Lewis River
Hydroelectric Projects

FERC Project Nos. 935, 2071, 2111, 2213

Wildlife Habitat Management Plan

Annual Progress Report for Operation Phase 2022

PACIFICORP
A BERKSHIRE HATHAWAY ENERGY COMPANY

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Acronyms & Abbreviations

ABPR	Noble fir (*Abies procera*)
ac	acre
ACMA	Bigleaf maple (*Acer marcrophyllum*)
ALRU	red alder (*Alnus rubra*)
BUDA	Butterfly bush (*Buddleja davidii*)
C:F	cover:forage
CLVI	Old Man's Beard (*Clematis vitalba*)
COVID-19	Corona Virus Disease
CONU	Pacific Dogwood (*Cornus nuttallii*)
CYSC	Scotch broom (*Cytisus scoparius*)
FERC	Federal Energy Regulatory Commission
GELU	Shiny geranium (*Geranium lucidum*)
GIS	Geographic Information Systems
HEHE	English Ivy (*Hedera helix*)
HEMP	Habitat Enhancement Monitoring Project
LALA	Perennial pea (*Lathyrus latifolius*)
MU	Management Unit
NSO	Northern spotted owl
PATO	Empress Tree (*Paulownia tomentosa*)
PCT	Pre-Commercial Thin
PFO	Palustrine Forested Wetland
PHAM	Pokeweed *(Phytolacca americana*)
PHAR	Reed canarygrass (*Phalaris arundinacea)*
PIMO	Western white pine (*Pinus monticola*)
POTR	Black cottonwood (*Populaus balsamifera* L. ssp. *trichocarpa*)
PREM	Bitter cherry (*Prunus emarginata*)
PSME	Douglas-fir (*Pseudotsuga menziesii)*
PTAQ	Bracken fern (*Pteridium aquilinum*)
ROW	Right-of-way
RUAR	Himalayan Blackberry *(Rubus armeniacus*)
TCC	Terrestrial Coordination Committee
THA	Timber Harvest Area. Each THA has a unique identification number that include the first two digits is the year of harvest, middle two digits are the management unit, and the last two digits are unique numbers. For example, 043632CC is a clear cut (CC) harvest that occurred in 2004 in management unit 36.
THPL	Western red cedar (*Thuja plicata*)
TNC	The Nature Conservancy
VIMI	Common Periwinkle (*Vinca minor*)
VCT	Vegetation Cover Type
WDNR	Washington Department of Natural Resources
WDFW	Washington Department of Fish and Wildlife
WHMP	Wildlife Habitat Management Plan

1 INTRODUCTION

Article 403 of the Merwin, Yale, and Swift No. 1 licenses and Section 14.2.6 of the Settlement Agreement (SA) directs PacifiCorp to prepare and file with the Federal Energy Regulatory Commission (FERC) a detailed Annual Report (FERC 2008a, 2008b, and 2008c, PacifiCorp et al. 2004). A summary of the terrestrial protection, mitigation, and enhancement measures that were implemented between January 1 and December 31, 2022, are included in this report and have been prepared in consultation with the Terrestrial Coordination Committee (TCC). This report is for the License Year 14 and Lewis River Wildlife Habitat Management Plan (WHMP) implementation year 13.

2 ADMINISTRATION

Management actions completed in accordance with WHMP Chapter 3.0 Administration are described below (PacifiCorp 2008). Appendix A provides a excel spreadsheet that shows each WHMP task scheduled date(s), actual date(s), proposed budget, actual cost and the overall WHMP budget and actual costs.

2.1. TERRESTRIAL COORDINATION COMMITTEE

The TCC met monthly or bi-monthly. As COVID-19 restrictions began to be eased, the TCC resumed in-person meetings as needed in April 2022.

2.2. ANNUAL REPORT

The TCC members were provided the 2021 Annual Report on March 18, 2022, to review for 30-days. Comments were received and incorporated into the final report that was submitted to FERC on June 2022. To date PacifiCorp has not received final approval from FERC for the 2021 Annual Report.

TCC members were provided a draft of this report on April 12, 2023 to review and provide comments by May 12, 2023. The TCC comments are provided in Appendix B. In accordance with the Settlement Agreement 14.2.6, this report should be submitted to FERC following TCC's comment period and by April 15th each year (PacifiCorp et al. 2004). In 2022, FERC approved of PacifiCorp's request to extend the filing date of the Lewis River Annual Report of License Implementation and Compliance for Aquatic and Terrestrial Resources to June 30th each year for the remainder of the license.

2.3. ANNUAL PLAN

The TCC members were provided the 2022 Annual Plan on March 18, 2022, to review for 30- days. Comments were received and incorporated into the final report that was submitted to FERC in June 2022. PacifiCorp has not received final approval from FERC for the 2022 Annual Plan.

2.4. RESTORATION PLANS

No WHMP lands were identified as being significantly damaged by anthropogenic processes in 2021; therefore, no restoration plans were required in 2022.

3 OLD-GROWTH HABITAT MANAGEMENT

Inspections and management actions completed in accordance with Lewis River WHMP Chapter 4.0 Old-Growth Habitat Management are described below and in Appendix A (PacifiCorp 2008).

3.1. INSPECTIONS

Old-growth aerial surveys were conducted concurrently with the aerial osprey (*Pandion haliaetus*) and bald eagle (*Haliaeetus leucocephalus*) nest surveys on June 22, 2022, and no areas of significant blow-down, mass wasting, disease or insects were detected.

3.2. MANAGEMENT ACTIONS

The current (2022) and proposed (2023) timber harvest areas were compared to old-growth connectivity data layer, which is comprised of the Priority Mature Stands, raptor nest buffers, riparian buffers, and old-growth stands, to ensure that these harvest areas were not within a designated old-growth stand or connectivity area (PacifiCorp 2012). The riparian and raptor nest/roost buffers are designated as old-growth connectivity but are managed under WHMP Riparian Habitat and Raptor Site Management chapters in the WHMP and Sections 5 and 13 of this report.

4 WETLAND HABITAT MANAGEMENT

Inspections and management actions were completed in accordance with Lewis River WHMP Chapter 5.0 Wetland Habitat Management and are described below and in Appendix A.

Figure 1. White Marsh Marigold (*Caltha leptosepala*) in Marigold Wetland

4.1. INSPECTIONS

The annual inspections were completed between June 13th and 28th. The inspections noted the water depth, cover:water ratio, vegetation cover, wildlife, snags and down wood, water level, condition of the dike and outflow structure, and presence of invasive plant species. Cedar Grove, Chestnut, Bankers, Cresap, Speelyai, Swift Warehouse, Swift Canal, Swift bypass, and Wetland Construction Channel post-treatment inspections were conducted between March 16th and October 3rdth.

4.2. MANAGEMENT ACTIONS

The following management actions were completed as scheduled at the wetland habitat management areas in 2022 (Appendix A):

- Bullfrog (*Rana catesbeiana*) surveys were conducted on April 2nd, May 23rd, and June 29th. Bullfrogs were detected in all ponds.

- Stop logs were installed on March 25th and pulled for bullfrog control on August 8 th. Half of the boards were reinstalled on October 25 th.

- Yellowflag iris (*Iris pseudacorus*) sprayed at Beaver Bay Wetland on June 16th.

- Reed canarygrass (*Phalaris arundinacea)* [PHAR] eradication efforts continued along Frasier Creek in 2022. Cedar, Chestnut, Bankers, and Road Ponds continue to have small amounts of regrowth and were spot treated on July 1st and August 11th. The ponds will continue to be monitored and treated as needed.

- Due to the red legged frogs (*Rana aurora*) commonly seen in the creek between Bankers and Road Pond we wanted to preserve the shrubs providing red legged frog habitat, so we control the reed canarygrass manually using weedwhackers on July 1st. The area will continue to be weed whacked for the next year. The area will then be reevaluated to determine effectiveness of manual treatment.

- Frasier Pond's dam was replaced in summer 2019. The dam continues to be effective. The opening required cleaning out occasionally throughout 2022 and will need to continue in 2023. PacifiCorp is considering installing a log boom at Frasier Pond to reduce the lily pads clogging the dam leading into Frasier Creek.

- Violet Wetland was treated for Canada thistle (*Cirsium arvense).*

- Beaver Bay Campground's group camping site is scheduled to be improved in 2023 to limit the amount of standing water withing the site. The area was surveyed as well as the wetland's boundary. The current outline was updated in PacifiCorp's Geographic Information System (GIS). The wetland boundary will be updated again post construction. The campsite size will be reduced, and the wetland size will then increase.

- Two new wetlands were discovered in WHMP lands. Marigold Wetland (0.22 ac) in MU 35 (Fig. 1). It was named after the beautiful flowers, White Marsh Marigold, located in the wetland. Whistle Pig wetland (2.91 ac) located in MU 39. This brings WHMP wetlands to a total of 162.6 ac.

Figure 2. 8/12 Pond July 2019 before failure (upper left). Culvert failure February 2022 (upper right) final replacement of culvert 600C2 (lower left) the result for 8/12 Pond (lower right).

- During an inspection early 2022 it was discovered that culvert 600c2 was failing and needed to be replaced (Fig. 2). This culvert is modified to provide a wetland/pond for the WHMP program. It is believed the culvert and pond modification occurred sometime in the mid-1980's. This culvert has had issues with clogging in the winter for years and has been monitored closely. Unfortunately, this year the culvert plugged, and water found the path of least resistance, which caused sloughing around the culvert and a portion of the road fill. The culvert had a hole in it below the road causing the water to outfall from culvert on the downstream side. The culvert was replaced and the disturbed ground around the 8/12 Pond will be reseeded (Table 1) and covered in straw in spring 2023.

Table 1. 8/12 Wetland Prairie Seed Mix

Botanical Name	Common Name	% by Weight	Seeds per lb. of Mix	Seeds per lb.	Actual % by Seed Size	PLS lbs. Needed	Requested %
Horedum brachyantherum	Meadow Barley	25.00%	21,250	85,000	4.86%	10.92	5%
Danthonia californica	California Oatgrass	25.00%	20,000	80,000	4.58%	10.92	5%
Glyceria occidentalis	Western Mannagrass	15.00%	31,500	210,000	7.21%	6.55	7%
Deschamopsia cespitosa	Tufted Hairgrass	7.00%	175,000	2,500,000	40.0%	3.06	40%
Sisyrinchium bellum	Western Blue-eyed Grass	6.00%	18,900	315,000	4.33%	2.62	5%
Camassia quamash	Small Camas	5.00%	10,500	210,000	2.40%	2.18	3%
Festuca rubra rubra	Native Red Fescue	5.00%	25,000	500,000	5.72%	2.18	5%
Carex obnupta	Slough Sedge	5.00%	27,500	550,000	6.29%	2.18	6%
Beckmannia syzigachne	American Sloughgrass	3.00%	34,500	1,150,000	7.89%	1.31	8%
Eleocharis palustris	Common Spikerush	2.00%	35,000	1,750,000	8.01%	0.87	8%
Erigeron speciosus	Aspen Fleabane	2.00%	37,840	1,892,000	8.66%	0.87	8%

- After a GIS analysis and an on the ground verification, it was determined that Ichabod Wetland's acreage is larger than documented from the purchased property. The database was updated from 0.66 to 5.3 acres (ac). The new area was replanted with wetland friendly plants that includes western cedar (*Thuja plicata* [THPL]), western spirea (*Spiraea douglassi*), black hawthorn (*Crataegus douglasii)*, pacific ninebark (*Physocarpus capitatus)*, nootka rose (*Rose nutkana)*, thimbleberry (*Rubus parviflorus)*, twinberry (*Lonicera involucrata*), black cottonwood (*Populus balsamifera ssp. Trichopera* [POTR]*)*, red flowering current (*Ribes sanguineum*), red osier dogwood (*Cornus sericea*), and Pacific willow (*Salix lucida ssp. lasiandra*) (Figure 3.).

Figure 3. Ichabod Wetland plantings

LR WHMP Chapter 5.2 Objective B

In accordance with Lewis River WHMP Chapter 5.2 Objective b, in 2017 each Palustrine Forested Wetland (PFO), a total of 12, were inspected to determine if they exceeded 20 percent shrub cover. Four wetlands were determined to be at or below the 20 percent, Borrow Area, Frasier Pond, Violet, and Swift Warehouse Ponds. One hundred fifty-six shrubs were planted in these wetlands between April and May 2018. In 2020 the tubes protecting the shrub seedlings were removed. Survival of plantings have been promising. Six PFO wetlands were determined to have excessive amounts of Himalayan blackberry *(Rubus armeniacus*) [RUAR] that were outcompeting native shrubs. Swift Warehouse, Cresap Campground, and the Swift Canal Ponds were treated in 2018. In 2019 Yale Wetland, Swift Canal Ponds, and Swift Bypass were treated. After a couple years of treatment, Swift Warehouse was clear of RUAR but required treatment in 2022 and will need treatment in 2023. Swift Canal Ponds required treatment in 2022 and will again in 2023. Swift Bypass and Swift Wetland 2 have a large invasion of RUAR. Contract crews spent the last couple years treating the area. No treatment was done in 2022 due to a short treatment season. Both wetlands will be treated in 2023 as well as have western cedar and black cottonwood planted in the areas that are clear of Himalayan blackberry.

5 RIPARIAN HABITAT MANAGEMENT

Inspections and management actions were completed in accordance with Lewis River WHMP Chapter 6.0 Riparian Habitat Management and are described below and in Appendix A (PacifiCorp 2008).

5.1. INSPECTIONS

No riparian habitat inspections were required in 2022.

5.2. MANAGEMENT ACTIONS

The following management actions were completed as necessary for riparian habitat management areas in 2022:

- Establishing buffers as necessary around the 2022 timber harvest activities.
- Developing water type modifications as necessary for 2022 forestry activities.
- Implementing pre-commercial thinning in WHMP riparian buffers occurred in older (>15 years) timber harvest area (THA) and newly acquired lands that were planted too heavily to meet WHMP objectives in 2022 this included the following THAs: 113319CC (Priority 4), 063309CC (Priority 3), 124010CC (Priority 1), 124011CC (Priority 1), 124012 (Priority 1), 124013CC (Priority 2), 124018CC (Priority 2), and 124020CC (Priority 3).
- The portion of Speelyai Creek on PacifiCorp lands was assessed for invasive plant species and treated for mostly Himalayan blackberry on WHMP lands in MU 17.
- The linear path of vegetation that was removed to repair a broken pipe from Merwin Hatchery continued to be monitored. The noxious weeds below this line to the fence were treated in 2022.
- Streams north of the Forest Service Road 90 in MU 25 were treated for Himalayan Blackberry.

6 FORESTLAND HABITAT MANAGEMENT

Inspections and management actions were completed in accordance with Lewis River WHMP Chapter 12.0 Forestland Habitat Management and are described below and in Appendix A (PacifiCorp 2008).

6.1. INSPECTIONS

The overall goal of the inspections is to evaluate Timber Harvest Area (THA) overall seedling development and growth, as well as forage condition. In addition, these inspections identify necessary management actions that may be required such as interplanting, invasive plant control, pre-commercial thinning (PCT), public access control, or seedling protection. The 2022 THA inspections

occurred in spring to review the THAs that were recently harvested to determine management actions and the fall reviewed all of the harvest areas less than 15 years since harvest. These inspections also included almost 100 miles of roads to determine necessary maintenance and budget forecasting for 2023. The inspections continue to provide needed information for planning, budgeting, and overall success of the forestry habitat management program to meet wildlife habitat goals and objectives. The results of these inspections and recommended actions are throughout the remainder of this section.

6.2. FORESTLAND PLANNING

Forestland planning in 2022 included the following activities:

- Completed planning and permitting for the 2022 timber harvest areas in MU 3, 6, and 35.
- Began evaluating 2023 harvest areas plans and initial inspections.
- The TCC visit the completed 2021 timber harvest and the proposed 2022 timber harvest areas.
- The cover:forage (C:F) spreadsheet was updated following the completion of the 2022 timber harvest and is provided in its entirety in Appendix C .

2022 Harvest Activities

Forest harvest management was conducted to improve big game forage and manage tree disease in MU 3, 6, and 35 as planned. Appendix D provides maps of each of these timber harvest areas.

Management Unit 3

MU 3 is located on the north side of Merwin Reservoir and south of the Lewis River Highway. It is a total of 299 acres with a WHMP recommended Cover:Forage (C:F) ratio of 60:40 (+/- 5%). Due to stream buffers and topography, there is only 96.6 acres or 32% of manageable acres. Prior to 2022 this MU C:F was 77:23 and it exceeded the 5% permanent forage goal. Because this MU did not meet C:F goal and had prior clearcut timber harvest areas at the tree density and size that needs to be commercially thinned to continue to promote conifer growth, this MU was considered for timber harvest.

The MU C:F ratio prior to completing the 2022 timber harvest was 77:23 and following the 2022 timber harvest the C:F is 70:30. MU 3 is fairly diverse mix of forested cover types, with upland mix being the largest Vegetation Cover Type (VCT) comprising 28% of the MU. The 2022 proposed timber harvest plan included two commercial thin timber harvest on former 1986 and 1988 clearcut harvest and two small adjacent clearcut harvests.

Table 2. Management Unit 3 Proposed and Actual Timber Harvest Areas

THA Name and Number	Former THA Number	Proposed Harvest Type	Proposed Acres for Harvest	Vegetation Cover Type prior to harvest	Actual Timber Harvest Acres	Final Vegetation Cover type
Annie Oakley 220309 CT	860309CC	Commercial Thin	28.2	P = 28.2	24.2	P-t = 24.2 P=4
Calamity Jane 220328 CT	880328CC	Commercial Thin	13.1	P =13.1	0	No change
Total Commercial Thin Acres			**41.3**		**24.2**	
Belle Starr 220334CC	0503334CT	Clearcut	5.9	M-t=5.9	0	No Change
Mae West 220336CC	NA	Clear cut	13.3	UM = 1.7 SH =0.1 MS = 11.5	0	UM = 1.7 OG = 11.6
Total Clearcut Acres			**19.2**		**0**	
Total Timber Harvest Acres			**60.5**		**24.2**	

[1] Mid-Successional Conifer (MS) = Canopy cover consist of ≥70% conifer and the average stand diameter is 16”- 20” dbh. Even-aged stands with relatively uniform structure.
Mature Conifer (thinned) (M-t) = Canopy cover consist of ≥70% conifer, relatively uniform vertical and horizontal texture, the average stand diameter is 21”-26” dbh, and the stand has been thinned.
Pole Conifer (P) = Canopy cover consist of ≥70% conifer and the average stand diameter is 8”-15” dbh.
Shrubland (SH) = Less than 10% forested canopy coverage and ground cover consists of greater than 50% shrub species
Upland Mix (UM) = Canopy cover is greater than 30% and less than 70% conifer or deciduous forest, mixed forest with trees >10” dbh.

One of the three timber harvest were completed in 2022. Belle Starr (220334 CC) was within an active bald eagle nest buffer, so it was decided not to harvest the timber. Mae West (220336CC) timber harvest conifer trees diameter were larger then mapped and the area VCT was changed to old growth (OG). Due to OG and steep topography this area was not logged. Calamity Jane was deferred to 2023, so that timber harvest and scarification could be completed in the same year and the timber harvest buffer was adjusted to be outside of the 330-foot bald eagle nest buffer.

Annie Oakley commercial thin removed trees to 60% of the canopy cover. The ground was scarified and grass seed in the fall with commercial thin seed mix (Table 2). The stand had existing mature tree stands and topography that provided nice visual breaks within the harvest. Shrubs were retained where possible.

Figure 4. Annie Oakley 220309CT drone photo facing west

Figure 5. Annie Oakley 220309CT drone photo facing south

Management Unit 6 totals 828.5 acres and is located between Merwin Reservoir and Hwy 503 and between Speelyai Bay and Rock Creek (Appendix C). MU 6 has 378 acres or 46% available for management and a C:F goal of 60:40. Prior to the 2022 timber harvest activities the C:F was 74:26. Because this MU did not meet C:F goal and had prior clearcut timber harvest areas at the tree density and size that needed to be commercially thinned to promote conifer growth, this MU was considered for harvest. Also, MU 6 has a considerable amount of root rot, so a clearcut was proposed and replanted with trees not susceptible to root rot, such as western red cedar (*Thuja plicata*) and western white pine (*Pinus monticola*), to prevent the spread of the disease.

Table 3. Management Unit 6 Proposed and Actual Timber Harvest Areas

THA Name and Number	Former THA Number	Proposed Harvest Type	Proposed Acres for Harvest	Vegetation Cover Type prior to harvest	Actual Timber Harvest Acres	Final Vegetation Cover type
Jessie James 220646CT	860646CC	Commercial Thin	9.5	P =8.1	9.5	P-t = 8.1 P = 1.3
Billy the Kid 220662 CT	860662CC	Commercial Thin	14.9	P= 14.9	14.9	P-t =14.9
Wild Bill Hickok 220633 CT	830633CC	Commercial Thin	6.6	P=6.7	6.6	P-t = 5.37
Butch Cassidy 220621CT	8306221CC	Commercial Thin	1.7	P=1.7	1.7	P-t=1.7
Doc Holiday 220636CT	860636CC	Commercial Thin	0.8	P=0.8	0.8	P-t =1.0
Total Commercial Thin Acres			**33.5**		**33.5**	
DB Cooper 220687CC	860637CC	Clearcut	16	M = 5.8 MS=1.9 MS-t = 2.6 P-t= 4.2 SS =1.1 UM= 0.3	16	SS1=16
Total Clearcut Acres			**16**		**16**	
Total Timber Harvest Acres			**49.4**		**49.4**	

[1] Mid-Successional Conifer (MS) = Canopy cover consist of ≥70% conifer and the average stand diameter is 16"- 20" dbh. Even-aged stands with relatively uniform structure.
Mid-Successional Conifer-thinned (MS-t) = Canopy cover consist of >70% conifer and the average stand diameter is 16"- 20" dbh. Even-aged stands with relatively uniform structure. Stand has been thinned since the late 1980s.
Mature Conifer (M) = Canopy cover consist of >70% conifer, relatively uniform vertical and horizontal texture, the average stand diameter is 21"-26" dbh.
Pole Conifer (P) = Canopy cover consist of >70% conifer and the average stand diameter is 8"-15" dbh.
Pole Conifer (P-t) = Canopy cover consist of >70% conifer and the average stand diameter is 8"-15" dbh. Stand has been thinned since the 1980s.
Seedling/Sapling (SS) == Canopy cover consist of >70% conifer and the average stand diameter is < 8" dbh.
Upland Mix (UM) = Canopy cover is greater than 30% and less than 70% conifer or deciduous forest, mixed forest with trees >10" dbh

The commercial thin timber harvests were close to the same size as the original clearcut harvest area and were thinned to a density of 60% canopy cover. The Doc Holiday (220636CT) was a small 1986 harvest that was ready for commercial thin, so it that was added later to the 2022 harvest. The additional acres to DB Cooper clearcut were to incorporate portions of root rot that was discovered in an adjacent younger harvest area. The current C:F ratio is 69:31.

Figure 6. Butch Cassidy post-harvest and prior to completing scarification

Figure 7. DB Cooper logged and scarified

Management Unit 35

MU 35 is located north of Swift Reservoir and is between 2500 and 3200 feet in elevation. The MU is total 799 acres and 42% or 335 acres are available for management due to stream buffers, access or topography. The current C:F goals is 60:40 and prior to harvest the C:F was 94:6. The MU does not meet the permanent forage goal. In 2022 there were 4 proposed clearcut harvests and each harvest was completed. The new C:F is 90:10. Loco harvest will have an 1.0 acre passive meadow in the northern portion.

Table 4. Management Unit 35 Proposed and Actual Timber Harvest Areas

THA Name and Number	Former THA Number	Proposed Harvest Type	Proposed Acres for Harvest	Vegetation Cover Type prior to harvest	Actual Timber Harvest Acres	Final Vegetation Cover type
Loco (223502CC)	None	Clearcut	7.1	P =7.1	7.1	MD = 1.0 SS = 6.1
Target (223503CC)	None	Clearcut	5.7	P= 5.7	5.7	SS = 5.7
Bad Jim (223504CC)	None	Clearcut	4.5	P=4.5	4.5	SS = 4.5
Diablo (223505CC)	None	Clearcut	8.3	P=8.3	8.3	SS =8.3
Total Clearcut Timber Harvest Acres			**25.6**		**25.6**	

Following harvest is C:F 91:09 . In addition to the meadow the MU 35 Loco and Diablo management unit were seeded with vine maple (*Acer cincinatum*) and nootka rose (Rosa nutkana).

Figure 8. This is a possible bear den found within the Loco harvest area. The area was protected as a special management area in the timber harvest.

Figure 9. Target following harvest note leave trees in the back.

First Precut Surveys

The first pre-cut surveys for 2023 planned harvests were completed for MU 18, 20, and 28 between March 22 and December 13.

Harvest Area Traverses and Geographic Information System Update

The GIS database was updated with the 2022 timber harvest areas in MU 3, 6, and 35. Some of the commercial thin timber harvest areas are not within the same disturbance area as the original clearcut timber harvest. This results in several vegetation cover type revisions to MU 3 and 6 (Appendix C).

Second Precut Survey

The second precut survey for the 2022 THA's was completed in the spring/early summer of 2022 for MU 3, 6, and 35. This included marking leave trees, delineating buffers, special management areas (e.g., shrub patches, potential bear den, and large down wood) and raptor nest monitoring.

TCC On-site Meeting

The TCC was able to complete onsite tours of the 2022 proposed timber harvest areas for MU 3 on May 11, 2022 , MU 35 on June 8, 2022, and MU 6 on July 13, 2022.

Timber Harvest Area Logging

Logging began on July 15 in MU 35. During logging, road maintenance and scarification operations, the contract forester and/or the PacifiCorp biologist conducted a minimum of twice weekly inspections until scarification was completed on September 30, 2022. Inspections ensured that the

operations were compliant with best management practices, contract conditions, WDNR Forest Practices Act, and the WHMP.
Snag Development

MU 10 had 7 trees marked to be created into snags in both Palomino (211012CC) and Pinto (211013CC) in 2021. This is because most of MU 10 lacks snags, so this was an opportunity to provide more diversity and structure within the forested land. These snags were completed in the fall of 2022.

Site Preparation

All 2022 timber harvest areas were scarified to extent possible with either an excavator that can scarify and pile brush and/or tractor fitted with a brush blade that can scarify while a log loader piles the slash in clean piles. Some of the MU 6 commercial harvest scarification was deferred to summer 2023 to increase the seed germination success. This included Jesse James (220646 CT) and Billy the Kid (220664 CT). The timber harvests where scarification was completed include MU 3 and 35, had piles covered in plastic to ensure a complete burn of a pile the following winter. Approximately 10% of the piles are not covered and left intact to provide visual barriers and cover for small mammals and birds. Other piles will be burned using an excavator to control and monitor the burn pile. The excavator allows for a burn pile to be continually fed material and to ensure they burn completely.

Forage Seeding

The grass-legume forage mix developed for 2022 (Table 5) was applied as scheduled to all 2022 harvest areas in MU 3, 6, and 35.

Table 5. Grass – legume seed mix used in 2022 timber harvest areas

2022 Clearcut Mix		
Botanical Name	**Common Name**	**% by Weight**
Lolium perenne	Tetraploid perennial ryegrass	20
Lolium perenne multiflorium,	Annual Ryegrass (tetraploid)	10
Schedonorus arundianacea var. fawn	Tall fescue	25
Dactylis glomerata	Tall Orchardgrass	15
Vicia sativa	Common Vetch	10
Trifolium repens var Dutch	Dutch White Clover	10
Sanguisorba minor	Small burnet	10

2022 Commercial Thin mix		
Botanical Name	**Common Name**	**% by Weight**
Elymus glaucus	Blue wildrye	30
Schedonorus arundianacea var. fawn	Tall fescue	30
Vicia sativa	Common Vetch	10
Trifolium repens var Dutch	Dutch White Clover	10
Lolium perenne multiflorium, tetraploid	Annual Ryegrass (tetraploid)	20

This clearcut mix was applied to DB Cooper, Loco, Target, Diablo, and Bad Jim. In addition, vine maple and rose nootka seed was spread in parts of the Loco and Diablo. The Commercial Thin mix was the same as 2021 since several bags were left over and was applied to MU 3 and all of the commercial thins in MU 6, except Jesse James and Billy the Kid. The seeding rate was approximately 20 pounds per ac.

Planting and Maintenance

Tree planting was conducted from February 18 to April 8, 2022. A total of 24,155 tree seedlings were planted on 148.2 acres of WHMP lands in 2022 (Table 6) (Appendix E). These included all the 2021 clearcut harvests and interplanting in 2019 timber harvest areas.

Table 6. 2022 Tree Planting

Timber Harvest Area	Acres	Recommended Action for 2022	Actions Taken in 2022	Reason for Difference
211011 CC	8.1	Plant 2400 PSME, 400 THPL, 25 CONU, 25 ACMA, 25 POTR, 25 PREM	Planted 2100 PSME, 150 THPL	Planted seedlings closer than originally anticipated
211012 CC	11.2	Plant 3300 PSME, 550 THPL, 25 CONU, 25 ACMA, 25 POTR, 25 PREM	Planted 2400 PSME, 170 THPL, 200 ACMA, 25 CONU	Corrected number for proper spacing and planting acreage. Decision made to plant PIMO given the harsh soil conditions.
211013 CC	12.4	Plant 3600 PSME, 600 THPL, 30 CONU, 30 ACMA, 30 POTR, 30 PREM	Planted 3000 PSME, 150 THPL	Corrected number for proper spacing and planting acreage. Decision made not to add THPL.
194030 CC	57.8	Interplant 4600 PSME, 2200 ABPR, 700 PIMO	Interplanted 3000 PSME, 3000 ABPR, 2000 PIMO	Corrected number for proper spacing and planting acreage. Decision made to change species composition.
194031 CC	33.9	Interplant 3000 PSME, 1000 ABPR, 500 PIMO	Interplanted 3960 PSME	Corrected number for proper spacing and planting acreage. Decision made to change species composition.

Timber Harvest Area	Acres	Recommended Action for 2022	Actions Taken in 2022	Reason for Difference
194032 CC	24.8	Interplant 2300 PSME, 800 ABPR, 200 PIMO	Interplanted 3000 PSME, 1000 ABPR	Corrected number for proper spacing and planting acreage. Decision made to change species composition.
Total Acres	**148.2**	19,200 PSME; 1,550 THPL; 4000 ABPR;1,400 PIMO; 80 PREM; 80 ACMA; 80 POTR; 80 CONU = Total 26470	17,460 PSME; 470 THPL; 4000 ABPR; 2000 PIMO; 0 PREM; 200 ACMA; 0 POTR; 25 CONU = Total 24,155	

PSME = Douglas-fir; THPL = Western redcedar; ABPR = Noble fir; PIMO = Western white pine; PREM = bitter cherry; ACMA = Bigleaf maple, CONU = Western Dogwood, POTR = Black Cottonwood, PIMO= Western White Pin

Tree Seedling Release Practices

New tree seedlings compete for moisture against the grass-legume seed mixes that are applied to timber harvest areas to provide forage. To reduce this moisture competition in the first few years of seedling growth, Sulfometuron (Oust®) or Surflan with glyphosate is sprayed to kill the grasses within an 18-inch radius around all seedlings. Pendulum is used only around western redcedar (*Thuja plicata*). Each of these are a selective pre-emergence herbicide for control of annual grasses and many broadleaf weeds.

Another seedling practice used to protect seedlings from browse damage is spraying seedlings with Plantskydd®. The primary active ingredient is blood meal which also works as an effective organic fertilizer. All THAs sprayed for browse damage protection and/or for grass competition are listed in Table 7 and locations are mapped in Appendix E.

PacifiCorp was able to complete the treatments on 15 of the 16 THAs identified for seedling maintenance. The THA not completed is because it was determined that removing or adjusting the Protex tubes was not required in 2022.

Table 7. 2022 seedling maintenance and protection

Timber Harvest Area	Total Acres	Recommended Action	Action Taken in 2021	Comment (If there was a change from plan)
170111 CC	5.0	Retube THPL missing Vexar or Protex Tubing. Move vexar tubing up the seedling to protect the leader. Remove Protex tubes if seedling is within 6 inches of top of tube.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	Maintained blue Protex tubes to protect seedlings from browse.
170112 CC	23.9	Retube THPL missing Vexar or Protex Tubing. Move vexar tubing up the seedling to protect the leader. Remove Protex tubes if seedling is within 6 inches of top of tube.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	Maintained blue Protex tubes to protect seedlings from browse.
160335 CC	13.1	Retube THPL missing Vexar Tubing. Move vexar tubing up the seedling to protect the leader. Clear vegetation within 1 foot of THPL.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states. Cleared vegetation.	Maintained blue Protex tubes to protect seedlings from browse.
170775 CC	1.4	None	Put Vexar tubes on cedar for browse protection.	None
170776 CC	1.3	Retube THPL seedlings missing Vexar or Protex Tubing. Remove Protex tube if leader is within 6 inches of top of tube. Move vexar tubing up the seedling to protect the leader	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	Maintained blue Protex tubes to protect seedlings from browse.
200938 CC	8.3	Retube THPL missing Vexar Tubing. Move vexar tubing up the seedling to protect the leader. Apply Pendulum and Oust.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states. Applied Pendulum and Oust	None
211011 CC	7.4	Tube THPL with Vexar. Apply Pendulum and Oust.	Retubed THPL missing Vexar. Applied Pendulum and Oust.	None
211012 CC	12.4	Tube THPL with Vexar. Apply Pendulum and Oust.	Retubed THPL missing Vexar. Applied Pendulum and Oust.	None
211013 CC	11.6	Tube THPL with Vexar. Apply Pendulum and Oust.	Retubed THPL missing Vexar. Applied Pendulum and Oust.	None
101127 CC	12.4	Retube THPL seedlings missing Vexar or Protex Tubing. Remove Protex tube if leader is within 6 inches of top of tube. Move vexar tubing up the seedling to protect the leader	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	Maintained blue Protex tubes to protect seedlings from browse.

Timber Harvest Area	Total Acres	Recommended Action	Action Taken in 2021	Comment (If there was a change from plan)
171401 CC	23.0	Retube THPL missing Vexar Tubing. Move vexar tubing up the seedling to protect the leader.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	
181551 CC	10.0	Retube THPL missing Vexar Tubing. Move vexar tubing up the seedling to protect the leader.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	
181552 CT	1.5	Retube THPL missing Vexar Tubing. Move vexar tubing up the seedling to protect the leader.	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	
101801 CC	26.9	Retube THPL seedlings missing Protex Tubing. Remove Protex tube if leader is within 6 inches of top of tube.	None	Deferred as minimal THPL growth was observed.
161904 CC	9.8	Retube THPL seedlings missing Vexar or Protex Tubing. Remove Protex tube if leader is within 6 inches of top of tube. Move vexar tubing up the seedling to protect the leader	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	
161908 CT	4.1	Retube THPL seedlings missing Vexar or Protex Tubing. Remove Protex tube if leader is within 6 inches of top of tube. Move vexar tubing up the seedling to protect the leader leaving	Retubed THPL. Moved Protex tube and vexar tubes up the seedling to protect seedling leader. Replaced bamboo states.	
TOTAL	172.1			

Invasive Plant Control and Competing Vegetation

Invasive plant species and competing vegetation were controlled as necessary to promote big game forage, maintain access, and to reduce seedling competition (other than grasses). Treatments included both chemical and manual methods. Table 8 lists all the 2022 timber harvest areas that were proposed and/or had actual vegetation control. The acres listed are those of the THAs and not necessarily the amount of area treated, which is much less. Appendix F shows all the areas on WHMP lands where vegetation species control was conducted in 2022. Out of the 781 acres identified in the 2022 Annual Plan a total of 447.7 acres were completed or 57%. The percentage treated is similar to 2021 when 57% of the stands were treated.

Table 8. 2022 timber harvest areas that were proposed and/or had actual vegetation control

Priority	Acres to be treated	Acres Treated	Percent Complete
1	303.7	303.7	100%
2	232.7	144.0	62%
3	187.1	0.0	0%
4	57.8	0.0	0%
Overall	781.3	447.7	57%

Table 9. 2022 timber harvest area vegetation control treatments

Timber Harvest Area	Acres	Recommended Action	Overall Priority	Action Taken in 2022	Comment (If there was a change from plan)
020110 CC	10.2	Spray CYSC, Spray RUAR	3		Deferred due to other priorities
170107 CT	8.4	Spray RUAR	2	Sprayed RUAR, CYSC	CYSC found during treatment
170111 CC	4.9	Spray RUAR, CYSC, ALRU	1	Sprayed RUAR, CYSC, ALRU	
170112 CC	23.9	Spray RUAR, CYSC, ALRU	1	Sprayed RUAR, CYSC, ALRU	
200234 CT	22.1	Spray CYSC, PHAM, RUAR	1	Sprayed CYSC, PHAM, RUAR	
030447 CC	24.6	Spray RUAR	3		Deferred due to other priorities
130450 CC	14.9	Spray BUDA, RUAR	1	Sprayed BUDA, RUAR	
150520 CT	30.4	Spray RUAR, CYSC, ALRU	2	Sprayed RUAR, CYSC, ALRU	
050770 CC	24.8	Spray RUAR	2	Sprayed RUAR	
050771 CC	2.3	Spray PHAR	3		Deferred due to other priorities
160773 CC	26.5	Spray BUDA, PTAQ	3		
170776 CC	1.3	Spray RUAR, CYSC	1	Sprayed RUAR, CYSC	CYSC found during treatment
980836 CC	9.8	Spray RUAR	3		
200938 CC	8.3	Spray RUAR, ALRU	1	Sprayed CYSC	CYSC found during treatment. No RUAR or ALRU noted.

Timber Harvest Area	Acres	Recommended Action	Overall Priority	Action Taken in 2022	Comment (If there was a change from plan)
200944 CT	21.8	Spray CYSC, RUAR	1	Sprayed CYSC, RUAR	
141007 CC	22.7	Spray RUAR, CYSC, ALRU	1	Sprayed RUAR, CYSC, ALRU	
141008 CC	8.6	Spray RUAR, CYSC, ALRU	1	Sprayed RUAR, CYSC, ALRU	
141009 CC	24.8	PHAR	3		Deferred due to other priorities
141010 CT	4.0	Spray RUAR, CYSC, ALRU	1	Sprayed RUAR, CYSC, ALRU	
101127CC	12.4	None		Spray PHAR	Added to 2022
021236 CC	18.4	Spray RUAR	4		Deferred due to other priorities
891535 CC	22.3	Spray RUAR, PHAR	1	Sprayed RUAR	Deferred PHAR due to other priorities
181548 CT	25.1	Spray RUAR, ALRU	2	Sprayed RUAR, ALRU	
181549 CC	11.0	Spray RUAR, ALRU	1	Sprayed RUAR, ALRU	
921632 CC	4.4	Spray RUAR	1	Sprayed RUAR	
991701 CC	25.9	Spray RUAR, CYSC	1	Sprayed RUAR, CYSC	
091703 CC	22.5	Spray RUAR, PHAM	2		Deferred due to other priorities
091705 CC	11.2	Spray RUAR	3		Deferred due to other priorities
101708 CC	2.8	Spray CYSC, RUAR, PHAR	1	Sprayed CYSC, RUAR, PHAR	
161905 CT	10.1	Spray CYSC, RUAR, ALRU	1	Sprayed CYSC, RUAR, ALRU	
161906 CT	6.1	Spray RUAR	2		Deferred due to other priorities
161907 CT	5.0	Spray RUAR, CYSC	2		Deferred due to other priorities

Timber Harvest Area	Acres	Recommended Action	Overall Priority	Action Taken in 2022	Comment (If there was a change from plan)
161908 CT	4.1	Spray RULA, RUAR, CYSC	2		Deferred due to other priorities
192701 CC	19.6	Spray CYSC, ALRU	1	Sprayed CYSC, ALRU, POTR	POTR found during treatment
192702 CT	7.3	Spray CYSC, ALRU	1	Sprayed CYSC, ALRU	
063309 CC	43.4	Spray CYSC	3		Deferred due to other priorities
043762 CC	29.0	Spray CYSC, ALRU	2		Deferred due to other priorities
033804 CC	61.9	Spray CYSC, RUAR, ALRU, LALA	1	Sprayed CYSC, RUAR, ALRU, LALA	
053801 CC	34.3	Spray CYSC, LALA, PTAQ	3		Deferred due to other priorities
053802 CC	52.5	Spray RUAR	2		Deferred due to other priorities
163806 CC	5.9	CYSC, ALRU, RUAR	1	Sprayed CYSC, ALRU, RUAR	
143961 CC	39.4	Spray CYSC	4		Deferred due to other priorities
194032 CC	24.8	Spray CYSC	2		Deferred due to other priorities
TOTAL	**781.3**				

Pre-Commercial Thinning

Pre-commercial thinning (PCT) was conducted on timber harvest areas that were generally less than 5-7 feet in height or as necessary to maintain big game forage. Pruning lower limbs (e.g., limbs in the lower 6 feet of the tree) can be conducted to increase the sunlight to the forest floor to maintaining forage quality. All 2022 pre-commercial thinning areas are listed in Table 10 and locations are identified in Appendix C. A total of 308 acres were scheduled to be completed and only 58.2 acres were completed due to persistent low snow levels in the spring and early snow in the fall. Additional 99.3.4 acres that were available in at lower elevation were completed to be a combined 157.5 acres.

Table 10. 2022 pre-commercial thin and pruning treatments

Timber Harvest Area	Acres	Priority	Recommended Action			Action Taken 2022			Reason for Difference (comments)
			Slash PCT	Hack & Squirt	Pruning	Slash PCT	Hack & Squirt	Pruning	
141007 CC	22.6					X			Originally planned for 2023
141008 CC	8.6					X			Originally planned for 2023
141009 CC	24.8					X			Originally planned for 2023
121547 CC	16.4					X			Originally planned for 2023
101801 CC	26.9					X			
113319 CC	1.8	4	X						
063309 CC	43.4	3	X						
124010 CC	38.8	1	X						
124011 CC	28.2	1	X			X			
124012 CC	30.0	1	X			X			
124013 CC	30.7	2	X						
124014 CC	2.8	2	X						
124015 CC	45.5	2	X						
124018 CC	51.1	2	X						
124020 CC	36.0	3	X						
TOTAL	**407.6**								

7 SHRUBLAND HABITAT MANAGEMENT

Inspections and management actions completed in accordance with Lewis River WHMP Chapter 7.0 Shrubland Habitat Management are described below and in Appendix A.

Figure 10. Drone photo of MU 3 shrublands. Shrubland 3-2b above the transmission line, shrubland 3-2a below the transmission line.

7.1. INSPECTIONS

Inspections occurred as scheduled at shrublands 3-2a and 3-2b on October 23, 2022. The shrublands are widely used by big game species. Both shrublands had evidence of grazing, tracks, trails, and scatt. The pathways and clearings made in shrubland 3-2a are still being used and are sustainable with minimal upkeep required. Some light trimming will be required in 3-2a and 3-2b. Himalayan blackberry treatment is needed in 3-2a in 2023. The Shrubland 3-2a outline was updated in 2022 because of a thinning just south of the shrubland. The updated ac is 4.99 from 4.88. Shrubland 3-2b is 1.01 acres.

7.2. MANAGEMENT ACTIONS

Shrubland 6 required treatment for patches of English ivy (*Hedera helix)*.

8 FARMLAND, IDLE FIELDS AND MEADOW HABITAT MANAGEMENT

Inspections and management actions completed in accordance with Lewis River WHMP Chapter

8.1. INSPECTIONS

Annual Inspections

The annual spring inspection for the farmland was conducted on April 21, 2022, and the annual fall inspections for farmland, idle fields and meadows were conducted between June 14 and October 20, 2022. The inspections were conducted at all actively managed farmlands, idle areas, and meadows. The inspections evaluate forage quality, invasive plant species, visual screens, and potential disturbance. Forage quality for the farmland fields is evaluated more thoroughly using the Daubenmire method. Table 11 below shows the 2022 results. Data forms of the surveys are available upon request. Two unmanaged meadows were created in 2022. Vizzy Meadow in MU16 is 1.28 ac and Loco Meadow in MU 35 at 0.99ac bringing the total acreage of permanent forage meadows in WHMP lands to 134.47 acres.

Figure 11. Tiger Lilly (*Lilium columbianum*) Saddle Dam Farm Idle Field 3/4, summer 2022

Table 11. 2022 Percent Cover for Saddle Dam Farm Fields

Field Number	Spring			Fall		
	Legumes	Grasses	Bare Ground/ Mosses	Legumes	Grasses	Bare Ground/ Mosses
Field 1	8.3	87.6	3.2	6.2	85.7	5.5
Field 2	18.2	78.7	8.7	7.0	89.0	3.2
Field 3	4.8	87.0	5.7	8.8	86.0	3.8
Field 4	20.2	76.0	3.5	6.8	89.0	2.8
Field 5	15.0	80.7	4.8	3.8	89.0	5.5

8.2. MANAGEMENT ACTIONS

The following management actions were completed as scheduled at farmland, idle areas, and meadows in 2022 (Appendix A).

Mowing

The Farmland, Meadow, and Idle Areas Habitat Evaluation Procedures (HEP) species are Roosevelt elk (*Cervus elaphus*) and Savannah sparrow (*Passerculus sandwichensis*). Some fields are mowed in spring (May 15th to June 15th) to optimize elk forage quality throughout the summer months, which can have direct impacts to nesting Savannah sparrows resulting in a source-sink population (Perlut et al. 2008). Although Savannah sparrows have been observed in the Hamm Fields and Saddle Dam fields, there is very little knowledge on their nest phenology and preferred nesting sites on WHMP lands. Hamm Fields was surveyed using an Area Search method described in the Handbook of Field methods for Monitoring Landbirds (Ralph et al. 1993). Surveys on April 21st showed no Savannah sparrows taking refuge in the meadows. Hamm Meadows 2, 3, 4, and 5 mowing were still deferred due to the potential Savannah sparrow nests and the presence of common camas (*Camassia quamash*). A couple patches were mowed along the south side of Hamm 4 and east edge in Hamm 3 to reduce the encroachment of snowberry (*Symphoricarpos albus)* and Scotch broom. The spring mowing was conducted between May 9th to June 29, 2022, at each of the Saddle Dam Farm Fields, Lower Hanley Curry, Swift Meadow, Hamm Field 1, 4, and under transmission lines in Field 3. Summer/fall mowing was conducted on August 1st through October 10, 2022. Mowing time started early in August due to fire danger reducing the hours in a day mowing can safely occur.

The following is a list of the meadows mowed in the fall of 2022:

- Bridge
- Buncombe Hollow
- Hamm Meadows 1
- Hamm Meadows 2
- Hamm Meadows 3
- Hamm Meadows 4
- Hamm Meadows 5
- Upper Hanley Curry
- Lower Hanley Curry
- Rhododendron
- Reese
- Saddle Dam Farm Field
- Idle Field 1/5
- Speelyai
- Swift Warehouse
- Upper Winter
- Lower Winter
- Upper McKee
- Lower McKee
- Osprey

Soil Testing

Soil samples were collected for analysis on August 17, 2022, in the fields and meadows. The Lewis River WHMP soil standards (PacifiCorp 2008) and results of the soil analysis are also presented in Table 12. Some elements, such as boron (B), are consistently and continue to be below WHMP standards. Other soil elements, such as potassium (K) and nitrogen (NO_3), can have significant swings in value; therefore, the soil analysis evaluates trends over time. The fertilizer was chosen accordingly. All will continue to be monitored and fertilized on an as needed basis.

Table 12. 2022 Farmland and Meadow Soil Sample Results

Area	pH	$N0_3$ (ppm)	P (ppm)	K (ppm)	Ca (meq/ 100g)	Mg (meq/ 100g)	B (ppm)
Lewis River WHMP Soil Standards	≥ 5.4 grasses ≥ 5.8 legumes	10-30	15-30	125-200	5-10	0.8- 1.5	0.7- 2.0
Hamm 4	7.3	3.9	17	121	4.1	0.8	0.09
Hamm 5	6.1	10.7	12	77	4.1	0.5	0.10
Lower Hanley Curry	6.0	8.6	18	84	6.5	1.0	0.14
Lower Winter Creek	5.8	5.2	14	81	0.9	0.2	0.27
Upper Winter Creek	5.8	3.8	19	256	8.2	1.5	0.19
Upper Hanley Curry	5.5	6.3	10	113	1.7	0.4	0.09
Osprey	4.9	5.5	12	235	1.6	0.3	0.30
Reese	5.7	4.8	13	63	0.8	0.3	0.13
Saddle Dam 3	5.9	3.2	12	82	2.7	0.5	0.22
Saddle Dam 4	6.3	3.4	8	112	4.1	0.6	0.40
Saddle Dam 5	6.4	5.1	8	117	4.7	0.9	0.58

Fertilization and Lime

The application rates of fertilizer are based on soil sample results and were applied between October 13th and 20, 2022. Table 13 provides fertilizer rates.

Table 13. 2022 Farmland and Meadow Fertilizer Application Rates

Field Name	Acres	N (lbs/ac)	P (lbs/ac)	K (lbs/ac)	S (lbs/ac)	B (lbs/ac)	Rate (lbs. fertilizer/ area
Upper McKee	1.5	150	150	150	0	0	392
Lower McKee	1.0	150	150	150	0	0	261.4
Upper Hanley Curry	11.2	150	150	150	0	0	2927.2
Lower Hanley Curry	7.5	150	150	150	0	0	1960.2
Bridge	1.3	150	150	150	0	0	339.8
Swift Warehouse	3.8	150	150	150	0	0	1001.0
Rhododendron	2.8	150	150	150	0	0	731.8
Pioneer	1.2	150	150	150	0	0	313.6

Field Name	Acres	N (lbs/ac)	P (lbs/ac)	K (lbs/ac)	S (lbs/ac)	B (lbs/ac)	Rate (lbs. fertilizer/ area
Osprey	5.0	150	150	150	0	0	1306.8
Saddle Dam 3	9.3	150	150	150	0	0	2430.6
Saddle Dam 4	5.4	150	150	150	0	0	1411.3
Saddle Dam 5	3.8	150	150	150	0	0	993.2
Reese	3.5	150	150	150	0	0	914.8
Lower Winter	4.0	150	150	150	0	0	1045.4

Forage Restoration

Several management actions occurred to increase or maintain forage quality in the existing fields and meadows, including invasive species control and tree removal. Invasive plant species were treated at the following meadows and fields listed in Table 14 and are shown in Appendix F.

Table 14. 2022 Farm Fields and Meadow Treatments

Management Unit	Meadow	Treatment	Date
10	Saddle Dam Farm Fields	Removed Common hawthorn (*Crataegus monogyna*) in screens around fields	1/10-1/11
25	Rhododendron	Treated Himalayan blackberry	3/10 – 3/11
10	Saddle Dam Idle Field 1/5 and Field 5	Treated for Scotch broom and C. thistle	3/24
25	Swift Warehouse	Treatment for Scotch broom	5/10, 5/13, 5/17
17	Hamm Fields 3 and 4	Snowberry	5/26
10	Saddle Dam Farm Fields 4 and 5	Treated for C. thistle	7/1, 7/4
17	Hamm Field 3	Treated for scotch broom	7/12
10	Saddle Mountain	Treated for tansy ragwort, St. john's wort, and alder	7/12
10	Frasier Pond Meadow	Treated for St. John's wort, alder, and H. blackberry	7/15
6	Speelyai	Treated for stinging nettle	8/9
25	Swift Warehouse	Treated for C. thistle and tansy ragwort	8/10
11	Unit 11 Meadow	Treated for C. thistle and H. blackberry	8/17

7.1.1 Access Control and Disturbance Reduction

The gate accessing Saddle Dam is closed and locked annually on Memorial Day weekend and reopen on Labor Day weekend.

9 ORCHARD HABITAT MANAGEMENT

Inspections and management actions completed in accordance with Lewis River WHMP Chapter 9.0 Orchard Management are described below (Appendix A).

9.1. INSPECTIONS

The annual winter and summer inspections occurred as scheduled in the WHMP. The winter inspections occurred on February 25 and March 7, 2022, surveying for winter pruning at the following locations:

- Rhododendron
- Winter Creek
- Hamm Meadow 4
- Reese
- Hamm Meadow 1
- Hamm Meadow 5

The summer inspections conducted on August 25, 2022 surveyed each tree for pest or disease, fruit present, and prune or vegetation requirements. The trees and exclosures were tagged. Individual trees were tagged using both a nail and round metal tab onto the tree or with a zip tie on the exclosure. Moving forward we will continue to update individual tree location in the database for more accurate mapping and tagging trees on location for ease of identification. Vegetation and pruning will continue to be the major focus.

9.2. MANAGEMENT ACTIONS

The following management actions were completed as scheduled at the orchard management areas in 2022 (Appendix A):

Pruning

Winter pruning activities occurred on March 10th and 14th at Rhododendron, March 11th at Reese and Winter Creek.

Vegetation Control

Pomona orchard was treated for Scotch broom, Himalayan blackberry and reed canarygrass.

Fall mowing occurred at Buncombe Hollow, Lower Hanley Curry, Upper Hanley Curry, and Speelyai orchards between August 15th – September 27th to maintain big game forage.

Plantings

Seven seedlings were planted in the Orchards in 2022 using planting fabric and bark to reduce the need for vegetation control and resource sharing. One apple was replaced in Winter Creek, Hamm 4 had three apples planted, Upper Hanley Curry had one apple planted and Saddle Dam 3 had two apple trees planted.

Animal Damage Control

Several fenced exclosures were repaired and/or reinforced at Winter and Rhododendron to withstand heavy elk usage. Two exclosures were removed at Winter to allow for access since the trees are big enough to sustain moderate browsing from elk and deer. The t-posts were left in place to reduce the potential damage from rubbing or over browsing.

Supplemental Watering

Supplemental water occurred on September 2 at Saddle Dam 3, Hamm 4, Winter, and Upper Hanley Curry Orchard.

10 TRANSMISSION LINE ROW HABITAT MANAGEMENT

Inspections and management actions completed in accordance with Lewis River Wildlife WHMP Chapter 10.0 Transmission Line Right-of-Way (ROW) Management are described below and in Appendix A.

10.1. INSPECTIONS

Annual Inspection

The annual inspections were completed at all transmission line ROW spans on WHMP lands. These inspections were completed September 13th through November 22, 2022. Inspection results are available upon request.

Post-Treatment Evaluation

Post treatment evaluation consisted of monitoring the treatment areas from 2021. The treatments appeared to be successful with no retreatment required in 2022. Monitoring plantings and invasive species occurred near Beaver Bay Wetland (Speelyai 7/1 – 11/1) after it finished its three-year treatment plan to remove Himalayan blackberry and Scotch broom in 2018. The area required treatment in 2022 in a few locations otherwise the wetland is looking great.

10.2. MANAGEMENT ACTIONS

The following management actions were completed as scheduled at the ROW management areas in 2022 (Appendix A).

Shrub Management

No shrub management was required this year.

Invasive Plant Species Control

The following table (Table 15) compares the 2022 planned versus actual invasive plant species control work that was conducted on transmission line ROWs on WHMP lands. All invasive plant species control work was completed by applying herbicide and locations are identified in the maps provided in Appendix F.

Table 15. 2022 Invasive Plant Species Treatment on the Transmission Line ROW

Towers	Planned	Actual	Target Species						
			Invasive Plant Species					Seedlings	
			Scotch Broom	Himalayan Blackberry	Canada thistle	Bracken fern	Other	Douglas - fir	Red Alder
Cougar									
2/1 – 6/1	**X**	**X**	X	**X**					
2/3 – 3/3	**X**	**X**	X						
5/3 – 9/3	**X**	**X**	X						
Speelyai Line									
4/1-11/1	**X**	**X**	**X**	**X**					
5/2 – 8/2	**X**	**X**	**X**	X					
7/5 – 1/6	**X**	**X**		**X**				X	X
6/10 – 7/10	**X**	**X**	**X**						
7/12 – 1/13	**X**	**X**	**X**						
3/15 – 4/15	**X**	**X**			X				X

Vegetation Management

Wilkson ROW and Speelyai ROW was mowed on July 18 to reduce fire hazard during nearby timber harvest. Speelyai ROW between 8/1 and Lewis River Road and the landing under 1/2 -11/1 was mowed to treat Scotch broom.

Aquatic Management

Yellow Flag Iris spot spraying occurred near the wetlands in Beaver Bay (Speelyai 7/1-11/1) June 16, 2022.

Forage Enhancement

Annual mowing occurred at Speelyai 1/11 - 3/11, Woodland Park West (Speelyai 8/14 - 9/14), and Wilkinson (Speelyai 5/15 - 7/15), in September 19 – 23, 2022. Speelyai forage area soils were sampled on August 17th results are in Table 16. All four areas were treated with 16-16-16 fertilizer on October 14 – 18th.

Table 16. Transmission line forage area soil sample test results.

	pH	P (ppm)	K (ppm)	Ca (Meq/100g)	Mg (Meq/100g)	B (ppm)	SO4 (ppm)	NO3-N (ppm)	6.2 (bBpH) (sikora pH)
SOP Standards	≥ 5.4	20 to 30+	65 to 85+	≥ 3.0	0.8 to 1.0+	0.7 to 1.0	N/A	15 to 25	N/A
WHMP Standards	≥5.4 (grasses) and ≥5.8 for legumes	15 to 30	125 to 200	5 to 10	0.8 to 1.5	0.7 to 2.0	N/A	10 to 30	N/A
Wilkinson	5.6	5	132	0.9	0.3	0.24	57	6	6.8
Woodland	5.3	13	86	1.2	0.3	0	12	5.2	6.6
Lake Line	6.2	10	124	1.6	0.5	0.32	16	2.6	6.8
Speelyai	5.5	8	110	1.6	0.4	0.04	15	6.8	6.7

Pollinator Habitat:

To increase pollinator habitat, in 2019 PacifiCorp created three pollinator sites under the Transmission Line ROWs. These sites are in MU 3, MU 6, and MU 12 (Appendix G). Transmission lines are appropriate for pollinators as it is believed pollinators use them as flight paths. The project is to test the viability of different pollinator mixes over the years to be used by Transmission Services at construction sites in place of planting solely grasses when replacing and repairing transmission poles.

Pollinator testing sites continued to be monitored for multi season blooming. Sites were monitored for noxious weeds. No new seed mixes were tested in 2022. One new pole was replaced and seeded in MU 21 across the highway from Beaver Bay Wetland in spring 2022 and will be added to the list to be monitored going forward.

11 UNIQUE AREA / HABITAT MANAGEMENT

Figure 12. Oak site 6-45

Inspections and management actions completed in accordance with Lewis River WHMP Chapter

12 UNIQUE AREA/HABITAT MANAGEMENT ARE DESCRIBED BELOW (APPENDIX A).

12.1. OAK SITE INSPECTIONS

The annual oak stand inspections occurred from October 3rd, 2022 at 6-45a, 6-45b, 6-45c, 6-45d and 6-58. Overall, the oak (*Quercus garryana*) stands are in good condition. These stands are typical of WHMP oak stands in that most trees have inverted vase shaped crowns, a reduced structural diversity, and low mast production. Table 17 provides a summary of the oak stand inspections. Because many of the oak trees are completely or partially on inaccessible rock outcrops, it was impossible to assess every tree effectively and accurately. The inspection form was revised in 2015 to evaluate the oak site condition instead of the individual tree. In 2021 it was noted that oak site 1-12 had several trees with brown, dead leaves early in the summer likely due to the high and long heat wave in June. The site was surveyed in 2022 (Fig 13) to determine extent of die off. Most trees that grew to the west died. The trees in the far south and east survived. This site will continue to be monitored to verify the die off doesn't spread.

Table 17. 2022 Oak Stand Inspection Summary

Inspection Summary		6-45a	6-45b	6-45c	6-45d	6-58
Number of Trees	WHMP	20	45	28	3	45
	Inspection	Estimated 14 clusters of trees with average 2-4 per cluster	Estimated 19 clusters of trees with average 3 per cluster	Estimated 20 clusters of trees with average 4 per cluster	Estimated 2 clusters of trees with average 2 per cluster	Estimated 8 clusters of trees with average 3 per cluster
Vegetation Cover Type Acres		0.78	0.80	0.56	1.30	0.49
Overall Mast Production		Few acorns were observed on trees and on ground	Individual acorns readily observed on trees and on ground	Individual acorns readily observed on trees and on ground	No visible acorns and on ground	No visible acorns
Overall Pest or Disease		None	None	None	None	None
Contact Tree		0%	20%	15%	0%	Minor
Invasive Plant Species		None	None	Minor Scotch broom	None	Poison oak

Figure 13. Oak site 1-12 arial view shows 2021 die off assumed to be from the heat wave.

12.2. MANAGEMENT ACTIONS

Oak site 5-2 was treated for scotch broom.

Due to TCC's concern about low overall mast production on most oak stands on PacifiCorp property a site visit occurred in 2018 at Oak Stand 5-1 and 5-2 to advise future management goals. TCC recommended removing conifers in a 50ft buffer around the oak tree closest to the perimeter to increase the light exposure. This management occurred in 2019. Bigleaf maples were retained to encourage diversity. To encourage further growth of naturally germinated seedlings, Plantskydd® will applied to selected seedlings twice a year, while allowing others to continue to be browsed. This will allow successful growth for future generations of oaks while still allowing forage opportunity. The seedlings were selected because they grew in an area where their growth wouldn't compete with existing oaks. The selected seedlings were sprayed with Plantskydd® once in the spring and again in the fall. Spring application of Plantskydd® was sprayed on March 10, 2022. The fall application occurred on November 10th. Each seedling is measured in the fall. The application of Plantskydd appears to be successful. In 2020 seedling A in 5-1 measured 40 inches. In 2021 it measured 43 inches and in 2022, 45 inches. Table 18 details the cost of the project to date. 2023 will be the final year of this study.

Table 18. Test Site 5-1 and 5-2 Costs from 2019 – 2022

Falling Trees 2019	Jan 3 & 4, 2019	$ 2719.37
Limbing Trees 2019	Jan 31, 2019	$ 799.05
Plantskydd Fall 2019	Oct 30, 2019	$ 250.00
Plantskydd Spring 2020	May 1, 2020	$ 83.48
Plantskydd Spring and Fall 2021	April 16 and November 3, 2021	$ 316.16
Plantskydd Spring and Fall 2022	March 10th and November 10th	$ 446.00
Total		**$ 4,772.14**

No other management actions were required in Unique Management Areas.

Access/Disturbance Reduction

No Access/disturbance reduction was required in 2022.

13 INVASIVE PLANT SPECIES MANAGEMENT

13.0 Invasive Plant Species Management are described below. Several areas have been identified for invasive plant species treatment and are discussed in their corresponding habitat management sections (i.e., Forestland Management, Farmland, Idle Areas, and Meadows Management, Unique Areas, and Transmission Line Right-of-Way Management). Appendix F is a map laying out the treatment report.

13.1. PREVENTION

No management action was required for prevention in 2022.

13.2. DETECTION

The Washington State, Skamania, and Cowlitz County noxious weed lists were updated in March 2022 and was incorporated into the invasive plant species management. PacifiCorp inspected the Speelyai Day Use and Cresap Bay Campground for shiny geranium (*Geranium lucidum*) and garlic mustard (*Alliara petiolata*), which is a Class A noxious weed, on the State and Cowlitz County list. These inspections determined a shiny geranium is persisting at Cresap Campground and Speelyai Park, but infestation is minor and getting smaller every year. Garlic mustard was not found in the past locations in Speelyai Park.

13.3. TREATMENT

Table 19 below lists the areas that were proposed in the 2022 Annual Plan and treated. Appendix F map lays out treatment areas in 2022.

Table 19. 2022 Invasive Plant Species Treatment Sites

Area	Target Species (Classification)[1]	Area Treated	Control Method
Swift Dam Area	CYSC (B)	5.0 ac	Chemical
Cresap Campground	GELU (B)	0.3 ac	Chemical
Speelyai Road and Day Use	GELU (B)	0.2 ac	Chemical
Beaver Bay shoreline	CYSC (C)	5.0 ac	Chemical/Hand Pull
Frasier Dam Road	CLVI (C)	0.2 ac	Chemical
MU 9	VIMI (monitor)	0.1	Chemical
Eagle Cliff Park Shoreline	CYSC (B)	1.0	Chemical
Arrowhead Road	CYSC (B), CLVI (C), HEHE (C) (C)vy and clematis	0.5	Chemical
MU 6	PATO (monitor)	0.1	Chemical
Kings Landing 300 road	VIMI (monitor)	0.1	Chemical

[1] Noxious Weed Classification = (A) = Class A, (B) = Class B, (Bd) = Class B designated region 8, (C) = Class C

14 RAPTOR MANAGEMENT

Management actions were completed in accordance with Lewis River WHMP Chapter 14.0 Raptor Site Management and are described below (Appendix A):

14.1. MONITORING

Raptor nest and roost sites were surveyed as needed to meet management objectives, which includes the annual aerial surveys for bald eagle and osprey nests and broadcast acoustical surveys for northern goshawk (*Accipiter gentilis*) nests in areas with proposed timber harvest management projects (i.e., management units 3, 6, 18, 20, 28, 35).

Aerial Survey for Bald Eagle and Osprey Nests

The aerial surveys for bald eagle and osprey nests were completed on April 22 and June 21. The April survey focuses primarily on nesting eagles. April is too early in the nesting season to accurately observe osprey nest occupancy, whereas the June survey focuses on osprey occupancy and bald eagle reproduction.

Figure 14. Juvenile bald eagles taking off at Yale Dam.

A map of the raptor nest occupancy can be found in Appendix H. Table 20 provides a summary of the 2022 bald eagle and osprey nest data and compares it to 2021 data. Overall, 2022 had a 14% decrease in nest occupancy rate for bald eagles and a 12% decrease in osprey nest occupancy from 2021. Reproductive success was up from 60% in 2021 to 91% in 2022. As usual, the second survey was conducted too early to determine the reproductive success of Osprey. There was 1 new nest for bald eagles and there were 6 new osprey nests. Only one eagle nest was archived in 2022 and no osprey nests were archived for being inactive (i.e., not occupied at any time) for five or more consecutive years. A more detailed and complete survey data set from 1981 to 2022 can be found in Appendix I.

Table 20. Summary Data for Bald Eagle and Osprey Aerial Survey Nest Data

Nest Attribute	Bald Eagle		Osprey	
	2021	2022	2021	2022
Total number of nests surveyed	37	33	37	41
Number of new nests detected	6	1	2	6
Number of occupied nests	15	11	18	15
Successful Reproduction	9	10	UNK	UNK
Number of nests destroyed	0	2	0	1
Percent of Occupancy	47%	33%	49%	37%
Percent of Successful reproductions	60%	91%	UNK	UNK

Jim Creek 2 Osprey

The Jim Creek 2 Osprey nest is just outside the 220309CC timber harvest boundary and was unoccupied in 2022. The nest was observed on May 20th to determine occupancy as well as during flight surveys. No modifications to the harvest areas were required.

Merwin Dam Osprey Nests

Two active nests on transmission towers near Merwin Dam have grown exceptionally large. There was concern the nests would topple onto the transmission lines causing an outage. PacifiCorp wildlife biologists coordinated with transmission group and dam operation managers to remove the nest and have a deterrent built to reduce the likelihood of an active nest in this location in the future. The nests were removed in fall 2022 and the deterrent will be installed September 2023.

Figure 15. Merwin osprey nests 1 (lower nest) and 2 (upper nest).

Broadcast Acoustical Surveys for Northern Goshawks

Broadcast acoustical surveys for northern goshawks were conducted for proposed timber harvest projects in Units 3, 6, 18, 20 and 28. All suitable habitats on WHMP lands within 1,641 ft. (500 m) of the proposed project area were surveyed. Each survey consists of two consecutive years with two visits per year that are at least two weeks apart. Appendix J provides maps of the timber harvest areas and the survey stations. Survey forms are available upon request.

- Unit 3 has two timber harvest units for 2022. The area was surveyed for the second year of two consecutive years. The surveys were conducted on June 1st and July 12, 2022. An eagle was detected on both surveys noting a nest that was not detected during either helicopter surveys.

- Unit 6 has five timber harvest units for 2022 The area was surveyed the for the second of two consecutive years. The surveys were conducted on June 2nd and July 11, 2021. An eagle was detected on both surveys. There are known nesting sites in the riparian buffer.

- Management Unit 18 had one proposed timber harvest units in 2023. It was surveyed for the first of two consecutive years. In 2022, one survey was completed on June 16, 2022, the second survey was conducted on July 26, 2022.

- Unit 20 has three proposed timber harvest units for 2023 The area was surveyed for the first year of two consecutive years. The first survey occurred on June 9, 2022. The second occurred on July 25, 2022. During the first survey a peregrine was heard to the north. Suring the second survey an osprey responded to the caller and flew over the survey site. There are known nesting sites in the riparian buffer.

- Unit 28 has two proposed timber harvests units for 2023. The area was surveyed for the first of two consecutive years. The first survey occurred on June 29, 2022. The second occurred on August 1, 2022. During both surveys a peregrine falcon was detected on and around the cliffs north of FS 90. Follow up surveys will be conducted in 2023.

The northern goshawk survey methods were designed for surveying large areas of timber harvest. The WHMP has many projects that only require small areas (less than 2 acres) of tree removal and as a result the survey effort is excessive and cost prohibitive for these small projects. On December 9, 2017, the TCC approved the "Northern Goshawk Management on Lewis River Wildlife Habitat Management Lands" memo. This memo provides a Northern Goshawk Survey Decision Matrix to determine the level of survey effort for project and habitat analysis methods that identified vegetation cover type as suitable or unsuitable northern goshawk habitat.

Eagle Cliff Peregrine Falcon

During a goshawk survey on June 29 in MU 28 a peregrine was heard on or near the cliffs above highway 90. A thorough survey of the cliff will be conducted in 2023. In 2010 an eyrie was thought to be on the cliff seen in Figure 16.

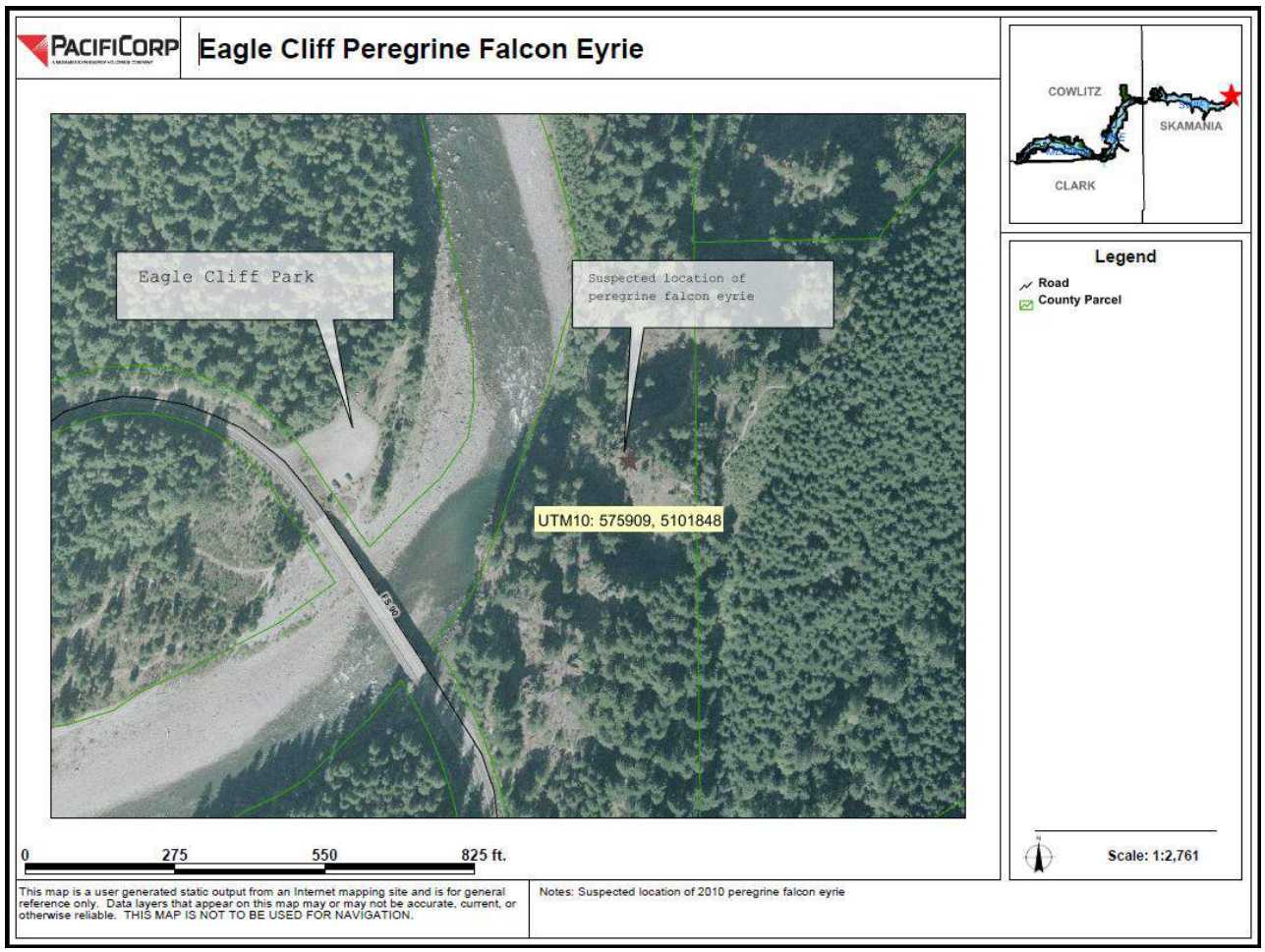

Figure 16. 2010 location of potential Peregrine Eyrie

Intensive Search Surveys for Northern Goshawks

No intensive search surveys were required in 2022.

14.2. BEST MANAGEMENT PRACTICES

The following general raptor and northern spotted owl (*Strix occidentalis*) best management practices were adhered to or applied as needed on WHMP lands:

- The raptor database was reviewed, as needed, to determine all known raptor nest locations within 0.5 miles (0.8 km) of proposed projects that have the potential to remove or modify nesting habitat or have the potential to disturb nesting raptors.

- Completed protocol surveys for northern goshawks prior to implementing activities that will remove or modify northern goshawk nesting habitat.

- Activities that necessitated the removal of suitable northern spotted owl nesting, roosting, and foraging habitat between March 1st and August 31st were approved by the TCC and adhered to the Limited Operating Period.

- Transmission lines on WHMP lands were managed according to PacifiCorp's standards and within industry standards for avian protection on power lines.

- Active eagle nests were reviewed on the ground to assure location accuracy in our database.

14.3. CONSERVATION MEASURES

The following conservation measures were adhered to or applied as needed on WHMP lands:

- High-impact sound-generating activities that were within 0.25 miles (0.40 km) of surveyed suitable habitat occurred outside the early nesting season of March 1st to June 30th to avoid potentially disturbing nesting spotted owls.

- No clearcut harvesting was conducted in northern spotted owl roosting or foraging habitat (Table 21)

- No more than 65 acres of mid-successional and upland mixed vegetation were harvested per year (Table 21).

- Maintained at least 50 percent of dispersal or better habitat (Table 21). The following table demonstrates compliance with the Biological Opinion and compares the pre- and post- timber harvest acres of suitable and dispersal habitat for northern spotted owls on WHMP lands (per United States Fish and Wildlife Service 2006). No suitable northern spotted owl (NSO) habitat was affected by 2022 forest management.

Table 21. Pre and Post 2022 Timber Harvest NSO Suitable and Dispersal Habitat.

Vegetation Cover Type	Habitat Type	WHMP Lands[2]	
		2004 Baseline[1] ac	2022 After Harvest ac
Old-growth Conifer	Nesting, Roosting Foraging, Dispersal	170.1	504.1
Mature Conifer + Mature thinned	Nesting, Roosting Foraging, Dispersal	629.8	800.5
Mid-Successional Conifer	Roosting, Foraging, Dispersal	2,099.0	2,340.4
Mid-Successional Conifer -Thinned	Roosting, Foraging, Dispersal	225.5	125.4
Upland Mixed and Upland Mixed Thinned	Roosting, Foraging, Dispersal	2,370.1	2,162.2
Riparian Mixed	Roosting, Foraging, Dispersal	194.8	215.8
Total Suitable Habitat (Nesting +Roosting + Foraging)		**5,689.30**	**6,148.4**
Pole Conifer and Pole Conifer-Thinned	Dispersal	387.4	2,860.8
Total Dispersal Habitat (Suitable Habitat + Pole Conifer)		**6,076.70**	**9,009.2**
Young Upland Mixed	Non-habitat	140.3	27.2
Upland Deciduous	Non-habitat	1,718.7	1,517.1
Young Upland Deciduous	Non-habitat	31.8	41.5
Lodgepole Pine	Non-habitat	78.6	71.7
Riparian Deciduous	Non-habitat	206.30	173.9
Seedling/Sapling Conifer	Non-habitat	819.1	1957.8
New Clearcut	Non-habitat	78.5	1819.7
	Forestland Non-Habitat	**3,151.90**	**5,608.9**
Total Extent of Forestland Habitat (Total Dispersal + Forestland Non-habitat)		**9,150.00**	**14,618.1**
Percent of Dispersal Habitat on WHMP lands		**66.41 %**	**38%**

[1]Vegetation Cover Types based on 2004 Final Technical Report for Vegetation Cover Type Mapping (PacifiCorp and Cowlitz PUD). Note that the property acquired since 2004 wasn't included in the original Vegetation Mapping (Baseline).
[2]Some change represents an addition of property acquired since 2004

15 PUBLIC ACCESS MANAGEMENT

Unauthorized access points and all gates were inspected throughout the year and immediately prior to fall hunting season (Table 22). Signage indicating no-unauthorized motor vehicles were also replaced or added where necessary. The annual gate inspections occurred from August 21st through November 22, 2022. A list of gate status and updating requirements was compiled and will be addressed in 2023.

15.1. MANAGEMENT ACTIONS

The unauthorized use of motorized vehicles on WHMP lands has been an issue for many years in MU 6 despite law enforcement efforts and PacifiCorp's diligence to close and post areas in a timely manner. In 2020, PacifiCorp installed wildlife friendly fencing along the Speelyai road where most access was occurring. This fence has been effective at keeping all-terrain vehicles (ATVs) from using old trails and creating new ones. Several natural gaps were used to make wildlife openings, at least one of them has evidence of use by wildlife. This fence continued to be monitored in 2022 and two

sections required repair. One was caused by wildlife breaking wire. The second section was cut and ATVs accessed area (Fig 18). Boulders were placed along trespass area and fence was repaired.

Hunting maps were updated with WDFW's new boundary lines. The new maps were posted on PacifiCorp website before hunting season. A misunderstanding around hunting access and local roads was addressed in 2022. Neighbors were alerted to the ability of hunters to park on Altman Road but not block access. WDFW game warden was looped in so he can help educate hunters and PacifiCorp neighbors.

Figure 17. New signs were installed in pullout overlooking MU 25

Table 22. WHMP Management Unit with Unauthorized Access

Road Number or Management Unit	Date	Trespass Issue	Action Taken
6	1/10	Trespass fence was displaced by wildlife	Fencing was restrung and flagged for clearer visual identification
12	1/10	Trespass fence along the north boundary was cut	Fence along the north boundary was fixed
25	1/12	No hunting signs in MU 25 were fading or have been removed	New signs were installed in pullout and on treed along FS 90 (Fig. 17)
16	1/12	Raptor nesting area in high traffic area	Signs posted to alert operations of nesting season and approval required for work conducted in area
MU 12	1/21	Mountain biking trail was discovered with building tools	Tools removed and signs were posted to cease vegetation maintenance on PacifiCorp Property

Road Number or Management Unit	Date	Trespass Issue	Action Taken
400 roads	1/31	Overgrown roads in MU 4	Cleared roads 401, 406, 410, 420, 422, 425 and 440
500 roads	1/31	Overgrown roads in MU 5	Cleared roads 500, 530, 540, 542, 550 and 580
600 roads	1/31, 2/1	Overgrown roads in MU 6	Cleared roads 650, 600, 601, 603, 605, 607, 610, 625, 653, 657, 661, 663, 665, 690 and 695
700 roads	2/1	Overgrown roads in MU 7	Cleared roads 790, 791, 700, 725, 707, 710, 721 and 730
9, 26, 40	3/23	Overgrown roads	Cleared roads 920, 921, 2600, 2601 and road 4000
MU 10	4/25	ATV trespass	Letters were sent to local homeowners notifying them to cease trespass
MU 3	5/3	Several occasions where neighbors encroached over property line	PacifiCorp had the land survey and property line clearly marked. Letters were sent to homeowners notifying them of the clear boundary line and requested to remove personal items and to cease vegetation maintenance on PacifiCorp property
37	6/17	Overgrown road	Cleared road 3700
Road 2050	6/20, 6/23	Overgrown road	Clear road 2050
6	6/27	Trespass fence cut and ATV access through past trespass trail (Fig. 18)	Fence was repaired and boulders placed along trail blocking access
300 road	6/1	300 bridge required updating for 2022 harvest	300 road bridge was replaced, and gate was repaired
500 road	7/11	500 gate was damaged causing folding at lock box/pin rendering gate inoperable	500 road gate was repaired
650 road	7/14	Overgrown road	Clear road 650
3600 road	7/15	Overgrown road	Road 3600 treated for alders

Dispersed Recreation Sites were surveyed as scheduled at Yale on April 6th and at Swift on April 20th. No major wildlife or land issues were documented. Minor noxious weeds were detected at Yale sites and were treated in 2022.

Figure 18. Trespass fence cut and ATV access through past trespass trail

PacifiCorp biologists will continue to coordinate with the recreation manager on the trail development as required in the Settlement Agreement. Current location being considered is in Management unit 10 around Saddle Mountain. There are user-built trails currently in use that require restructuring to increase long term trail sustainability. Trail locations are being designed, proposed, and construction starting in 2023.

16 WILDLIFE FORAGE MONITORING

Over the years, PacifiCorp has successfully established high quality forage at 400 to 500-foot elevation by applying grass and legume seed mix to recently logged areas and maintain quality forage through silviculture practices for at least 15-years following timber harvest. Recently acquired lands differ from other WHMP lands because they are between 2,500 and 3,700 feet in elevation with highly volcanic soils and more climate extremes. PacifiCorp has two long term monitoring projects to explore different forage seed mixes in the different climate locations to determine the optimal forage mixes in this higher elevation.

One of the two long term studies is the Habitat Enhancement Monitoring Project (HEMP). PacifiCorp installed eight 4x4-ft. exclosures on July 8th, 2014, to examine forage seeding and natural shrub regeneration in the absence of herbivory in 5 different THAs. The exclosures were installed in

Management MU 33 (THA 113318 [2], THA 133316 [2]), Management MU 25 (THA 122501 and 122502) and MU 28 (THA 112801 selective harvest [2]). Each of these exclosures are shown in the maps in Appendix K. PacifiCorp is monitoring these forage areas and exclosures twice per year for ten years (2014 – 2023). Monitoring will help determine forage species that became established and their relative use so that adjustments can be made in future projects. Additionally, casual observations were made regarding the effects of scarification techniques on the re-establishment of native shrubs.

In 2018, thanks to a grant by Rocky Mountain Elk Foundation and matching funds by PacifiCorp, PacifiCorp was able to complete the 2017 Marble Mountain Forage Enrichment and Effectiveness Monitoring Project (MMFEEM). Grass and seed mix was purchased and dispersed on newly acquired grounds, two permanent forage meadows were created and planted, two grass and legume seed mix test plots were constructed and planted and two shrubland exclosures were erected. The maps of these areas are shown in Appendix K.

16.1. HABITAT ENHANCEMENT MONITORING PROJECT (HEMP)

PacifiCorp continued in their ninth year of monitoring the selected forage projects by checking the exclosures twice in 2022. Spring data was collected June 14 and June 30, 2022. Fall data was collected in September 19 and October 3, 2022.

Table 23 identifies the grass and legume seed mix that was planted in 2011 in MU 33 that includes the two exclosures in THA 113318CC as well as the exclosures in Unit 28 THA112801CC. The species mix was chosen for good winter hardiness and early spring green up. The seed mix was 60% legumes/forbs and 40% grasses. Table 24 identifies the seed and legume seed mix that was planted in 2013 in MU 33 which includes exclosures in THA 133316. Table 25 identifies the seed and legume seed mix that was planted in 2012 which includes exclosures in THA 122501 and THA 122502.

Table 23. Grass-legume seed mix used in 2011 timber harvest

Botanical Name	Common Name	% by weight
Lolium perenne var Aberavon	AberAvon HSG Perennial Ryegrass	14.00
Festuca ovina var Covar	Covar Sheep Fescue	7.00
Festuca arundinceia var. Rustler	Rustler Tall Fescue	12.00
Trifolium repens var winter	Winter White Clover	5.00
Trifolium pratense var dynamite	Dynamite II Medium Red Clover	13.00
Trifolium subterrianian	Sub-Clover	9.00
Trifolium hybridum	Alsike Clover	8.00
Chicorium intybus var six point	Six Point Grazing Chicory	10.00
Sanguisorba minor	Small Burnet	5.00

Table 24. Grass – legume seed mix used in 2013 timber harvest area

Botanical Name	Common Name	% by weight
Lolium perenne var Averdart	AberDart HSG Perennial Ryegrass	20.00
Lolium perenne var Aberavon	AberAvon HSG Perennial Ryegrass	5.00
Dactylis Var glomerata var Latar	Orchardgrass	15.00
Sanguisorba minor	Small Burnet	20.00
Trifolium repens	Dutch with clover	25.00
Lotus corniculatus	Birdsfoot trefoil	15.00

Table 25. Grass-Legume Seed Mix Used in 2012 timber harvest area

Botanical Name	Common Name	% by weight
Lolimum perenne var Averdart	AberDart HSG Perennial Ryegrass	32.00
Lotus corniculatus	Birdsfoot trefoil	20.00
Epilobium angustifolium	Fireweed	1.00
Trifolium repens var winter	Winter White Clover	10.00
Trifolium subterrianian	Sub-Clover	25.00

THA 113318:

Forage in THA 113318 was established in the fall of 2011 (Table 23) following slash scarification. Two enclosures were installed at an elevation of 2860ft (#1) [872 meters] and 2840 ft (#2) [865.5 meters]. In Exclosure #1 tall fescue (*Festuca arundinacea*) and perennial rye grass (*Lolium perenne*) has persisted over time. Perennial rye was detected in fall 2022 but not in the spring. Clover was planted in 2011, but it never resulted in growth. The palatable forbs or subshrubs which have been successful, are trailing blackberry (*Rubus ursinus*) and *blackcap* raspberry. Both plants are self-seeded or re-establishing. Sheep fescue (*Festuca ovina*) and perennial rye grass have been the persistent grasses in Exclosure #2 over time with sheep fescue seen more in the spring and perennial rye in the fall. Small burnet was one of the forbs in the original seed mix and it has had some success over time, however it isn't always present (not detected in 2022, 2018 or 2017), it is only detected outside of the exclosure which could be that it is getting either shaded out by the grasses or the matte of dead grasses is smothering out the growth.

THA 133316:

The exclosures located in THA 133316 are located less than 1200 feet (366 meters) northwest of those in THA 113318. The elevation of exclosure #1 and #2 are at 2900ft (884 meters). These exclosures are the highest elevation of all the exclosures by under 100ft (30.5 meters).

Scarification of the logging slash and subsequent forage seeding was completed in 2013 [2 years later than exclosure sites THA 113318 (1 and 2)]. The scarification however attempted to protect more of the re-establishing shrub component than was accomplished in 2011. The grass/legume forage

mixture (Table 24) was changed in 2013 to eliminate the fescues which didn't appear to receive strong selection at the time and orchard grass was added. Tall orchard grass has persisted over time in both exclosures. In the fall perennial rye increased in exclosures #2 from 0% to 30% and increased from 0% to 30% exclosure #1.

THA 122501 and 122502:

The exclosures located in the 2012 timber harvests (Table 25) in MU 25 are at elevation 740ft (225.5) and 680ft (207 m), respectively. They are the lowest elevation of all exclosures in this study by 360ft (110 m). They showed the most dramatic forage establishment and use of the forage mix applied to any of the timber harvest areas. A resident herd of approximately 10 – 20 elk regularly graze these areas such that there is constant regrowth, and the forage remains green year- round. The two harvest areas are on either side of Rhododendron Meadow that was developed from an old project residential area after the homes were removed. THA 122501 exclosures has become almost completely overgrown with trailing blackberry going from 30% in 2020 to 75% fall 2022 choking everything else except tall orchard grass. Exclosure THA 122502 has excellent establishment of all forage species, except fireweed (*Chamaenerion angustifolium*), and the area around the exclosure has extensive use. White clover appeared to be especially abundant of the observed composition throughout the harvest areas, but mostly outside of the exclosures.

THA 112801:

The timber harvest in MU 28 (2011) was a very conservative (less than 12" dbh) over-story removal of lodgepole pine (*Pinus contorta*) and Douglas-fir intended to release native shrubs in the understory. Douglas-fir greater than 13" at a density of less than 100 trees per acre (TPA) were retained and a few (350) western white pines (*Pinus monticola*) were planted in the spring of 2012. The elevation of both exclosures is about 1100ft (335m). The grass/legume forage mix that was applied was the same as that used in 2011 in MU 33 (Table 23). This was the most successful unit for shrubs with both vine maple and Woods' rose (*Rosa woodsii*) observed in area pre and post-harvest and heavy grazing was observed around the exclosures on both species. Tall fescue and small burnet have both persisted as original plantings in both units.

16.2. 2017 MARBLE MOUNTAIN FORAGE ENRICHMENT AND EFFECTIVENESS MONITORING PROJECT (MMFEEM)

Thanks to collaborative efforts of Rocky Mountain Elk Foundation, PacifiCorp was able to acquire an additional 1,880 acres of former private timber lands in the Lewis River basin in 2017. These lands provide a mosaic of early and late seral habitats to benefit many wildlife species with a strong emphasis on providing quality foraging habitat for elk. PacifiCorp has successfully established high quality forage at 400 to 500-foot elevation by applying grass and legume seed mix to recently logged areas and maintain quality forage through silviculture practices for at least 15-years following timber harvest. The newly acquired lands differ from other WHMP lands because they are between 2,500 and 3,700 feet in elevation with highly volcanic soils and more climate extremes. The grant provided PacifiCorp the opportunity to determine and provide quality elk forage in this unique habitat.

Using the awarded 2018 PAC Funds and the PacifiCorp's matching funds, PacifiCorp completed the construction of Marble Mountain Forage Enrichment and Effectiveness Monitoring Project (MMFEEMP) in 2019. In 2022, PacifiCorp continued with testing of the Grass and Legume Seed Germination Plots and the monitoring of shrubland exclosures in MU 34 and 36. This is the fourth of six years of monitoring.

Grass Legume Seed Germination Plots (GLSG):

The GLSG plots provide a controlled area to determine the best seed timing and mixes for providing persistent and nutritious forage throughout the growing season. The GLSG plots are two 20 x 20 foot exclosures separated by approximately 50 feet (Figure 21). In 2019 the area was prepped by removing all stumps and tree debris from the area by an excavator and by hand. The soil was treated with glyphosate to kill all current seed and given a rest period of two weeks. The seed mix planted in the fall in plot 1 is listed in Table 26. The seed mix planted in Plot 2 is listed on Table 27.

Of the 2019 seed mix we determined tall fescue (*Schedonorus arundinacea),* red fescue (*Festuca rubra var. molate)*, and perennial rye (*Lolium perenne)* grew well in all of the plots. White clover (*Trifolium repens var Dutch)* was the only legume that grew in the plots. Tall orchard grass (*Dactylis glomerata L.)* and common sorrel (*Rumex acetosa)* creeped into the exclosures from outside. Although California brome (*Bromus carinatus)* preformed better when planted in fall of the first planting, it didn't survive the year.

Table 26. 2019 Grass Seed mix for Plot #1 seeded at 20 lbs/acre

Species Name	**Common Name**	**% By Weight**
Lolium perenne	Tetraploid Perennial ryegrass	20
Festuca rubra rubra var. molate	Red fescue (molate)	20
Bromus carinatus	California Brome	20
Sanguisorba minor	Small burnet	15
Trifolium repens var Dutch	Dutch white clover	15
Vicia sativa	Garden vetch	10

Table 27. 2019 Grass seed mix for Plot # 2 seeded at 20 lbs/acre

Species Name	**Common Name**	**% By Weight**
Lolium perenne	Tetraploid perennial ryegrass	20
Lolium perenne multiflorium, tetraploid	Annual Ryegrass	20
Schedonorus arundianacea	Tall fescue, Fawn	20
Bromus carinatus	California Brome	20
Trifolium repend var Dutch	Dutch white clover	10
Vicia sativa	Garden Vetch	10
Sanguisorba minor	Small Burnet	10

2020/2021 Test Plots

The seed plots were treated with Glyphosate again in the fall for the second round of seed mix testing. On September 30, 2020, the seed mix in Table 28 was planted in Plot 1, subplot A Fall and the seed mix in Table 29 was planted in Plot 2, subplot B Fall, according to the design in Figure 27. The Grass seed mix for Plot 1 added blue wildrye (*Elymus glaucus*) and common yarrow. The grass seed mix for Plot 2 added meadow barley *(Hordeum brachyantherum*) and perennial lupine *(Lupinus polyphyllus*).

PacifiCorp was unable to determine the best seasonal timing or success of the seed mixes tested in 2020/2021 due to several factors. The plastic that usually covers the dormant side ended up covering the 2020 fall seeded plot killing everything planted. The spring plot was planted later in the season due to late snow melt and then we had the June heat wave. Very little seeds planted in the spring ended up growing (Figure 22). Interestingly, few grasses but several patches of small burnet, clover, and yarrow grew in Plot 1. Small burnet and clover grew in Plot 2. Fall 2021 application of the seed mixes did not occur. PacifiCorp intends on installing signs on the seed plots for further clarification as well as using stakes for the covers. The same seed mixes were used in 2022 and planted on July 13, 2022.

Table 28. 2020 - 2022 Grass Seed mix for Plot 1 seeded at 35 lbs/acre

Species Name	**Common Name**	**% By Weight**	**Detected in 2022**
Festuca rubra rubra var. molate	Red fescue (molate)	34	No
Lolium perenne	Tetraploid Perennial ryegrass	30	Yes
Elymus glaucus	Blue Wildrye	13	No
Achillea millefolium	Common yarrow	11	Yes
Trifolium repens var Dutch	Dutch white clover	10	No
Sanguisorba minor	Small burnet	3	No

2022: Grass seed enclosures were seeded on June 17, 2022 with the same seed mix used in 2021 (Table 28 and 29). New signs were posted to make the plots easier to identify and differentiate (Fig 22). Fall seeding didn't occur in 2021 so there was nothing to survey in in June. The Fall survey occurred on September 19th. Table 28 shows what was noted during the survey of what was planted. Also detected was wild strawberry, red sorrel, sedge grass, and tall orchard grass. Table 29 shows what was noted during the fall survey. Also detected was tall orchard grass, red sorrel, and foxglove. New exclosures were installed in fall 2022 to prevent elk from bending posts and breaking fences. Due to an early snow fall the fall seed did not occur.

Table 29. 2020 - 2022 Grass seed min for Plot 2 seeded at 44 lbs/acre

Species Name	**Common Name**	**% By Weight**	**Detected in Spring Plot 2022**
Lolium perenne multiflorium, tetraploid	Annual Ryegrass (tetraploid)	40.8	Yes
Schedonorus arundianacea	Tall fescue, Fawn	37.1	Yes
Hordeum brachyantherum	Meadow Barley	8.3	Yes
Trifolium repens var Dutch	Dutch White Clover	9.3	Yes
Sanguisorba minor	Small burnet	4.3	Yes
Lupinus perennis	Perennial Lupine	0.2	Yes

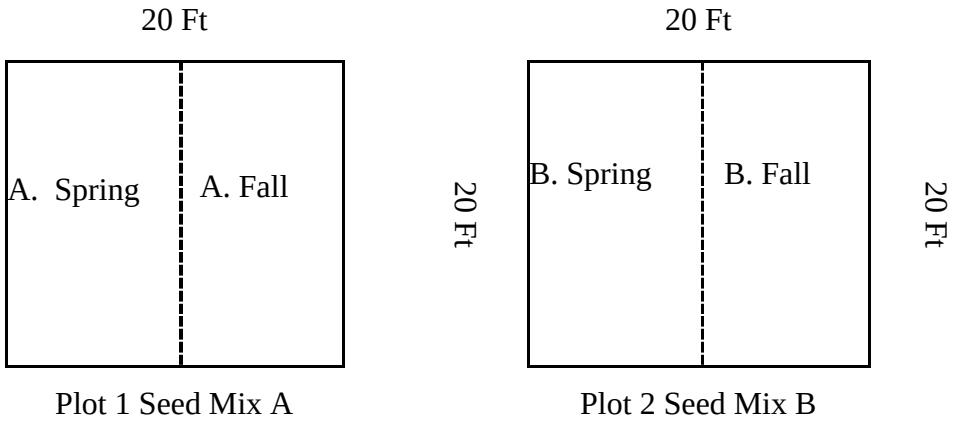

Figure 19. Grass and Legume Seed Germination Plot Layout

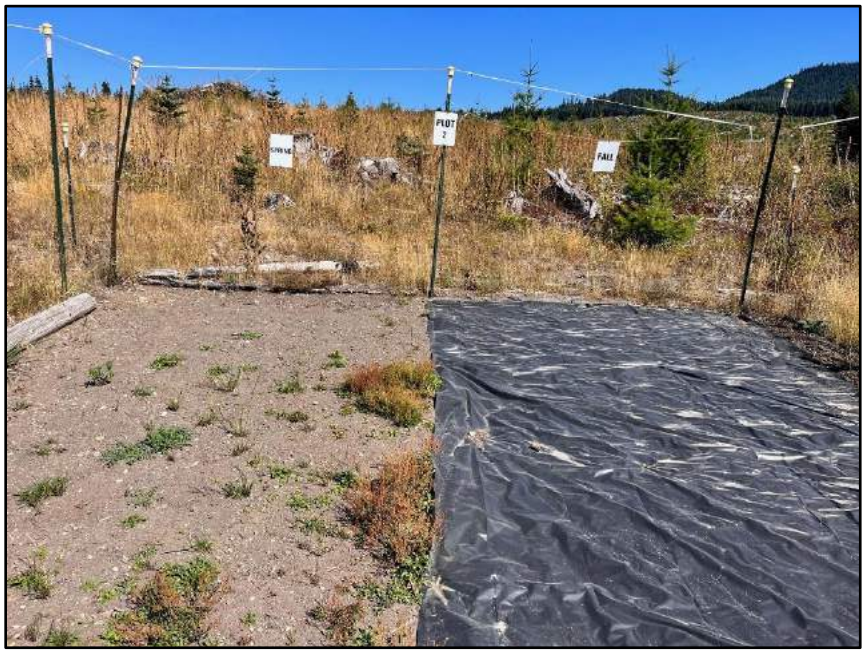

Figure 20. Grass seed plot 2 with seed mix B on September 19, 2022.

Shrubland Exclosures:

PacifiCorp continued in their fourth year of monitoring the shrubland exclosures by checking the exclosures twice in 2022. Summer data was collected July 13, 2022. Fall data was collected on September 19, 2022. The shrub exclosures will allow PacifiCorp to observe the response of shrub species, such as huckleberry, willow, and vine maple, post timber harvest and absent of herbivory. Monitoring will determine preferred forage species so future management can promote the preferred species and to determine effects of herbivory on shrubs. The two exclosures in MU 34 and MU 36 were built October 2018.

Shrubland 34: The willow shrubs are continuing to grow tall and fill in the exclosure. The shrubs accounted for approximately 1/8 of the exclosure in 2019 and have grown to about 1/3 in 2022 (Fig 23). The other shrubs that are doing well is vine maple, blackcap raspberry, red-osier dogwood,

salmonberry and blue huckleberry. Sword fern, bunchberry, and false solomon were not detected outside of the exclosure but were present inside. Outside of exclosure there was heavy browse on vine maple and moderate browse on blackcap raspberry, salmon berry, and dogwood.

Shrubland 36: This shrubland is still slow growing (Fig. 24). The shorter shrubs like salal, Oregon grape, bracken fern, lupin, and trailing blackberry are the most prevalent. There still appears to be more bare ground outside the exclosure than inside like in past years. Outside of exclosure there is heavy browse on dogwood, vine maple, and huckleberry.

Figure 21. Images from 2019 (left) and 2022 (right) showing growth inside exclosure in shrubland 34 over the four years of project.

Figure 22. Aerial photo of shrubland 34 from 2019 (left) and 2022 (right) showing growth of shrubs outside of exclosure over the four years.

17 LAND ACQUISITION

No land acquisitions were completed in 2022. There was significant progress made towards the The Nature Conservancy (TNC) Moss Cave land acquisition that included the completing the draft conservation easement between TNC and WDFW and the cooperative maintenance agreement between PacifiCorp and TNC. The appraisal was completed.

18 REFERENCES CITED/LITERATURE CITED

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Appendix A

2022 Wildlife Habitat Management Plan Schedule and Budget

WHMP Lands, Other Forestry, and Woodland Park Project Tracking 2022

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Administration	Annual Report	Prepare 2021 Report	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	01/01/22	04/26/22	100%	PacifiCorp and GIS time	$15,000.00	$11,440.95
Administration	Annual Plan	Prepare 2022 report	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	01/01/22	04/26/22	100%	PacifiCorp and GIS time	$15,000.00	$13,650.95
Administration	WHMP Coordination	Budget, Contractor Meetings, etc.	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	01/01/22	12/31/22	100%		$25,000.00	$7,880.86
Administration	Terrestrial Coordination Committee	Preparation, attendance and coordination with the Terrestrial Coordination Committee	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	01/01/22	12/31/22	100%	PacifiCorp time	$25,000.00	$5,325.42
Farmland, Idle Fields, and Meadow	Mowing	Clearing: remove down trees or anything that would be a hazard	TBD	Non Annual Plan Task	4/1/2022	4/30/2022	01/01/22	03/15/22	100%		$1,500.00	$2,868.15
Farmland, Idle Fields, and Meadow	Field Restoration	Scotch broom	MU 17 - Hamm Meadow	Non Annual Plan Task	3/1/2022	10/15/2022	07/12/22	07/12/22	100%		$0.00	$1,386.94
Farmland, Idle Fields, and Meadow	Field Restoration	Snow berry control	MU 17- Hamm Meadow	Non Annual Plan Task	1/1/2022	6/30/2022	05/26/22	05/26/22	100%		$0.00	$1,103.63
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Stinging Nettle	MU 6- Speelyai Meadow	Non Annual Plan Task	8/1/2022	10/15/2022	08/09/22	08/09/22	100%		$1,200.00	$929.10
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Canada thistle and blackberry	MU 11- MU 11 Meadow	Non Annual Plan Task	5/1/2022	8/31/2022	08/17/22	08/17/22	100%		$1,200.00	$1,058.37
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Tansy Ragwort and St. Johnswort	MU 10- Frasier Pond Meadow	Annual Plan	1/1/2022	5/31/2022	07/14/22	07/14/22	100%		$1,200.00	$1,307.70

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - tansy ragwort, St. Johnswort, oxeye daisy and reed canarygrass	MU 10- Saddle Mountain	Annual Plan	1/1/2022	5/31/2022	07/12/22	07/12/22	100%		$1,200.00	$464.42
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Himalayan blackberry and tansy ragwort	MU 25 Rhododendron Meadow	Annual Plan	1/1/2022	5/31/2022	03/10/22	03/11/22	100%		$1,200.00	$1,141.87
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - thistle and tansy	MU 25 Swift Warehouse Meadow	Non Annual Plan Task	8/1/2022	9/30/2022	05/24/22	08/10/22	100%		$0.00	$844.50
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - scotch broom	MU 25 Swift Warehouse Meadow	Annual Plan	1/1/2022	5/31/2022	01/10/22	05/24/22	100%		$1,200.00	$1,388.86
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Canada thistle	MU 10 Saddle Dam Field 1	Annual Plan	1/1/2022	5/31/2022	07/01/22	07/07/22	100%		$1,200.00	$685.89
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Canada thistle and reed canarygrass	Mohawk Meadow	Annual Plan	1/1/2022	5/31/2022	N/A	N/A	0%		$1,200.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - snowberry	MU 15 - Buncombe Hollow	Annual Plan	1/1/2022	5/31/2022	N/A	N/A	0%		$1,200.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Scotch broom, Canada thistle, tansy ragwort, and english hawthorn	Mu 10 Idle fields 1/5 and 3/4	Annual Plan	1/1/2022	5/31/2022	07/01/22	07/01/22	100%		$1,200.00	$1,832.34
Farmland, Idle Fields, and Meadow	Field Restoration	Invasive Plant Control - Canada Thistle	MU 7-Osprey	Annual Plan	1/1/2022	5/31/2022	N/A	N/A	0%		$1,200.00	$0.00
Farmland, Idle Fields, and Meadow	Inspection	Annual Spring Inspection	WHMP Lands	Annual Plan	4/15/2022	5/31/2022	01/01/22	05/27/22	100%	PacifiCorp time on annual plan and report	$8,500.00	$4,544.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Farmland, Idle Fields, and Meadow	Inspection	5-year Passively Managed Area Inspection	WHMP Lands	Annual Plan	4/15/2025	5/31/2025	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Inspection	Annual Fall Inspections	WHMP Lands	Annual Plan	10/1/2022	10/15/2022	10/20/22	10/27/22	100%		$3,000.00	$0.00
Farmland, Idle Fields, and Meadow	Mowing	Spring Mowing/Hay Harvest	WHMP Lands	Annual Plan	5/15/2022	6/15/2022	05/09/22	06/29/22	100%		$12,000.00	$9,049.10
Farmland, Idle Fields, and Meadow	Mowing	Fall Mowing/ Hay Harvest	WHMP Lands	Annual Plan	8/15/2022	8/31/2022	08/01/22	10/01/22	100%		$17,000.00	$20,027.87
Farmland, Idle Fields, and Meadow	Soil Testing	Soil Testing	WHMP Lands	Annual Plan	8/1/2022	8/31/2022	08/17/22	08/17/22	75%		$1,500.00	$362.00
Farmland, Idle Fields, and Meadow	Fertilization and Lime	Fall Fertilization	WHMP Lands	Annual Plan	9/1/2022	10/15/2022	10/13/22	10/20/22	100%	Mckee, Saddle field 3,4.5, Osprey, Bridge, Speelyai, Hanley Curry, Reese, Winter Creek, Swift, Rhododendron,	$15,000.00	$8,506.47
Farmland, Idle Fields, and Meadow	Fertilization and Lime	Spring Fertilization	WHMP Lands	Optional WHMP Task	2/1/2022	3/15/2022	N/A	N/A	0%		$0.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Farmland, Idle Fields, and Meadow	Fertilization and Lime	Lime Application	WHMP Lands	Optional WHMP Task	3/1/2022	11/30/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Soil Testing the year before tilled	WHMP Lands	Optional WHMP Task	8/1/2022	8/31/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Soil testing the season before tilled	WHMP Lands	Optional WHMP Task	2/1/2022	2/28/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Lime Application	WHMP Lands	Optional WHMP Task	9/1/2022	10/31/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Herbicide Application Treatment	WHMP Lands	Optional WHMP Task	3/1/2022	4/15/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Cultivation	WHMP Lands	Optional WHMP Task	3/6/2022	4/30/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Fertilization	WHMP Lands	Optional WHMP Task	3/6/2022	4/30/2022	N/A	N/A	0%		$0.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Farmland, Idle Fields, and Meadow	Field Restoration	Seedling/Planting	WHMP Lands	Optional WHMP Task	3/6/2022	4/30/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Field Restoration	Top Seeding	WHMP Lands	Optional WHMP Task	4/1/2022	5/15/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Access Disturbance Reduction	Fertilizing Vegetation Screen	WHMP Lands	Optional WHMP Task	9/1/2022	10/15/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Access Disturbance Reduction	Supplemental Watering	TBD	Non Annual Plan Task	5/1/2022	8/31/2022	N/A	N/A	0%		$0.00	$0.00
Farmland, Idle Fields, and Meadow	Access Disturbance Reduction	Animal Damage Control	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Invasive Plant Species	Monitoring	Update State and County Noxious Weed list	WHMP Lands	Annual Plan	1/1/2022	3/31/2022	02/15/22	02/15/22	100%		$500.00	$0.00
Invasive Plant Species	Monitoring	Monitoring	WHMP Lands	Annual Plan	5/1/2022	11/30/2022	01/01/22	10/15/22	100%	PacifiCorp and GIS time for annual plan and report	$0.00	$5,551.72
Invasive Plant Species	Inspection	Pre-ground Disturbance Evaluation	WHMP Lands	Annual Plan	5/1/2022	8/31/2022	N/A	N/A	0%		$500.00	$0.00
Invasive Plant Species	Inspection	Post-Ground Disturbance Evaluation	WHMP Lands	Annual Plan	5/1/2022	8/31/2022	N/A	N/A	0%		$500.00	$0.00
Invasive Plant Species	Inspection	Optional Inspection	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Invasive Plant Species	Monitoring	Control Treatments- Himalayan blackberry and scotch broom	DI and UM area south of 101708CC in MU 17	Annual Plan	1/1/2022	5/15/2022	08/30/22	08/30/22	100%		$1,500.00	$0.00
Invasive Plant Species	Monitoring	Control Treatments- Scotch Broom	Beaver Bay shoreline	Non Annual Plan Task	1/1/2022	5/15/2022	05/11/22	5/13/022	100%	Due to Yale being drawn down lots of CYSC on shoreline. Not VCT type	$0.00	$3,891.57
Invasive Plant Species	Monitoring	Control Treatments- Scotch Broom	Swift Warehouse	Annual Plan	1/1/2022	5/15/2022	05/10/22	05/17/22	75%	Scotch broom at base of dam and tline etc	$1,500.00	$2,703.93
Invasive Plant Species	Monitoring	Control Treatments- Police Helmet	Merwin Boat Ramp	Annual Plan	1/1/2022	5/15/2022	08/15/22	08/15/22	100%		$1,500.00	$0.00
Invasive Plant Species	Monitoring	Control Treatments- Garlic Mustard and Shiny geranium	Speelyai Road	Annual Plan	1/1/2022	5/15/2022	03/25/22	03/25/22	100%	only shiny geranium treated on invoice	$1,500.00	$867.69
Invasive Plant Species	Monitoring	Control Treatments- Shiny geranium	Cresap Campground	Annual Plan	1/1/2022	5/15/2022	03/25/22	03/25/22	100%		$1,500.00	$867.70
Invasive Plant Species	Monitoring	Control Treatments - Scotch Broom, clematis, and ivy	MU 17 Arrowhead Road	Non Annual Plan Task	6/1/2022	7/31/2022	08/11/22	08/11/22	100%		$0.00	$878.43
Invasive Plant Species	Monitoring	Control Treatments - Clematis	MU 10 Frasier Dam Road	Non Annual Plan Task	6/1/2022	7/31/2022	08/11/22	08/11/22	100%		$0.00	$658.44
Invasive Plant Species	Monitoring	Control Treatments - Scotch Broom	MU 28 shoreline	Non Annual Plan Task	6/1/2022	8/31/2022	07/18/22	07/18/22	100%		$0.00	$2,969.99
Invasive Plant Species	Monitoring	Control Treatments - Vinca	MU 9 between Yale warehouse and AC/DC	Non Annual Plan Task	6/1/2022	8/31/2022	07/04/22	07/04/22	100%		$0.00	$704.24

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Invasive Plant Species	Monitoring	Control Treatments - Vinca	MU 25	Non Annual Plan Task	6/1/2022	7/31/2022	N/A	N/A	0%	Not required in 2022	$0.00	$0.00
Invasive Plant Species	Monitoring	Control Treatments - Scotch Broom	MU 17 between ROW and 031706CC	Non Annual Plan Task	6/1/2022	7/31/2022	N/A	N/A	0%		$0.00	$0.00
Invasive Plant Species	Monitoring	Control Treatments - Empress Tree	MU 6	Non Annual Plan Task	6/1/2022	7/31/2022	08/09/22	08/09/22	100%		$0.00	$929.10
Invasive Plant Species	Monitoring	Control Treatments - Vinca	MU 3	Non Annual Plan Task	6/1/2022	10/15/2022	06/02/22	09/16/22	100%	Kings land and off 300 road, Kings landing	$0.00	$1,771.15
Invasive Plant Species	Monitoring	Control Treatments within Ordinary High Water Mark	WHMP Lands	Annual Plan	8/1/2022	10/15/2022	N/A	N/A	0%		$1,500.00	$0.00
Monitoring	Inspections	RMEF exclosure installation and monitoring	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	04/26/22	11/16/22	100%	PacifiCorp time. Improved the fencing	$7,000.00	$4,564.06
Monitoring	Inspections	GLSP installation and monitoring	MU 39	Non Annual Plan Task	1/1/2022	12/31/2022	01/01/22	11/16/22	75%	PacifiCorp time for annual report and plan, picked up seed. Spring GLSG was planted not fall. Improved the fencing.	$3,000.00	$6,186.49
Monitoring	Inspections	Habitat and Plan-wide Goal Monitoring	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Monitoring	HEP	Hep Target Year 17 (2025)	WHMP Lands	Target Year 17	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Old-growth	Connectivity	Mature Stand Connectivity Evaluation	WHMP Lands	Annual Plan	4/15/2022	7/15/2022	04/18/22	04/18/22	100%	Time captured in timber harvest planning	$500.00	$196.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Old-growth	Old-Growth Inspection	Annual Aerial Surveys	PacifiCorp Owned lands	Annual Plan	1/1/2022	12/31/2022	04/15/22	06/22/22	100%	This occur duing the bald eagle and osprey flights. No budget since it covered under Raport.	$0.00	$0.00
Old-growth	Old-Growth Inspection	Ground Surveys	PacifiCorp Owned lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Old-growth	Development	Snag Development	WHMP Lands	Optional WHMP Task	9/1/2022	2/28/2023	N/A	N/A	0%		$0.00	$0.00
Old-growth	Development	Thinning	WHMP Lands	Optional WHMP Task	9/1/2022	2/28/2023	N/A	N/A	0%		$0.00	$0.00
Old-growth	Development	Large Woody Debris Placement	WHMP Lands	Optional WHMP Task	9/1/2022	2/28/2023	N/A	N/A	0%		$0.00	$0.00
Orchards	Inspections	Annual Winter Inspection	MU 17 and 25	Annual Plan	1/1/2022	3/31/2022	01/01/22	03/10/22	100%	Scheduled to occur at Hamm 1, 4, 5, Rhoddendron, Reese, and Winter	$1,500.00	$3,653.00
Orchards	Pruning	Dormant Pruning	MU 17 and 25	Annual Plan	2/15/2022	3/31/2022	03/11/22	03/14/22	100%	Scheduled to occur at Hamm 1, 4, 5, Rhoddendron, Reese, and Winter. Rhododendron, winter creek and reese orchard trees completed	$2,500.00	$2,455.21
Orchards	Vegetation Control	Shade Tree Control	WHMP Lands	Optional WHMP Task	8/15/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Vegetation Control	Invasive Plant Species Control - blackberry, canary reed grass, scotch broom	Pomona	Non Annual Plan Task	6/1/2022	8/31/20222	07/17/22	07/17/22	100%		$0.00	$472.11
Orchards	Vegetation Control	Invasive Plant Species Control	Rhododendron	Annual Plan	1/1/2022	5/31/2022	03/11/22	03/11/22	100%		$2,500.00	$528.26

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Orchards	Miscellaneous	PacifiCorp Renewable Employee time that can not be assigned to task	PacifiCorp Owned lands	Non Annual Plan Task	1/1/2022	12/31/2022	03/11/22	05/27/22	25%		$0.00	$196.00
Orchards	Plantings	Replacement Planting	Winter Creek, Saddle Dam, Hamm 4 and Upper Hanley Curry	Annual Plan	2/1/2022	3/31/2022	04/01/22	04/26/22	100%	7 trees	$1,000.00	$183.60
Orchards	Inspections	Annual Summer Inspection	TBD	Annual Plan	7/1/2022	9/15/2022	04/22/22	10/13/22	100%		$1,500.00	$0.00
Orchards	Inspections	Optional Inspection	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Inspections	5-year Inspection	WHMP Lands	Optional WHMP Task	7/1/2023	8/31/2023	N/A	N/A	0%		$0.00	$0.00
Orchards	Pruning	Summer Pruning	WHMP Lands	Optional WHMP Task	5/1/2022	7/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Vegetation Control	Invasive Plant Species Control	Reese Meadow	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%	not needed in 2022	$2,500.00	$0.00
Orchards	Vegetation Control	Invasive Plant Species Control	Winter Creek	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%	not needed in 2022	$2,500.00	$0.00
Orchards	Vegetation Control	Invasive Plant Species Control	Hamm 1, 4, and 5	Annual Plan	1/1/2022	12/31/2022	05/26/22	05/26/22	100%		$2,500.00	$0.00
Orchards	Vegetation Control	Mowing	Mu 12 and 15	Annual Plan	8/15/2022	8/31/2022	08/23/22	09/27/22	100%	Buncombe Hollow and Upper and Lower Hanley Curry	$1,500.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Orchards	Plantings	Replacement Planting	Upper Hanley-Curry	Annual Plan	2/1/2022	5/31/2022	04/01/22	04/26/22	100%	two apples. Supplies for planting from Wilco?	$1,000.00	$345.98
Orchards	Plantings	Replacement Planting	Hamm 4	Annual Plan	2/1/2022	5/31/2022	04/01/22	04/26/22	100%	two apples	$1,000.00	$183.60
Orchards	Plantings	New Planting Inspection	WHMP Lands	Optional WHMP Task	7/1/2022	9/15/2022	10/13/22	10/13/22	100%		$0.00	$0.00
Orchards	Big Game Forage	Soil Testing	WHMP Lands	Optional WHMP Task	8/1/2022	8/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Big Game Forage	Fertilizing	WHMP Lands	Optional WHMP Task	9/1/2022	10/15/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Big Game Forage	Grass seeding (Spring)	WHMP Lands	Optional WHMP Task	4/1/2022	5/15/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Big Game Forage	Grass seeding (Fall)	WHMP Lands	Optional WHMP Task	9/15/2022	10/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Other Orchard Management	Orchard Tree Fertilizing	WHMP Lands	Optional WHMP Task	4/1/2022	5/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Other Orchard Management	Pest Control	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Orchards	Other Orchard Management	Animal Damage Control	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	05/20/22	05/20/22	0%	2021 work that was billed on 2022 budget. Placed fabric and bark around the base of trees	$0.00	$7,556.15

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Orchards	Other Orchard Management	Supplemental Watering	TBD	Optional WHMP Task	7/15/2022	9/30/2022	09/01/22	09/01/22	100%		$1,500.00	$752.00
Public Access	Management Actions	Controlling Unauthorized Motorized Vehicle Use	WHMP lands	Annual Plan	1/1/2022	12/31/2022	01/10/22	11/17/22	75%	Repaired MU 12 and Speelyai Road, No Hunting Signs. 2021 WHMi time on 2022 budget. PacifiCorp time, Repaired fence on Speelyai Road and placed rocks, remove items from Kings landing and hang sign at Hamm Meadows	$20,000.00	$13,472.17
Public Access	Inspection	Annual Road Closure Inspection	WHMP Lands	Annual Plan	11/1/2022	11/30/2022	04/22/22	11/22/22	100%		$1,500.00	$0.00
Public Access	Inspection	Annual Trail Inspections	WHMP Lands	Annual Plan	11/1/2022	11/30/2022	10/03/22	10/03/22	50%		$1,500.00	$0.00
Public Access	Management Actions	Site Pioneering Monitoring at Dispersed Camp Sites	WHMP Lands	Annual Plan	9/1/2022	12/31/2022	04/21/22	05/27/22	100%	PacifiCorp time	$2,500.00	$791.40
Public Access	Management Actions	Site Creep Evaluation at Dispersed Campsites	WHMP Lands	Optional WHMP Task	9/1/2024	12/31/2024	N/A	N/A	0%		$0.00	$0.00
Public Access	Management Actions	Visual Screen	WHMP lands	Optional WHMP Task	1/1/2022	8/31/2022	N/A	N/A	0%		$0.00	$0.00
Public Access	Management Actions	Road Construction	WHMP lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Raptor	Monitoring	Aerial Survey for Bald Eagle Nest Occupancy	WHMP Lands	Annual Plan	4/1/2022	4/25/2022	01/01/22	06/22/22	100%	PacifiCorp time for annual plan and report, map for survey	$12,000.00	$12,171.18
Raptor	Monitoring	Broadcast Acoustical Survey for Northern Goshawk	WHMP Lands	Annual Plan	6/1/2022	8/15/2022	01/01/22	08/31/22	100%	PacifiCorp and GIS time for preparing maps.	$18,000.00	$14,359.15

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Raptor	Habitat Management	Seasonal Access Restriction	MU 16 Merwin Trail	Non Annual Plan Task	1/1/2022	6/30/2022	01/13/22	01/13/22	100%		$500.00	$422.85
Raptor	Monitoring	Dawn Acoustical	WHMP Lands	Optional WHMP Task	3/15/2022	4/30/2022	N/A	N/A	0%		$0.00	$0.00
Raptor	Monitoring	Intensive Search Survey for Northern Goshawk	WHMP Lands	Optional WHMP Task	6/20/2022	8/31/2022	N/A	N/A	0%	not needed in 2022	$0.00	$0.00
Raptor	Monitoring	Northern Spotted Owl Surveys	WHMP Lands	Optional WHMP Task	3/1/2022	6/30/2022	N/A	N/A	0%		$0.00	$0.00
Raptor	Monitoring	Peregrine Falcon Monitoring Protocol surveys	WHMP Lands	Optional WHMP Task	4/15/2022	6/30/2022	N/A	N/A	0%		$0.00	$0.00
Raptor	Monitoring	Aerial Survey for Osprey Nest Occupancy and Bald Eagle Nest Productivity	WHMP Lands	Annual Plan	6/10/2022	6/25/2022	06/22/22	06/22/22	100%		$12,000.00	$10,237.50
Raptor	Monitoring	Known Communal Roost Monitoring	WHMP Lands	Optional WHMP Task	11/15/2022	3/31/2023	N/A	N/A	0%		$0.00	$0.00
Raptor	Monitoring	Potential Communal Roost Monitoring	WHMP Lands	Optional WHMP Task	12/1/2022	2/28/2023	N/A	N/A	0%		$0.00	$0.00
Raptor	Habitat Management	Revise Bald Eagle Management Plan	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%		$1,500.00	$0.00
Raptor	Best Management Practices	Review and Update Industry Standards for Avian Protection from Power Lines	WHMP Lands	Annual Plan	12/1/2022	12/31/2022	05/22/23	12/31/22	50%	Designed platform for osprey nest threatening powerlines. Install deferred to 2023	$500.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Riparian	Establish Buffers	Establish Buffers for timber harvest or other activities within WHMP Riparian buffer	MU 3, 6 and 35 timber harvest areas	Annual Plan	1/1/2022	12/31/2022	04/15/22	06/30/22	100%		$5,000.00	$0.00
Riparian	Inspections	Other Inspections	WHMP lands	Optional WHMP Task	1/1/2022	12/31/2022	12/29/22	12/29/22	100%	Evaluated the hazard tree damage and best approach for fish stream in MU 25	$0.00	$261.48
Riparian	Establish Buffers	Riparian buffers in PCT stands	TBD	Annual Plan	1/1/2022	12/31/2022			100%		$2,000.00	$0.00
Riparian	Establish Buffers	Water Type Modification	TBD	Annual Plan	1/1/2022	12/31/2022	01/01/22	03/15/22	100%	Chilton logging time for 2021 billed to 2022 budget and PacifiCorp	$1,000.00	$956.50
Riparian	Snag Management	Create snags within riparian buffers	WHMP lands	Optional WHMP Task	1/1/2022	12/31/2022			0%		$0.00	$0.00
Riparian	Restoration	Riparian Area Restoration Planting and seeding	MU 3 Day Creek Bridge	Non Annual Plan Task	9/1/2022	9/30/2022	09/01/22	09/07/22	100%	Area was seeded and will be planted with shrubs/trees in 2023	$3,000.00	$0.00
Riparian	Restoration	Riparian Area Damage Identification	WHMP lands	Optional WHMP Task	1/1/2022	12/31/2022			0%		$0.00	$0.00
Riparian	Restoration	Riparian Area Restoration blackberry removal	MU 25 Stream North FS 90	Non Annual Plan Task	4/1/2022	10/31/2022	09/01/22	09/01/22	100%		$2,500.00	$1,583.33
Riparian	Restoration	Riparian Area Restoration blackberry removal	MU 17 Speelyai Creek	Annual Plan	4/1/2022	10/31/2022	09/01/22	09/02/22	100%	Completed between 1/2 and 1/3 of the stream	$7,500.00	$2,547.97
Riparian	Restoration	Riparian Area Restoration blackberry removal, vinca, and other vegetation control	MU 32 HCC stream	Annual Plan	4/1/2022	9/30/2022	08/15/22	08/15/22	100%	Blackberry, policeman helmet, vinca, knotweed	$3,500.00	$2,484.95

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Shrubland	Inspection	Periodic Inspection	MU 3	Annual Plan	4/15/2022	10/31/2022	01/01/22	10/23/22	100%	Annual plan/report/writing MU 3 survey	$1,500.00	$1,414.00
Shrubland	Inspection	Post-treatment Inspection	TBD	Optional WHMP Task	6/1/2022	8/31/2022	N/A	N/A	0%		$0.00	$0.00
Shrubland	Shade Control	Topping a Tree and Hand Piling Debris	WHMP Lands	Optional WHMP Task	11/1/2022	3/1/2023	N/A	N/A	0%		$0.00	$0.00
Shrubland	Shade Control	Falling a tree and hand piling debris	WHMP Lands	Optional WHMP Task	11/1/2022	3/1/2023	N/A	N/A	0%		$0.00	$0.00
Shrubland	Other Management	Vegetation Control - Clear Competing Brush treat Ivy	MU 6 Speelyai Road	Non Annual Plan Task	9/1/2022	11/1/2022	08/10/22	08/10/22	100%		$0.00	$528.26
Shrubland	Shade Control	Herbicide Injection	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Shrubland	Other Management	Heavy Pruning	WHMP Lands	Optional WHMP Task	9/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Shrubland	Other Management	Vegetation Control -	TBD	Annual Plan	5/1/2022	7/31/2022	N/A	N/A	0%		$0.00	$0.00
Transmission Line Right-of-Way	Inspection	Annual Inspection	WHMP Lands	Annual Plan	9/1/2022	10/15/2022	01/01/22	07/31/22	50%	PacifiCorp time to complete annual plan and report	$17,000.00	$3,054.37
Transmission Line Right-of-Way	Access Disturbance Reduction	Access Disturbance Reduction -	TBD	Non Annual Plan Task	1/1/2022	4/30/2022	N/A	N/A	0%		$500.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Transmission Line Right-of-Way	Inspection	Annual Inspection with Photo Documentation	WHMP Lands	Optional WHMP Task	9/1/2024	10/15/2024	09/13/22	11/22/22	100%		$0.00	$0.00
Transmission Line Right-of-Way	Inspection	Post Hazard Tree and invasive plant species management inspection	TBD	Annual Plan	1/1/2022	12/31/2022	09/13/22	11/22/22	100%		$500.00	$0.00
Transmission Line Right-of-Way	Shrub Management	Shrub Management	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Transmission Line Right-of-Way	Shrub Management	Plantings	WHMP Lands	Optional WHMP Task	2/1/2022	3/31/2022	N/A	N/A	0%		$0.00	$0.00
Transmission Line Right-of-Way	Invasive Plant Species Control	Seed disturbed ground Speelyai 5/1	MU 21	Non Annual Plan Task	3/1/2022	5/31/2022	N/A	N/A	0%	Pole was emergency replacement in January	$250.00	$0.00
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control - Himalayan Blackberry	Speelyai 7/1-11/1	Annual Plan	4/1/2022	10/31/2022	07/08/22	07/11/22	100%		$1,500.00	$5,044.86
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch broom	Speelyai 7/12-1/13	Annual Plan	4/1/2022	10/31/2022	06/29/22	07/04/22	50%		$1,500.00	$3,679.24
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch broom	Speelyai 3/15-4/15	Annual Plan	4/1/2022	10/31/2022	06/02/22	06/02/22	50%		$1,500.00	$1,131.27
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch broom	Speelyai 6/10	Annual Plan	4/1/2022	10/31/2022	06/28/22	06/28/22	100%	Invoice says 7/10	$1,500.00	$1,052.26
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Douglas fir and red alders	Speelyai 7/5-1/6	Annual Plan	4/1/2022	10/31/2022	07/05/22	07/05/22	100%		$1,500.00	$2,021.69

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch Broom	Speelyai 3/2-5/2	Non Annual Plan Task	4/1/2022	10/31/2022	05/31/22	07/09/22	100%		$0.00	$0.00
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch Broom and Himalayan Blackberry	Speelyai 5/2-8/2	Annual Plan	4/1/2022	10/31/2022	06/08/22	06/27/22	100%	Spray 5/2-3/2	$1,500.00	$7,651.95
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch Broom and Himalayan Blackberry	Speelyai 4/1-11/1	Annual Plan	4/1/2022	10/31/2022	05/24/22	05/31/22	100%	ROW 4/1-8/1	$1,500.00	$3,904.67
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch Broom	Cougar 5/3-9/3	Annual Plan	4/1/2022	10/31/2022	08/08/22	08/09/22	100%		$1,500.00	$2,363.79
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch Broom	Cougar 2/3-3/3	Annual Plan	4/1/2022	10/31/2022	06/07/22	06/07/22	100%		$1,500.00	$1,244.86
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control Scotch Broom and Himalayan Blackberry	Cougar 2/1-6/1	Annual Plan	4/1/2022	10/31/2022	06/06/22	06/07/22	100%		$1,500.00	$3,072.34
Transmission Line Right-of-Way	Invasive Plant Species Control	Invasive Plant Species Control	TBD	Annual Plan	4/1/2022	10/31/2022	N/A	N/A	0%		$1,500.00	$0.00
Transmission Line Right-of-Way	Aquatic Area Management	Aquatic Area Management	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Transmission Line Right-of-Way	Big Game Forage Enhancement	Soil Testing	Speelyai 1/11-3/11, 8/14-9/14, 5/15-7/15, and Lake 3/10-4/10	Optional WHMP Task	8/1/2022	8/31/2022	08/17/22	08/17/22	100%		$500.00	$120.98
Transmission Line Right-of-Way	Big Game Forage Enhancement	Annual Mowing	Speelyai 1/11-3/11, 8/14-9/14, 5/15-7/15, and Lake 3/10-4/10	Annual Plan	9/15/2022	10/15/2022	6/5/2022	10/01/22	100%	Mowed early due to fire hazard reduction for timber harvest. Lake line	$1,200.00	$4,142.10

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Transmission Line Right-of-Way	Big Game Forage Enhancement	Fertilizing	Speelyai 1/11-3/11, 8/14-9/14, 5/15-7/15, and Lake 3/10-4/10	Annual Plan	9/1/2022	10/15/2022	10/13/22	10/20/22	100%	Wilkinson, woodland, Speelyai	$500.00	$2,501.09
Unique Area	Oak Stand Management	Falling a competing tree or shrub and hand piling debris	TBD	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Unique Area	Oak Stand Management	Oak tree protection	Oak Site 5-1 and 5-2	Annual Plan	3/15/2022	4/15/2022	03/10/22	11/09/22	100%	Plantskydd and clear trail and stump treat scotch broom	$2,000.00	$2,819.90
Unique Area	Inspection Additional Oak Stands	Inspection at oak stands not assigned in Annual Plan or inspect management actions	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	01/01/22	04/26/22	25%	PacifiCorp Time	$0.00	$1,176.00
Unique Area	Inspection Annual Oak Stand	Inspect assigned oak stands each year as described in the Annual Plan	TBD	Annual Plan	9/15/2022	10/15/2022	10/13/22	10/13/22	100%		$3,000.00	$0.00
Unique Area	Inspection Other Unique Areas	Inspections for unique areas that are not oak sites, such as talus, caves, rock outcrops.	TBD	Non Annual Plan Task	1/1/2022	5/15/2022	N/A	N/A	0%		$0.00	$0.00
Unique Area	Oak Stand Management	Topping a competing tree or shrub and hand piling debris	MU 7	Non Annual Plan Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Unique Area	Oak Stand Management	Invasive Plant Species Control	Oak Site 5-1	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%		$1,500.00	$0.00
Unique Area	Cave Management	Develop a Cave Management Strategy as needed	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Unique Area	Update United Area Database	Update PHS data	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Unique Area	Develop Ethnobotanically Significant Plant Management Strategy	Develop a management plan for ethnosignificant plants	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Wetland	Water Control	Replace 1 to 2 Stoplogs for High Winter Flows	WHMP Lands	Annual Plan	2/15/2022	2/28/2022	03/25/22	03/25/22	100%		$500.00	$753.62
Wetland	Yellow Warbler and Mink Habitat Enhancement	Shrub Planting	Ichabod Wetland	Annual Plan	2/1/2022	3/15/2022	04/04/22	04/30/22	100%	Plant buffer with shrubs	$2,500.00	$5,614.04
Wetland	Water Control	Dike Maintenance	ROW 8/12 Pond	Non Annual Plan Task	1/1/2022	12/31/2022	02/15/22	08/15/22	100%	Replaced ROW 8/12 pond culvert. Cost was covered under a separate road budget due to threat of road failure.	$0.00	$0.00
Wetland	Water Control	Dike Maintenance	MU 10	Annual Plan	1/1/2022	12/31/2022	01/11/22	11/09/22	90%	Monitoring Frasier and Cresap Dams	$2,500.00	$4,354.20
Wetland	Bullfrog Management	Visual Encounter Surveys	Mu 9 and MU 10	Annual Plan	5/1/2022	7/15/2022	04/22/22	07/14/22	100%		$1,500.00	$0.00
Wetland	Inspection	Annual	WHMP Lands	Annual Plan	4/10/2022	6/30/2022	05/26/22	07/31/22	100%	Cafferata consulting	$5,000.00	$5,115.87
Wetland	Vegetation Management	Surrounding Wetland Vegetation Reed Canary Grass	Bankers and Road Pond	Annual Plan	3/1/2022	7/31/2022	07/01/22	07/01/22	100%		$3,500.00	$2,215.59
Wetland	Inspection	Every 5 years	WHMP Lands	Optional WHMP Task	4/10/2023	6/30/2023			0%		$0.00	$0.00
Wetland	Inspection	Post-treatment Inspection	Cedar Grove, Chestnut, Bankers, Swift Canal Ponds, Swift Bypass 2, Wetland 2 Constructed Channel	Annual Plan	1/1/2022	12/31/2022	01/01/22	08/15/22	100%	PacifiCorp time	$1,500.00	$2,219.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
Wetland	Water Control	Diversion Draw Down	WHMP Lands	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
Wetland	Water Control	Replace stoplogs except for the top 1 to 2 for high winter flows	WHMP Lands	Annual Plan	10/15/2022	10/31/2022	10/25/22	10/25/22	100%		$500.00	$0.00
Wetland	Vegetation Management	Surrounding Wetland Vegetation Himalayan Blackberry	North and South IP pond	Annual Plan	3/1/2022	7/31/2022	N/A	N/A	0%	Management Plan was designed and will start in 2023	$3,500.00	$0.00
Wetland	Vegetation Management	Surrounding Wetland Vegetation Himalayan Blackberry	Cresap Pond	Annual Plan	3/1/2022	7/31/2022	N/A	N/A	0%	Ran out of time in 2022	$3,500.00	$0.00
Wetland	Vegetation Management	Surrounding Wetland Vegetation Himalayan Blackberry and Scotch Broom	Beaver Bay	Annual Plan	3/1/2022	7/31/2022	05/11/22	06/16/22	100%		$3,500.00	$0.00
Wetland	Vegetation Management	Surrounding Wetland Vegetation Himalayan Blackberry and Scotch Broom	MU 25 Swift Canal Ponds	Annual Plan	3/1/2022	7/31/2022	09/07/22	09/09/22	50%		$3,500.00	$5,012.89
Wetland	Vegetation Management	Surrounding Wetland Vegetation Violet -Canada thistle and tansy	MU 33 Violet	Annual Plan	3/1/2022	7/31/2022	08/10/22	08/10/22	100%		$3,500.00	$844.50
Wetland	Vegetation Management	Surrounding Wetland Vegetation - Yellow Flag Iris	Beaver Bay	Annual Plan	4/1/2022	10/31/2022	06/16/22	06/16/22	100%		$3,500.00	$775.02
Wetland	Waterfowl and Bat Habitat Enhancement	Aquatic Vegetation Control	TBD	Optional WHMP Task	5/15/2022	6/15/2022			0%		$0.00	$0.00
Wetland	Bullfrog Management	Remove Stoplogs	Cedar Grove, Chestnut, Bankers, Crossroad, Road, and Pumphouse	Annual Plan	8/15/2022	9/15/2022	08/08/22	08/08/22	100%		$500.00	$601.74
Wetland	Bullfrog Management	Replace Stoplogs	Cedar Grove, Chestnut, Bankers, Crossroad, Road, and Pumphouse	Annual Plan	10/15/2022	10/31/2022	10/25/22	10/25/22	100%		$500.00	$625.16
Wetland	Yellow Warbler and Mink Habitat Enhancement	Tree topping or pruning to enhance existing shrubs	WHMP Lands	Optional WHMP Task	1/1/2025	1/1/2025	N/A	N/A	0%		$0.00	$0.00
Wetland	Great Blue Heron Colony Management	Review WNDR Heritage Database	WHMP Lands	Annual Plan	1/1/2022	12/31/2022	N/A	N/A	0%		$500.00	$0.00
Wetland	Great Blue Heron Colony Management	Great Blue Heron Colony Site Management Report	WHMP Lands As needed when discovered	Optional WHMP Task	1/1/2022	12/31/2022	N/A	N/A	0%		$0.00	$0.00
WHMP Forestry and Forestry	Planting	Planting the prior year timber harvest area	211011CC	Annual Plan	2/1/2022	4/30/2022	02/18/22	04/30/22	100%	NoTHPL was planted here	$5,100.00	$1,727.94
WHMP Forestry and Forestry	Planting	Planting the prior year timber harvest area	211012CC	Annual Plan	2/1/2022	4/30/2022	02/18/22	04/05/22	100%	WHMi planted bigleaf maple in root rot pocket	$7,000.00	$3,878.40
WHMP Forestry and Forestry	Planting	Planting the prior year timber harvest area	211013CC	Annual Plan	2/1/2022	4/30/2022	02/18/22	04/05/22	100%		$7,500.00	$1,691.93
WHMP Forestry and Forestry	Snag Development	Create 3-5 osprey nest trees	MU 10	Non Annual Plan Task	7/15/2022	12/31/2022	11/08/22	11/08/22	100%	Should have been completed in 2021	$5,000.00	$1,759.13
WHMP Forestry and Forestry	Forage Seeding	Spread forage seed mix in timber harvest areas and other disturbed ground	TBD	Annual Plan	9/1/2022	10/31/2022	10/02/22	10/21/22	100%		$7,500.00	$6,472.92

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	200938	Annual Plan	1/1/2022	12/31/2022	2/7/022	2/7/022	100%		$1,500.00	$606.19
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	170112 and 170111	Annual Plan	1/1/2022	12/31/2022	01/20/22	12/08/22	100%	This is because it was completed on 12/15/21. Mike, please have the crew retube the THPL in 170112 CC before the end of the month. While there, they can also retube in 170111 CC.	$2,500.00	$1,803.98
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	161908	Annual Plan	1/1/2022	12/31/2022	01/19/22	01/19/22	100%		$1,200.00	$1,219.10
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	161904	Annual Plan	1/1/2022	12/31/2022	01/05/22	01/05/22	100%		$2,000.00	$1,986.99
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	200944	Non Annual Plan Task	1/1/2022	12/31/2022	01/19/22	01/19/22	0%		$0.00	$0.00
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	101126	Non Annual Plan Task	1/1/2022	12/31/2022	01/21/22	01/28/22	100%		$0.00	$1,886.21
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	101127	Annual Plan	1/1/2022	12/31/2022	01/21/22	01/21/22	100%		$1,000.00	$564.43
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	170775	Non Annual Plan Task	1/1/2022	12/31/2022	12/13/22	12/14/22	100%		$0.00	$1,186.11
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	170776	Annual Plan	1/1/2022	12/31/2022	01/21/22	12/14/22	100%		$2,000.00	$2,915.75
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	160335	Annual Plan	1/1/2022	12/31/2022	01/20/22	01/20/22	100%		$500.00	$475.13
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	171401	Annual Plan	1/1/2022	12/31/2022	01/27/22	01/27/22	100%		$2,000.00	$1,894.71
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	181552	Annual Plan	1/1/2022	12/31/202	01/25/22	12/13/22	100%	Joe note 12.5.2022: crew retube 181551 CC and 181552 CT before the end of the month so we can show it as completed on the Annual Progress Report.	$1,500.00	$1,420.13
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	181551	Annual Plan	1/1/2022	12/31/202	01/25/22	12/13/22	100%	Joe note 12.5.2022: crew retube 181551 CC and 181552 CT before the end of the month so we can show it as completed on the Annual Progress Report.	$1,500.00	$1,420.12
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	101801	Non Annual Plan Task	1/1/2022	12/31/2022	02/07/22	02/07/22	0%		$1,500.00	$682.40
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	Prune	101801	Non Annual Plan Task	1/1/2022	12/31/2022	11/08/22	12/01/22	100%		$0.00	$16,267.06
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority NA	141007	Non Annual Plan Task	1/1/2022	12/31/2022	12/12/22	12/27/22	100%	Added to 2022 list because snowed out of else where	$0.00	$9,649.49

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority NA	121547	Non Annual Plan Task	1/1/2022	12/31/2022	12/29/22	12/29/22	100%	Added to 2022 list because snowed out of else where	$0.00	$1,922.74
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority NA	141008	Non Annual Plan Task	1/1/2022	12/31/2022	12/28/22	12/28/22	100%	Added to 2022 list because snowed out of else where	$0.00	$1,892.98
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 1	141009	Non Annual Plan Task	1/1/2022	12/31/2022	12/01/22	12/31/22	100%	Added to 2022 list because snowed out of else where	$0.00	$12,875.74
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 1	124010 CC	Annual Plan	1/1/2022	12/31/2022	12/01/22	12/01/22	25%	Snowed out	$0.00	$2,638.25
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 1	124011 CC	Annual Plan	1/1/2022	12/31/2022	04/28/22	05/05/22	100%		$13,000.00	$6,250.98
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 1	124012 CC	Annual Plan	1/1/2022	12/31/2022	05/05/22	06/14/22	100%		$14,000.00	$15,975.49
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 2	124013 CC	Annual Plan	1/1/2022	12/31/2022			0%		$14,000.00	$0.00
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 2	124014 CC	Annual Plan	1/1/2022	12/31/2022			0%		$1,300.00	$0.00
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 2	124015 CC	Annual Plan	1/1/2022	12/31/2022			0%		$20,500.00	$0.00
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 2	124018 CC	Annual Plan	1/1/2022	12/31/2022			0%		$23,000.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 3	063309 CC	Annual Plan	1/1/2022	12/31/2022			0%		$20,000.00	$0.00
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 3	124020 CC	Annual Plan	1/1/2022	12/31/2022			0%		$16,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Harvest Planning 2022 timber harvest	MU 3, 6 and 35 timber harvest areas	Annual Plan	1/1/2022	12/31/2022	01/01/22	06/09/22	100%	PacifCorp Time and GIS, OSU lab results for MU 3	$17,000.00	$6,456.61
WHMP Forestry and Forestry	Miscellaneous	WHMi time that can not be assigned to task	PacifiCorp Owned lands	Non Annual Plan Task	1/1/2022	12/31/2022	01/01/22	03/15/22	100%	WHMi time from 2021 that was carried over into 2022 budget	$0.00	$5,039.21
WHMP Forestry and Forestry	Miscellaneous	PacifiCorp Renewable Employee time that can not be assigned to task	PacifiCorp Owned lands	Non Annual Plan Task	1/1/2022	12/31/2022	01/01/22	05/27/22	0%	PacifiCorp time for Kendel and Summer	$0.00	$8,653.64
WHMP Forestry and Forestry	Inspections and harvest planning	Harvest Scheduling for future year	MU 8, 20, and 28	Annual Plan	1/1/2022	12/31/2022	04/01/22	12/13/22	100%		$7,000.00	$227.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Logging Inspections	MU 35	Annual Plan	7/1/2022	9/30/2022	07/21/22	08/11/22	100%	PacifiCorp Time	$2,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Logging Inspections	MU 3	Annual Plan	7/1/2022	9/30/2022	07/24/22	09/15/22	100%	PacifiCorp Time	$2,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Logging Inspections	MU 6	Annual Plan	7/1/2022	9/30/2022	08/15/22	10/15/22	100%		$2,000.00	$0.00
WHMP Forestry and Forestry	Snag Development	Some timber harvest areas will have snags developed or hazard trees created into snags.	TBD	Annual Plan	7/15/2022	12/31/2022	08/18/22	08/18/22	100%		$0.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Inspections and harvest planning	Spring Timber Harvest Area Survey. Evaluates winter damage effects for previous years invasive plant species or pre-commercial thinning.	TBD	Annual Plan	5/1/2022	6/30/2022	5/1/2022	06/01/22	100%	Charged under Forestry Consulting	$2,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Fall Timber Harvest Survey (Field Work). To determine plantation issues for the following year	Timber Harvest areas that are 1 to 15 years	Annual Plan	11/1/2022	11/30/2022	11/08/22	11/16/22	100%	Charged under Forestry Consulting	$6,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Fall Timber Harvest Survey (Analysis)Compile data from fall survey	Timber Harvest areas that 1 to 15 years	Annual Plan	12/1/2022	12/31/2022	12/01/22	12/15/22	100%	Charged under Forestry Consulting	$2,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	First Precut Survey Completes a survey of proposed timber harvest area	2023 Timber harvest areas TBD	Annual Plan	9/1/2022	12/31/2022	03/22/22	12/13/22	100%	PacifiCorp time hard to distinguish	$2,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Traverse and GIS	MU 35	Annual Plan	1/1/2022	12/31/2022	11/01/22	11/01/22	100%	Charged under Forestry Consulting	$1,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Traverse and GIS	MU 3	Annual Plan	1/1/2022	12/31/2022	11/01/22	11/01/22	100%	Charged under Forestry Consulting	$1,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Traverse and GIS	MU 6	Annual Plan	1/1/2022	12/31/2022	11/01/22	11/01/22	100%	Charged under Forestry Consulting	$1,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Second Precut Survey: Once the final proposed THA boundary has been determined, a second precut survey will be conducted by a PacifiCorp biologist. To mark all leave trees may include selected shrubs or retention of special management areas.	MU 3	Annual Plan	1/1/2022	12/31/2022	06/01/22	06/30/22	100%	PacifiCorp time hard to distinguish	$1,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Second Precut Survey: Once the final proposed THA boundary has been determined, a second precut survey will be conducted by a PacifiCorp biologist. To mark all leave trees may include selected shrubs or retention of special management areas.	MU 6	Annual Plan	1/1/2022	12/31/2022	06/01/22	6/30/202	100%	PacifiCorp time hard to distinguish	$1,000.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Second Precut Survey: Once the final proposed THA boundary has been determined, a second precut survey will be conducted by a PacifiCorp biologist. To mark all leave trees may include selected shrubs or retention of special management areas.	MU 35	Annual Plan	1/1/2022	12/31/2022	06/01/22	06/30/22	100%	Pacificorp time hard to distinguish	$1,000.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Inspections and harvest planning	TCC to evaluate on site timber harvest area prior to beginning timber harvest	MU 3, 6 and 35 timber harvest areas	Annual Plan	4/1/2022	5/31/2022	05/11/22	07/13/22	100%	Pacificorp time hard to distinguish	$2,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Logging Inspections	MU 35	Annual Plan	7/1/2022	9/30/2022	07/15/22	08/15/22	100%	Pacificorp time hard to distinguish	$3,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Logging Inspections	MU 6	Annual Plan	7/1/2022	9/30/2022	08/01/22	09/30/22	100%	Pacificorp time hard to distinguish	$3,500.00	$0.00
WHMP Forestry and Forestry	Inspections and harvest planning	Timber Harvest Area Logging Inspections	MU 35	Annual Plan	7/1/2022	9/30/2022	7/15/202	07/31/22	100%	Pacificorp time hard to distinguish	$3,500.00	$0.00
WHMP Forestry and Forestry	Planting	Interplanting a prior timber harvest area	194030CC	Annual Plan	2/1/2022	4/30/2022	03/21/22	04/08/22	100%		$13,125.00	$4,742.84
WHMP Forestry and Forestry	Planting	Interplanting a prior timber harvest area	194031CC	Annual Plan	2/1/2022	4/30/2022	03/21/22	04/08/22	100%		$4,500.00	$4,742.84
WHMP Forestry and Forestry	Planting	Interplanting a prior timber harvest area	194032CC	Annual Plan	2/1/2022	4/30/2022	03/21/22	04/08/22	100%		$5,800.00	$4,742.84
WHMP Forestry and Forestry	Planting	Purchase seedling for the following year timber harvest areas	2022 Timber Harvest Areas	Annual Plan	5/1/2022	10/31/2022			0%		$20,000.00	$0.00
WHMP Forestry and Forestry	Site Preparation	Scarification following timber harvest to promote grass seed and create slash piles	211553CT	Annual Plan	7/1/2022	9/30/2022			0%		$0.00	$0.00
WHMP Forestry and Forestry	Site Preparation	Scarification following timber harvest to promote grass seed and create slash piles	MU 3	Annual Plan	7/1/2022	9/30/2022	08/19/22	09/23/22	100%		$20,000.00	$9,007.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Site Preparation	Scarification following timber harvest to promote grass seed and create slash piles	MU 6	Annual Plan	7/1/2022	9/30/2022	09/26/22	10/21/22	100%	Still have scarification in 2023 to complete	$20,000.00	$57,414.26
WHMP Forestry and Forestry	Site Preparation	Scarification following timber harvest to promote grass seed and create slash piles	MU 35	Annual Plan	7/1/2022	9/30/2022	08/08/22	09/30/22	100%		$30,000.00	$64,158.76
WHMP Forestry and Forestry	Site Preparation	Transport Habitat logs to timber harvest areas	TBD	Non Annual Plan Task	7/1/2022	10/31/2022	09/19/22	09/23/22	50%	Mu 35	$0.00	$4,990.00
WHMP Forestry and Forestry	Site Preparation	Purchase Plastic	TBD	Non Annual Plan Task	6/1/2022	9/1/2022			0%		$0.00	$91.03
WHMP Forestry and Forestry	Site Preparation	Cover piles with plastic	MU 3	Non Annual Plan Task	8/1/2022	10/1/2022	11/01/22	11/17/22	100%		$5,000.00	$644.88
WHMP Forestry and Forestry	Site Preparation	Cover piles with plastic	MU 6	Non Annual Plan Task	8/1/2022	10/1/2022	10/07/22	11/10/22	100%	Purchase plastic to wrap the plastic so it can be moved with forklift	$5,000.00	$18,369.99
WHMP Forestry and Forestry	Site Preparation	Cover piles with plastic	MU 35	Non Annual Plan Task	8/1/2022	10/1/2022	09/14/22	10/20/22	100%	Wilco Twine put on this one	$25,000.00	$24,720.34
WHMP Forestry and Forestry	Forage Seeding	Purchase forage seed mix for timber harvest area	2022 Timber Harvest	Annual Plan	8/1/2022	8/31/2022	04/01/22	10/20/22	100%	Ordered 500 lb of CT mix	$6,000.00	$11,916.93
WHMP Forestry and Forestry	Forage Seeding	Spread forage seed mix on burn piles	TBD	Non Annual Plan Task	9/1/2022	10/31/2022			0%		$1,000.00	$0.00
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	211011	Annual Plan	1/1/2022	12/31/2022	02/01/22	02/21/22	100%		$500.00	$307.87

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Seedling Maintenance	Plantskydd	133709 and MU 10	Non Annual Plan Task	1/1/2022	12/31/2022	07/04/22	07/04/22	100%	spray ichabond wetland and maple tops	$0.00	$444.58
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	211012	Annual Plan	1/1/2022	12/31/2022	2/21/022	02/21/22	100%		$500.00	$307.87
WHMP Forestry and Forestry	Seedling Maintenance	Retube THPL	211013	Annual Plan	1/1/2022	12/31/2022	02/21/22	02/21/22	100%		$500.00	$307.87
WHMP Forestry and Forestry	Seedling Maintenance	Invasive Species Grasses (Spray Oust and Pendulum)	211011	Annual Plan	2/1/2022	10/31/2022	03/04/22	03/10/22	100%		$1,500.00	$1,119.96
WHMP Forestry and Forestry	Seedling Maintenance	Invasive Species Grasses (Spray Oust and Pendulum)	211012	Annual Plan	2/1/2022	10/31/2022	03/04/22	03/10/22	100%		$1,500.00	$1,119.96
WHMP Forestry and Forestry	Seedling Maintenance	Invasive Species Grasses (Spray Oust and Pendulum)	211013	Annual Plan	2/1/2022	10/31/2022	03/04/22	03/10/22	100%		$1,500.00	$1,119.96
WHMP Forestry and Forestry	Seedling Maintenance	Invasive Species Grasses (Spray Oust and Pendulum)	200938	Annual Plan	2/1/2022	10/31/2022	02/07/22	02/07/22	100%		$1,500.00	$606.19
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Priority 1 = Spray RUAR, CYSC, ALRU	170111 CC	Annual Plan	4/1/2022	11/15/2022	07/21/22	07/21/22	100%		$1,000.00	$1,255.43
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Priority 1 =Spray RUAR, CYSC, ALRU	170112 CC	Annual Plan	4/1/2022	11/15/2022	07/18/22	07/20/22	100%		$2,500.00	$6,149.98
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Priority 1 =Spray CYSC, PHAM, RUAR	200234 CT	Annual Plan	4/1/2022	11/15/2022	07/22/22	07/22/22	100%		$2,500.00	$2,522.34

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	No priority ACCI competing seedlings	MU 36, 37, and 40 timber harvest areas	Non Annual Plan Task	4/1/2022	11/30/2022	03/28/22	07/06/22	100%	Cutting away competting ACCi	$0.00	$15,849.20
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Priority 1 =Spray BUDA, RUAR	130450 CC	Annual Plan	4/1/2022	11/15/2022	07/25/22	07/28/22	100%		$1,500.00	$3,174.65
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Priority 1 =Spray RUAR, CYSC	170776 CC	Annual Plan	4/1/2022	11/15/2022	07/29/22	07/29/22	100%		$500.00	$894.13
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, ALRU = Prioirty 1	200938 CC	Annual Plan	4/1/2022	11/15/2022	07/29/22	07/29/22	100%		$1,000.00	$1,676.44
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, RUAR= Prioirty 1	200944 CT	Annual Plan	4/1/2022	11/15/2022	07/17/22	08/22/22	100%		$2,300.00	$2,413.17
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray PHAR	101127CC	Non Annual Plan Task	4/1/2022	11/15/2022	07/17/22	07/17/22	100%		$2,400.00	$993.21
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, CYSC, ALRU = Prioirty 1	141007 CC	Annual Plan	4/1/2022	11/15/2022	08/11/22	08/23/22	100%		$2,400.00	$5,951.87
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, CYSC, ALRU = Prioirty 1	141008 CC	Annual Plan	4/1/2022	11/15/2022	08/23/22	08/24/22	100%		$1,000.00	$1,789.56
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, CYSC, ALRU = Prioirty 1	141010 CT	Annual Plan	4/1/2022	11/15/2022	08/23/22	08/24/22	100%		$500.00	$500.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, PHAR = Priority 1	891535 CC	Annual Plan	4/1/2022	11/15/2022	08/25/22	08/26/22	100%	Spray RUAR only	$2,400.00	$2,232.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, ALRU = Prioirty 1	181549 CC	Annual Plan	4/1/2022	11/15/2022	08/24/22	08/25/22	100%		$1,200.00	$2,217.12
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 1	921632 CC	Annual Plan	4/1/2022	11/15/2022	08/26/22	08/31/22	100%		$500.00	$2,118.45
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, CYSC = Priority 1	991701 CC	Annual Plan	4/1/2022	11/15/2022	08/29/22	08/29/22	100%		$2,800.00	$2,751.91
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, RUAR, PHAR = Priority 1	101708 CC	Annual Plan	4/1/2022	11/15/2022	08/30/22	08/30/22	100%		$500.00	$2,141.19
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, RUAR, ALRU = Priority 1	161905 CT	Annual Plan	4/1/2022	11/15/2022	06/17/22	06/17/22	100%		$1,200.00	$649.36
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, ALRU = Priority 1	192701 CC	Annual Plan	4/1/2022	11/15/2022	08/31/22	09/06/22	100%	Sprayed POTR too	$2,100.00	$2,054.85
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, ALRU = Priority 1	192702 CT	Annual Plan	4/1/2022	11/15/2022	08/31/22	08/31/22	100%		$800.00	$1,130.13
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, RUAR, ALRU, LALA = Priority 1	033804 CC	Annual Plan	4/1/2022	11/15/2022	09/06/22	09/07/22	100%		$6,500.00	$3,255.59
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	CYSC, ALRU, RUAR = Priority 1	163806 CC	Annual Plan	4/1/2022	11/15/2022	09/07/22	09/12/22	100%		$700.00	$3,880.68
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 2	170107 CT	Annual Plan	4/1/2022	11/15/2022	09/13/22	09/13/22	100%		$1,000.00	$1,386.05

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, CYSC, ALRU = Priority 2	150520 CT	Annual Plan	4/1/2022	11/15/2022	09/14/22	09/14/22	100%		$3,200.00	$3,581.72
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 2	050770 CC	Annual Plan	4/1/2022	11/15/2022	09/19/22	09/20/22	100%		$2,600.00	$4,903.75
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, ALRU = Priority 2	181548 CT	Annual Plan	4/1/2022	11/15/2022	09/26/22	10/03/22	100%		$2,600.00	$6,246.06
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, PHAM = Priority 2	091703 CC	Annual Plan	4/1/2022	11/15/2022			0%		$2,400.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 2	161906 CT	Annual Plan	4/1/2022	11/15/2022			0%		$700.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR, CYSC = Priority 2	161907 CT	Annual Plan	4/1/2022	11/15/2022			0%		$500.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RULA, RUAR, CYSC = Priority 2	161908 CT	Annual Plan	4/1/2022	11/15/2022			0%		$400.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, ALRU = Priority 2	043762 CC	Annual Plan	4/1/2022	11/15/2022			0%		$3,000.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 2	053802 CC	Annual Plan	4/1/2022	11/15/2022			0%		$5,500.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC = Priority 2	194032 CC	Annual Plan	4/1/2022	11/15/2022			0%		$2,600.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, Spray RUAR = Priority 3	020110 CC	Annual Plan	4/1/2022	11/15/2022			0%		$1,000.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 3	030447 CC	Annual Plan	4/1/2022	11/15/2022			0%		$2,600.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray PHAR = Priority 3	050771 CC	Annual Plan	4/1/2022	11/15/2022			0%		$250.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray BUDA, PTAQ = Priority 3	160773 CC	Annual Plan	4/1/2022	11/15/2022			0%		$2,800.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 3	980836 CC	Annual Plan	4/1/2022	11/15/2022			0%		$1,000.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	PHAR = Priority 3	141009 CC	Annual Plan	4/1/2022	11/15/2022			0%		$2,600.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 3	091705 CC	Annual Plan	4/1/2022	11/15/2022			0%		$1,200.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC = Priority 2	063309 CC	Annual Plan	4/1/2022	11/15/2022			0%		$4,600.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC, LALA, PTAQ = Priority 3	053801 CC	Annual Plan	4/1/2022	11/15/2022			0%		$3,600.00	$0.00
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray RUAR = Priority 4	021236 CC	Annual Plan	4/1/2022	11/15/2022			0%		$1,900.00	$0.00

PROJECT DETAILS							DELIVERABLES				Costs	
Budget Category	Task Category	Task Description	Location	Priority	Date Work is to begin	Date Work to be completed	Date work Began	Date work completed	% Complete	Comments	Budget Costs	Actual Costs
WHMP Forestry and Forestry	Invasive Plant Species - competing vegetation	Spray CYSC = Priority 4	143961 CC	Annual Plan	4/1/2022	11/15/2022			0%		$4,200.00	$0.00
WHMP Forestry and Forestry	Pre-Commercial Thinning Pruning	PCT Priority 4	113319CC	Annual Plan	1/1/2022	12/31/2022			0%		$1,000.00	$0.00

Budget Category	Authorized Budget	Cost	Difference between Budget and Cost	Percent of budget spent (SAP/Authorized Budget)
WHMP Forestry	$300,000.00	$235,579.71	$64,420.29	79%
Orchard	$21,500.00	$19,827.63	$1,672.37	92%
Adminstration	$100,000.00	$72,750.53	$27,249.47	73%
Unique Area	$15,000.00	$4,793.02	$10,206.98	32%
Old Growth	$1,000.00	$196.00	$804.00	20%
Wetland	$50,000.00	$32,465.77	$17,534.23	65%
Riparian	$25,000.00	$9,056.49	$15,943.51	36%
Public Access	$50,000.00	$18,960.46	$31,039.54	38%
Shrubland	$6,000.00	$2,409.37	$3,590.63	40%
Transmission Line ROW	$50,000.00	$53,909.34	-$3,909.34	108%
Farm Meadows and Idle	$75,000.00	$68,884.75	$6,115.25	92%
Monitoring	$10,000.00	$18,882.56	-$8,882.56	189%
Raptor	$55,000.00	$44,636.51	$10,363.49	81%
Invasive Plant Species	$15,000.00	$26,894.64	-$11,894.64	179%
WHMP Budget	$773,500.00	$609,246.78	$164,253.22	
Total Percent of WHMP budget spent		78.76%		

Appendix B

2022 Annual Report Comment Matrix

Commenter	Comment Number	Location	Comment	Response
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	1	Page 4: 4.2 Management Actions	The 2023 Plan 6.2 Management Actions (Page 3) states: "Bullfrog monitoring and management will continue this year, with Visual Encounter Surveys (VES) at Frasier Creek wetlands (Cedar Grove, Chestnut, Road, Banker's, Cross Road, Borrow Area, and Pumphouse Ponds) (Muths 2011). The objectives will be to learn more about the population and development of bullfrog larva in these ponds to ensure that draining the wetlands is not selecting for a rapidly developing genotype (Adams and Pearl 2007)." Please consider providing VES results for 2022 in the Report and if draining the wetlands appears to select for a rapidly developing genotype. If the VES indicates draining the wetlands is selecting for a rapidly developing genotype or if the action is not effective for reducing population numbers, please consider a discussion with the TCC to determine if alternative methods for reducing the population should be considered.	Stoplogs were reinstalled on March 25th and all boards pulled for bullfrog (*Rana catesbeiana*) on August 8th. Half of the boards were reinstalled on October 25th for and water flow control. Stop logs have two purposes identified in the WHMP (PacifiCorp 2008). One of the objectives are to reduce the effectiveness of bullfrog tadpole survival. The other is to have the ability to control the flow of water into the Frasier Wetlands. PacifiCorp has been surveying for bullfrogs in the Frasier creek wetlands since 2014. In 2014, one adult bullfrog was detected in Frasier Pond. In 2022, 5+ adult bullfrogs were detected in Frasier and at least three were detected in Cedar Grove. No other ponds in the Frasier creek wetlands have detected adults. Cedar Grove and Chestnut both had tadpoles in late June. Both ponds were dry by end of August, no dead tadpoles were detected. PacifiCorp will reevaluate this management practice to minimize bullfrogs over the next several years.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	2	Page 4: 4.2 Management Actions	"Frasier Pond's dam was replaced in summer 2019. The dam continues to be effective. The opening required cleaning out occasionally throughout 2022 and will need to continue in 2023. PacifiCorp is considering installing a log boom at Frasier Pond to reduce the lily pads clogging the dam leading into Frasier Creek." Please describe how the "opening" relates to the dam. For instance, a pipe, notch or spillway that allows water to continue flowing into Frasier Creek. This type of description will also help with understanding "lily pads clogging the dam" or opening. Also, please consider indicating the phase of the lily pads, (e.g., growing near the dam or free-floating lily pads being transported downstream). A log boom would likely be more effective for free-floating lily pads (not attached to the bed).	Frasier Wetland's dam was replaced in summer 2019. The dam continues to be effective, requiring removal of lily pads, branches, and other pond debris clogging the beaver deceiver fencing. The opening required cleaning out occasionally throughout 2022 and will need to continue in 2023 (figure 2). PacifiCorp is considering installing a log boom at in Frasier Wetland to reduce the lily pads clogging around the fencing the dam leading into Frasier Creek.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	3	Page 5: 4.2 Management Actions	"…replacement of culvert 600C2…" The original culvert design included a beaver deceiver. Was a different type of beaver control installed during replacement? If not, is there concern that beavers may block the culvert?	Beaver's had blocked the previous culvert several years before. Recent evaluation determined that there is only small portion of the stream that provides beaver habitat, there is no evidence of recent beaver activity, and the is no stream with beaver habitat in proximity. As a result no beaver deceiver was installed.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	4	Page 7: 4.2 Management Actions	"…Palustrine Forested Wetland (PFO)…Swift Canal Ponds…" Ponds along the Power Canal may hinder Cowlitz County PUD's ability to inspect the Power Canal. Please coordinate with Cowlitz County PUD to determine if there may be conflicting goals and needs for managing these ponds and how this might be resolved.	PacifiCorp will coordinate with Cowlitz County PUD for future management goals in MU 24 to determine if there may be conflicting goals and needs for managing the ponds.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	5	Page 19 20: Planting and Maintenance, Table 6	Please explain in the Reason for Difference column why you were not able to plant bitter cherry and black cottonwood in 211011 CC, 211012 CC and 211012 CC.	At the time of planting the bitter cherry and black cottonwood were not available Bigleaf maple was planted as a substitute.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	6	Page 32: 7.1.1 Access Control and Disturbance Reduction	"The gate accessing Saddle Dam is closed and locked annually on Memorial Day weekend and reopen on Labor Day weekend." Please consider expanding on gate access system and how motorized vehicles are prevented from accessing the farm from Labor Day weekend to Memorial Day weekend. This was explained at the May TCC meeting and the Report would benefit from including the explanation. For example, when the recreation area is closed to the public and the main gate to the Saddle Dam farm and recreation area is locked, the gate accessing Saddle Dam farm may be left open.	Saddle Dam Park is open to the public Memorial Day Weekend through Labor Day. The gate accessing Saddle Dam Farms within the Park is closed and locked annually during this time to restrict vehicle access.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	7	Page 18: 6.2 Forest Land Planning First Precut Surveys	See First Precut Surveys comment above. MU 18 is listed in several sections. It is not part of the 2022 activities and is not listed as a 2023 action or a 2024 first pre-cut survey. Please provide explanation for why it is included here and other sections.	MU 18 was considered for 2023 harvest. After further evaluation of the access it was determined it could not be access from PacifiCorp lands due to topography. Access would require building new roads on Washington Department of Natural Resources land or private lands to the north. As it was deferred from the 2023 timber harvest.
Peggy Miller (Washington Department of Fish and Wildlife), Eric Holman (Washington Department of Fish and Wildlife)	8	Page 45: 14.1 Monitoring Broadcast Acoustical Surveys for Northern Goshawks	Unit 3 has two timber harvest units for 2023. The area was surveyed for the second year of two consecutive years. The surveys were conducted on June 1st and July 12, 2022. An eagle was detected on both surveys noting a nest that was not detected during either helicopter surveys. Are these the two CTs that were deferred from 2022?	One of the two units in MU 3 was deferred to 2023. That unit was 220328CC (Calamity Jane).

Appendix C

Cover Forage Model

1	Updated 3/3/2023		MANAGEMENT UNITS														
2		TOTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3	**COVER**																
4	Old Growth (>26" dbh)	504.1		33.9	35.2				30.0				23.1	15.2			8.8
5	Mature Conifer (21-26" dbh)	689.7	3.6	17.5	4.2	30.8		70.4			22.9	8.3	30.4	29.0	51.5	49.5	35.1
6	Mature Conifer (Thinned) > than 5 years since commerically thinned	110.8		5.1	5.9		15.3	62.9					4.8	3.1			11.6
7	Mid-Successional Conifer (16-20" dbh)	2340.4	25.5	32.4	22.3	26.3	130.0	196.1	62.9	61.2	56.0	56.8	8.0	11.7	60.9	6.0	60.2
8	Mid-Successional Conifer (Thinned) > than 5 years since commerically thinned	125.4	10.9			2.2	28.5	50.1	10.1	2.5							
9	Upland Mixed (conifer 30-70%)	2152.8	20.0	76.7	84.2	84.3	18.6	117.8	233.0	138.3	51.0	38.1	81.6	113.2	86.4	18.4	125.4
10	Upland Mixed (Thinned) > than 5 years since commerically thinned	9.4							3.4				1.9				
11	Young Upland Mixed	27.2							3.2			4.1				8.1	
12	Pole Conifer (8-15" dbh)	2860.8	14.4	12.5	42.2	70.3	21.8	49.2	63.3	11.8	19.5	329.8	57.6	56.0			70.4
13	Pole Conifer (Thinned); (8-15" dbh) > 5 years since commercially thinned	55.7					30.4					4.0					
14	Lodge Pole Pine	71.7															
15	Riparian Mixed	215.8			14.0	7.5		14.3	5.5	7.7	10.5			1.0			38.5
16	subtotal	9163.9	74.4	178.1	208.0	221.4	244.6	560.9	411.5	221.4	159.9	441.1	207.4	229.3	198.7	82.1	350.0
17	**FORAGE**																
18	Young Upland Deciduous	41.5				14.4	2.5	1.0				1.3	1.0	2.8		3.5	11.3
19	Mature Conifer (Thinned) < 5 years since commercially thinned	1.6															1.6
20	Pole Conifer (Thinned); (8-15" dbh) < 5 years since commercially thinned	243.6	7.8	22.1	21.8			29.4			63.1						47.6
21	Upland Mixed (Thinned) < than 5 years since commerically thinned	1.6															
22	Mid-Successional Conifer (Thinned) < than 5 years since commerically thinned	1.7								1.7							
23	Riparian Shrub	4.1															
24	Riparian Deciduous	173.9	5.6	2.7			11.3	10.8	0.5	2.0		17.7		2.5			9.5
25	Upland Deciduous (>70% deciduous)	1517.1		7.8	19.2	34.4	22.8	39.1	10.9	1.6	62.3	18.8	116.8	93.5	0.9	11.4	62.6
26	Oak Woodland	10.3	0.6				2.0	7.3	0.4								
27	Right-Of-Way	234.1	5.5	18.0	18.1	16.3	3.0	33.3	4.7		11.9			11.6			
28	Meadow	134.5			6.0			0.6	4.4	2.5		15.8	6.0	17.4		2.5	3.6
29	Shrub	53.2			6.0	3.7	3.5	3.2					1.2			2.9	
30	Orchard	8.6						1.3			1.1	1.3	0.4	2.4			2.2
31	Agriculture	30.2										30.2					
32	Seedling / Sapling (5-8" dbh)	1957.8	10.1	24.7	12.6	24.6	50.8	72.5	62.4	23.1	24.5		21.9	71.5			1.2
33	Seedling / Sapling (New) (<4"dbh)	1819.7	26.6		7.0	28.9	17.3	55.1	28.7	13.1	8.3	85.8	28.7			20.4	31.3
34	Wetland (Palustrine Wetland)	115.2						0.2		5.5	3.7	8.0	7.7	2.8			
35	subtotal	6348.5	56.3	75.3	90.6	122.4	113.2	253.7	112.1	49.4	174.9	179.0	183.7	204.6	0.9	40.8	170.8
36	COVER & FORAGE TOTAL		130.7	253.4	298.6	343.8	357.8	814.6	523.6	270.9	334.8	620.1	391.1	433.8	199.6	122.9	520.9
37	**NEITHER**																
38	Lacustrine Unconsolidated Bottom	0.0															
39	Riverine Unconsolidated Shore	25.3															
40	Sparse veg.; Disturbed; Developed	44.5		0.6				0.1	1.4	1.5	2.2	5.1	0.8		1.1		
41	Highway ROW	81.2		4.2		2.9	0.7	8.1		2.4				2.2			
42	Recreation	53.5						1.6		3.6	0.3	0.4			1.7		
43	Rock Outcropping and Talus	34.9					1.9	3.9	1.7						2.3		1.4
44	Residential	6.6								0.6	1.6						
45	Open Water	47.2						0.2			1.6	20.2	6.9				
46	subtotal	293.0	0.0	4.8	0.0	2.9	2.7	13.9	3.1	8.2	5.6	25.6	7.7	2.2	5.0	0.0	1.4
47	**TOTAL ACRES**	**15,805.5**	**130.7**	**258.1**	**298.6**	**346.7**	**360.5**	**828.5**	**526.7**	**279.0**	**340.4**	**645.7**	**398.8**	**436.1**	**204.6**	**122.9**	**522.3**
48	**MANAGEABLE ACRES**	**5,318.8**	70.5	79.8	96.6	170.3	179.5	377.8	119.0	119.3	186.7	254.1	137.5	173.9	9.7	12.9	142.1
49	**PERCENT OF MANAGEABLE ACRES**	**34%**	54%	31%	32%	49%	50%	46%	23%	43%	55%	39%	34%	40%	5%	11%	27%
50	**COVER / FORAGE RATIO**		0.57	0.70	0.70	0.64	0.68	0.69	0.79	0.82	0.48	0.71	0.53	0.53	1.00	0.67	0.67
51	Lewis River Wildlife Habitat Management Plan recommended ratio (+/-5%)		50:50	70:30	60:40	55:45	50:50	60:40	80:20	60:40	50:50	70:30	70:30	60:40	OGC	90:10	75:25
52	Acres to achieve 5% permanent forage		3.52	3.99	4.83	8.52	8.97	18.89	5.95	5.97	9.34	12.70	6.88	8.70	0.49	0.65	7.11
53	Current Permanent Forage Acres		6.1	18.0	30.1	20.1	8.5	45.8	9.5	8.0	16.7	55.4	15.3	34.2	0.0	5.4	5.8
54	Meets (Y/N) permanent Forage goal		Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	N
55	Most recent Timber Harvest		2017	2020	2022	2013	2015	2022	2017	2017	2020	2021	2010	2005		2017	2021
56	Percent of SS/SS1 in Management Unit		28%	10%	7%	15%	19%	15%	17%	13%	10%	13%	13%	16%	0%	17%	6%

1	Updated 3/3/2023	MANAGEMENT UNITS																								
2		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31-1	31-2	31-3	31-4	31-5	31-6	31-7	31-8	31-9	31-12
3	**COVER**																									
4	Old Growth (>26" dbh)	35.6	17.9	6.6		12.7	3.8	6.9	13.1					6.1			6.1	8.5								0.1
5	Mature Conifer (21-26" dbh)	36.2	47.7	37.3		31.1	31.8	26.8	39.0			5.3		6.2		9.1	10.0	5.1				1.5	1.0	0.4		
6	Mature Conifer (Thinned) > than 5 years since commerically thinned																									
7	Mid-Successional Conifer (16-20" dbh)		86.4	112.7	54.4	123.4	44.1	151.3	13.5		1.5	144.3	149.0	73.9									4.7		15.0	
8	Mid-Successional Conifer (Thinned) > than 5 years since commerically thinned													21.0												
9	Upland Mixed (conifer 30-70%)	130.2	77.4	98.5	12.8	125.5	42.1	85.2	58.9	4.0		25.8	33.4		70.6	37.6	8.5	15.7		4.2			10.3			
10	Upland Mixed (Thinned) > than 5 years since commerically thinned				4.1																					
11	Young Upland Mixed	5.4				6.4																				
12	Pole Conifer (8-15" dbh)	63.1			6.8	432.6						53.2		22.7	8.0											
13	Pole Conifer (Thinned); (8-15" dbh) > 5 years since commercially thinned				21.2																					
14	Lodge Pole Pine						65.1			6.6																
15	Riparian Mixed					82.2	3.8			2.4		10.2	10.2					0.7			1.1	0.3				
16	subtotal	270.4	229.4	255.1	99.3	813.9	190.7	270.2	124.5	12.9	1.5	239.0	192.6	129.9	78.6	46.7	24.6	30.0	0.0	4.2	1.1	1.9	16.1	0.4	15.0	0.1
17	**FORAGE**																									
18	Young Upland Deciduous		2.5											1.2												
19	Mature Conifer (Thinned) < 5 years since commercially thinned																									
20	Pole Conifer (Thinned); (8-15" dbh) < 5 years since commercially thinned	44.4											7.3													
21	Upland Mixed (Thinned) < than 5 years since commerically thinned	1.6																								
22	Mid-Successional Conifer (Thinned) < than 5 years since commerically thinned																									
23	Riparian Shrub									4.1																
24	Riparian Deciduous	4.0	25.8				5.7			32.9	21.4			1.3	7.4			0.6		0.3						
25	Upland Deciduous (>70% deciduous)	32.2	90.7	90.4	48.9	22.8	116.0	246.6	42.3	9.8	50.3	212.7	30.6		3.9		6.6	2.6	3.6							
26	Oak Woodland																									
27	Right-Of-Way	18.2	4.6	27.9	3.5	14.0	20.7				19.6															
28	Meadow	1.3	28.0	3.7		3.8				2.0	6.6	2.3	1.2	1.0												
29	Shrub											3.6														
30	Orchard																									
31	Agriculture																									
32	Seedling / Sapling (5-8" dbh)	8.9	118.7			13.0			11.7			28.7		3.6												
33	Seedling / Sapling (New) (<4"dbh)		14.4	24.8	8.2	51.1					16.7		18.4													
34	Wetland (Palustrine Wetland)	1.0	1.5	0.4			49.9			4.2	11.3															
35	subtotal	111.6	286.3	147.3	60.6	104.6	192.4	246.6	54.0	53.0	126.0	247.3	57.5	7.1	11.3	0.0	6.6	3.1	3.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
36	COVER & FORAGE TOTAL	382.1	515.8	402.4	159.9	918.5	383.1	516.8	178.5	66.0	127.5	486.3	250.1	137.0	89.9	46.7	31.2	33.1	3.6	4.5	1.1	1.9	16.1	0.4	15.0	0.1
37	**NEITHER**																									
38	Lacustrine Unconsolidated Bottom																									
39	Riverine Unconsolidated Shore	3.0					0.1			14.2				2.0			0.5									
40	Sparse veg.; Disturbed; Developed		0.9		1.9		0.5			4.7	9.0	0.5		3.6	1.3				0.7							
41	Highway ROW		0.3	9.8	2.0	4.9	6.3			1.8	1.8	6.7	5.2	5.3			0.5									
42	Recreation			1.8	1.2		42.8																			
43	Rock Outcropping and Talus					11.4	0.3							5.7												
44	Residential		1.8	2.0	0.3		0.3																			
45	Open Water	0.5	1.2				2.8			3.6	6.7			0.2			0.4									
46	subtotal	3.5	4.2	13.6	5.4	16.3	53.2	0.0	0.0	24.2	17.4	7.2	5.2	16.8	1.3	0.0	1.5	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	**TOTAL ACRES**	**385.6**	**520.0**	**415.9**	**165.4**	**934.7**	**436.4**	**516.8**	**178.5**	**90.2**	**144.9**	**493.5**	**255.2**	**153.8**	**91.1**	**46.7**	**32.7**	**33.1**	**4.3**	**4.5**	**1.1**	**1.9**	**16.1**	**0.4**	**15.0**	**0.1**
48	**MANAGEABLE ACRES**	88.4	190.5	118.7	102.8	142.1	119.3	7.9	2.9	7.8	26.0	204.4	85.6	75.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	**PERCENT OF MANAGEABLE ACRES**	23%	37%	29%	62%	15%	27%	2%	2%	9%	18%	41%	34%	49%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
50	**COVER / FORAGE RATIO**	0.71	0.44	0.63	0.62	0.89	0.50	0.52	0.70	0.20	0.01	0.49	0.77	0.95	0.87	1.00										
51	Lewis River Wildlife Habitat Management Plan recommended ratio (+/-5%)	80:20	70:30	70:30	50:50	85:15	NSO	NSO	OGC	NSO	85:15	60:40	70:30	50:50	OGC	NSO	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB
52	Acres to achieve 5% permanent forage	4.42	9.52	5.93	5.14	7.11	0.00	0.00	0.15	0.00	1.30	10.22	4.28	3.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	Current Permanent Forage Acres	20.5	34.1	32.0	3.5	17.8	70.6	0.0	0.0	6.3	37.5	5.9	1.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	Meets (Y/N) permanent Forage goal	Y	Y	Y	N	Y	NA	NA	N	NA	Y	N	N	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
55	Most recent Timber Harvest	2021	2010	2010	2016	2019			1993		2012	2008	2019	2011												
56	Percent of SS/SS1 in Management Unit	2%	26%	6%	5%	7%	0%	0%	7%	0%	12%	6%	7%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

1	Updated 3/3/2023	MANAGEMENT UNITS												
2		31-13	31-14	31-15	31-16	32	33	34	35	36	37	38	39	40
3	**COVER**													
4	Old Growth (>26" dbh)	0.2		14.8	0.8		8.6					216.0		
5	Mature Conifer (21-26" dbh)		5.3							1.2	3.5	38.1		
6	Mature Conifer (Thinned) > than 5 years since commerically thinned						2.0							
7	Mid-Successional Conifer (16-20" dbh)				1.5	3.2	299.0		56.1	36.9	62.4	3.2	67.7	20.1
8	Mid-Successional Conifer (Thinned) > than 5 years since commerically thinned													
9	Upland Mixed (conifer 30-70%)					6.1	11.4					7.7		
10	Upland Mixed (Thinned) > than 5 years since commerically thinned													
11	Young Upland Mixed													
12	Pole Conifer (8-15" dbh)						39.5	599.0	662.1	77.6	71.4		6.1	
13	Pole Conifer (Thinned); (8-15" dbh) > 5 years since commercially thinned													
14	Lodge Pole Pine													
15	Riparian Mixed					5.9								
16	subtotal	0.2	5.3	14.8	2.2	15.1	360.5	599.0	718.2	115.7	137.4	265.0	73.8	20.1
17	**FORAGE**													
18	Young Upland Deciduous													
19	Mature Conifer (Thinned) < 5 years since commercially thinned													
20	Pole Conifer (Thinned); (8-15" dbh) < 5 years since commercially thinned													
21	Upland Mixed (Thinned) < than 5 years since commerically thinned													
22	Mid-Successional Conifer (Thinned) < than 5 years since commerically thinned													
23	Riparian Shrub													
24	Riparian Deciduous					3.9	3.5					4.4		
25	Upland Deciduous (>70% deciduous)					5.1								
26	Oak Woodland													
27	Right-Of-Way					2.9								
28	Meadow						3.2		1.6	1.3		11.7	3.9	4.0
29	Shrub							24.2	5.0					
30	Orchard													
31	Agriculture													
32	Seedling / Sapling (5-8" dbh)						310.3			202.4	250.6	96.8	160.8	352.4
33	Seedling / Sapling (New) (<4"dbh)						103.2	51.1	64.5	202.2	160.7	100.3	394.1	258.5
34	Wetland (Palustrine Wetland)						5.7	1.8	0.2		4.9		5.5	0.7
35	subtotal	0.0	0.0	0.0	0.0	11.9	426.0	77.1	71.3	405.9	416.1	213.2	564.4	615.7
36	COVER & FORAGE TOTAL	0.2	5.3	14.8	2.2	26.9	786.5	676.1	789.5	521.6	553.5	478.2	638.2	635.7
37	**NEITHER**													
38	Lacustrine Unconsolidated Bottom													
39	Riverine Unconsolidated Shore						3.6					1.8		
40	Sparse veg.; Disturbed; Developed					0.8			3.2	0.1	3.1			1.4
41	Highway ROW						16.1							
42	Recreation													
43	Rock Outcropping and Talus								6.3					
44	Residential													
45	Open Water					2.9	0.0	0.0						
46	subtotal	0.0	0.0	0.0	0.0	3.7	19.7	0.0	9.5	0.1	3.1	1.8	0.0	1.4
47	**TOTAL ACRES**	**0.2**	**5.3**	**14.8**	**2.2**	**30.6**	**806.2**	**676.2**	**799.0**	**521.7**	**556.6**	**480.0**	**638.2**	**637.1**
48	**MANAGEABLE ACRES**	0.0	0.0	0.0	0.0	0.4	221.6	260.5	334.8	229.1	150.0	136.6	350.7	333.4
49	**PERCENT OF MANAGEABLE ACRES**	0%	0%	0%	0%	1%	27%	39%	42%	44%	27%	28%	55%	52%
50	**COVER / FORAGE RATIO**						0.46	0.89	0.91	0.22	0.25	0.55	0.12	0.03
51	Lewis River Wildlife Habitat Management Plan recommended ratio (+/-5%)	RB	RB	RB	RB	RB	75:25	70:30	60:40	60:40	75:25	75:25	50:50	50:50
52	Acres to achieve 5% permanent forage	0.00	0.00	0.00	0.00	0.00	11.08	13.03	16.74	11.46	7.50	6.83	17.53	16.67
53	Current Permanent Forage Acres	0.0	0.0	0.0	0.0	2.9	8.9	26.0	6.8	1.3	4.9	11.7	9.4	4.7
54	Meets (Y/N) permanent Forage goal	NA	NA	NA	NA	NA	N	Y	N	N	N	Y	N	N
55	Most recent Timber Harvest						2011	2019	2022	2016	2016	2016	2016	2019
56	Percent of SS/SS1 in Management Unit	0%	0%	0%	0%	0%	51%	8%	8%	78%	74%	41%	87%	96%

Cover:Forage Model Instructions by ROW (updated 1/6/21)			
ROW(S)	**ROW Title**	**Instructions**	**Data Maintenance**
ROW 1	Update	Last date that GIS data was inputted into spreadsheet	Update manually as needed
ROW 3-16	COVER	These are the vegetation cover types (VCT) that provide cover habitat	Acres provided by GIS and subtotal are formulated
ROW 17-35	FORAGE	These are the VCT that provide forage habitat	Acres provided by GIS and subtotal are formulated
ROW 36	COVER AND FORAGE TOTAL	These are the total acres of cover and forage combined.	This total is formulated
ROW 37-46	NEITHER	These vegetation cover types do not provide cover nor forage and so are not included in the cover:forage calculation.	Acres provided by GIS and subtotal are formulated
ROW 47	TOTAL ACRES	These are the cover, forage, and neither acres combined and should be equal to total acres within the management unit (MU)	This total is formulated
ROW 48	MANAGEABLE ACRES	This is the total amount of acres within the management unit that are available to manage for cover:forage. This is calculated by taking the total acres of the MU and subtracting acres of that are classified as **Reserved Habitat Acres**, Restricted Acres, No Access and Marginal Access. **Reserved Habitat Acres =** VCTs that are not suitable for forestry management or timber harvest are not allowed, such as OW and OG. Restricted Acres = Acres within WHMP buffers (e.g. riparian, wetlands, shoreline, raptor nest, bald eagle roosting staging areas), Priority Mature Stand, or Conservation Covenants. No Access = Areas that are inaccessible due to location, size of suitable acres, and slope. Suitable acres that are ≥ 1000 feet from PacifiCorp-owned road (this does not include orphaned or abandoned roads, or secondary highways) will be considered to have No Access. Suitable Acres that ≤ 2.0 acres in size and ≥ 1000 feet from the nearest suitable acres will be classified as No Access. Suitable acres that >60% slope will be classified as No Access. Marginal Access = This include all areas that are difficult to access because the suitable acres are between 40-60% slope and/or >500 feet from a PacifiCorp-owned road, not including orphaned or abandoned roads, or secondary highway.	Acres provided by GIS
ROW 49	PERCENT OF MANAGEABLE ACRES	Total amount of Manageable Acres divided by the total MU acres. This provides the percent of acres available to manage for cover:forage habitat.	This total is formulated
ROW 50	COVER:FORAGE RATIO	The total acres of COVER divided by the COVER AND FORAGE TOTAL. All cells highlighted in Orange are > 5% of the WHMP recommended ratio. All cells highlighted in Yellow are < 5% of the WHMP recommended ratio. All cells with no highlighting are within 5% of the WHMP recommended ratio or no WHMP recommendation has been determined.	This total is formulated
ROW 51	Lewis River Wildlife Habitat Management Plan Recommended Cover:Forage Ratio	COVER:FORAGE ratios that were provided in the Lewis River Wildlife Habitat Management Plan Forestry Management Chapter Section 12.5.2. NSO = the entire MU is within a Northern Spotted Owl circle and cannot be managed for cover:forage. RB = the entire MU is within a riparian/shoreline buffer and cannot be managed for cover:forage. C:F ratio in red mean the C:F ratio was determined after the WHMP because lands were acquired after license issue, revised due to additional acres added to the MU after the license, or WHMP never assigned a ratio.	These are inputted from the WHMP and should not change
ROW 52	Acres to achieve 5% permanent forage	This is determined by finding 5% of the total manageable acres (ROW 48) for all management units that have a c:f recommended ratio	This total is formulated
ROW 53	Current Permanent Forage	This is determined by the sum of VCTs that regardless of succession or management activities provide forage, which include the following VCT: OW, ROW, MD, SH, AG, OR, and PW. The rows are highlighted green.	This total is formulated
ROW 54	Meets (Y/N) permanent Forage goal	If ROW 53 > then ROW 52 then Yes. If ROW 53 < then ROW 52 then No.	Some are formulated, some are manual entry.
ROW 55	Most Recent Timber Harvest	This is the year of the most recent year that timber harvest was completed.	Manually updated
ROW 56	Percent SS/SS1 of Management Unit	WHMP Section 12.5.1 Forestland Best Management Practices Page 12-10 Timber Harvest Area Scheduling and Planning bullet 3 "Distribute harvest units throughout the Management Unit in time to avoid having more than 25 percent of the clearcut areas within 10 years of age" . If the percentage is greater than 25% need to determine the amount acres less than 10 years in age before scheduling a timber harvest. MU ≥ 25% are highlighted in orange and MU < 25% in yellow.	This total is formulated. The highlighting needs to be updated.

Appendix D

2022 Timber Harvest Maps

WHMP - Unit 3

Planned Harvests

- Planned Thin
- Planned CC
- Road
- Abandon/Orphan Road
- Vegetation Cover
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal
- Shoreline
- Riparian Buffer
- Raptor Nest, Active
- Raptor Nest Buffer (660 ft)
- Raptor Nest Buffer (330 ft)
- Wetland
- Wetland Buffer

N W E S

0 200 400 Feet

1:5,000

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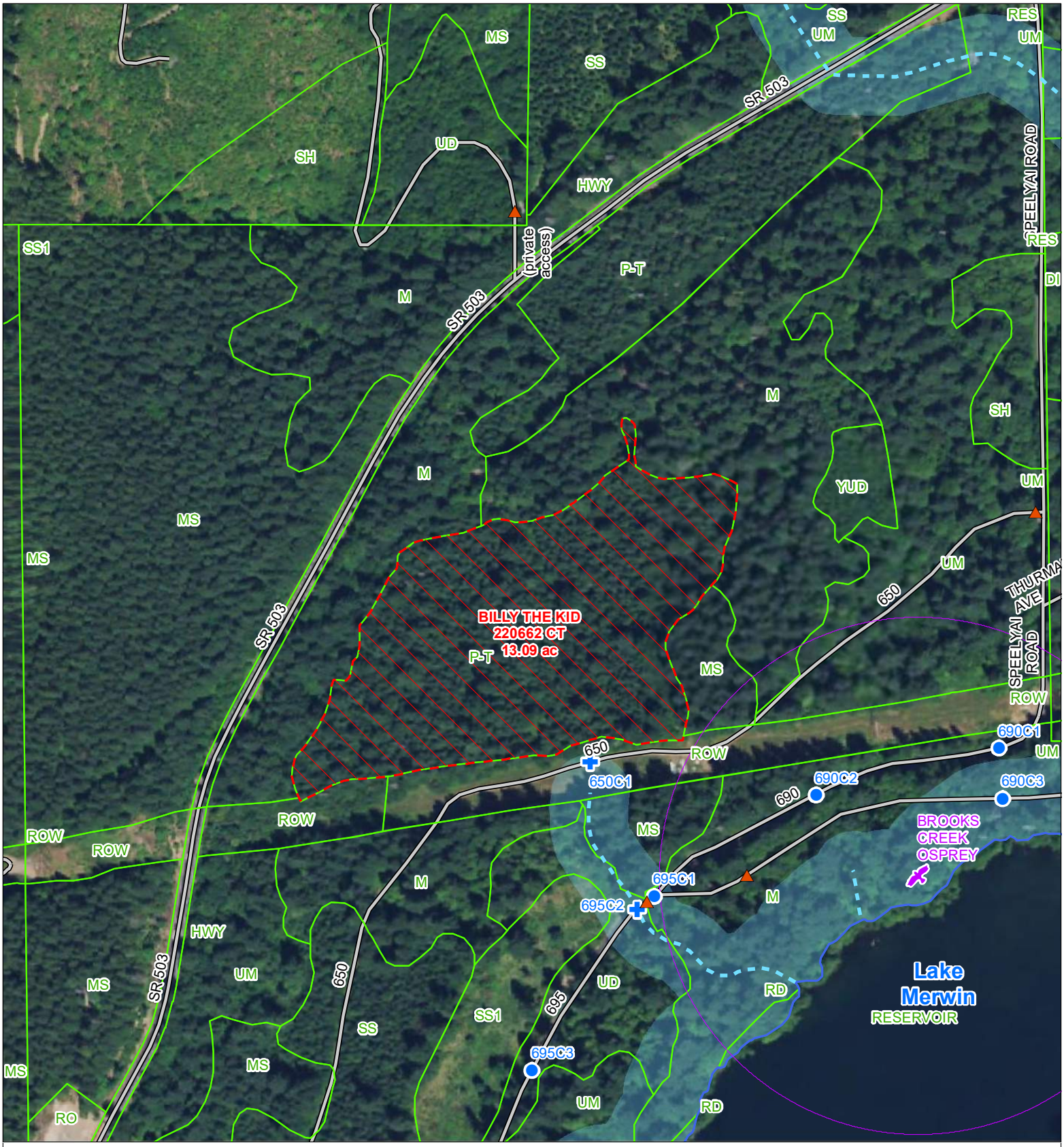
U:\Projects\Hydro\Lewis\Harvest\Unit 3\Unit 3 Aerial Map.mxd



WHMP - Unit 6

BILLY THE KID
2022 Harvest

- Harvest
- Vegetation Cover
- Non-fish Seasonal
- Shoreline
- Riparian Buffer
- Raptor Nest, Active
- Raptor Nest Buffer (660 ft)
- Road
- Gate (4)
- Ditch Culvert (5)
- Stream Culvert (2)

N W E S

0 100 200 Feet

1:4,000

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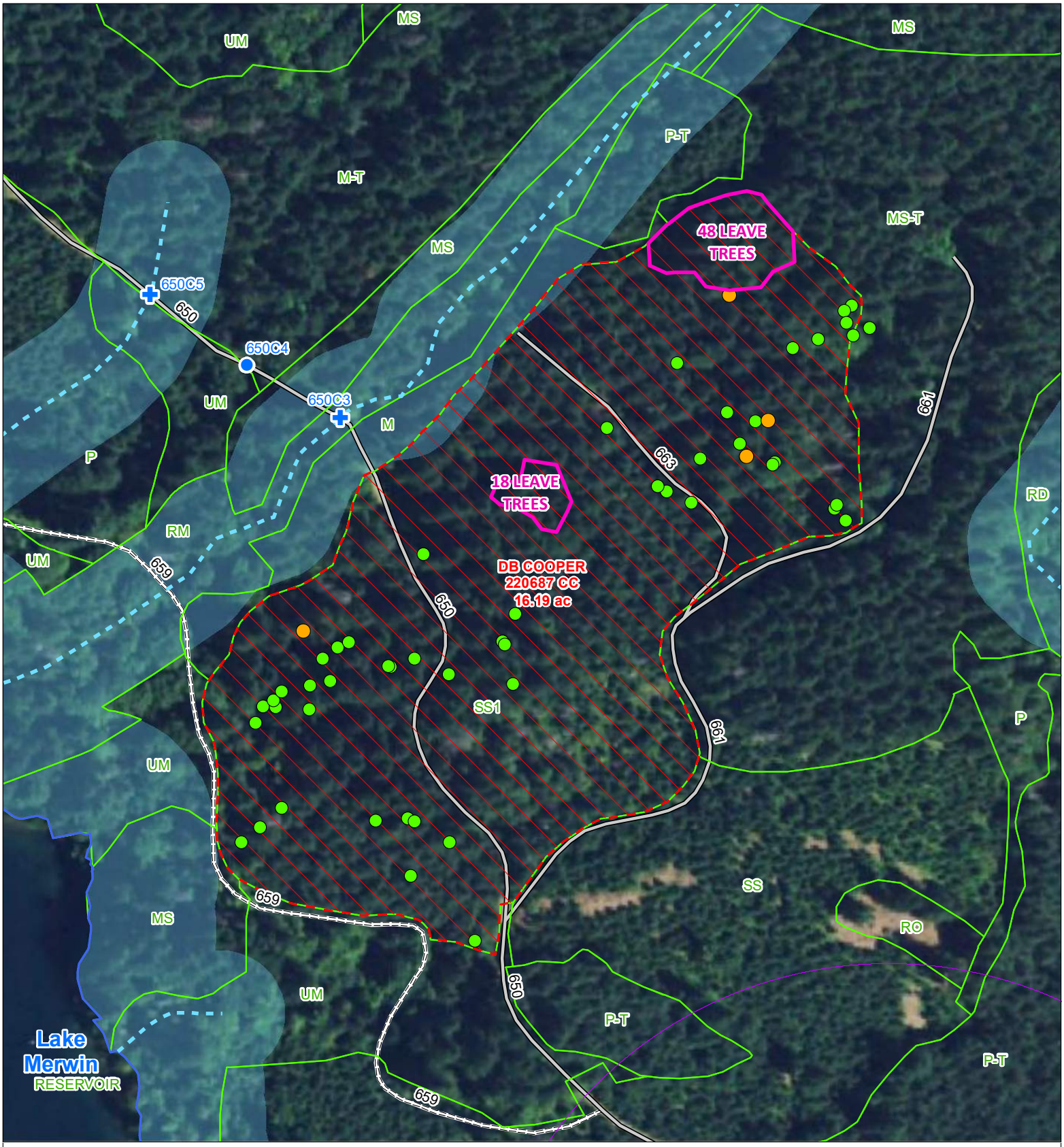

WHMP - Unit 6

DB COOPER
2022 Harvest

- Harvest
- Vegetation Cover
- Leave Tree (50)
- Snag (4)
- Special Management Area (66 leave trees)
- Non-fish Seasonal
- Shoreline
- Riparian Buffer
- Raptor Nest Buffer (660 ft)
- Road
- Abandon/Orphan Road
- Ditch Culvert (1)
- Stream Culvert (2)

Harvest Area	Leave Tree	Snag
DB COOPER 220687 CC	116	4

N W E S

0 100 200 Feet

1:2,500

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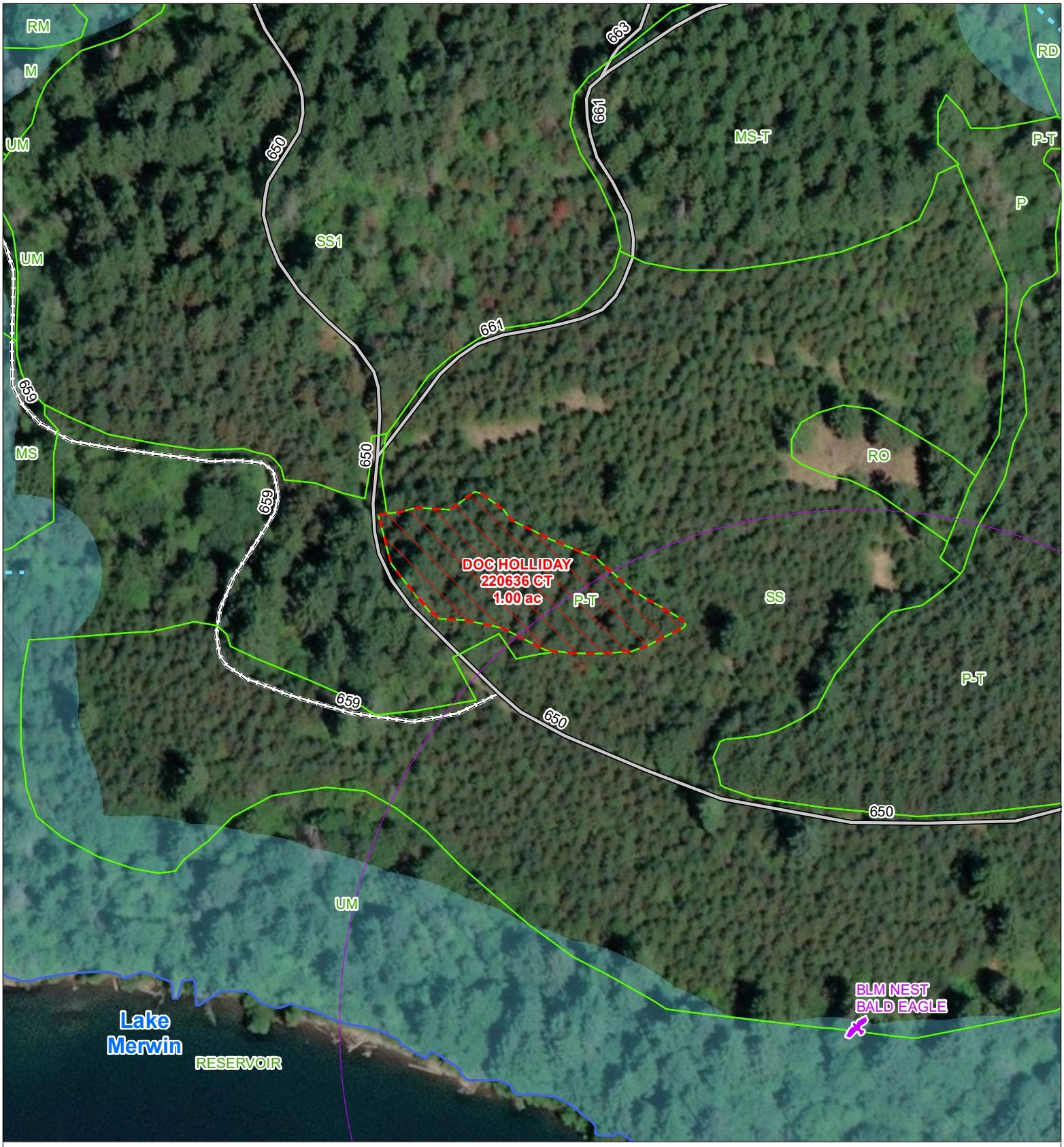

WHMP - Unit 6

DOC HOLLIDAY
2022 Harvest

- Harvest
- Vegetation Cover
- Non-fish Seasonal
- Shoreline
- Riparian Buffer
- Raptor Nest, Active
- Raptor Nest Buffer (660 ft)
- Road
- Abandon/Orphan Road

N W E S

0 100 200 Feet

1:2,000

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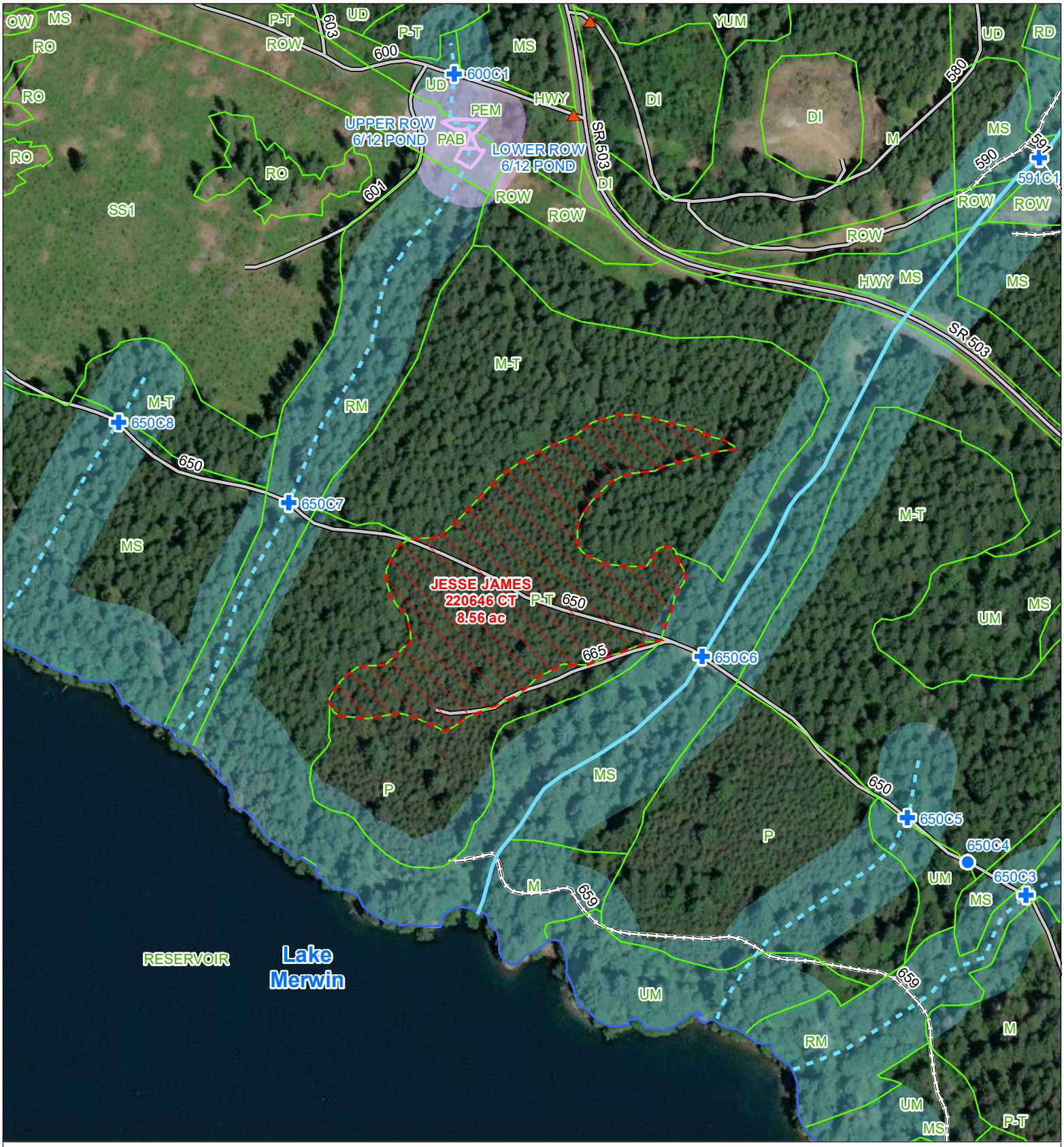

WHMP - Unit 6

JESSE JAMES
2022 Harvest

- Harvest
- Vegetation Cover
- Non-fish Perennial
- Non-fish Seasonal
- Shoreline
- Riparian Buffer
- Wetland
- Wetland Buffer
- Road
- Abandon/Orphan Road
- Gate (2)
- Ditch Culvert (1)
- Stream Culvert (7)

N W E S

0 100 200 Feet

1:4,000

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WHMP - Unit 6

WILD BILL HICKOK
2022 Harvest

- Harvest
- Vegetation Cover
- Non-fish Seasonal
- Shoreline
- Riparian Buffer
- Raptor Nest, Active
- Raptor Nest Buffer (660 ft)
- Road
- Abandon/Orphan Road
- Stream Culvert (1)

N W E S

0 100 200 Feet

1:2,000

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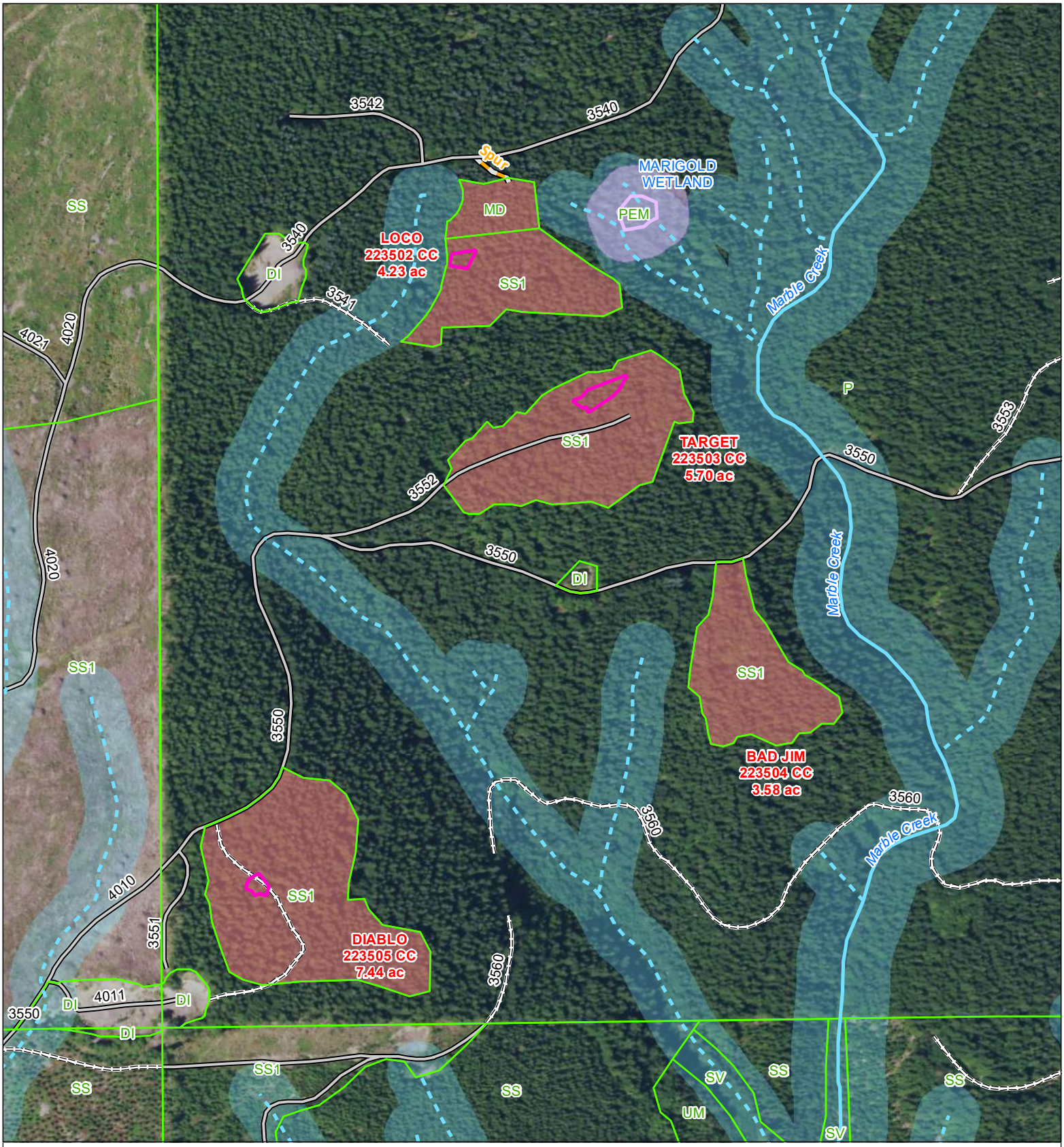

WHMP - Unit 35

2022 Harvests

- Past Harvest
- Special Management Area
- Road
- Abandon/Orphan Road
- Other Road
- Vegetation Cover
- Non-fish Perennial
- Non-fish Seasonal
- Riparian Buffer
- Wetland
- Wetland Buffer

N W E S

0 200 400 Feet

1:5,000

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Appendix E

2022 Regeneration Maps

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

- Tree Planting
- Pre-emergent Herbicide
- Pre-commercial Thin
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- Map Sheet
- PacifiCorp Ownership

1:60,000

0 0.5 1

Miles

N W E S

PACIFICORP

Swift Reservoir

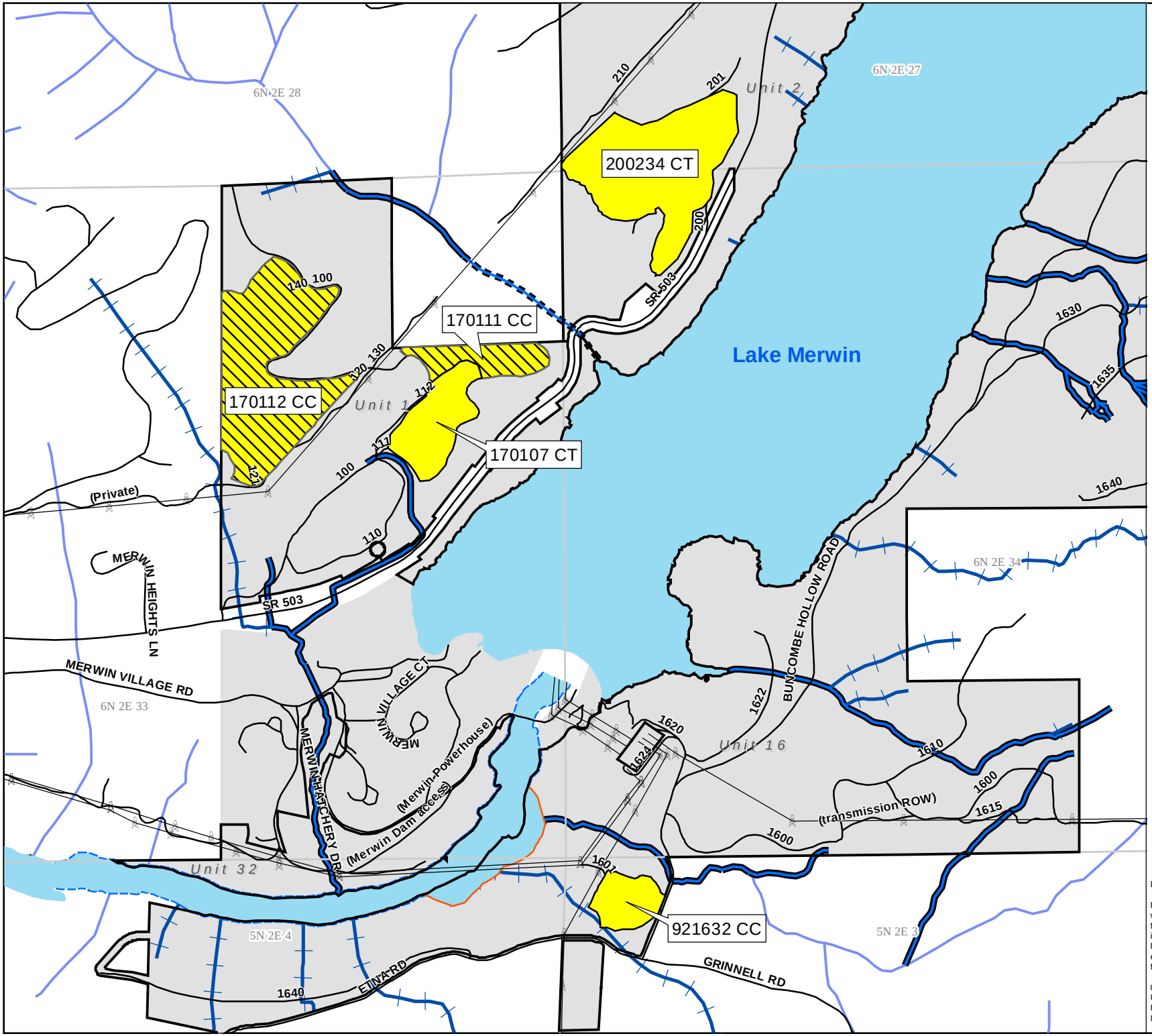
Lake Merwin

Yale Lake

Woodland

1:60,000

03/07/2023 p36722 U:\Projects\Hydro\Lewis\Forestland Regeneration\Regeneration - 2022 Report Map - Overview.mxd


Lewis River
Wildlife Habitat
Management Plan
2022 Forestland
Regeneration
Maintenance Actions
Sheet 1 of 12
Tree Planting
Pre-commercial Thin
Pre-emergent Herbicide
Seedling Protection
Herbicide/Thin
Herbicide/Seedling
Planting/Herbicide/Seedling
PacifiCorp Transmission Pole
PacifiCorp Transmission Line
Management Unit
Section
PacifiCorp Ownership
Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Road
Water Body
Wetland
Lake Merwin
200234 CT
170111 CC
170112 CC
170107 CT
921632 CC
Unit 1
Unit 2
Unit 16
Unit 32
6N 2E 28
6N 2E 27
6N 2E 33
6N 2E 34
5N 2E 4
5N 2E 3
SR 503
MERWIN HEIGHTS LN
MERWIN VILLAGE RD
MERWIN VILLAGE CT
MERWIN HATCHERY DR
(Merwin-Powerhouse)
(Merwin Dam access)
BUNCOMBE HOLLOW ROAD
(transmission ROW)
(Private)
ETNA RD
GRINNELL RD
0
500
1,000
Feet
PACIFICORP
Data projected in UTM Zone 10, NAD83, meters.
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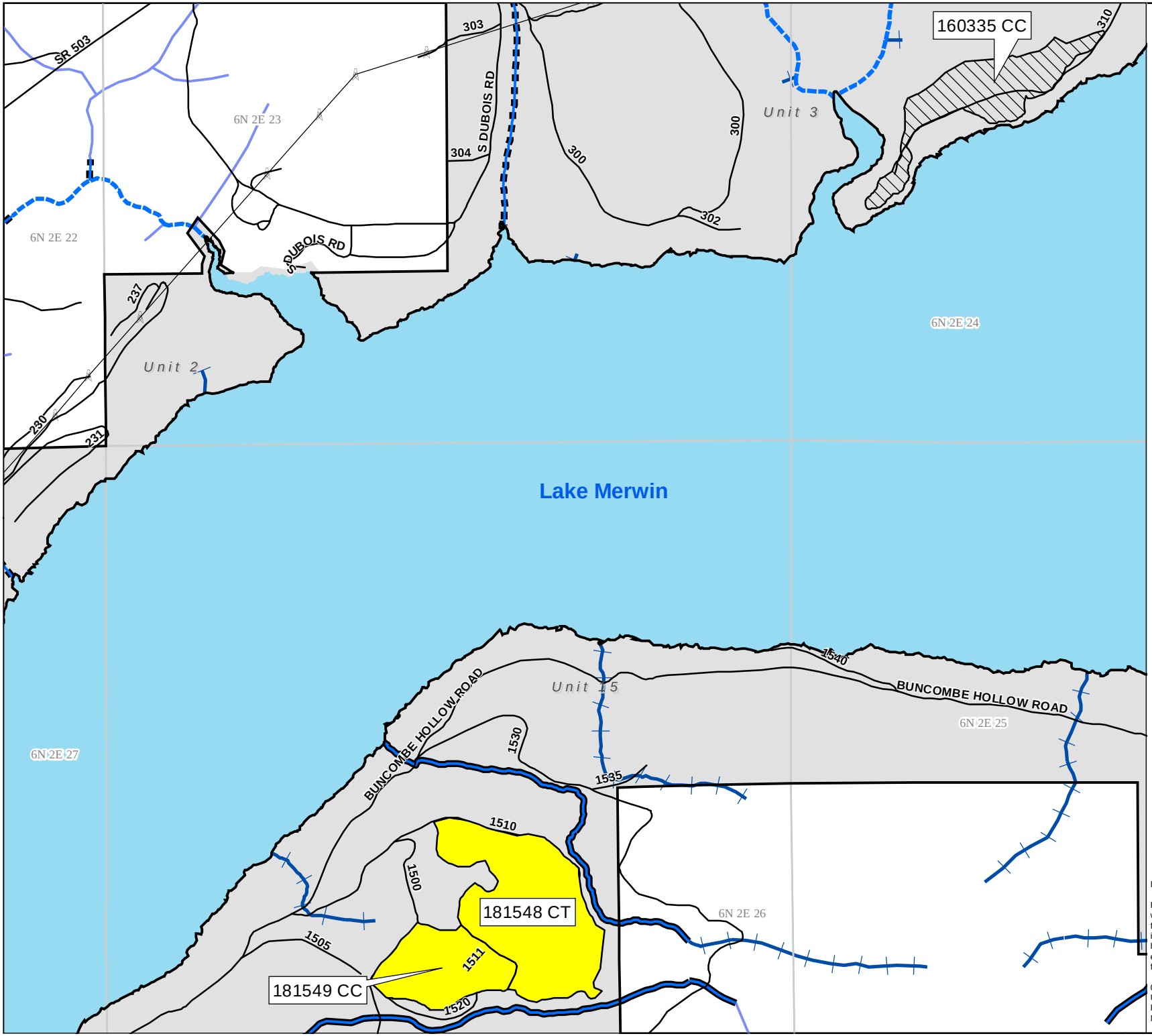

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 2 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

0 500 1,000
Feet

PACIFICORP

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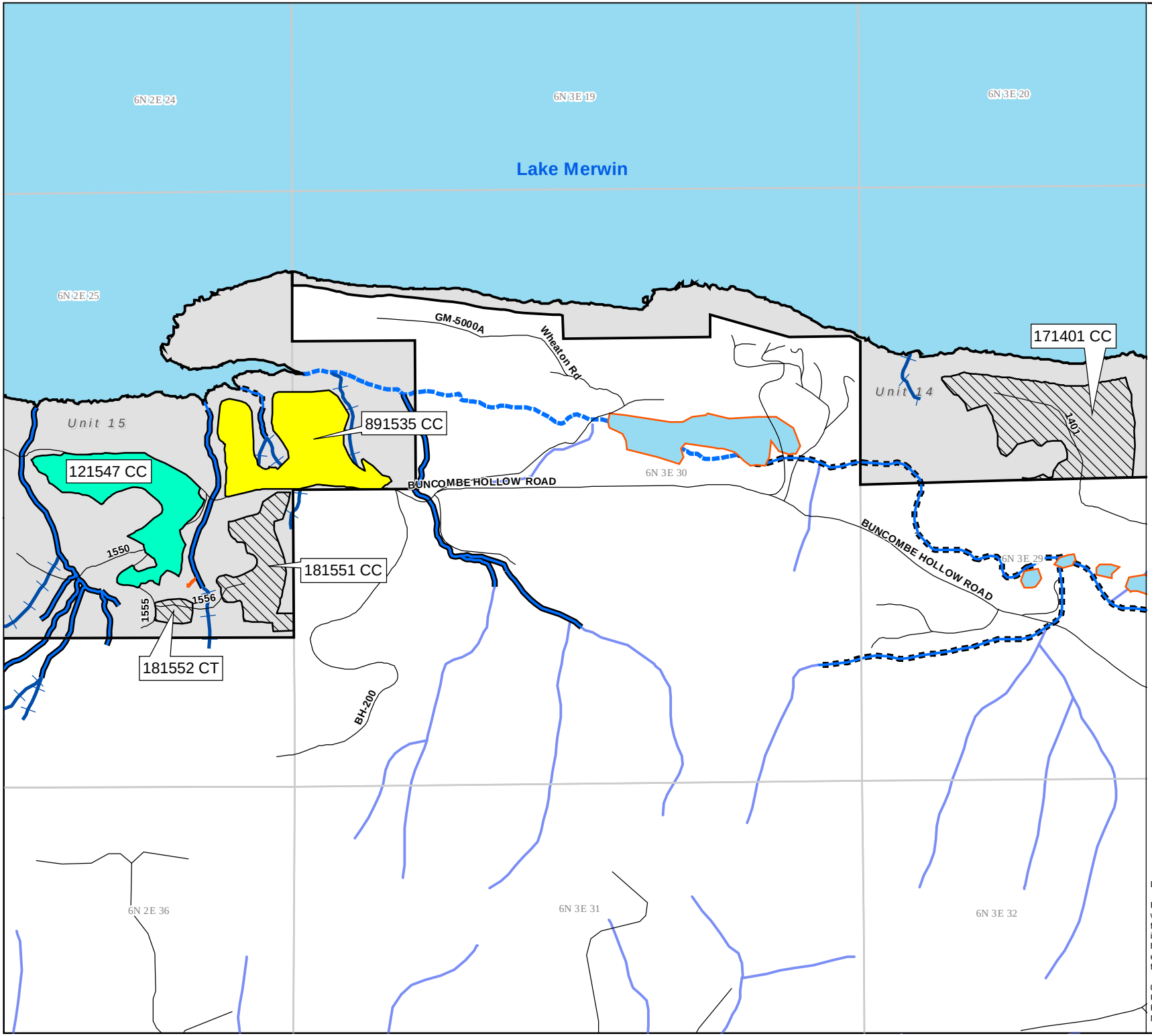

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 3 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
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- PacifiCorp Transmission Line
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- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

N W E S

0 500 1,000
Feet

PACIFICORP

Data projected in UTM Zone 10, NAD83, meters.

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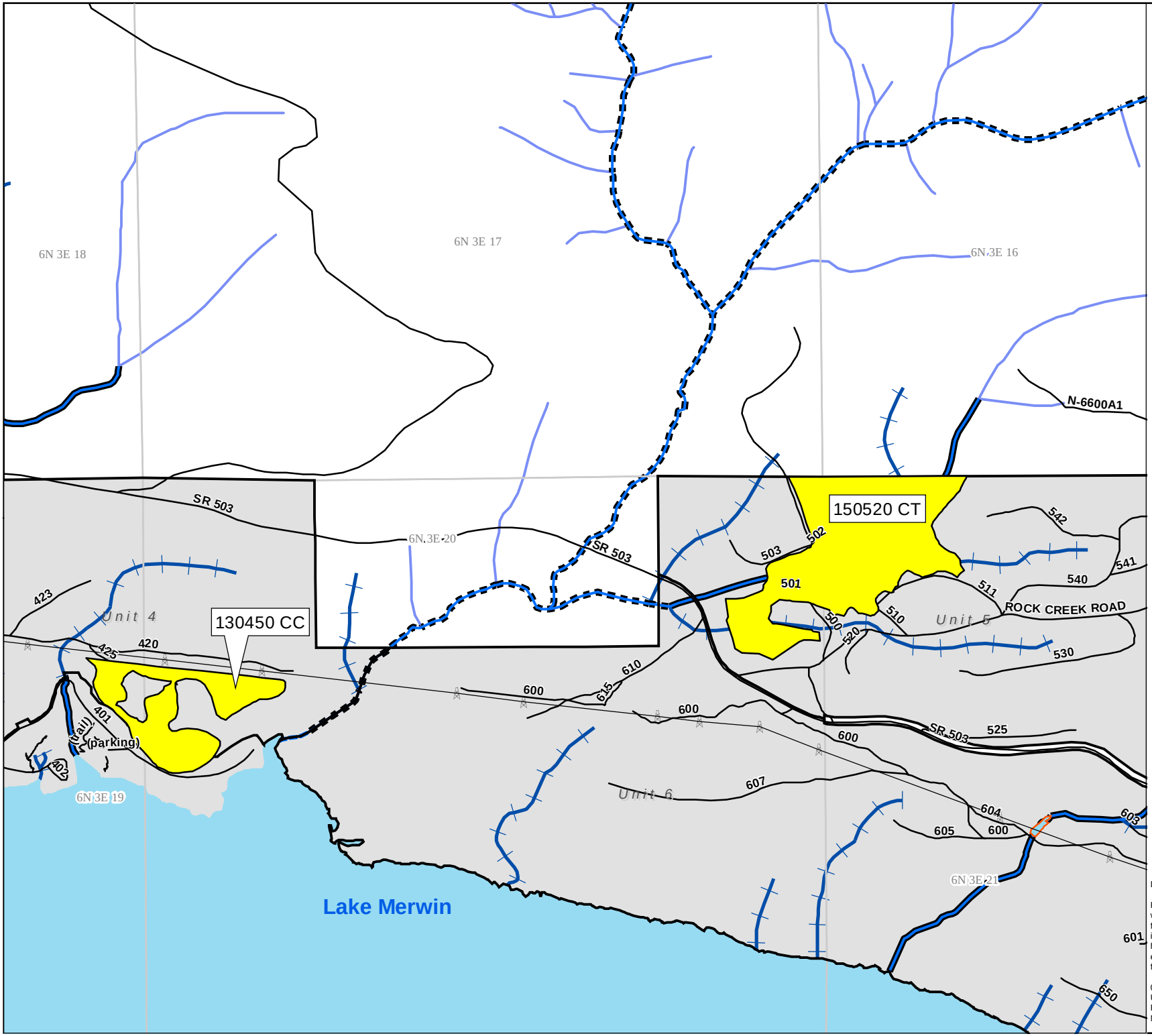

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 4 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
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- PacifiCorp Ownership
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- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

0 500 1,000
Feet

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Data projected in UTM Zone 10, NAD83, meters.

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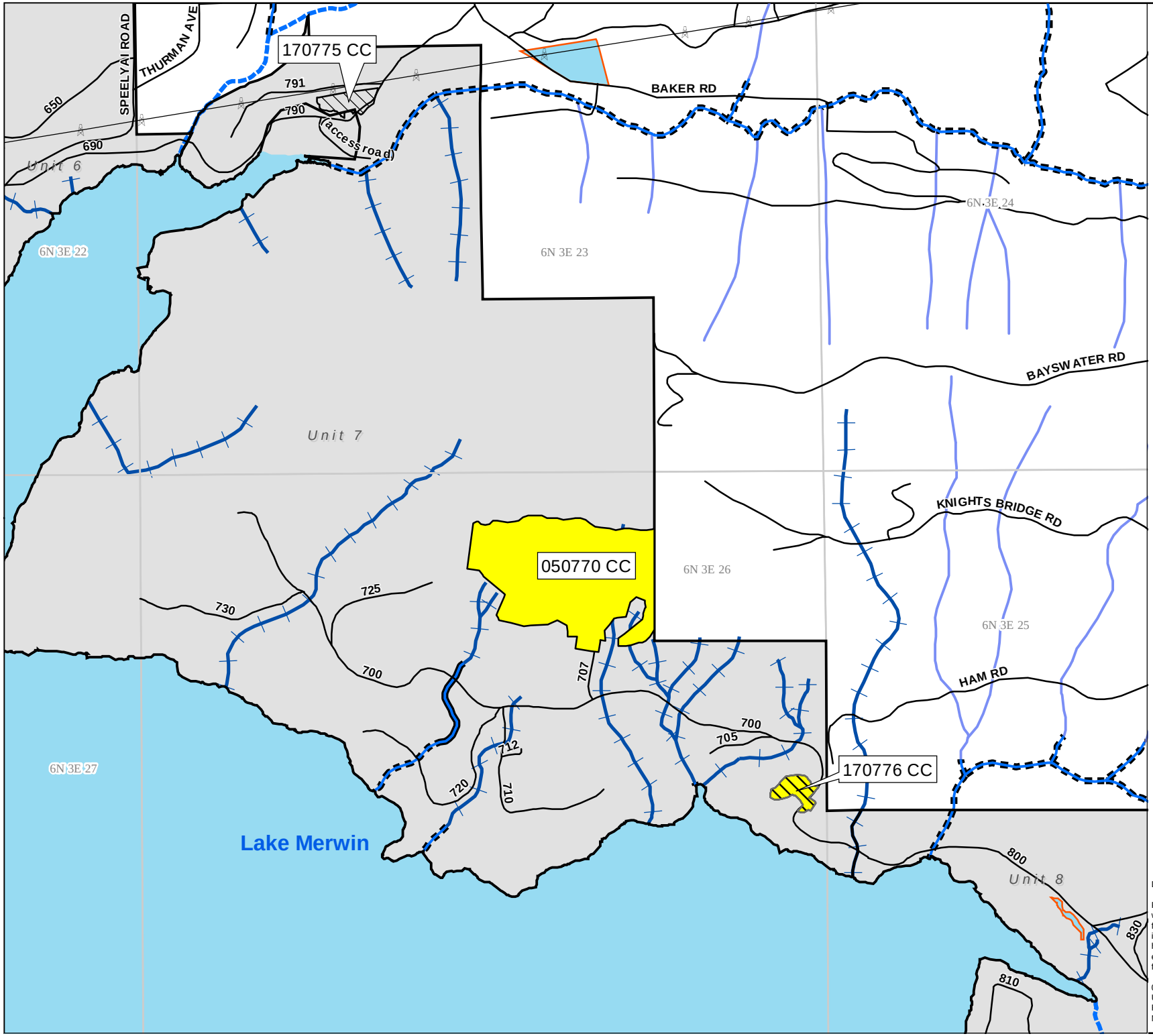

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 5 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

0 500 1,000
Feet

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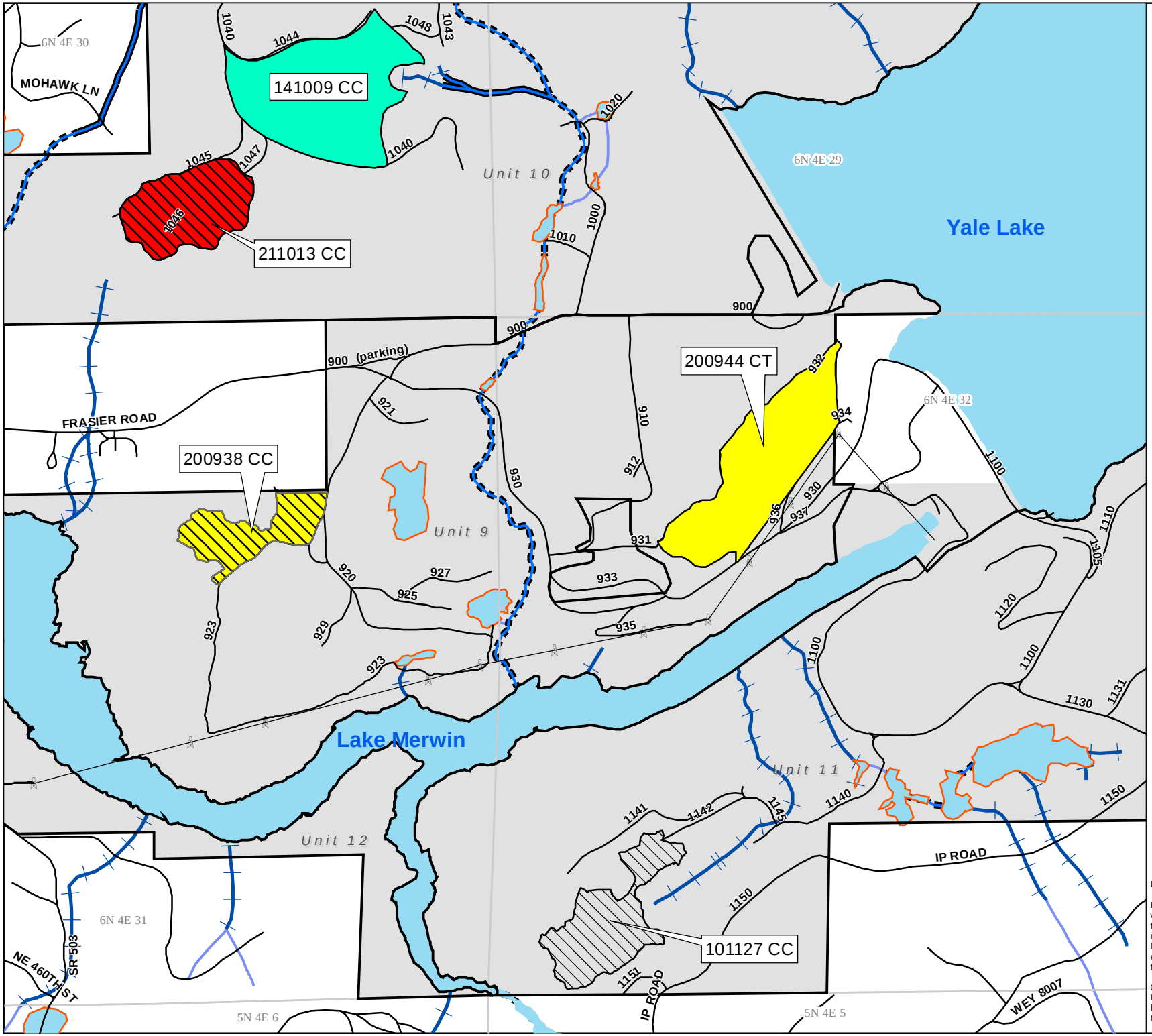

Lewis River
Wildlife Habitat
Management Plan

2022 Forestland
Regeneration
Maintenance Actions

Sheet 6 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
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- PacifiCorp Transmission Line
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- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

0 500 1,000
Feet

PACIFICORP

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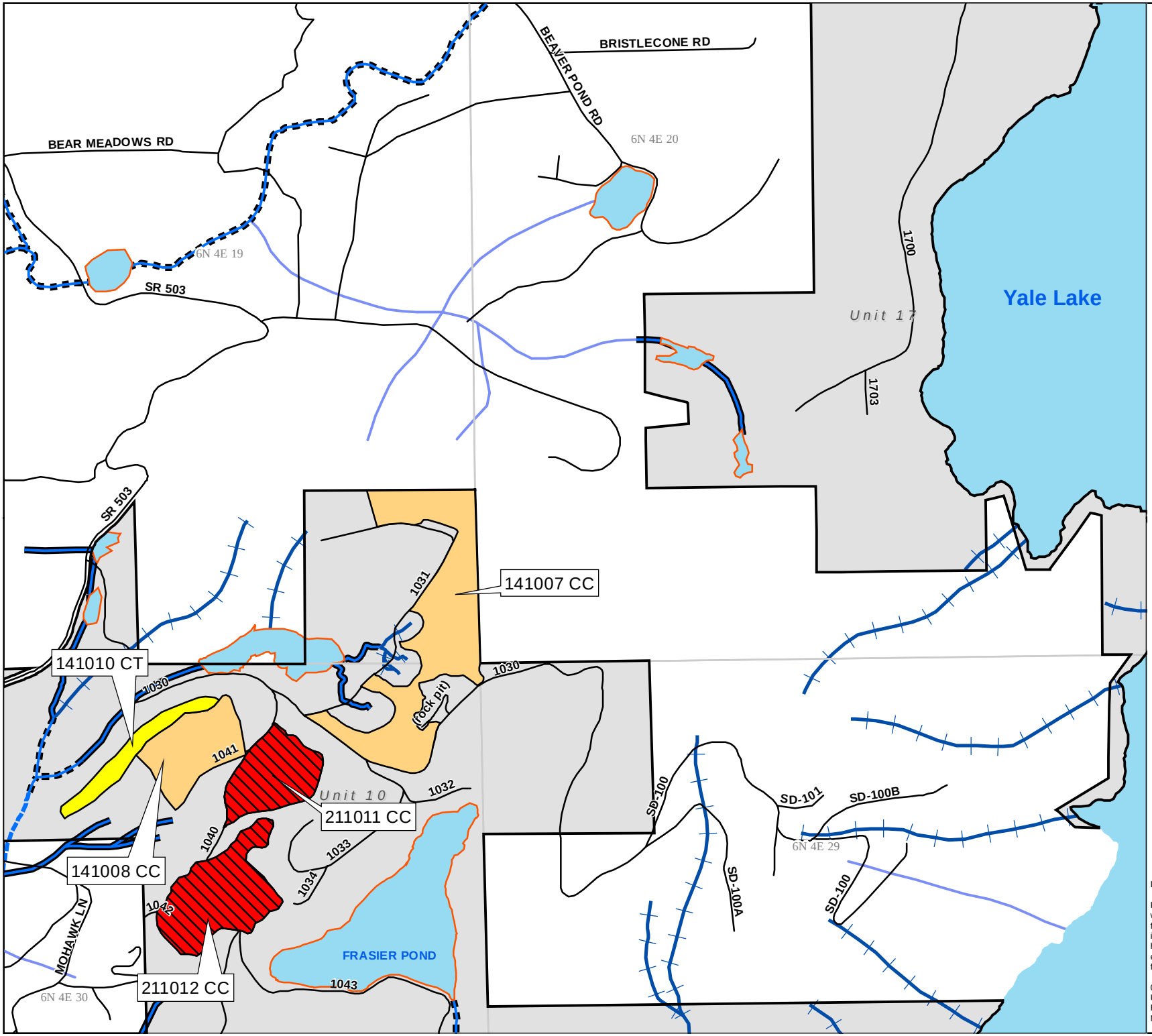

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 7 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
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- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

0 500 1,000
Feet

PACIFICORP

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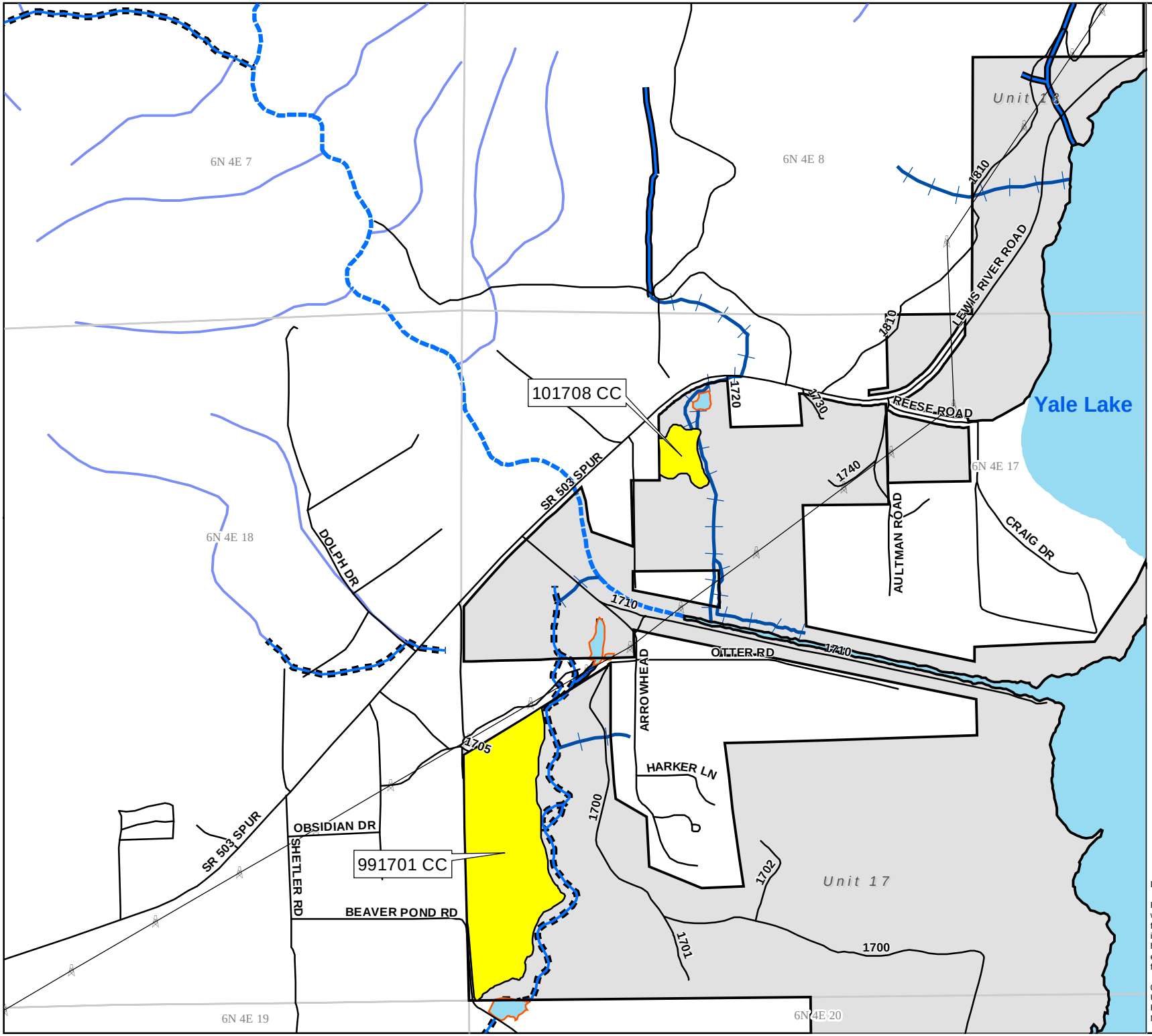

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 8 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

N W E S

0 500 1,000
Feet

PACIFICORP

Data projected in UTM Zone 10, NAD83, meters.

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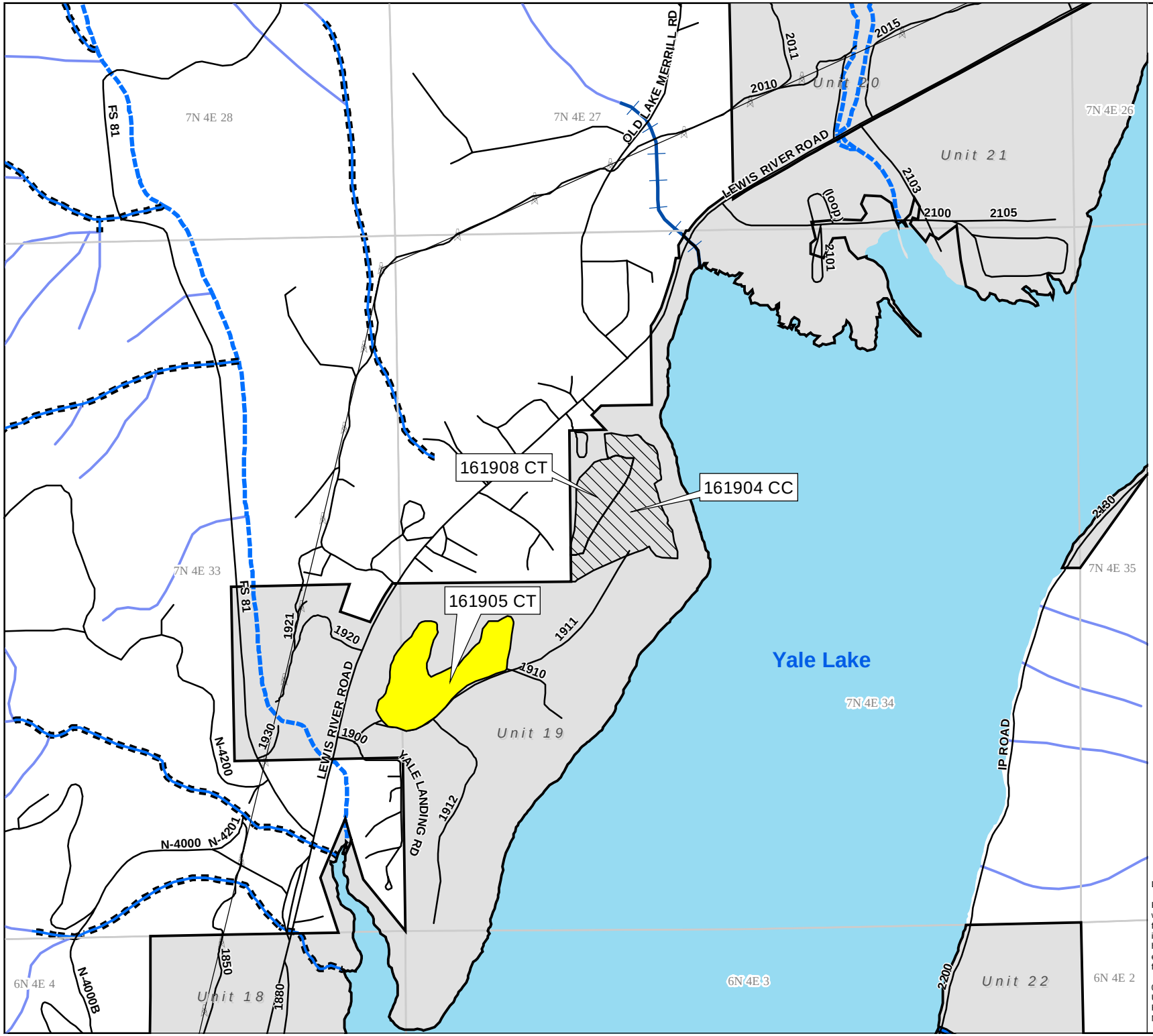

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 9 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

N W E S

0 500 1,000
Feet

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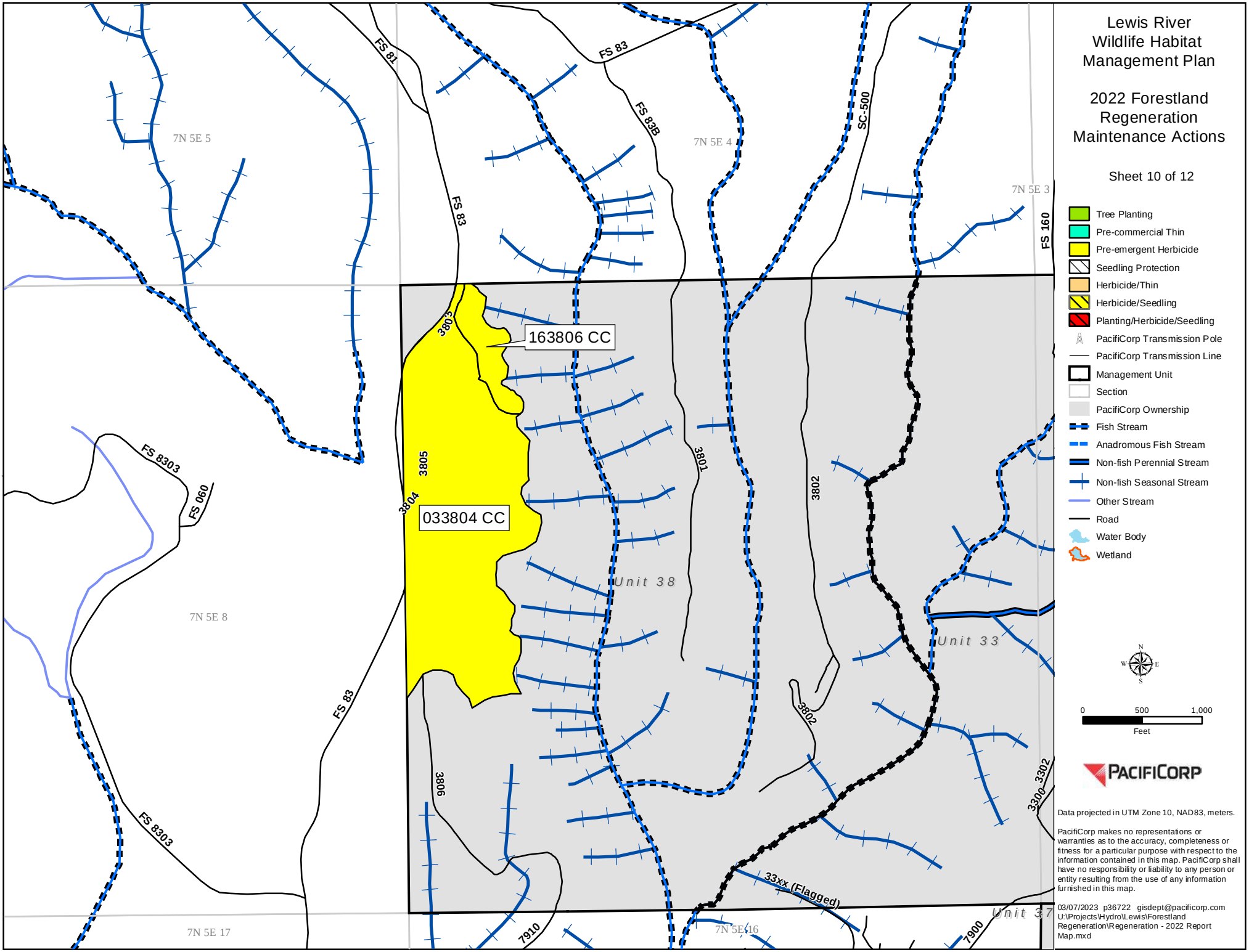
Lewis River
Wildlife Habitat
Management Plan
2022 Forestland
Regeneration
Maintenance Actions
Sheet 10 of 12
Tree Planting
Pre-commercial Thin
Pre-emergent Herbicide
Seedling Protection
Herbicide/Thin
Herbicide/Seedling
Planting/Herbicide/Seedling
PacifiCorp Transmission Pole
PacifiCorp Transmission Line
Management Unit
Section
PacifiCorp Ownership
Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Road
Water Body
Wetland
163806 CC
033804 CC
Unit 38
Unit 33
Unit 37
7N 5E 5
7N 5E 4
7N 5E 3
7N 5E 8
7N 5E 17
7N 5E 16
FS 81
FS 83
FS 83B
SC-500
FS 160
FS 8303
FS 060
3803
3805
3804
3801
3802
3806
3300
3302
7910
7900
33xx (Flagged)
0
500
1,000
Feet
PACIFICORP
Data projected in UTM Zone 10, NAD83, meters.
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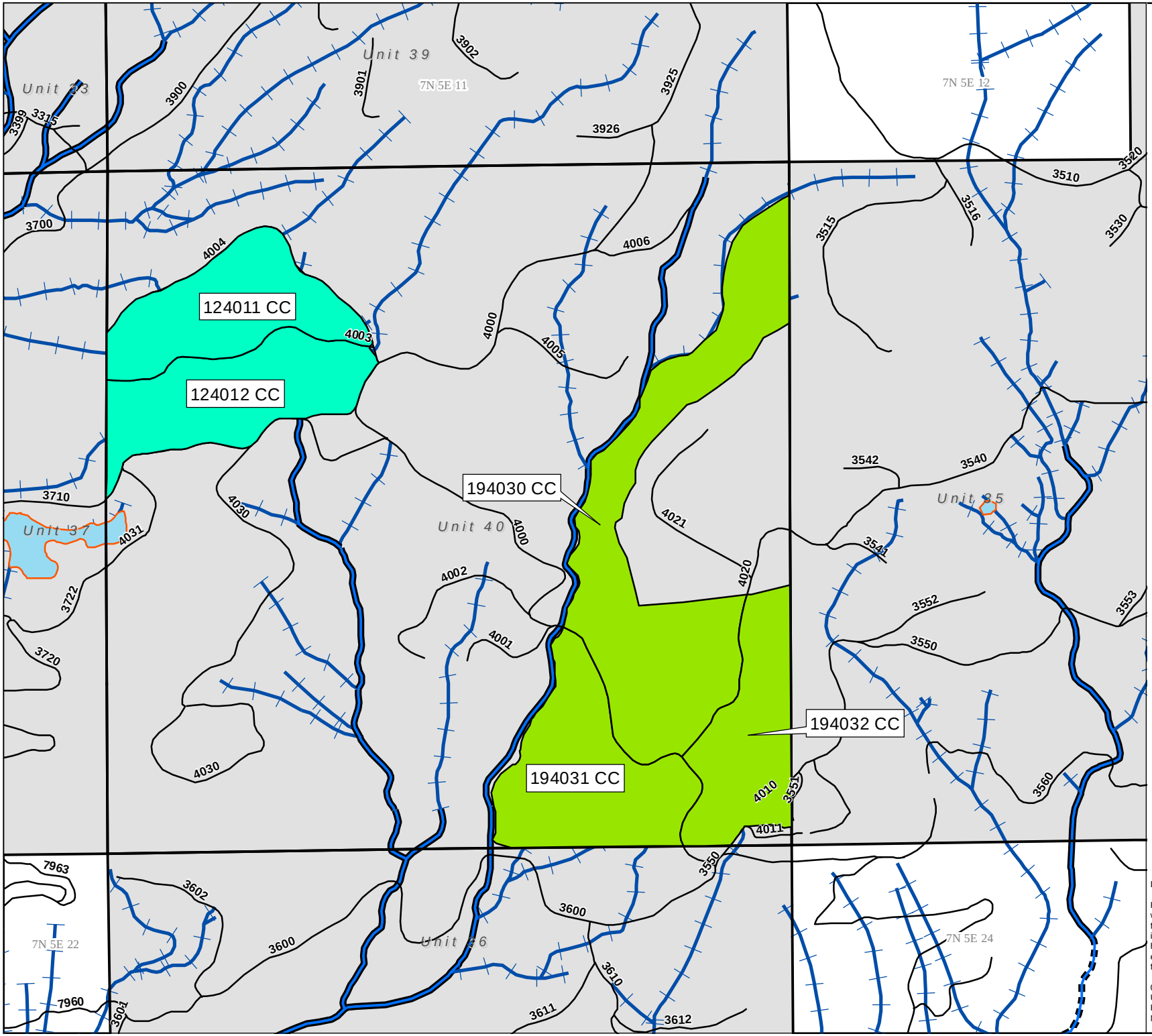

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 11 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

N W E S

0 500 1,000
Feet

PACIFICORP

Data projected in UTM Zone 10, NAD83, meters.

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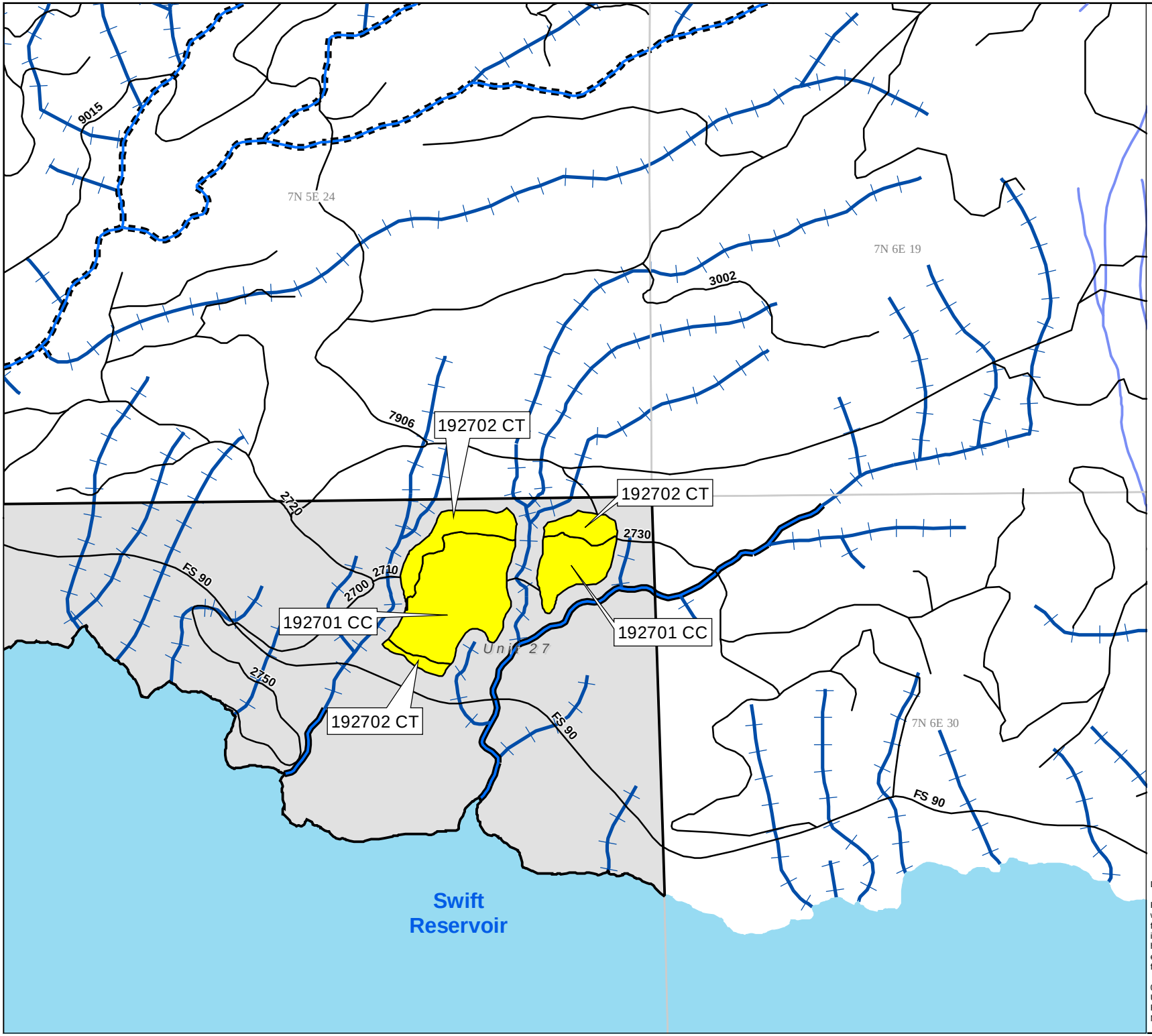

Lewis River Wildlife Habitat Management Plan

2022 Forestland Regeneration Maintenance Actions

Sheet 12 of 12

- Tree Planting
- Pre-commercial Thin
- Pre-emergent Herbicide
- Seedling Protection
- Herbicide/Thin
- Herbicide/Seedling
- Planting/Herbicide/Seedling
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Management Unit
- Section
- PacifiCorp Ownership
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Road
- Water Body
- Wetland

N W E S

0 500 1,000
Feet

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Data projected in UTM Zone 10, NAD83, meters.

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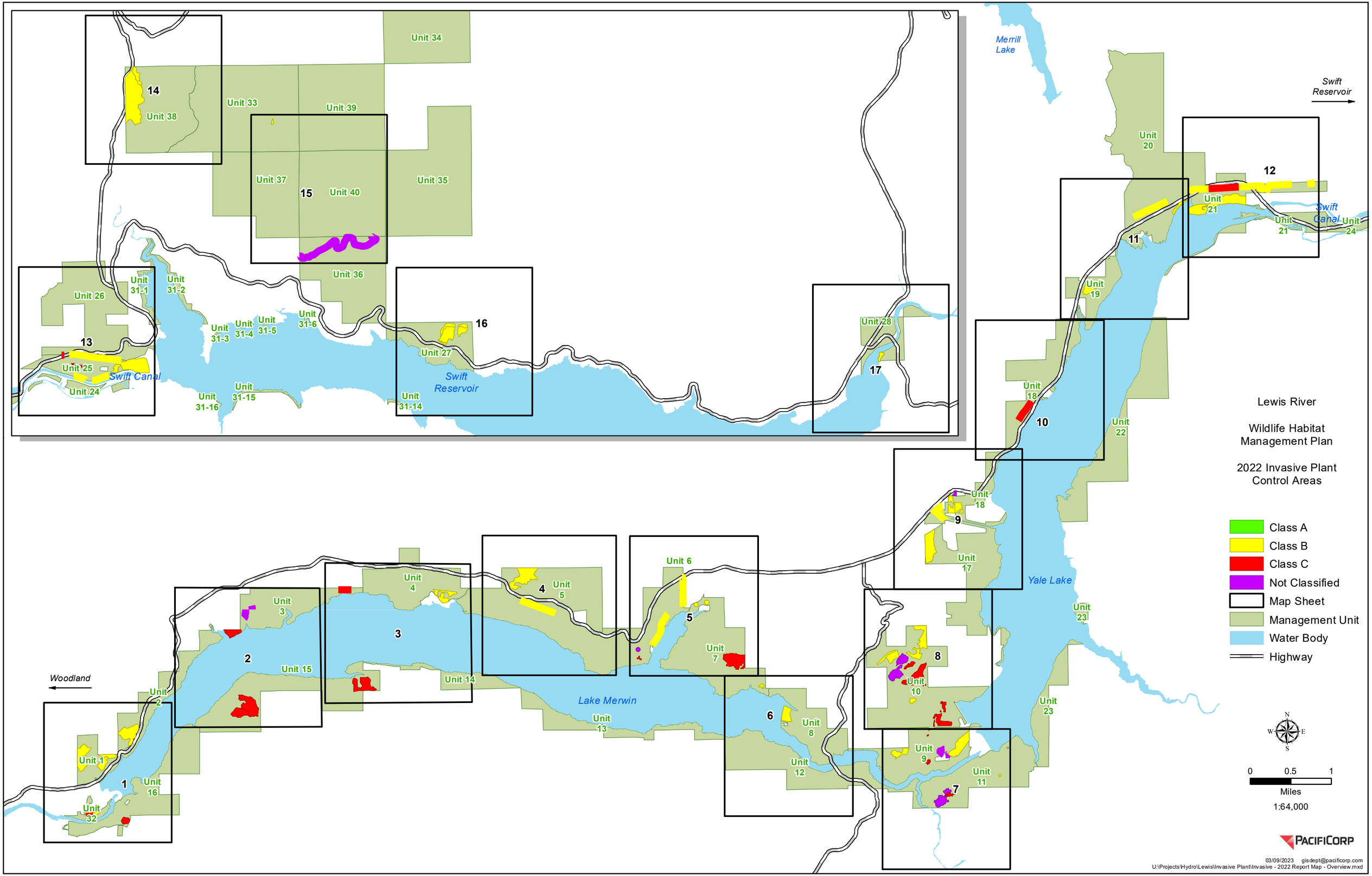
Appendix F

2022 Invasive Plant Control Area Maps


Merrill Lake
Swift Reservoir
Unit 34
Unit 33
Unit 39
Unit 38
14
Unit 37
15
Unit 40
Unit 35
Unit 36
Unit 26
Unit 31-1
Unit 31-2
13
Unit 31-3
Unit 31-4
Unit 31-5
Unit 31-6
16
Unit 27
Unit 25
Swift Canal
Unit 24
Unit 31-16
Unit 31-15
Unit 31-14
Swift Reservoir
Unit 28
17
Unit 20
12
Unit 21
Swift Canal
Unit 21
Unit 24
11
Unit 19
Unit 18
10
Unit 22
Unit 18
9
Unit 17
Yale Lake
Unit 23
Unit 23
8
Unit 10
Unit 9
Unit 11
7
Unit 6
4
Unit 5
Unit 4
3
Unit 3
2
Unit 15
Unit 14
5
Unit 7
Lake Merwin
Unit 13
6
Unit 8
Unit 12
Woodland
Unit 2
Unit 1
1
Unit 16
Unit 32
Lewis River
Wildlife Habitat Management Plan
2022 Invasive Plant Control Areas
Class A
Class B
Class C
Not Classified
Map Sheet
Management Unit
Water Body
Highway
N
W
E
S
0
0.5
1
Miles
1:64,000
PACIFICORP
03/09/2023 gisdept@pacificorp.com
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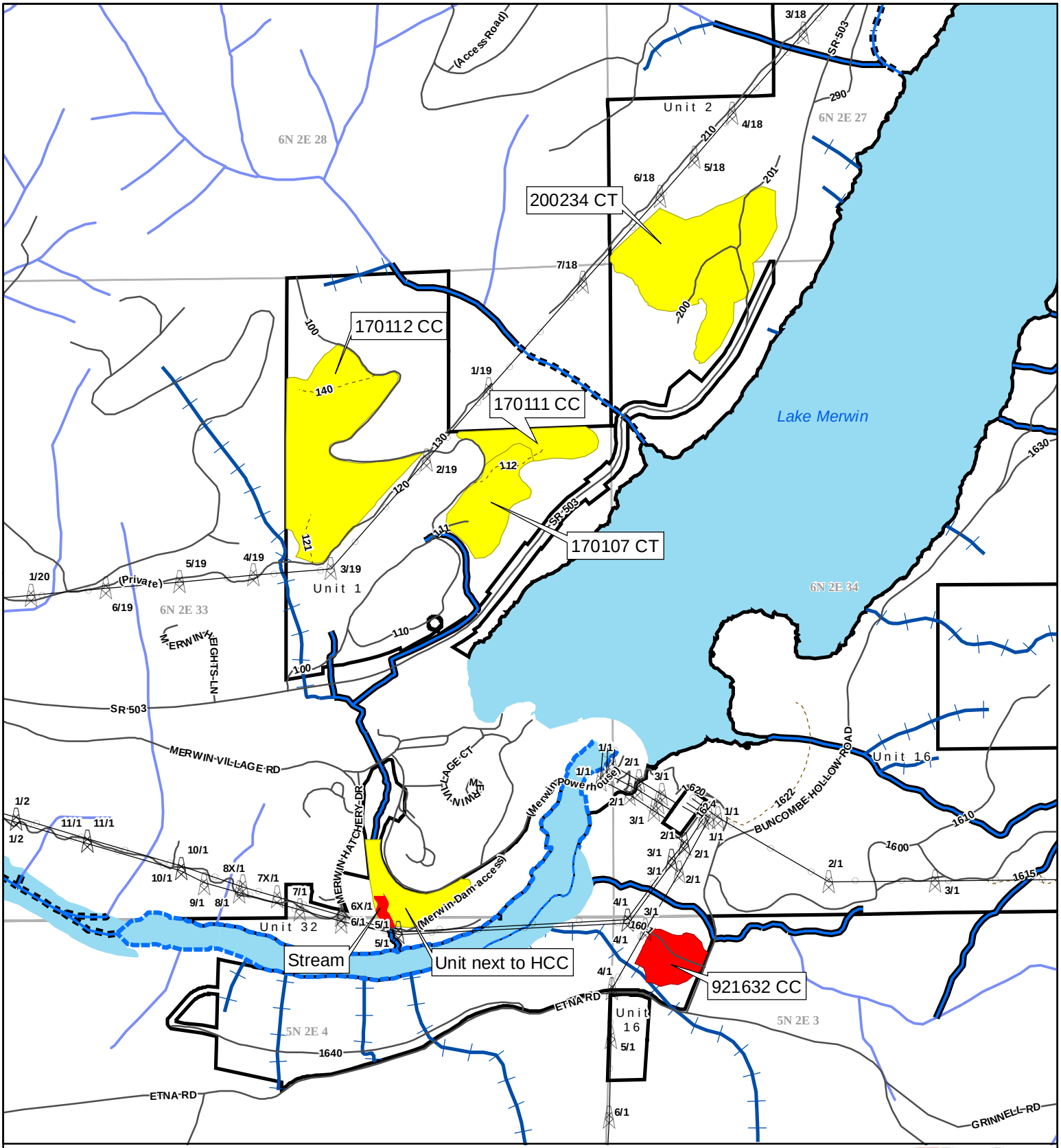

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

- Class A
- Class B
- Class C
- Not Classified
- Transmission Pole
- Transmission Line
- Road
- Abandoned Road
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Water Body, Wetland
- Management Unit
- Township/Range
- Section

Sheet 1 of 17

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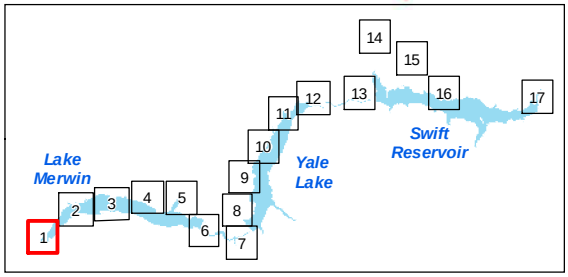

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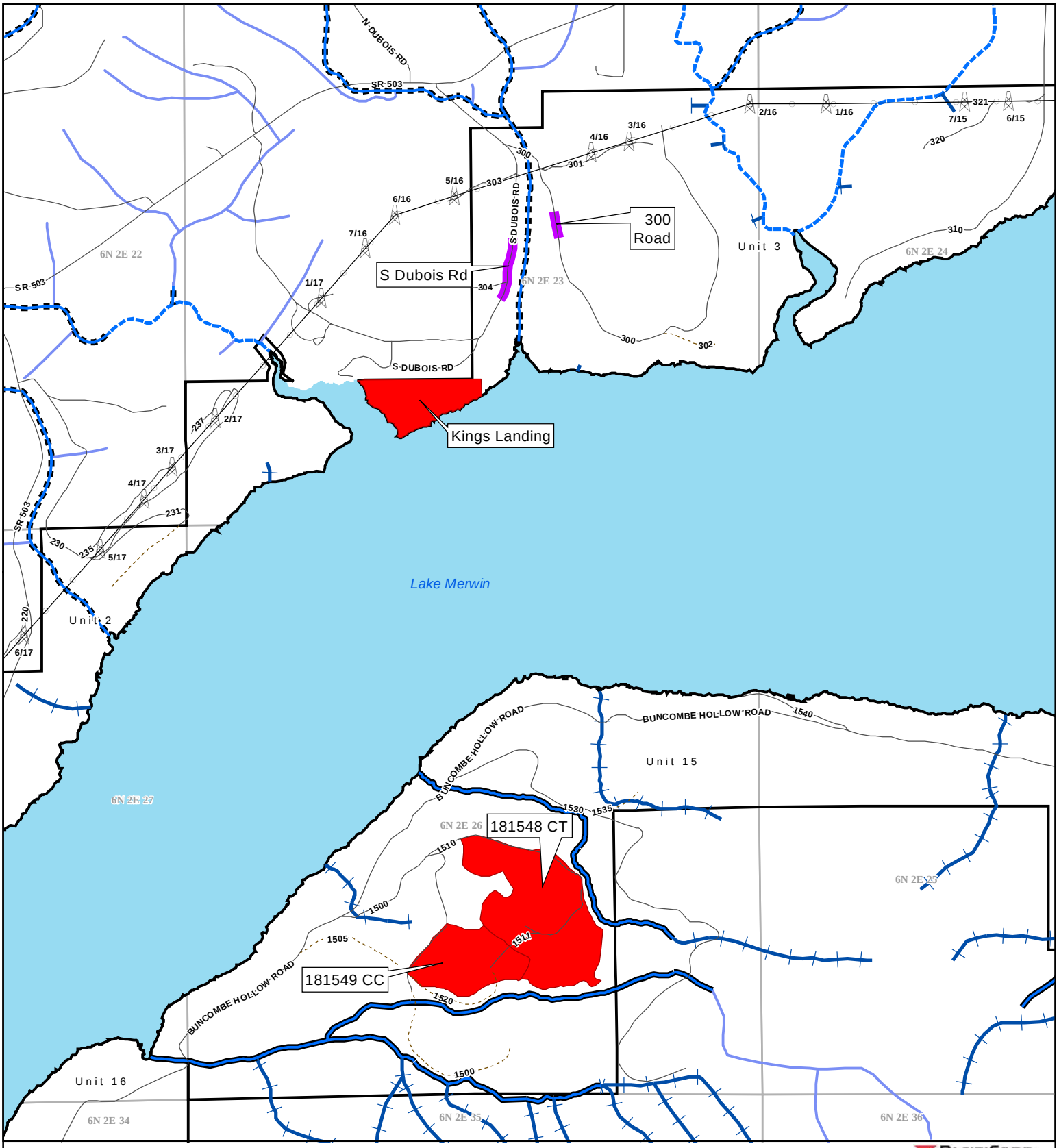

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

- Class A
- Class B
- Class C
- Not Classified
- Transmission Pole
- Transmission Line
- Road
- Abandoned Road
- Fish Stream
- Anadromous Fish Stream
- Non-fish Perennial Stream
- Non-fish Seasonal Stream
- Other Stream
- Water Body, Wetland
- Management Unit
- Township/Range
- Section

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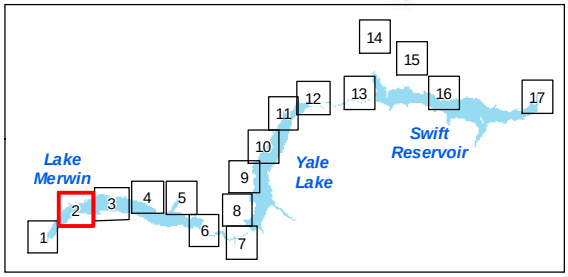

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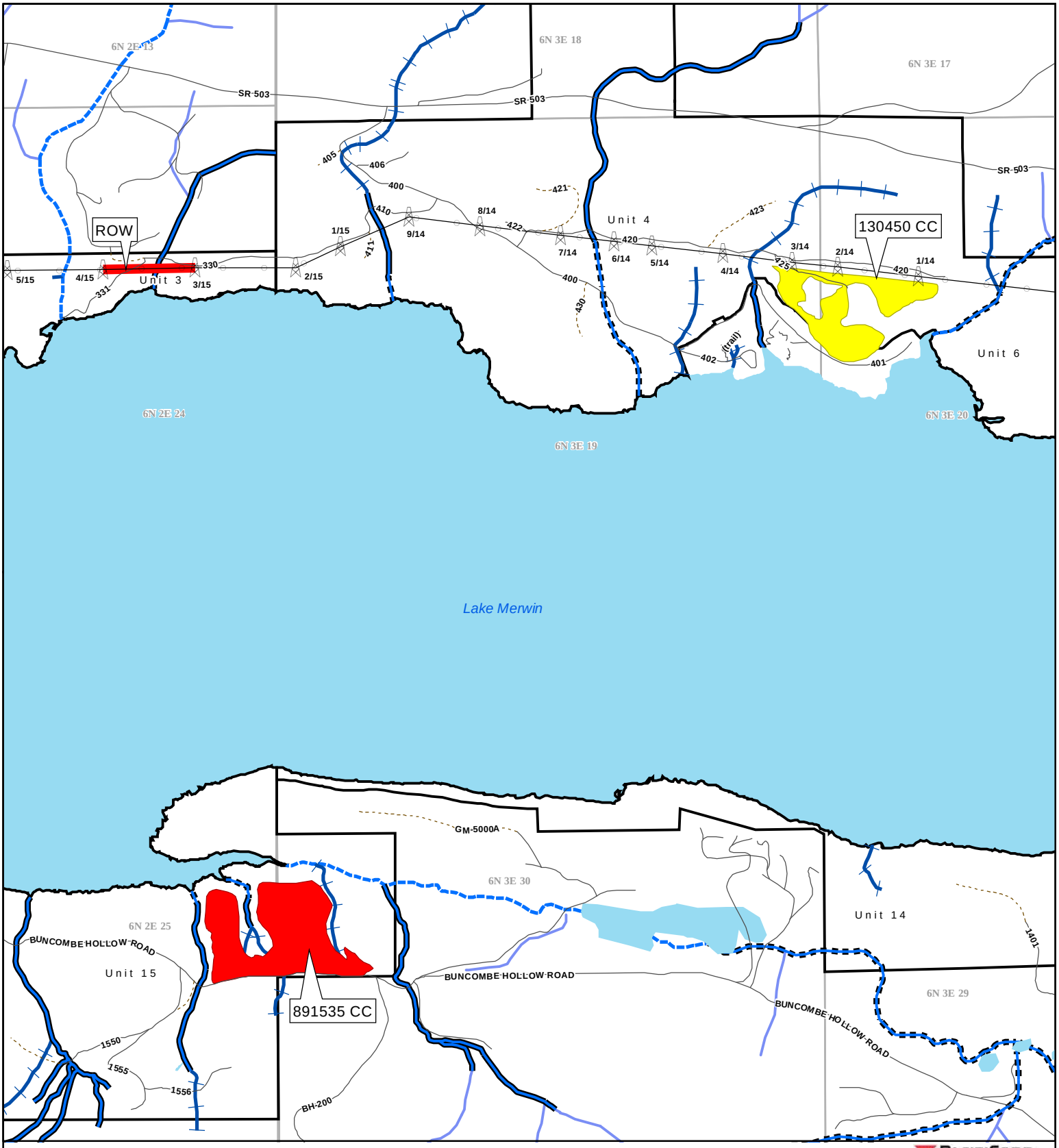

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

- Class A
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- Class C
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- Transmission Line
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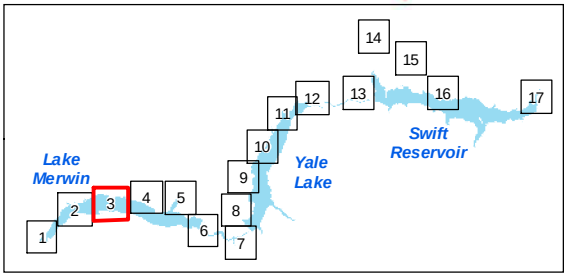
- Other Stream
- Water Body, Wetland
- Management Unit
- Township/Range
- Section

Sheet 3 of 17



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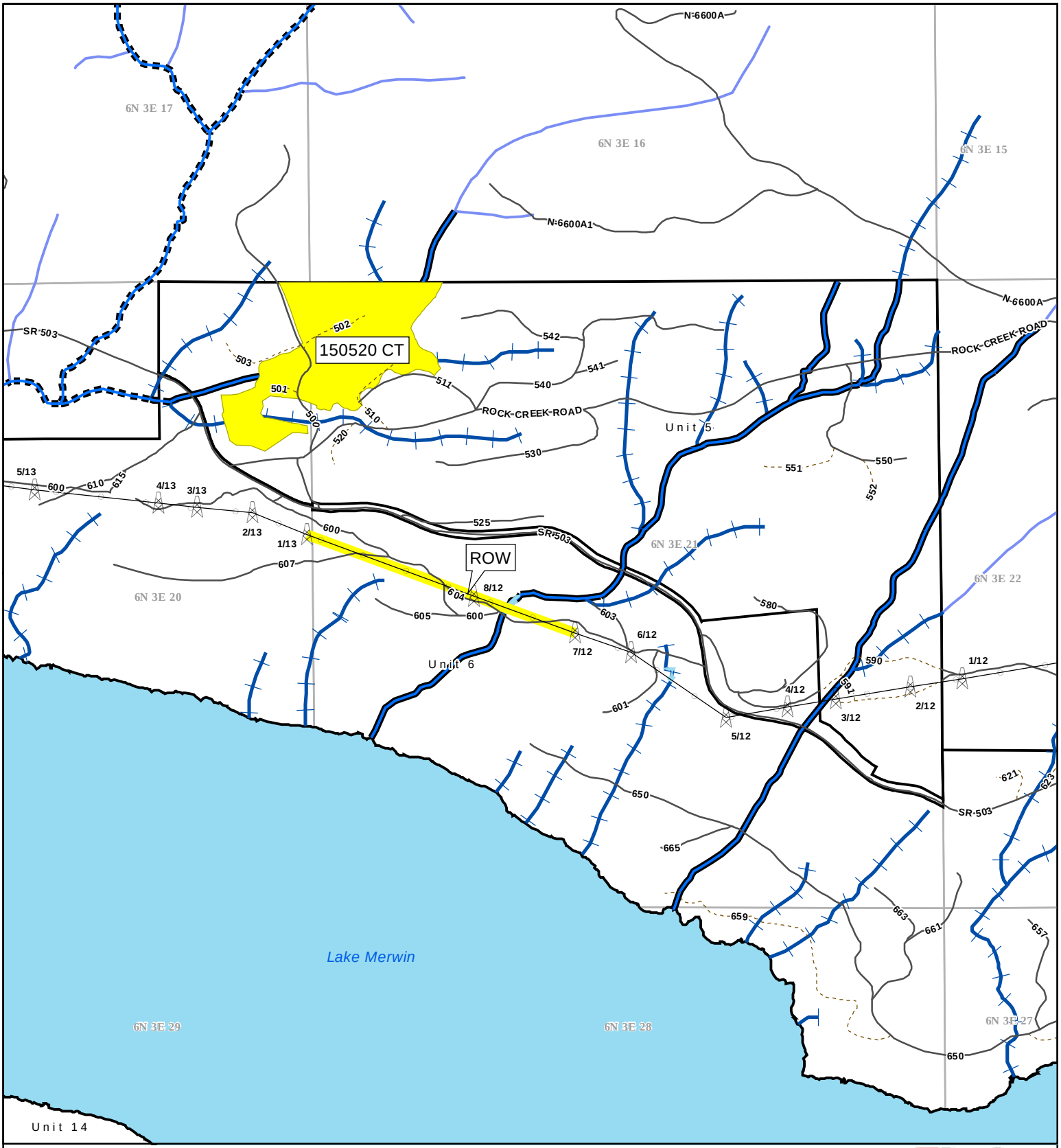

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

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- Transmission Line
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- Non-fish Seasonal Stream
- Other Stream
- Water Body, Wetland
- Management Unit
- Township/Range
- Section

Sheet 4 of 17

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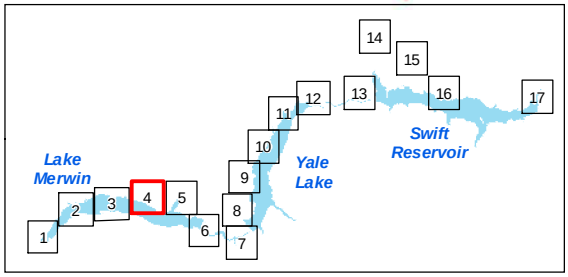

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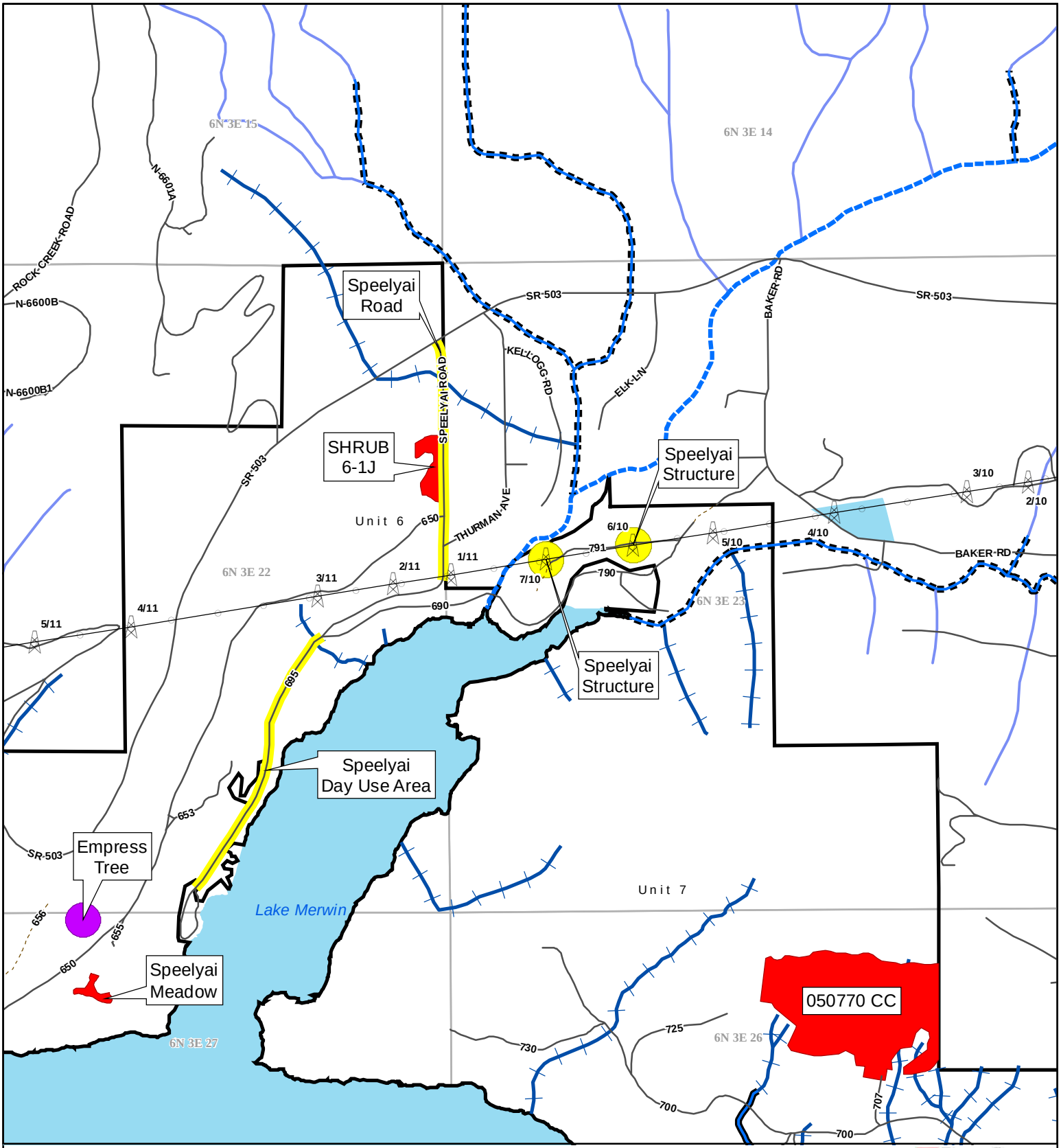


Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

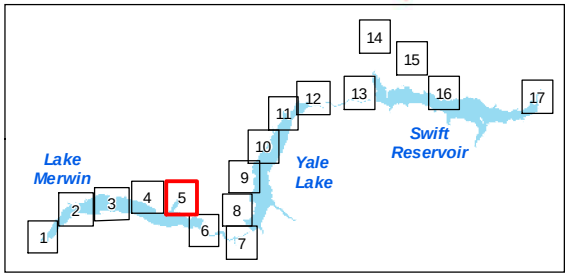
Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

PACIFICORP

Sheet 5 of 17



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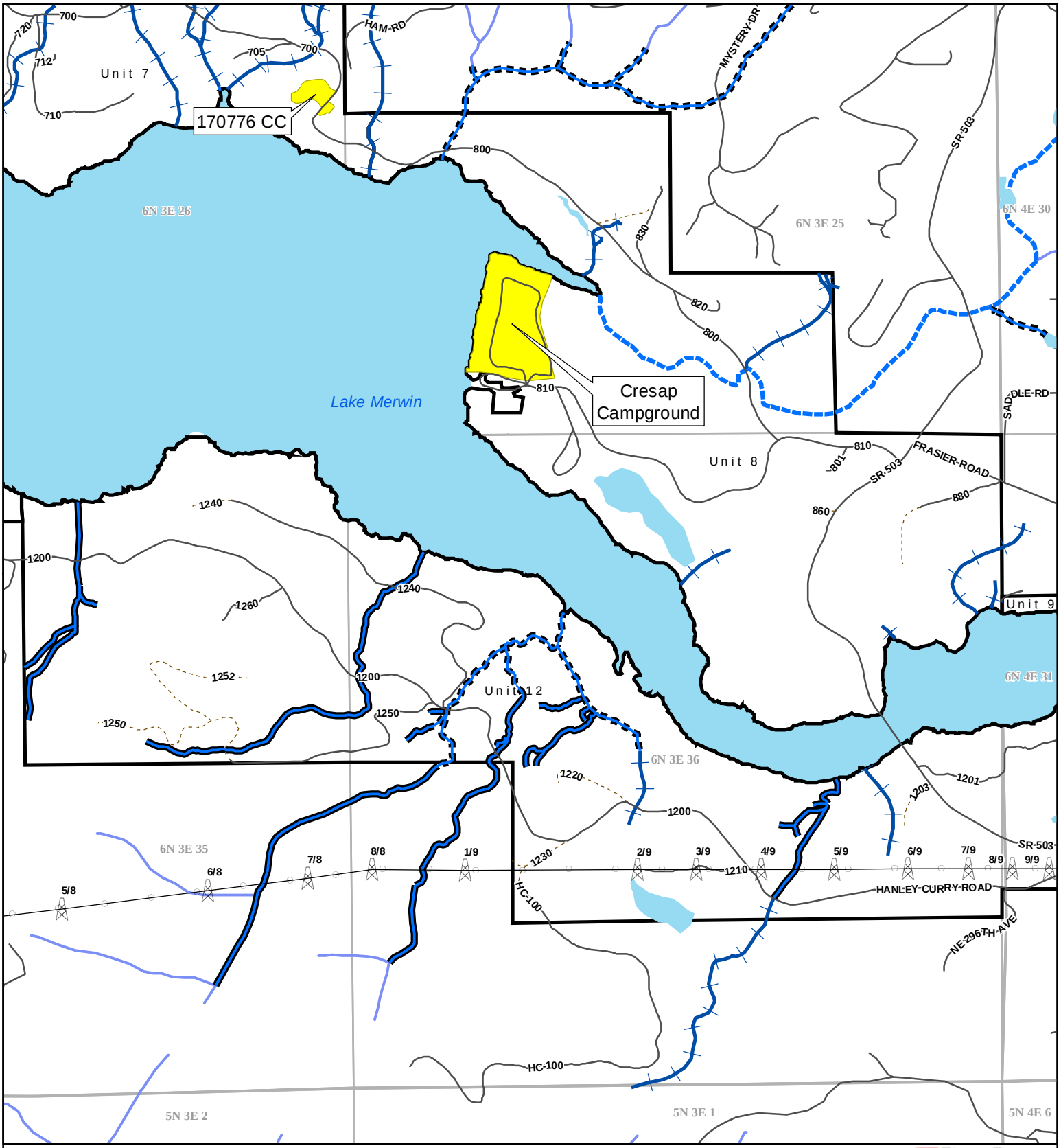

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

Sheet 6 of 17

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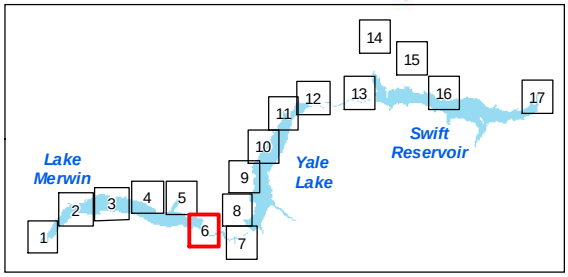

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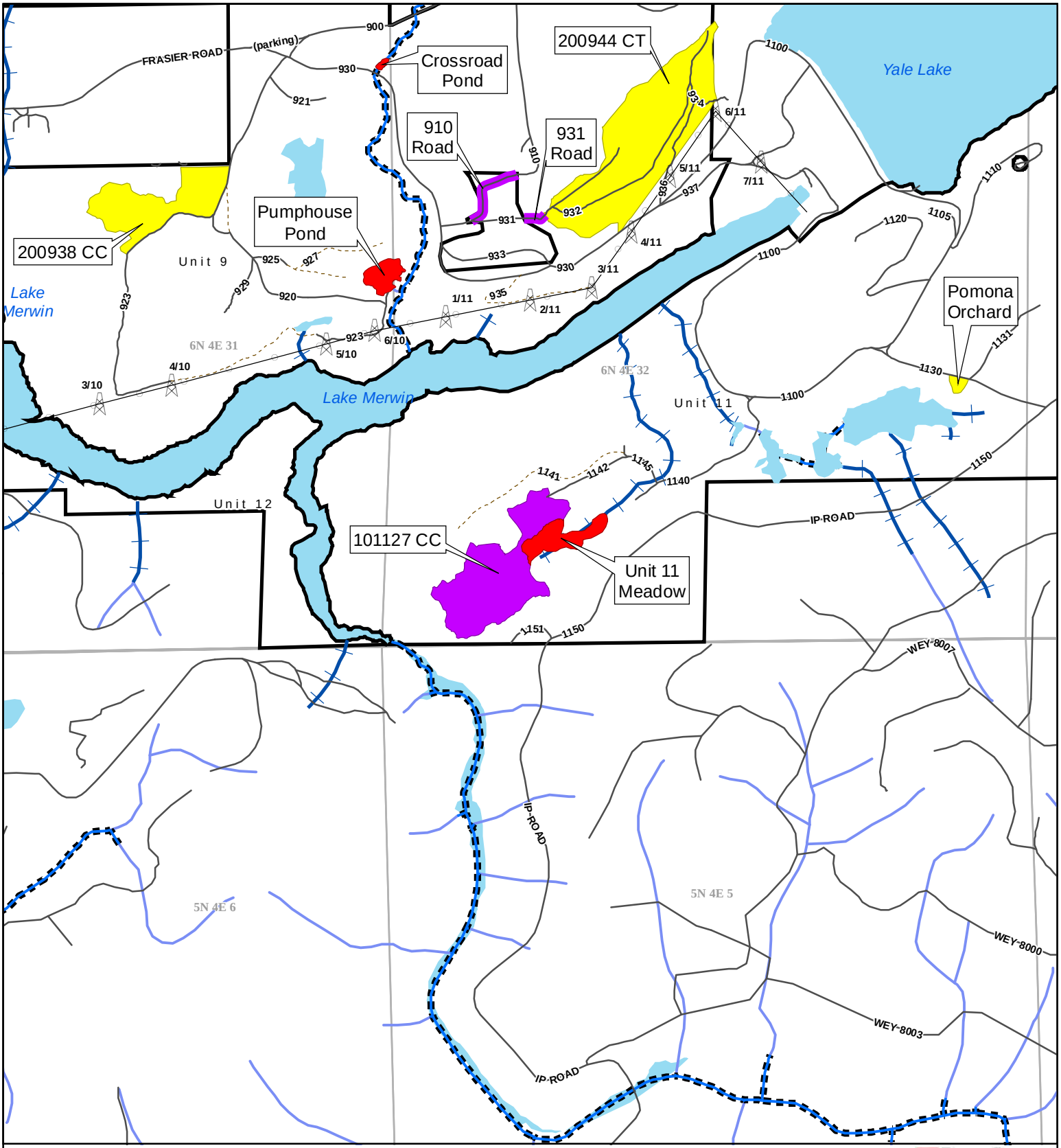

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

- Class A
- Class B
- Class C
- Not Classified
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- Transmission Line
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- Non-fish Perennial Stream
- Non-fish Seasonal Stream
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- Water Body, Wetland
- Management Unit
- Township/Range
- Section

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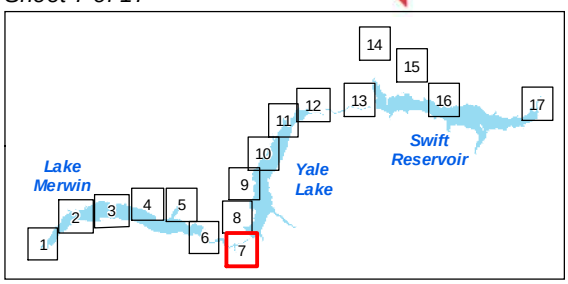

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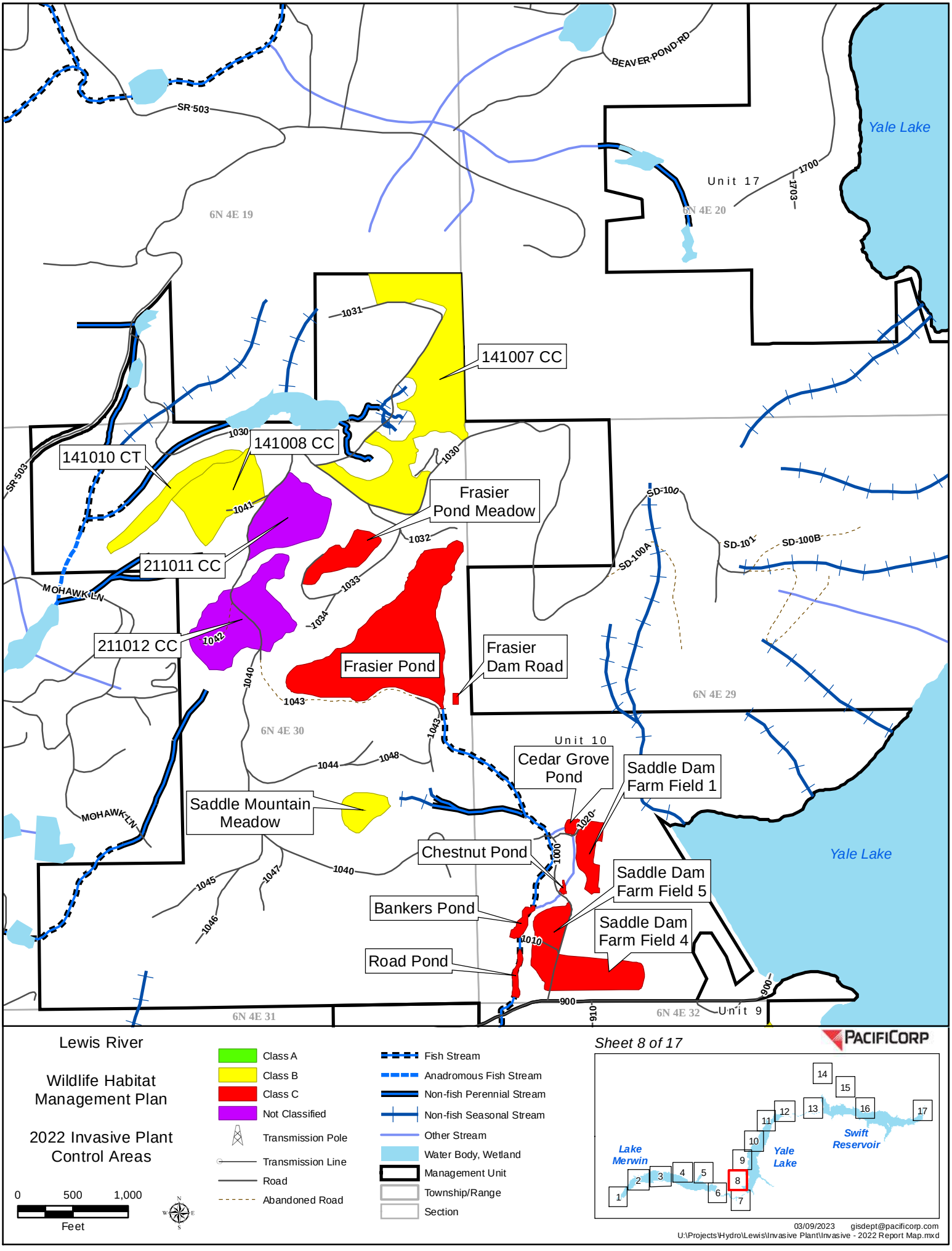

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000
Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

Sheet 8 of 17

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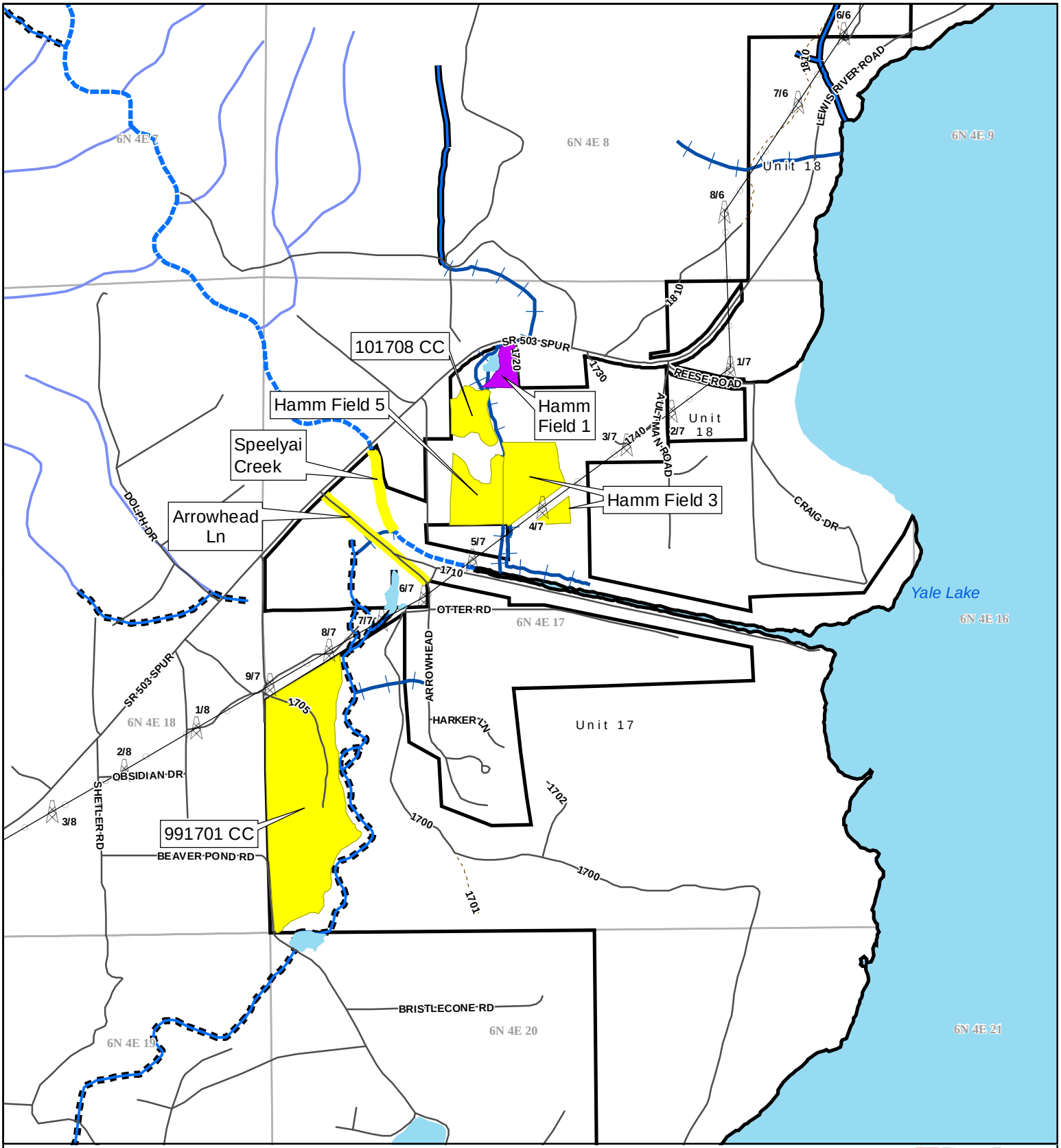

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

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- Township/Range
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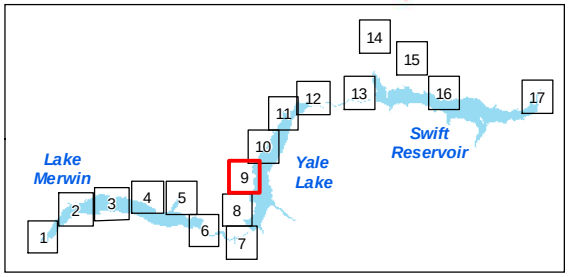
Sheet 9 of 17



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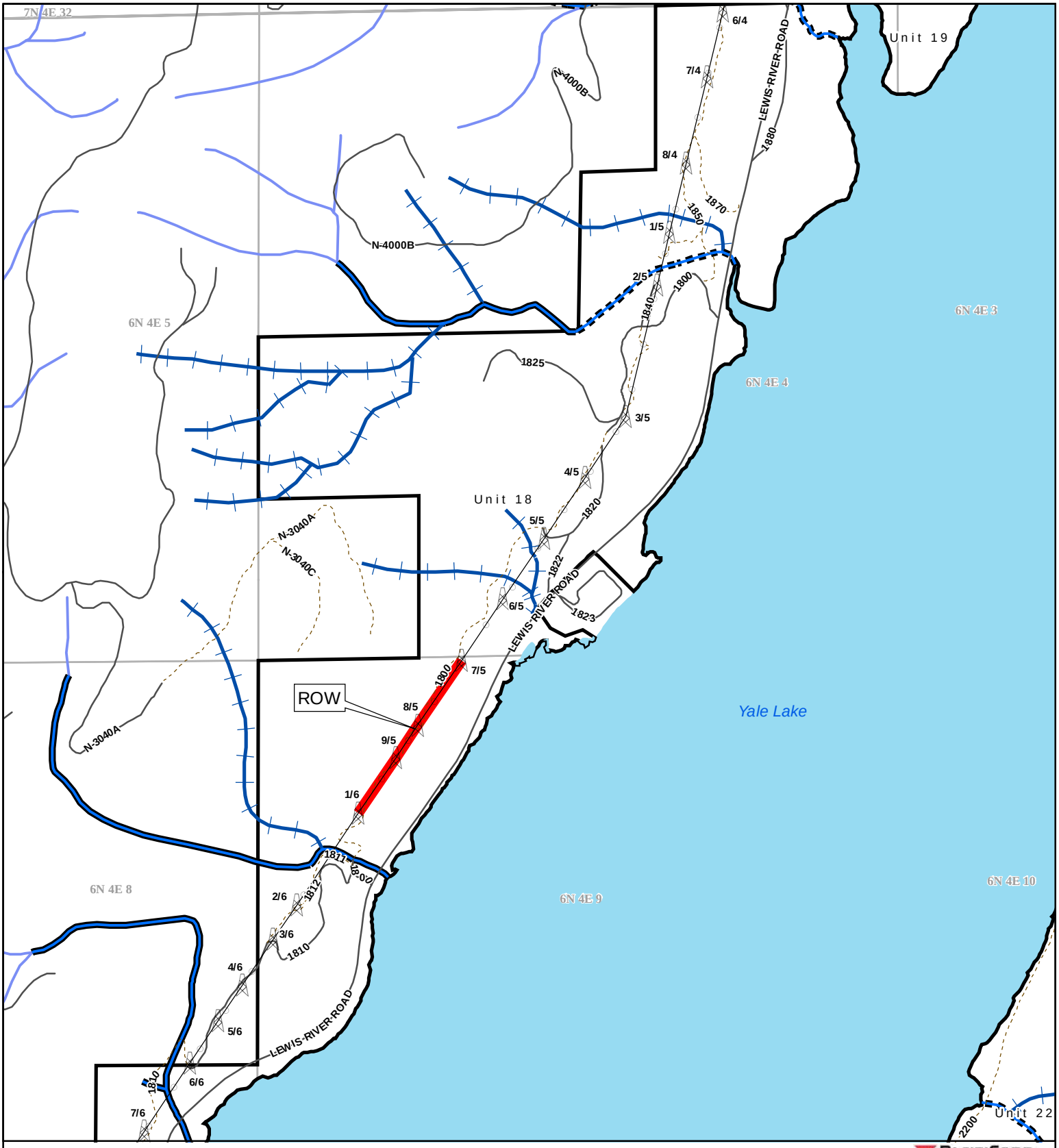

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

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- Other Stream
- Water Body, Wetland
- Management Unit
- Township/Range
- Section

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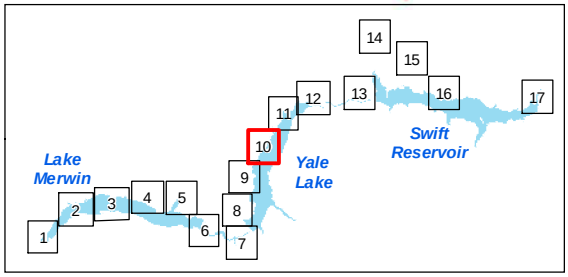

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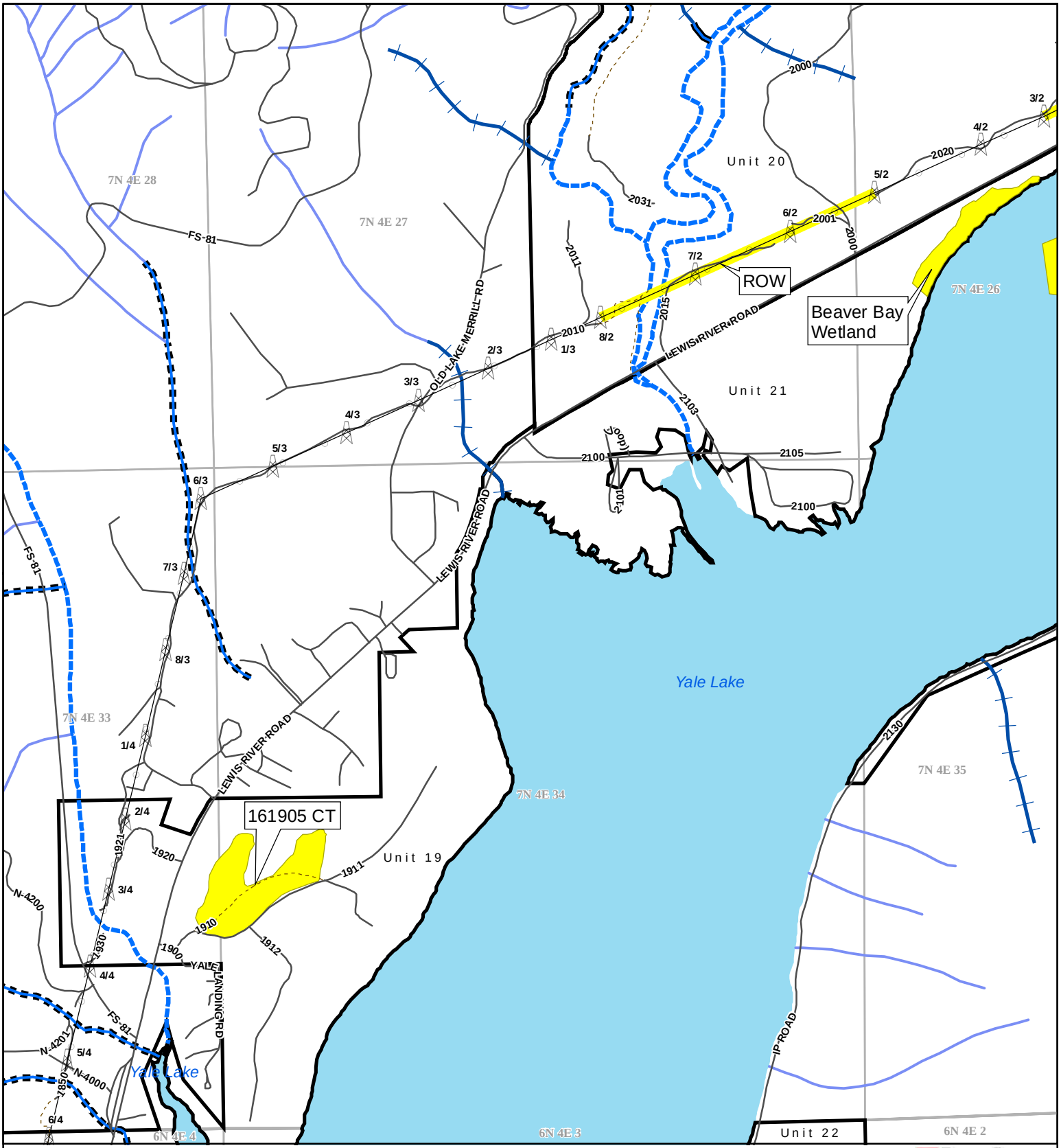

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

- Class A
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- Other Stream
- Water Body, Wetland
- Management Unit
- Township/Range
- Section

Sheet 11 of 17

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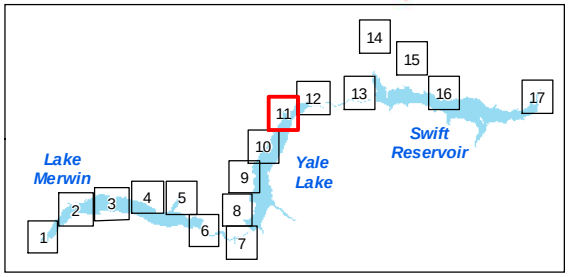

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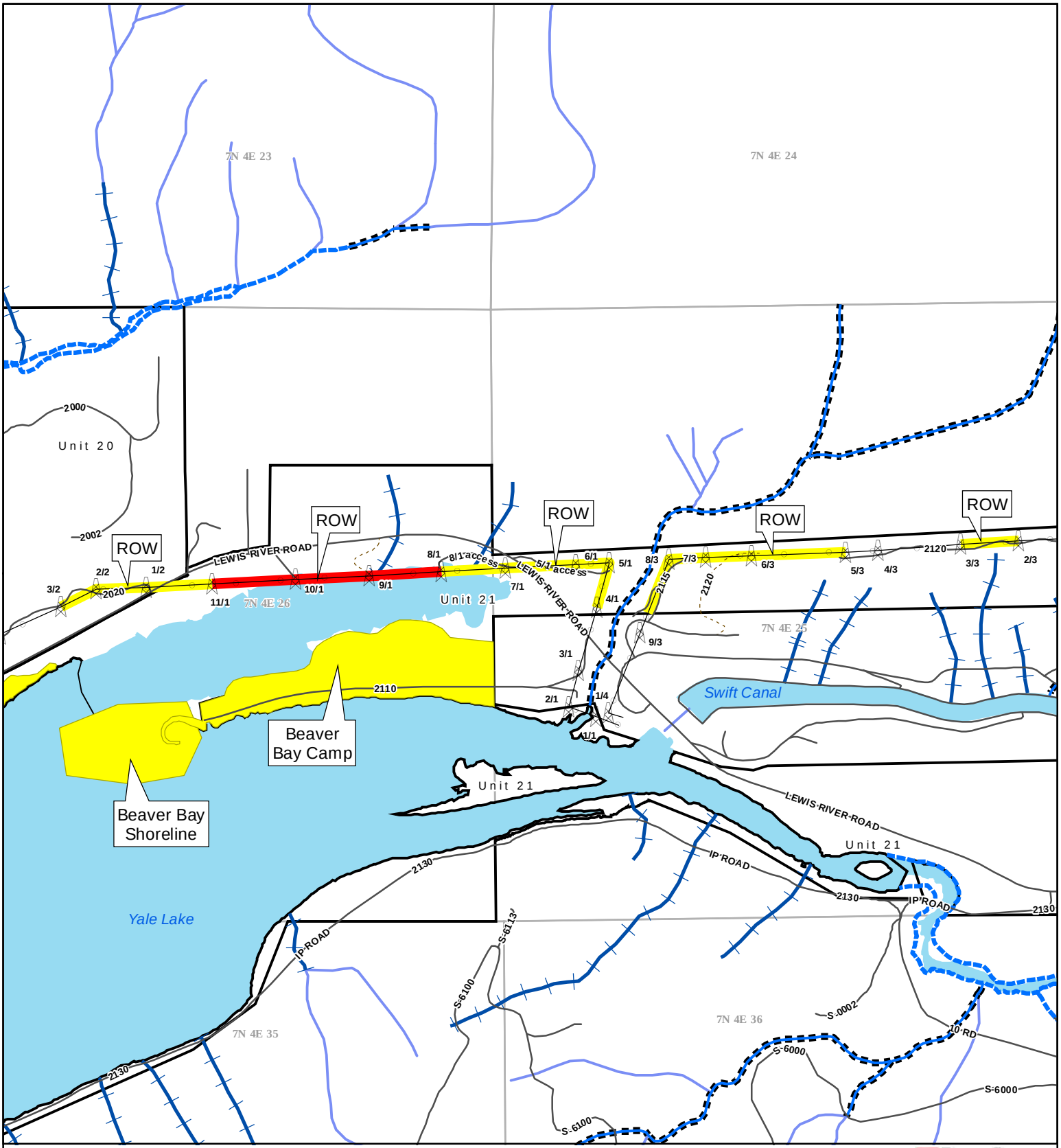

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

Sheet 12 of 17

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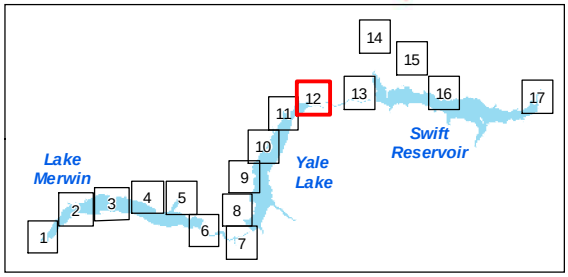

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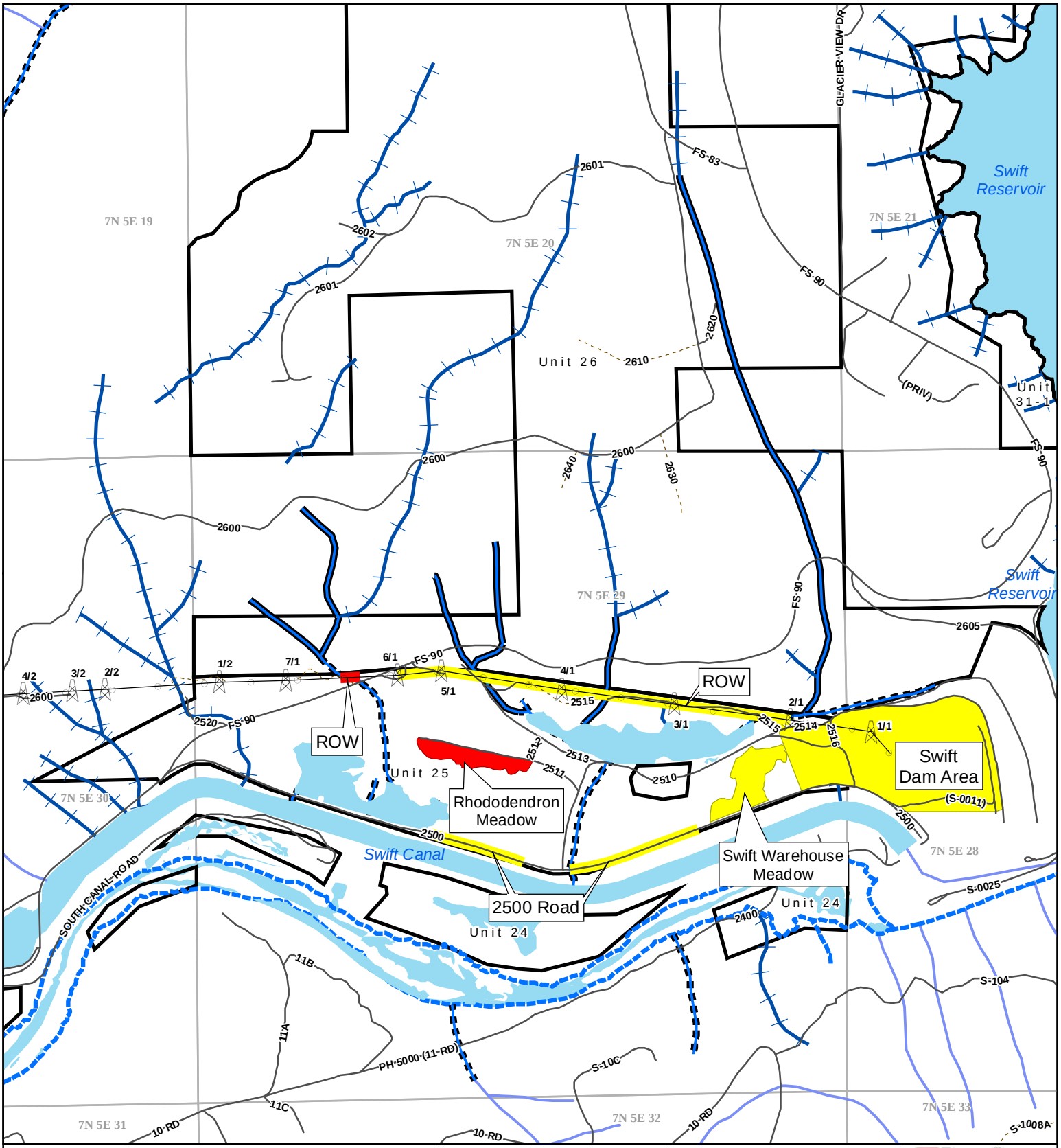


Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

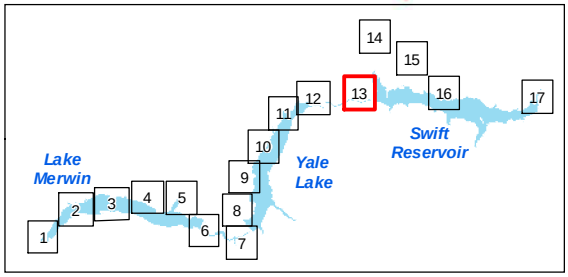
0 500 1,000

Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

Sheet 13 of 17



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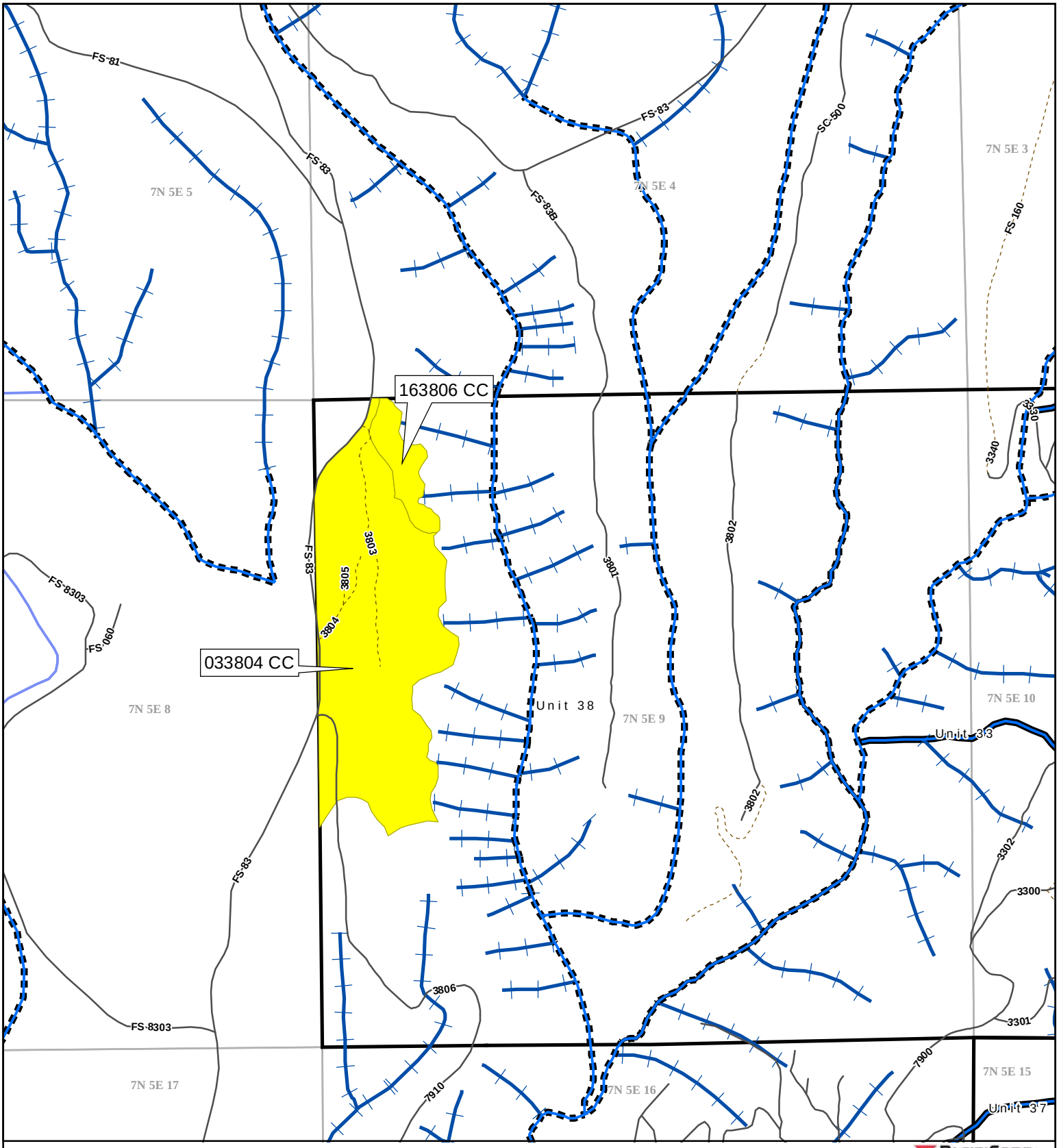

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

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- Management Unit
- Township/Range
- Section

Sheet 14 of 17

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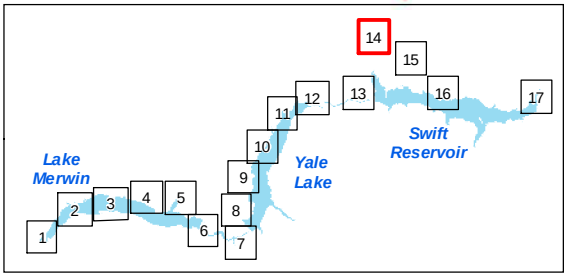

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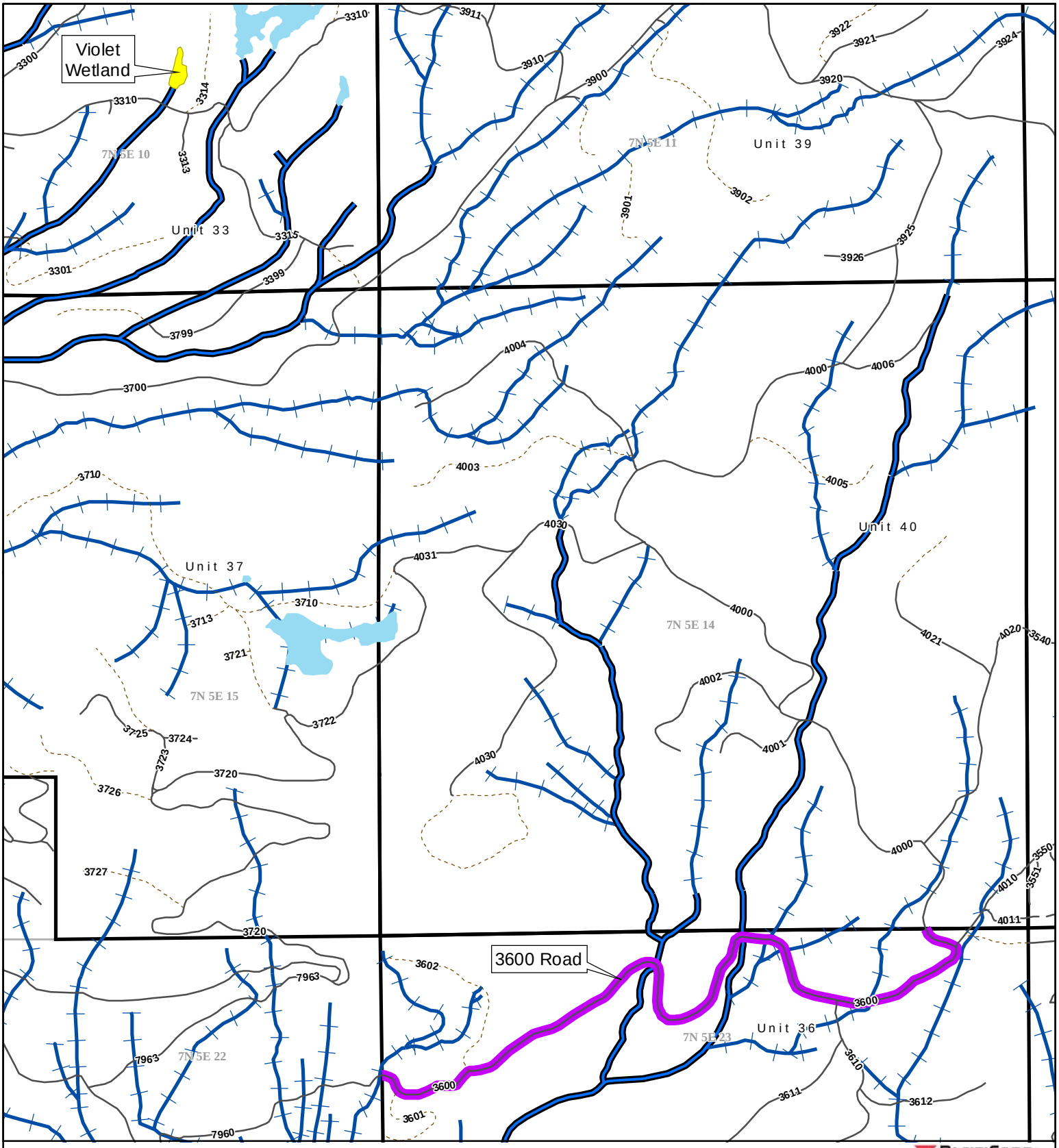

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
Anadromous Fish Stream
Non-fish Perennial Stream
Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

Sheet 15 of 17

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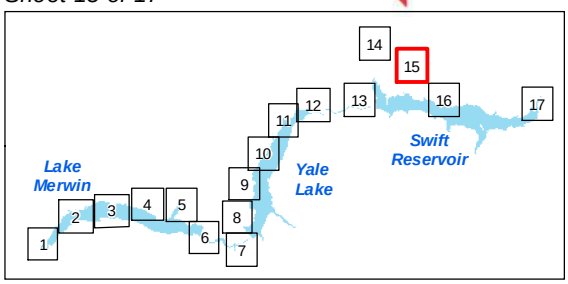

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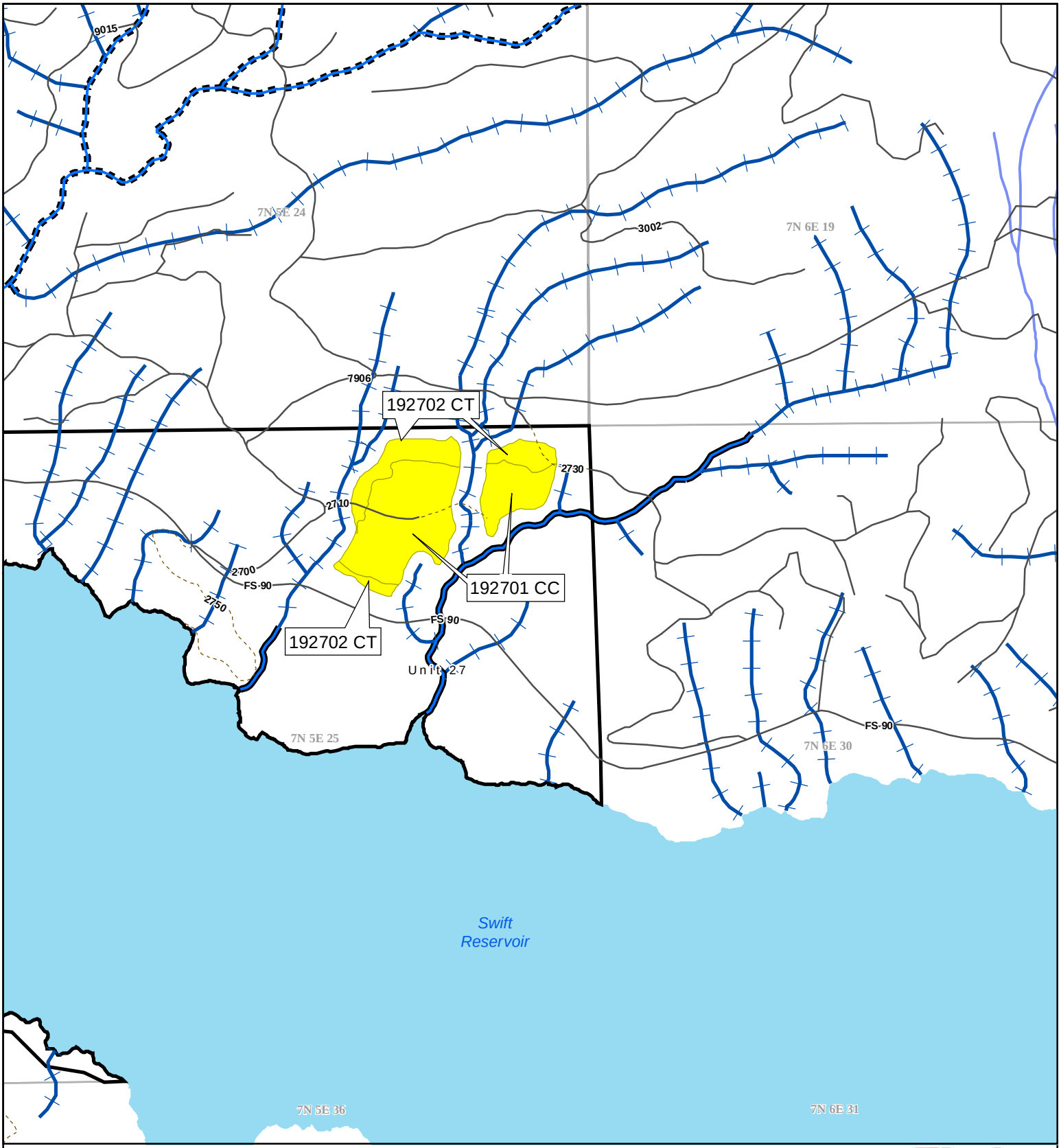

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

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Feet

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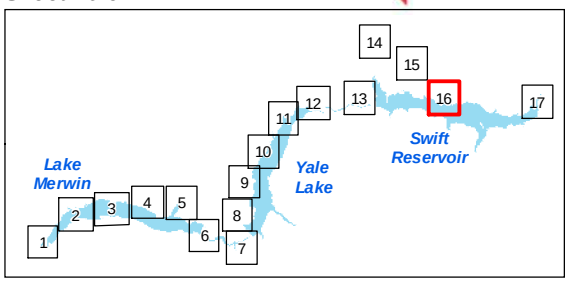

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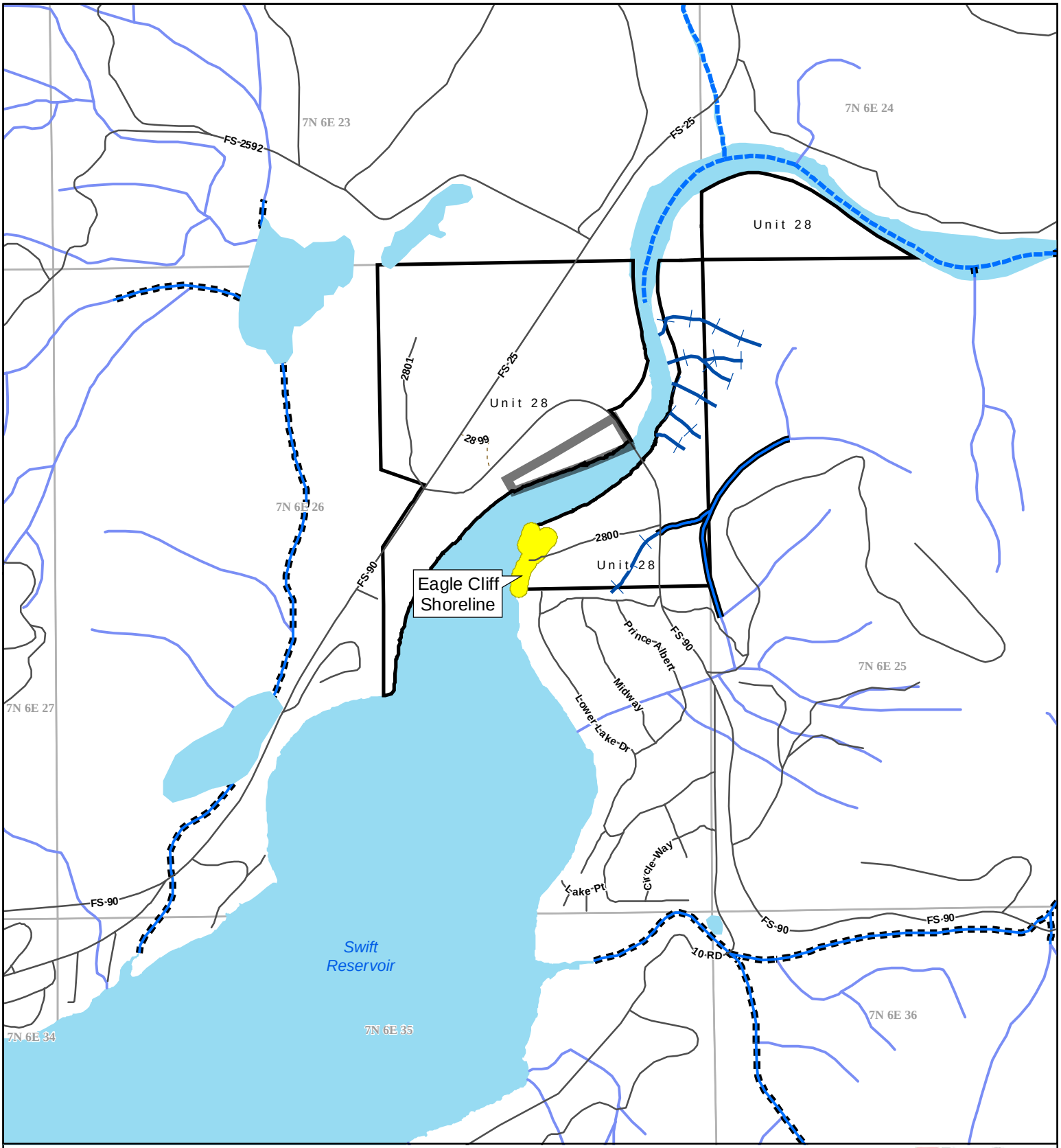

Lewis River

Wildlife Habitat Management Plan

2022 Invasive Plant Control Areas

0 500 1,000

Feet

Class A
Class B
Class C
Not Classified
Transmission Pole
Transmission Line
Road
Abandoned Road

Fish Stream
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Non-fish Seasonal Stream
Other Stream
Water Body, Wetland
Management Unit
Township/Range
Section

Sheet 17 of 17

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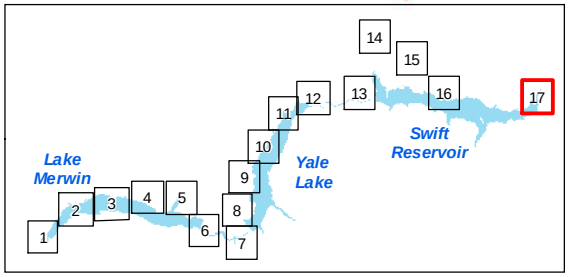

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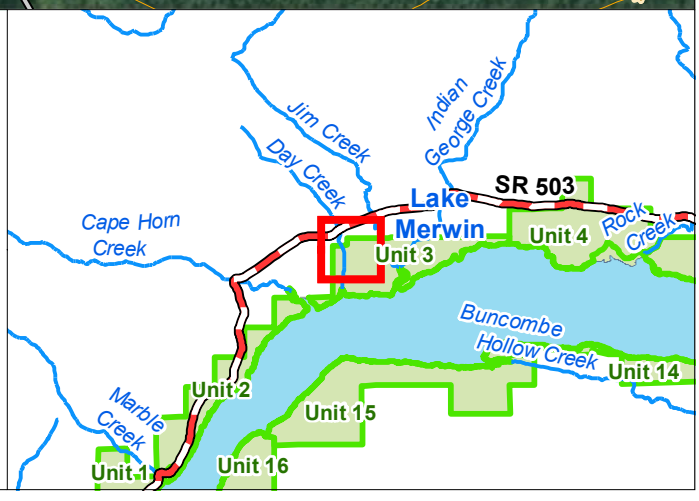
Appendix G

2022 Pollinator Project Maps

Pollinator Project

Unit: 3

- Pollinator Area
- Transmission Pole
- Transmission Line
- Contour (20')
- Management Unit
- Highway
- Road
- Abandon Road
- Gate
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



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0 100 200 Feet

1:4,000

01/17/2020 p30089

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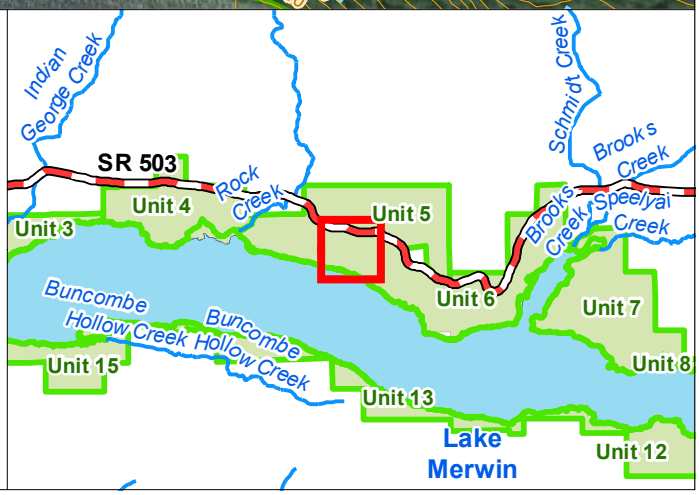
Pollinator Project

Unit: 6

- Pollinator Area
- Transmission Pole
- Transmission Line
- Contour (20')
- Management Unit
- Highway
- Road
- Abandon Road
- Gate
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



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0 100 200 Feet

1:4,000

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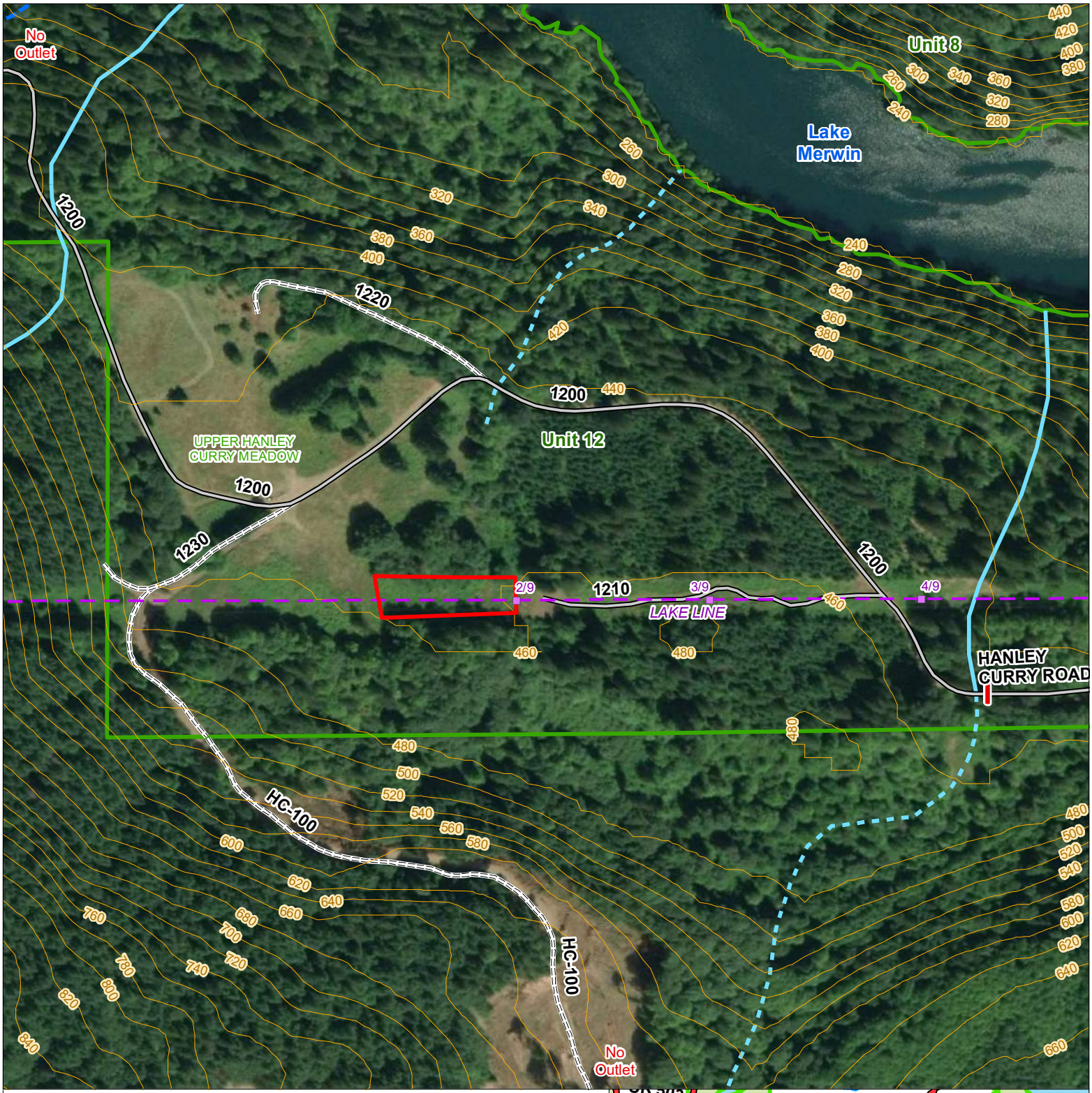
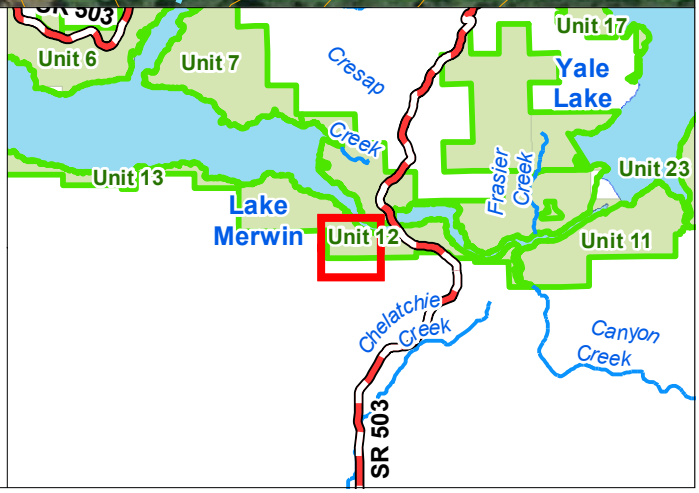


Pollinator Project

Unit: 12

- Pollinator Area
- Transmission Pole
- Transmission Line
- Contour (20')
- Management Unit
- Highway
- Road
- Abandon Road
- Gate
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



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0 100 200 Feet

1:4,000

01/17/2020 p30089

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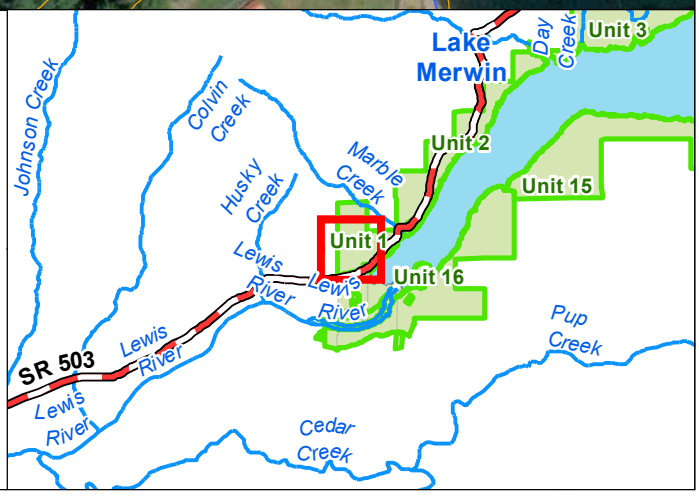
Pollinator Project Pole Replacement 3/19 (Site A)

Unit: 1

- Pollinator Area
- Transmission Pole
- Transmission Line
- Contour (20')
- Management Unit
- Highway
- Road
- Abandon Road
- Gate
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



PACIFICORP

0 100 200 Feet

1:4,000

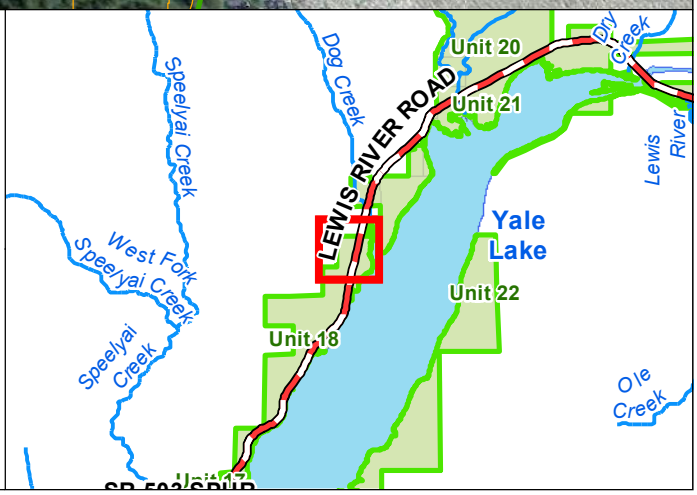
01/18/2022 p36722

U:\Projects\2020\20-026\Pollinator Project Pole Replacement.mxd

Pollinator Project
Pole Replacement
6/4 (Site B)

Unit: 18

- Pollinator Area
- Transmission Pole
- Transmission Line
- Contour (20')
- Management Unit
- Highway
- Road
- Abandon Road
- Gate
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



PACIFICORP

0 100 200 Feet

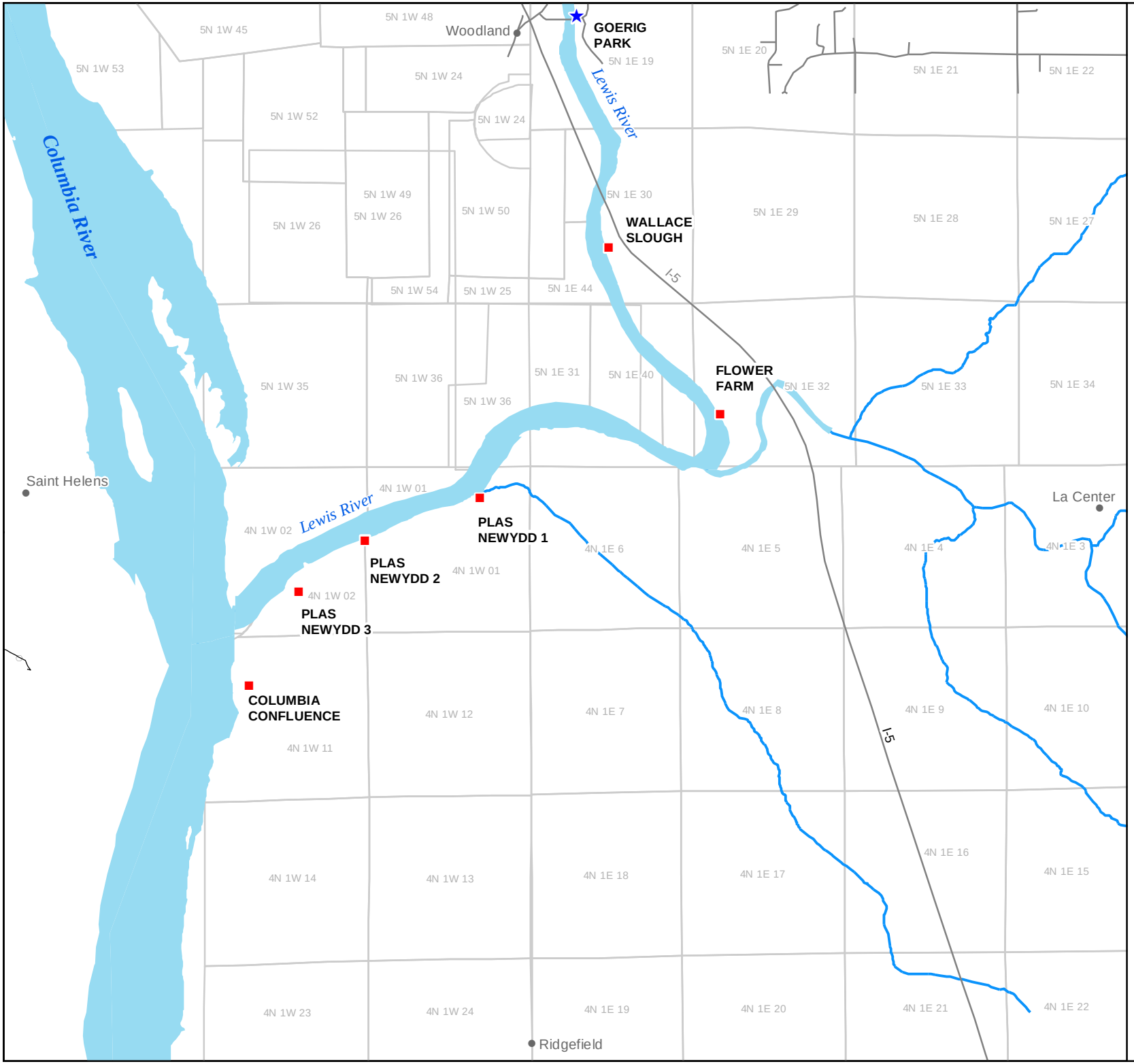
1:4,000

01/18/2022 p36722

U:\Projects\2020\20-026\Pollinator Project Pole Replacement.mxd

Appendix H

2022 Raptor Nest Occupancy Map

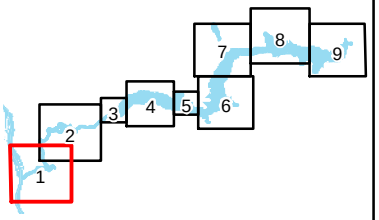


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 1 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 4,300

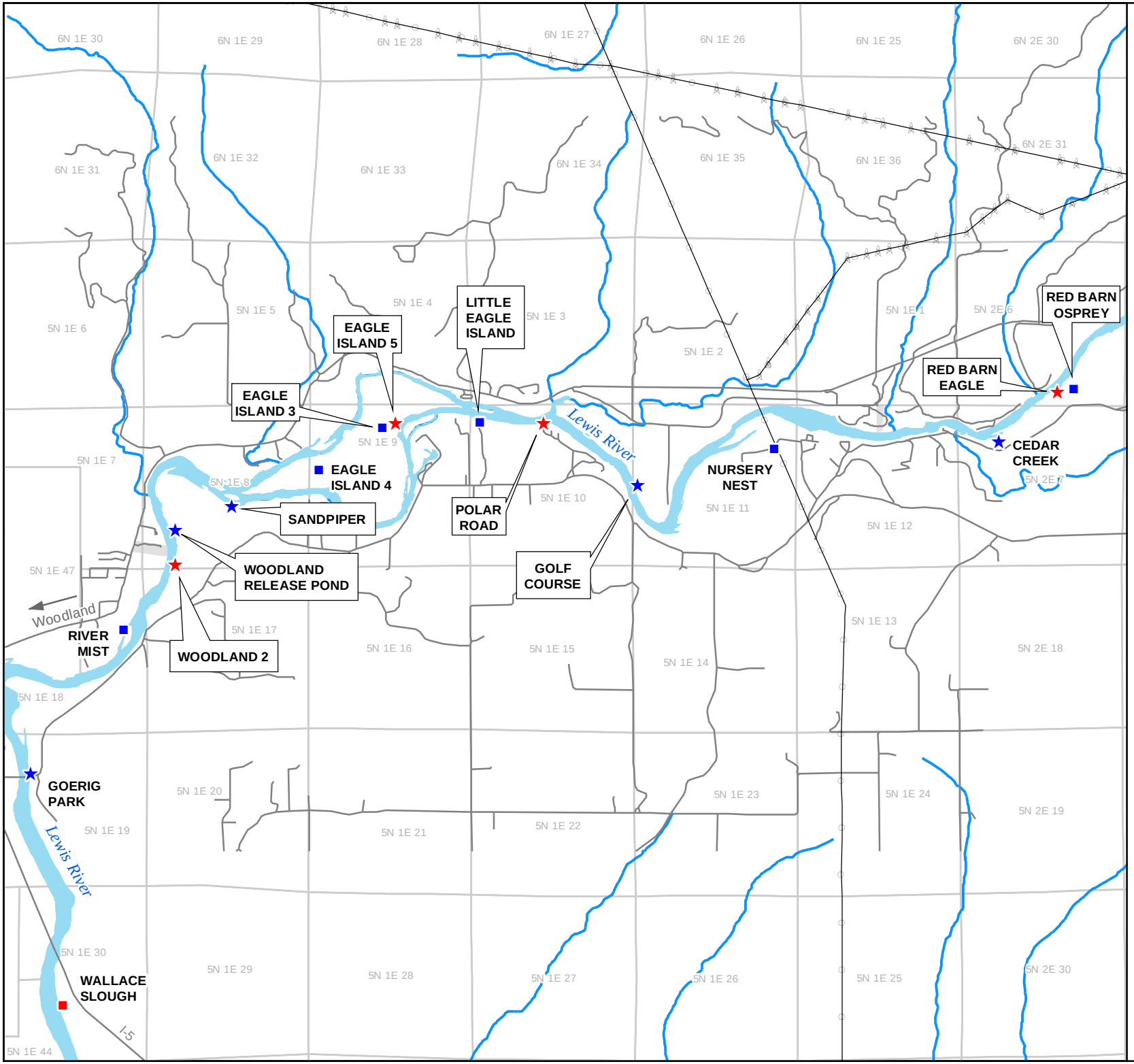
Feet

1:50,600

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

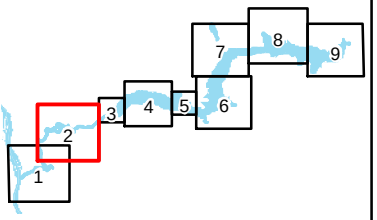


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 2 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

0 4,300

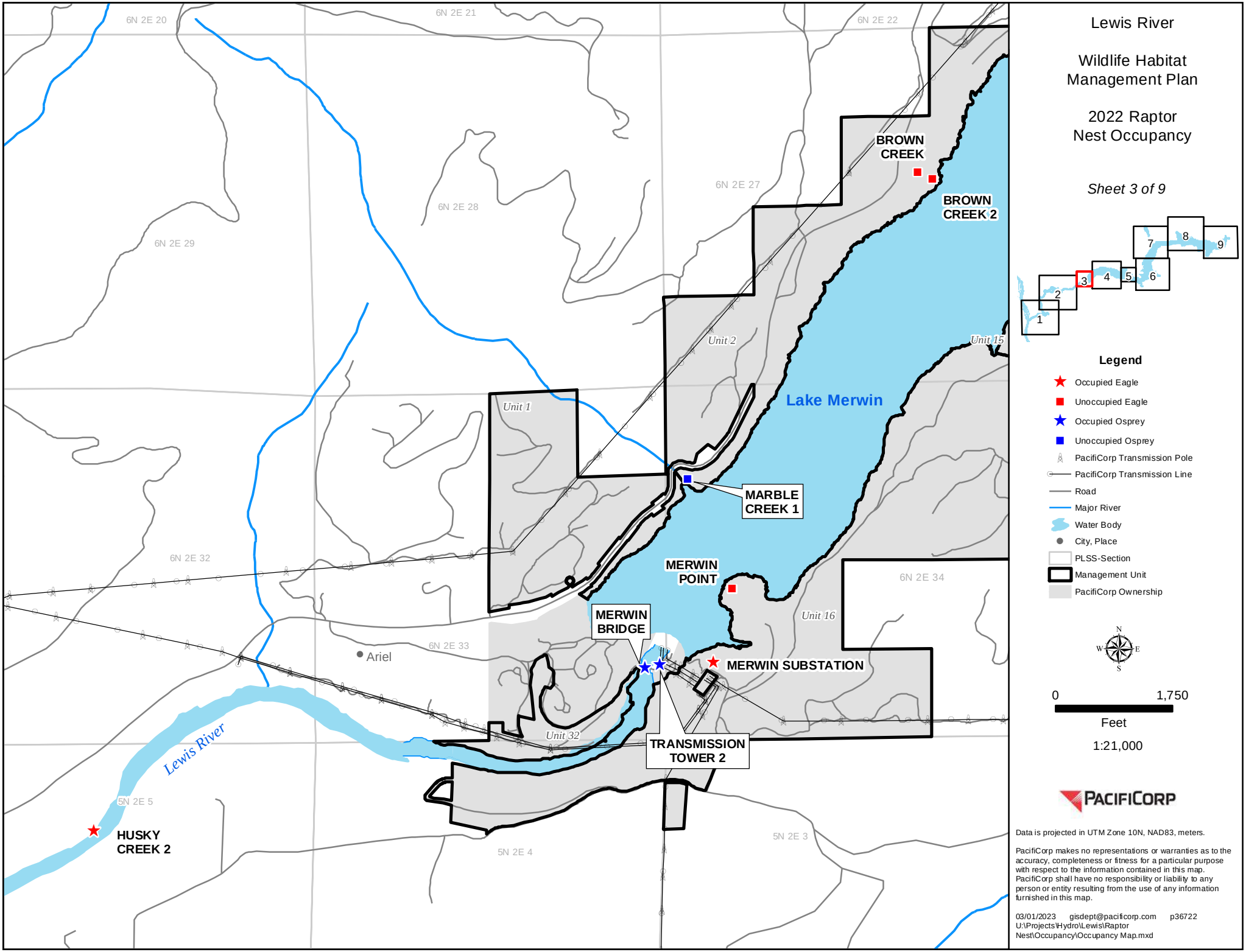
Feet

1:50,600

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd



Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 3 of 9

Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 1,750

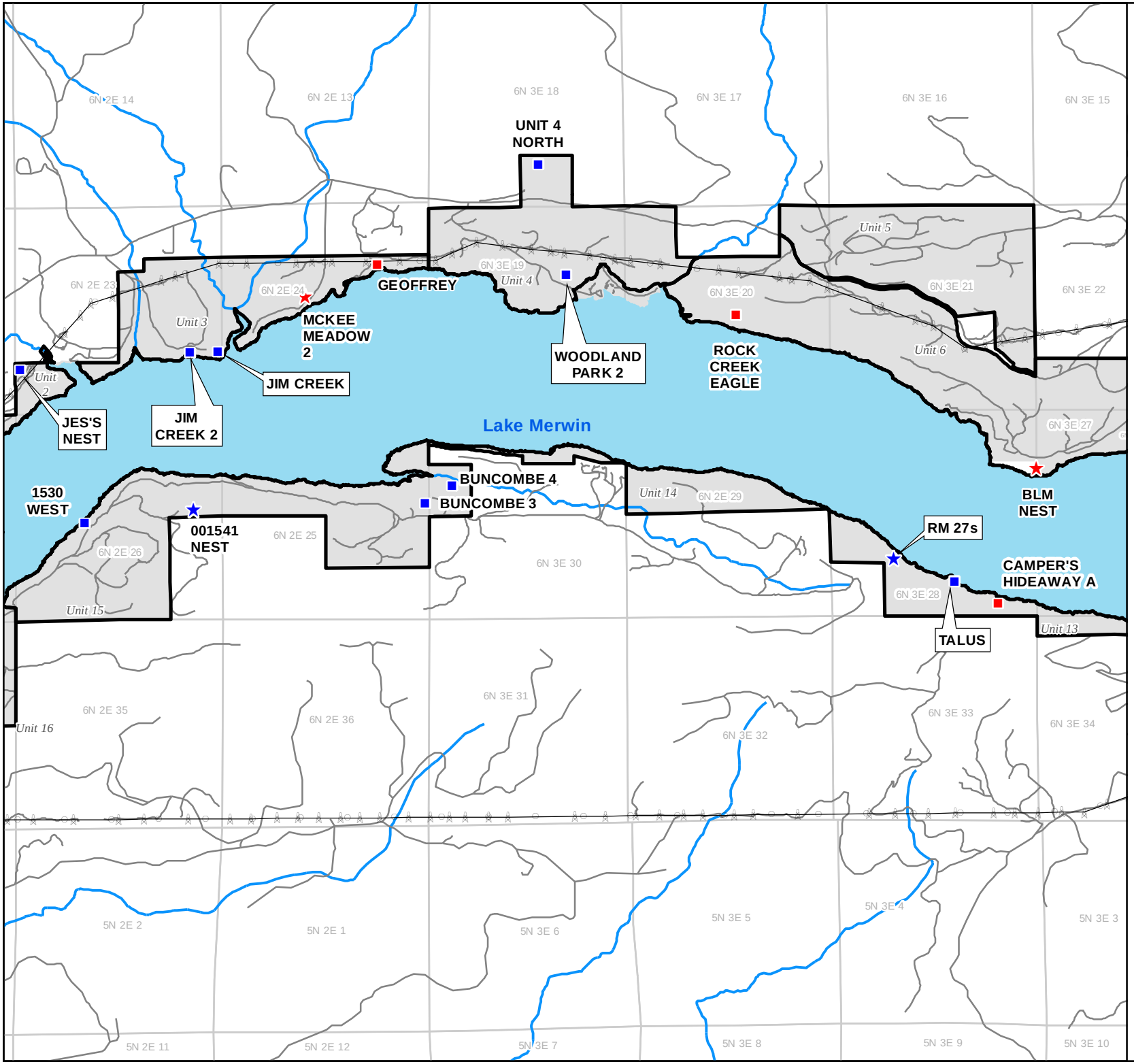
Feet

1:21,000

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

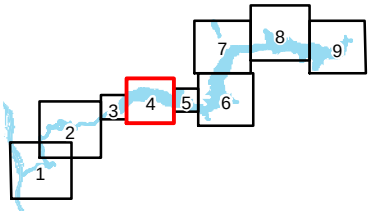


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 4 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 3,400

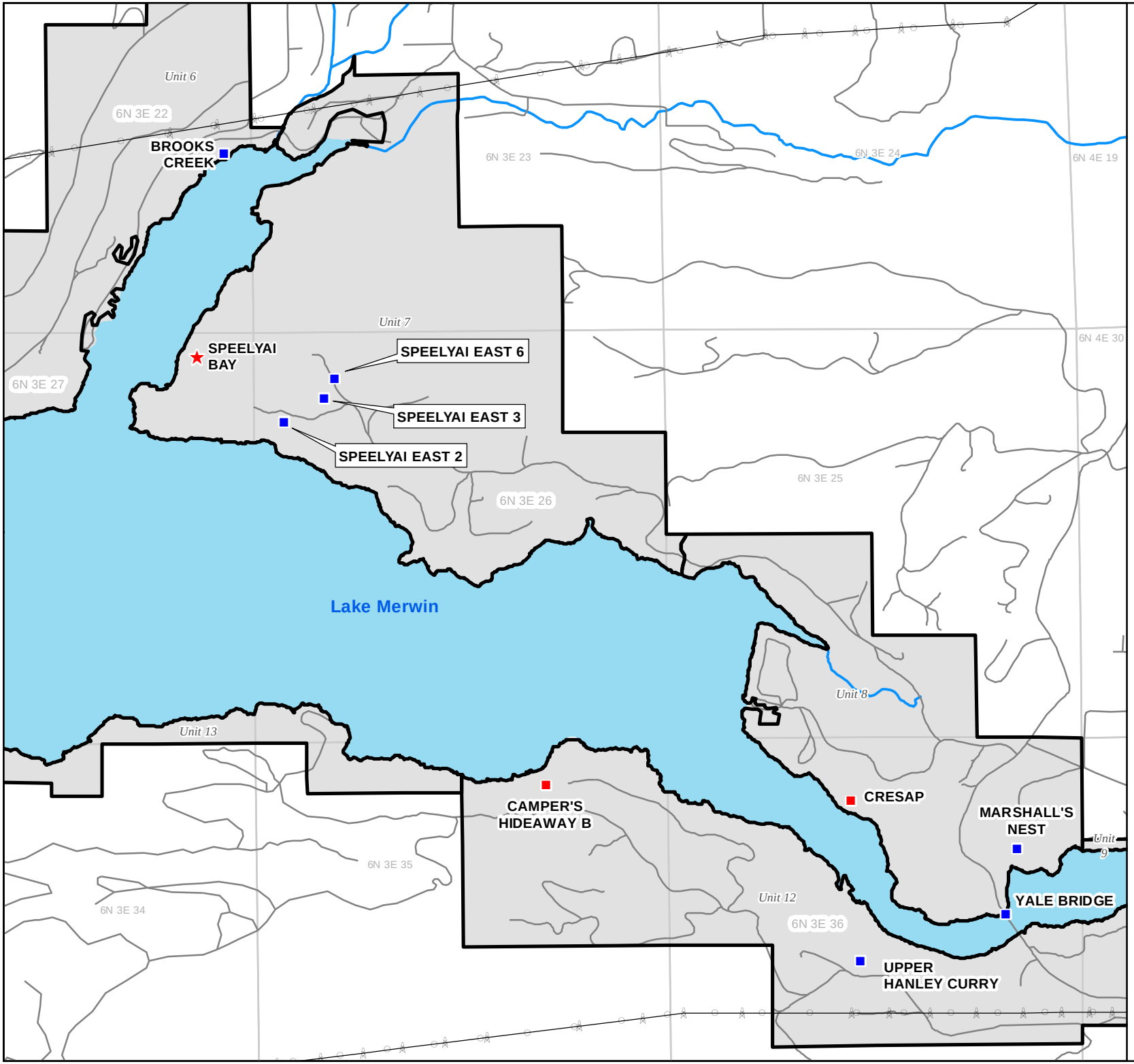
Feet

1:40,200

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

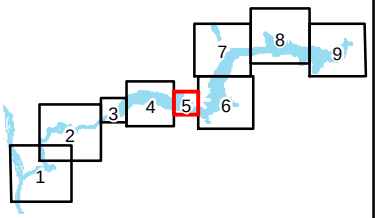


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 5 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 1,700

Feet

1:20,100

PACIFICORP

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

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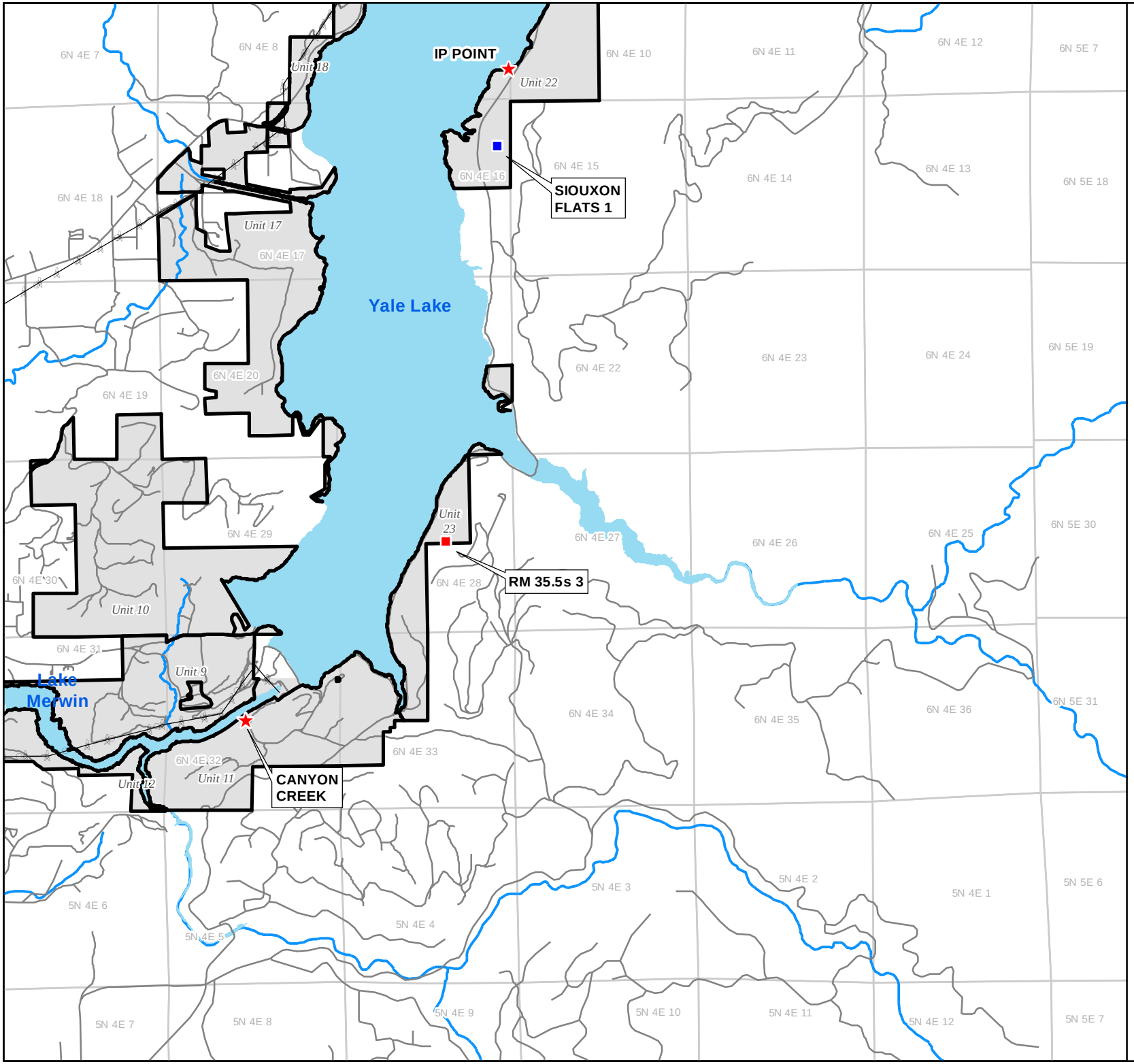
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

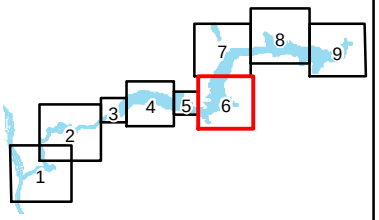


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 6 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 4,000

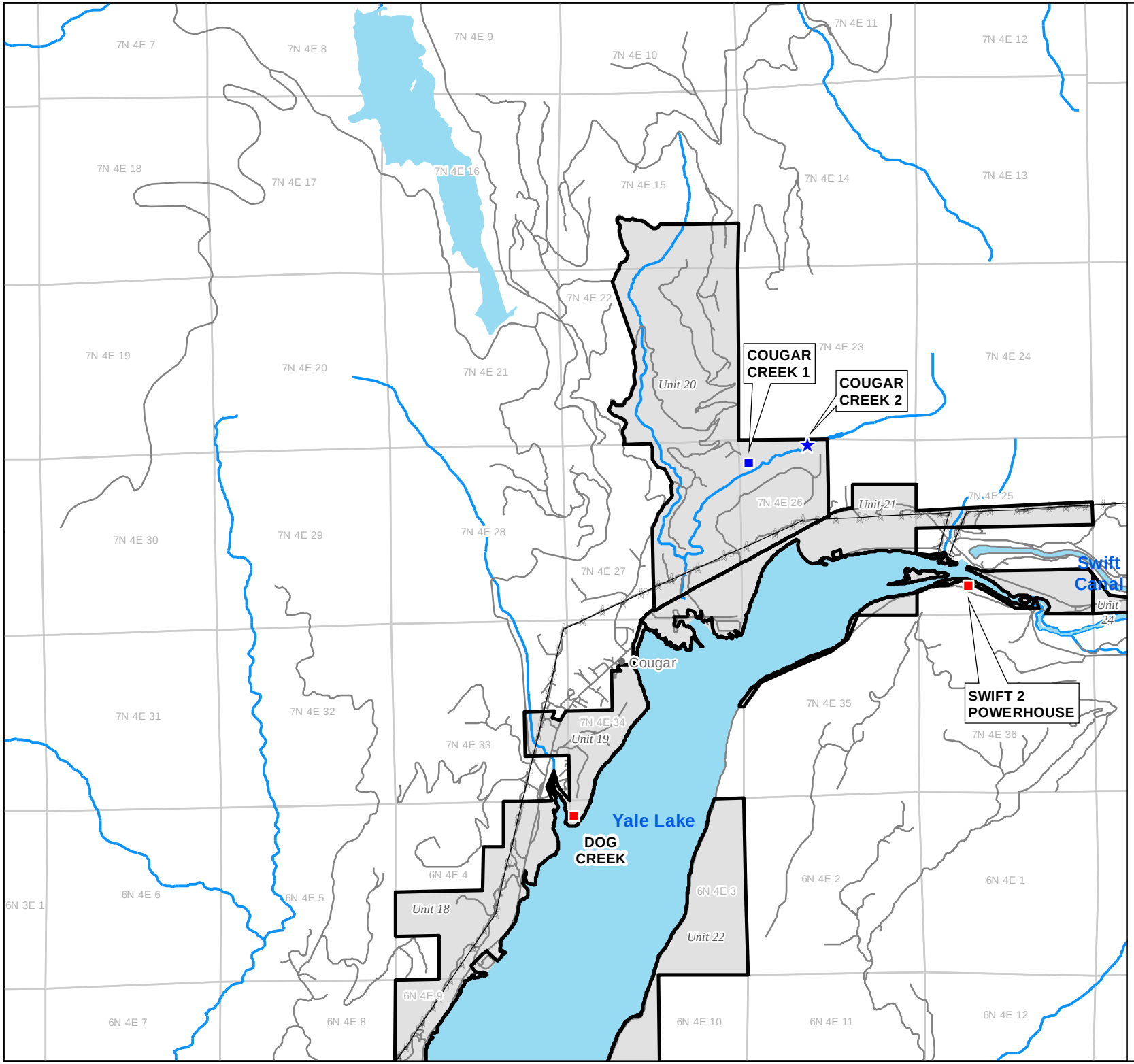
Feet

1:46,800

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

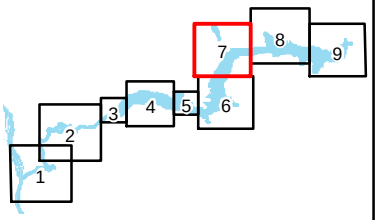


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 7 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 4,000

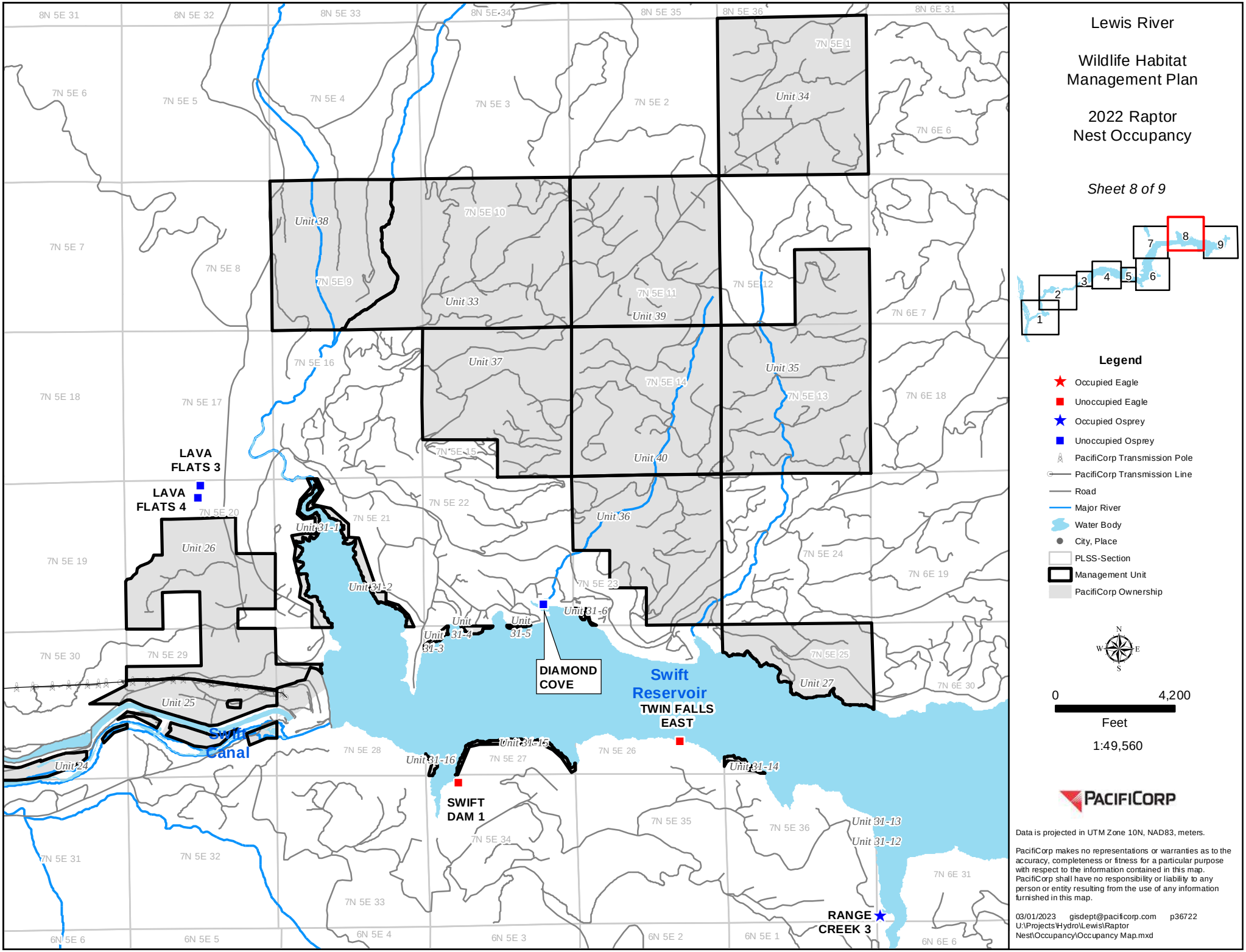
Feet

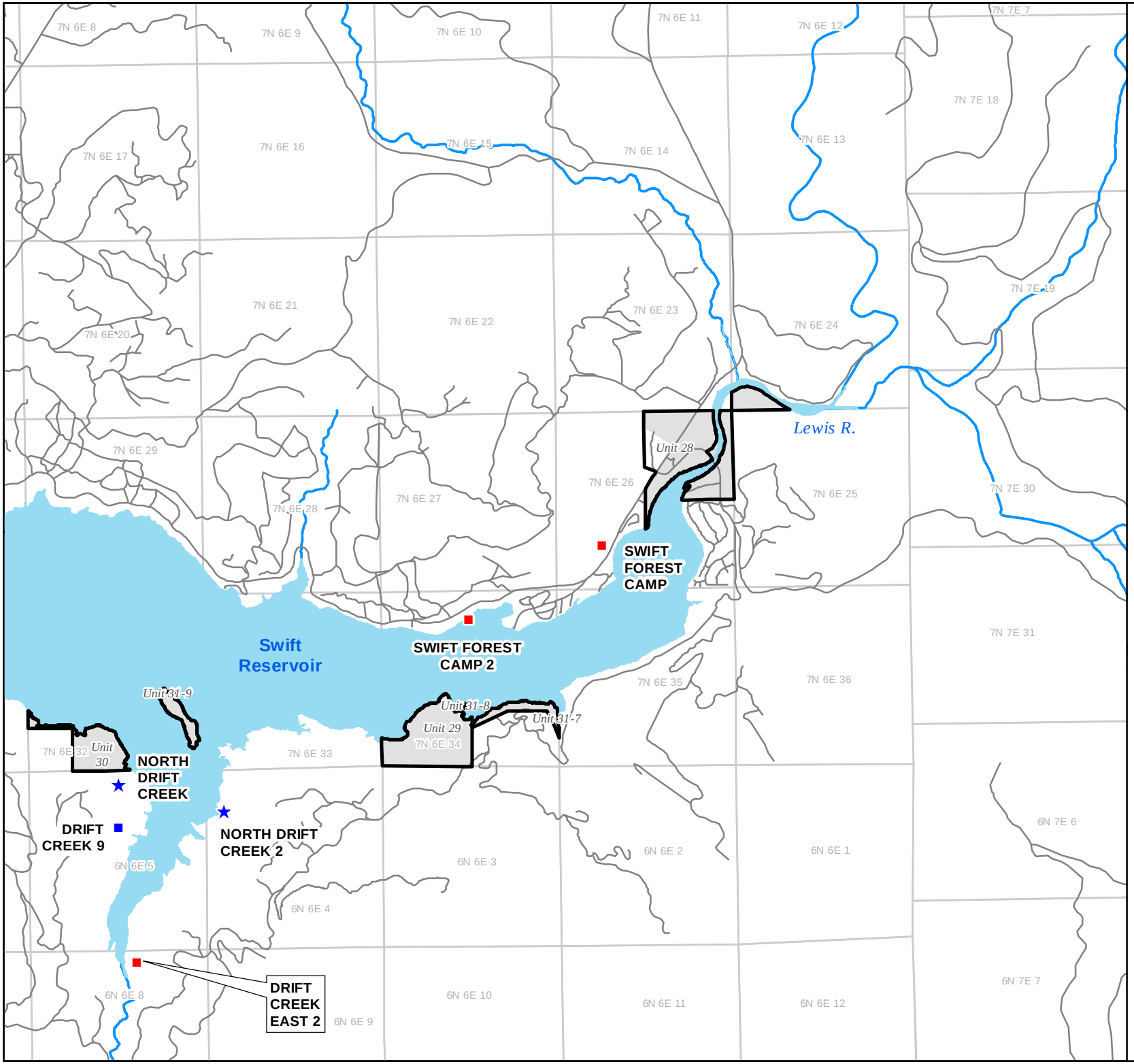
1:46,800

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd


Lewis River
Wildlife Habitat Management Plan
2022 Raptor Nest Occupancy
Sheet 8 of 9
Legend
Occupied Eagle
Unoccupied Eagle
Occupied Osprey
Unoccupied Osprey
PacifiCorp Transmission Pole
PacifiCorp Transmission Line
Road
Major River
Water Body
City, Place
PLSS-Section
Management Unit
PacifiCorp Ownership
0
4,200
Feet
1:49,560
PACIFICORP
Unit 24
Unit 25
Unit 26
Unit 27
Unit 31-1
Unit 31-2
Unit 31-3
Unit 31-4
Unit 31-5
Unit 31-6
Unit 31-12
Unit 31-13
Unit 31-14
Unit 31-15
Unit 31-16
Unit 33
Unit 34
Unit 35
Unit 36
Unit 37
Unit 38
Unit 39
Unit 40
LAVA FLATS 3
LAVA FLATS 4
DIAMOND COVE
Swift Reservoir
TWIN FALLS EAST
SWIFT DAM 1
RANGE CREEK 3
Swift No. 1 Canal
Data is projected in UTM Zone 10N, NAD83, meters.
PacifiCorp makes no representations or warranties as to the accuracy, completeness or fitness for a particular purpose with respect to the information contained in this map. PacifiCorp shall have no responsibility or liability to any person or entity resulting from the use of any information furnished in this map.
03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

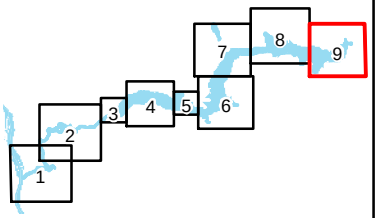


Lewis River

Wildlife Habitat Management Plan

2022 Raptor Nest Occupancy

Sheet 9 of 9



Legend

- Occupied Eagle
- Unoccupied Eagle
- Occupied Osprey
- Unoccupied Osprey
- PacifiCorp Transmission Pole
- PacifiCorp Transmission Line
- Road
- Major River
- Water Body
- City, Place
- PLSS-Section
- Management Unit
- PacifiCorp Ownership

N W E S

0 4,000

Feet

1:46,800

PACIFICORP

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

03/01/2023 gisdept@pacificorp.com p36722
U:\Projects\Hydro\Lewis\Raptor Nest\Occupancy\Occupancy Map.mxd

Appendix I

Raptor Nest Summary Data 1981 - 2022

Raptor Nest Summary Data

Eagles	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total number of nests surveyed	0	0	0	0	0	0	0	0	1	1	1	1	2	4	6	7	7	7	8	8	9	10	10	11
Total number of territories	0	0	0	0	0	0	0	0	0	1	1	1	2	3	5	5	5	5	6	6	7	7	7	7
Number of new nest detected	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	1	0	0	1	0	1	1	0	1
Number of occupied nests	0	0	0	0	0	0	0	0	1	1	1	1	1	3	5	4	5	2	2	1	3	3	4	2
Successful Reproduction	0	0	0	0	0	0	0	0	1	1	0	0	0	2	1	4	4	2	1	1	1	1	0	2
Number of nest destroyed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Number of nests archived																								

Osprey	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total number of nests surveyed	7	11	7	19	21	34	35	38	42	43	50	59	68	75	80	83	84	85	86	89	89	90	87	88
Number of new nest detected	7	5	1	7	4	8	3	2	5	1	7	9	10	7	3	4	3	1	1	1	0	1	0	1
Number of occupied nests	6	5	7	16	16	19	21	22	28	21	32	35	36	42	30	32	31	25	15	14	21	16	11	20
Successful Reproduction	4	5	7	15	12	16	14	18	23	18	0	0	15	19	0	23	15	13	5	6	0	0	0	2
Number of nest destroyed	0	0	0	0	0	1	1	1	1	2	2	1	3	0	3	9	1	4	4	5	10	5	4	7
Number of nests archived																								
Percent of Bald Eagle Occupancy	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	50%	100%	100%	80%	100%	40%	33%	17%	43%	43%	57%	29%
Percent of Osprey Occupancy	86%	45%	100%	84%	76%	56%	60%	58%	67%	49%	64%	59%	53%	56%	38%	39%	37%	29%	17%	16%	24%	18%	13%	23%
%of Bald Eagle Reproductive Success	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	20%	100%	80%	100%	50%	100%	33%	33%	0%	100%
Percent of Osprey Reproductive Success	67%	100%	100%	94%	75%	84%	67%	82%	82%	86%	0%	0%	42%	45%	0%	72%	48%	52%	33%	43%	0%	0%	0%	10%

Eagles	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 [1]	2021	2022
Total number of nests surveyed	14	16	20	19	16	14	12	15	15	17	20	23	22	25	26	N/A	32	33
Total number of territories	9	10	11	11	11	11	11	10	9	12	16	15	18	18	15 [2]	N/A	N/A	N/A
Number of new nest detected	3	1	3	0	0	0	1	3	1	2	4	1	2	6	0	N/A	6	1
Number of occupied nests	5	7	9	8	5	5	4	6	5	9	10	11	12	16	16	N/A	15	11
Successful Reproduction	3	3	8	5	4	2	4	2	4	6	6	5	7	15	10	N/A	9	10
Number of nest destroyed	1	8	10	7	11	8	7	3	1	2	5	3	1	0	4	N/A	0	2
Number of nests archived																N/A	0	1

Osprey	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 [1]	2021	2022
Total number of nests surveyed	66	49	51	52	33	31	43	43	49	45	39	33	29	35	35	N/A	37	41
Number of new nest detected	2	8	3	5	3	0	2	1	3	1	4	0	1	5	2	N/A	2	6
Number of occupied nests	12	17	21	17	13	13	12	14	6	13	16	17	13	17	20	N/A	18	15
Successful Reproduction	3	4	2	0	0	0	0	0	0	0	2	0	0	n/a	n/a	N/A	n/a	n/a
Number of nest destroyed	18	25	32	39	15	32	30	10	21	8	19	9	6	0	2	N/A	0	1
Number of nests archived																N/A	0	0
Percent of Bald Eagle Occupancy	56%	70%	82%	42%	31%	36%	33%	40%	33%	53%	50%	48%	55%	64%	62%	N/A	47%	33%
Percent of Osprey Occupancy	18%	35%	41%	33%	39%	42%	28%	33%	12%	29%	41%	52%	45%	49%	57%	N/A	49%	37%
%of Bald Eagle Reproductive Success	60%	43%	89%	63%	80%	40%	100%	33%	80%	67%	60%	45%	58%	94%	63%	NA/	60%	91%
Percent of Osprey Reproductive Success	25%	24%	10%	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%	N/A	N/A	N/A	N/A	N/A

[1] No survey in 2020 due to COVID19

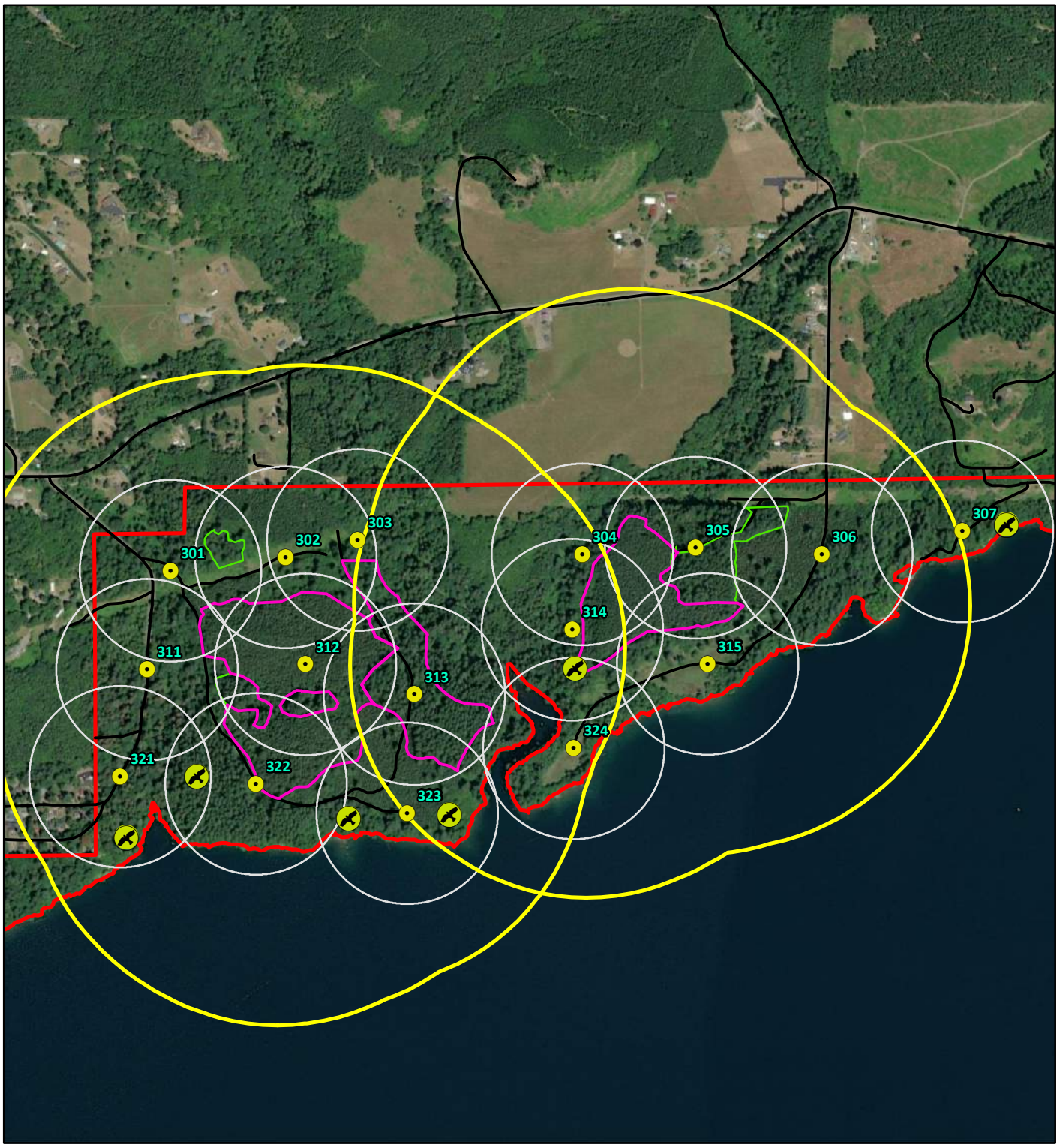
[2] Removed from report in 2019.

Appendix J

Goshawk Survey Maps 2022

2022 Northern Goshawk Surveys

Unit 3



Cafferata CONSULTING

This product is for information purposes only and may not be suitable for legal, surveying or engineering purposes. Please consult the original data sourcesto ascertain usability. Data Sources: Roads, Ownership, Stands, and Raptor Nests from PacifiCorp. Survey Stations and Buffers from Cafferata Consulting. Aerial from ESRI. Map Created 5/13/202.

N

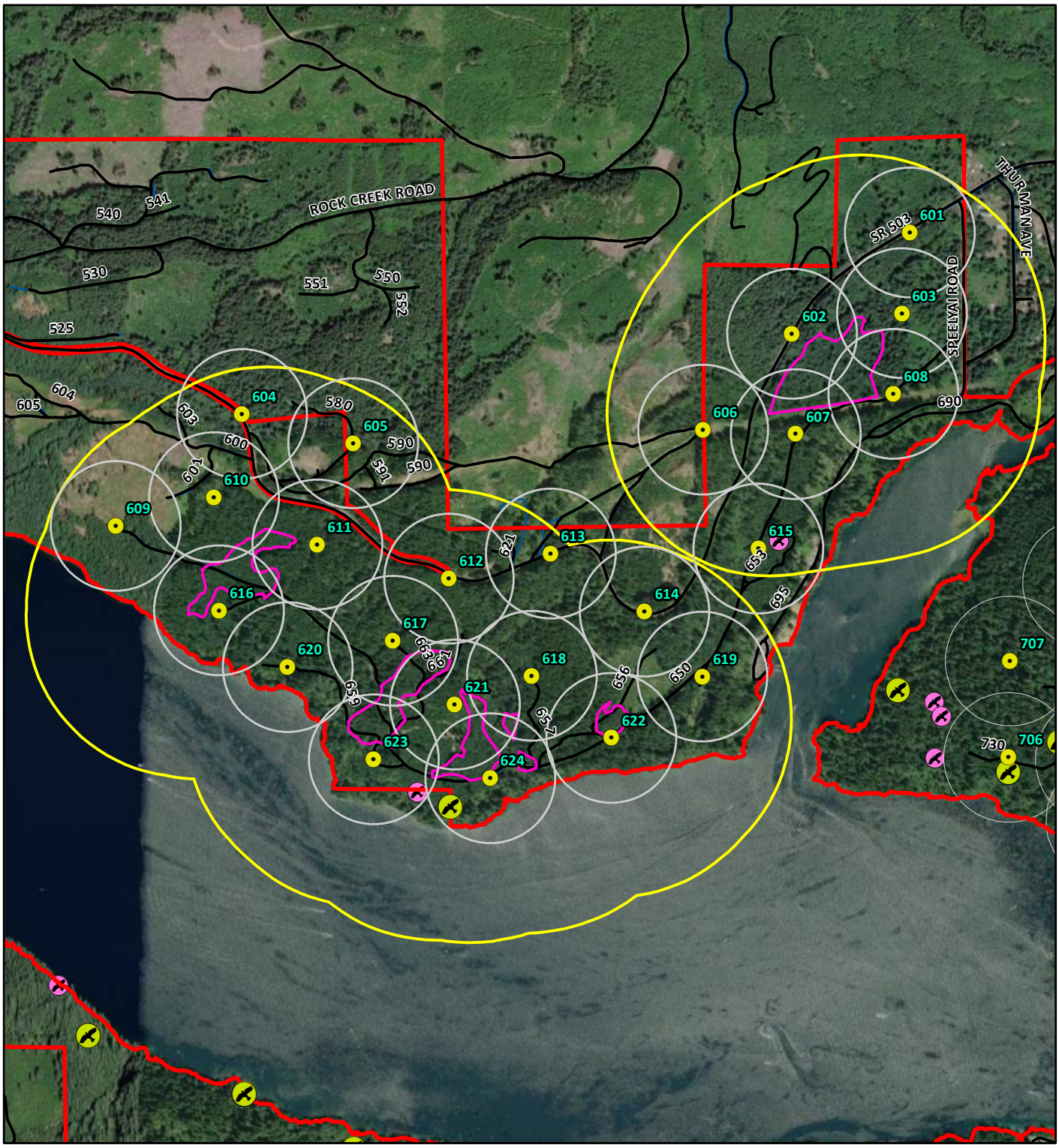
1 inch = 318 meters

0 50 100 200 Meters

- PacifiCorp Ownership
- Harvest Unit Boundary
- Harvest Unit Buffer (500 m)
- Mature Stands
- Old Growth Stands
- 2022 Survey Stations
- Survey Station Buffer (200 m)
- Known Raptor Nests

2021 Northern Goshawk Surveys

Unit 6



Cafferata CONSULTING

This product is for information purposes only and may not be suitable for legal, surveying or engineering purposes. Please consult the original data sourcesto ascertain usability. Data Sources: Roads, Ownership, Harvest Units and Raptor Nests from PacifiCorp. Survey Stations and Buffers from Cafferata Consulting. Aerial from ESRI. Map Created 5/26/2021.

N

1 inch = 445 meters

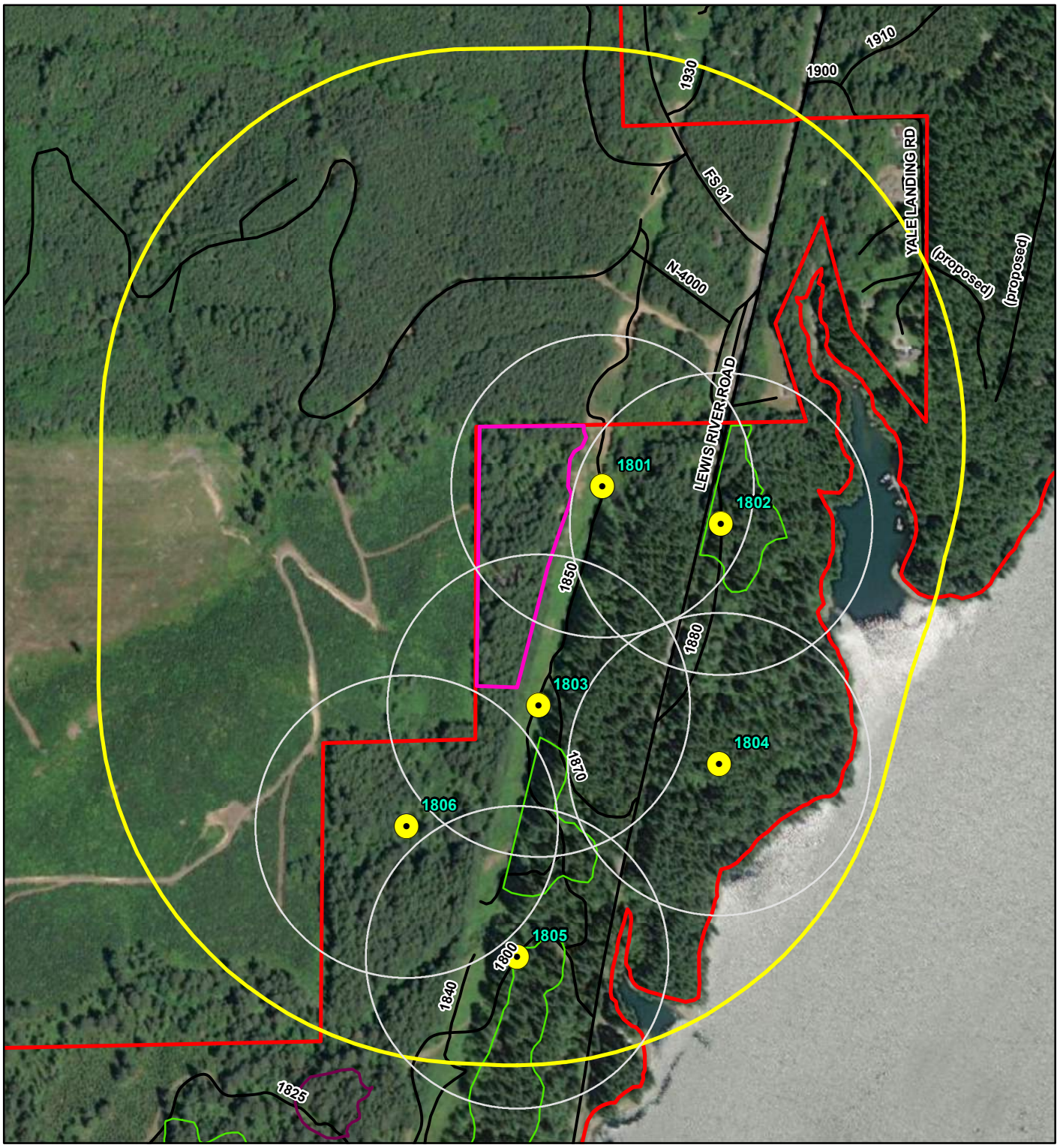
Meters

0 50100 200

- PacifiCorp Ownership
- Harvest Unit Boundary
- Harvest Unit Buffer (500 m)
- 2021 Survey Stations
- Survey Station Buffer (200m)
- Known Raptor Nests

2022 Northern Goshawk Surveys

Unit 18



Cafferata CONSULTING

This product is for information purposes only and may not be suitable for legal, surveying or engineering purposes. Please consult the original data sources to ascertain usability. Data Sources: Roads, Vegetation Cover, Ownership, Harvest Units and Raptor Nests from PacifiCorp. Survey Stations and Buffers from Cafferata Consulting. Aerial from ESRI (2021). Map created 6/10/2022.

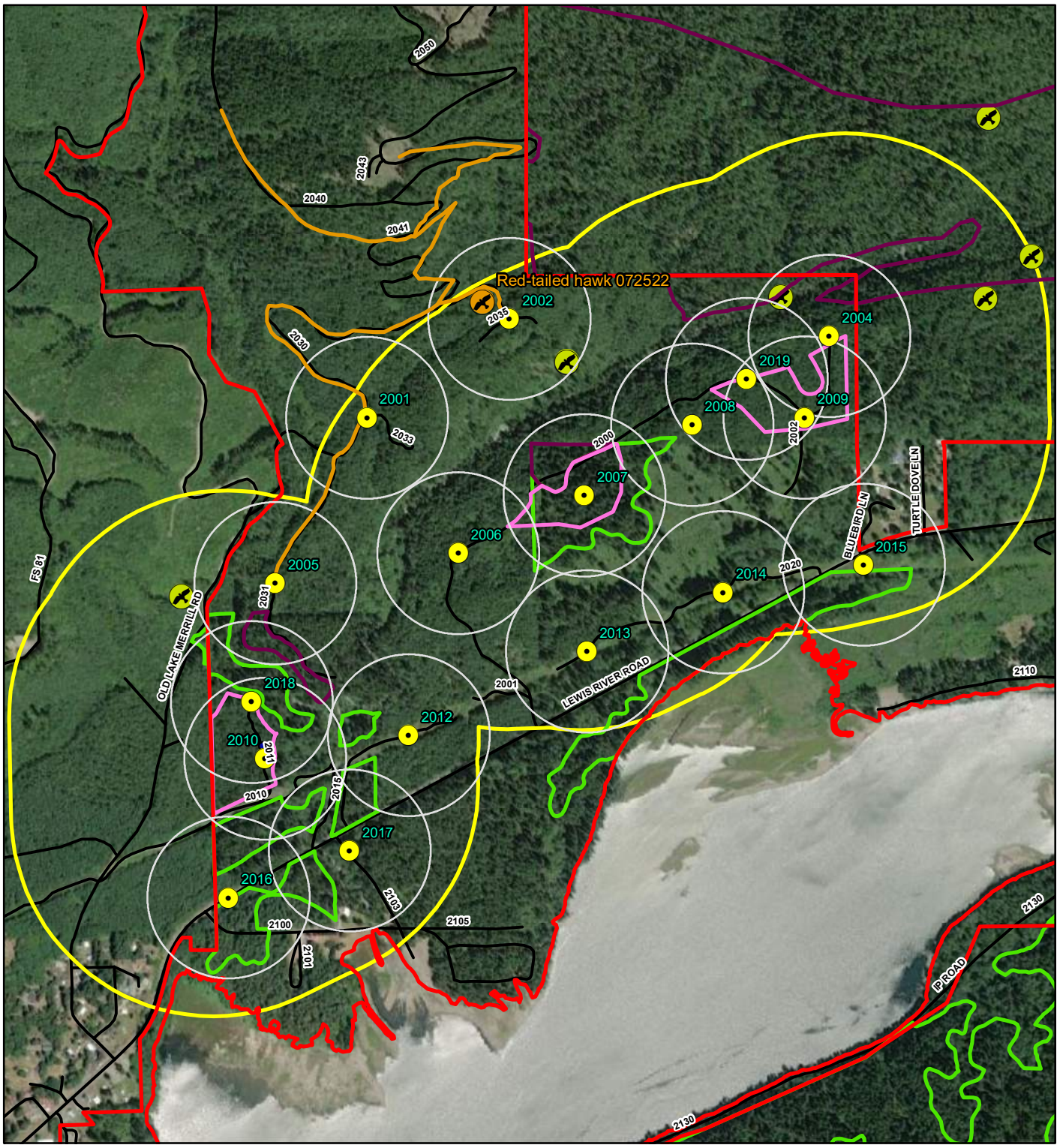
1 inch = 191 meters

0 100 200 400 Meters

- PacifiCorp Ownership
- Harvest Unit Boundary
- Harvest Unit Buffer (500 m)
- Mature Stands
- Old Growth Stands
- 2022 Survey Stations
- Known Raptor Nests

2022 Northern Goshawk Surveys

Unit 20



Cafferata CONSULTING

This product is for information purposes only and may not be suitable for legal, surveying or engineering purposes. Please consult the original data sources to ascertain usability. Data Sources: Roads, Ownership, Harvest Units and Raptor Nests from PacifiCorp. Survey Stations and Buffers from Cafferata Consulting. Aerial from ESRI (2021). Map created 5/9/2022.

N

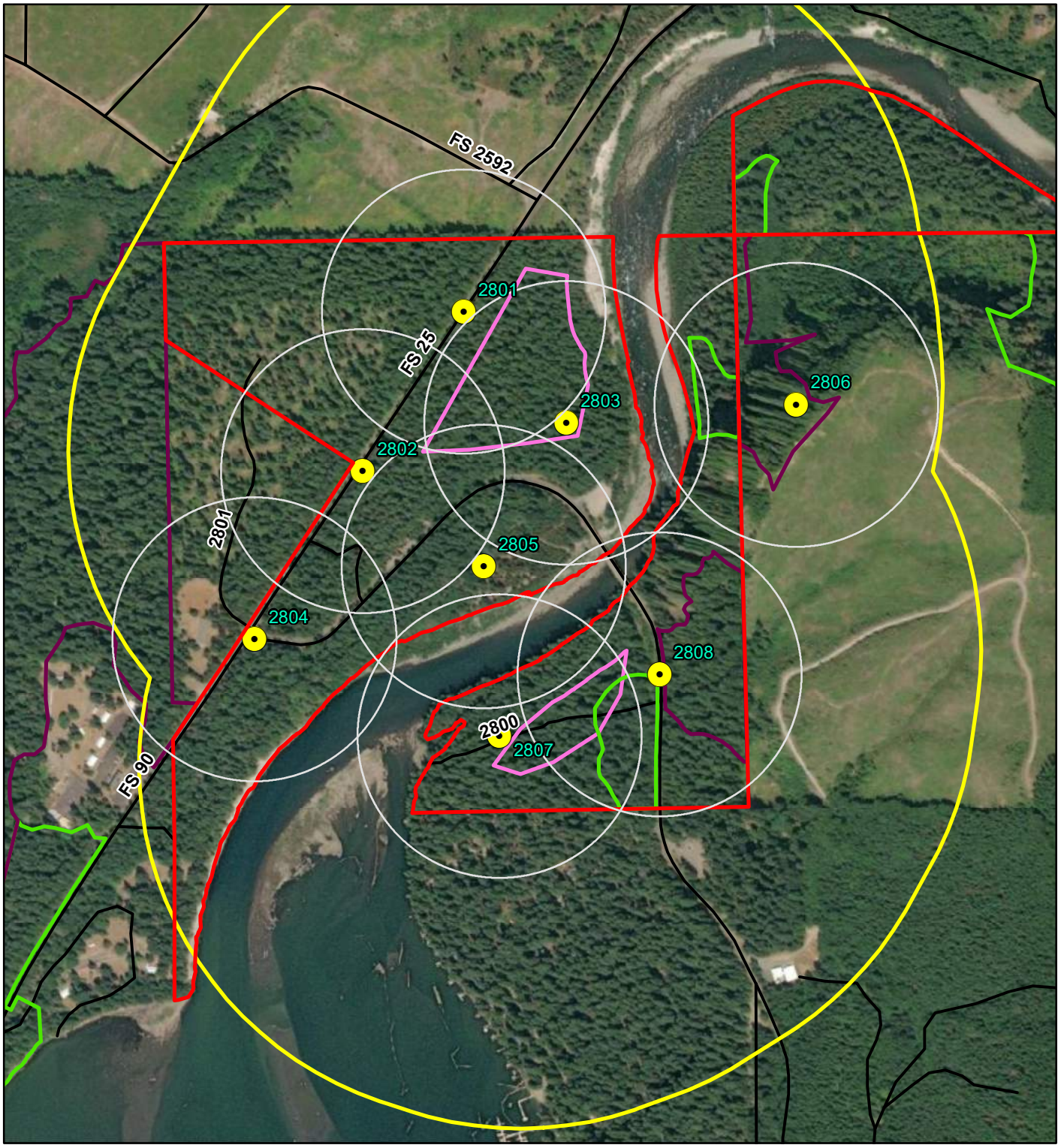
1 inch = 356 meters

0 50 100 200 Meters

- PacifiCorp Ownership
- Harvest Unit Boundary
- Harvest Unit Buffer (500 m)
- Mature Stands
- Old Growth Stands
- 2022 Survey Stations
- Survey Station Buffer (200 m)
- Known Raptor Nests
- HikingTrail

2022 Northern Goshawk Surveys

Unit 28



Cafferata CONSULTING

This product is for information purposes only and may not be suitable for legal, surveying or engineering purposes. Please consult the original data sources to ascertain usability. Data Sources: Roads, Ownership, Harvest Units and Raptor Nests from PacifiCorp. Survey Stations and Buffers from Cafferata Consulting. Aerial from ESRI. Map created 5/9/2022.

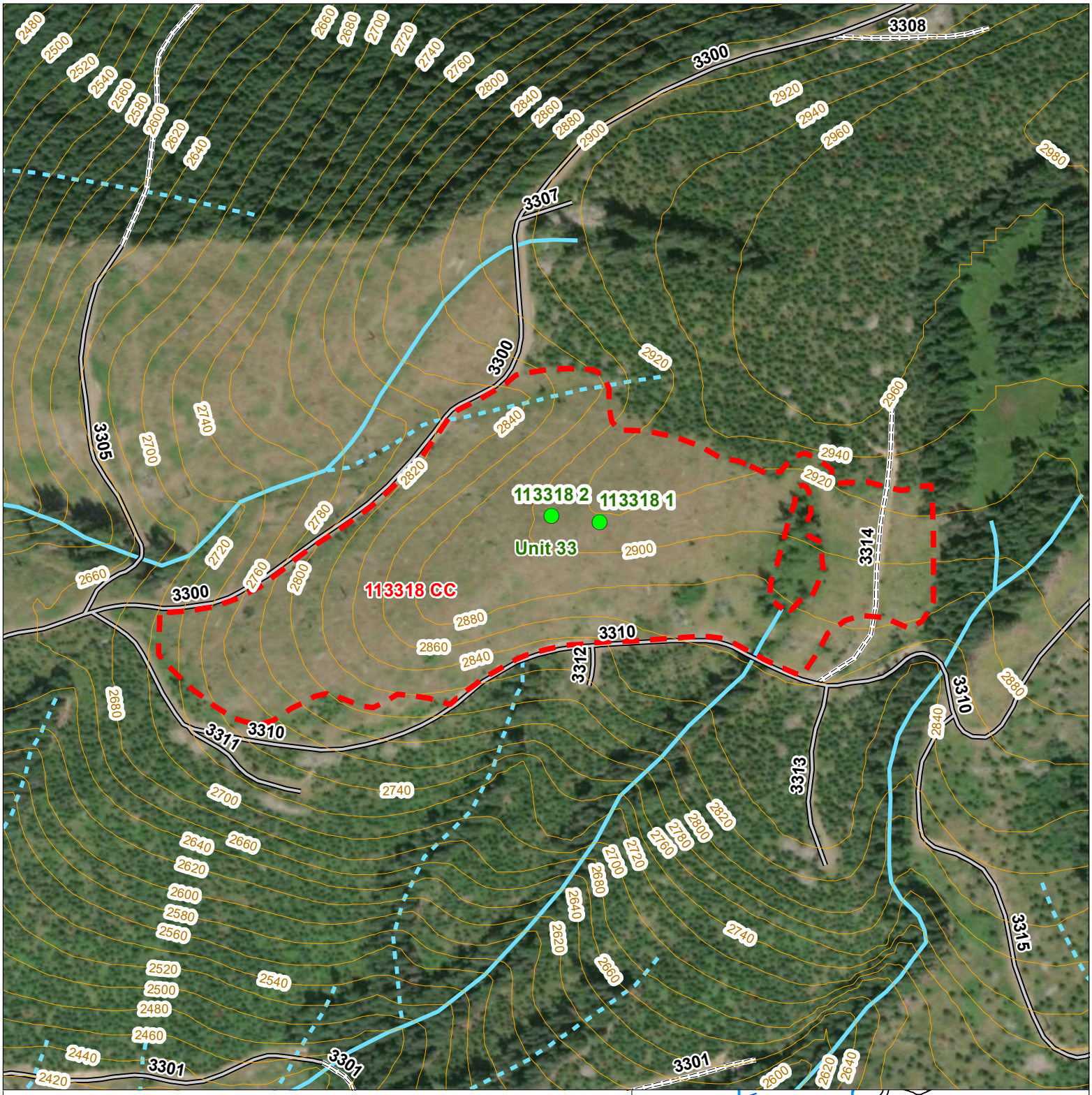
1 inch = 203 meters

0 50 100 200 Meters

- PacifiCorp Ownership
- Harvest Unit Boundary
- Harvest Unit Buffer (500 m)
- Mature Stands
- Old Growth Stands
- 2022 Survey Stations
- Survey Station Buffer (200 m)
- Known Raptor Nests

Appendix K

Wildlife Forage Monitoring Maps



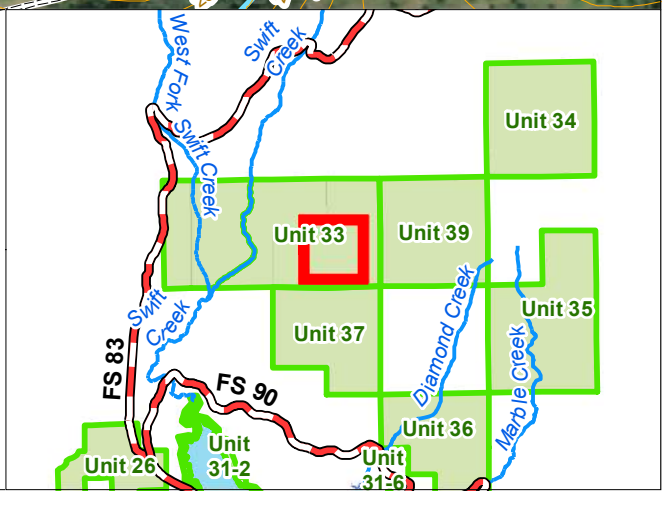
Wildlife Forage Monitoring

Harvest: 113318 CC
Unit: 33
Year: 2011

0 160 320
Feet
1:4,350

- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



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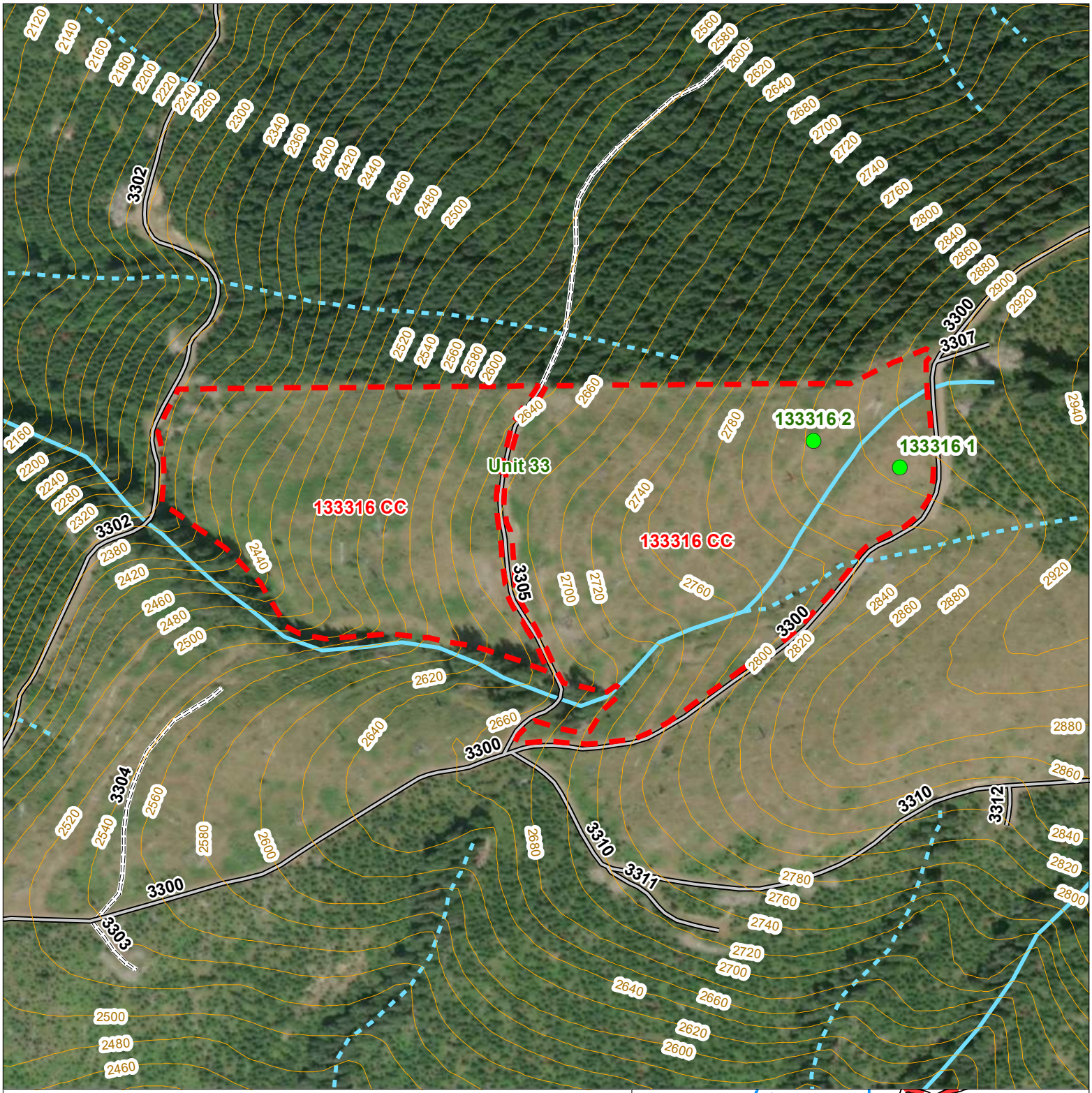

Wildlife Forage Monitoring

Harvest: 133316 CC
Unit: 33
Year: 2011

0 160 320
Feet
1:4,370

PACIFICORP

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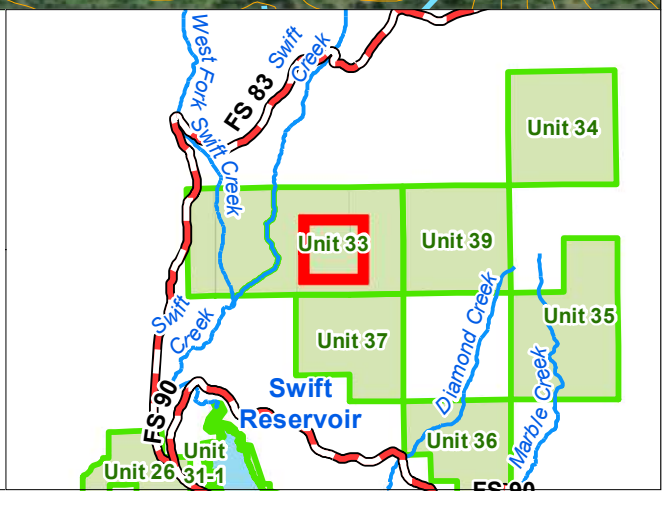
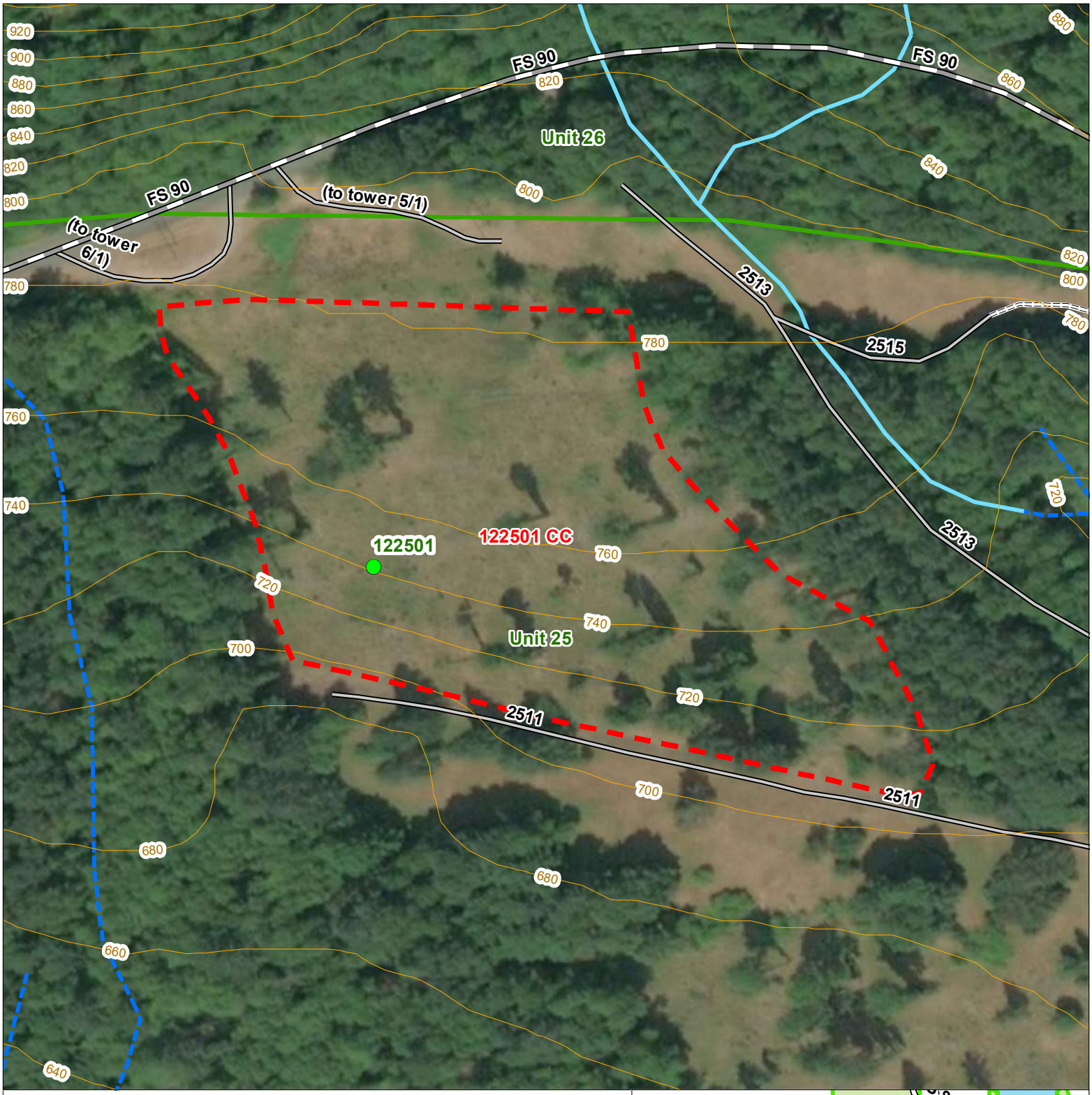
- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal





Wildlife Forage Monitoring

Harvest: 122501 CC
Unit: 25
Year: 2012

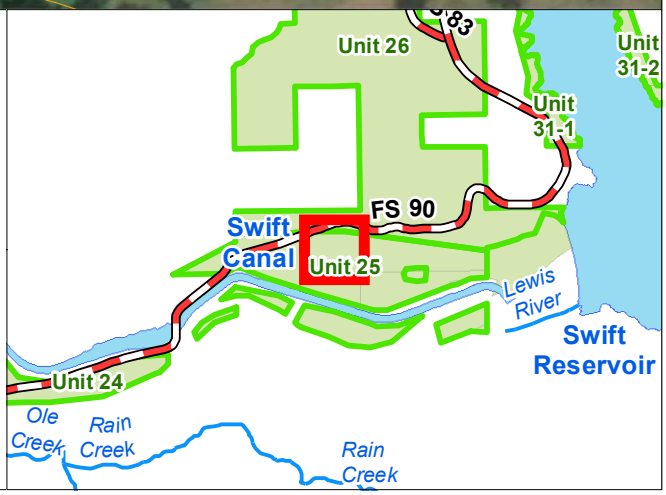
0 70 140 Feet

1:1,870

PACIFICORP

- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



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Wildlife Forage Monitoring

Harvest: 122502 CC
Unit: 25
Year: 2012

0 75 150 Feet
1:2,040

PACIFICORP

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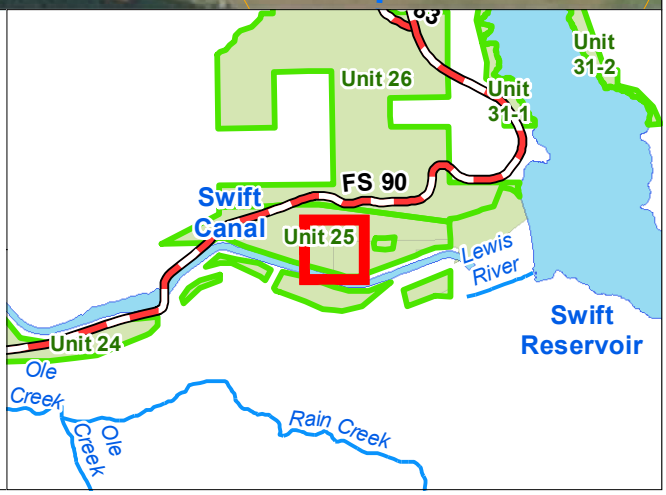
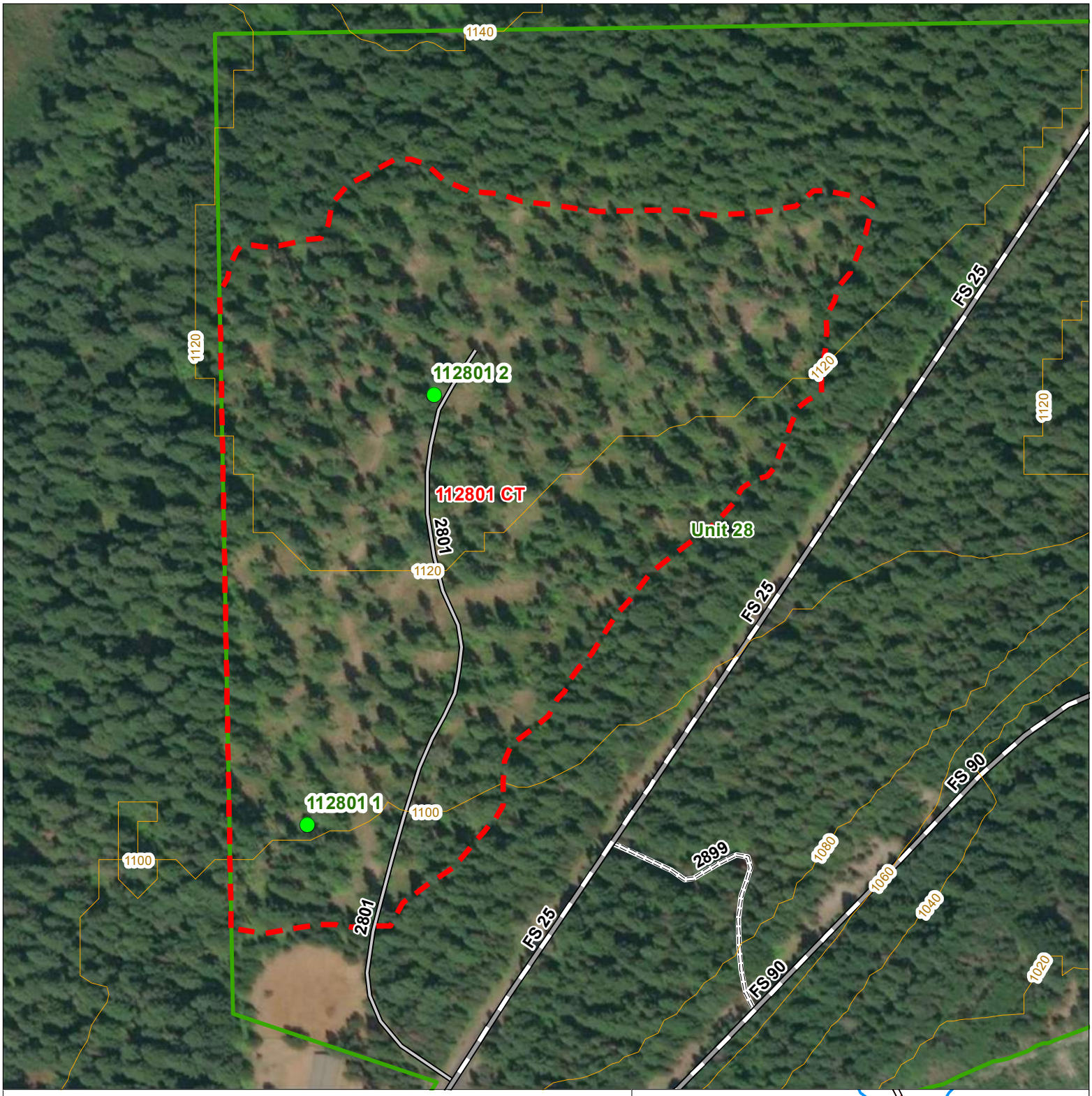
- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal





Wildlife Forage Monitoring

Harvest: 112801 CT
Unit: 28
Year: 2011

0 100 200 Feet
1:2,740

PACIFICORP

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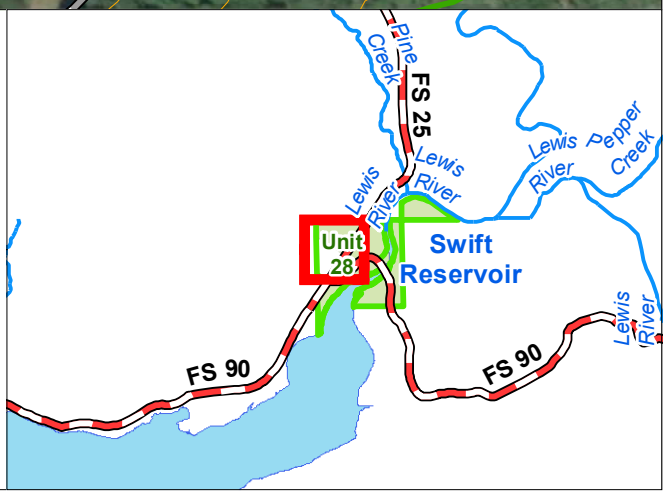
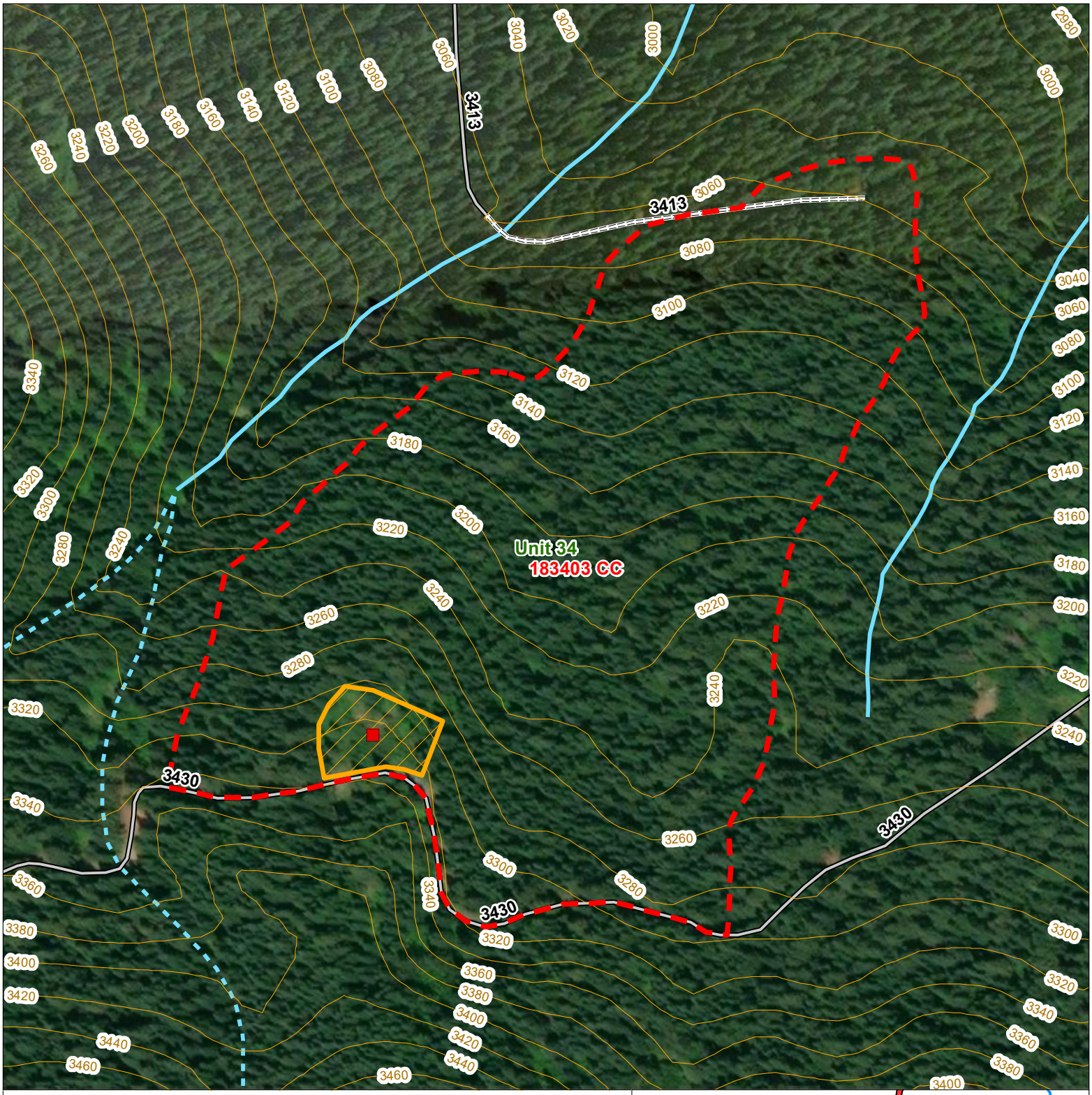
- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal





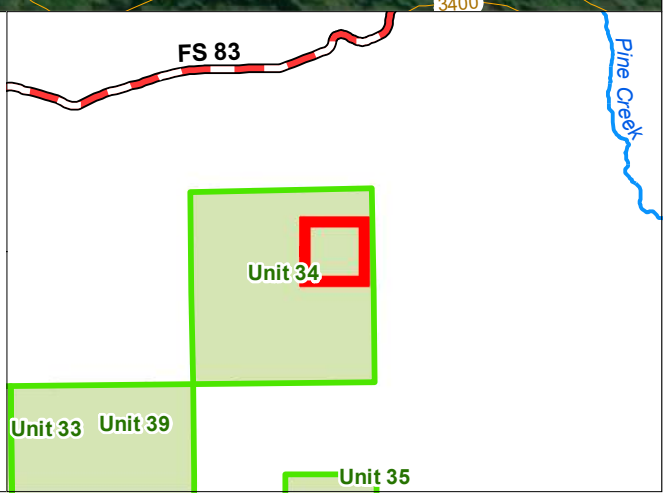
Wildlife Forage Monitoring

Harvest: 183403 CC
Unit: 34
Year: 2018

0 90 180 Feet
1:2,570

PACIFICORP

- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area
- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



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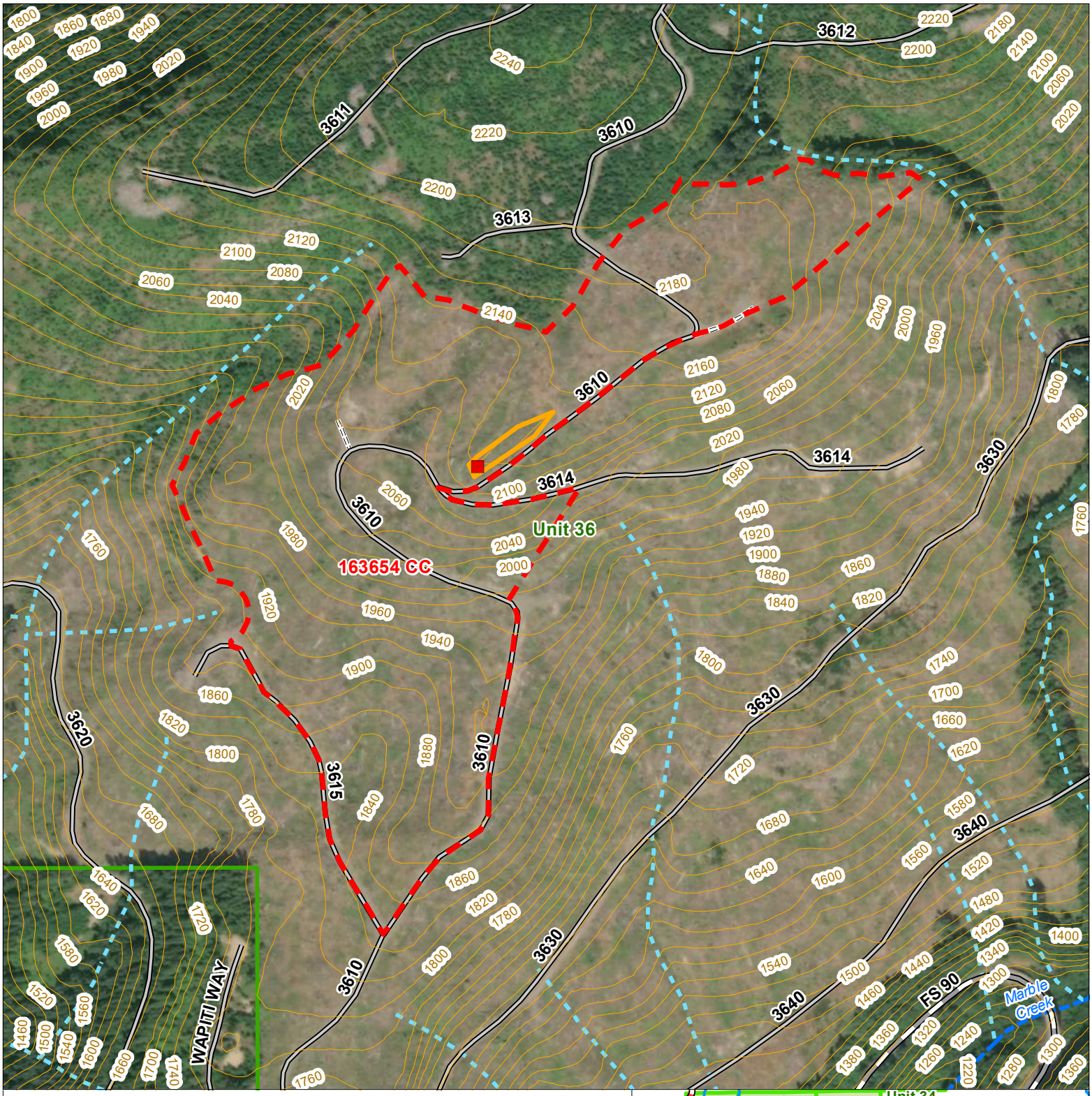

Wildlife Forage Monitoring

Harvest: 163654 CC
Unit: 36
Year: 2016

0 190 380 Feet
1:5,060

PACIFICORP

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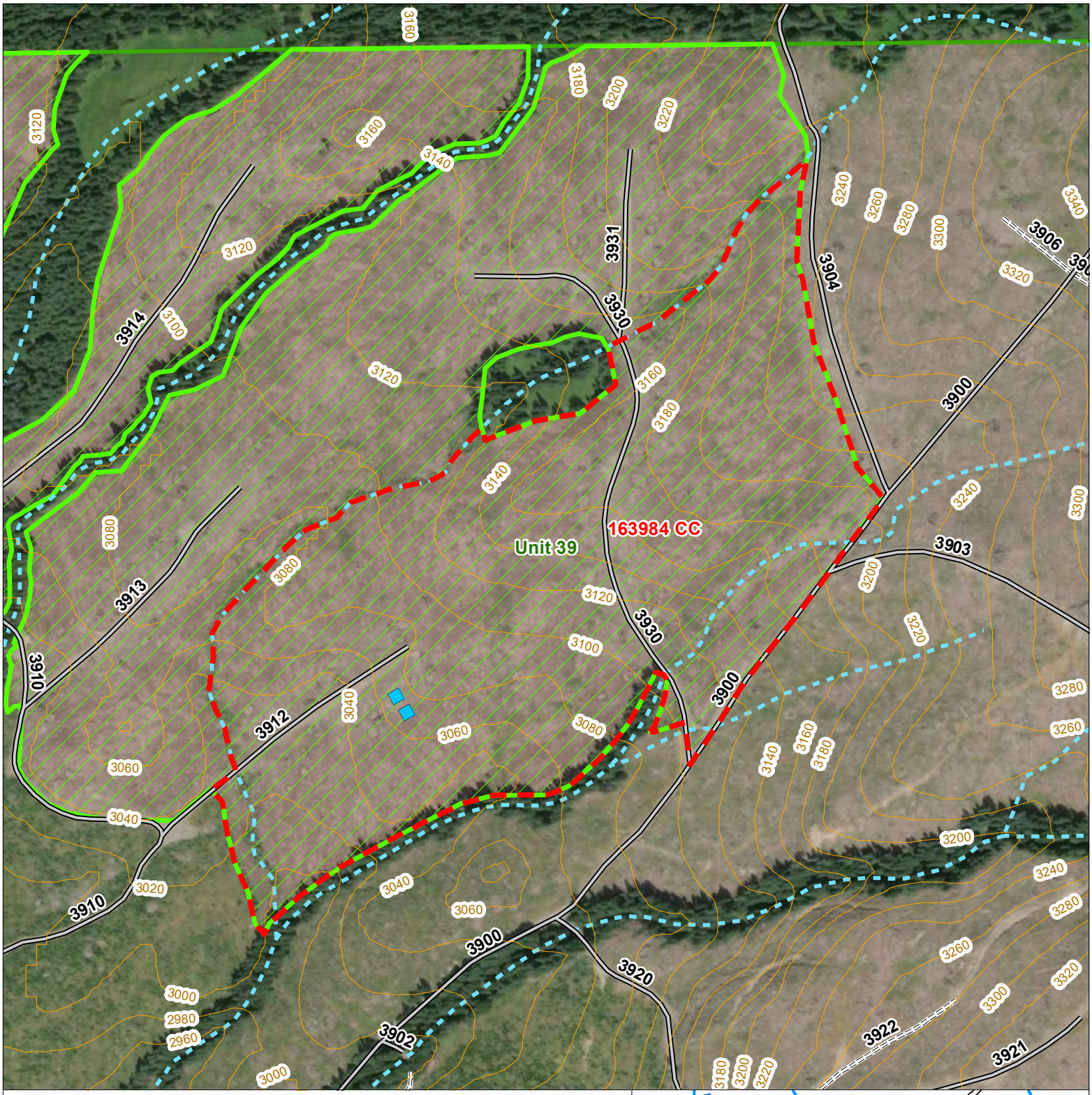
- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



Wildlife Forage Monitoring

Harvest: 163984 CC
Unit: 39
Year: 2016

0 190 380
Feet
1:5,070

PACIFICORP

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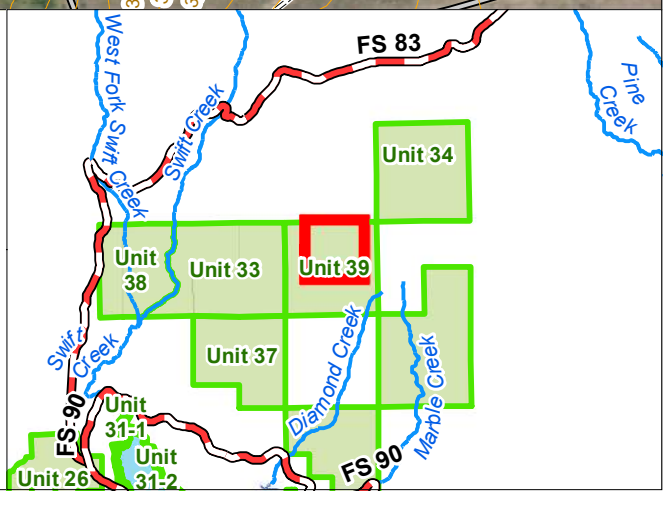
- *Habitat Enhancement Monitoring Project Plots*
- *Grass and Legume Seed Germination Test Plot*
- Shrubland Test Plot
- Meadow
- Shrubland Study Area
- *Grass/Legume Seeding Areas*
- Harvest Area

- Management Unit
- Highway
- Road
- Abandon Road
- Contour (20')
- Fish Stream
- Non-fish Perennial
- Non-fish Seasonal



Appendix L

2022 RMEF Exclosure Table

113318

Planted 2011

Botanical Name	Common Name	% by weight
Lolimum perenne var Aberavon	AberAvon HSG Perennial Ryegrass	14
Festuca ovina var Covar	Covar Sheep Fescue	7
Festuca arundinceia var. Rustler	Rustler Tall Fescue	12
Trifolium repens var winter	Winter White Clover	5
Trifolium pratense var dynamite	Dynamite II Medium Red Clover	13
Trifolium subterrianian	Sub-Clover	9
Trifolium hybridum	Alsike Clover	8
Chicorium intybus var six point	Six Point Grazing Chicory	10
Sanguisorba minor	Small Burnet	5

Planted 2011

Not detected during survey but detected in previous surveys

113318 #1 Spring 2022

30-Jun-22

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Fragaria vesca	Wild strawberry	40	Y	Y	N
Festuca arundinacea	Tall Fescue	20	Y	Y	N
Taraxacum	Dandelion	0	N	Y	N
Cyperaceae	Sedge	0	N	Y	N
Rubus leucodermis	Blackcap Raspberry	25	Y	Y	N
N/A	Bare Ground	7	Y	Y	N
Rumex sanguineus	Red-veined dock	0	N	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Dactylis glomerata	Tall orchard grass	0	N	Y	N
Maianthemum dilatatum	False Lily of the Valley	5	Y	Y	N
Maianthemum stellatum	Starry false lily of the valley	3	Y	N	N
Jacobaea vulgaris	Tansy Ragwort	0	N	N	N
Achlys triphylla	Vanilla Leaf	0	Y	N	N
Rumex acetosella	Red Sorrel	0	N	Y	N
Juncus Mertensianus	Merten's rush	0	N	N	N
Maianthemum racemosun	False Soloman	0	N	N	N
Cirsium arvense	Canada thistle	0	N	N	N
Lolium perenne	Perennial rye grass	0	N	N	N

100

113318 #2 Spring 2022

June 30 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Festuca ovina	Sheep Fescue	15	Y	Y	N
N/A	Bare Ground	20	Y	Y	N
Taraxacum	Dandelion	5	Y	Y	N
Pteridium aquilinum	Bracken Fern	40	Y	Y	N
Rubus leucodermis	Blackcap Raspberry	10	Y	Y	N
Geranium molle	Doves foot geranium	0	-	-	-
Clintonia uniflora	Queen's Cup	5	Y	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Sanguisorba minor	Small Burnett	0	-	-	-
Vaccinium membranaceum	thinleaf huckleberry	0	N	Y	N
Rumex acetosella	Red Sorrel	0	N	Y	N
Achlys triphylla	Vanilla leaf	5	Y	Y	N
Festuca rubra	Red Fescue	0	-	-	-
Rumex sanguineus	Red-veined dock	0	N	Y	N
Poa pratensis	Kentucky bluegrass	0	-	-	-
Maianthemum racemosum	False Soloman	0	-	-	-
Trillium albidum subsp. par	Trillium	0	-	-	-
Juncus Mertensianus	Merten's rush	0	-	-	-
Cyperaceae	Sedge	0	-	-	-
Violaceae	Violet	0	-	-	-
Dactylis glomerata	Tall orchard grass	0	-	-	-
Ribes uva-crispa	Gooseberry	0	-	-	-

100

Date: 10.3.2022

113318 #1 Fall 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Lolium perenne	Perennial rye grass	35	Y	Y	Y
Taraxacum	Dandelion	5	Y	Y	Y
Fragaria vesca	Wild strawberry	0	N	Y	N
Dactylis glomerata	Orchard grass	25	Y	Y	Y
N/A	Bare Ground	10	Y	Y	N
Rubus ursinus	Trailing Blackberry	15	Y	Y	N
Rubus spectabilis	Salmonberry	0	N	Y	N
Rubus occidentalis	Blackcap Raspberry	0	N	Y	N
Pteridium aquilinum	Bracken Fern	0	N	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Agrostis capillaris	Bent Grass	0	N	N	N
Festuca arundinacea	Tall Fescue	10	Y	Y	Y
Cirsium arvense	Canada thistle	0	-	-	-

100

Date: 10.3.2022

113318 #2 Fall 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Orchard grass	45	Y	Y	N
Pteridium aquilinum	Bracken Fern	20	Y	Y	N
Rubus ursinus	Trailing blackberry	10	Y	Y	N
N/A	Bare Ground	20	Y	Y	N
Rubus occidentalis	Blackcap Raspberry	0	N	Y	N
Taraxacum	Dandelion	5	Y	Y	N
Fragaria vesca	Wild Strawberry	0	N	Y	N
Lolium perenne	Rye grass	0	N	N	N
Agrostis capillaris	Bent Grass	0	N	N	N
Digitalis purpurea	Foxglove	0	N	Y	N
Jacobaea vulgaris	Tansy ragwort	0	N	N	N

100

133316

Planted 2013

Botanical Name	Common Name	% by weight
Lolimum perenne var Averdart	AberDart HSG Perennial Ryegrass	20
Lolimum perenne var Aberavon	AberAvon HSG Perennial Ryegrass	5
Dactylisvar glomerata var Latar	Orchardgrass	15
Sanguisorba minor	Small Burnet	20
Trifolium repens	Dutch with clover	25
Lotus corniculatus	Birdsfoot trefoil	15

Planted 2013

Not detected during survey but detected in previous surveys

Date June 30, 2022

133316 # 1 Spring 2022

Botanical Name	Common Name	Spring % occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	50	Y	Y	Y
Taraxacum	Dandelion	15	Y	Y	N
N/A	Bare ground	25	Y	Y	N
Rubus ursinus	Trailing blackberry	10	Y	Y	N
Rumex acetosella	Red sorrel	0	N	Y	N
Hypericum perforatum	St. John'sWort	0	N	N	N
Digitalis purpurea	Foxglove	0	N	Y	N
Rubus leucodermis	Blackcap Raspberry	0	N	Y	N
Vaccinium membranaceu	thinleaf huckleberry	0	N	N	N
Festuca rubra	Red fescue	0	N	N	N
Lolium perenne	Perennial rye grass	0	N	N	N
Rumex sanguineus	Red-veined dock	0	N	N	N
Juncus effusus	Common rush	0	N	N	N
Rosa gymnocarpa	Baldhip rose	0	N	N	N
Pteridium aquilinum	Bracken fern	0	N	N	N

100

Date: 10.3.2022

#1 Fall 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Lolium perenne	Rye Grass	20	Y	Y	N
Dactylis glomerata	Tall orchard grass	50	Y	Y	Y
n/a	Bare ground	5	Y	N	N
Taraxacum	Dandelion	5	Y	Y	N
Rubus Occudentalis	Blackcap raspberries	0	N	N	N
Lotus corniculatus	Birdsfoot Trefoil	0	N	N	N
Senecio jacobaea	Tansy	0	N	N	N
Agrostis capillaris	Bent Grass	0	N	N	N
Festuca arundinacea	Tall Fescue	0	N	N	N
Digitalis purpurea	Foxglove	0	N	N	N
Hypericum perforatum	St. Johns Wort	5	Y	Y	N
Rubus ursinus	Trailing blackberry	10	Y	Y	N
Equisetum	Horsetail	5	Y	N	N

100

Date June 114, 2022

133316 # 2 Spring 2022

Botanical Name	Common Name	Spring % occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	30	Y	Y	Y
Taraxacum	Dandelion	15	Y	Y	N
n/a	Bare ground	30	Y	Y	N
Festuca arundinacea	Tall Fescue	5	Y	Y	N
Rubus ursinus	Trailing blackberry	10	Y	Y	N
Agrostis	bent grass	0	N	N	N
Pteridium aquilinum	Bracken Fern	10	Y	Y	N
Vaccinium membranaceu	thinleaf huckleberry	0	N	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Acer circinatum	Vine maple	0	N	Y	N
Rubus leucodermis	Blackcap Raspberry	0	N	Y	N
Cirsium arvense	Canada thistle	0	N	N	N
Rumex sanguineus	Red-veined dock	0	N	N	N
Lolium perenne	Perennial rye grass	0	N	N	N
Trifolium repens	White clover	0	N	N	N
Lotus corniculatus	Birdsfoot trefoil	0	N	N	N
Holcus lanatus	Velvet Grass	0	N	N	N
Festuca rubra	Red fescue	0	N	N	N

100

Date: 10.3.2022

133316 # 2 Fall 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	30	Y	Y	Y
Loliium perenne	Perennial rye	30	Y	Y	Y
Taraxacum	Dandelion	5	Y	Y	N
N/A	Bare Ground	20	Y	Y	N
Agrostis	Bentgrass	5	Y	Y	N
Pteridium aquilinum	Bracken fern	5	Y	Y	N
Digitalis purpurea	Foxglove	5	Y	Y	N
Senecio jacobaea	Common tansy	0	N	N	N
Abies procera	Noble fir	0	N	N	N
Pinus monticola	Western white pine	0	N	N	N
Rubus Occudentalis	Blackcap raspberries	0	N	N	N
Cirsium arvense	Canada Thistle	0	N	N	N
Phleum pratense	Timmothy grass	0	N	N	N
Anaphalis margaritacea	Pearly Everlasting	0	N	N	N

100

122501

Planted 2012

Botanical Name	Common Name	% by weight
Lolimum perenne var Averdart	AberDart HSG Perennial Ryegrass	32
Dactylis glomerata var.	Quickdraw Orchardgrass	12
Lotus corniculatus	Birdsfoot trefoil	20
Epilobium angustifolium	Fireweed	1
Trifolium repens var winter	Winter White Clover	10
Trifolium subterrianian	Sub-Clover	25

Planted

Not Detected during survey but detected in previous surveys

Date June 14, 2022

122501 Exclosure Spring 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	30	Y	Y	Y
Rubus ursinus	Trailing blackberry	60	Y	Y	Y
Lolium perenne	Perennial rye-grass	0	N	Y	Y
Taraxacum	Dandelion	0	N	Y	N
Lotus corniculatus	Birdsfoot trefoil	0	N	Y	N
Trifolium repens	White clover	0	N	N	N
Sanguisorba minor	Small Burnett	0	N	N	N
Senecio jacobaea	Tansy ragwort	0	N	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Rumex acetosella	Red Sorrel	0	N	N	N
Cirsium arvense	Canada thistle	0	N	N	N
	velvet grass	10	Y	Y	N
		100			

Date: 10.3.2022

122501 Fall 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Rubus ursinus	Trailing blackberry	75	Y	Y	N
Dactylis glomerata	Tall Orchard grass	20	Y	Y	Y
Lolium perenne	Perennial rye grass	5	Y	Y	Y
Hypericum perforatum	st johns wort	0	N	N	N
Trifolium repens	White clover	0	N	N	N
Taraxacum	Dandelion	0	N	Y	N
Senecio jacobaea	Tansy ragwort	0	N	N	N
Digitalis purpurea	Foxglove	0	N	Y	N
Sanguisorba minor	Small Burnett	0	N	N	N
Lotus corniculatus	Birdsfoot trefoil	0	N	N	N
Cirsium arvense	Canada thistle	0	N	N	N
		100			

122502

Planted 2012

Botanical Name	Common Name	% by weight
Lolimum perenne var Averdart	AberDart HSG Perennial Ryegrass	32
Dactylis glomerata var.	Quickdraw Orchardgrass	12
Lotus corniculatus	Birdsfoot trefoil	20
Epilobium angustifolium	Fireweed	1
Trifolium repens var winter	Winter White Clover	10
Trifolium subterrianian	Sub-Clover	25

Planted

Not Detected during survey but detected in previous surveys

Date: June 14, 2022

122502 Spring 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	35	Y	Y	Y
Lotus corniculatus	Birdsfoot trefoil	35	Y	Y	Y
Lolium perenne	Perennial rye grass	15	Y	Y	N
N/A	Bare Ground	0	N	N	N
Trifolium repens	White clover	0	N	Y	N
Rubus ursinus	Trailing blackberry	10	Y	Y	N
Taraxacum	Dandilion	0	N	Y	N
Geranium molle	Geranium dovefoil	0	N	Y	N
Pseudotsuga menziesii	Douglas fir	0	N	Y	Y
Rumex crispus	Curly dock	0	N	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Polystichum munitum	Sword fern	0	N	Y	N
Rubus armeniacus	Himalayan blackberry	0	N	Y	N
Sanguisorba minor	Small Burnett	0	N	N	N
Rubus leucodermis	Blackcap raspberry	0	N	N	N
Rumex acetosella	Red Sorrel	0	N	Y	N
Senecio jacobaea	Tansy ragwort	0	N	N	N
Vicia	Vetch	0	N	N	N
Holcus lanatus	Velvet grass	0	N	N	N
	Sedge grass	5	Y	Y	N

100

Date: 10.3.2022

122502 Fall 2022 10.3.2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	40	Y	Y	Y
Lolium perenne	Perennial rye grass	40	Y	Y	Y
N/A	Bare Ground	10	Y	Y	N
Lotus corniculatus	Birdsfoot trefoil	5	Y	Y	Y
Rubus ursinus	Trailing blackberry	5	Y	Y	N
Trifolium repens	White clover	0	N	Y	N
Rumex crispus	Curly dock	0	N	Y	N
Taraxacum	Dandelion	0	N	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Rubus armeniacus	Himalayan blackberry	0	N	N	N
Hypericum perforatum	St John's Wort	0	N	N	N
Senecio jacobaea	Tansy ragwort	0	N	N	N
Carex	Sedge grasses	0	N	N	N
Geranium molle	Geranium dovefoil	0	N	N	N
Cirsium arvense	Canada thistle	0	N	N	N
Sanguisorba minor	Small Burnett	0	N	N	N
Polystichum munitum	Sword Fern	0	N	N	N
Potentilla		0	N	N	N

100

112801

Planted 2011

Botanical Name	Common Name	% by weight
Lolimum perenne var Aberavon	AberAvon HSG Perennial Ryegrass	14
Festuca ovina var Covar	Covar Sheep Fescue	7
Festuca arundinceia var Rustler	Rustler Tall Fescue	12
Trifolium repens var winter	Winter White Clover	5
Trifolium pratense var dynamite	Dynamite II Medium Red Clover	13
Trifolium subterrianian	Sub-Clover	9
Trifolium hybridum	Alsike Clover	8
Chicorium intybus var six point	Six Point Grazing Chicory	10
Sanguisorba minor	Small Burnet	5

Planted 2011

Not Detected during survey but detected in previous surveys

Date: June 14, 2022

112801 #1 Spring 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Lupinus polyphyllus	Bigleaf Lupine	10	Y	Y	N
Pteridium aquilinum	Bracken fern	20	Y	Y	N
Dactylis glomerata	Tall orchard grass	15	Y	Y	N
Pseudotsuga menziesii	Douglas-fir	14	Y	Y	N
Pinus monticola	Western white pine	5	Y	Y	N
Festuca arundinacea	Tall Fescue	5	Y	Y	N
Gaultheria shallon	Salal	5	Y	Y	N
Sanguisorba minor	Small Burnett	2	Y	Y	N
Rosa gymnocarpa	Baldhip rose	5	Y	Y	N
Rubus ursinus	Trailing blackberry	2	Y	Y	N
Mentha arvensis	Field Mint	8	Y	Y	N
Vaccinium	Huckleberry	0	N	Y	Y
Acer circinatum	Vine maple	0	N	Y	Y
Corylus cornuta	Oregon hazel	0	N	Y	Y
Holodiscus discolor	ocean spray	0	N	Y	N
Fragaria vesca	Wild strawberry	3	Y	Y	N
Hypochaeris radicata	Dandelion	0	N	Y	N
N/A	Bare Ground	3	Y	Y	N
Trifolium repens	clover	0	N	Y	N
Anemone oregana	Oregon anemone	3	Y	Y	N
Digitalis purpurea	Foxglove	0	N	Y	N
Bromus hordeaceus	Soft Brome	0	N	N	N

100

112801 #1 Fall 2022 10.3.2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Festuca arundinacea	Tall Fescue	25	Y	Y	Y
Mentha arvensis	Field Mint	20	Y	Y	N
Pseudotsuga menziesii	Douglas Fir (2 Seedlings	20	Y	Y	N
Gaultheria shallon	Salal	10	Y	Y	N
Rubus ursinus	Trailing blackberry	5	Y	Y	N
Sanguisorba minor	Small Burnett	5	Y	Y	N
Pteridium aquilinum	Bracken Fern	5	Y	Y	N
	Bare ground/Moss	5	Y	Y	N
Lupinus polyohyllus	Bigleaf Lupin	0	N	Y	N
Hypochaeris radicata	Dandilion	0	N	Y	N
Pinus ponderosa	Pine	5	Y	Y	N
Rosa gymnocarpa	Baldhip rose	0	N	Y	Y
Corylus cornuta	Oregon hazel	0	N	Y	N
Vaccinium parvifolium	Red Huckleberry	0	N	Y	N
Rubus armeniacus	Himalayan blackberry	0	N	Y	N
Fragaria vesca	Wild strawberry	0	N	Y	N
Acer circinatum	Vine maple	0	N	Y	Y
Trifolium repens	White clover	0	N	N	N
Cirsium arvense	Canada Thistle	0	N	N	N
Anemone oregana	Oregon aneomine	0	N	N	N

100

Date: June 14, 2022

112801 #2 Spring 2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchardgrass	42	Y	Y	Y
Lupinus polyphyllus	Bigleaf Lupine	5	Y	Y	N
Pteridium aquilinum	Bracken fern	20	Y	Y	N
Sanguisorba minor	Small Burnett	3	Y	Y	N
Rumex	Red Vained Dock	0	N	N	N
Hypochaeris radicata	Dandilion	0	N	N	N
N/A	Bare Ground/Moss	25	Y	Y	N
Verbascum thapsus	Common Mullein	0	N	N	N
Anemone oregana	Oregon aneomine	3	Y	Y	Y
Acer circinatum	Vine maple	0	N	Y	Y
Mahonia aquifolium	Oregon grape	0	N	Y	N
Parvifolium	Huckleberry	0	N	Y	Y
Rubus ursinus	Trailing blackberry	0	N	Y	N
Rosa gymnocarpa	Baldhip rose	0	N	N	N
Corylus cornuta	Oregon hazel	0	N	N	N
Fragaria vesca	Wild strawberry	2	Y	Y	N
Gaultheria shallon	Salal	0	N	N	N
Bromus hordeaceus	Soft Brome	0	N	N	N
Digitalis purpurea	Foxglove	0	N	N	N
Rubus leucodermis	Blackcap raspberry	0	N	N	N
Festuca arundinacea	Tall Fescue	0	N	Y	Y

100

112801 #2 Fall 2022 10.3.2022

Botanical Name	Common Name	% occupancy	Observed (In/Out)		Grazed (Y/N)
Dactylis glomerata	Tall orchard grass	20	Y	Y	N
Lupinus polyohyllus	Bigleaf Lupine	10	Y	Y	N
	Bare ground/Moss	25	Y	Y	N
Sanguisorba minor	Small Burnett	0	N	Y	N
Festuca arundinacea	Tall Fescue	25	Y	Y	N
Rubus ursinus	Trailing blackberry	0	N	Y	N
Rumex	Red Vained Dock	0	N	N	N
Pteridium aquilinum	Bracken Fern	20	Y	Y	N
Hypochaeris radicata	Dandilion	0	N	N	N
Corylus cornuta	Oregon hazel	0	N	Y	N
Mahonia aquifolium	Oregon grape	0	N	Y	N
Vaccinium parvifolium	Red Huckleberry	0	N	Y	Y
Acer circinatum	Vine maple	0	N	Y	Y
Anemone oregana	Oregon aneomine	0	N	Y	N
Gaultheria shallon	Salal	0	N	N	N
Fragaria vesca	Wild Strawberries	0	N	Y	N

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