swift No. 1 Hydroelectric Project, No. 2111, Swift No. 2 Hydroelectric Project, No. 2213.

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Vesley, D., and G. Tucker. 2004. A landowner's guide for restoring and managing Oregon white oak habitats. URL = http://www.oregonoaks.org/documents/landguide.pdf. Accessed July 8, 2008.

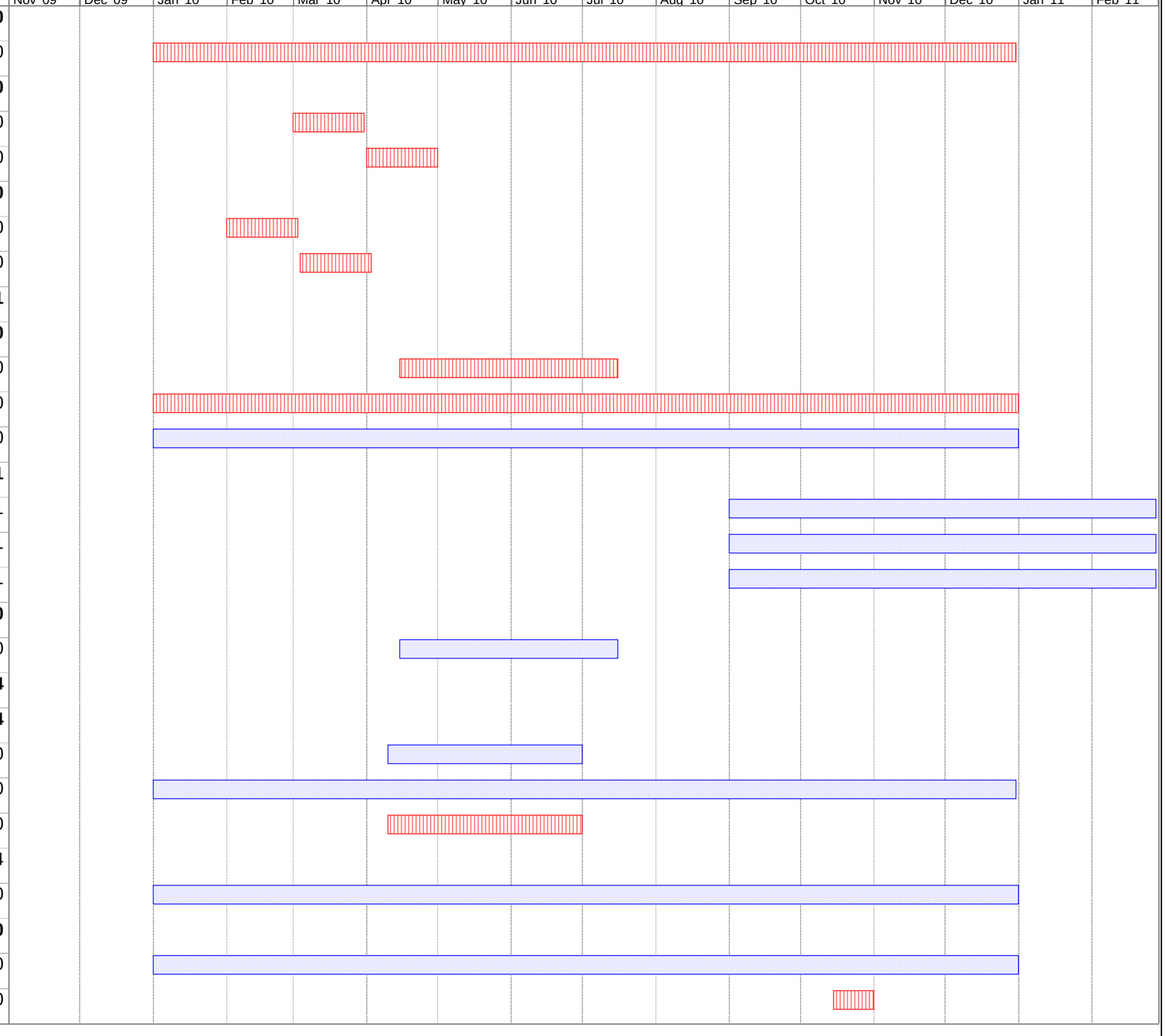
WDFW (Washington Department of Fish and Wildlife). 2008. Draft Priority Habitat and Species List. Olympia, Washington. URL = http://wdfw.wa.gov/hab/phslist.htm. Accessed June 24, 2008.

Appendix A:
Terrestrial Coordination Committee 2010 Annual Plan Consultation Record

Appendix B:
2010 Wildlife Habitat Management Plan Baseline Schedule

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

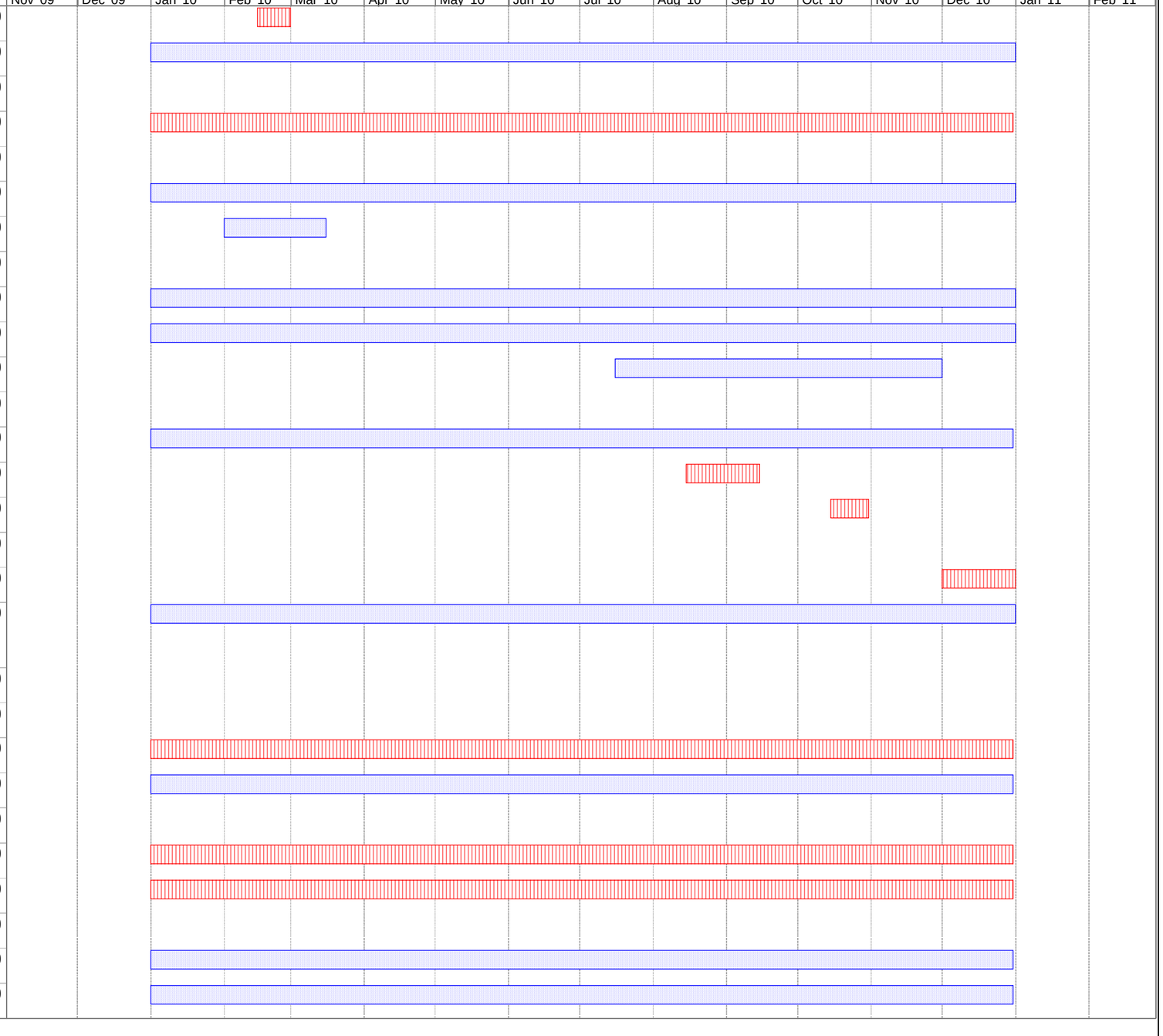
ID	Task Name	WHMP Start Date	WHMP Finish Date
1	**Administration**	**Fri 1/1/10**	**Fri 12/31/10**
2	Terrestrial Coordination Committee	Fri 1/1/10	Fri 12/31/10
3	**2009 Annual Report**	**Mon 3/1/10**	**Fri 4/30/10**
4	TCC 30-day Review	Mon 3/1/10	Tue 3/30/10
5	FERC 30-day Review	Thu 4/1/10	Fri 4/30/10
6	**2010 Annual Plan**	**Mon 2/1/10**	**Sat 4/3/10**
7	TCC 30-day Review	Mon 2/1/10	Wed 3/3/10
8	FERC 30-day Review	Thu 3/4/10	Sat 4/3/10
9	**Old-Growth Habitat**	**Fri 1/1/10**	**Mon 2/28/11**
10	**Inspections**	**Fri 1/1/10**	**Fri 12/31/10**
11	Initial Evaluation	Thu 4/15/10	Thu 7/15/10
12	Aerial Surveys	Fri 1/1/10	Fri 12/31/10
13	Ground Surveys	Fri 1/1/10	Fri 12/31/10
14	**Development**	**Wed 9/1/10**	**Mon 2/28/11**
15	Snag Development	Wed 9/1/10	Mon 2/28/11
16	Thinning	Wed 9/1/10	Mon 2/28/11
17	Large Woody Debris	Wed 9/1/10	Mon 2/28/11
18	**Connectivity**	**Thu 4/15/10**	**Thu 7/15/10**
19	Mature Stand Connectivity Evaluations	Thu 4/15/10	Thu 7/15/10
20	**Wetland Habitat**	**Fri 1/1/10**	**Mon 6/30/14**
21	**Inspections**	**Fri 1/1/10**	**Mon 6/30/14**
22	Initial Evaluation	Sat 4/10/10	Wed 6/30/10
23	Initial Evaluation Final Report	Fri 1/1/10	Fri 12/31/10
24	Annual Inspection	Sat 4/10/10	Wed 6/30/10
25	Annual Inspection with unmanaged wetlands	Thu 4/10/14	Mon 6/30/14
26	Post-Treatment Inspection	Fri 1/1/10	Fri 12/31/10
27	**Water Control**	**Fri 1/1/10**	**Fri 12/31/10**
28	Diversion Draw Down	Fri 1/1/10	Fri 12/31/10
29	Winter Flow Stop Log Removal	Fri 10/15/10	Sun 10/31/10



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

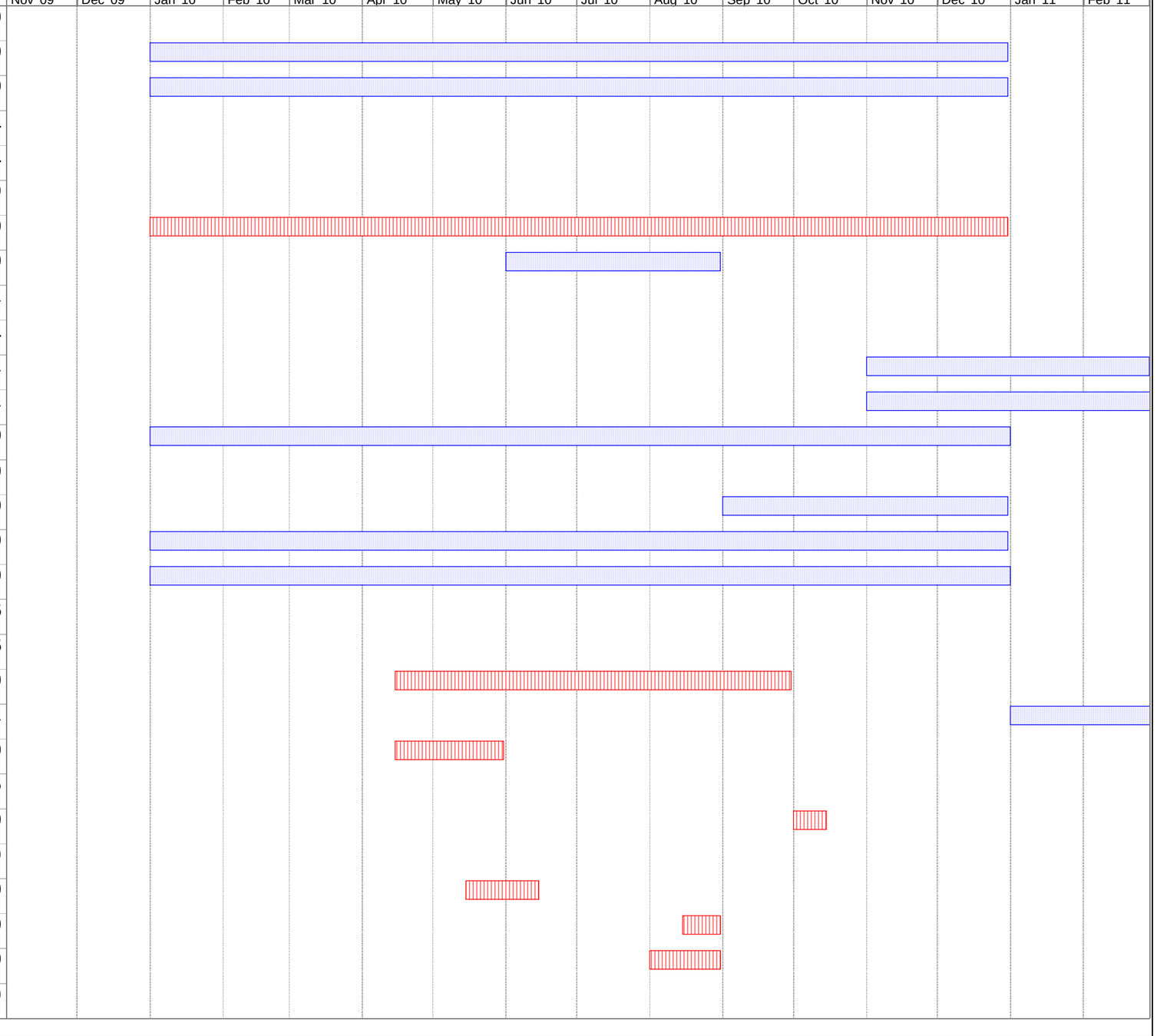
ID	Task Name	WHMP Start Date	WHMP Finish Date
30	Winter Flow Stop Log Replacement	Mon 2/15/10	Sun 2/28/10
31	Dike Maintenance	Fri 1/1/10	Fri 12/31/10
32	**Vegetation Management**	**Fri 1/1/10**	**Fri 12/31/10**
33	Surrounding Wetland Vegetation	Fri 1/1/10	Fri 12/31/10
34	**Yellow Warbler and Mink Habitat Enhancement**	**Fri 1/1/10**	**Fri 12/31/10**
35	Shrub Enhancement	Fri 1/1/10	Fri 12/31/10
36	Shrub Planting	Mon 2/1/10	Mon 3/15/10
37	**Waterfowl and Bat Habitat Enhancement**	**Fri 1/1/10**	**Fri 12/31/10**
38	Loafing Logs	Fri 1/1/10	Fri 12/31/10
39	Snag Creation	Fri 1/1/10	Fri 12/31/10
40	Aquatic Vegetation Control	Fri 7/16/10	Tue 11/30/10
41	**Bullfrog Management**	**Fri 1/1/10**	**Fri 12/31/10**
42	Implement Bullfrog Management Methods	Fri 1/1/10	Fri 12/31/10
43	Remove Stoplogs	Sun 8/15/10	Wed 9/15/10
44	Replace Stoplogs	Fri 10/15/10	Sun 10/31/10
45	**Great Blue Heron Colony Management**	**Fri 1/1/10**	**Fri 12/31/10**
46	Review WDNR Heritage Database	Wed 12/1/10	Fri 12/31/10
47	Great Blue Heron Colony Site Management Report	Fri 1/1/10	Fri 12/31/10
48	**Riparian Habitat**	**Fri 1/1/10**	**Fri 12/31/10**
49	**Inspection**	**Fri 1/1/10**	**Fri 12/31/10**
50	Riparian Mixed Forest Stand Evaluation	Fri 1/1/10	Fri 12/31/10
51	Other Inspection	Fri 1/1/10	Fri 12/31/10
52	**Establish Buffers**	**Fri 1/1/10**	**Fri 12/31/10**
53	Establish Buffers	Fri 1/1/10	Fri 12/31/10
54	Water Type Modification	Fri 1/1/10	Fri 12/31/10
55	**Snag Management**	**Fri 1/1/10**	**Fri 12/31/10**
56	Snag Development Schedule	Fri 1/1/10	Fri 12/31/10
57	Snag Removal	Fri 1/1/10	Fri 12/31/10



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

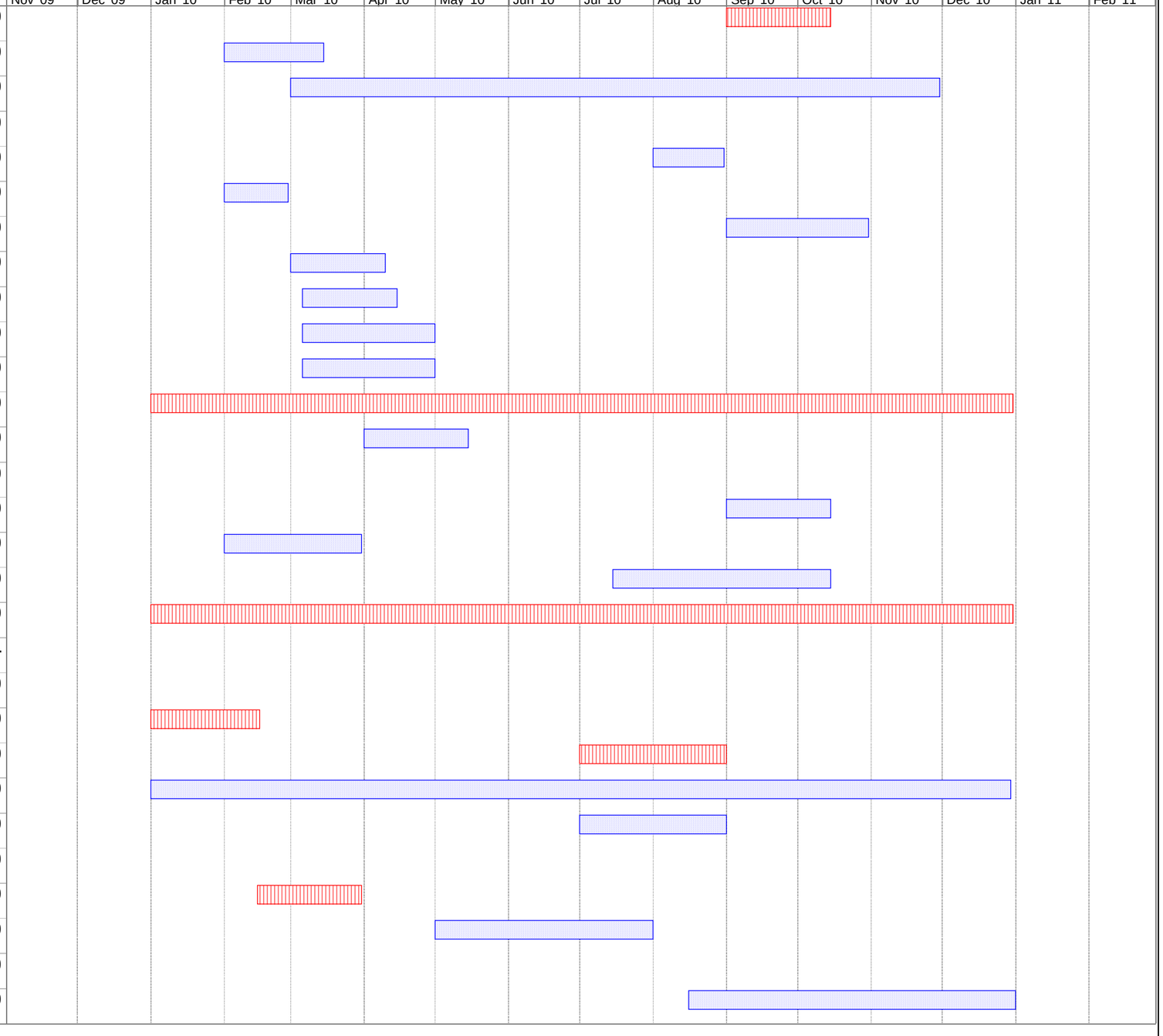
ID	Task Name	WHMP Start Date	WHMP Finish Date
58	**Restoration**	**Fri 1/1/10**	**Fri 12/31/10**
59	Riparian Area Damage Indentification	Fri 1/1/10	Fri 12/31/10
60	Riparian Area Restoration	Fri 1/1/10	Fri 12/31/10
61	**Shrubland Management**	**Wed 4/15/09**	**Mon 10/31/11**
62	**Inspections**	**Wed 4/15/09**	**Mon 10/31/11**
63	Initial Inspection	Wed 4/15/09	Sat 10/31/09
64	Initial Evaluation Final Report	Fri 1/1/10	Fri 12/31/10
65	Post-treatment Inspections	Tue 6/1/10	Tue 8/31/10
66	Periodic Inspection	Fri 4/15/11	Mon 10/31/11
67	**Shade Control**	**Fri 1/1/10**	**Tue 3/1/11**
68	Topping Trees	Mon 11/1/10	Tue 3/1/11
69	Falling a Tree	Mon 11/1/10	Tue 3/1/11
70	Herbicide Injection	Fri 1/1/10	Fri 12/31/10
71	**Other Management**	**Fri 1/1/10**	**Fri 12/31/10**
72	Heavy Pruning Circle	Wed 9/1/10	Fri 12/31/10
73	Vegetation Control - Clear Competing Brush	Fri 1/1/10	Fri 12/31/10
74	Revise Management Actions	Fri 1/1/10	Fri 12/31/10
75	**Farmland/Idle Field/Meadow**	**Fri 1/1/10**	**Sun 5/31/15**
76	**Inspections**	**Thu 4/15/10**	**Sun 5/31/15**
77	Initial Inspection	Thu 4/15/10	Thu 9/30/10
78	Initial Inspections Final Report	Sat 1/1/11	Sat 12/31/11
79	Annual Spring Inspection	Thu 4/15/10	Mon 5/31/10
80	5-year Passively Managed Area Inspection	Wed 4/15/15	Sun 5/31/15
81	Annual Fall Inspection	Fri 10/1/10	Fri 10/15/10
82	**Mowing**	**Sat 5/15/10**	**Tue 8/31/10**
83	Spring Mowing/Hay Harvest	Sat 5/15/10	Tue 6/15/10
84	Fall Mowing/Hay Harvest	Sun 8/15/10	Tue 8/31/10
85	Soil Testing	Sun 8/1/10	Tue 8/31/10
86	**Fertilization and Lime**	**Mon 2/1/10**	**Tue 11/30/10**



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

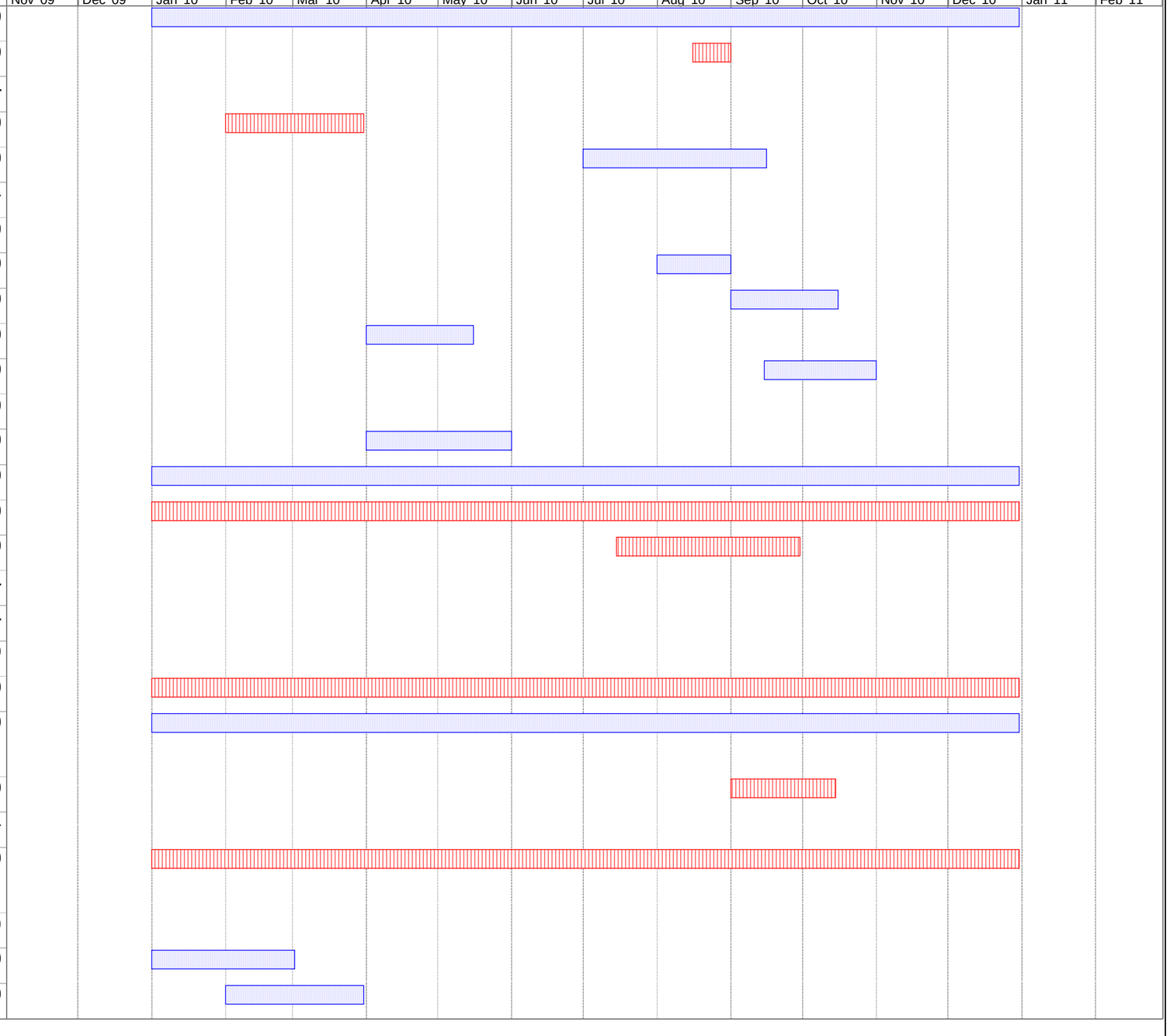
ID	Task Name	WHMP Start Date	WHMP Finish Date
87	Fall Fertilization	Wed 9/1/10	Fri 10/15/10
88	Spring Fertilization	Mon 2/1/10	Mon 3/15/10
89	Lime Application	Mon 3/1/10	Tue 11/30/10
90	**Field Restoration**	**Fri 1/1/10**	**Fri 12/31/10**
91	Soil Testing (season prior)	Sun 8/1/10	Tue 8/31/10
92	Soil Testing (Prior to tillage)	Mon 2/1/10	Sun 2/28/10
93	Lime Application	Wed 9/1/10	Sun 10/31/10
94	Herbicide Application Treatment	Mon 3/1/10	Sat 4/10/10
95	Cultivation	Sat 3/6/10	Thu 4/15/10
96	Fertilization	Sat 3/6/10	Sat 5/1/10
97	Seeding/Planting	Sat 3/6/10	Sat 5/1/10
98	Invasive Plant Control	Fri 1/1/10	Fri 12/31/10
99	Top Seeding	Thu 4/1/10	Sat 5/15/10
100	**Access/Disturbance Reduction**	**Fri 1/1/10**	**Fri 12/31/10**
101	Fertilizing Vegetation Screen	Wed 9/1/10	Fri 10/15/10
102	Planting	Mon 2/1/10	Wed 3/31/10
103	Supplemental watering	Thu 7/15/10	Fri 10/15/10
104	Animal Damage Control	Fri 1/1/10	Fri 12/31/10
105	**Orchards**	**Fri 1/1/10**	**Mon 3/31/14**
106	**Inspection**	**Fri 1/1/10**	**Fri 12/31/10**
107	Winter	Fri 1/1/10	Mon 2/15/10
108	Summer	Thu 7/1/10	Tue 8/31/10
109	Optional	Fri 1/1/10	Fri 12/31/10
110	5-year Inspection	Thu 7/1/10	Tue 8/31/10
111	**Pruning**	**Mon 2/15/10**	**Sat 7/31/10**
112	Dormant	Mon 2/15/10	Wed 3/31/10
113	Summer	Sat 5/1/10	Sat 7/31/10
114	**Vegetation Control**	**Fri 1/1/10**	**Fri 12/31/10**
115	Shade Tree Control	Mon 8/16/10	Fri 12/31/10



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

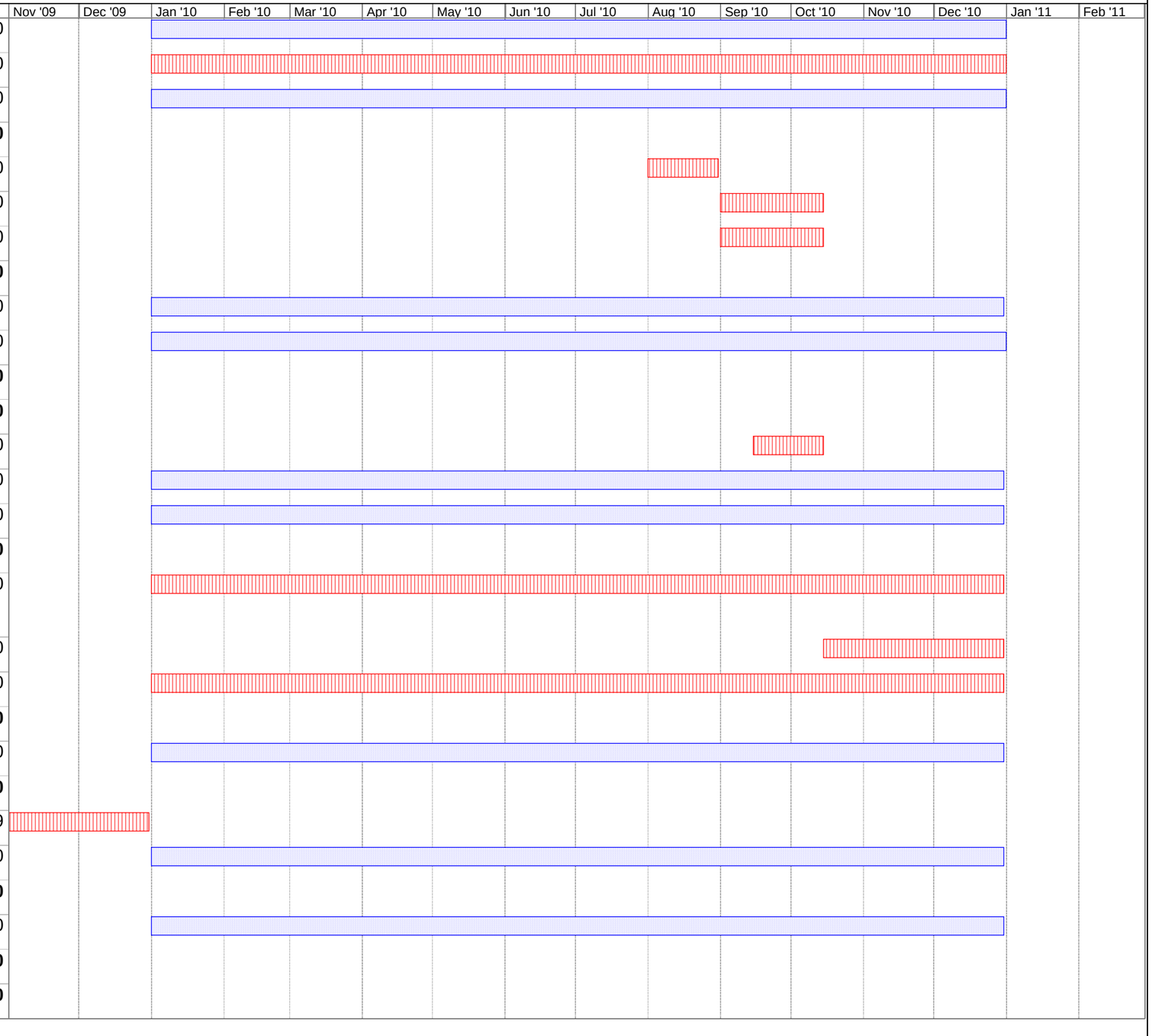
ID	Task Name	WHMP Start Date	WHMP Finish Date
116	Invasive Plant Species Control	Fri 1/1/10	Fri 12/31/10
117	Mowing	Mon 8/16/10	Tue 8/31/10
118	**New Plantings**	**Mon 2/1/10**	**Mon 3/31/14**
119	Replacement Plantings	Mon 2/1/10	Wed 3/31/10
120	New Plantings Inspections	Thu 7/1/10	Wed 9/15/10
121	Orchard Expansion Planting	Sat 2/1/14	Mon 3/31/14
122	**Big Game Forage**	**Thu 4/1/10**	**Sun 10/31/10**
123	Soil Testing	Sun 8/1/10	Tue 8/31/10
124	Fertilizing	Wed 9/1/10	Fri 10/15/10
125	Grass Seeding (Spring)	Thu 4/1/10	Sat 5/15/10
126	Grass Seeding (Fall)	Wed 9/15/10	Sun 10/31/10
127	**Other Management**	**Fri 1/1/10**	**Fri 12/31/10**
128	Orchard Tree Fertilizing	Thu 4/1/10	Mon 5/31/10
129	Pest Control	Fri 1/1/10	Fri 12/31/10
130	Animal Damage Control	Fri 1/1/10	Fri 12/31/10
131	Supplemental Water	Thu 7/15/10	Thu 9/30/10
132	**Transmission Line Rights-of-Way**	**Tue 9/1/09**	**Wed 10/15/14**
133	**Inspections**	**Tue 9/1/09**	**Wed 10/15/14**
134	Initial Evaluations with Photo Documentation	Tue 9/1/09	Thu 10/15/09
135	Initial Inspections Final Report	Fri 1/1/10	Fri 12/31/10
136	Revise Transmission Line Right-of-Way Habitat Management Chapter	Fri 1/1/10	Fri 12/31/10
137	Annual Inspection	Wed 9/1/10	Fri 10/15/10
138	Annual Inspection with Photo Documentation	Mon 9/1/14	Wed 10/15/14
139	Post hazard tree and invasive plant species management inspection	Fri 1/1/10	Fri 12/31/10
140	**Shrub Management**	**Fri 1/1/10**	**Wed 3/31/10**
141	Shrub Management	Fri 1/1/10	Mon 3/1/10
142	Plantings	Mon 2/1/10	Wed 3/31/10



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

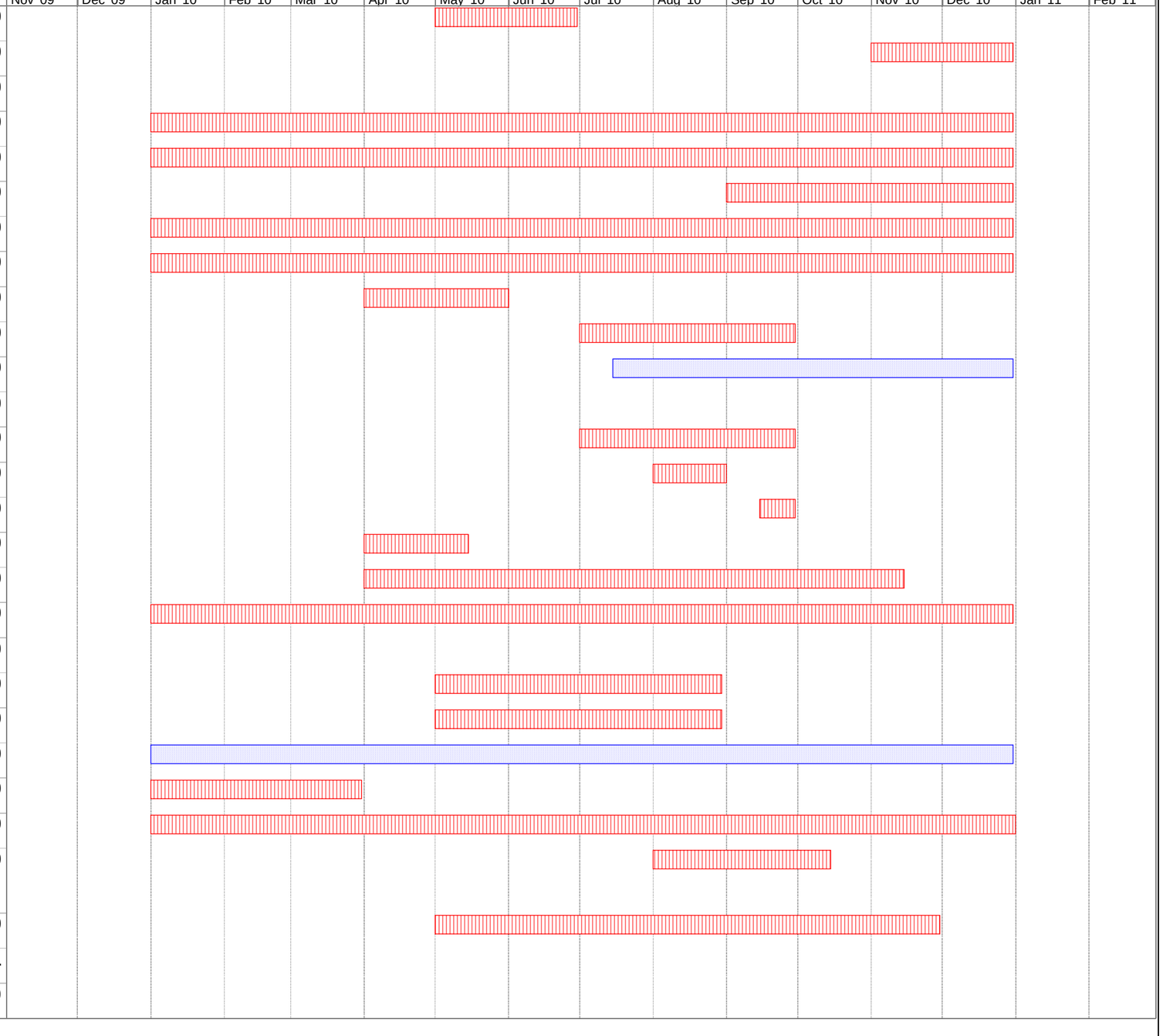
ID	Task Name	WHMP Start Date	WHMP Finish Date
143	Vegetation Management	Fri 1/1/10	Fri 12/31/10
144	Invasive Plant Species Control	Fri 1/1/10	Fri 12/31/10
145	Aquatic Area Management	Fri 1/1/10	Fri 12/31/10
146	**Big Game Forage Enhancement**	**Sun 8/1/10**	**Fri 10/15/10**
147	Soil Testing	Sun 8/1/10	Tue 8/31/10
148	Annual Mowing	Wed 9/1/10	Fri 10/15/10
149	Fertilizing	Wed 9/1/10	Fri 10/15/10
150	**Access/Disturbance Reductions**	**Fri 1/1/10**	**Fri 12/31/10**
151	Access/Disturbance Reduction	Fri 1/1/10	Fri 12/31/10
152	Closing Open Roads	Fri 1/1/10	Fri 12/31/10
153	**Unique Area /Habitat Management**	**Thu 1/1/09**	**Fri 12/31/10**
154	**Inspections**	**Fri 1/1/10**	**Fri 12/31/10**
155	Annual Oak Stands	Wed 9/15/10	Fri 10/15/10
156	Additional Oak Stands	Fri 1/1/10	Fri 12/31/10
157	Other Unique Areas/Habitats	Fri 1/1/10	Fri 12/31/10
158	**Oak Stand Management**	**Fri 1/1/10**	**Fri 12/31/10**
159	Topping a Competing Tree and Hand Piling Debris	Fri 1/1/10	Fri 12/31/10
160	Falling a competing Tree and Hand Piling Debris	Fri 10/15/10	Fri 12/31/10
161	Invasive Plant Species Control	Fri 1/1/10	Fri 12/31/10
162	**Cave Management**	**Fri 1/1/10**	**Fri 12/31/10**
163	Develop Management Strategy	Fri 1/1/10	Fri 12/31/10
164	**Unique Area Record Management**	**Thu 1/1/09**	**Fri 12/31/10**
165	Create Unique Area Database	Thu 1/1/09	Thu 12/31/09
166	Update Unique Area Database	Fri 1/1/10	Fri 12/31/10
167	**Ethnobotanically Significant Plant Management**	**Fri 1/1/10**	**Fri 12/31/10**
168	Develop Management Strategy	Fri 1/1/10	Fri 12/31/10
169	**Forestland Management**	**Fri 1/1/10**	**Fri 12/31/10**
170	**Inspections**	**Sat 5/1/10**	**Fri 12/31/10**



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

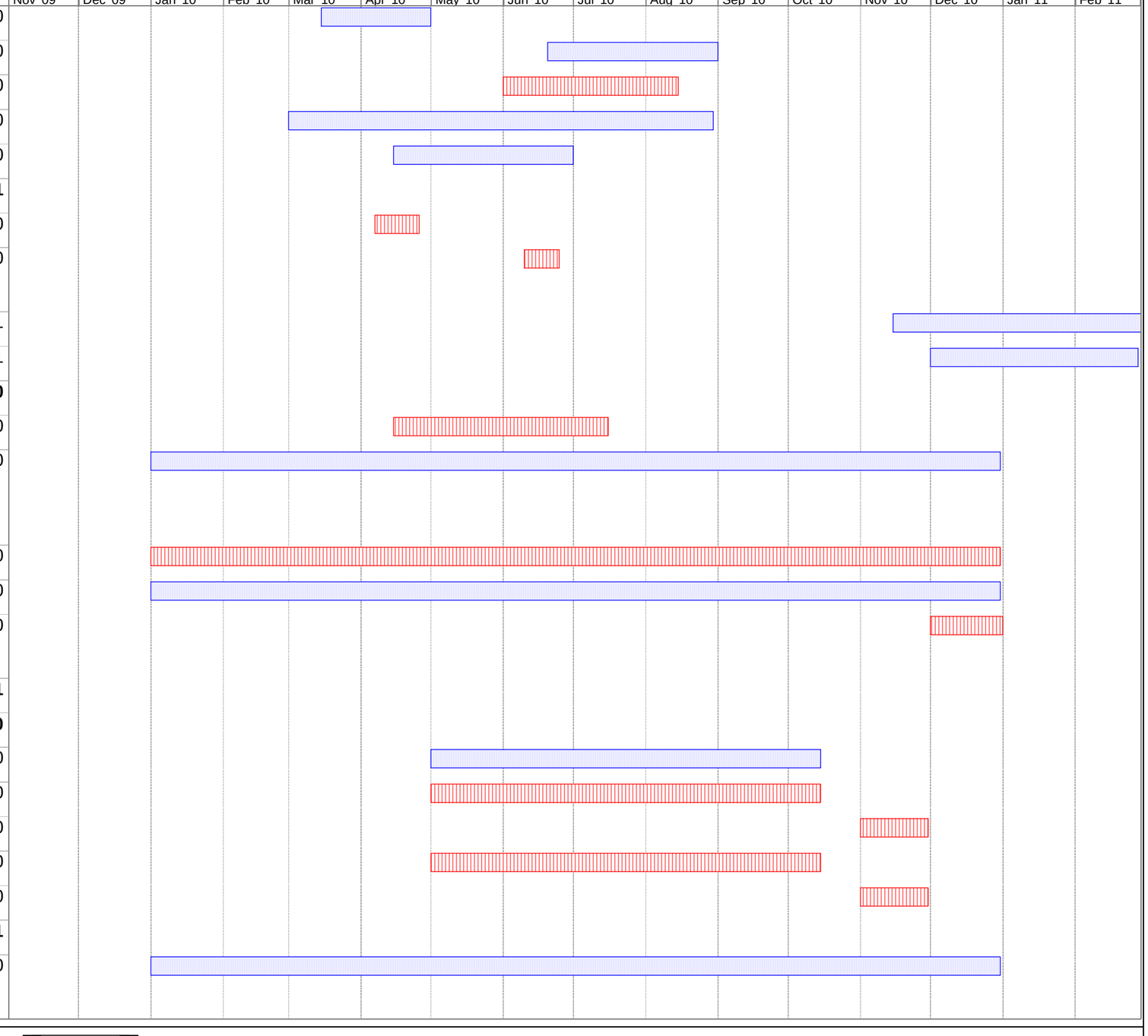
ID	Task Name	WHMP Start Date	WHMP Finish Date
171	Spring Timber Harvest Area Survey	Sat 5/1/10	Wed 6/30/10
172	Fall Timber Harvest Survey	Mon 11/1/10	Fri 12/31/10
173	**Management Actions**	**Fri 1/1/10**	**Fri 12/31/10**
174	Harvest Planning	Fri 1/1/10	Fri 12/31/10
175	Harvest Scheduling	Fri 1/1/10	Fri 12/31/10
176	First Precut Survey	Wed 9/1/10	Fri 12/31/10
177	Timber Harvest Area Traverse and GIS Update	Fri 1/1/10	Fri 12/31/10
178	Second Precut Survey	Fri 1/1/10	Fri 12/31/10
179	TCC On-Site Meeting	Thu 4/1/10	Mon 5/31/10
180	Timber Harvest Area Logging Inspections	Thu 7/1/10	Thu 9/30/10
181	Snag Development	Thu 7/15/10	Fri 12/31/10
182	**Regeneration Practices**	**Thu 4/1/10**	**Mon 11/15/10**
183	Site Preparation	Thu 7/1/10	Thu 9/30/10
184	Purchase Forage Mix	Sun 8/1/10	Tue 8/31/10
185	Forage Seeding	Wed 9/15/10	Thu 9/30/10
186	Invasive Species; Oust	Thu 4/1/10	Sat 5/15/10
187	Invasive Species (e.g. blackberry, ect.)	Thu 4/1/10	Mon 11/15/10
188	Precommercial thinning	Fri 1/1/10	Fri 12/31/10
189	**Invasive Plant Species Management**	**Fri 1/1/10**	**Fri 12/31/10**
190	Pre-Ground Disturbance Evaluation	Sat 5/1/10	Mon 8/30/10
191	Post-Ground Disturbance Evaluation	Sat 5/1/10	Mon 8/30/10
192	Detection	Fri 1/1/10	Fri 12/31/10
193	Update State and County Noxious Weed Lists	Fri 1/1/10	Wed 3/31/10
194	Control Treatments	Fri 1/1/10	Fri 12/31/10
195	Control Treatments within the Ordinary High Water Mark	Sun 8/1/10	Fri 10/15/10
196	Monitoring	Sat 5/1/10	Tue 11/30/10
197	**Raptor Site Management**	**Fri 1/1/10**	**Thu 3/31/11**
198	**Northern Goshawk Survey**	**Mon 3/15/10**	**Tue 8/31/10**



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

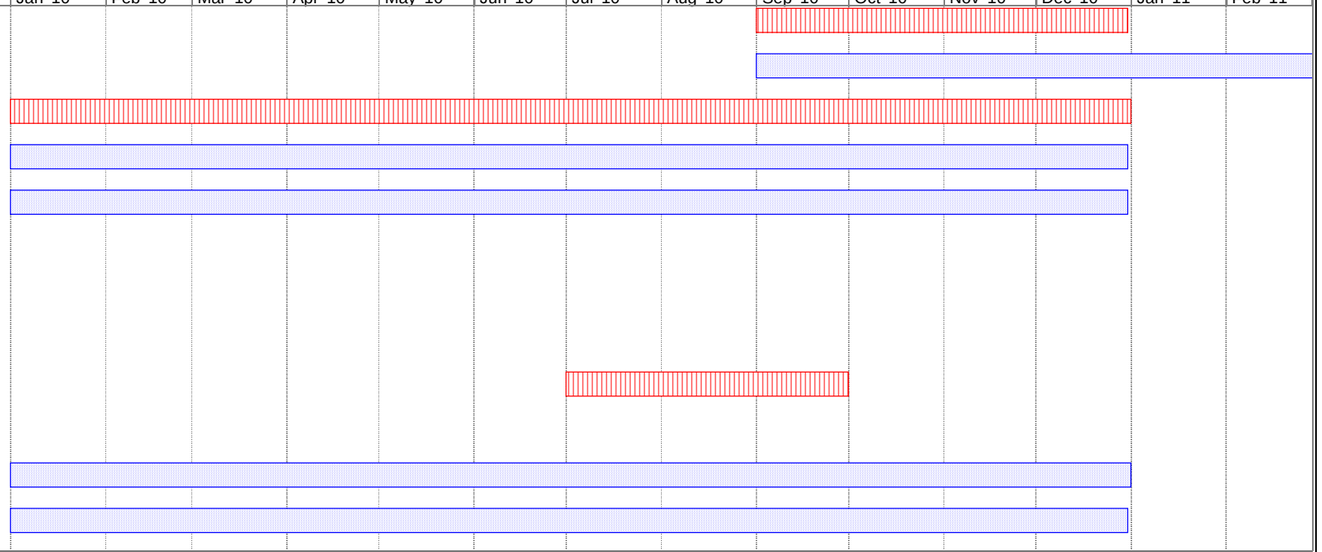
ID	Task Name	WHMP Start Date	WHMP Finish Date
199	Dawn Acoustical Survey	Mon 3/15/10	Fri 4/30/10
200	Intensive Search Survey	Sun 6/20/10	Tue 8/31/10
201	Broadcast Acoustical Survey	Tue 6/1/10	Sun 8/15/10
202	Northern Spotted Owl Surveys	Mon 3/1/10	Mon 8/30/10
203	Peregrine Falcon Monitoring	Thu 4/15/10	Wed 6/30/10
204	**Bald Eagle and Osprey Monitoring**	**Wed 4/7/10**	**Thu 3/31/11**
205	Bald Eagle Nest Occupancy Monitoring	Wed 4/7/10	Sun 4/25/10
206	Osprey Nest Occupancy and Bald Eagle Nest Productivity	Thu 6/10/10	Fri 6/25/10
207	Known Communal Roost Monitoring	Mon 11/15/10	Thu 3/31/11
208	Potential Communal Roost Monitoring	Wed 12/1/10	Mon 2/28/11
209	**Habitat Management**	**Fri 1/1/10**	**Fri 12/31/10**
210	Mature and Old-growth Raptor Habitat Evaluatio	Thu 4/15/10	Thu 7/15/10
211	Develop a Schedule for Implementing Habitat Enhancement Actions in Old-growth and Mature Stands	Fri 1/1/10	Fri 12/31/10
212	Complete Bald Eagle Management Plan	Fri 1/1/10	Fri 12/31/10
213	Revised Bald Eagle Management Plan	Fri 1/1/10	Fri 12/31/10
214	Review and Update Industry Standards for Avian Protection from Power Lines	Wed 12/1/10	Fri 12/31/10
215	**Public Access Management**	**Fri 1/1/10**	**Wed 8/31/11**
216	**Inspections**	**Sat 5/1/10**	**Tue 11/30/10**
217	Initial Road Evaluation	Sat 5/1/10	Fri 10/15/10
218	Initial Road Evaluation on Newly Acquired Lands	Sat 5/1/10	Thu 10/14/10
219	Road Closure Inspection	Mon 11/1/10	Tue 11/30/10
220	Initial Trail Evaluation	Sat 5/1/10	Fri 10/15/10
221	Trail Inspections	Mon 11/1/10	Tue 11/30/10
222	**Management Actions**	**Fri 1/1/10**	**Wed 8/31/11**
223	Initial Evaluations of Dispersed Shoreline Campsites	Fri 1/1/10	Fri 12/31/10



Baseline Scheduled Completed

Appendix B: 2010 Lewis River Wildlife Habitat Management Plan Schedule

ID	Task Name	WHMP Start Date	WHMP Finish Date
224	Site Pioneering Monitoring	Wed 9/1/10	Fri 12/31/10
225	Site Creep Evaluation	Wed 9/1/10	Wed 8/31/11
226	Controlling Unauthorized Motorized Vehicle Use	Fri 1/1/10	Fri 12/31/10
227	Visual Screen	Fri 1/1/10	Fri 12/31/10
228	Road Construction	Fri 1/1/10	Fri 12/31/10
229	**Monitoring**	**Fri 1/1/10**	**Wed 12/31/25**
230	**Inspections**	**Thu 7/1/10**	**Wed 12/31/25**
231	Year 17 HEP	Tue 7/1/25	Wed 12/31/25
232	Newly Acquired Lands	Thu 7/1/10	Fri 12/31/10
233	**Management Actions**	**Fri 1/1/10**	**Fri 12/31/10**
234	Modify the Goal and Objectives	Fri 1/1/10	Fri 12/31/10
235	Revise the WHMP	Fri 1/1/10	Fri 12/31/10



Baseline Scheduled Completed

Appendix C: 2010 Budget

Overall 2010 Budget

WHMP Management Area or Plan-Wide Goal		License Year 2 Calendar Year 2010 2009 Budget	Actual as of 12/31/09	Proposed 2010
Administration	Cost	$11,000.00	$32,104.72	$15,500.00
	Percent of Budget	3.51%	10.10%	4.85%
Old-Growth	Cost	$0.00	$0.00	$10,500.00
	Percent of Budget	0.00%	0.00%	3.29%
Wetlands	Cost	$8,400.00	$7,978.43	$5,700.00
	Percent of Budget	2.68%	2.51%	1.78%
Riparian	Cost	$3,450.00	$1,474.57	$13,200.00
	Percent of Budget	1.10%	0.46%	4.13%
Shrubland	Cost	$6,000.00	$18,654.44	$3,750.00
	Percent of Budget	1.91%	5.87%	1.17%
Farmland, Meadow, Idle Areas	Cost	$40,800.00	$27,356.58	$51,905.00
	Percent of Budget	13.02%	8.61%	16.24%
Orchard	Cost	$9,925.00	$7,977.38	$6,925.00
	Percent of Budget	3.17%	2.51%	2.17%
Transmission Line Right-of-Way	Cost	$11,550.00	$11,075.95	$11,820.00
	Percent of Budget	3.68%	3.49%	3.70%
Unique Area/Habitat	Cost	$1,800.00	$3,029.65	$11,050.00
	Percent of Budget	0.57%	0.95%	3.46%
Forestland	Cost	$174,020.00	$177,947.78	$134,900.00
	Percent of Budget	55.52%	56.00%	42.22%
Invasive Plant Species	Cost	$18,025.00	$5,695.70	$10,825.00
	Percent of Budget	5.75%	1.79%	3.39%
Raptor	Cost	$14,125.00	$20,068.76	$28,250.00
	Percent of Budget	4.51%	6.32%	8.84%
Public Access Management	Cost	$14,300.00	$6,951.21	$9,725.00
	Percent of Budget	4.56%	2.19%	3.04%
Monitoring	Cost	$0.00	$0.00	$1,500.00
	Percent of Budget	0.00%	0.00%	0.47%
Total Cost		**$313,395.00**	**$320,315.17**	**$315,550.00**
Total Percent of Budget Spent		**99.99%**	**100.80%**	**98.76%**
Remaining Funds from Previous Year		**$0.00**	**$0.00**	**-$2,546.64**
Annual WHMP Budget		Fee Simple Lands		
	Acres	10,085	10,085	10,136
	Cost Per Acre	$31.08	$31.08	$31.75
	Interests (as of 4/1/09)	$0.00	$4,326.73	$0.00
	SubTotal	$313,441.80	$317,768.53	$321,818.00
		Interests in Lands		
	Acres	0	0	16
	Cost Per Acre	$13.50	$15.25	$15.87
	Interests (as of 4/1/09)	$0.00	$0.00	$0.00
	SubTotal	$0.00	$0.00	$253.92
	Total	**$313,441.80**	**$317,768.53**	**$322,071.92**
Additional HEP Funding		$0.00	$0.00	$0.00
Total Budget		**$313,441.80**	**$317,768.53**	**$322,071.92**
Total Budget (Annual + Remaining)		**$313,441.80**	**$317,768.53**	**$319,525.28**
Total Budget Remaining (Budget - Cost)		**$46.80**	**-$2,546.64**	**$3,975.28**

Administration Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Annual Report	Annually	70 hours	100	$7,500.00
Annual Plan	Optional	70 hours	100	$7,500.00
		Labor rate per hour	$75.00	
		Total Labor	**200**	**$15,000.00**
Materials				
Annual Report and Plan Reproduction			$500.00	
Other			$0.00	
		Total Materials	$500.00	
		Total Labor and Materials	**$15,500.00**	

Old-Growth Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Initial Evaluation	Within 5 years of WHMP Implementation	140 hours	140	$10,500.00
Aerial Surveys	Annually	0 hours	0	$0.00
Ground Surveys	Optional	4 hours per inspection	0	$0.00
Snag Development	Optional	4 hours per tree	0	$0.00
Thinning	Optional	Unknown	0	$0.00
Large Woody Debris Placement	Optional	Unknown	0	$0.00
Mature Stand Connectivity	Within 5 years of WHMP Implementation	225 hours	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**140**	**$10,500.00**
Materials				
Other			$0.00	
		Total Materials	$0.00	
		Total Labor and Materials	**$10,500.00**	

Wetland Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Initial Evaluation	Within 5 years of WHMP Implementation	180 hours	0	$0.00
Initial Evaluation Final Report	Within 5 years of WHMP Implementation	80 hours	0	$0.00
Annual Inspection	Annually	80 hours	60	$4,500.00
Annual Inspection with unmanaged wetlands	Every 5 years	140 hours	0	$0.00
Post-Treatment Inspection	Optional	4 hours per inspection	0	$0.00
Diversion Draw Down	Optional	3 hours per draw down	0	$0.00
Remove 1 to 2 stop logs for high winter flows	Annually	16 hours	4	$300.00
Replace 1 to 2 stop logs for high winter flows	Annually	16 hours	4	$300.00
Dike Maintenance	Optional	Unknown	0	$0.00
Surrounding wetland vegetation	Optional	4 hour per site	8	$600.00
Tree topping or pruning to enhance existing shrubs	Target Year 17	3 hours per tree	0	$0.00
Shrub Planting	Target Year 17	1 hour per planting	0	$0.00
Loafing log	Within 5 years of completing the initial evaluation	3 hours per tree	0	$0.00
Snag Creation	Within 5 years of completing the initial evaluation	3 hours per tree	0	$0.00
Aquatic Vegetation Control	Optional	0.5 hour per acre	0	$0.00
Implement Bullfrog Management Methods Identified in the Initial Evaluation	Within 5 years of completing the initial evaluation	40 hours	0	$0.00
Remove Stoplogs	Annually	16 hours	12	$900.00
Replace Stoplogs	Annually	16 hours	12	$900.00
Review WDNR Heritage Database	Annually	2 hours	2	$150.00
Great Blue Heron Colony Site Management Report	Optional	15 hours	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**76**	**$5,700.00**
Materials				
Shrub Planting $50 per planting			$0.00	
Other			$0.00	
		Total Materials	$0.00	
		Total Labor and Materials	**$5,700.00**	

Riparian Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Riparian Mixed Forest Stand Evaluations	Within 5 years of receiving the license	200 hours	100	$7,500.00
Other Inspections	Optional	4 hours per site	0	$0.00
Establish Buffers	Optional	1 hour per 100 ft (30 m) of stream	58	$4,350.00
Water Type Modification form	Optional	18 hours per form	18	$1,350.00
Snag Development Schedule	Within 1 year of completing the Riparian Mixed Forest Stand	50 hours	0	$0.00
Snag Removal	Optional	3 hours per 1-20 in (50 cm) diameter at breast height Douglas-fir	0	$0.00
Riparian Area Restoration	Within 5 years of identifying a damaged riparian area	To be determined	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**176**	**$13,200.00**
Materials				
Other			$0.00	
		Total Materials	**$0.00**	
		Total Labor and Materials	**$13,200.00**	

Shrubland Budget

License Year 2

Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Initial Evaluation	Within 4 years of WHMP Implementation	80 hours	0	$0.00
Initial Evaluation Final Report	Within 1 year of completing the initial evaluation	30 hours	50	$3,750.00
Periodic Inspection	Annually	50 hours	0	$0.00
Success of Action	Annually	15 hours	0	$0.00
Topping a Tree and Hand Piling Debris	Optional	4 hour per tree	0	$0.00
Falling a tree and hand piling debris	Optional	3 hour per tree	0	$0.00
Herbicide Injection	Optional	1.5 hours per tree	0	$0.00
Heavy Pruning Circle	Optional	5.5 hours per planting circle	0	$0.00
Vegetation Control - Clear Competing Brush	Optional	1.75 hour per 10 foot radius of vegetation	0	$0.00
Revised Management Actions	Within 8 years of WHMP Implementation	100 hours	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**50**	**$3,750.00**
Materials				
Other			$0.00	
		Total Materials	$0.00	
		Total Labor and Materials		**$3,750.00**

Farmland, Idle Fields, and Meadows Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Initial Inspection	Within 4 years of WHMP Implementation	60 hours	60	$4,500.00
Initial Inspection Final Report	Within 1 year of completing the initial	60 hours	0	$0.00
Annual Spring Inspections	Annually	40 hours	0	$0.00
5-year Passively Managed Area Inspections	Every 5 years	80 hours	0	$0.00
Annual Fall Inspection	Annually	40 hours	20	$1,500.00
Spring Mowing/ Hay Harvest	Annually	2 hours per acre	85	$6,375.00
Fall Mowing/ Hay Harvest	Annually	2 hours per acre	130	$9,750.00
Soil Test	Annually	2 hours per site	12	$900.00
Fall Fertilization	Annually	2 hours per acre	130	$9,750.00
Spring Fertilization	Optional	2 hours per acre	0	$0.00
Lime Application	Optional	2 hours per acre	0	$0.00
Soil Test (Field Restoration)	Optional	2 hours per site	0	$0.00
Lime Application (Field Restoration)	Optional	2 hours per acre	0	$0.00
Herbicide Application Treatment	Optional	2 hours per acre	0	$0.00
Cultivation	Optional	4 hours per acre	0	$0.00
Fertilization	Optional	2 hours per acre	0	$0.00
Seeding/planting	Optional	2 hours per acre	0	$0.00
Invasive Plant Control	Optional	2 hours per acre	66	$4,950.00
Top Seeding	Optional	4 hours per acre	0	$0.00
Fertilizing Vegetation Screening	Optional	2 hours per screen	0	$0.00
Planting	Optional	4 hours per planting	30	$2,250.00
Supplemental Watering	Optional	1 hour per exclosure	4	$300.00
Animal Damage Control	Optional	1 hour per exclosure	40	$3,000.00
		Labor rate per hour		$75.00
		Total Labor	**577**	**$43,275.00**
Materials				
Soil Testing (Assume $40 per test with 10 test per year)				$400.00
Fertilizer (Assume $100 per acre in materials)				$7,000.00
Herbicide for Field Restoration ($30 per acre treated)				$0.00
Grass Seed				$0.00
Exclosures for new plantings ($100 per exclosure)				$600.00
New plantings ($10 per seedling)				$630.00
Other				$0.00
		Total Materials		**$8,630.00**
		Total Labor and Materials		**$51,905.00**

Orchard Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Winter Inspection	Annually	16 hours	16	$1,200.00
Summer Inspection	Annually	16 hours	16	$1,200.00
Optional Inspection	Optional	8 hours	0	$0.00
5-year Inspection	Within 5 years of WHMP Implementation	40 hours	0	$0.00
Dormant Pruning	Optional	1 hour per tree	25	$1,875.00
Summer Pruning	Optional	1 hour per tree	0	$0.00
Shade Tree Control	Optional	2 hours per planting	0	$0.00
Invasive Plant Species Control	Optional	2 hours per acre	0	$0.00
Mowing	Annually	2 hours per acre	8	$600.00
Replacement Plantings	Optional	2 hours per planting	10	$750.00
New Plantings Inspection	Optional	2 hours per planting	0	$0.00
Orchard Expansion Plantings	2014	4 hours per planting	0	$0.00
Soil Testing	Optional	2 hours per orchard	0	$0.00
Fertilizing	Optional	2 hours per acre	0	$0.00
Grass Seeding	Optional	2 hours per acre	0	$0.00
Orchard Tree Fertilizing	Optional	1 hour per tree	0	$0.00
Pest Control	Optional	1 hour per tree	0	$0.00
Animal Damage Control	Optional	1 hour per tree	4	$300.00
Supplemental Watering	Optional	1 hour per tree	5	$375.00
		Labor rate per hour	$75.00	
		Total Labor	**84**	**$6,300.00**
Materials				
Exclosures ($100 per exclosure)			$500.00	
New seedlings ($25 per tree)			$125.00	
Fertilizer (Assume $100 per acre in materials)			$0.00	
Grass Seed (Assume $4 per pound)			$0.00	
Other			$0.00	
		Total Materials	**$625.00**	
		Total Labor and Materials	**$6,925.00**	

Transmission Line Right-of-Way Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Initial Evaluations with Photo Documentation	Within 5 years of WHMP Implementation	130 hours	0	$0.00
Initial Inspections Final Report	Within 1 year of completing the initial evaluation	40 hours	40	$3,000.00
Revise Transmission Line Rights-of-Way Habitat Management Chapter	Within 5 years of WHMP Implementation	20 hours	0	$0.00
Annual Inspections	Annually	50 hours	60	$4,500.00
Annual Inspections with Photo Documentation	Every 5 years beginning with initial inspection year	100 hours	0	$0.00
Post hazard tree and invasive species management inspection	Within 2 months of a management actions being completed	2 hours per site	10	$750.00
Shrub Management	Optional	4 hours	0	$0.00
Plantings	Optional	4 hours per planting	0	$0.00
Vegetation Management	Optional	2 hours per tree	0	$0.00
Invasive Plant Species Control	Optional	4 hours per acre	4	$300.00
Aquatic Area Management	Optional	Unknown	0	$0.00
Soil Testing	Every 2 years	2 hours per site	6	$450.00
Annual Mowing	Annual	2 hours per acre	22	$1,650.00
Fertilization	Optional	2 hours per acre	10	$750.00
Access/Disturbance Reduction	Optional	2 hours per site	0	$0.00
Closing Open Roads	Within 5 years of WHMP Implementation	4 hours per site	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**152**	**$11,400.00**

Materials	
Soil Testing (Assume $40 per test)	$120.00
Fertilizer (Assume $100 per acre in materials)	$300.00
Exclosures ($200 per exclosure)	$0.00
Plantings ($50 per planting)	$0.00
Other	$0.00
Total Materials	**$420.00**
Total Labor and Materials	**$11,820.00**

Unique Area/ Habitat Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Annual Oak Stand	Annual	16 hours	30	$2,250.00
Additional Oak Stands	Optional	4 hours per area	0	$0.00
Other Unique Areas	Optional	4 hours per area	0	$0.00
Topping a Competing Tree and Hand Piling Debris	Optional	2 men x 1.5 hour per 1 20-in dbh Douglas-fir tree 1 hour for reporting	0	$0.00
Falling a Competing Tree and Hand Piling Debris	Optional	2 men x 1 hour per 1-20 in dbh Douglas-fir tree 1 hour for reporting	50	$8,500.00
Invasive Plant Species Control	Optional	1 hour per acre	4	$300.00
Develop Cave Management Strategy	Optional	10 hours	0	$0.00
Create a Unique Area Database	Within 1 year of Implementation	8 hours	0	$0.00
Update Unique Area Database	Optional	2 hours	0	$0.00
Develop Ethnobotanically Significant Plant Management Strategy	Optional	10 hours	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**84**	**$11,050.00**
Materials				
Other			$0.00	
		Total Materials	**$0.00**	
		Total Labor and Materials	**$11,050.00**	

Forestland Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Spring Timber Harvest Area Survey	Annually	40 hours	40	$3,000.00
Fall Timber Harvest Area Survey	Annually	140 hours	140	$10,500.00
Harvest Planning	Optional	40 hours	40	$3,000.00
Harvest Scheduling	Optional	8 hours	8	$600.00
First Precut Survey	Optional	1 hour per acre	30	$2,250.00
Timber Harvest Area Traverse and GIS Update	Optional	24 hours	24	$1,800.00
Second Precut Survey	Optional	2.5 hours per acre	75	$5,625.00
Terrestrial Coordination Committee On-Site Meeting	Optional	16 hours	16	$1,200.00
Timber Harvest Area Logging Inspections	Optional	60 hours	48	$3,600.00
Snag Development	Optional	2 hours per tree	0	$0.00
Site Preparation	Optional	12 hours per 10 acres plus 10 hours	56	$4,200.00
Forage Seeding	Optional	24 hours	24	$1,800.00
Invasive Plant Species - grasses	Optional	0.5 hour per acre	53	$3,975.00
Invasive Plant Species - competing vegetation	Optional	2.8 hours per acre	760	$57,000.00
Pre-commercial thinning	Optional	1.25 hour per acre	230	$17,250.00
		Labor rate per hour		$75.00
		Total Labor	**1544**	**$115,800.00**
Materials				
Forage seed mix				$1,200.00
Chemicals ($50.00 per acre)				$13,600.00
Seedlings				$1,300.00
Seedling Protection (vexar tubes, stakes, garlic sticks etc)				$3,000.00
Other				$0.00
		Total Materials		**$19,100.00**
		Total Labor and Materials		**$134,900.00**

Invasive Plant Species Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Pre-Ground Disturbance Evaluation	Optional	1.0 hour per site	5	$375.00
Post-Ground Disturbance Evaluation	Optional	1.0 hour per site	1	$75.00
Detection	Optional	0.5 hour per site	5	$375.00
Update State and County Noxious Weed lists	Annual	2 hours per year	2	$150.00
Control Treatments	Optional	0.5 hour per acre	40	$3,000.00
Control treatments within the ordinary high water mark	Optional	0.5 hour per acre	10	$750.00
Monitoring	Optional	0.5 hour per site	8	$600.00
		Labor rate per hour		$75.00
		Total Labor	**71**	**$5,325.00**
Materials				
Chemicals				$5,500.00
Other				
		Total Materials		$5,500.00
		Total Labor and Materials		**$10,825.00**

Raptor Budget

License Year 2
Calendar Year 2010

Management Actions	Frequency	Estimated Effort	Hours	Cost
Dawn Acoustical Survey for Northern Goshawk	Optional	5 hours per survey station (18 ac [7 ha])	0	$0.00
Intensive Search Survey for Northern Goshawk	Optional	20 hours per 25 ac (10 ha)	0	$0.00
Broadcast Acoustical Survey for Northern Goshawk	Optional	8 hours per 494 acres (200 ha)	140	$10,500.00
Northern Spotted Owl Surveys	Optional	4 hours per 10 survey stations	0	$0.00
Peregrine Falcon Monitoring Protocol	Optional	15 hours per potential nest site	0	$0.00
Aerial Survey for Bald Eagle Nest Occupancy	Annually	24 hours	20	$1,500.00
Aerial Survey for Osprey Nest Occupancy and Bald Eagle Nest Productivity	Annually	24 hours labor	20	$1,500.00
Known Communal Roost Monitoring	Optional	5 hours per survey per observer	0	$0.00
Potential Communal Roost Monitoring	Optional	6 hours per survey per observer	0	$0.00
Evaluate Mature and Old-growth Stands for Raptor Habitat Quality and Potential Enhancement	Within 5 years of WHMP Implementation	2 hours per ac (0.4 ha) time is accounted for in Old-growth	0	$0.00
Develop a Schedule for Implementing Habitat Enhancement Actions in Old-growth Stands and Mature Stands	Within 1 year of Completing Mature and Old-growth Stands Evaluations	20 hours	0	$0.00
Complete Bald Eagle Management Plan	Within 3 years of WHMP Implementation	80 hours	80	$6,000.00
Revise Bald Eagle Management Plan to include new nest and roost sites	As Needed Within 1 Year of Discovery	10 hours	0	$0.00
Review and Update Industry Standards for Avian Protection from Power lines	Annually	2 hours	2	$150.00
		Labor rate per hour	$75.00	
		Total Labor	**262**	**$19,650.00**
Materials				
Helicopter flight $4300 per flight 2 flights per year			$8,600.00	
Other			$0.00	
		Total Materials	**$8,600.00**	
		Total Labor and Materials	**$28,250.00**	

Public Access Budget

License Year 2
Calendar Year 2010

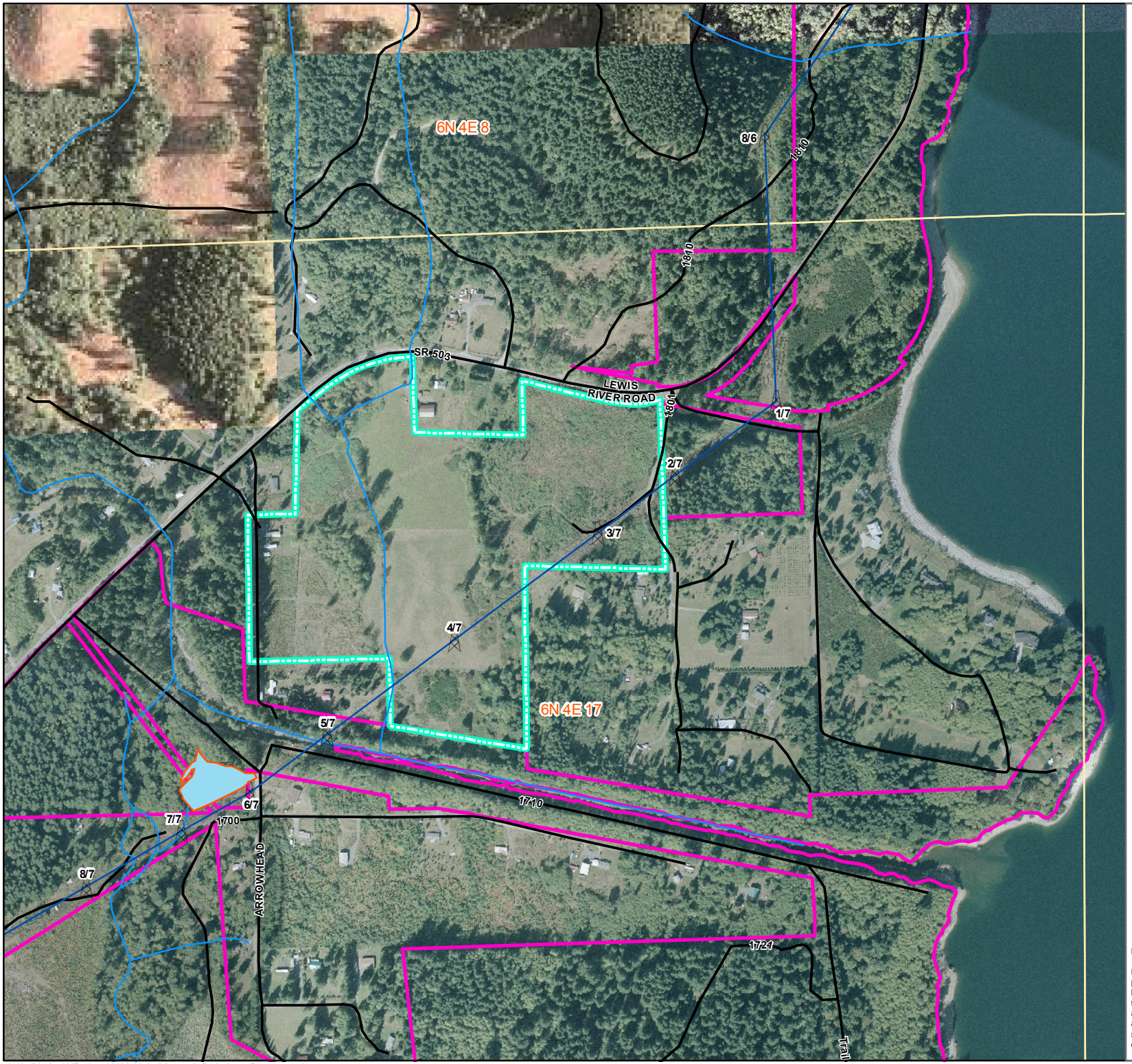
Management Actions	Frequency	Estimated Effort	Hours	Cost
Initial Road Evaluation	Within 5 years of Wildlife Habitat Management Plan Implementation	2.0 hour per mile of road	0	$0.00
Initial Road Evaluation on Newly Acquired Lands	Within 1 year of acquiring lands	2.0 hour per mile of road	2	$150.00
Road Closure Inspection	Annually	60 hours	40	$3,000.00
Initial Trail Evaluation	Within 5 years of Wildlife Habitat Management Plan Implementation	16 hours	0	$0.00
Trail Inspection	Annually	12 hours	12	$900.00
Initial evaluations of Dispersed Shoreline Campsites	Within 1 year of receiving a new license	50 hours	0	$0.00
Site Pioneering Monitoring	Annually	10 hours	10	$750.00
Site Creep Evaluation	Every 4 years	40 hours	0	$0.00
Controlling unauthorized motorized vehicle use	Optional	5 hours per site	15	$1,125.00
Visual Screen	Optional	4 hours per site	0	$0.00
Road Construction	Optional	8 hours per site	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**79**	**$5,925.00**
Materials				
Exclosures ($200 per exclosure)			$0.00	
Plantings ($50 per planting)			$0.00	
Signs ($300 per 100 vinyl purchase every 3 years)			$0.00	
Heavy Equipment Rate ($200 per hour)			$1,900.00	
Road Barriers (blocks, rocks, etc)			$1,900.00	
Other			$0.00	
		Total Materials	**$3,800.00**	
		Total Labor and Materials	**$9,725.00**	

Monitoring Budget

License Year 2
Calendar Year 2010

Management Action	Frequency	Estimated Effort	Hours	Cost
Year 17 Habitat Evaluation Procedure	Target Year 17	estimated 4 hours per plot plus a total 100 hours for analysis	0	$0.00
Newly Acquired Lands	Estimated to be completed by year 6	estimated 4 hours per plot plus a total 25 hours for analysis	20	$1,500.00
Modify the Goal and Objectives	Optional	10 hours	0	$0.00
Revise the Wildlife Habitat Management Plan	Optional	10 hours	0	$0.00
		Labor rate per hour	$75.00	
		Total Labor	**20**	**$1,500.00**
Materials				
Other			$0.00	
		Total Materials	**$0.00**	
		Total Labor and Materials	**$1,500.00**	

Appendix D: 2009 Yale Land Acquisition Map

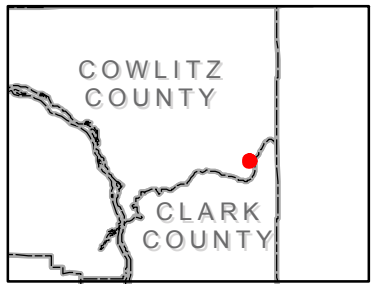


Lewis River Wildlife Habitat Management Plan Appendix D

Sheet 1 of 1

Legend

- Jackman Property
- WHMP Lands
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Stream
- Wetlands
- PLSS-Section



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Feet

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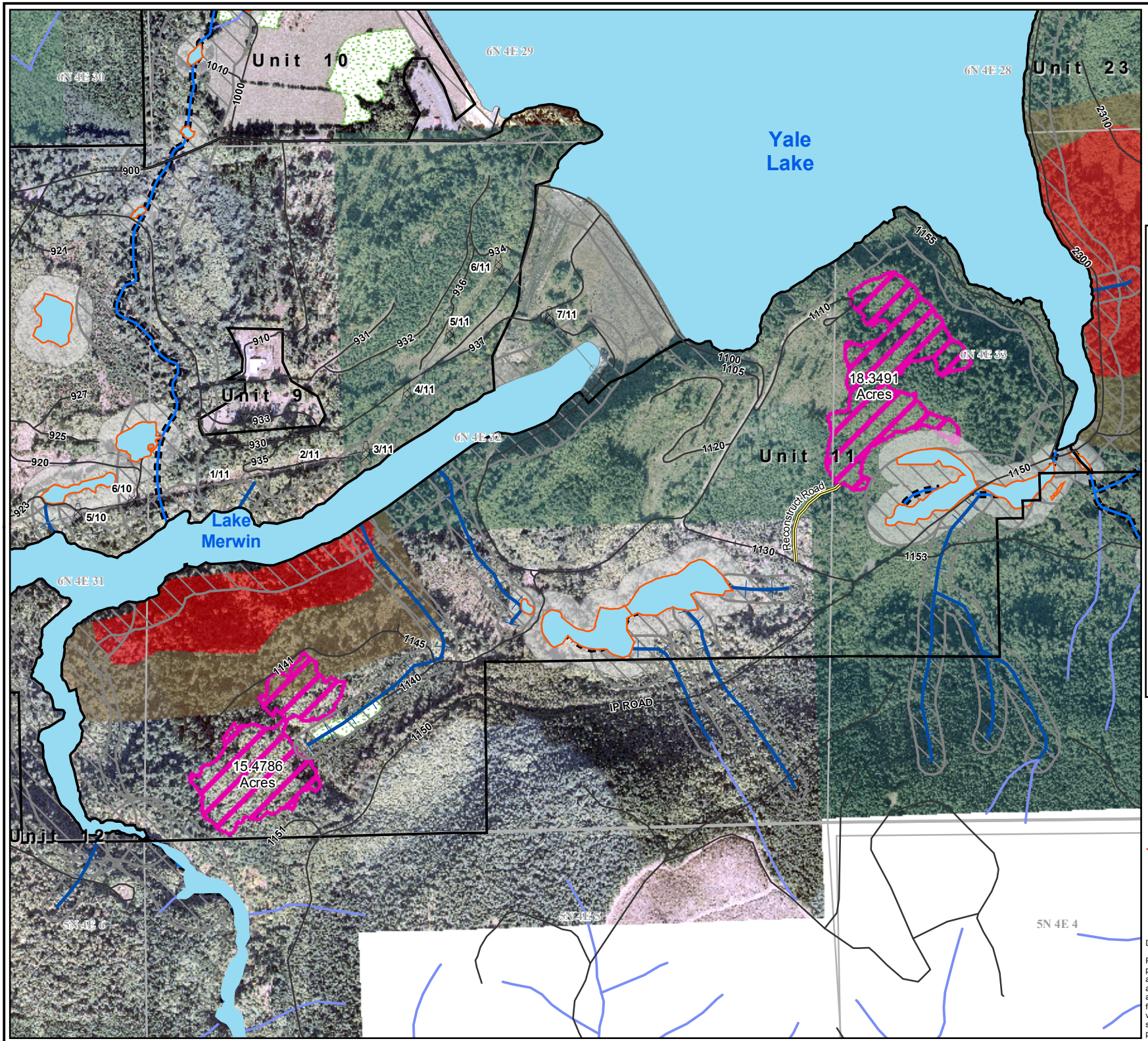
gisdept@pacificorp.com

Data is projected in UTM Zone 10, NAD83, meters.

Appendix E:
2010 Proposed Timber Harvest Areas Map, First Pre-Cut Survey Forms, Wildlife/Forestry Evaluation Forms, and Sensitive Species/Habitat Assessment



Lewis River Wildlife Habitat Management Plan

Appendix E 2010 Proposed Timber Harvest

Sheet 1 of 1

Legend

- Proposed Timber Harvest
- Meadow
- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Reconstruct Road
- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Stream Buffer
- Wetland Buffer
- Wetlands
- Township/Range
- Section

Raptor Roost

- Roost Boundary
- Roost Core Area

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Data are projected in UTM Zone 10, NAD83, meters.

Wildlife/Forestry Evaluation Form

Management Unit No.: 11 -1and 2 **Date:** Oct 22, 2009

Observers: Kirk Naylor

Stand Description: Proposed THA's are largely upland deciduous with DF, cedar and hemlock of limited amounts. There are 4 snags of note that border the western-most harvest area that if retained will reduce the proposed harvest from 17.9 acres to approximately 10.0 acres to accommodate a buffer or eliminate harvest altogether due to the proximity of the access road. See "Unique Habitat Features below". Overall stand is 95% red alder. Western THA has several BLM in southern edge of proposed harvest area. Understory of both areas has a couple vine maple pockets of moderate to high density. Overall understory is unremarkable with the typical thickets of tall Oregon grape and salmon berry with sword and bracken fern throughout rest of stand. Salmon berry is typical of sites on south side of LR. The management unit (11) has a current C:F ratio of 41/59. There is less than 1 acre in permanent forage.

Invasive Plant Species: Some limited Himalayan blackberry on edge of both stands due to adjacent roads or harvests. The eastern most stand above the wetland has some extensive blackberry in the wetland buffer that should be treated and where it extends into the proposed harvest area. Significant nettle and thistle was treated 2009 in the small meadow that is proposed to be added to the meadow management plan following access development as part of this project.

Unique Habitat Features: Four large diameter (> 30") snags are located on the northern edge of the western harvest area. These snags are at a decay stage that would require buffering them at 1.5 X their height and eliminating the proposed access road (and harvest area) or falling them as large down woody debris. These should be reviewed by the TCC to determine the best management action. A small meadow (<1 ac.) exists adjacent the proposed harvest area and it is currently unmanaged.

Proposed Management :

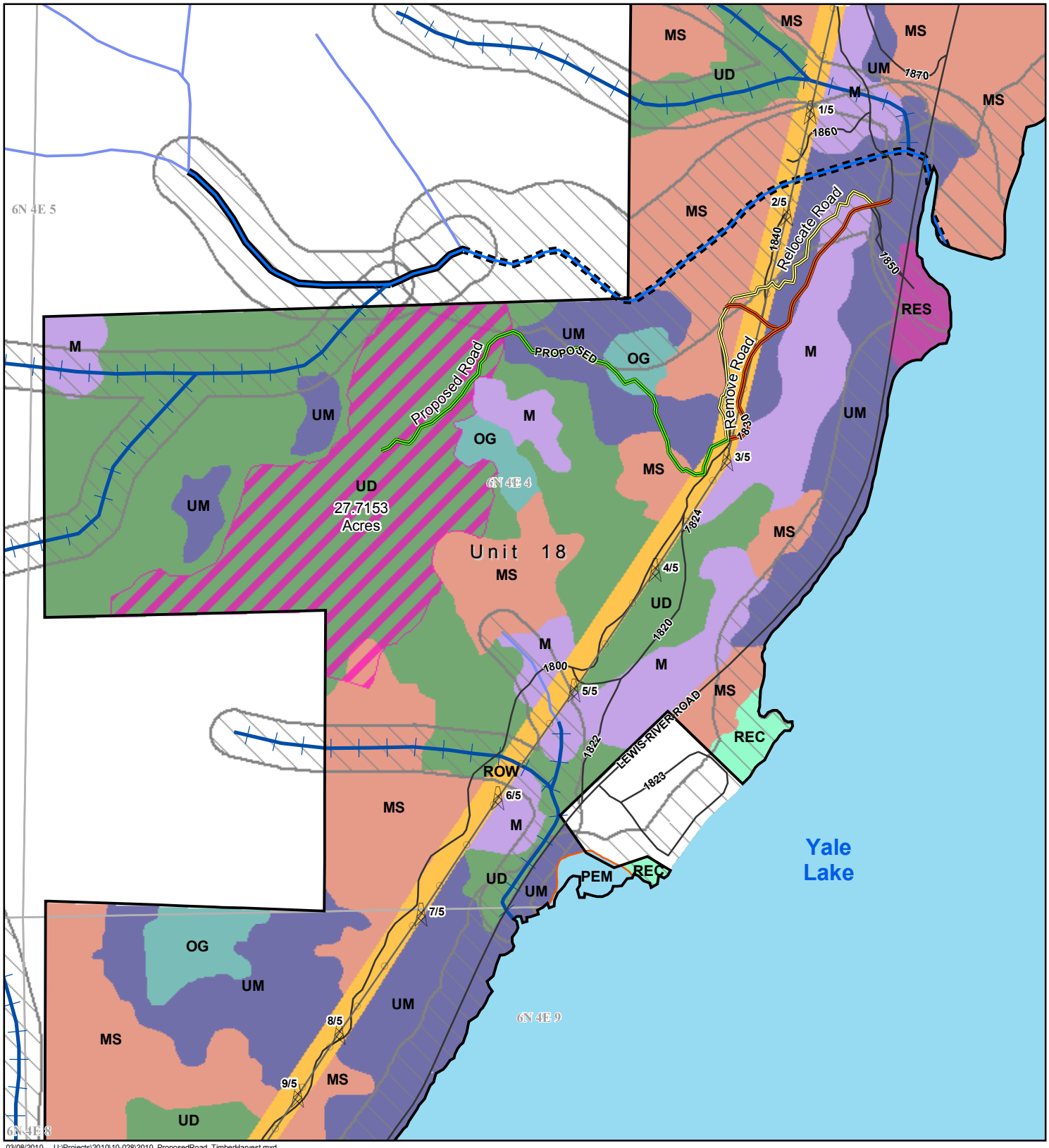
Both harvest areas are targeted to harvest red alder stands (17.9 ac and 18.4 ac.) while protecting existing conifer. Reforestation would include a mix of conifer, enhancement of LWD and grass seeding for elk forage. A small meadow (< 1 ac.) is currently being encroached upon by conifer and the proposal is to remove these trees, add the meadow into the WHMP management for fertilizing and mowing if access is developed.

Additional permanent forage could be developed as part of the western most proposed harvest

Wildlife Observations: Elk use has declined in this area and the adjacent stands as the adjacent THA's are 11-20 years old. See raptor notes regarding the observation of a peregrine falcon during raptor surveys. The site was visited with WDFW to determine if there was an Eyre in the vicinity (none found). There were previously 1-2 osprey nests that were built following snag development during the previous timber harvest in 1990. These nests have not been occupied and are currently unrepaired for the past 5 or more seasons. Other observations in

NSO Habitat: The current stand condition is not suitable NSO habitat. Management Unit 11 is entirely within the objective i lands that are within 2 miles of the SOSEA. The adjacent unmanaged stands are suitable NRF with a previously identified bald eagle winter roost located north and west of the proposed harvest (topographically screened from this proposed harvest). The overall management unit of 392.7 acres has no OG and 59.4 acres of mature forest habitat. The eastern edge of the Management Unit (approximately 27 acres) is within an NSO circle that is centered towards Siouxon Creek. Approximately 1.5 acres of the alder that would be harvested is within the circle.

Attach a copy of an aerial photo, map, or schematic of the proposed THA; include roads, disturbances, and/or unique features.



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Lewis River

Wildlife Habitat Management Plan

Sheet 1 of 1

Appendix E
2010 Proposed Road and Timber Harvest

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Feet

Legend

- Proposed Timber Harvest
- Management Unit
- Stream Buffer
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Proposed Road
- Relocate Road
- Remove Road
- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Township/Range
- Section

Vegetation Cover Type

- M
- MD
- MS
- OG
- PEM
- REC
- RES
- ROW
- UD
- UM

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Data are projected in UTM Zone 10, NAD83, meters.

Wildlife/Forestry Evaluation Form

Management Unit No.: 18 **Date:** Oct 15-28, 2009

Observers: K. Naylor

Stand Description: Proposed THA is largely upland deciduous with scattered large diameter (> 30") DF. Several snags greater >50" dbh and 100' tall. Overall stand is 5% bigleaf maple and 94% red alder. Some DF "clumps" in stand (< 1 ac stands). Understory has dense thickets of vine maple scattered throughout, also dense thickets of tall Oregon grape with sword and bracken fern throughout rest of stand. There are currently 33 acres of permanent forage in the overall management unit (over 29 acres within the ROW).

Invasive Plant Species:

None noted within stand – some Scotch broom in ROW

Unique Habitat Features:

Gentle benched slopes above steeper terrain. Large conifer snags and large diameter older DF scattered through-out stand.

Proposed Management : Proposed reconstruction of existing ROW access roads and clear-cut harvest of upland deciduous forest (24 acres gross with retention of some vine maple and DF pockets). Reconstruction of existing roads will eliminate existing erosion, delete some access roads and provide access to unmanaged stands where unauthorized ATV access has been occurring. Harvest will provide good foraging area for big game where little forage exists. Replant with mixed conifer. Part of new road will follow an old road that has been used by ATV's.

Wildlife Observations: Deer, elk tracks and scat. Coyote scat in ROW. Grey jays, winter wren, See raptor survey notes. Moderate elk use likely for bedding and hiding cover as there is little available forage.

NSO Habitat: An NSO circle lies over 1500 feet northerly of the proposed harvest area, outside of PacifiCorp ownership. There is no suitable habitat affected by the proposed harvest or road.

Attach a copy of an aerial photo, map, or schematic of the proposed THA; include roads, disturbances, and/or unique features.

2010 Proposed Timber Harvest Areas and Sensitive Species/Habitat Assessment

Unit 11 Vegetation Cover Types and Cover:Forage Ratio

Cover vs. Forage	Vegetation Cover Types	Unit 11		
		2004 (Baseline)[3] ac (ha)	2009 (Current Corrected) ac (ha)	2010 (After Harvest) ac (ha)
Cover	Old-growth Conifer	0.0	23.0 (9.3)	23.0 (9.3)
	Mature Conifer	59.4 (24.0)	32.0 (13.0)	32.0 (13.0)
	Mid-Successional Conifer	37.8 (15.3)	8.0 (3.2)	8.0 (3.2)
	Mid-Successional Conifer - thinned	3.2 (1.3)	4.8 (1.9)	4.8 (1.9)
	Upland Mixed (thermal cover site specific)	67.6 (27.0)	81.9 (33.0)	81.9 (33.0)
	Upland Mixed -thinned (thermal cover site specific)	0.0	0.0	0.0
	Young Upland Mixed (thermal cover site specific)	0.0	0.0	0.0
	Pole Conifer	3.8 (1.5)	37.6 (15.2)	37.6 (15.2)
	Lodgepole Pine	0.0	0.0	0.0
	Riparian Mixed	0.0	0.0	0.0
Forage	Young Upland Deciduous	0.0	1.2 (0.5)	1.2 (0.5)
	Pole Conifer - thinned	37.9 (15.0)	0.0	0.0
	Riparian Deciduous Shrub	0.0	0.0	0.0
	Riparian Deciduous	0.0	0.0	0.0
	Upland Deciduous	138.0 (55.8)	144.8 (58.6)	108.5 (43.9)
	Oak Woodland	0.0	0.0	0.0
	Transmission Line ROW	0.0	0.0	0.0
	Recreational	0.0	0.0	0.0
	Dry Meadow/Grassland	0.0	1.3 (0.5)	1.3 (0.5)
	Shrubland[1]	0.0	1.2 (0.5)	1.2 (0.5)
	Orchard	0.4 (0.2)	0.4 (.2)	0.4 (.2)
	Agriculture	0.0	0.0	0.0
	Seedling/Sapling Conifer	2.0 (0.8)	42.6 (17.2)	42.6 (17.2)
	New Clearcut	27.9 (12.1)	0.0	36.3 (14.7)
	Wetland (Palustrine Wetland Cover Types)	12.4(4.5)	12.6 (5.1)	12.6 (5.1)
Neither	Riverine Unconsolidated Shore	0.0	0.0	0.0
	Sparsely vegetated; Disturbed; Developed	2.0(0.8)	1.1 (0.4)	1.1 (0.4)
	Residential	0.0	0.0	0.0
	Rock Outcropping and Talus	0.0	0.0	0.0
Total Acres (ha)		**392.4 (158.9)**	**392.4 (158.9)**	**392.4 (170.4)**
Cover:Forage Ratio[2]		**44/56**	**48/52**	**48:52**

[1] Shrubland acres are pending initial inspection – the shrubland was not identified in the 2004 vegetation mapping.
[2]The cover:forage ratio will adjust pending Upland Mixed C:F verification.
[3] Vegetation Cover Types based on 2004 Final Technical Report for Vegetation Cover Type Mapping (PacifiCorp and Cowlitz PUD)

Unit 18 Vegetation Cover Types and Cover:Forage Ratio

Cover vs. Forage	Vegetation Cover Types	Unit 18		
		2004 (Baseline)[2] ac (ha)	2009 (Current Corrected) ac (ha)	2010 (After Harvest) ac (ha)
Cover	Old-growth Conifer	0.0	6.8 (2.8)	6.8 (2.8)
	Mature Conifer	0.0	35.9 (14.5)	35.9 (14.5)
	Mid-Successional Conifer	129.2 (52.3)	116.6 (47.2)	116.6 (47.2)
	Mid-Successional Conifer -thinned	0.0	0.0	0.0
	Upland Mixed (thermal cover site specific)	114.5 (46.3)	106.2 (43.0)	106.2 (43.0)
	Upland Mixed -thinned (thermal cover site specific)	0.0	0.0	0.0
	Young Upland Mixed (thermal cover site specific)	0.0	0.0	0.0
	Pole Conifer	0.0	0.0	0.0
	Lodgepole Pine	0.0	0.0	0.0
	Riparian Mixed	0.0	0.0	0.0
Forage	Young Upland Deciduous	0.0	0.0	0.0
	Pole Conifer - thinned	0.0	0.0	0.0
	Riparian Deciduous Shrub	0.0	0.0	0.0
	Riparian Deciduous	0.0	0.0	0.0
	Upland Deciduous	138.0 (55.9)	119.7 (48.4)	92.2 (37.3)
	Oak Woodland	0.0	0.0	0.0
	Transmission Line ROW	29.2 (11.8)	28.7 (11.6)	28.7 (11.6)
	Recreational	4.0 (1.6)	1.9 (0.8)	1.9 (0.8)
	Dry Meadow/Grassland	4.1 (1.7)	5.8 (2.3)	5.8 (2.3)
	Shrubland	0.0	0.0	0.0
	Orchard	0.0	0.0	0.0
	Agriculture	0.0	0.0	0.0
	Seedling/Sapling Conifer	0.0	0.0	0.0
	New Clearcut	0.0	0.0	27.5 (11.1)
	Wetland (Palustrine Wetland Cover Types)	0.9 (0.4)	0.9 (0.4)	0.9 (0.4)
Neither	Riverine Unconsolidated Shore	0.0	0.0	0.0
	Sparsely vegetated; Disturbed; Developed	1.7 (0.7)	0.0	0.0
	Residential	3.0 (1.2)	2.3 (0.9)	2.3 (0.9)
	Rock Outcropping and Talus	0.0	0.0	0.0
Total Acres (ha)		**424.6 (171.9)**	**424.8 (171.9)**	**424.8 (171.9)**
Cover:Forage Ratio[1]		**58:42**	**63:37**	**63:37**

[1]The cover:forage ratio will adjust pending Upland Mixed inspections.

[2] Vegetation Cover Types based on 2004 Final Technical Report for Vegetation Cover Type Mapping (PacifiCorp and Cowlitz PUD)

Riparian, Shoreline, Meadow and Wetland Areas

Unit 11, THA 101126 (east side of Management Unit) was established with a 200-foot (61.0-m) buffer from the Yale lake shoreline and a 150-foot (45.7 m) buffer from the IP wetlands located to the south. There are no streams associated with this THA and as a result the proposed harvest is outside of the designated buffers for wetlands, shorelines, and streams. THA 101127 (western side of management unit) is greater than 200 feet (61 m) from the reservoir shorelines and 300 feet (91 m) from Canyon Creek. There are no other streams or wetlands to buffer. The proposed harvest is adjacent to a 1.3 acre (0.53 ha) meadow that was not identified in the 2004 cover type mapping.

The proposed THA in management unit 18 was delineated by first identifying the location of nearby streams and then buffering as required. As a result several streams where re-mapped, changed locations, added stream segments, or changed stream type and the THA buffers are based on these accurate field locations. In addition, water type modifications where submitted to Washington Department of Natural Resources. There are no stream crossings required as part of the road reconstruction.

Raptor Site Management

Bald Eagle

The eastern most timber harvest area (101126) in management unit 11 is approximately 900 feet (274.3 m) west of the Yale Reservoir Bald Eagle Winter Roost boundary. Additionally the THA is approximately 4,650 feet (1417 m) west of an occupied (2009) bald eagle nest identified as the River Mile 35.5 nest site. As described in the Management Plan, activities occurring within 1,312 feet (400 m) or 2,624 feet (800 m) line-of-sight of an active bald eagle nest or roost, respectively, will occur outside of the critical nesting period (January 1 to August 31) and the key wintering period (November 15 and March 31). Actual harvest would likely begin in mid-July. This is not likely to adversely affect the bald eagle nest site because it located more than 2,624 feet (800 m) away from the nest site.

The western-most timber harvest area (101127) in management unit 11 lies immediately south of the Canyon Creek Winter Roost. The core of the roost is located on the north facing slope above the Yale tailrace, but the mapped boundary extends to the south. The proposed harvest area intersects the roost boundary on the south side by about 0.7 acres (0.3 ha) based on the mapped delineations. The harvest however only targets alder. There is one other previous timber harvest (1999) that exists in the roost boundary and was designated to remove alder and establish conifer adjacent to the roost core. At the time of the previous timber harvest it was determined (based on site inspections with WDFW) that the harvest did not affect the micro-climate of the core roost and would enhance the core by establishing conifer in the adjacent stand. The proposed harvest would accomplish the same objective but is pending review with the TCC. Neither of the two

proposed timber harvest areas in Unit 11 lies within any known or suspected flight path to either of the roost areas.

PacifiCorp is preparing a bald eagle management plan for the nest and roost areas identified. This management plan will be developed by PacifiCorp in cooperation with the WDFW in 2010.

There are no bald eagle nests or roosts associated with Management unit 18.

Northern Spotted Owl

Limited Operating Period:
The proposed timber harvest areas in either management unit will not be removing nesting, roosting, or foraging habitat for spotted owls (i.e., upland mixed and mid-successional vegetation cover types). The harvest area in management unit 11 however is adjacent a stand of old growth conifer and as a result the timber harvest will not occur during the early season limited operating period of March 1 to June 30.

Suitable and Dispersal Habitat:
Unit 11 is within the 2-mile (3.2-km) buffer of the Siouxon Spotted Owl Special Emphasis Area (SOSEA) and the proposal is to develop additional suitable habitat by converting the upland deciduous habitat type to a conifer stand. There is currently only 149.7 acres (60.6 ha) of suitable habitat in unit 11 or 38% of the management unit. No suitable or dispersal habitat for spotted owls will be removed as part of the proposed timber harvests. The table on the following page identifies the current and post-harvest habitat types related to nesting, roosting, foraging and dispersal habitat for the spotted owl. Both management units were vegetation cover types were verified in 2009 resulting in a net gain in old growth and mature conifer habitat (29.8 acres [12.1 ha] of old growth and 8.5 acres [3.4 ha] of mature conifer). This complies with the Biological Opinion as there will be no loss of suitable or dispersal habitat for spotted owls following timber harvest for either Unit 11 or 18 and the overall WHMP lands. The 16.0 acre (ha) harvest on the east side of management unit 11 (THA 101126; closest to the SOSEA) will be managed to become suitable habitat (adding 4% over time) whereas the western most THA will be managed as a typical rotation age to provide continuing elk forage habitat benefits.

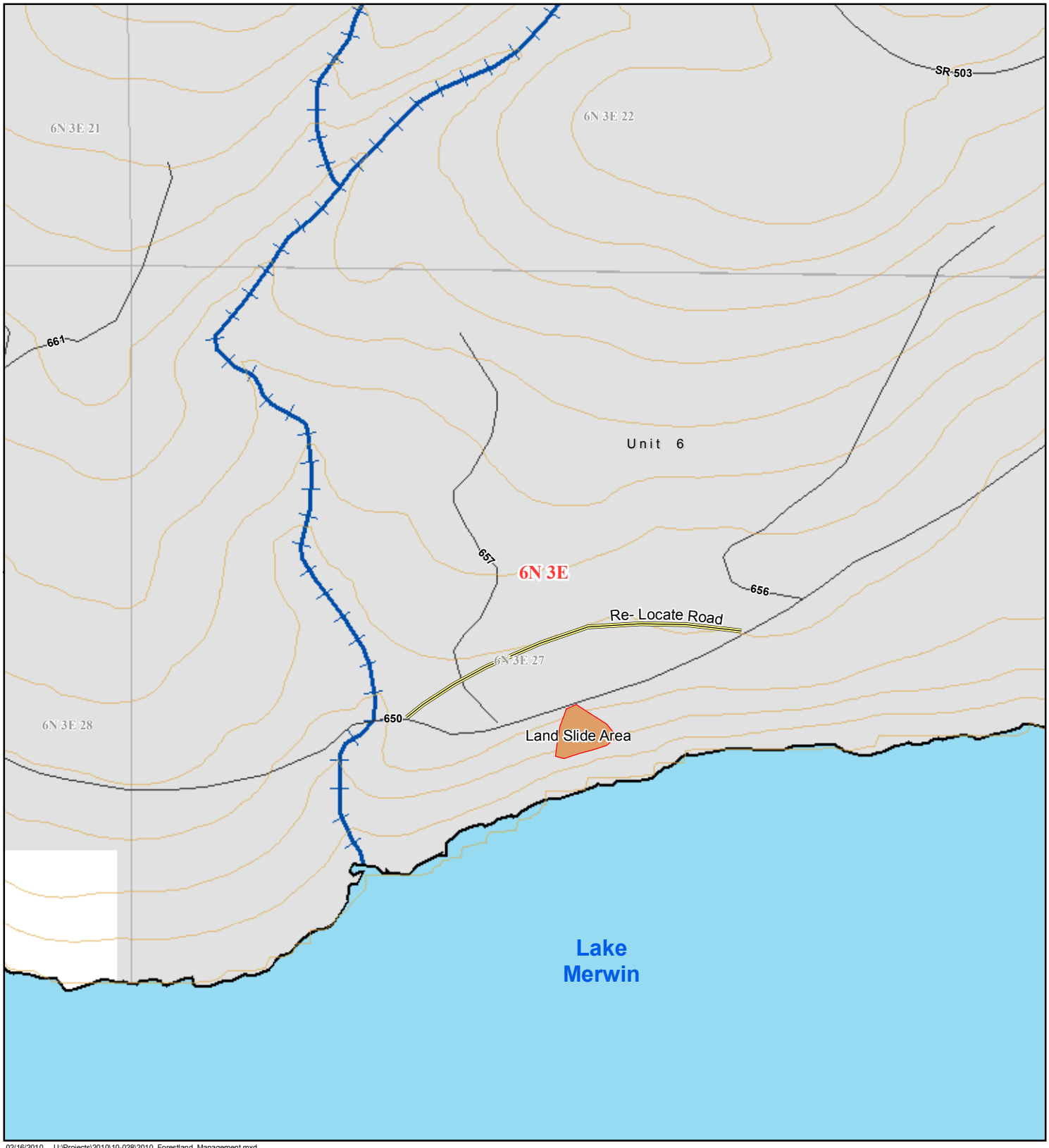
Other Raptors

There is an active osprey nest site 1,300 feet (396.2 m) east of proposed THA 101126. The nest is located within the Yale Reservoir Bald Eagle Winter Roost core area. The proposed THAs and roads are outside of the habitat and disturbance thresholds (i.e. greater than 660 ft (201 m) from the nest site) and will not be restricted to the limiting operating period (April 15 through August 31). Final timber harvest area plans will be determined following the 2010 broadcast northern goshawk surveys.

Northern Spotted Owl Suitable and Dispersal Habitat

Vegetation Cover Type	Habitat Type	Unit 11			Unit 18		
		2004 (Baseline) ac (ha)	2009 Current[1] ac (ha)	2010 (After Harvest) ac (ha)	2004 (Baseline) ac (ha)	2009 Current[1] ac (ha)	2010 (After Harvest) ac (ha)
Old-growth Conifer	Nesting, Roosting Foraging, Dispersal	0.0	23.0 (9.3)	23.0 (9.3)	0.0	6.8 (2.8)	6.8 (2.8)
Mature Conifer	Nesting, Roosting Foraging, Dispersal	59.4 (24.0)	32.0 (13.0)	32.0 (13.0)	0.0	35.9 (14.5)	35.9 (14.5)
Mid-Successional Conifer	Roosting, Foraging, Dispersal	37.8 (15.3)	8.0 (3.2)	8.0 (3.2)	129.4 (52.4)	116.6 (47.2)	116.6 (47.2)
Mid-Successional Conifer - Thinned	Roosting, Foraging, Dispersal	3.2 (1.3)	4.8 (1.9)	4.8 (1.9)	0.0	0.0	0.0
Upland Mixed	Roosting, Foraging, Dispersal	67.6 (27.0)	81.9 (33.1)	81.9 (33.1)	114.5 (46.3)	106.2 (43.0)	106.2 (43.0)
Riparian Mixed	Roosting, Foraging, Dispersal	0..0	0.0	0.0	0.0	0.0	0.0
Total Suitable Habitat (Nesting +Roosting + Foraging)		**168.0 (68.0)**	**149.7 (60.6)**	**149.7 (60.6)**	**243.9 (98.7)**	**265.5 (107.4)**	**265.5 (107.4)**
Pole Conifer	Dispersal	3.8 (1.5)	37.6 (15.2)	37.6 (15.2)	0.0	0.0	0.0
Pole Conifer thinned	Dispersal	37.9 (15.3)	0.0	0.0	0.0	0.0	0.0
Total Dispersal Habitat (Suitable Habitat + Pole Conifer + Pole Conifer Thinned)		**209.7 (84.9)**	**187.3 (75.8)**	**187.3 (75.8)**	**243.9 (98.7)**	**265.5 (107.4)**	**265.5 (107.4)**
Young Upland Mixed	Non-habitat	0.0	0.0	0.0	0.0	0.0	0.0
Upland Deciduous	Non-habitat	138.0 (55.9)	144.8 (58.6)	104.2 (42.2)	138.0 (55.9)	119.7 (48.4)	92.2 (37.3)
Young Upland Deciduous	Non-habitat	0.0	1.2 (0.5)	1.2 (0.5)	0.0	0.0	0.0
Lodgepole Pine	Non-habitat	0.0	0.0	0.0	0.0	0.0	0.0
Riparian Deciduous	Non-habitat	0.0	0.0	0..0	0.0	0.0	0.0
Seedling/Sapling Conifer	Non-habitat	2.0 (0.8)	42.6 (17.2)	29.6 (12.0)	0.0	0.0	0.0
New Clearcut	Non-habitat	28.0 (11.3)	0.0	36.3 (14.7)	0.0	0.0	27.5 (11.1)
Total Forestland Non-Habitat		**168.0 (68.0)**	**188.6 (76.3)**	**171.3 (69.3)**	**138.0 (55.9)**	**119.7 (48.4)**	**119.7 (48.4)**
Total Extent of Forestland Habitat (Dispersal + Non-habitat)		**377.7 (152.8)**	**375.9 (152.1)**	**358.6 (145.1)**	**381.9 (154.5)**	**385.2 (155.9)**	**385.2 (155.9)**

[1]Habitat acres were determined using Vegetation Cover Type data on February 22, 2010.



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Lewis River

Wildlife Habitat Management Plan

Appendix E
2010 Forestland Management Maps

Sheet 1 of 1

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Feet

Legend

- Management Unit
- PacifiCorp Ownership
- Land Slide
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Propoded Road
- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Township/Range
- Section

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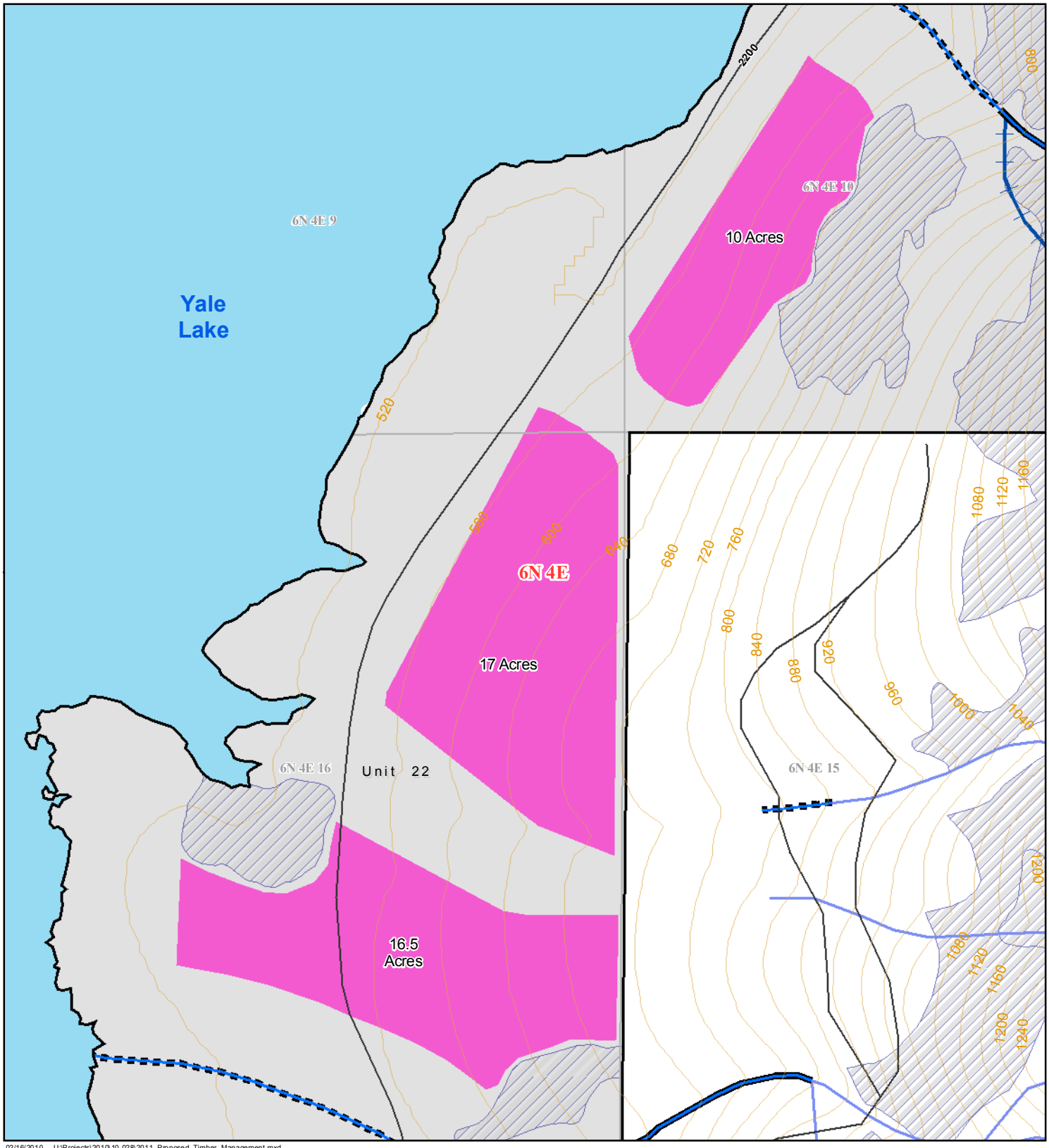
Appendix F: 2011 Proposed Timber Harvest Areas Map



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Lewis River

Wildlife Habitat Management Plan

Appendix F
Proposed Timber Management in 2011

Sheet 1 of 1

0 200 400
Feet

Legend

- Proposed Timber Harvest
- NSO Suitable Habitat
- Management Unit
- PacifiCorp Ownership
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- 40 Ft Contour
- Road
- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Township/Range
- Section

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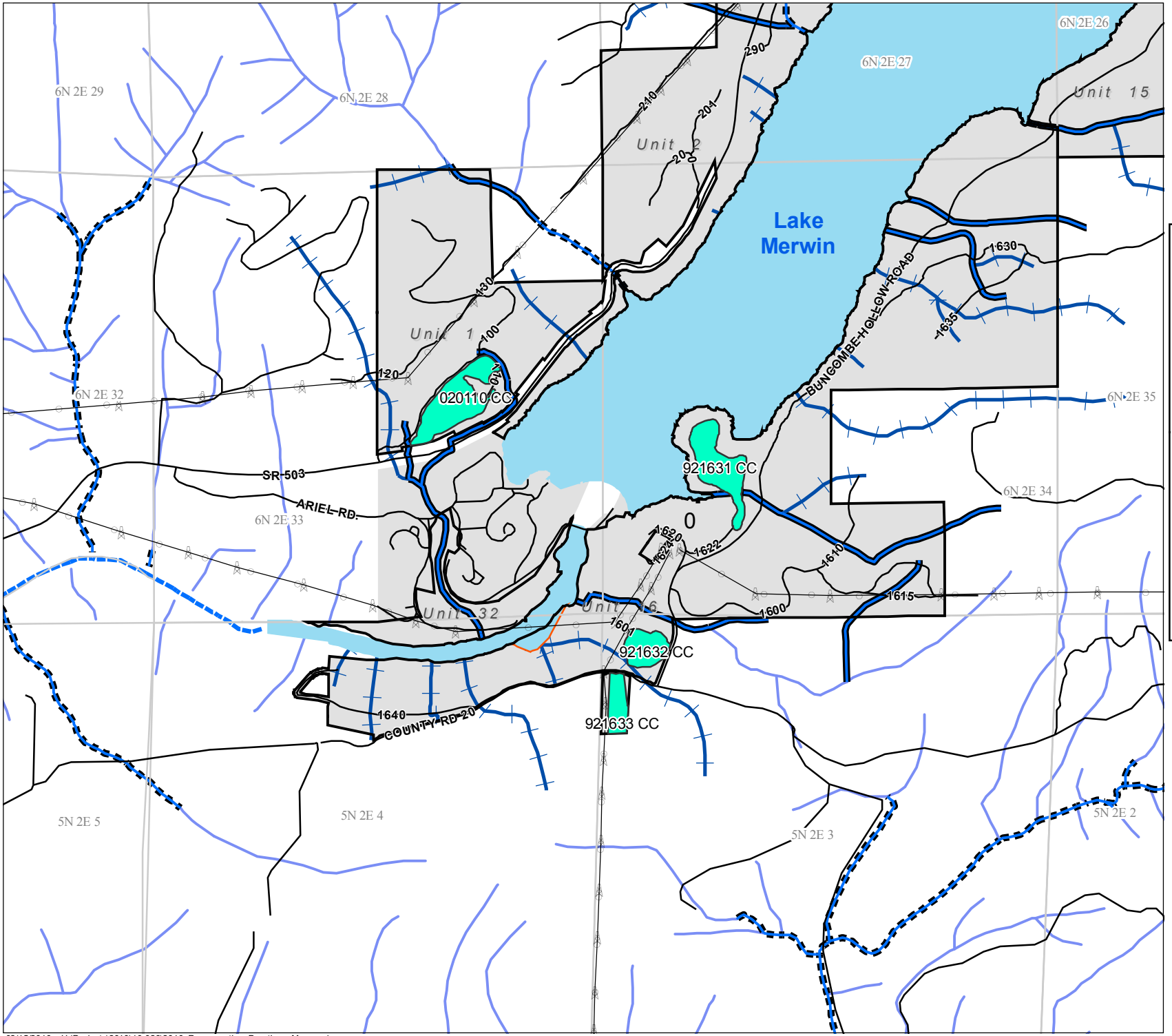
Appendix G: 2010 Regeneration Practices Maps



Lewis River Wildlife Habitat Management Plan

Appendix G 2010 Forestland Regeneration Maps

Sheet 1 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N W E S

500 0 500 1,000

Feet

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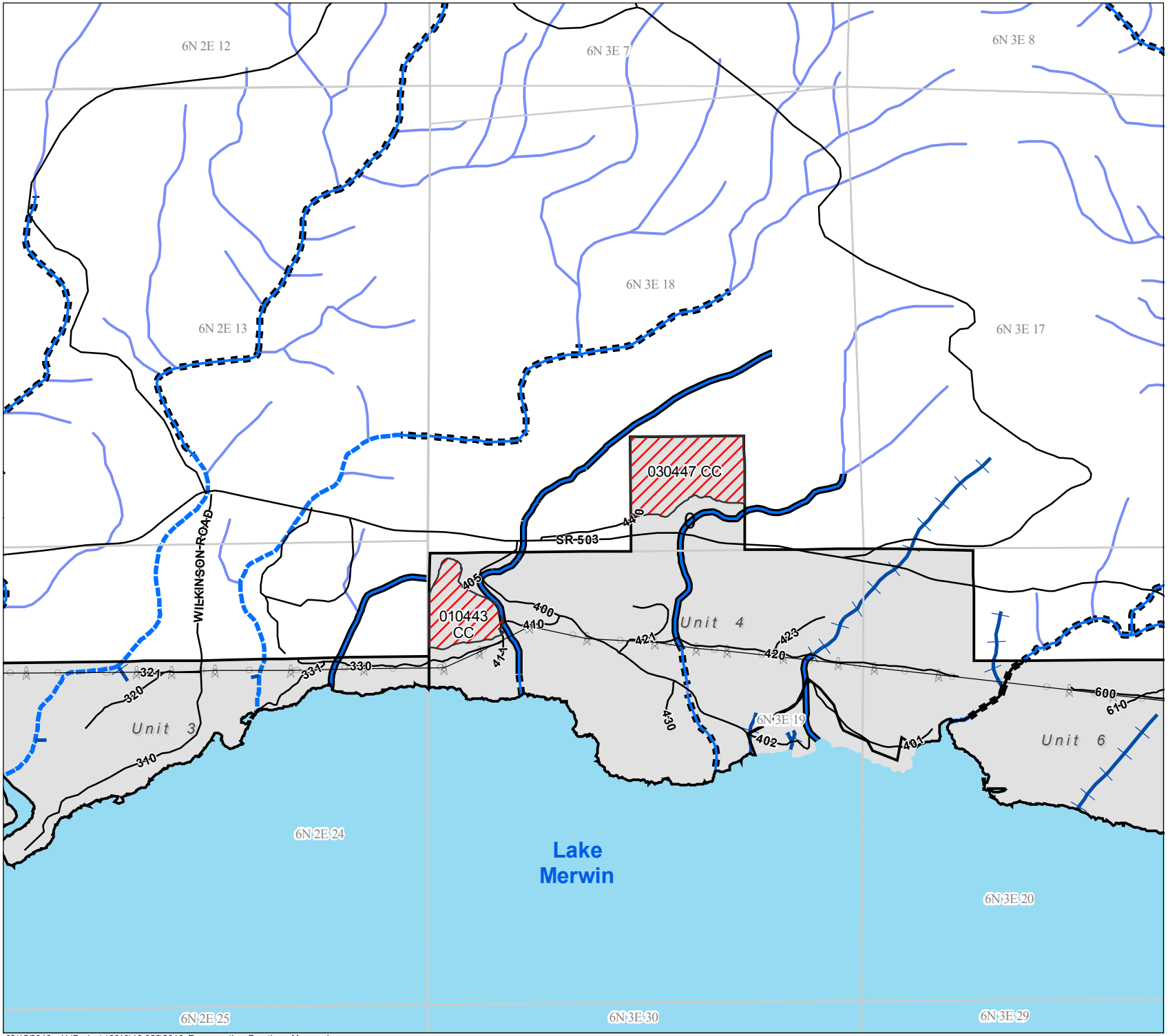

Lewis River Wildlife Habitat Management Plan

Appendix G 2010 Forestland Regeneration Maps

Sheet 2 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N W E S

500 0 500 1,000

Feet

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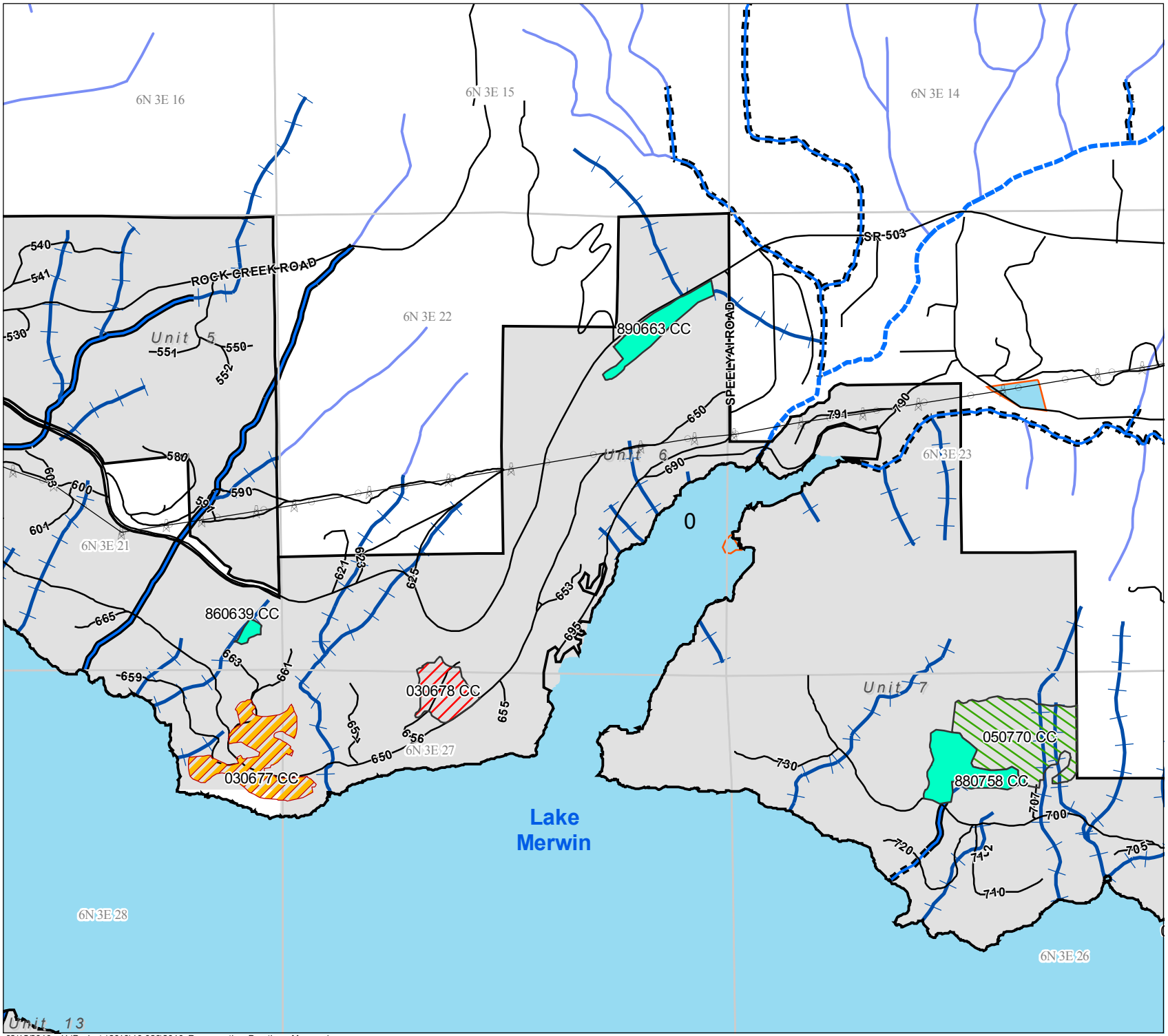

Lewis River Wildlife Habitat Management Plan

Appendix G 2010 Forestland Regeneration Maps

Sheet 3 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N W E S

500 0 500 1,000

Feet

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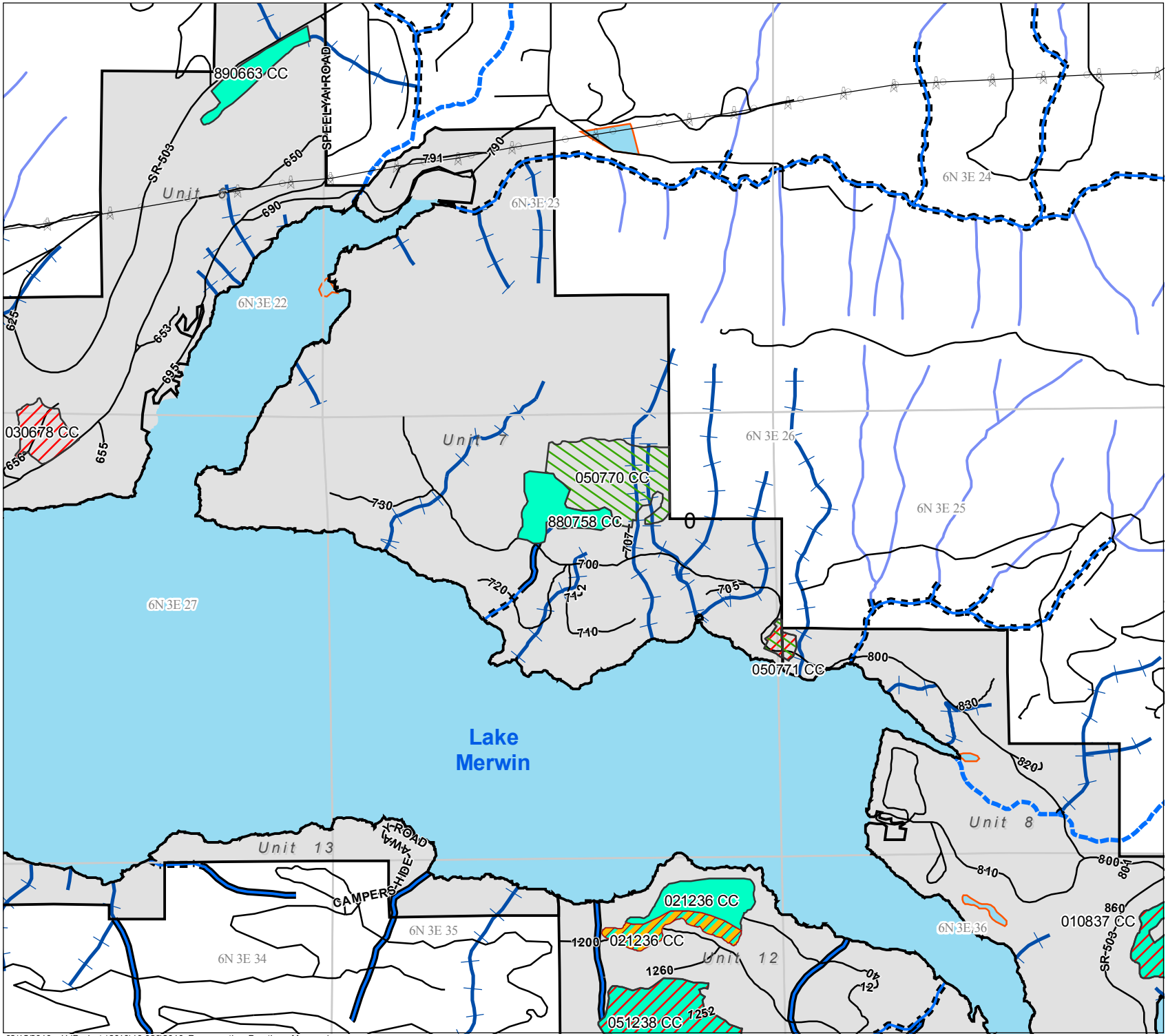

Lewis River
Wildlife Habitat
Management Plan

Appendix G
2010 Forestland
Regeneration Maps

Sheet 4 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N
W E
S

500 0 500 1,000

Feet

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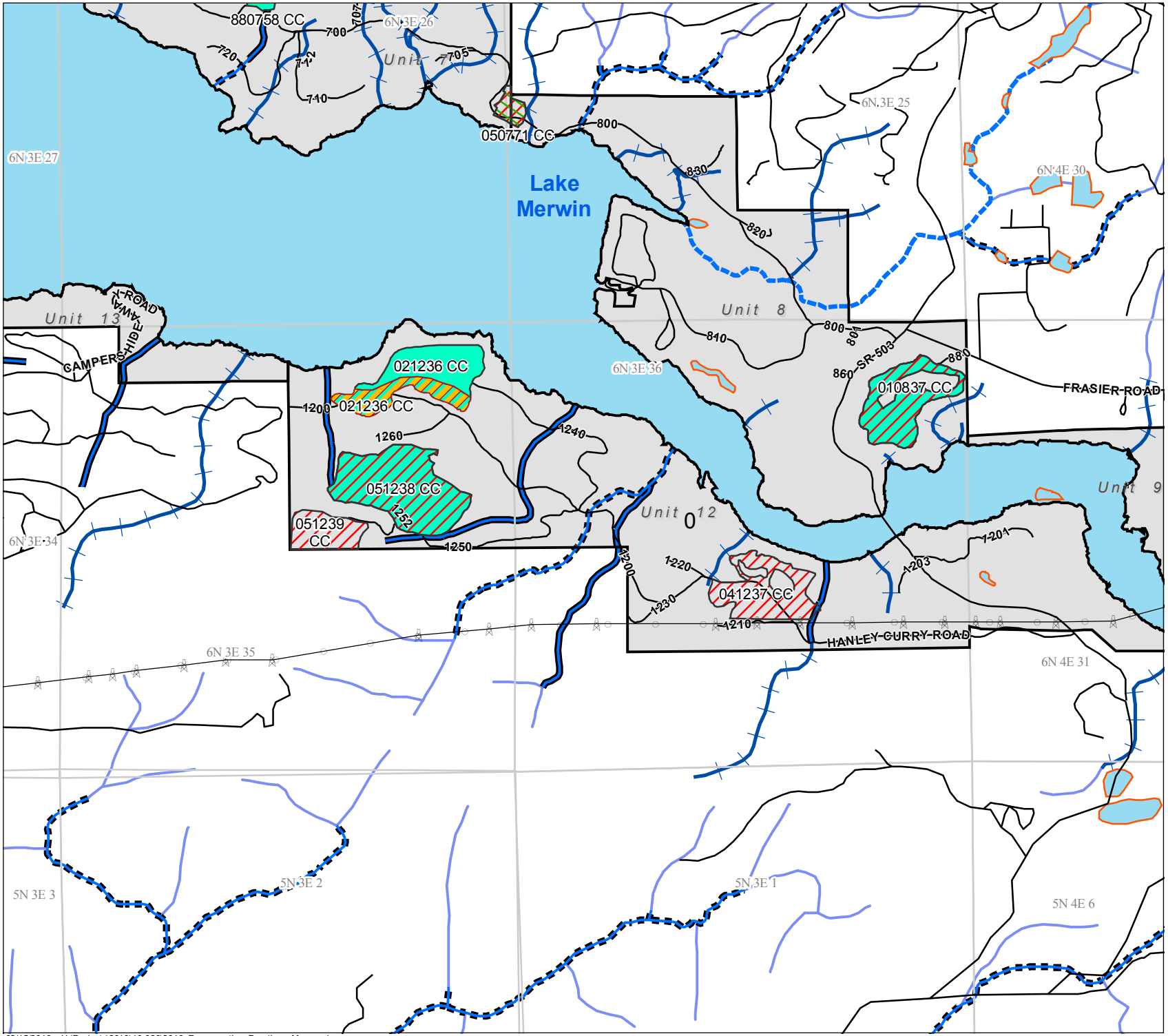

Lewis River
Wildlife Habitat
Management Plan

Appendix G
2010 Forestland
Regeneration Maps

Sheet 5 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

500 0 500 1,000

Feet

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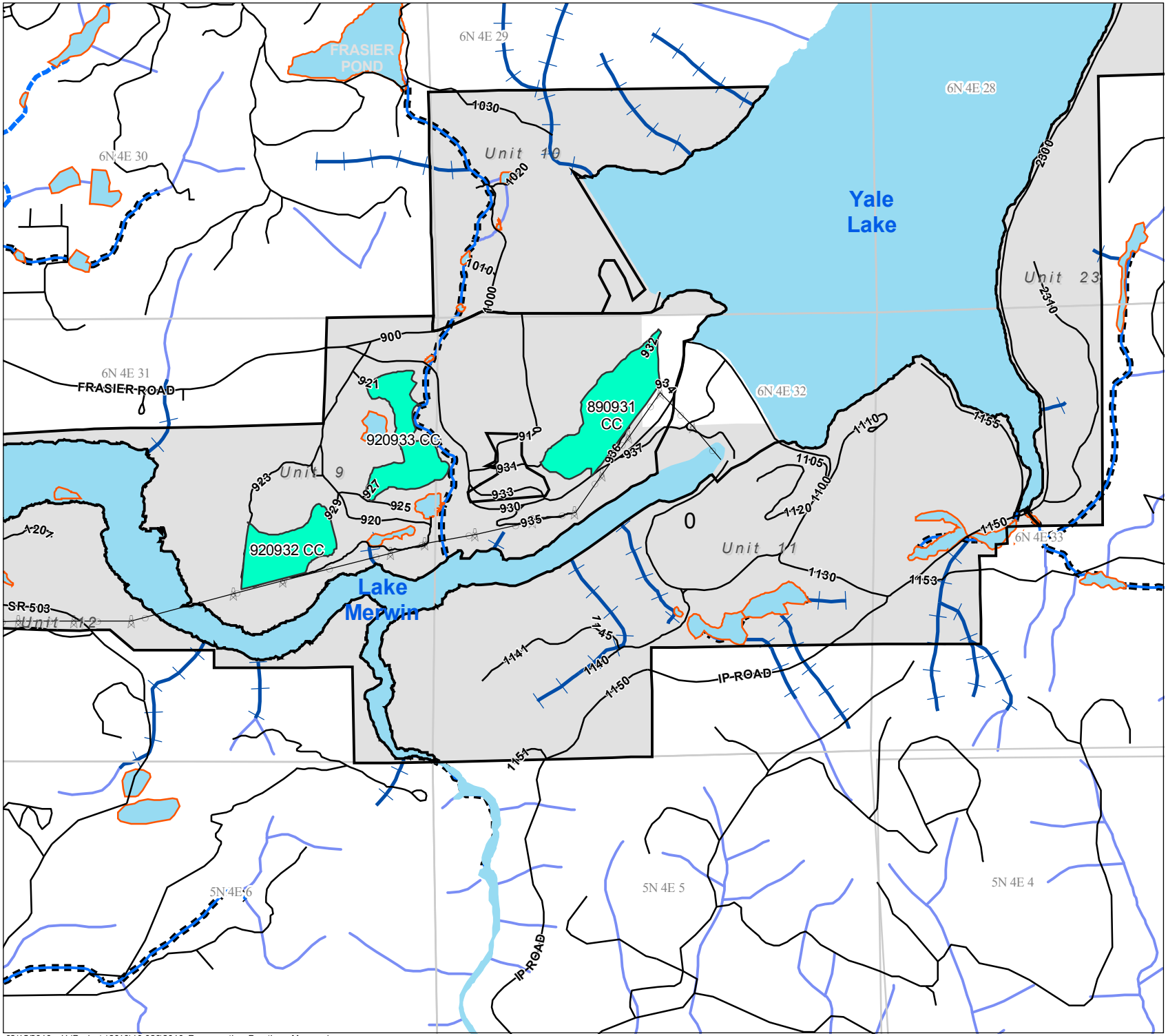

Lewis River
Wildlife Habitat
Management Plan

Appendix G
2010 Forestland
Regeneration Maps

Sheet 6 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

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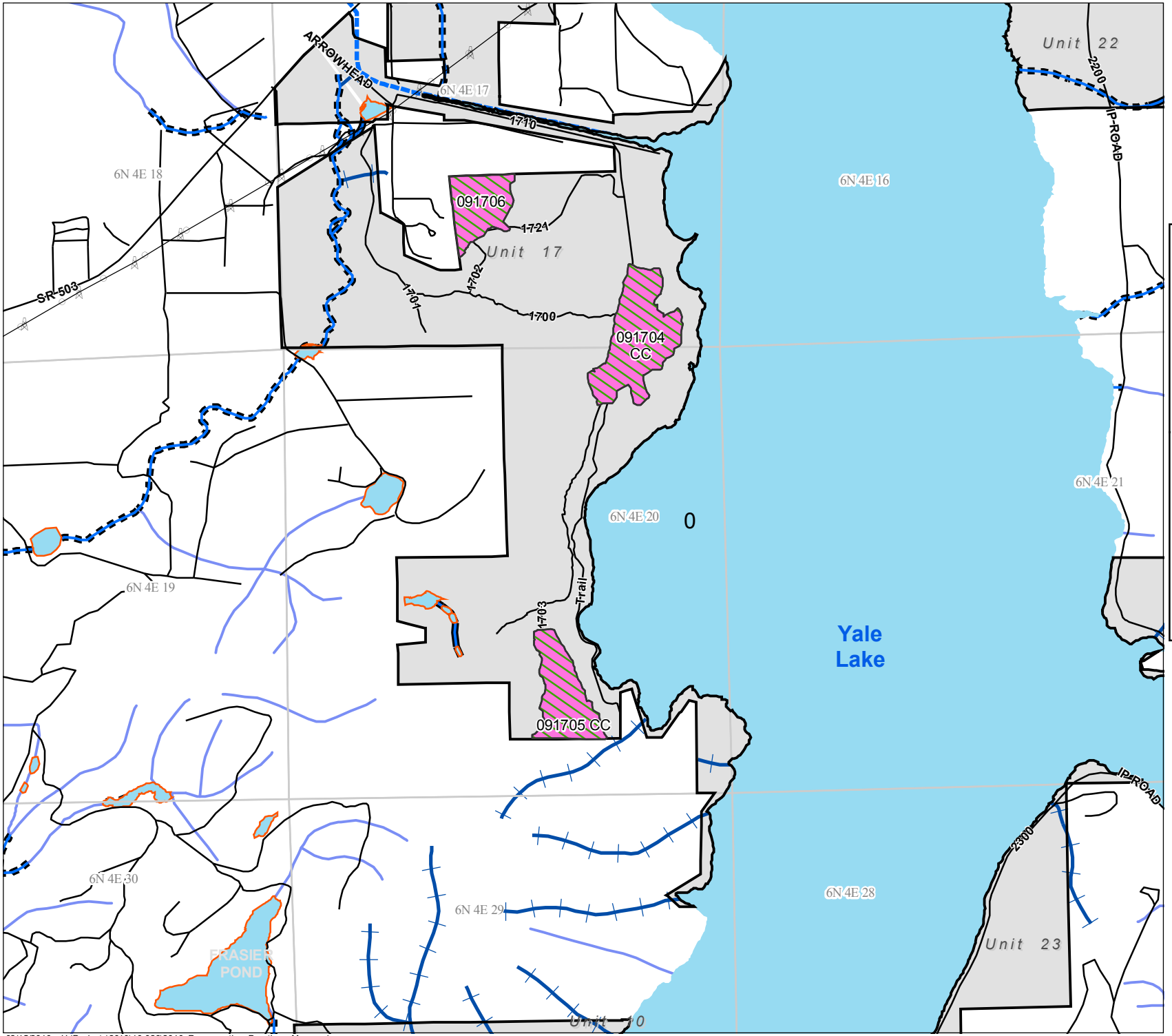

Lewis River
Wildlife Habitat
Management Plan

Appendix G
2010 Forestland
Regeneration Maps

Sheet 7 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

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Feet

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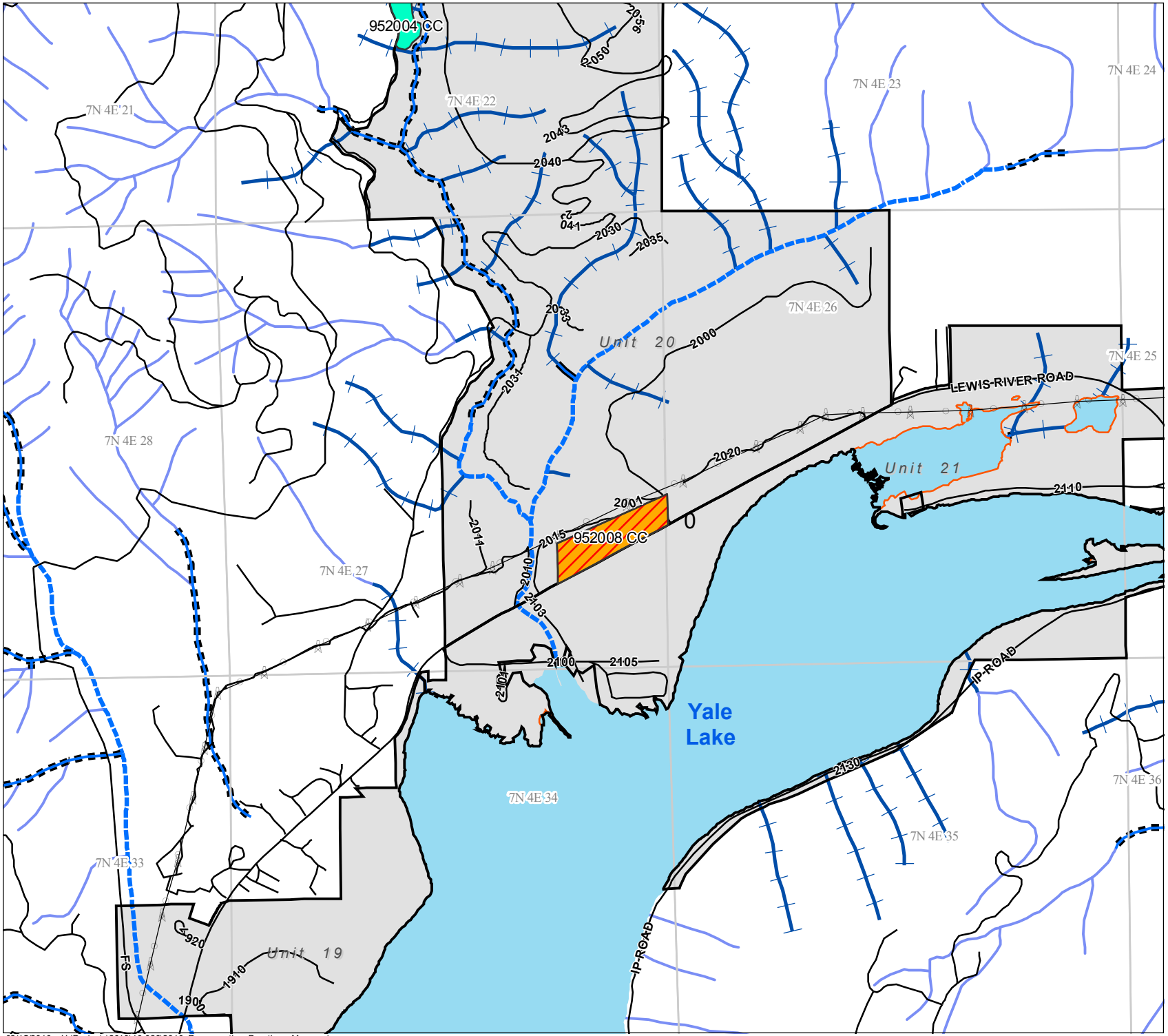

Lewis River Wildlife Habitat Management Plan

Appendix G 2010 Forestland Regeneration Maps

Sheet 8 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N W E S

500 0 500 1,000

Feet

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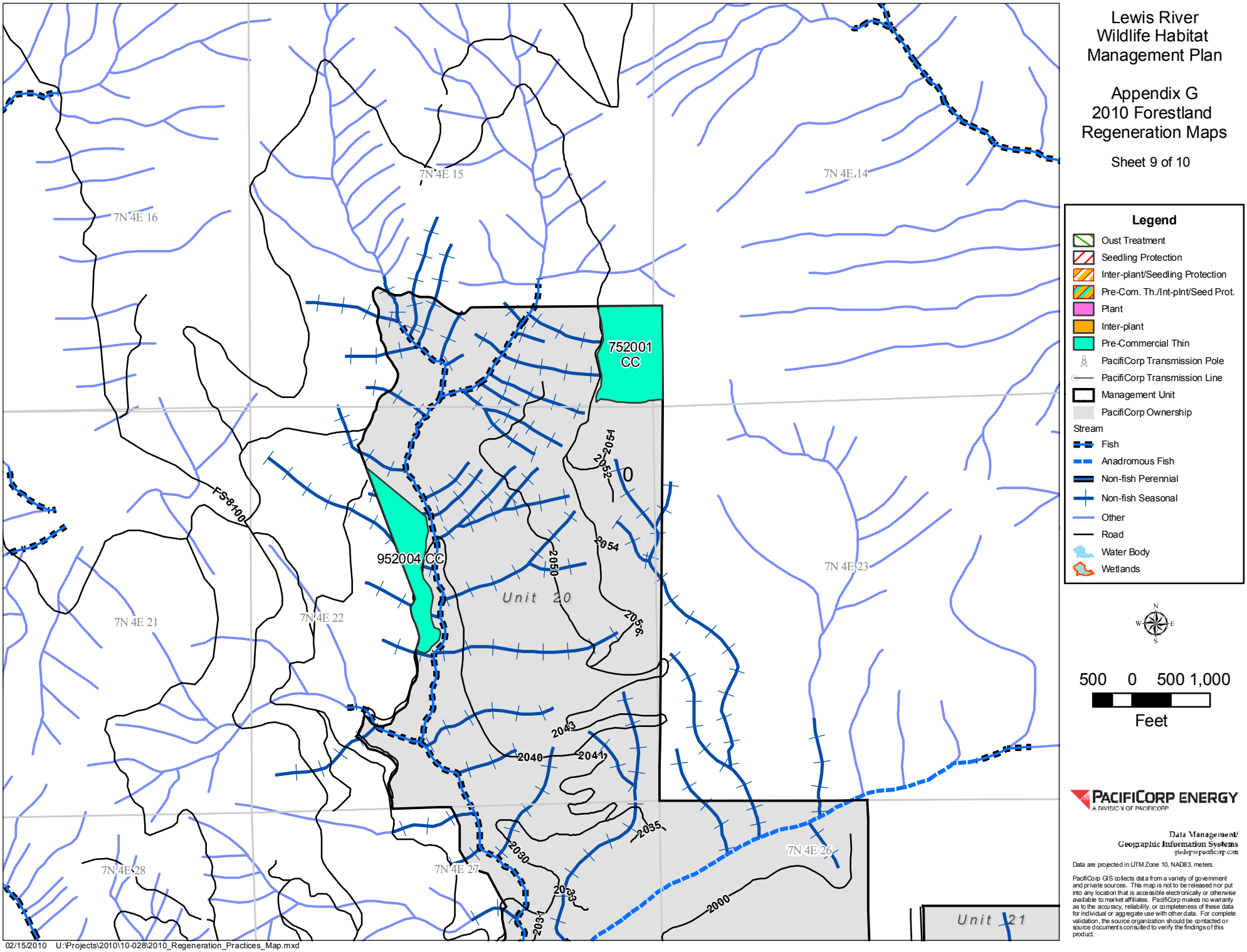

Lewis River Wildlife Habitat Management Plan

Appendix G 2010 Forestland Regeneration Maps

Sheet 9 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N W E S

500 0 500 1,000

Feet

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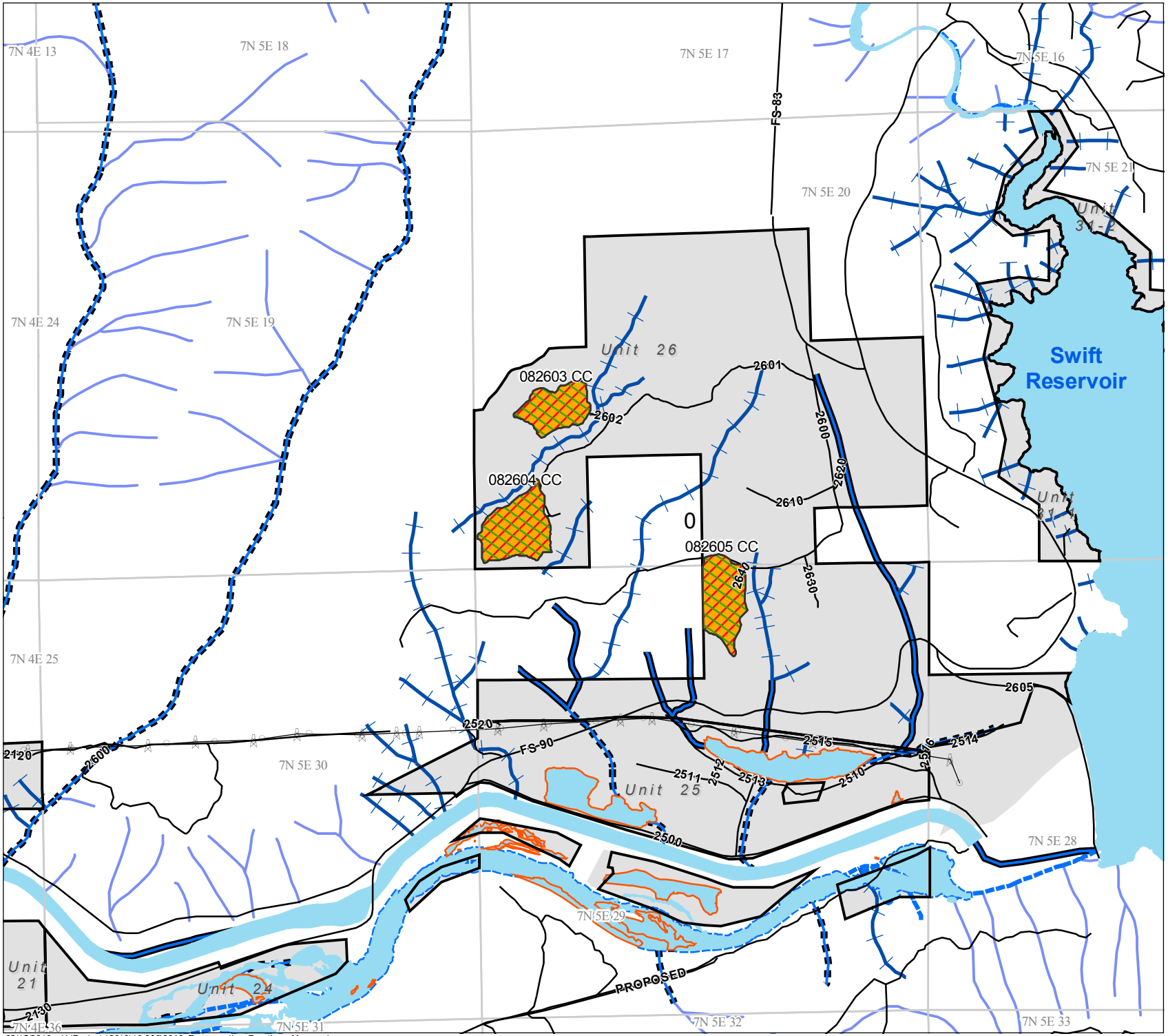

Lewis River
Wildlife Habitat
Management Plan

Appendix G
2010 Forestland
Regeneration Maps

Sheet 10 of 10

Legend

- Oust Treatment
- Seedling Protection
- Inter-plant/Seedling Protection
- Pre-Com. Th./Int-plnt/Seed Prot.
- Plant
- Inter-plant
- Pre-Commercial Thin
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- PacifiCorp Ownership

Stream

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Road
- Water Body
- Wetlands

N W E S

500 0 500 1,000

Feet

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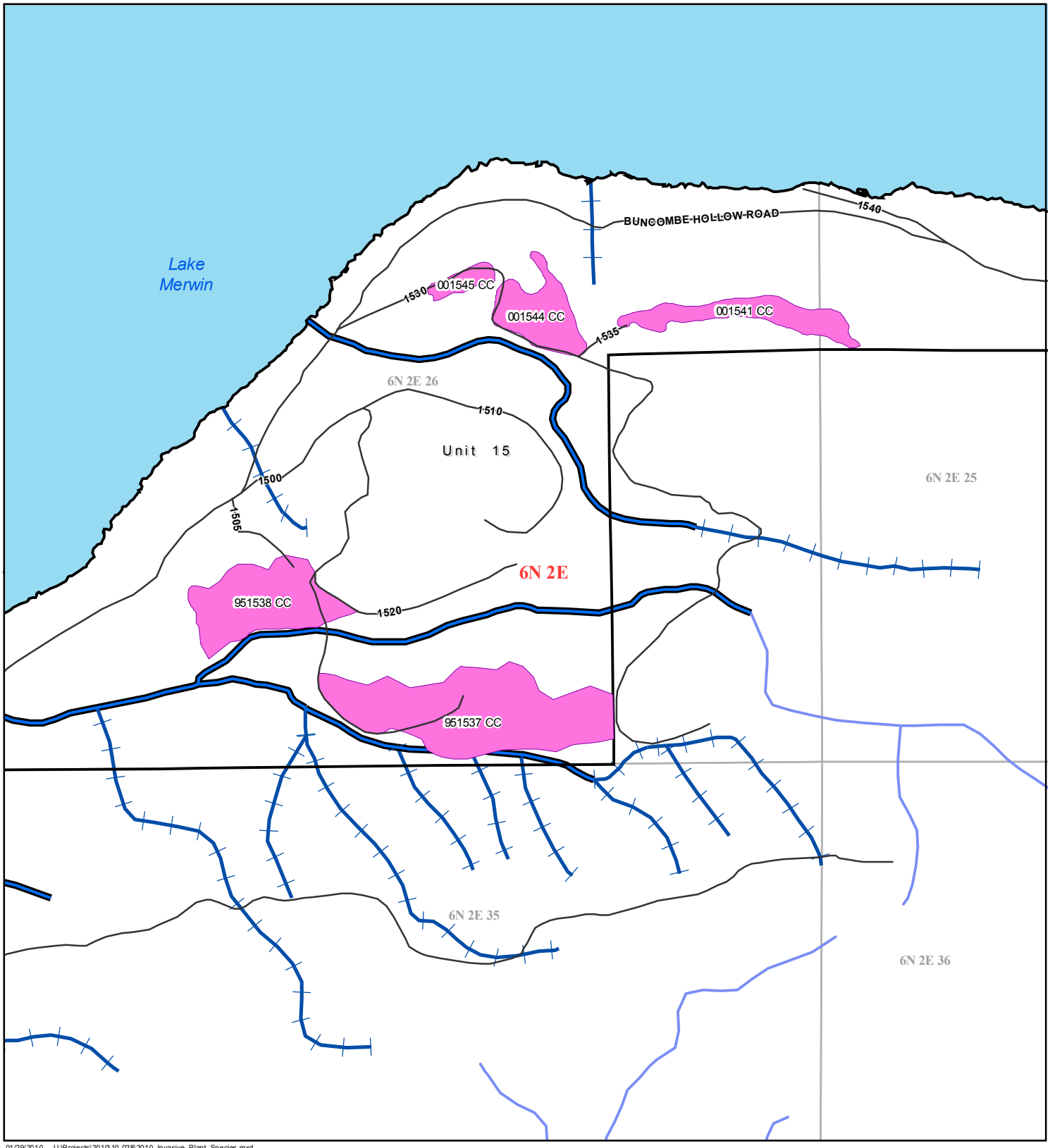
Appendix H: 2010 Vegetation Control Map



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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 1 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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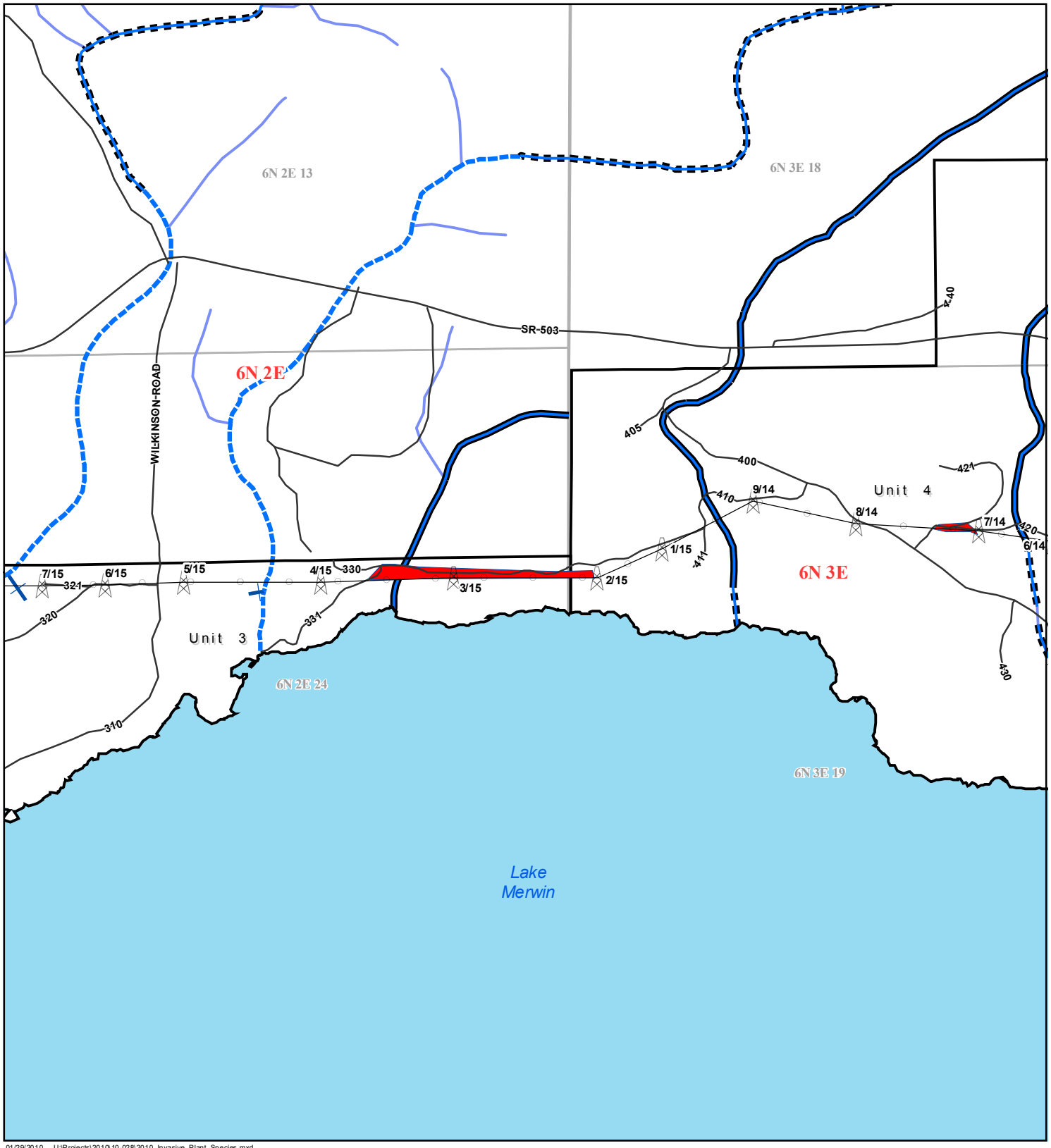

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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 2 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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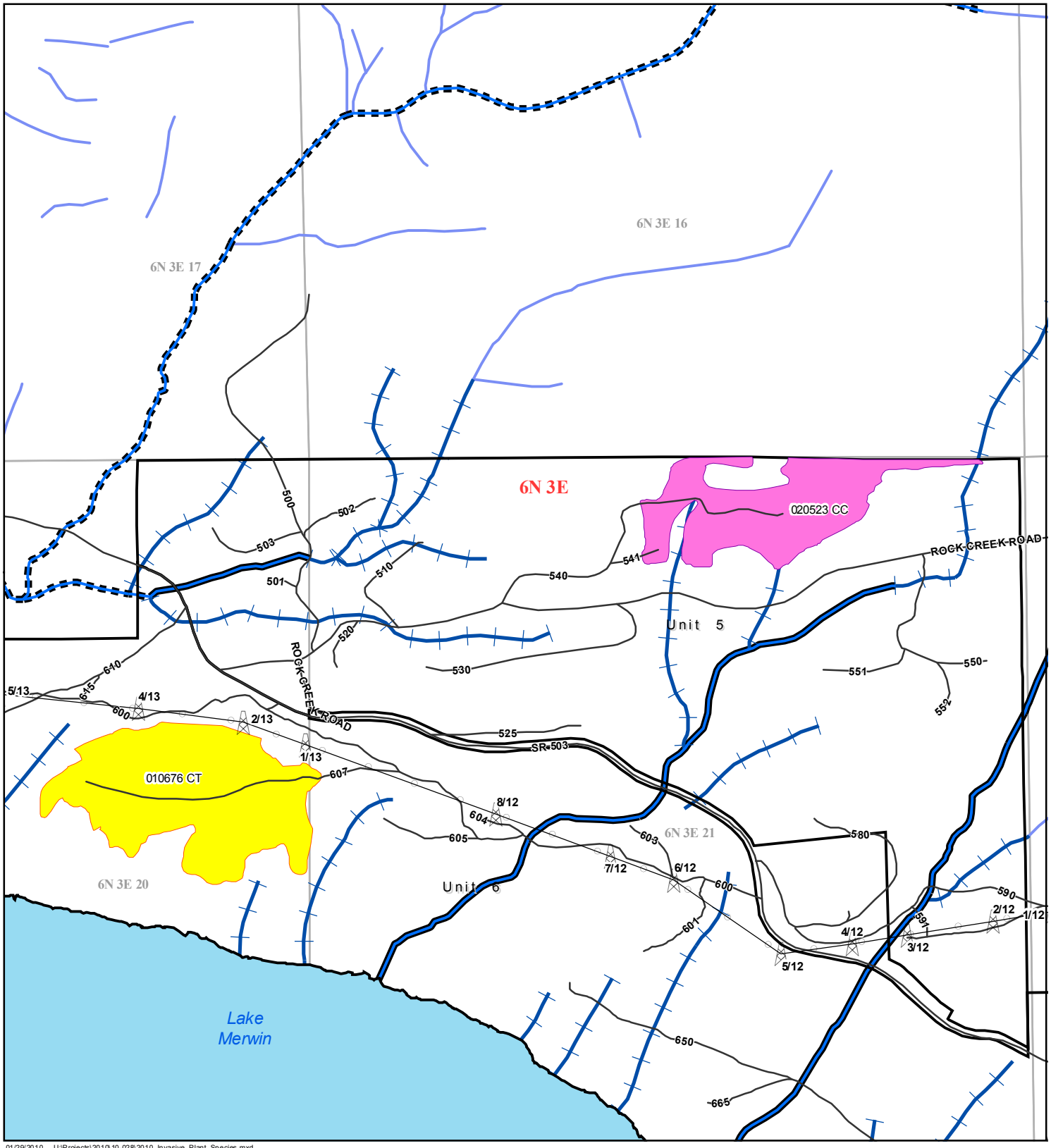

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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 3 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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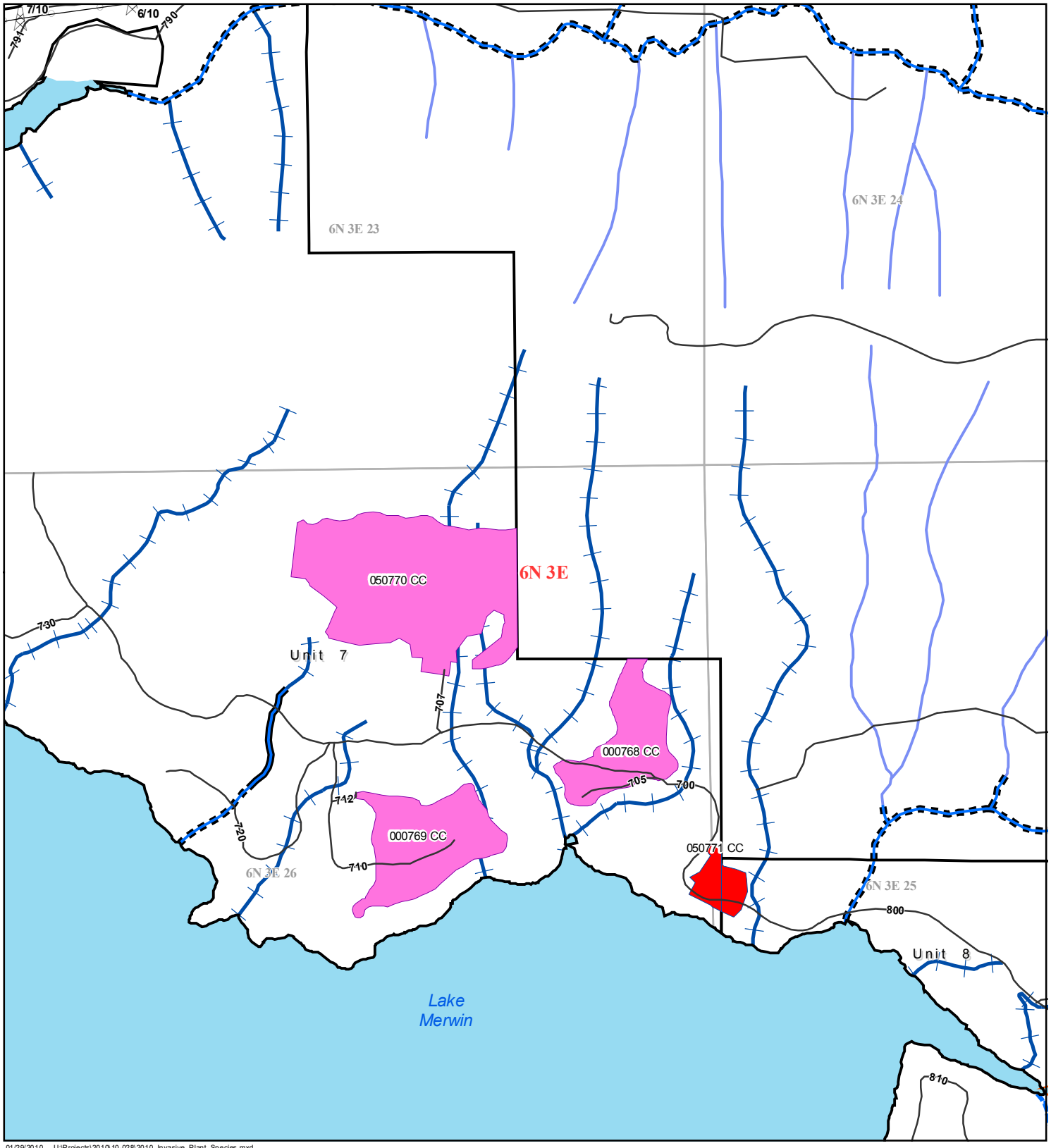

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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 4 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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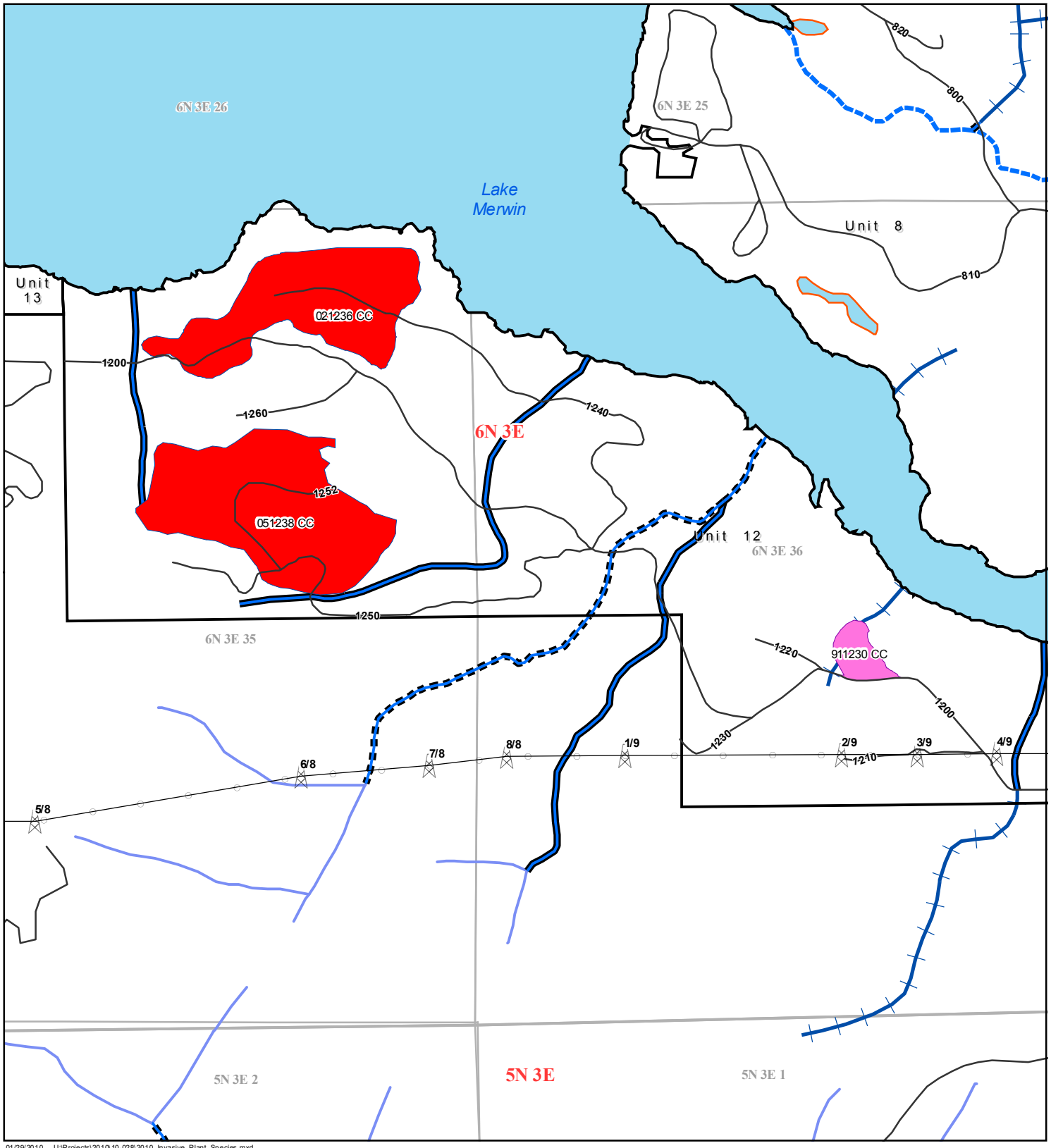

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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 5 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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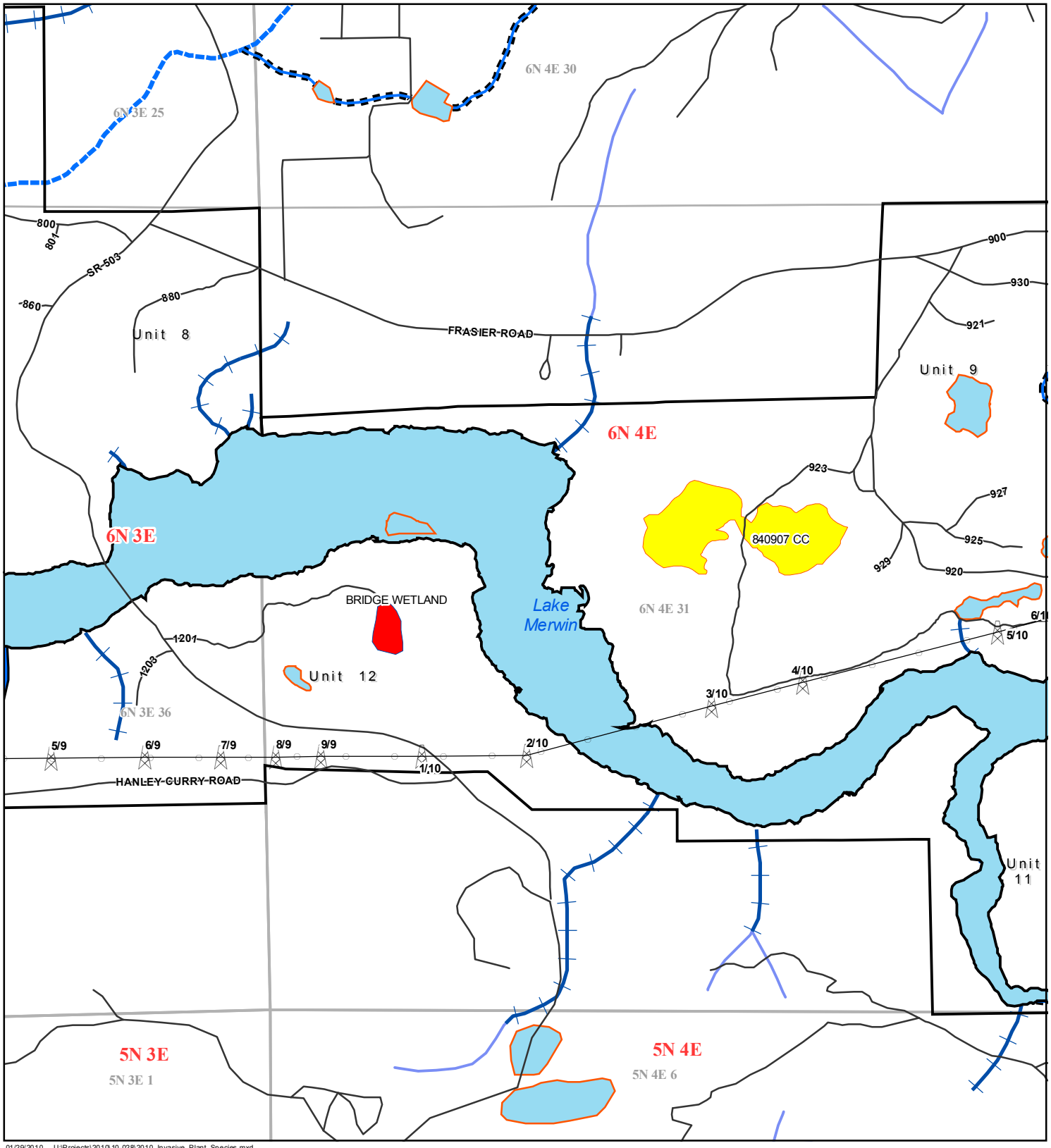

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Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 6 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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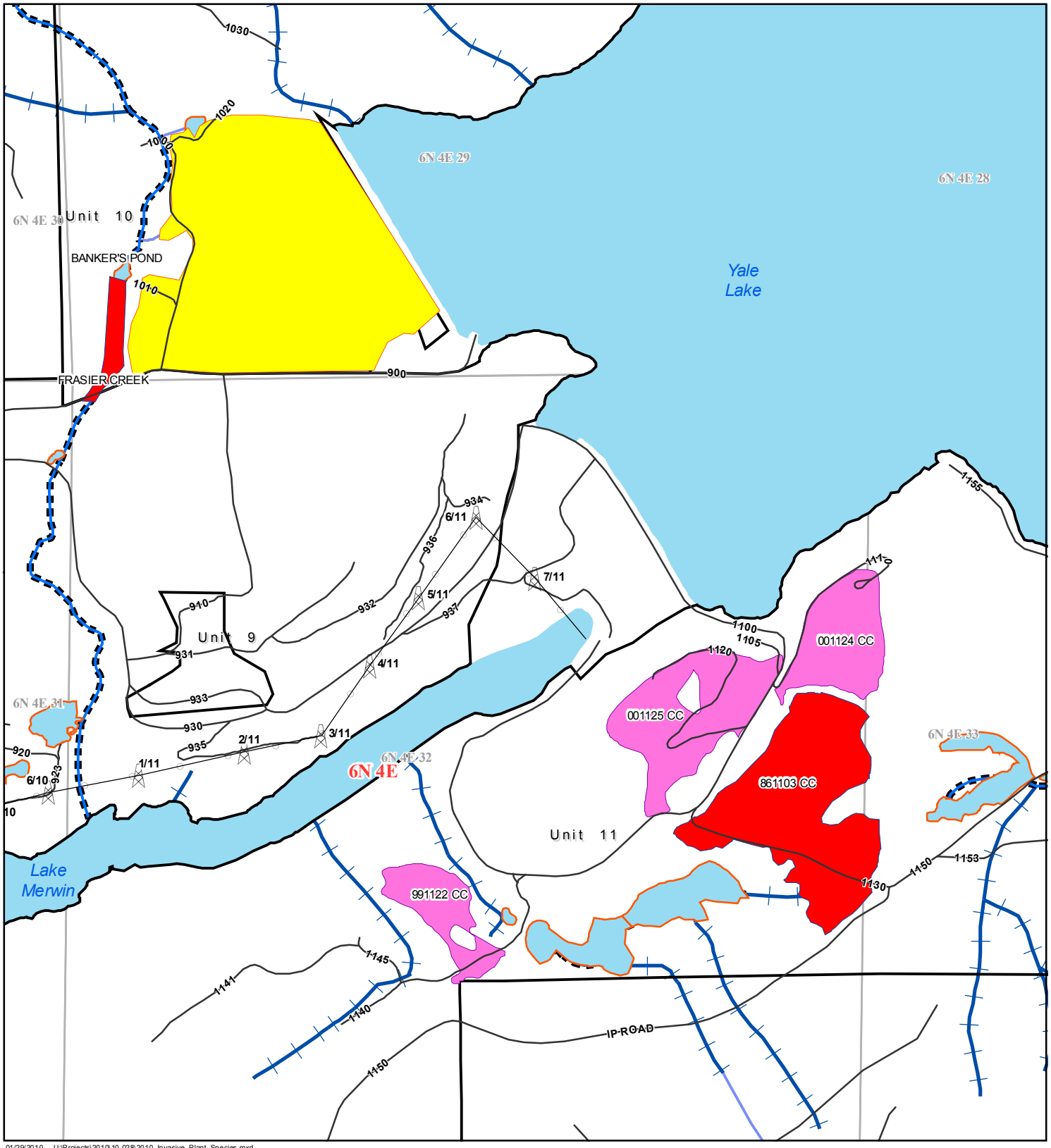

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Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 7 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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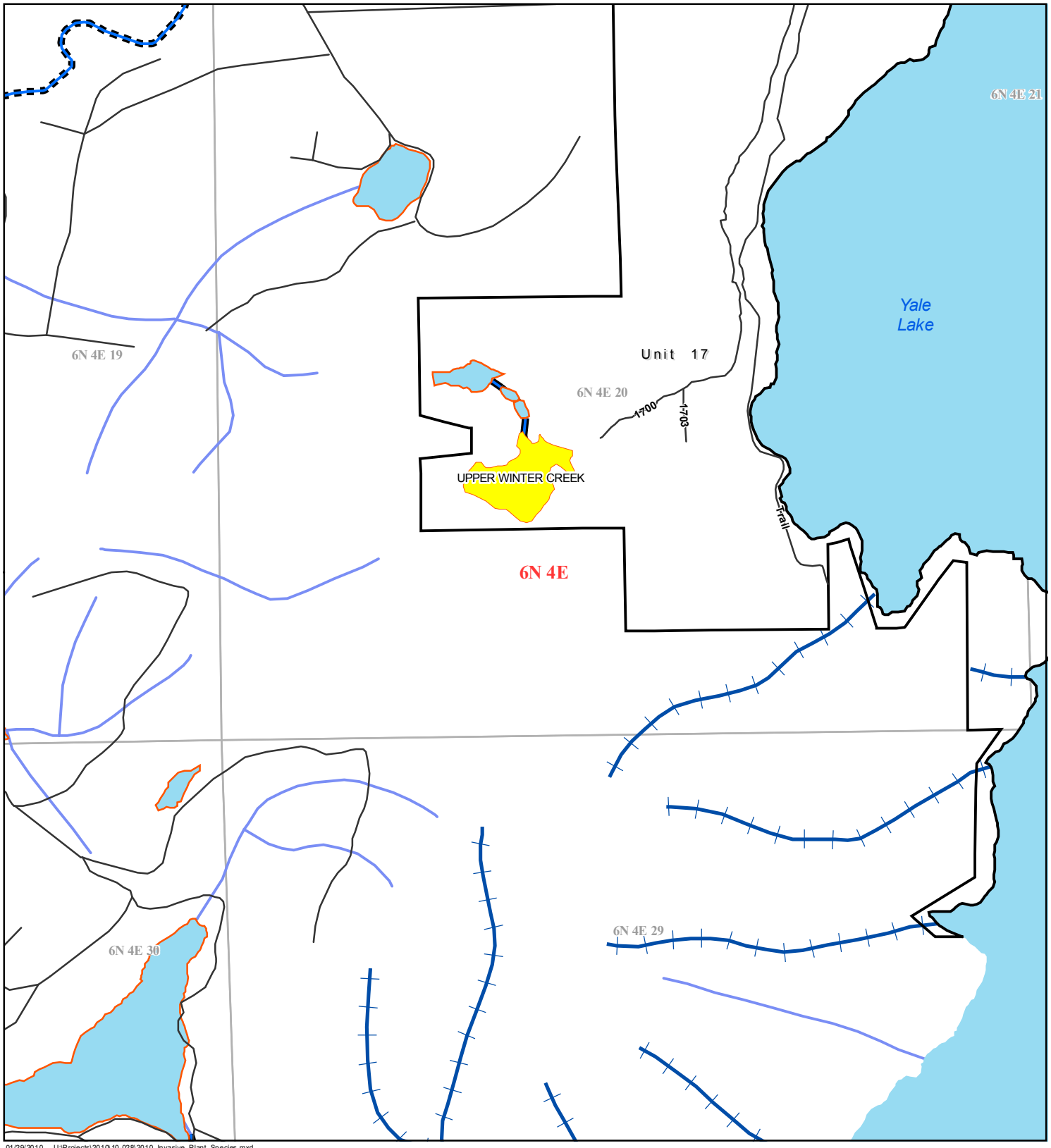
Data are projected in UTM Zone 10, NAD83, meters.



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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 8 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road

Invasive Species 2010

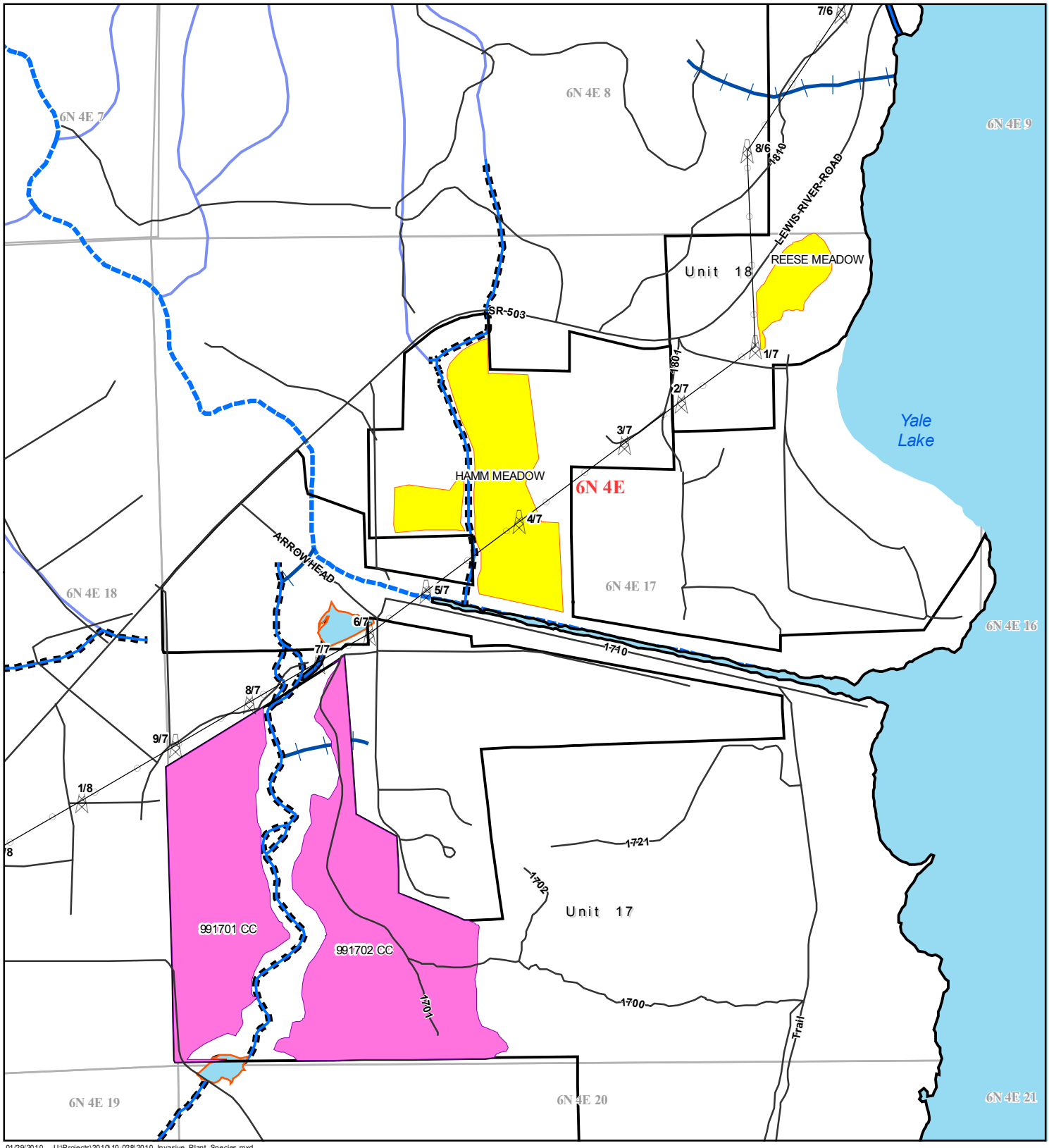
- Class A
- Class B
- Class C
- Not Classified

- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

PACIFICORP ENERGY
A DIVISION OF PACIFICORP

Data Management/ Geographic Information Systems
gisdept@pacificorp.com

Data are projected in UTM Zone 10, NAD83, meters.



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Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 9 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
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- Road

Invasive Species 2010

- Class A
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- Other
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gisdept@pacificorp.com

Data are projected in UTM Zone 10, NAD83, meters.

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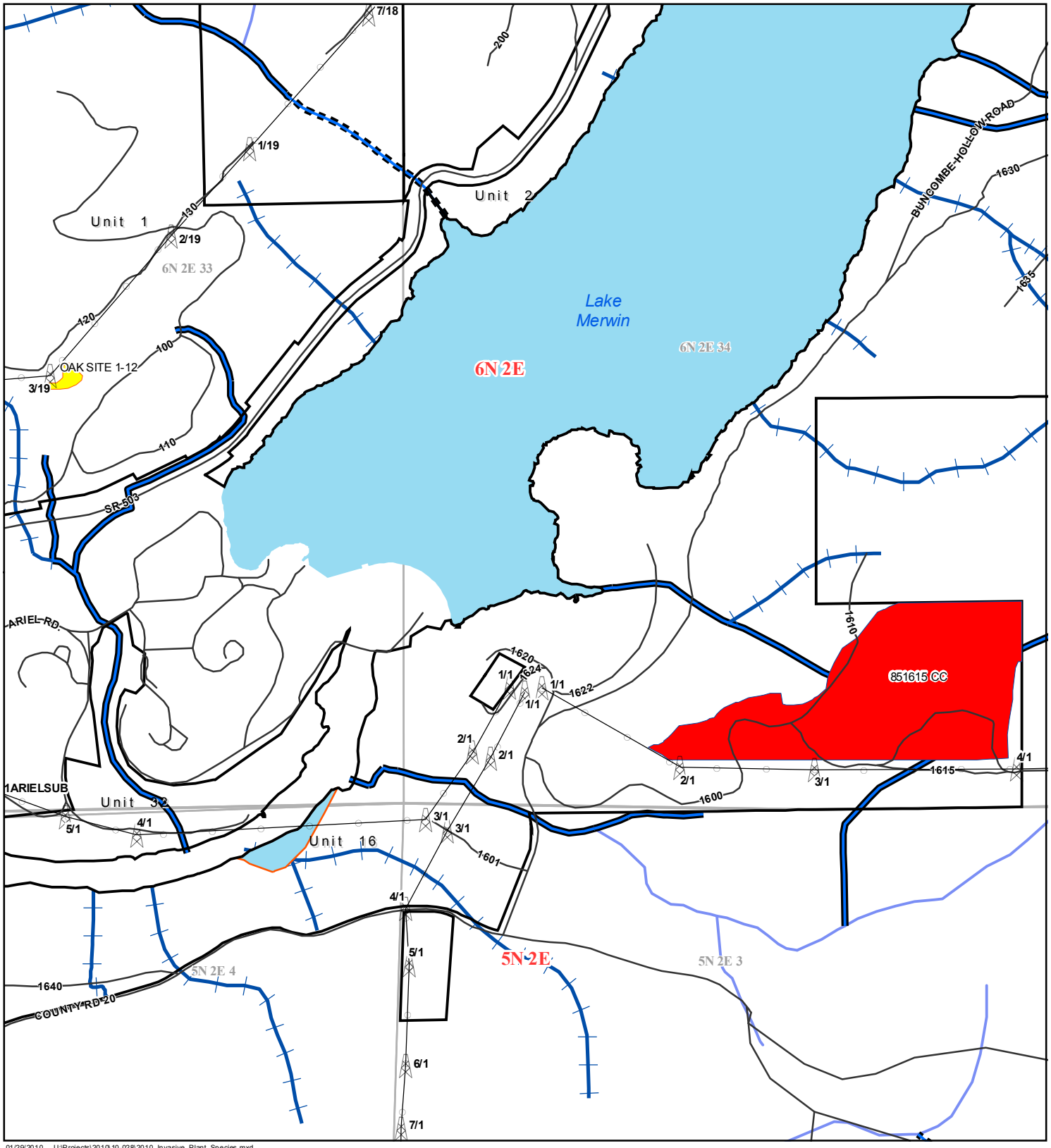

01/29/2010 U:\Projects\2010\10-028\2010_Invasive_Plant_Species.mxd

Lewis River

Wildlife Habitat Management Plan Appendix H

2010 Invasive Plant Species Control Maps

Sheet 10 of 10

0 500 1,000 Feet

Legend

- Management Unit
- PacifiCorp Transmission Pole
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- Road

Invasive Species 2010

- Class A
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- Class C
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- Fish
- Anadromous Fish
- Non-fish Perennial
- Non-fish Seasonal
- Other
- Wetlands
- Water Body
- Township/Range
- Section

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Data Management/ Geographic Information Systems
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Data are projected in UTM Zone 10, NAD83, meters.

Appendix I:
2010 Washington State and County Noxious Weed list

Noxious Weeds are non-native plants introduced to Washington State that can be highly destructive, competitive, and difficult to control. These plants invade our croplands, rangeland, forests, parks, rivers, lakes, wetlands, and estuaries causing both ecological and economical damage that affects us all. Noxious weeds can:

- Lower crop yields
- Reduce forage quality
- Destroy plant and animal habitat
- Displace native plants
- Reduce recreational opportunities (*e.g.*, fishing, hunting, swimming and hiking)
- Clog waterways
- Decrease land values
- Increase erosion and wildfire risk
- And some are toxic to humans and livestock

To help protect the State's resources and economy, the Washington State Noxious Weed Control Board adopts a State Noxious Weed List each year (WAC 16-750). This list classifies weeds into three major classes – A, B, and C – based on the stage of invasion of each species and the seriousness of the threat they pose to Washington State. This classification system is designed to:

- Prevent small infestations from expanding by eradicating them when they are first detected
- Restrict already established weed populations to regions of the state where they occur and prevent their movement to un-infested areas
- Allow flexibility of weed control at the local level for weeds that are already widespread.

To learn more about noxious weeds and noxious weed control in Washington State, please contact:

WA State Noxious Weed Control Board
P.O. Box 42560
Olympia, WA 98504-2560
(360)-725-5764

Email: noxiousweeds@agr.wa.gov

Website: http://www.nwcb.wa.gov

Or

WA State Department of Agriculture
21 North First Avenue #103
Yakima, WA 98902
(509) 225-2604

Or

Your local County
Noxious Weed Control Board

Please help protect Washington's economy and environment from noxious weeds!

2010

Washington State Noxious Weed List

Flowering rush, *Butomus umbellatus*, a Class A noxious weed

Public domain botanical print from *from Projekt Runeberg: Bilder ur Nordens Flora* (1917-1926)
Provided by Wikimedia Commons

Class A Weeds: Non-native species whose distribution in Washington is still limited. Preventing new infestations and eradicating existing infestations are the highest priority.
Eradication of all Class A plants is required by law.

Class B Weeds: Non-native species presently limited to portions of the State. Species are designated for control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal. Please contact your County Noxious Weed Control Coordinator to learn which species are designated in your area.

Class C Weeds: Noxious weeds which are already widespread in WA or are of special interest to the state's agricultural industry. The Class C status allows counties to enforce control if locally desired. Other counties may choose to provide education or technical consultation.

Class A Weeds
Eradication is required

buffalobur	*Solanum rostratum*
common crupina	*Crupina vulgaris*
cordgrass, common	*Spartina anglica*
cordgrass, dense flower	*Spartina densiflora*
cordgrass, salt meadow	*Spartina patens*
cordgrass, smooth	*Spartina alterniflora*
dyers woad	*Isatis tinctoria*
eggleaf spurge	*Euphorbia oblongata*
false brome	*Brachypodium sylvaticum*
floating primrose-willow	*Ludwigia peploides*
flowering rush	*Butomus umbellatus*
garlic mustard	*Alliaria petiolata*
giant hogweed	*Heracleum mantegazzianum*
goatsrue	*Galega officinalis*
hawkweed, European	*Hieracium sabaudum*
hawkweed, yellow devil	*Hieracium floribundum*
hydrilla	*Hydrilla verticillata*
johnsongrass	*Sorghum halepense*
knapweed, bighead	*Centaurea macrocephala*
knapweed, Vochin	*Centaurea nigrescens*
kudzu	*Pueraria montana* var. *lobata*
meadow clary	*Salvia pratensis*
purple starthistle	*Centaurea calcitrapa*
reed sweetgrass	*Glyceria maxima*
ricefield bulrush	*Schoenoplectus mucronatus*
sage, clary	*Salvia sclarea*
sage, Mediterranean	*Salvia aethiopis*
shiny geranium	*Geranium lucidum*
silverleaf nightshade	*Solanum elaeagnifolium*
Spanish broom	*Spartium junceum*
spurge flax	*Thymelaea passerina*
Syrian bean-caper	*Zygophyllum fabago*
Texas blueweed	*Helianthus ciliaris*
thistle, Italian	*Carduus pycnocephalus*
thistle, milk	*Silybum marianum*
thistle, slenderflower	*Carduus tenuiflorus*
variable-leaf milfoil	*Myriophyllum heterophyllum*
velvetleaf	*Abutilon theophrasti*
wild four o'clock	*Mirabilis nyctaginea*

Class B Weeds

Austrian fieldcress	*Rorippa austriaca*
blackgrass	*Alopecurus myosuroides*
blueweed	*Echium vulgare*
Brazilian elodea	*Egeria densa*
bugloss, annual	*Anchusa arvensis*
bugloss, common	*Anchusa officinalis*
butterfly bush	*Buddleja davidii*
camelthorn	*Alhagi maurorum*
common catsear	*Hypochaeris radicata*
common fennel	*Foeniculum vulgare*
common reed (nonnative genotypes)	*Phragmites australis*
Dalmatian toadflax	*Linaria dalmatica* ssp. *dalmatica*
Eurasian watermilfoil	*Myriophyllum spicatum*
fanwort	*Cabomba caroliniana*
gorse	*Ulex europaeus*
grass-leaved arrowhead	*Sagittaria graminea*
hawkweed oxtongue	*Picris hieracioides*
hawkweed, mouseear	*Hieracium pilosella*
hawkweed, orange	*Hieracium aurantiacum*
hawkweed, polar	*Hieracium atratum*
hawkweed, queen-devil	*Hieracium glomeratum*
hawkweed, smooth	*Hieracium laevigatum*
hawkweed, yellow	*Hieracium caespitosum*
herb-Robert	*Geranium robertianum*
hoary alyssum	*Berteroa incana*
houndstongue	*Cynoglossum officinale*
indigobush	*Amorpha fruticosa*
knapweed, black	*Centaurea nigra*
knapweed, brown	*Centaurea jacea*
knapweed, diffuse	*Centaurea diffusa*
knapweed, meadow	*Centaurea jacea x nigra*
knapweed, Russian	*Acroptilon repens*
knapweed, spotted	*Centaurea stoebe*
knotweed, Bohemian	*Polygonum bohemicum*
knotweed, giant	*Polygonum sachalinense*
knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
kochia	*Kochia scoparia*
lawnweed	*Soliva sessilis*
lepyrodiclis	*Lepyrodiclis holosteoides*
longspine sandbur	*Cenchrus longispinus*
loosestrife, garden	*Lysimachia vulgaris*
loosestrife, purple	*Lythrum salicaria*
loosestrife, wand	*Lythrum virgatum*
oxeye daisy	*Leucanthemum vulgare*
parrotfeather	*Myriophyllum aquaticum*
perennial pepperweed	*Lepidium latifolium*
perennial sowthistle	*Sonchus arvensis* ssp. *arvensis*
policeman's helmet	*Impatiens glandulifera*
poison-hemlock	*Conium maculatum*
puncturevine	*Tribulus terrestris*
rush skeletonweed	*Chondrilla juncea*
saltcedar	*Tamarix ramosissima*
Scotch broom	*Cytisus scoparius*
spurge laurel	*Daphne laureola*
spurge, leafy	*Euphorbia esula*
spurge, myrtle	*Euphorbia myrsinites*
sulfur cinquefoil	*Potentilla recta*
swainsonpea	*Sphaerophysa salsula*
tansy ragwort	*Senecio jacobaea*
thistle, musk	*Carduus nutans*
thistle, plumeless	*Carduus acanthoides*
thistle, Scotch	*Onopordum acanthium*
water primrose	*Ludwigia hexapetala*
white bryony	*Bryonia alba*
wild carrot	*Daucus carota*
wild chervil	*Anthriscus sylvestris*
yellow floating heart	*Nymphoides peltata*
yellow nutsedge	*Cyperus esculentus*
yellow starthistle	*Centaurea solstitialis*

Class C Weeds

absinth wormwood	*Artemisia absinthium*
babysbreath	*Gypsophila paniculata*
black henbane	*Hyoscyamus niger*
cereal rye	*Secale cereale*
common groundsel	*Senecio vulgaris*
common St. Johnswort	*Hypericum perforatum*
common tansy	*Tanacetum vulgare*
curly-leaf pondweed	*Potamogeton crispus*
English ivy - four cultivars only	*Hedera helix* 'Baltica', 'Pittsburgh', and 'Star'; *H. hibernica* 'Hibernica'
evergreen blackberry	*Rubus laciniatus*
field bindweed	*Convolvulus arvensis*
fragrant water lily	*Nymphaea odorata*
hairy whitetop	*Cardaria pubescens*
hairy willow-herb	*Epilobium hirsutum*
hawkweed, common	*Hieracium lachenalii*
hawkweeds, nonnative and invasive species not listed elsewhere	*Hieracium* spp.
Himalayan blackberry	*Rubus armeniacus*
hoary cress	*Cardaria draba*
jointed goatgrass	*Aegilops cylindrica*
old man's beard	*Clematis vitalba*
reed canarygrass	*Phalaris arundinacea*
scentless mayweed	*Matricaria perforata*
smoothseed alfalfa dodder	*Cuscuta approximata*
spikeweed	*Hemizonia pungens*
spiny cocklebur	*Xanthium spinosum*
thistle, bull	*Cirsium vulgare*
thistle, Canada	*Cirsium arvense*
white cockle	*Silene latifolia* ssp. *alba*
yellow archangel	*Lamiastrum galeobdolon*
yellow flag iris	*Iris pseudacorus*
yellow toadflax	*Linaria vulgaris*

English ivy - four cultivars only	*Hedera helix* 'Baltica', 'Star', and' Pittsburgh'; *H. hibernica* 'Hibernica'
field bindweed	*Convolvulus arvensis*
fragrant water lily	*Nymphaea odorata*
hairy whitetop	*Cardaria pubescens*
hairy willow-herb	*Epilobium hirsutum*
hawkweed, common	*Hieracium lachenalii*
hawkweeds, nonnative and invasive species not listed elsewhere	*Hieracium spp.*
❍ Himalayan blackberry	*Rubus armeniacus*
hoary cress	*Cardaria draba*
jointed goatgrass	*Aegilops cylindrica*
old man's beard	*Clematis vitalba*
reed canarygrass	*Phalaris arundinacea*
scentless mayweed	*Matricaria perforata*
smoothseed alfalfa dodder	*Cuscuta approximata*
spikeweed	*Hemizonia pungens*
spiny cocklebur	*Xanthium spinosum*
white cockle	*Silene latifolia* ssp. *alba*
yellow archangel	*Lamiastrum galeobdolon*
yellow flag iris	*Iris pseudacorus*
yellow toadflax	*Linaria vulgaris*

❍ New additions to the 2009 Noxious Weed List

■ Change in Noxious Weed Class

Noxious Weeds are non-native plants introduced to Washington State that can be highly destructive, competitive, and difficult to control. These plants invade our croplands, rangeland, forests, parks, rivers, lakes, wetlands, and estuaries causing both ecological and economical damage that affects us all. Noxious weeds can:

- Lower crop yields
- Reduce forage quality
- Destroy plant and animal habitat
- Displace native plants
- Reduce recreational opportunities (fishing, hunting, swimming & hiking)
- Clog waterways
- Decrease land values
- Increase erosion and wildfire risk
- And some are toxic to humans & livestock

To find out more about weeds and weed control in Clark County, contact:

Clark County Weed Management
11104 NE 149th Street
Building C, Suite 200
Brush Prairie, WA 98606
(360) 397-6140

Email: weed.board@clark.wa.gov

Washington State
Noxious Weed Control Board
P.O. Box 42560
Olympia, WA 98504
(360) 902-1901
Web site: http://www.nwcb.wa.gov

Or

Washington State
Department of Agriculture
21 North First Avenue #103
Yakima, WA 98902
(509) 225-2604

Help Protect Our Environment from Noxious Weeds!

Please help protect Washington's economy and environment from noxious weeds!

2009 Clark County Noxious Weed List

Shiny geranium, *Geranium lucidum*, a new Class A Noxious Weed

Figure from *Deutschlands Flora in Abbildungen* at http://www.biolib by Johann Georg Sturm in 1796. Image taken from Wikimedia Commons

To help protect lands and their resources, the Cowlitz County Noxious Weed Board adopts a County Noxious Weed List each year. This list categorizes weeds into three major classes — A, B and C — according to the seriousness of the threat they pose to the county.

Class A Weeds are non-native species with a limited distribution in Cowlitz County. Preventing new infestations and eradicating existing infestations is the highest priority. Eradication of all Class A plants is required by law.

Class B Weeds are non-native species presently limited to portions of the state. Class B species are **designated** for control in regions where they are not yet widespread. Preventing infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the county level, with containment as the primary goal.

Class C Weeds are non-native weeds found in Washington. Many of these species are widespread in the state. Long-term programs of suppression and control are a local option, depending upon local threats and the feasibility of control in local areas. See Washington State Noxious Weed List for a more extensive Class C list.

INTEGRATED PEST MANAGEMENT:

Mechanical: Cutting and destroying flower heads – you may have to cut several times to prevent seed production. Always bag and destroy all plant material (include all roots).

Herbicides and Biological: Please contact your local weed control authority prior to using herbicide or biological material.

Cultural: Pasture management, control graving; replant disturbed soil areas; and practice competitive planting procedures.

To learn more about noxious weeds and weed Control
In Washington Contact:

Cowlitz County
Noxious Weed Control Board
1946 Third Avenue
Longview, WA 98632
(360)577.3117
http://www.co.cowlitz.wa.us/noxiousweeds/

Washington State
Noxious Weed Control Board
1111 Washington Street
Olympia, WA 98504-2560
(360)902.2053 Executive Secretary
ahalpern@agr.wa.gov
(360)725.5764 Executive Assistant
corr@arg.wa.gov

Washington State
Department of Agriculture
1111 Washington Street
Olympia, WA 98504-2560
(360)902.1853 State knotweed coordinator
(360)225.2604 Pest Biologist II

WSU Extension,
Cowlitz County
1946 Third Avenue
Longview, WA 98632
(360)577.3014

Help Protect
Our Land
From Noxious Weeds!

2010

Cowlitz County

Noxious Weed List

Yellow archangel, *Lamiastrum galeobdolon*
Class C noxious weed

Carl Axel Magnus Lindman: Bilder ur Nordens Flora (1901-1905)

CLASS A

Common Name	Scientific Name
bean-caper, Syrian	*Zygophyllum fabago*
blueweed, Texas	*Helianthus ciliaris*
brome, false	*Brachypodium sylvaticum*
broom, Spanish	*Spartium junceum*
buffalobur	*Solanum rostratum*
clary, meadow	*Salvia pratensis*
cordgrass, smooth	*Spartina alterniflora*
cordgrass, salt meadow	*Spartina patens*
cordgrass, densflower	*Spartina densiflora*
cordgrass, common	*Spartina anglica*
crupina, common	*Crupina vulgaris*
flax, spurge	*Thymelaea passerina*
four o'clock, wild	*Mirabilis nyctaginea*
geranium, shiny	*Geranium lucidum*
goatsrue	*Galega officinalis*
hawkweed, European	*Hieracium sabaudum*
hawkweed, yellow devil	*Hieracium floribundum*
hogweed, giant	*Heracleum mantegazzianum*
hydrilla	*Hydrilla verticillata*
johnsongrass	*Sorghum halepense*
knapweed, bighead	*Centaurea macrocephala*
knapweed, Vochine	*Centaurea nigrescens*
kudzu	*Pueraria Montana var. lobata*
mustard, garlic	*Alliaria petiolata*
nightshade, silverleaf	*Solanum elaeagnifolium*
primose-willow, floating	*Ludwigia peploides*
ricefield bulrush	*Schoenoplectus mucronatus*
rush, flowering	*Butomus umbellatus*
sage, clary	*Salvia sclarea*
sage, Mediterranean	*Salvia aethiopis*
spurge, eggleaf	*Euphorbia oblongata*
starthistle, purple	*Centaurea calcitrapa*
sweetgrass, reed	*Glyceria maxima*
thistle, Italian	*Carduus pycnocephalus*
thistle, milk	*Silybum marianum*
thistle, slenderflower	*Carduus tenuiflorus*
variable-leaf milfoil	*Myriophyllum heterophyllum*
velvetleaf	*Abutilon theophrasti*
woad, dyers	*Isatis tinctoria*

Eradication of all **Class A** plants is required by law.

CLASS B

Common Name	Scientific Name
Alyssum, hoary	*Berteroa incana*
arrowhead, grass-leaved	*Sagittaria graminea*
blackgrass	*Alopecurus myosuroides*
blueweed	*Echium vulgare*
bryony, white	*Bryonia alba*
bugloss, annual	*Anchusa arvensis*
bugloss, common	*Anchusa officinalis*
bush, Butterfly	*Buddleja davidii*
camelthorn	*Alhagi maurorum*
♦**thistle, Canada**	*Cirsium arvense*
carrot, wild	*Daucus carota*
catsear, common	*Hypochaeris radicata*
chervil, wild	*Anthriscus sylvestris*
cinquefoil, sulfur	*Potentilla recta*
daisy, oxeye	*Leucanthemum vulgare*
fanwort	*Cabomba caroliniana*
fennel, common	*Foeniculum vulgare*
fieldcress, Austrian	*Rorippa austriaca*
floating heart, yellow	*Nymphoides peltata*
gorse	*Ulex europaeus*
hawkweed oxtongue	*Picris hieracioides*
hawkweed, mouseear	*Hieracium pilosella*
hawkweed, queendevil	*Hieracium glomeratum*
hawkweed, polar	*Hieracium atratum*
hawkweed, smooth	*Hieracium laevigatum*
hawkweed, yellow	*Hieracium caespitosum*
hedgeparsley	*Torillis arvensis*
helmet, policemen's	*Impatiens glandulifera*
hemlock, poison	*Conium maculatum*
herb-Robert	*Geranium robertianum*
houndstongue	*Cynoglossum officinale*
indigobush	*Amorpha fruticosa*
knapweed, black	*Centaurea nigra*
knapweed, brown	*Centaurea jacea*
knapweed, diffuse	*Centaurea diffusa*
knapweed, meadow	*Centaurea jacea x nigra*
knapweed, Russian	*Acroptilon repens*
knapweed, spotted	*Centaurea biebersteinii*
knotweed, Bohemian	*Polygonum bohemicum*
knotweed, giant	*Polygonum sachalinense*
knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
kochia	*Kochia scoparia*
lawnweed	*Soliva sessilis*
lepyrodiclis	*Lepyrodiclis holosteoides*
loosestrife, garden	*Lysimachia vulgaris*
loosestrife, purple	*Lythrum salicaria*
loosestrife, wand	*Lythrum virgatum*
nutsedge, yellow	*Cyperus esculentus*
parrotfeather	*Myriophyllum aquaticum*
pepperweed, perennial	*Lepidium latifolium*
primrose, water	*Ludwigia hexapetala*
puncturevine	*Tribulus terrestris*
ragwort, tansy	*Senecio jacobaea*
reed, common	*Phragmites australis*
saltcedar	*Tamarix ramosissima*
sandbur, longspine	*Cenchrus longispinus*
◘**scotchbroom**	*Cytisus scoparius*
skeletonweed, rush	*Chondrilla juncea*
sowthistle, perennial	*Sonchus arvensis* ssp. *arvensis*
spurge laurel	*Daphne laureola*
spurge, leafy	*Euphorbia esula*
spurge, myrtle	*Euphorbia myrsinites*
starthistle, yellow	*Centaurea solstitialis*
swainsonpea	*Sphaerophysa salsula*
thistle, musk	*Carduus nutans*
thistle, plumeless	*Carduus acanthoides*
thistle, Scotch	*Onopordum acanthium*
toadflax, Dalmatian	*Linaria dalmatica ssp.almatica*
watermilfoil, Eurasian	*Myriophyllum spicatum*

CLASS C

Common Name	Scientific Name
Archangel, yellow	*Lamiastrum galeobdolon*
bindweed, field	*Convolvulus arvensis*
blackberry, evergreen	*Rubus laciniatus*
blackberry, Himalayan	*Rubus armeniacus*
Canarygrass, reed	*Phalaris arundinacea*
hawkweeds, non-native	*Hieracium spp.*
groundsel, common	*Senecio vulgaris*
iris, yellow flag	*Iris pseudacorus*
ivy, English	*Hedera helix* +
old-man's beard	*Clematis vitalba*
St. Johnswort, Common	*Hypericum perforatum*
tansy, Common	*Tanacetum vulgare*
thistle, bull	*Cirsium vulgare*

Bold listings – know to occur in Cowlitz County,control required highlighted listing – designated high priority weeds for control and enforcement action ♦Change in noxious weed class for Cowlitz County

◘Control is required along transportation right-of-ways, near residential communities where plants create a high fire danger for residents and areas where plants significantly impact managed pastures and farmland

Class A Weeds: Non-native species whose distribution in Washington is still limited. Preventing new infestations and eradicating existing infestations are the highest priority.
Eradication of all Class A plants is required by law.

Class B Weeds: Non-native species presently limited to portions of the State. Species are **designated** for control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal. Please contact your County Noxious Weed Control Coordinator to learn which species are designated in your area.

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Class A Weeds Eradication is required

buffalobur	*Solanum rostratum*
common crupina	*Crupina vulgaris*
cordgrass, common	*Spartina anglica*
cordgrass, dense flower	*Spartina densiflora*
cordgrass, salt meadow	*Spartina patens*
■ cordgrass, smooth	*Spartina alterniflora*
dyers woad	*Isatis tinctoria*
eggleaf spurge	*Euphorbia oblongata*
❍ false brome	*Brachypodium sylvaticum*
floating primrose-willow	*Ludwigia peploides*
❍ flowering rush	*Butomus umbellatus*
garlic mustard	*Alliaria petiolata*
giant hogweed	*Heracleum mantegazzianum*
goatsrue	*Galega officinalis*
hawkweed, European	*Hieracium sabaudum*
hawkweed, yellow devil	*Hieracium floribundum*
hydrilla	*Hydrilla verticillata*
johnsongrass	*Sorghum halepense*
knapweed, bighead	*Centaurea macrocephala*
knapweed, Vochin	*Centaurea nigrescens*
kudzu	*Pueraria montana* var. *lobata*
meadow clary	*Salvia pratensis*
purple starthistle	*Centaurea calcitrapa*
reed sweetgrass	*Glyceria maxima*
ricefield bulrush	*Schoenoplectus mucronatus*
sage, clary	*Salvia sclarea*
sage, Mediterranean	*Salvia aethiopis*
❍ shiny geranium	*Geranium lucidum*
silverleaf nightshade	*Solanum elaeagnifolium*
Spanish broom	*Spartium junceum*
spurge flax	*Thymelaea passerina*
Syrian bean-caper	*Zygophyllum fabago*
Texas blueweed	*Helianthus ciliaris*
thistle, Italian	*Carduus pycnocephalus*
thistle, milk	*Silybum marianum*
thistle, slenderflower	*Carduus tenuiflorus*
variable-leaf milfoil	*Myriophyllum heterophyllum*
velvetleaf	*Abutilon theophrasti*
wild four o'clock	*Mirabilis nyctaginea*

Class B Weeds

Austrian fieldcress	*Rorippa austriaca*
blackgrass	*Alopecurus myosuroides*
blueweed	*Echium vulgare*
Brazilian elodea	*Egeria densa*
bugloss, annual	*Anchusa arvensis*
bugloss, common	*Anchusa officinalis*
butterfly bush	*Buddleja davidii*
camelthorn	*Alhagi maurorum*
common catsear	*Hypochaeris radicata*
common fennel	*Foeniculum vulgare*
common reed (nonnative genotypes)	*Phragmites australis*
Dalmatian toadflax	*Linaria dalmatica* ssp. *dalmatica*
Eurasian watermilfoil	*Myriophyllum spicatum*
fanwort	*Cabomba caroliniana*
gorse	*Ulex europaeus*
grass-leaved arrowhead	*Sagittaria graminea*
hawkweed oxtongue	*Picris hieracioides*
hawkweed, mouseear	*Hieracium pilosella*
hawkweed, orange	*Hieracium aurantiacum*
hawkweed, polar	*Hieracium atratum*
hawkweed, queen-devil	*Hieracium glomeratum*
hawkweed, smooth	*Hieracium laevigatum*
hawkweed, yellow	*Hieracium caespitosum*
herb-Robert	*Geranium robertianum*
hoary alyssum	*Berteroa incana*
houndstongue	*Cynoglossum officinale*
indigobush	*Amorpha fruticosa*
knapweed, black	*Centaurea nigra*
knapweed, brown	*Centaurea jacea*
knapweed, diffuse	*Centaurea diffusa*
knapweed, meadow	*Centaurea jacea x nigra*
knapweed, Russian	*Acroptilon repens*
knapweed, spotted	*Centaurea stoebe*
knotweed, Bohemian	*Polygonum bohemicum*
knotweed, giant	*Polygonum sachalinense*
knotweed, Himalayan	*Polygonum polystachyum*
knotweed, Japanese	*Polygonum cuspidatum*
kochia	*Kochia scoparia*
lawnweed	*Soliva sessilis*
lepyrodiclis	*Lepyrodiclis holosteoides*
longspine sandbur	*Cenchrus longispinus*
loosestrife, garden	*Lysimachia vulgaris*
loosestrife, purple	*Lythrum salicaria*
loosestrife, wand	*Lythrum virgatum*
oxeye daisy	*Leucanthemum vulgare*
parrotfeather	*Myriophyllum aquaticum*
perennial pepperweed	*Lepidium latifolium*
perennial sowthistle	*Sonchus arvensis* ssp. *arvensis*
policeman's helmet	*Impatiens glandulifera*
poison-hemlock	*Conium maculatum*
puncturevine	*Tribulus terrestris*
rush skeletonweed	*Chondrilla juncea*
saltcedar	*Tamarix ramosissima*
scotch broom	*Cytisus scoparius*
spurge laurel	*Daphne laureola*
spurge, leafy	*Euphorbia esula*
spurge, myrtle	*Euphorbia myrsinites*
sulfur cinquefoil	*Potentilla recta*
swainsonpea	*Sphaerophysa salsula*
tansy ragwort	*Senecio jacobaea*
thistle, musk	*Carduus nutans*
thistle, plumeless	*Carduus acanthoides*
thistle, Scotch	*Onopordum acanthium*
thistle, bull	*Cirsium vulgare*
thistle, Canada	*Cirsium arvense*
water primrose	*Ludwigia hexapetala*
white bryony	*Bryonia alba*
wild carrot	*Daucus carota*
wild chervil	*Anthriscus sylvestris*
yellow floating heart	*Nymphoides peltata*
yellow nutsedge	*Cyperus esculentus*
yellow starthistle	*Centaurea solstitialis*

Class C Weeds

absinth wormwood	*Artemisia absinthium*
babysbreath	*Gypsophila paniculata*
black henbane	*Hyoscyamus niger*
cereal rye	*Secale cereale*
common groundsel	*Senecio vulgaris*
common St. Johnswort	*Hypericum perforatum*
common tansy	*Tanacetum vulgare*
curly-leaf pondweed	*Potamogeton crispus*
❍ evergreen blackberry	*Rubus laciniatus*