

Helipond and Pump Chance Maintenance Environmental Assessment

ePlanning Number: [DOI-BLM-ORWA-C000-2016-0002-EA](#)

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United States Department of Interior, Bureau of Land Management
Coos Bay District
Coos, Curry, and Douglas Counties, Oregon



Responsible Official: Kathy Westenskow-Davis, Coos Bay District Manager
1300 Airport Lane
North Bend, OR 97459
(541) 756-0100

For further information, contact: Heather Partipilo, Planning & Environmental Coordinator
BLM_OR_CB_MAIL@BLM.GOV
(541) 756-0100

As the Nation's principal conservation agency, the Department of Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering economic use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

Cover Photo: Bell 212 Type II helicopter conducting water-dipping operations at the Vincent Fire Road Helipond (Site #10) on June 30, 2005.

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Chapter 1 Purpose and Need

This chapter presents the Helipond and Pump Chance Maintenance project (proposed action or proposed project), including identifying information, background information, location, purpose and need, decision space, conformance, compliance, documents incorporated by reference, scoping, and issue identification.

Introduction

The Bureau of Land Management (BLM), Coos Bay District has a large number of water impoundments (i.e., heliponds and pump chances)—many of which the BLM constructed after the Oxbow Fire (1966)—for the principal purpose of providing water for initial attack fire suppression on wildland fire starts.

Impoundment: A body of water confined within an enclosure.

Helipond (Helicopter dip pond)(H): A small body of water suitable for hover filling a helibucket (NWCG 1996) (p. 66).

Pump Chance (P): A natural feature or human-made or improved location where water collects and is of sufficient depth and volume accessible to wildland fire personnel and apparatus for pumping into holding tanks, fire engines (E), water tenders (T), or directly into hose lays on fire lines.

A helipond can be a pump chance; and if accessible by helicopters, a pump chance can be a helipond. For this analysis, the Coos Bay District BLM considers all of its heliponds to be pump chances. The pump chances identified on District are not currently accessible to helicopters in their current condition.

The Coos Bay District BLM manages its heliponds and pump chances in cooperation with local forest protective agencies such as Coos Forest Protective Association (CFPA), Douglas Forest Protective Association (DFPA), and Western Lane Oregon Department of Forestry (ODF), as well as adjacent private landowners.

Location

Project sites are scattered throughout the Coos Bay District in Coos, Curry, and Douglas counties in Oregon. **Table 1-1** and **Table 1-2** provide specific site location information for the heliponds and pump chances, respectively, and **Figure 1-1**, **Figure 1-2**, **Figure 1-3**, and **Figure 1-4** illustrate those locations. **Appendix A** contains site-specific maps for select helipond and pump chance sites discussed in this EA.

Table 1-1. Helipond site information

Map Site*	Helipond Name	County	Township	Range	Section	Field Office	Land Use Allocation
1	Beaver Creek Ridge	Douglas	19 S.	9 W.	22	Umpqua	RR/DDR/LSR
2	Jeff Creek	Douglas	20 S.	8 W.	25	Umpqua	LSR/DDRRR
3	Windy Ridge	Douglas	20 S.	9 W.	14	Umpqua	LSR/DDR/RR
4	Johnson Ridge	Douglas	20 S.	9 W.	21	Umpqua	RR/DDR/LSR
5	Spencer Ridge	Douglas	20 S.	10 W.	13	Umpqua	LSR/DDR/RR
6	Damewood	Douglas	21 S.	8 W.	3	Umpqua	LSR/DDR/RR
7	Upper Paradise	Douglas	21 S.	8 W.	13	Umpqua	LSR/DDR/RR
8	East Weatherly	Douglas	21 S.	8 W.	19	Umpqua	RR/LSR/DDR
9	Buck–Wassen	Douglas	21 S.	9 W.	9	Umpqua	LSR/DDR/RR
10	Vincent Fire Road	Douglas	21 S.	9 W.	13	Umpqua	LSR/DDR/RR
11	Steampot Ridge	Douglas	21 S.	9 W.	18	Umpqua	LSR/DDR/RR
12	Wells–Vincent	Douglas	21 S.	9 W.	32	Umpqua	LSR/DDR/RR
13	Little Paradise	Douglas	22 S.	8 W.	1	Umpqua	LSR/RR/DDR
14	Upper Luchsinger	Douglas	23 S.	8 W.	28	Umpqua	RR/LSR/DDR
15	Old Blue	Douglas	23 S.	8 W.	32	Umpqua	LSR/RR/DDR
16	Sock Creek	Douglas	23 S.	9 W.	6	Umpqua	LSR/DDR/RR
17	Buck Creek	Douglas	23 S.	9 W.	27	Umpqua	LSR/DDR/RR
18	Skidoo	Coos	26 S.	10 W.	23	Umpqua	LSR/DDR/RR
19	North Fork Ridge A/B	Coos	26 S.	10 W.	30	Umpqua	LSR/RR/DDR
20	Vogel Creek	Coos	26 S.	12 W.	3	Umpqua	DDR/RR/HLB
21	Ren Smith	Coos	26 S.	12 W.	12	Umpqua	HLB/RR/DDR
22	Blue Ridge	Coos	26 S.	12 W.	35	Umpqua	RR/DDR/LSR
23	Nobletown	Coos	27 S.	9 W.	15	Umpqua	RR/DDR
24	Upper Dead Horse	Coos	27 S.	9 W.	23	Umpqua	RR/DDR
25	Burnt Tie	Coos	27 S.	10 W.	13	Umpqua [†] and Myrtlewood	LSR/DDR/RR
26	Brewster Rock South	Coos	27 S.	10 W.	33	Myrtlewood	LSR/RR/DDR
27	Garbage Dump	Coos	27 S.	11 W.	22	Umpqua	RR/LSR/DDR
28	Seed Orchard	Coos	28 S.	9 W.	3	Myrtlewood	LSR/DDR/RR
29	Shuck Mountain	Coos	28 S.	12 W.	23	Umpqua	RR/DDR/HLB

* Helipond sites are listed from north to south and east to west and are shown in **Figure 1-1** and **Figure 1-2**.

† The Burnt Tie Pond is physically located in the Coos Bay District’s Umpqua Field Office; however, a portion of the proposed treatment area is in the Myrtlewood Field Office.

Table 1-2. Pump chance site numbers, names, locations and their associated land use allocation

Map Site*	Pump Chance Name	County	Field Office	Township	Range	Section	Land Use Allocation
30	Roman Nose Quarry	Douglas	19 S.	9 W.	23	Umpqua	DDR/RR
31	Devil's Club	Douglas	20 S.	8 W.	28	Umpqua	RR
32	Coldwater Creek	Douglas	20 S.	9 W.	25	Umpqua	RR
33	Scare 13	Douglas	21 S.	9 W.	13	Umpqua	RR
34	Tyee-Camp	Douglas	23 S.	8 W.	33	Umpqua	LSR
35	Slide Creek	Coos	25 S.	8 W.	32	Umpqua	RR
36	Bone Crusher	Coos	26 S.	10 W.	4	Umpqua	LSR
37	Fruin Pond	Coos	26 S.	10 W.	8	Umpqua	RR
38	Elk Run Progeny	Coos	26 S.	10 W.	17	Umpqua	RR
39	Skidoo Primer	Coos	26 S.	10 W.	23	Umpqua	LSR
40	Burnt Creek	Coos	27 S.	9 W.	4	Umpqua	RR
41	Burnt Ridge	Coos	27 S.	9 W.	10	Umpqua	RR
42	Beyer's Way	Coos	27 S.	9 W.	22	Umpqua	RR
43	Skeeter Camp	Coos	27 S.	10 W.	13	Umpqua	LSR
44	Karl's Creek	Coos	27 S.	10 W.	21	Myrtlewood	RR
45	Brewster Rock North	Coos	27 S.	10 W.	29	Myrtlewood	RR/LSR
46	Harry's Road	Coos	28 S.	9 W.	11	Myrtlewood	LSR
47	Knepper Creek	Coos	28 S.	9 W.	12	Myrtlewood	RR
48	Sun Stud Road	Coos	28 S.	9 W.	23	Myrtlewood	RR
49	Weaver Tie Pond	Coos	28 S.	9 W.	25	Myrtlewood	LSR
50	North Signal Tree	Coos	28 S.	9 W.	35	Myrtlewood	LSR
51	Maria C. Jackson	Coos	28 S.	10 W.	2	Myrtlewood	RR
52	East Fork Coquille River	Coos	28 S.	10 W.	5	Myrtlewood	RR
53	Section 25 Weaver Pond	Coos	28 S.	10 W.	25	Myrtlewood	RR
54	West Sandy Tie	Coos	28 S.	10 W.	31	Myrtlewood	LSR
55	Elk Creek	Coos	28 S.	11 W.	35	Myrtlewood	RR
56	Sandy Slide	Coos	29 S.	10 W.	2	Myrtlewood	LSR
57	Trick or Treat	Coos	29 S.	10 W.	9	Myrtlewood	RR/HLB
58	Sandy Main	Coos	29 S.	10 W.	11	Myrtlewood	LSR
59	Fall Creek	Coos	29 S.	11 W.	15	Myrtlewood	LSR
60	Endicott Creek	Coos	29 S.	12 W.	13	Myrtlewood	RR
62	Edson Butte Pond	Curry	31 S.	14 W.	22	Myrtlewood	RR
63	Salal Springs Pond	Curry	34 S.	14 W.	2	Myrtlewood	DDR/RR
64	Hunter Creek	Curry	37 S.	14 W.	13	Myrtlewood	DDR
65	Palmer Butte	Curry	40 S.	13 W.	11	Myrtlewood	HLB/DDR

* Pump chance sites are listed from north to south and are shown in **Figure 1-1, Figure 1-2, Figure 1-3, and Figure 1-4.**

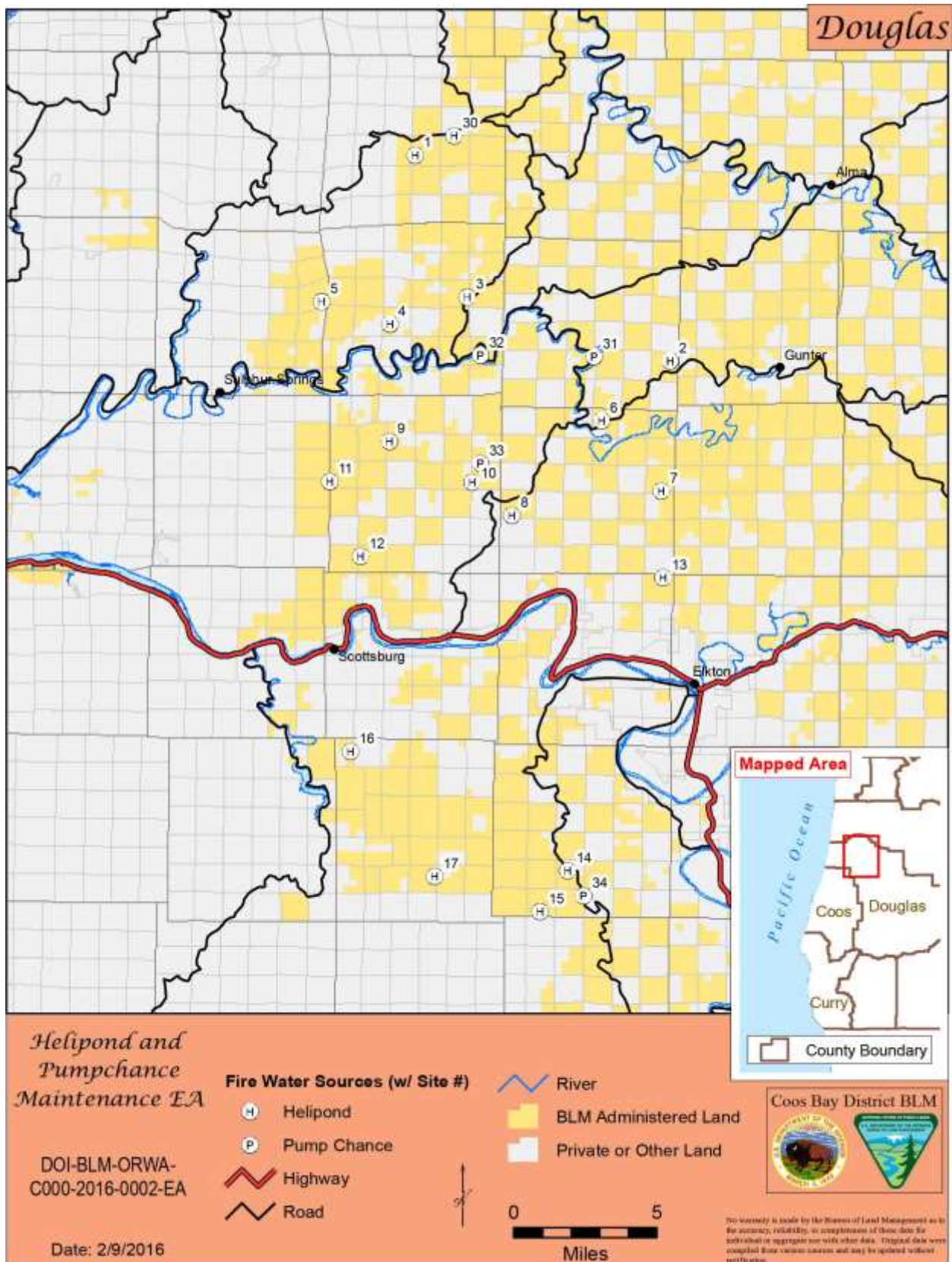


Figure 1-1. Heliponds and pump chances proposed for maintenance within the Coos Bay District BLM portion of Douglas County, Oregon

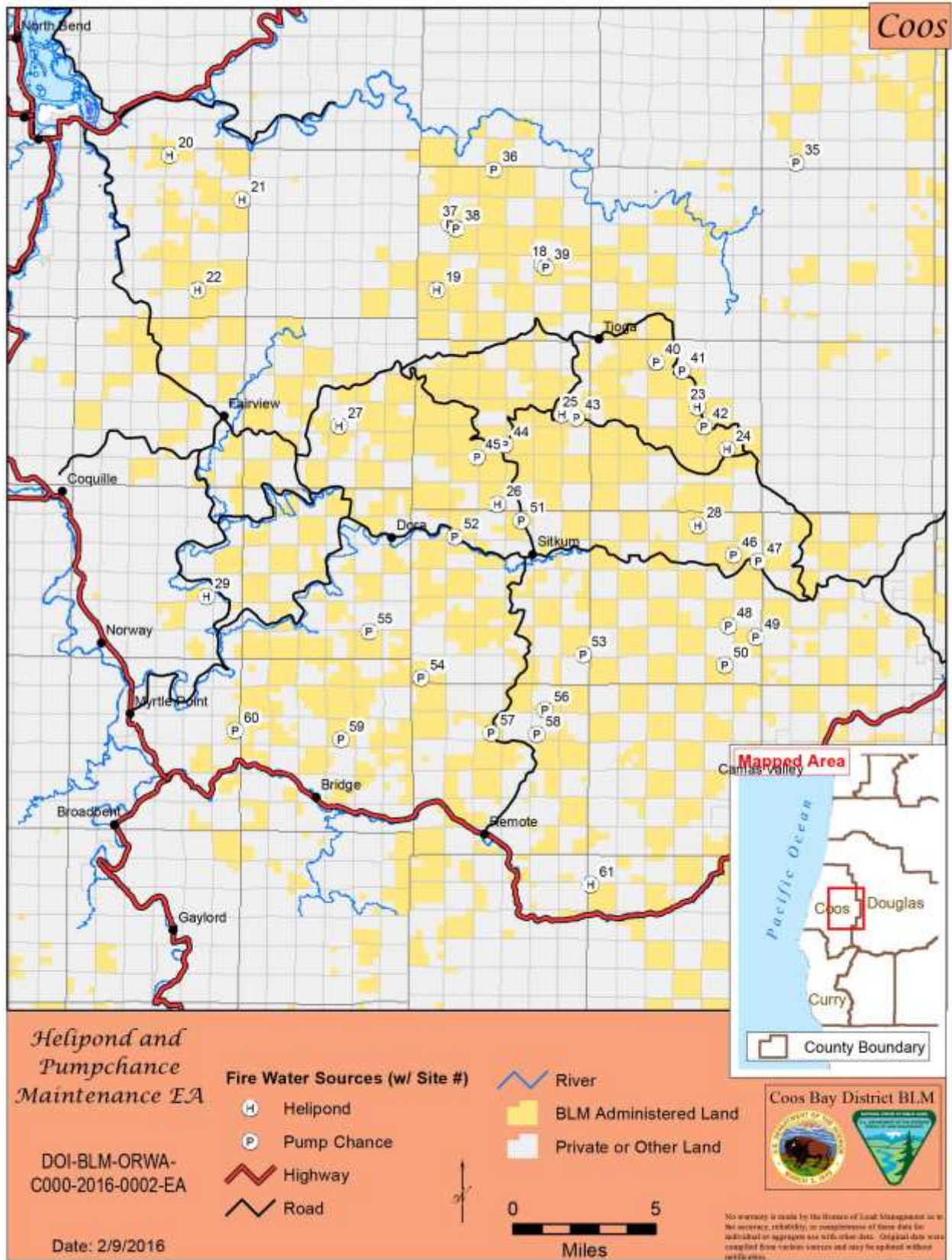


Figure 1-2. Heliponds and pump chances proposed for maintenance in Coos County, Oregon

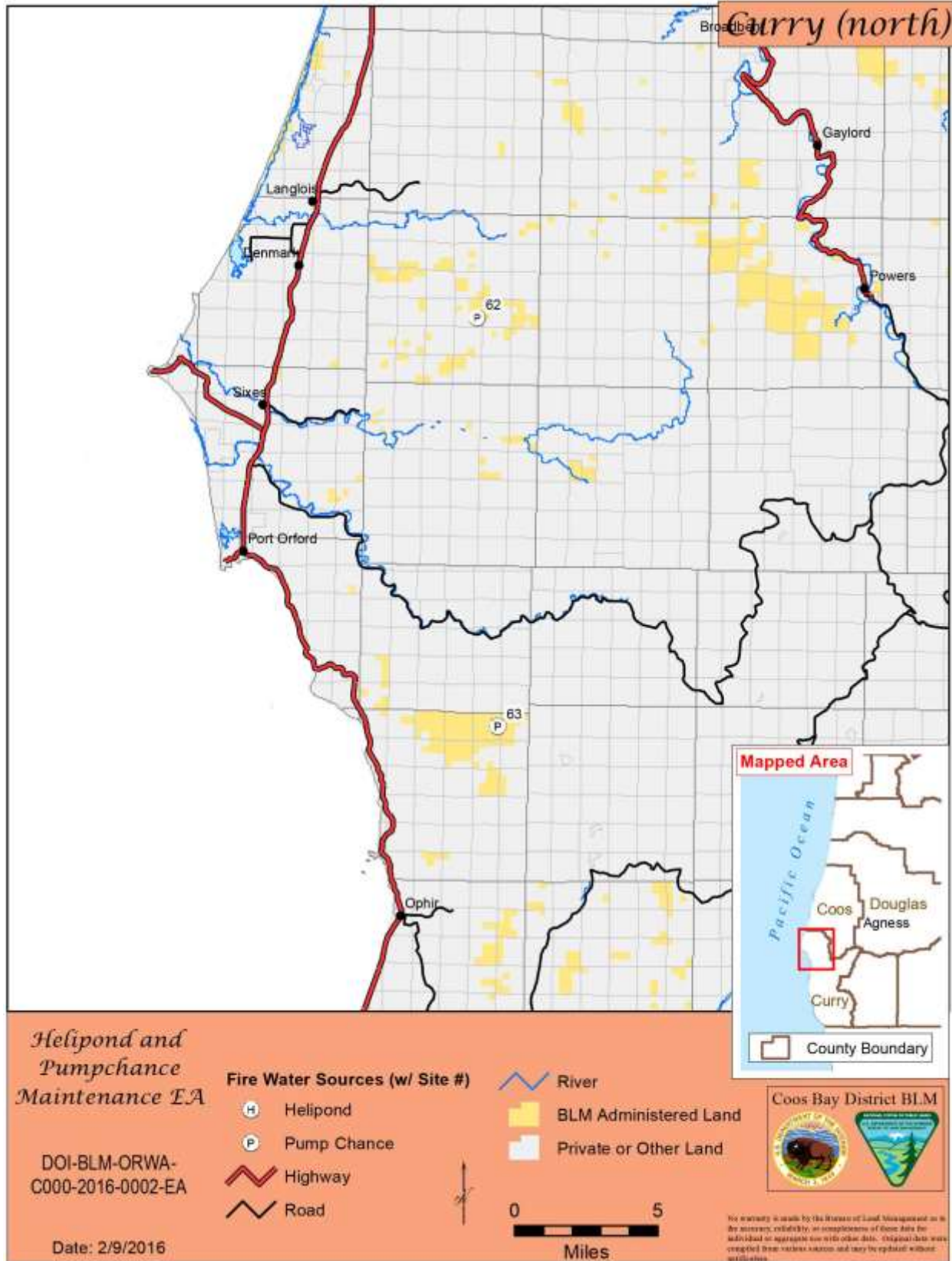


Figure 1-3. Pump chances proposed for maintenance in northern Curry County, Oregon

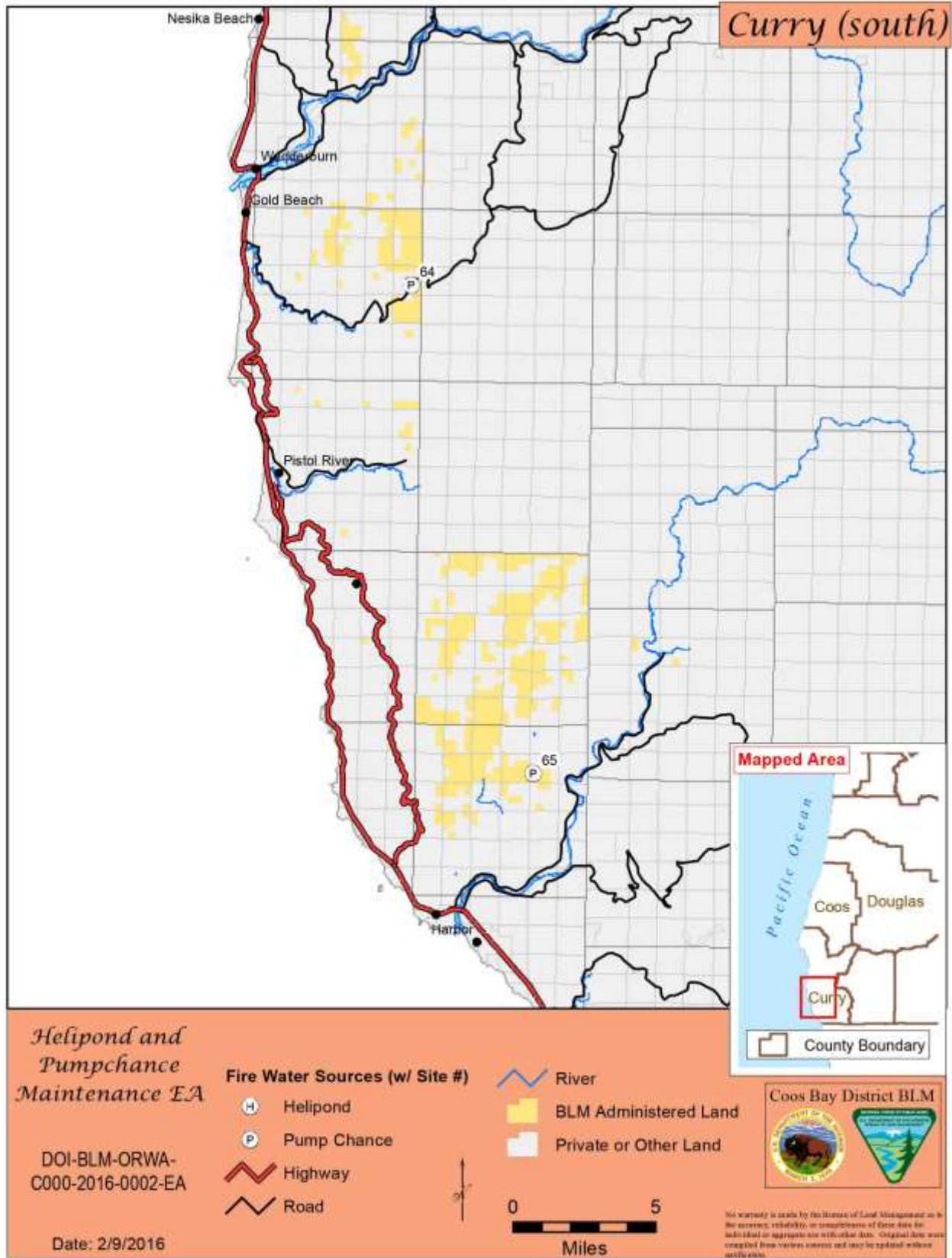


Figure 1-4. Pump chances proposed for maintenance in southern Curry County, Oregon

Need

The Coos Bay District's network of BLM-managed heliponds and pump chances need maintenance to ensure initial attack fire suppression access, firefighter safety, optimal water storage capability, public safety, and natural resource protection. The success of initial attack fire suppression activities depend upon safe and rapid access to water impoundment sites for both helicopters and ground-based firefighters and their associated equipment. Public safety and the protection of natural resources and property depend upon firefighting crews quickly accessing water to minimize wildland fire spread and ultimately the size of the fire.

The District's network of heliponds and pump chances provide water resources for initial attack fire suppression activities for nearby Federal, State, county, and private landowners. Local forest protective agencies (e.g., Coos Forest Protective Association, Douglas Forest Protective Association, Oregon Department of Forestry) recommend, and the BLM needs, a network of helicopter water dipping sites situated no more than 2 miles apart to provide optimal initial attack turnaround times. The current Coos Bay District BLM-managed helipond network does not provide 100 percent coverage at the 2-mile optimum range; however, tree removal within selected flight paths and clearings for specific pump chance sites would improve the helicopter water-dip site network. The development of additional sites to meet the two-mile optimum range is not being considered or analyzed within this EA.

The BLM fire and fuels staff assessed the helipond and pump chance sites on the Coos Bay District and found that 64 of them need vegetation management or infrastructure maintenance because:

- 1) Growth of surrounding trees is creating flight hazards for helicopters approaching and departing the heliponds during water bucket dipping operations;
- 2) Growth of brush (i.e., undesirable vegetation) surrounding impoundments is impeding the efficient access of fire engines, water tenders and their crews;
- 3) Sediment and undesirable vegetation or debris deposited or growing in the water impoundments is creating safety hazards (e.g., helicopter bucket snagging or fouling) and reducing impoundment storage capacity;
- 4) Growth of trees and woody vegetation on water impoundment retaining walls and dikes may cause a breach with resultant loss of water-holding capacity if not removed; and
- 5) Deteriorating impoundment liners and inflow/outflow pipes in heliponds, heliponds without liners, and heliponds no longer capable of holding sufficient water (due to lack of maintenance) for initial attack throughout fire season are reducing water availability and storage capacity.

The BLM needs to be able to respond to wildland fires in a manner that provides for public and firefighter safety (ROD/RMP p. 77). Firefighting response during initial attack includes the use of ground-based fire equipment (i.e., engines and water tenders) and helicopters with suspended water buckets or fixed tanks and snorkels. Helicopter pilots must fly at low airspeeds to approach and depart heliponds (or other water dip sites). Wind may complicate the approach to helipond dipping operations. In order to do this safely, they need to hover at low altitudes (out of ground effect) and operate under full power for ingress and egress, but they also need enough altitude, airspeed, and clearance to maneuver if the wind changes direction or to maneuver safely in other circumstances. Pilots need enough clearance at dip sites to respond safely to changes in wind speed or direction, either during ingress or egress or during dipping operations.

The BLM needs to increase the safety margin in helicopter water-dipping operations. The BLM needs to remove snagging hazards to dipping operations and rotor strikes including tree limbs and vegetation growing from the bank or logs and other debris (floating or submerged).

The BLM needs to remove obstacles based on the minimum safety circle diameter in the Interagency Helicopter Operations Guide (NWCG 2016), clear and maintain flight paths of appropriate width and

orientation to the prevailing winds (IHOG 2016 pp. 8-7–8-9, 8-12–8-13), and base minimum safety distances on the largest helicopters that may utilize the sites. In addition, the BLM needs to create multiple approach and departure flight paths, where possible.

The BLM also needs to maintain and improve the long-term utility, and function of, constructed heliponds and pump chances and their infrastructure (e.g., pipes, ditches, water impermeable surfaces) to assist with firefighting efforts. The BLM needs to ensure that water impoundments continue to hold—and provide access to—adequate quantities of water for the timely suppression of fire starts.

The BLM incorporated the current, recurring, and forecasted maintenance needs into the proposed actions.

Purpose (Objectives)

The BLM's purpose is to—

- Provide for public and firefighter safety while meeting land management objectives by utilizing the full range of fire management options; and
- Decrease the risk of uncharacteristic, large, high-intensity/high-severity wildland fires through the maintenance of helipond impoundments and pump chances in order to assure that adequate water resources are available when needed.

Decisions to Make

The decision-maker (authorized officer) for this project will be the Coos Bay BLM District Manager.

The decision-maker must also determine if the selected alternative is a major Federal action that would significantly affect the quality of the human environment. Chapter 3 contains a comparison of the No Action Alternative to the Proposed Action Alternative (proposed project) to support a determination. If the decision-maker decides the selected alternative would not significantly affect the quality of the human environment, then the decision-maker would prepare and sign a Finding of No Significant Impact (FONSI).

If the decision-maker determines that the selected alternative would significantly affect the quality of the human environment, then the BLM would drop or modify the Proposed Action Alternative, or would prepare an Environmental Impact Statement (EIS) and sign a Record of Decision (ROD) prior to implementation.

Decision Factors

In choosing an alternative that best meets the purpose and need, the authorized officer will consider the extent to which each alternative would—

1. Ensure that fire management operations are able to access existing natural and human-made strategic infrastructure (e.g., heliponds and pump chances).
2. Maintain, repair, or restore the water-holding capacity of water impoundments for wildland firefighting resources.

Conformance with Existing Land Use Plans

This EA is in conformance with the *Northwestern and Coastal Oregon Record of Decision and Approved Resource Management Plan (ROD/RMP)* (USDI-BLM 2016), the *Record of Decision for the Management of Port-Orford-cedar in Southwest Oregon* (USDI-BLM 2004).

The Management Objectives for *fire, fuels, and wildfire response* in the ROD/RMP include, but are not limited to (p. 77)—

- Respond to wildfires in a manner that provides for public and firefighter safety while meeting land management objectives by utilizing the full range of fire management options.
- Actively manage the land to restore and maintain resilience of ecosystems to wildfire and decrease the risk of uncharacteristic, large, high-intensity/high-severity wildfires.
- Participate with communities bordering Federal lands in partnership with local, State, and Federal stakeholders to reduce the risks and threats from wildland fire.

RMP Management Direction for *fire, fuels, and wildfire response* directs the BLM to:

- Conduct necessary vegetation maintenance treatments to ensure that fire management operations are able to access existing natural and human-made strategic infrastructure (e.g., communications sites, pump chances and other wildland fire management actions/activities water sources, key road systems, containment lines, fuel breaks, and helispots) (ROD/RMP p. 78).

In the *Riparian Reserve*, the RMP Management Direction directs the BLM to:

- Treat vegetation as needed for access or safety along ponds and wetlands < 1 acre and constructed water impoundments of any size, and for constructed water impoundments and constructed ponds:
 - Implement maintenance and repair as needed.
 - Dredge constructed water impoundments as necessary to maintain capacity.
 - Maintain vegetation, access, and plumbing associated with sources of water for fire management purposes for all types of firefighting equipment (e.g., engines, aircraft, and tenders) (ROD/RMP p. 70).

This EA is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, and complies with applicable regulations and laws passed subsequent to the Act. In addition, the BLM prepared this EA utilizing the stipulations and format outlined in the BLM NEPA Handbook H-1790-1 (USDI-BLM 2008). The proposed action and alternatives comply with relevant Federal, State, and local regulations, plans, and policies.

Endangered Species Act

The BLM completed consultation with the U.S. Fish and Wildlife Service (Service) as provided in Section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1536 (a)(2) and (a)(4)), as amended. The Service issued a Letter of Concurrence on February 21, 2017, which concluded—

...because the District's proposed action does not include any modification to spotted owl or murrelet habitats (i.e., spotted owl nesting, roosting, foraging habitat [NRF] or suitable murrelet habitat) along with no disturbance/ disruption effects to these species, the Service... concurs with the District's determination that the proposed action is insignificant and discountable for the spotted owl, marbled murrelet and their designated critical habitats (USDI-FWS 2017).

The BLM conducted wildlife and botanical reviews for the project sites. The BLM would manage Special Status Species sites discovered as a result of pre-disturbance surveys consistent with the Special Status Species policy and ROD/RMP requirements.

The analysis area is located within the federally listed threatened Oregon Coast (OC) Coho (*Oncorhynchus kisutch*) and Southern Oregon/Northern California Coast (SONCC) Coho (*Oncorhynchus kisutch*) Evolutionarily Significant Units (ESUs). The BLM will not request consultation with the National Marine Fisheries Service (NMFS) because the proposed actions are covered under the Routine Actions and Maintenance Activities Biological Opinion (RAMBO) (WCR-2016-5787) (USDC-NMFS 2018).

Magnuson-Stevens Fishery Conservation and Management Act

The BLM's fish biologist determined the proposed project would not adversely affect Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855 (b)). The proposed actions are covered under RAMBO (WCR-2016-5787) (USDC-NMFS 2018).

Documents Incorporated by Reference

The ID Team used the following documents, which are hereby incorporated by reference, to assist in the analysis:

- Analysis files containing staff reports and Instruction Memoranda
- Scoping comments

Public Involvement

The BLM first notified the public of the project in the Summer 2015 Planning Update (USDI-BLM 2015a) (p. 6), the Fall 2015 Planning Update (USDI-BLM 2015b) (p. 5), and the Spring 2016 Planning Update (USDI-BLM 2016) (p. 2) on the Coos Bay District website at <http://www.blm.gov/or/districts/coosbay/plans/plans.php>. The web URL used in 2015 and 2016 is now obsolete.

The BLM published a [Scoping Document](#) and Scoping Map Package on the BLM's national NEPA Register website for the Helipond and Pump Chance Maintenance EA on February 16, 2016. The BLM notified the Tribes with local interest, interested parties, and multiple Federal, State, and county agencies of project scoping through direct mailings and emails. The BLM notified neighboring landowners within one mile of each proposed project site through direct mailings based on land ownership records available at the time. See **Chapter 4** for the notifications list.

The public scoping comment period was open from February 16, 2016 to March 17, 2016.

The BLM received scoping comments from the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, Coos Forest Protective Association, Douglas Forest Protective Association, Oregon Wild, and 10 private landowners.

Not all of the comments received were within the scope of the project, which is described in the purpose and need section above. The comments received outside the scope of the project are summarized below:

- Concerns regarding private property owner 'right' to quiet and firearm use noise
- Request for BLM to post no shooting signs at heliponds near rural residence because they are not certified ranges
- Reports of vandalism to BLM signs (i.e., bullet holes), dumping of garbage, and long-term transient camping at helipond sites
- Request to assess private timber owners a share of the maintenance costs

The BLM provided a copy of the draft EA and unsigned FONSI to the Tribes for comment on July 2, 2018, and published the documents on ePlanning on July 18, 2018 for public comment. The comment period was open from July 18 to August 3, 2018.

Issues

In the context of an environmental analysis, an issue is a point of disagreement, debate, or dispute with a proposed action based on some anticipated environmental effect. An issue:

- Has a cause and effect relationship with proposed action or alternatives.
- Is within the scope of the analysis.

- Has not been decided by law, regulation, or previous decision.
- Is amendable to scientific analysis rather than conjecture.

Issues Analyzed in Detail

Considering the type and location of projects, resource concerns, and management objectives, the interdisciplinary team (ID Team) determined that several issues should be analyzed based on the definition of an issue (see above) to inform decision-making and determine potential significance of environmental impacts. Public comments during scoping assisted with issue development. The ID Team considered the following issues as it developed and refined the proposed project, identified Best Management Practices (BMPs), Project Design Features (PDFs), and analyzed the environmental effects.

Botany

Issue: *How would cutting trees affect Special Status vascular plants, lichens, and bryophytes?*

Wildland Fire

Issue: *How would the proposed helipond and pump chance maintenance affect the risk of uncharacteristic, large, high-intensity/high-severity wildfires and public and firefighter safety?*

Wildlife

Issue: *How would the proposed tree removal affect northern spotted owl (NSO) habitat?*

Unaffected Resources

None of the following critical elements of the human environment is located in the project area or within a distance affected by implementation of either alternative:

- Areas of Critical Environmental Concern (ACEC)
- Farmlands, Prime or Unique
- Wild and Scenic Rivers
- Wilderness areas, Wilderness Study Areas, or inventoried lands with wilderness characteristics

Chapter 2 Alternatives

This section describes the alternatives analyzed in detail and considered in this project. The BLM presents the proposed action and the project design features (PDFs) associated with the proposed action in this section, along with incorporated best management practices (BMPs). These BMPs and PDFs are in place to minimize effects to water quality, fish habitat, and T&E and Bureau Sensitive species.

No Action Alternative

The No Action alternative provides a baseline for the comparison of the Proposed Action and describes the existing condition and the continuing trends within the planning area. The No Action alternative would not meet the purpose and need of the project as described in **Chapter 1**.

The decision-maker does not need to make a specific decision to select the No Action alternative. If that is the choice, the Proposed Action would be dropped and the National Environmental Policy Act (NEPA) process ended. Future activities in the area would not be precluded and could be analyzed in subsequent NEPA documents.

Under this alternative, the BLM would take no action to maintain heliports and pump chances on the Coos Bay District.

Trees surrounding heliports would continue to grow taller and fuller around heliports. The BLM would not maintain ingress or egress helicopter flight paths. Encroachment by trees and tall vegetation would reduce operational aircraft safety buffers, increase helicopter water dipping turn-around times, and delay initial attack fire suppression responses as they are forced to seek out water sources with safer access. Continued sediment deposition and debris accumulation in heliports and pump chances would further reduce rapid access to water and water-holding capacity for both helicopters and fire vehicles, and eventually make them unavailable for fire suppression use pending future maintenance.

The BLM would not treat, cut, or remove vegetation growing on water impoundment dikes or around inlet and outlet pipes, which would increase the risk of breach of the impoundment and loss of the firefighting resource.

The BLM would not remove, repair, or replace deteriorating heliport liners or inlet and outlet pipes, which over time would lead to the loss of impoundment function and the water resource used for fire suppression activities.

Proposed Action Alternative

The BLM is proposing to conduct maintenance and improvement activities at 29 heliport sites (**Table 2-1**) and 35 pump chance sites (**Table 2-2**) on the Coos Bay District. The proposed action would manipulate forest vegetation including trees and brush. Additionally, the proposed action would conduct maintenance on existing impoundment facilities to provide long- and short-term relief from current or future conditions that interfere with holding capacity, equipment access, and ultimately the safety of firefighting personnel. Other than restoration/expansion of existing flight paths at heliports and the new flight path clearings at 6 pump chances, no work would occur outside of the original footprints of the water impoundments or adjacent road prisms used to access these sites.

Table 2-1. Maintenance and improvement treatments proposed for heliport sites

Map Site No.	Heliport Site Name	(1) <u>TREE CUTTING</u> and expanding existing flight paths at heliports (Acres*)	(2) Impoundment <u>DREDGING</u> and <u>DEBRIS REMOVAL</u>	(3) <u>VEGETATION CONTROL</u> †	(4) PHYSICAL or CAPITAL MAINTENANCE and <u>IMPROVEMENTS</u> ‡
1	Beaver Creek Ridge	1.1	✓	✓	✓
2	Jeff Creek	0.4	—	✓	—
3	Windy Ridge	0.5	—	✓	—
4	Johnson Ridge	0.3	—	✓	—
5	Spencer Ridge	1.4	—	✓	✓
6	Damewood	0.6	✓	✓	—
7	Upper Paradise	0.6	—	✓	—
8	East Weatherly	—	—	✓	—
9	Buck-Wassen	—	—	✓	✓
10	Vincent Fire Road	—	—	✓	—
11	Steampot Ridge	0.6	—	✓	—
12	Wells Vincent	—	—	✓	—
13	Little Paradise	—	—	✓	—
14	Upper Luchsinger	0.4	✓	✓	✓
15	Old Blue	0.8	—	✓	✓
16	Sock Creek	2.0	—	✓	—
17	Buck Creek	—	—	✓	—
18	Skidoo	0.7	—	✓	—
19	North Fork Ridge A/B	0.3	✓	✓	✓
20	Vogel Creek	0.8	✓	✓	—
21	Ren Smith	0.6	—	✓	—
22	Blue Ridge	—	✓	✓	✓
23	Nobletown	0.7	✓	✓	✓
24	Upper Dead Horse	—	✓	✓	—
25	Burnt Tie	0.6	—	✓	—
26	Brewster Rock South	1.2	—	✓	—
27	Garbage Dump	1.1	✓	✓	✓
28	Seed Orchard	2.3	—	✓	—
29	Shuck Mountain	0.9	—	✓	—
	Total*	17.9	—	—	—

* Acreage is estimated and may vary slightly.

† Manual/mechanized control of vegetation—for ponds, deck roads, flight path clearings and pump chances.

‡ Liner removal, repair, replacement and installation, and inlet and outlet pipe maintenance, repair and replacement.

Table 2-2. Maintenance and improvement treatments proposed for pump chance sites

Map Site No.	Pump Chance Site Name	(1) TREE CUTTING and creating new clearings for flight paths at pump chances (Acres*)	(2) Impoundment DREDGING and DEBRIS REMOVAL	(3) VEGETATION CONTROL‡	(4) PHYSICAL or CAPITAL MAINTENANCE and IMPROVEMENTS§
30	Roman Nose Quarry	—	—	✓	—
31	Devil’s Club	—	—	✓	—
32	Coldwater Creek	—	—	✓	—
33	Scare 13	—	✓	✓	—
34	Tyee–Camp	—	✓	✓	✓
35	Slide Creek	—	✓	✓	—
36	Bone Crusher	—	✓	✓	✓
37	Fruin Pond	—	✓	✓	✓
38	Elk Run Progeny	—	✓	✓	✓
39	Skidoo Primer	—	✓	✓	✓
40	Burnt Creek	—	✓	✓	—
41	Burnt Ridge	—	✓	✓	—
42	Beyer’s Way	—	✓	✓	✓
43	Skeeter Camp	—	✓	✓	—
44	Karl’s Creek	—	✓	✓	—
45	Brewster Rock North	1.4	✓	✓	—
46	Harry’s Road	1.9	✓	✓	✓
47	Knepper Creek	—	✓	✓	—
48	Sun Stud Road	—	—	✓	—
49	Weaver Tie Pond	—	—	✓	—
50	North Signal Tree	—	✓	✓	—
51	Maria C. Jackson	—	✓	✓	✓
52	East Fork Coquille River	—	—	✓	✓
53	Section 25 Weaver Pond	2.4	✓	✓	✓
54	West Sandy Tie	—	—	✓	—
55	Elk Creek	—	✓ Debris Removal†	✓	—
56	Sandy Slide	—	—	✓	—
57	Trick or Treat	1.2	✓	✓	✓
58	Sandy Main	—	—	✓	—
59	Fall Creek	—	✓ Debris Removal†	✓	—
60	Endicott Creek	—	—	✓	—
62	Edson Butte Pond	—	—	✓	—
63	Salal Springs Pond	1.7	✓	✓	✓
64	Hunter Creek	—	✓	✓	—
65	Palmer Butte	1.1	✓	✓	✓
	Total*	9.7	—	—	—

* Acreage is estimated and may vary slightly.

† Dredging would not occur at the Elk Creek (#55) and Fall Creek (#59) pump chances due to the presence of Coho salmon habitat.

‡ Manual/mechanized control of vegetation—for ponds, deck roads, flight path clearings and pump chances.

§ Liner removal, repair, replacement and installation, and inlet and outlet pipe maintenance, repair and replacement.

Tree Cutting

The BLM proposes to cut trees surrounding heliport and pump chances and within designated perimeters (**Table 2-1** and **Table 2-2**; **Appendix A**). The BLM would leave trees on site or extract trees using skyline and ground based harvest methods.

The BLM proposes to remove trees encroaching on pump chances if they interfere with firefighting equipment (e.g., water tenders). The BLM would retain trees adjacent to pump chances as long as they do not block access to the water source.

The BLM would determine if it is economically practicable to sell the trees that need to be felled for maintenance purposes; if so, the BLM would sell them and contractors would cut, yard to roads, and process the trees for loading and shipment to utilization centers. In locations the BLM determines sale of trees to be felled to be impracticable, the BLM or contractors would cut trees and leave them on site as coarse woody debris.

—Within Existing Heliport and Pump Chance Footprints

The BLM proposes to remove small trees (typically seedling and saplings less than 8 inches in diameter) in existing heliport site footprints using hand tools or mechanized brush cutters.

—For Expansion or Creation of Flight Paths

The BLM proposes to cut trees at 21 heliport sites where trees have grown up into the flight zone. The areas of tree clearing at heliports range in size from 0.3 to 2.3 acres (**Table 2-1**).

The BLM also proposes to clear trees at six pump chances to create or improve access by helicopters for initial attack fire suppression. The areas of tree clearing at pump chances for new helicopter access range in size from approximately 1.1 to 2.4 acres (**Table 2-2**).

Maintaining Site Perimeters and Flight Paths

The BLM proposes to cut trees and maintain the site perimeters and helicopter flight paths in a treeless, low vegetative or early seral condition (<5–10 year stand condition, grass and shrubs) via manual or mechanical means. The BLM would maintain access to facilities so that water tenders and wildland fire engines can draft water from no more than 20 feet away. Additional tree removal beyond the existing footprints and the currently proposed expansion areas identified in **Table 2-1** and **Table 2-2** would require future analysis.

Impoundment Dredging and Debris Removal

The BLM proposes to dredge accumulated sediment, woody debris, and aquatic vegetation at identified heliports and pump chances (**Table 2-1** and **Table 2-2**) manually or with heavy equipment. The BLM would stage heavy equipment operations from existing access roads or atop retaining walls and dikes. Dredging natural surface impoundments is synonymous with deepening; however, dredging would typically be limited to the infilled sedimentation, debris, and vegetation.

The BLM proposes to remove any capacity-reducing material (e.g., garbage, driftwood, logs, or branches) that have collected or that would collect in the future within pump chances or heliports. The BLM would clean out rooted or floating aquatic vegetation (**Figure 2-1**) with an excavator by dredging, scraping, or skimming. The BLM would either dispose of the woody debris onsite or transport it to an approved waste disposal location. The BLM proposes to relocate excavated dredging spoils and unwanted aquatic vegetation to approved waste disposal areas outside of wetlands, Riparian Reserve, floodplains, or unstable areas using dump trucks. The BLM would end haul illegally dumped garbage found within or at heliport sites to approved public disposal sites following all hazardous material protocols. In general, the

BLM or contractors would complete activities at any given impoundment within 1–14 days, depending on the nature of the work.



Figure 2-1. Example of floating and submerged woody debris and aquatic vegetation proposed for dredging and removal (Vogel Creek helipond, Site #20).

The BLM would apply surface erosion control measures to relocated dredge spoils prior to the wet season, as determined necessary by BLM geology, soils, or hydrology staff.

Table 2-1 and **Table 2-2** provide current recommendations for dredging and debris removal treatments. In the future, any new water impoundment debris (e.g., windfall timber or anthropogenic garbage) would be removed, as needed, at any of the heliponds and pump chances on District. The current dredging or debris removal identified in **Table 2-1** and **Table 2-2** does not preclude dredging or debris removal at other sites, following all project BMPs and PDFs. Dredging and debris removal would occur on a recurring basis, as needed.

Vegetation Control

The proposed vegetation control is recurrent in nature and would remove terrestrial shrubs, vines, forbs, and trees (and aquatic vegetation) that interferes with water-holding capacity, or that blocks access roads and deck roads, pond or pump chance inlets or outlets, water control devices, and flight paths. Vegetation control treatment would be done manually using hand tools, chainsaws, or mechanically using brush cutters or masticators (or similar), or as described above under dredging. Treated sites would require re-treatment after 1–5 years depending on site-specific conditions due to re-sprouting of the cut vegetation.

In this example, willow, alder and brush, including invasive species such as Scotch broom and Himalayan blackberry regrow with vigor along the graveled access road causing interfering conditions for helicopters, engines and tenders. Aquatic vegetation presents hazards and can interfere with helicopter water bucket filling operations.

Physical or Capital Maintenance and Improvements

The BLM would conduct maintenance and repair of helipond and pump chance infrastructure.

Liner Installation

The BLM or contractors would install new impoundment liners (e.g., concrete, polyurea¹, butyl rubber²) at locations that do not have liners, or at sites where a liner needs replaced (**Table 2-1 and Table 2-2**). Liner installation operations typically utilize heavy equipment such as small or large excavators, bulldozers, backhoes, graders, rollers. The BLM or contractors would use heavy equipment to smooth and reshape the surface of the pond bottom, and pull and replace old inlet and outlet pipes (corrugated metal or plastic). Depending on the liner materials, the liner installation could include concrete trucks, pumps, and miscellaneous heavy equipment and hand tools. Geomembrane installation would require heavy equipment to lift and assist with the placement of rolled materials. Typical operations would include small power tools, air compressors, generators, and hand labor.

Concrete liner installation goes in phases, but could take from 2 weeks to a month to complete, depending on site size and weather conditions.

Geomembrane liner installations could take up to a week per site, including draining, prep, and installation, depending on site size and weather conditions.

Liner Removal

The BLM or contractors would use heavy equipment to pull old liners from heliponds. In some cases, liners would be removed manually by cutting them into smaller pieces and removing them by hand. The BLM or contractors would end haul removed liner materials to an approved public waste facility.

Liner Repair

The BLM or contractors would conduct repairs to various heliponds liner materials (e.g., concrete, geomembranes) by draining the ponds with pumps and applying patching or sealing materials suitable for the substrate (e.g., polyurea, tar-based products, torch down roofing).

The BLM or contractors would drain ponds undergoing repair and would route water overland to vegetated areas or to non-erodible areas (generally June to early October).

Pipe and Drafting Structure Maintenance and Replacement

At constructed ponds, the BLM or contractors would maintain or replace inlet and outlet pipes, as needed, and at pump chances, would maintain and repair inflow and outflow pipes and drafting structures, as needed.

Fuels Reduction (Vegetation/Brush/Small Trees)

The BLM proposes to conduct fuels reduction activities at project landings and within identified flight paths. Proposed fuels reduction activities include chip, lop and scatter, pile and cover (for burning), or removal of cut materials. The BLM or contractors would pile accumulated slash at landing sites for burning. If there is no room available to pile, or there is not enough slash to build a pile, the BLM or contractors would scatter activity slash at landing sites. The BLM would conduct post-treatment surveys to determine the need for additional fuels reduction activities.

¹ **Polyurea** is a durable water-impervious polymer coating that lasts for several decades.

² **Butyl rubber** is a durable airtight synthetic rubber similar to a tire inner tube.

Best Management Practices

The use of BMPs is required by the Clean Water Act to reduce nonpoint source pollution to the maximum extent practicable. The BMPs provide compliance with the Clean Water Act, as amended, State of Oregon water quality legislation (Chapter 340), and the O&C Act (ROD/RMP p. 139). The decision-makers would select the appropriate and applicable BMPs based on site-specific conditions, technical feasibility, resource availability, and the water quality of those waterbodies potentially impacted. Not all of the BMPs listed (**Table 2-3**) would be selected for any specific management action (ROD/RMP p. 141).

Table 2-3. Best Management Practices incorporated into the proposed project

BMP Category and Number	Best Management Practice
General Construction	
R 11	Locate waste disposal areas outside wetlands, Riparian Reserve, floodplains, and unstable areas to minimize risk of sediment delivery to waters of the State. Apply surface erosion control prior to the wet season. Prevent overloading areas, which may become unstable.
R 48	Conduct all nonemergency in-water work during the ODFW instream work window, unless a waiver is obtained from permitting agencies. Avoid winter sediment and turbidity entering streams during in-water work to the extent practicable.
Maintaining Water Quality – Non-native Invasive Plants, including Noxious Weeds	
R 53	Locate equipment-washing sites in areas with no potential for runoff into wetlands, Riparian Reserves, floodplains, and waters of the State. Do not use solvents or detergents to clean equipment on site.
Water Source Development and Use	
R 54	Limit disturbance to vegetation and modification of streambanks when locating road approaches to in-stream water source developments. Surface these approaches with durable material. Employ erosion and runoff control measures.
R 56	Direct overflow from water harvesting ponds to a safe non-eroding dissipation area, and not into a stream channel.
Erosion Control Measures	
R 63	Apply native seed and certified weed-free mulch to cut and fill slopes, ditchlines, and waste disposal sites with the potential for sediment delivery to wetlands, Riparian Reserve, floodplains and waters of the State. If needed to promote a rapid ground cover and prevent aggressive invasive plants, use interim erosion control non- native sterile annuals before attempting to restore natives. Apply seed upon completion of construction and as early as practicable to increase germination and growth. Reseed if necessary to accomplish erosion control. Select seed species that are fast-growing, provide ample ground cover, and have adequate soil-binding properties. Apply mulch that will stay in place and at site-specific rates to prevent erosion.
Ground-based Harvesting	
TH 11	Restrict non-road, in unit, ground-based equipment used for harvesting operations to periods of low soil moisture; generally from May 15 to Oct 15. Low soil moisture varies by texture and is based on site- specific considerations. Low soil moisture limits will be determined by qualified specialists to determine an estimated soil moisture and soil texture.
TH 12	Incorporate existing skid trails and landings as a priority over creating new trails and landings where feasible, into a designated trail network for ground-based harvesting equipment, consider proper spacing, skid trail direction and location relative to terrain and stream channel features.

BMP Category and Number	Best Management Practice
TH 13	Limit non-specialized skidders or tracked equipment to slopes less than 35 percent, except when using previously constructed trails or accessing isolated ground-based harvest areas requiring short trails over steeper pitches. Also, limit the use of this equipment when surface displacement creates trenches, depressions, excessive removal of organic horizons, or when disturbance would channel water and sediment as overland flow.
TH 17	Construct waterbars on skid trails using guidelines in Table C-6 [ROD/RMP p. 167] where potential for soil erosion or delivery to waterbodies, floodplains, and wetlands exists.
Pile and Burn	
F 06	Avoid burning piles within 35 feet of a stream channel.
Operations Near Waterbodies	
SP 01	Take precautions to prevent leaks or spills of petroleum products (e.g., fuel, motor oil, and hydraulic fluid) from entering the waters of the State.
SP 02	Take immediate action to stop and contain leaks or spills of chemicals and other petroleum products. Notify the Oregon Emergency Response System, through the District Hazard Materials specialist, of any spill that enters the waters of the State.
SP 03	<p>Inspect and clean heavy equipment as necessary prior to moving on to the project site, in order to remove oil and grease, non-native invasive plants, including noxious weeds, and excessive soil.</p> <p>Inspect hydraulic fluid and fuel lines on heavy-mechanized equipment for proper working condition.</p> <p>Where practicable, maintain and refuel heavy equipment a minimum of 150 feet away from streams and other waterbodies.</p> <p>Refuel small equipment (e.g. chainsaws and water pumps) at least 100 feet from waterbodies (or as far as practicable from the waterbody where local site conditions do not allow a 100-foot setback) to prevent direct delivery of contaminants into a waterbody. Refuel small equipment from no more than 5-gallon containers. Use absorbent material or a containment system to prevent spills when re-fueling small equipment within the stream margins or near the edge of waterbodies.</p> <p>In the event of a spill or release, take all reasonable and safe actions to contain the material. Specific actions are dependent on the nature of the material spilled. Use spill containment booms or as required by ODEQ. Have access to booms and other absorbent containment materials.</p> <p>Immediately remove waste or spilled hazardous materials (including but not limited to diesel, oil, hydraulic fluid) and contaminated soils near any stream or other waterbody, and dispose of it/them in accordance with the applicable regulatory standard. Notify Oregon Emergency Response System of any spill over the material reportable quantities, and any spill not totally cleaned up after 24 hours.</p> <p>Store equipment containing reportable quantities of toxic fluids outside of Riparian Reserve.</p>
SP 04	<p>If more than 42 gallons of fuel or combined quantity of petroleum product and chemical substances would be transported to a project site as project materials, implement the following precautions:</p> <ol style="list-style-type: none"> 1. Plan a safe route and material transfer sites so that all spilled material will be contained easily at that designated location. 2. Plan an active dispatch system that can relay information to appropriate resources. 3. Ensure a spill containment kit that can absorb and contain 55 gallons of petroleum product and chemical substances is readily available.

BMP Category and Number	Best Management Practice
	4. Provide for immediate notification to OERS in the event of a spill. Have a radio-equipped vehicle lead the chemical or fuel truck to the project site. 5. Assemble a spill notification list that includes the district hazardous materials coordinator, ODEQ, and spill clean-up contractors. 6. Construct a downstream water user contact list with addresses and phone numbers. 7. When operating within source water watersheds, pre-estimate water flow travel times through the watershed to predict downstream arrival times. 8. Be prepared to sample water and carry sample containers. 9. Be prepared to assist OSP and ODFW to assess wildlife impacts of any material spilled.
Spill Abatement	
SP 05	Spill Prevention, Control, and Countermeasure Plan (SPCC): All operators shall develop a modified SPCC plan prior to initiating project work if there is a potential risk of chemical or petroleum spills near waterbodies. The SPCC plan will include the appropriate containers and design of the material transfer locations. No interim fuel depot or storage location other than a manned transport vehicle would be used.
SP 06	Spill Containment Kit (SCK): All operators shall have a SCK as described in the SPCC plan on-site during any operation with potential for run-off to adjacent waterbodies. The SCK will be appropriate in size and type for the oil or hazardous material carried by the operator.
SP 07	Operators shall be responsible for the clean-up, removal, and proper disposal of contaminated materials from the site.

Project Design Features

Botany

- Prior to any surface-disturbing activity in the project areas, the site would be surveyed for Bureau Sensitive vascular plants, lichens, and bryophytes by a qualified botanist/ecologist knowledgeable in the identification of the Special Status Species known or suspected to occur in the project areas
- Any Bureau Sensitive vascular plant, lichen or bryophyte sites found during pre-disturbance surveys would be protected such that the species persist at the site and management of the site would not increase the likelihood that the species would become listed

Cultural

- If any cultural and/or paleontological resource (historic or prehistoric site or object) is discovered during project development or implementation, project activity would cease in the immediate vicinity and the area flagged for avoidance within 150 feet, followed by notification of the District archaeologist and Field Manager. Project work would not proceed until evaluation and appropriate mitigations to prevent the loss of significant cultural or scientific values has been completed.

Engineering

- Keep impoundment dikes free of trees to minimize risk of impoundment failure due to root damage

Erosion Control

- Drain ponds when soils are dry (generally June to early October) and direct water onto vegetated slopes to reduce risk of landslides
- Restrict ground disturbance by heavy equipment to that area of the facility that is necessary to conduct maintenance activities

Fish

- Do not dredge to maintain pump chances within listed-fish habitat or within 200 feet of listed-fish habitat
- Salvage fish in channels temporarily dewatered
- Do not enter wetted stream channels with mechanized equipment, except where no practicable alternative exists

Invasive Plant Species, Including Noxious Weeds

- Inspect and clean all vehicles and equipment of mud, soil, plant materials, excess oil or grease that may contain weed seed before entering BLM lands. Vehicles that stay entirely on existing road surfaces are exempt from this cleaning requirement.
- Minimize all motorized travel through vegetation, especially where invasive plants are known, and avoid driving through or parking in vegetation, when feasible
- Minimize soil disturbance and retain native vegetation in and around project activity areas to the extent practical
- Stockpile topsoil and native vegetation and reposition in project area where feasible
- Seed bare soil (including dredge spoils) with BLM-approved weed-free seed and mulch following soil disturbance. At its discretion, BLM may supply approved seed.
- Avoid moving weed-infested materials such as dredge spoils, outside of designated project areas
- Use weed-free materials such as sand, gravel, borrow, and fill material within project areas and access roads to prevent the introduction and spread of weeds. Use materials from sources with the highest weed-free material accreditation available.

Fuels Management

- Remove, cut, chip, or scatter any cut vegetation away from the pond, or pile and cover for burning
- Cover hand piles and landing slash piles with black polyethylene sheeting, 4 mil thickness or equivalent
- Burn hand piles and landing piles after surrounding fuels and vegetation have received adequate rainfall to raise their fuel moisture to a level where fire would not spread from the burn pile
- Comply with the Oregon Smoke Management Plan

Landing Sites

- Pile slash accumulated at landing sites for burning. Scattering of activity slash at landing sites would only be done if there is no room available to pile or there is not enough slash to build a pile
- Segregate material that is of sufficient size for extended utilization (firewood) from landing piles to reduce the volume of slash that is to be burned
- Place segregated material where it is accessible to the public and safe from being consumed during pile burning operations
- Try to locate landing piles where residual slash (fuels that don't consume during burn operations) would not interfere with access to ponds or pump chances
- Promote full consumption of piles by stoking materials that won't consume on their own

Slash Reduction within Flight Paths

- Conduct post-treatment surveys to determine the need for additional activity fuel reduction. Since reforestation would not take place there is no need for site preparation level treatments
- Hand pile slash that is between ½ inch and up to 6 inches in diameter for burning in areas with elevated fuel loading that could create a long term hazard or increased risk for wildland fire
- Lop and scatter slash to reduce fuel bed continuity and to promote more rapid decay in areas with a lower volume of activity slash

Port-Orford-cedar Root Disease (*Phytophthora lateralis*)

- Perform work within the range of Port-Orford-cedar during the dry season, where possible
- Remove POC trees within 50 feet of heliport and pump chance water sources
- Use uninfected water or water treated with bleach for all planned activities within the range of Port-Orford-cedar
- Wash vehicles, equipment, and boots prior to initiating work and when leaving each water impoundment site located within the range of Port-Orford-cedar

Sudden Oak Death (SOD) Disease (*Phytophthora ramorum*)

- If workers and equipment are coming in from an area having Sudden Oak Death disease, the following would be required:
 - Tools, chainsaws, boot soles, and chaps would be cleaned (including sawdust and wood chips) prior to beginning work to prevent the spread of SOD. The above items would be treated with a 10 percent bleach solution
 - All vehicles and equipment would be washed, including the undercarriage prior to the beginning of a project
- If SOD is identified in the project area, the following items would be required:
 - Vehicles and equipment washing would be required during the project if the vehicle may have been contaminated with infected material
 - Tools, chainsaws, boot soles and chaps would be cleaned and sprayed with a ten percent bleach solution in water at the end of each day prior to departing the work site within the quarantine area
 - No spraying or washing with a bleach solution would be conducted within 150 feet of any stream channel.
 - A fresh bleach solution would be mixed on a daily basis
- The BLM would follow the latest direction from agency pathologists as they continue to learn about the disease.
- The BLM would follow current state and federal quarantine regulations (ORS 603-052-1230 and 7 CFR 301.92).

Water Quality

- Avoid conducting maintenance activities during wet conditions, where possible
- Isolate heliports and pump chances that are discharging to downstream channels prior to dredging to prevent off-site sediment movement. Isolating means collecting clean water from the upstream or inlet side, routing it around the work area, and returning it to the downstream channel.
- Use sediment control measures such as straw bales, filter cloth, or sediment fences when conditions warrant.
- Pump heliports and pump chances below the level of their outlets prior to dredging
- Maintain low-growing vegetation in flight paths where they do not pose bucket-snagging hazards. Minimize disturbance to existing shrubs and downed wood in or over streams in flight paths during tree clearing.
- Dispose of waste material from pond dredging in stable, non-floodplain sites. Use a site within a riparian area for disposal of the above material only if the site is outside of the floodplain, and if the site is stable and not likely to deliver sediment to the adjacent stream.

Wildlife

- Secure or remove food, food trash, and garbage generated by workers in project areas to minimize attraction of predators
- Avoid activities in NSO NRF habitat or within any known NSO nest patch
- Avoid removal of known nest trees of marbled murrelets, occupied habitat, or un-surveyed habitat trees containing nesting structure

- Avoid modification of physical and biological features³ (PBFs) of murrelet critical habitat as defined in their respective critical habitat designations (USDI-FWS 1997). Avoid tree removal that would modify murrelet critical habitat PBF 1 (the platform tree and the adjacent trees contributing to platform cover).
- Avoid activities that create noise above ambient levels within the appropriate disruption threshold distance of any known spotted owl known activity center or un-surveyed suitable NRF habitat from March 1 to July 7 (**Appendix Tables C-1 and C-3**). If the current nest tree is not known, the disruption distance will be measured from the edge of a 300-meter buffer (nest patch), known as the activity center. The seasonal restriction may be waived until March 1 of the following year if current calendar year surveys indicate: 1) spotted owls were not detected, 2) spotted owls are present, but not attempting to nest, or 3) spotted owls are present, but the nesting attempt has failed.
- Avoid activities that create noise above ambient levels within the appropriate disruption threshold distance of occupied murrelet sites, un-surveyed suitable murrelet habitat, or surveyed murrelet nesting structure from April 1 to August 5. Activities that create noise above ambient levels between August 6 and September 15 would be subject to daily timing restrictions (DTR), where activities that create noise above ambient levels would not begin until two hours after sunrise and would end two hours before sunset (**Appendix Tables C-2 and C-3**).

³ Past designations of critical habitat have used the terms ‘primary constituent elements’ (PCEs), ‘physical and biological features’ (PBFs) or ‘essential features’ to characterize the key components of critical habitat that provide for the conservation of the listed species. Critical habitat regulations were recently revised that discontinue use of the terms ‘PCEs’ or ‘essential features’ and rely exclusively on use of the term PBFs for that purpose to retain consistency with statutory language ([81 FR 7413](#)). To be consistent with that shift in terminology, and in recognition that the terms PBFs, PCEs, and essential habit features are synonymous in meaning, we are only referring to PBFs herein. Therefore, if a past critical habitat designation defined essential habitat features or PCEs, they will be referred to as PBFs in this document.

Chapter 3 Affected Environment and Environmental Consequences

Analysis Background

The affected environment describes the present condition and trend of issue-related elements of the human environment that may be affected by implementing the alternatives. It describes past and ongoing actions that contribute to present conditions, and provides a baseline for analyzing cumulative effects. The effects are the known and predicted effects from implementation of the actions, limited to the identified issues. Direct effects are those caused by the action and occurring at the same time and place. Indirect effects are those caused by the action but occurring later or in a different location. Cumulative effects result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. The cumulative effects analysis includes other BLM actions, other federal actions, and non-federal (including private) actions. Reasonably foreseeable future actions are those for which there are existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends.

Reasonably Foreseeable Activities

The BLM is currently planning or conducting forest management activities in several locations throughout the Coos Bay District. These include projects analyzed in the:

- Fairview NWFP Project EA (DOI-BLM-ORWA-2010-0001-EA)
- Big-Vincent EA (DOI_BLM-ORWA-C030-2011-0003-EA)
- Lone Pine EA (DOI-BLM-ORWA-C040-2011-0006-EA)
- Soup Creek Variable Retention Harvest EA (DOI-BLM-ORWA-C030-2012-0004-EA)
- Six Twigs EA (DOI-BLM-ORWA-C040-2013-0003-EA)
- Sudden Oak Death (SOD) Treatments CX (DOI-BLM-ORWA-C040-2016-0010-CX)
- Upper Rock Creek EA (DOI-BLM-ORWA-C040-2016-0007-EA)
- West Fork Smith River EA (DOI-BLM-ORWA-C030-2017-0001-EA)

This preceding list of BLM forest management projects includes commercial thinning, alder conversion (under the 1995 RMP), group selection harvest, variable retention harvest, regeneration, prescribed burning, and wind or fire salvage. The BLM also expects private industrial timber harvest, roadbuilding, and timber haul throughout the District boundaries to continue at approximately current levels.

Helipond and pump chance maintenance is a common forest management activity in western Oregon, and neighboring BLM districts have helipond and pump chance maintenance planning efforts currently underway. These efforts include:

- Medford District Routine Road and Pump Chance Routine Maintenance CX (DOI-BLM-ORWA-M000-2017-0003-CX)
- Roseburg District Helipond and Flight Path Maintenance EA (DOI-BLM-ORWA-R000-2016-0002-EA)
- Roseburg District Helipond and Pump Chance Routine Maintenance CX (DOI-BLM-ORWA-R000-2016-0006-CX)
- (Medford District) Hauck Ranch Pump Chance Project (DOI-BLM-ORWA-M070-2016-0008-CX)

On January 8, 2018, President Trump signed the Western Oregon Tribal Fairness Act, which—

1. conveyed approximately 10,000 acres of BLM-managed lands on the Coos Bay District to be held in trust by the Bureau of Indian Affairs for the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI), and

2. amended the Coquille Restoration Act by removing the requirement that the Coquille Indian Tribe to manage the Coquille Forest in accordance with the management plan for nearby and adjacent Federal lands.

Several heliponds and pump chances included in the EA are located within conveyance lands. The BLM includes these sites within the proposed action for analysis purposes. Future management would be under the direction of the CTCLUSI.

Other reasonably foreseeable activities across the Coos Bay District include the current and future treatment of invasive species and the use of herbicides for their control (Coos Bay District Invasive Plant Management EA, DOI-BLM-ORWA-C000-2017-0003-EA), and the Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline (PCGP) Projects (Docket #: PF17-4-000; NEPA #: DOI-BLM-ORWA-M000-2017-EIS). The Jordan Cove Energy Project plans to construct and operate an LNG export terminal on the North Spit of Coos Bay, and PCGP plans to construct and operate a 235-mile-long, 36-inch-diameter interstate natural gas transmission pipeline and associated aboveground facilities. The pipeline would originate near Malin, Oregon in Klamath County, traverse Douglas and Jackson Counties, and terminate (at the LNG Terminal) in North Bend, Oregon. The ID Team conducting the environmental assessment took into consideration the projects listed above during project analysis.

Cumulative Effects Considerations

The Council on Environmental Quality (CEQ) provided guidance on June 24, 2005, as to the extent to which agencies of the Federal Government are required to analyze the environmental effects of past actions when describing the cumulative environmental effect of a proposed action in accordance with Section 102 of the National Environmental Policy Act (NEPA). CEQ noted the “[e]nvironmental analysis required under NEPA is forward-looking,” and “[r]eview of past actions is only required to the extent that this review informs agency decision making regarding the proposed action.” This is because a description of the current state of the environment inherently includes effects of past actions. Guidance further states that “[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historic details of individual past actions.”

The information on individual past actions is merely subjective, and would not be an acceptable scientific method to illuminate or predict the direct or indirect effects of the action alternative. The basis for predicting the direct and indirect effects of the action alternative should be based on generally accepted scientific methods such as empirical research. The cumulative effects of this project upon the environment did not identify any need to exhaustively list individual past actions or analyze, compare, describe the environmental effects of individual past actions in order to complete an analysis which would be useful for illuminating or predicting the effects of the proposed action.

Issue Analysis by Resource

Botany

***Issue:** How would cutting trees affect Special Status vascular plants, lichens, and bryophytes?*

Analysis Area and Affected Environment

The botany analysis area includes all helipond and pump chance sites where the BLM would cut and remove trees. Of the 64 proposed sites, 27 have trees that provide habitat for Special Status vascular plants, lichens, and bryophytes. The 27 sites proposed for tree removal range from 0.3 to 2.7 acres. The combined area of trees the BLM would cut is just under 28 acres. The forested habitat at these sites has

habitat for up to 16 Bureau Sensitive vascular plants, lichens, and bryophytes (**Table 3-1**). The non-forested habitat at other sites does not contain habitat for Bureau Sensitive vascular plants, lichens, and bryophytes; therefore, the BLM will not analyze this habitat in detail.

Table 3-1. List of Bureau Sensitive vascular plants, lichens, and bryophytes that habitat exists for on the proposed Helipond and Pump Chance Maintenance EA.

Common Name	Scientific Name	Documented (D) or Suspected (S) on the Coos Bay District	Likelihood of Occurring in the Project Area
VASCULAR PLANTS			
California maidenhair fern	<i>Adiantum jordanii</i>	D	Low. Only one known site on Coos Bay BLM.
Siskiyou daisy	<i>Erigeron cervinus</i>	S	Low. No known sites on District.
Coffee fern	<i>Pellaea andromedifolia</i>	D	Low. Marginal habitat present.
California sword fern	<i>Polystichum californicum</i>	D	Low. Rare on District, but could potentially show up almost anywhere in forested habitat.
White-veined evergreen	<i>Pyrola dentata</i>	D	Moderate. Several known sites on District.
Drooping bulrush	<i>Scirpus pendulus</i>	S	Low. Marginal habitat present in project area.
LICHENS			
	<i>Bryoria subcana</i>	D	High. Multiple sites on District, plus has been found on nearby BLM lands.
	<i>Leptogium cyanescens</i>	S	Low. No known sites on District.
	<i>Niebla cephalota</i>	D	Low. All District sites on immediate coast, but could be found inland.
	<i>Usnea nidulans</i>	S	Low. No known sites on District.
BRYOPHYTES			
	<i>Cryptomitrium tenerum</i>	S	Low. No known sites on District.
	<i>Entosthodon fascicularis</i>	S	Low. No known sites on District.
	<i>Metzgeria violacea</i>	D	High. Multiple sites on District.
	<i>Porella bolanderi</i>	S	Low. No known sites on District.
	<i>Racomitrium depressum</i> (= <i>Codriophorus depressus</i>)	S	Low. No known sites on District.
	<i>Tetraphis geniculata</i>	S	Low. No known sites on District.

The BLM botanist completed surveys for Bureau Sensitive vascular plants, lichens, and bryophytes at the 27 sites where the BLM proposes to cut trees; two Bureau Sensitive species were located at two different sites. At the Vogel Creek helipond site (Site #20), the liverwort *Metzgeria violacea* (liverwort) was found. At the Jeff Creek helipond site (Site #2), the lichen *Bryoria subcana* was found. *M. violacea* is present in a creek bottom at least 0.25 miles in length, and only the very southern tip of the population (about 5 percent of the total area) enters the proposed Vogel Pond project area. *B. subcana* is located on three Douglas-fir trees within the proposed tree clearing area.

There are no threatened or endangered (T&E) vascular plants, bryophytes, lichens, or fungi, or suspected T&E species, at any of the 64 proposed helipond or pump chance sites.

The BLM has determined categories of severity of effect for this analysis to show the likelihood that the Bureau Sensitive vascular plants, lichens, and bryophytes would persist at each site. The BLM will use the following categories to approximate the effect of site clearing on the persistence of any species:

- **Minor:** Effects on individuals would be detectable or measurable, but localized, and of little or no consequence to the population. A minor effect could include mortality of a few individuals from tree cutting activities. Mitigating measures, if needed to offset effects, would be simple to implement.
- **Moderate:** Effects on the individuals would be detectable and measurable and could cause some loss of the population. Mitigating measures would be needed to assure the viability and probability of persistence.
- **Major:** Effects on individuals or habitat conditions would cause a complete loss of the local population.

For the botany analysis, the BLM defines the duration of short- and long-term effects as:

Short term: a change in a resource or its condition would last less than two growing seasons.

Long term: a change in a resource or its condition would last for more than two growing seasons.

Environmental Consequences

No Action

If the BLM were not to cut trees at any of the heliponds or pump chances, the existing Special Status plant species would remain undisturbed and both known Bureau Sensitive sites would persist.

Proposed Action

M. violacea found at Vogel Creek would survive the adjacent clearing activities because only a small portion (about five percent) of the total *M. violacea* population is located within the clearing limits at the proposed Vogel Creek helipond project area. The BLM's activities would have a minor adverse effect on the *M. violacea* plants at the site as it would remove habitat at a portion of the site; however, the majority of the plant habitat would remain undisturbed and the species would persist. The BLM would not need to implement mitigation measures. The loss of a portion of the *M. violacea* habitat would be long-term because the BLM would not reestablish forest in the project area. The BLM would keep the helipond area clear of vegetation.

The BLM would cut and remove all three trees hosting *B. subcana* at the Jeff Creek helipond. This would have a major adverse effect on this *B. subcana* site because no additional *B. subcana* were located on adjacent trees. The BLM's action would affect this *B. subcana* site for the long-term because the BLM would permanently clear the tree cover. The BLM would not propose mitigation because the status of this species has recently changed. In August of 2016, the Oregon Biodiversity Information Center (ORBIC) updated its list of Rare, Threatened, and Endangered Species of Oregon and removed *B. subcana* because this species was found to be "too common" (ORBIC 2016, p. 126). With the removal of *B. subcana* from the ORBIC list, the Oregon/Washington BLM will also remove *B. subcana* from the Special Status Species (SSS) List (expected in 2018⁴) because one of the criteria for a species to be considered Bureau Sensitive is that the species is an ORBIC List 1 or 2 species (USDA-FS and USDI-BLM 2015). Thus, the loss of this site would not contribute to the need to list this species as threatened or endangered because it is now considered too common to be listed, it has been removed from the ORBIC list, and will also be removed from the Oregon/Washington BLM Bureau Sensitive list during the next list update.

⁴ The BLM updated the SSS List in 2015, and typically update the list every three years.

Cumulative Effects and Conclusion

Timber stands on private lands adjacent to the proposed project areas are being managed on a 40-year rotation, and no effort is being made on private land to survey, manage, or protect vascular plants, lichens, and bryophytes considered Special Status by the Coos Bay BLM. Thus, Federal lands (e.g., BLM, Forest Service) located adjacent to and nearby the proposed heliport/pump chance sites would contain the primary refugia for the 16 Bureau Sensitive vascular plants, lichens, and bryophytes listed in **Table 3-1**.

The proposed Pacific Connector Gas Pipeline (PCGP) Project would cross BLM lands, which contain habitat for the 16 Bureau Sensitive vascular plants, lichens, and bryophytes listed in **Table 3-1**. The Federal Energy Regulatory Commission (FERC) is working on a new environmental impact statement for the proposed PCGP project. Surveys for Bureau Sensitive vascular plants, lichens, and bryophytes would be conducted on all Coos Bay BLM lands located within the PCGP project area. Previous surveys in 2007 along the proposed pipeline located one site of a Bureau Sensitive liverwort (*M. violacea*) 180 feet from the proposed pipeline centerline (FERC 2009, p. 4.6–119). FERC did not expect plants would be negatively affected by the pipeline because the overstory riparian habitat and substrate shrubs at the site would be maintained.

The Coos Bay BLM is currently developing an Integrated Pest Management EA for the Coos Bay District. Integrated pest management treatments would help to control and eliminate noxious and invasive plants that occur at the heliport/pump chance sites, which could threaten Bureau Sensitive vascular plant, lichen, or bryophyte sites at or adjacent to these sites. Thus, these treatments would benefit any Special Status vascular plant, lichen, or bryophyte sites that occur at or adjacent to proposed heliport/pump chance sites.

The BLM is currently planning or conducting forest management activities in several locations throughout the Coos Bay District. The BLM would buffer any Special Status plants found such that the Special Status Species persist and the actions do not increase the likelihood the species would become listed. Therefore, the BLM does not expect timber harvest activity to have any negative effects to any of the 16 Bureau Sensitive special status vascular plants, lichens, or bryophytes listed in **Table 3-1**.

The BLM's Northwest Oregon, Roseburg, and Medford districts administer lands adjacent to Coos Bay BLM that contain habitat for the 16 Bureau Sensitive species documented or suspected of occurring on the heliport/pump chance sites. These Districts also follow 6840 Special Status Species policy and survey for Bureau Sensitive plants when ground-disturbing activities such as timber sales occur. Each of these Districts also manage Bureau Sensitive sites such that the species persist and that the likelihood of listing the species does not increase.

U.S. Forest Service (USFS) lands occur adjacent to the Coos Bay District lands on the Siuslaw National and Rogue-Siskiyou National Forests. The USFS has a program for managing their Special Status Species, some of which are also BLM Special Status Species. Management for Sensitive Status Species follows Forest Service Region 6 Sensitive Species policy as identified in Section 2670 of the Forest Service Manual. The USFS would continue to do surveys for their Sensitive species on proposed timber sales and other ground-disturbing activities and would manage sites for species persistence much as Coos Bay BLM does.

Private industrial forestlands adjacent to the proposed project areas manage on a 40-year rotation, are expected to continue under that management style, and private landowners are not required to survey, manage, or protect vascular plants, lichens, and bryophytes considered Special Status by the Coos Bay BLM.

Federal lands adjacent to and nearby the proposed heliport/pump chance sites would contain the primary refugia for the 16 Bureau Sensitive vascular plants, lichens, and bryophytes listed in **Table 3-1**. Surveys for and management of Special Status Species sites on these Federal lands would help ensure persistence of these 16 Bureau Sensitive plants, when found, and would not increase the likelihood that any of these species would become listed.

Wildland Fire/Safety

***Issue:** How would the proposed heliport and pump chance maintenance affect the risk of uncharacteristic, large, high-intensity/high-severity wildfires and public and firefighter safety?*

Analysis Area and Affected Environment

For the purpose of safety, the wildland fire analysis area comprises all lands within the approximate boundary of the Coos Bay District, specifically those areas within about two miles of developed heliports and pump chances. The BLM manages approximately 12.3 percent of the land base within the Coos Bay District boundaries, private landowners hold approximately 52.6 percent, and other Federal agencies, the State of Oregon, and the Bureau of Indian Affairs manage the other 35.1 percent.

The BLM estimates that the effects of the proposed action would last approximately 1–30 years, depending upon the particular action. For example, a treatment to restore and maintain a streamside pump chance access may last a short time (1–5 years)—such as removing accumulated debris or overgrown vegetation—or may last decades (20–30 years) in the case of tree removal to maintain the recommended safety circle size for helicopter access at heliport sites. In the past, the District removed trees, vegetation, and hazardous debris from water impoundment sites, and made short- and long-term repairs to the infrastructure, such as pipes and pond liners.

The Coos Bay District's heliports and pump chances vary in size, shape, and condition. Some heliports have dedicated approach and departure paths, and some do not. The BLM staff assessed the current state of these facilities and determined that there are trees and other vegetation growing within the helicopter safety circles and approach and departure paths (**Table 2-1**). Some of the heliports have aerial and ground-based snagging and rotor strike hazards, accumulated sediment and vegetation reducing impoundment capacities, and deteriorated and leaking water impoundment liners and piping (**Figure 2-1**).

The District's network of heliports and pump chances provide water resources for initial attack fire suppression activities for nearby Federal, State, county, and private landowners. The distribution of impoundments across the District, as seen in **Figure 1-1**, **Figure 1-2**, **Figure 1-3**, and **Figure 1-4**, show that the majority of these facilities are in Coos and Douglas counties. The BLM manages 17 heliports and five pump chances in Douglas County, 12 heliports and 26 pump chances in Coos County, and four pump chances in Curry County (**Table 1-1** and **Table 1-2**). The BLM does not currently manage any heliports in Curry County.

Local forest protective agencies recommend a network of helicopter water dipping sites situated no more than 2 miles apart to provide optimal initial attack turnaround times. The current Coos Bay District BLM-managed heliport network does not provide 100 percent coverage at the 2-mile optimum range.

Type 1 (heavy) helicopters require the largest minimum safety circle and Type 3 (light) helicopters require the smallest safety circle. Ideally, the minimum safety circle diameters and approach and departure path widths should accommodate the aircraft size for which the heliport was designed (**Table 1-1**) at a minimum bucket long-line length. Type 1 helicopters often have fixed tanks with snorkels and

do not have the ability to hover above the tree tops, rather they require low altitude rotor clearances. The heliports proposed for treatment within the Coos Bay District were all designed to allow access by Type 1 helicopters.

Environmental Consequences

No Action

Under the no action alternative, the BLM expects the growth of trees and vegetation surrounding heliports and pump chances to continue at typical growth rates and to reduce the amount of available space necessary to conduct safe ingress and egress to these facilities, for both helicopters and ground-based equipment (engines, tenders) and firefighters. Without tree removal and vegetation maintenance, regular growth would cut off access to these facilities within a few years to a few decades based on vegetation type. Terrestrial vegetation would overtake pond perimeters and dikes in approximately 3–5 years, and trees would crowd into helicopter safety circles (NWCG 2016) (IHOG Exhibits 8.3 and 8.7) in approximately 5–20 years depending of species. Vegetation growth on pump chance and heliport access roads would obstruct fire vehicle and tender pumps within a few years (2–5 years). Without tree and vegetation maintenance, the available network of water impoundment resources would decrease until a stochastic event such as wind, fire, or landslide create new ground or canopy openings. Without access to these facilities, initial attack fire responders would need to travel greater distances (e.g., 2–10 miles) to find other sources for accessible water, which would increase response time. If a wildland fire were to occur, the decrease in access efficiency to these facilities would reduce initial attack effectiveness, indirectly increasing exposure and risk to firefighters and the public. Failure to stop a fire in the initial attack stage increases the risk of larger catastrophic wildland fires that cause damage or destruction to additional natural and cultural resources, wildlife habitat, and property loss.

The accumulation of sediment and undesirable vegetation deposited or growing in water impoundments, as well as the natural and unnatural deposition of debris, would continue to create and increase safety hazards (**Figure 2-1**). Unseen debris in ponds could snag or foul helicopter water-dipping bucket equipment, or if visible and known, would prevent use of the impoundment prior to maintenance. Accumulated sediments and debris would also continue to reduce the water-holding capacity of the impoundment, which would exhaust the available water resources sooner and could force firefighters to move to another location farther away to retrieve water for fire suppressing activities during critical firefighting incidents. The growth of trees and woody vegetation (Himalayan blackberry, alder, etc.) on water impoundment retaining walls and dikes would increase the risk of heliport breaches or leaks with the resultant loss of water-holding capacity. These outcomes would also delay firefighter response time, and allow fires to grow larger and spread farther, increasing exposure and risk to firefighters and the public, and damaging or destroying additional natural resources or property.

The deterioration of water impoundment liners, pipes, and their associated infrastructure, would continue to degrade the function and capacity of these sites. Heliports without liners, and heliports no longer capable of holding sufficient water (due to lack of maintenance) for initial attack throughout fire season would also reduce water availability and storage capacity, with similar human and environmental effects to those described above.

The no action alternative does not meet the purpose and need to maintain, repair, or improve the function and utility of water resources, provide for public and firefighter safety, or decrease the risk of large wildland fires.

Proposed Action

Safety considerations for helicopter water-dipping operations include clearance from obstacles for both snagging and rotor strike hazards. The BLM’s proposed 17.9 acres of tree removal at heliponds and 9.7 acres of tree removal near pump chances would follow the National Wildfire Coordination Group (NWCG) recommendations for helicopter safety circle dimensions and distances from obstacles presented in the Interagency Helicopter Operations Guide (IHOG) (NWCG 2016). The IHOG safety circle and flight path dimensions are based on helicopter types (**Table 3-2**), and the minimum width approach/departure path is the width of the safety circle (**Table 3-3**). The BLM would maintain helipond facility sizes at the scale of the original design specifications, while clearing trees that reduce safety hazards within those perimeters.

Table 3-2. Safety circle dimensions (IHOG Exhibit 8.3)

Helicopter Type	Safety Circle Diameter (Feet)
1 (Heavy)	110
2 (Medium)	90
3 (Light)	75

Table 3-3. Distance from obstacles (IHOG Exhibit 8.7)

Distance from Edge of Safety Circle (Feet)	Height of Obstacle (Feet)
80	10
160	20
240	30
320	40

The proposed tree removal would improve safe aerial access at 21 heliponds and maintain safe access at all 29 heliponds. The proposed tree removal at four pump chances in Coos County and two pump chances in Curry County would create new helicopter-accessible dipping sites, essentially expanding the helipond network by six sites without having to design or construct new helipond sites from scratch, saving tens to hundreds of thousands of dollars.

The proposed low-growing vegetation removal and maintenance at all sites would improve and speed up ground-based equipment and personnel access and eliminate helicopter-bucket snagging hazards at helicopter-accessible sites. Species like blackberries, Scotch broom, willows, and alder that establish and grow within ponds or around pond perimeters slow access to the water resources during wildland fire suppression operations. The uncontrolled growth of these species, and others, further increases the risk of pond, berm, or dike breaches as the roots grow and penetrate pond liners or compacted berms or dikes, which would compromise the integrity of the water-holding capacity of the impoundment.

Safety considerations for helicopter water-dipping operations include the depth of the water source. Helicopter pilots that use suspended long-line buckets need to submerge the bucket completely in order to fill it. Shallow water impoundments force the pilot to hold a hover⁵ longer in order to tip the bucket to the side and lift with a partial load, which increases the number of trips between the fire and the dip site, and slows the initial attack response. Helicopter pilots that use fixed tanks with snorkels or power-fill buckets

⁵ Helicopters are not always at full power when hovering, but they are operating in the shaded area of the height-velocity diagram. The height-velocity diagram is used to illustrate the height and airspeed needed for a helicopter to safely auto rotate to a landing in the event of an engine failure (USDI-OAS. 2013. Basic Aviation Safety. NFES 002907. U.S. Department of the Interior - Office of Aviation Services. Boise, ID.) (Figure 17).

can utilize shallower water sources; however, the pilots must completely submerge the intake with enough remaining depth from the bottom to prevent sediment and debris from clogging equipment. Dredging and removal of accumulated sediment would return water impoundments to their designed depths, which would improve water-holding capacity and operational turnaround times, and increase the speed of fire suppression activities.

Faster turnaround times on aerial suppression activities on wildland fire starts would reduce the cost of wildland fire response, and free up aerial and ground resources to respond to other fires. Faster aerial-based suppression would increase the probability of success in the initial attack phase, and result in fewer flight hours for pilots in high stress, high-risk environments. Faster aerial-based suppression activities, if successful, would require fewer ground-based firefighters to respond compared to slowed responses. Quicker aerial water drops, where needed, would also reduce the risk of large complex wildland fires, property damage, habitat, and reduce risk and exposure to firefighters.

Cumulative Effects and Conclusion

With site maintenance, tree removal, vegetation control, dredging, and capital improvements, the District's network of heliponds and pump chances would not only provide water resources for initial attack and wildland fire suppression efforts in the short- and long-term, but the actions would—

- Increase and maintain the safety margin in helicopter water-dipping operations;
- Increase and maintain access to water to minimize wildland fire size and spread;
- Increase and improve the helicopter water-dip site network; and
- Improve and maintain bucket-dipping or engine-filling turnaround times.

Wildlife

Issue: *How would the proposed tree removal affect northern spotted owl (NSO) habitat?*

Analysis Area and Affected Environment

The BLM defines the NSO habitat analysis area as the footprint of the heliponds and pump chances with a 1.5- or 1.3-mile buffer based on the median home range size for the Oregon Coast Range province or Klamath home range province, respectively (**Appendix C Maps C-1–C-4**). This analysis area is a suitable scale to assess potential effects to NSO habitat from tree removal. This analysis area includes approximately 45,287 acres of nesting, roosting, foraging (NRF) habitat, and 112,939 acres of dispersal habitat. Of the 64 proposed project locations, 29 heliponds and pump chances are located within NSO dispersal habitat (**Appendix C Table C-1**).

The existing helipond and pump chance facilities within the project footprint do not include NSO NRF habitat.

The cumulative project footprint is approximately 109 acres, which is comprised of approximately 27.5 acres of forest or other vegetation (25.2 percent), and 81.5 acres of (existing) clearings, water, or roads (74.8 percent). Of the 27.5 acres, approximately 10 acres are forested NSO dispersal habitat, and 17.9 acres are not dispersal habitat. The 10 acres of forested dispersal habitat are divided between six parcels in four 5th field watersheds, and each parcel ranges in size from 0.25 to < 3 acres (**Table 3-4**).

Table 3-4. Review of NSO dispersal habitat for project sites with proposed tree removal

Map Site	Project Site Name	Helipond, or Pump Chance Upgrade	5 th Field Watershed Name	Current Dispersal Habitat within 5 th Field Watershed* (Percent)	Proposed Tree Removal within Dispersal Habitat (Acres [†])	Proposed Change in Available Dispersal Habitat within 5 th Field Watershed (Percent)
1	Beaver Creek Ridge	Helipond	Lower Smith River	69	< 2	-0.003
28	Seed Orchard	Helipond	East Fork Coquille River	64	< 3	-0.010
53	Section 25 Weaver Priority 1	Pump Chance Upgrade			< 2	
46	Harry's Road	Pump Chance Upgrade			< 2	
45	Brewster Rock North	Pump Chance Upgrade	North Fork Coquille River	56	< 2	-0.003
63	Salal Springs	Pump Chance Upgrade	Elk River	57	< 2	-0.001
—	Total	—	—	—	< 10	—

* Calculated using dispersal and NRF habitat within the NWFP 15-year monitoring data provided via GIS

† Acreage is approximate and may vary

The U.S. Fish and Wildlife Service consider dispersal habitat limited at a landscape scale when less than 50 percent of forest-capable lands are functioning as dispersal habitat for NSO juveniles, sub-adults and adults (USDI-FWS 2011). Based on this threshold, dispersal habitat is not limited in any of the four 5th field watersheds affected by the proposed project (**Table 3-4**).

Four project sites (1, 28, 45, and 53) are located within historical NSO activity centers (3369O, 3155O, 2169A, 2169O, and 2189O), and two project sites (46 and 63) are not within historical activity centers (**Table 3-5**). Approximately 6–7 acres (of the 10 acres) are located within historic NSO home ranges, and < 4 acres are not within historic home ranges (**Table 3-5**).

Table 3-5. Review of NSO activity centers (from BLM NSO database 2.0) near proposed project sites

Map Site	Site Name	Helipond, or Pump Chance Upgrade	NSO Site Name	NSO Site ID Number	Within NSO Nest Patch?	Within NSO Core?	Within NSO Home Range?	Last Known NSO Site Activity (Year: Single/Pair, Male/Female)	Proposed Tree Removal within Dispersal Habitat (Acres*)	Proposed Change in Dispersal Habitat within Home Range (Percent)
1	Beaver Creek Ridge	Helipond	Baldy Trib	33690	No	No	Yes	2008: Pair, nesting unknown 1994: Pair, one fledgling	< 2	0.03
28	Seed Orchard	Helipond	Lost Creek	31550	No	No	Yes	2014: Single male 2013: Single male 2007: Pair, nesting unknown	< 3	0.06
45	Brewster Rock North	Pump Chance Upgrade	Peevee Creek Alt A	2169A	No	No	Yes	2007: Single unknown 1995: Single female	< 2	0.03
			Peevee Creek	21690				2015: Male and sub-adult male		0.03
53	Section 25 Weaver Priority 1	Pump Chance Upgrade	Upper Sandy Creek	21890	No	No	Yes	2014: Pair, nesting unknown	< 2	0.05
46	Harry's Road	Pump Chance Upgrade	—	—	No	No	No	—	< 2	0.05
63	Salal Springs	Pump Chance Upgrade	—	—	No	No	No	—	< 2	0.05
—	Total	—	—	—	—	—	—	—	< 10	—

* Acreage is approximate and may vary

Environmental Consequences

No Action

Under the no action alternative, the BLM would not remove trees from NRF or dispersal habitat for heliport and pump chance maintenance. However, it is reasonable to assume that Federal (other than BLM), Tribal, State, county, and private timber harvests with their associated road building would continue at approximately the current rate. The BLM expects that NRF and dispersal habitat in the analysis area would continue to function for the foreseeable future at approximately current levels, barring a stochastic event.

Proposed Action

The proposed action would not affect NSO NRF habitat because it would not remove trees within suitable NRF habitat. The BLM wildlife biologist determined through field reviews that the NSO habitat within the proposed tree clearing areas is not suitable NSO NRF habitat because it does not have trees old enough to be suitable habitat or have enough components of suitable habitat to support NSO nesting, roosting, and foraging.

The proposed action would maintain a total of approximately 109 acres in a treeless state, which includes the existing tree-free areas (81.5 acres) and the proposed 27.6 acres of new tree removal. Although the proposed action would cut approximately 27.6 acres of trees, approximately 10 acres are within NSO dispersal habitat (**Table 3-4 and Table 3-5**). The removal of 10 acres of trees within dispersal habitat scattered across six sites would not have a measurable effect on the 112,939 acres of dispersal habitat in the analysis area because the reduction in available dispersal habitat at the watershed level is small (0.003–0.01 percent) (**Table 3-4**). For example, the largest proposed area of tree removal would create only a small gap (2.3 acres) that NSO would move through to reach other habitat. The removal of approximately 6.5 acres of trees within four NSO home ranges (Baldy Trib, Lost Creek, Peevee Creek Alt A/Peevee Creek, and Upper Sandy Creek; **Table 3-5; Wildlife Staff Report Map Set D**) would not have a measurable effect on those home ranges because the reduction in home range dispersal habitat would also be small (approximately 0.03–0.06 percent). The habitat would continue to function as dispersal habitat because a 0.003–0.01 percent reduction in available dispersal habitat would not reduce any of the four watersheds to levels below the 50 percent threshold that would limit the ability of NSO to disperse through these areas (**Table 3-4**).

Cumulative Effects and Conclusion

Other factors that have the potential to influence habitat would include the Western Oregon Tribal Fairness Act land conveyance, and implementation of the proposed Pacific Connector Gas Pipeline, or other similar right-of-way projects.

Under the proposed action, the BLM would increase the tree-free areas around heliports and pump chances by 27.6 acres, with about a third of those acres in dispersal habitat. The BLM determined that the removal of 10 acres of trees would have a slightly measurable effect on NSO dispersal habitat; however, that effect is so small that it is essentially negligible, and the habitat would continue to function as dispersal habitat. Based on this analysis, the BLM does not expect any substantive or cumulative adverse or beneficial effects to NSO home ranges, NRF habitat, or dispersal habitat.

The proposed action would not change the likelihood of or need for listing of any Special Status Species under the ESA, as identified in BLM Manual 6840 and BLM OR/WA 6840 policy, due to the nature, scope, duration, and timing of the site-specific projects.

Chapter 4 List of Agencies and Individuals Contacted

The BLM informed the public of the planned EA through the Coos Bay District’s Summer 2015 Planning Update and subsequent updates (USDI-BLM 2015a, USDI-BLM 2015b, USDI-BLM 2016). The BLM sent scoping notices to interested parties by email and U.S. Mail. The BLM posts notices and documents to the BLM’s NEPA Register website at https://eplanning.blm.gov/epl-front-office/eplanning/nepa/nepa_register.do. The BLM contact list for the Helipond and Pump Chance Maintenance EA included the following:

Tribal

Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians
Confederated Tribes of Grand Ronde Indians
Confederated Tribes of Siletz Indians
Coquille Indian Tribe
Cow Creek Band of Umpqua Tribe of Indians
Tolowa Dee-Ni’ Nation

State

Governor’s Natural Resources Office
Oregon Coastal Management Program
Oregon Department of Agriculture—Noxious Weed Control Program (ODA)
Oregon Department of Environmental Quality (ODEQ)
Oregon Department of Forestry (ODF)
Oregon Department of Geology and Minerals Industries (DOGAMI)
Oregon Department of State Lands (DSL)
Oregon Water Resources Department

Federal

Bureau of Indian Affairs
U.S. Fish and Wildlife Service
U.S. Representative Peter Defazio

County

Coos County Board of Commissioners
Curry County Board of Commissioners
Douglas County Board of Commissioners and Attorney for Douglas County

Other

Adjoining landowners (within 1 air mile of sites)
Numerous private citizens
American Forest Resources Council
Association of O&C Counties
Cascadia Wildlands
Coast Range Association

Other (continued)

Douglas Timber Operators
Friends of the Coquille
Kalmiopsis Audubon Society
Klamath-Siskiyou Wildlands Center
NW Environmental Defense Council
Oregon Wild
Partnership for Umpqua Rivers
Plum Creek Timber Lands
Smith River Watershed Council
Tower Timber Services, Inc.
Umpqua Watersheds

Chapter 5 List of Preparers

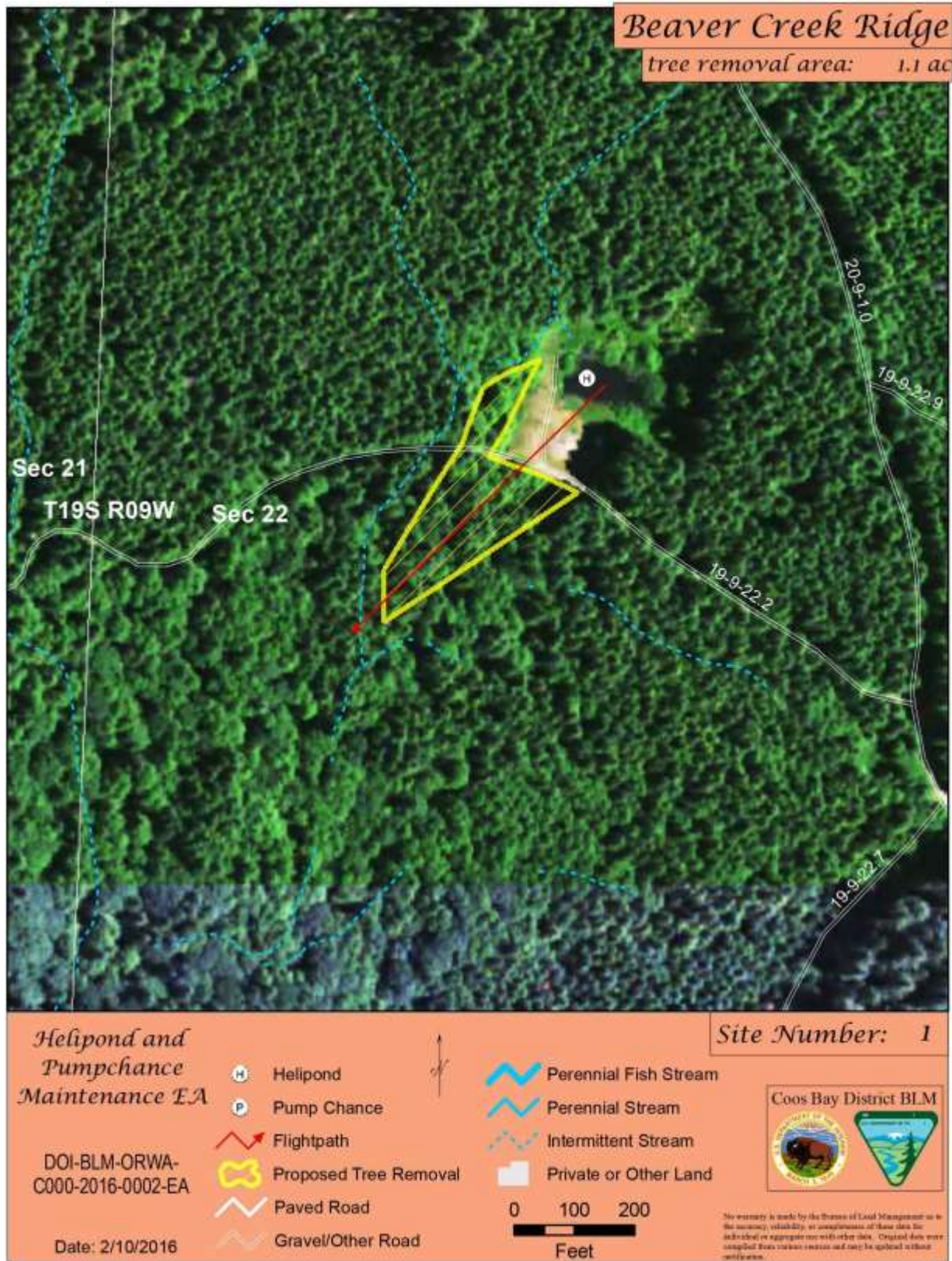
Richard ‘Jamie’ Lilienthal	Project Lead/Umpqua Fuels Management Specialist
William ‘Bill’ Elam	Project Lead/Umpqua Fuels Management Specialist (Retired)
Heather Partipilo	Team Lead/Planning & Environmental Coordinator
Joanie Lawrence	Fuel Management Specialist—Myrtlewood Field Office
Jennifer Sperling	Botanist—Umpqua Field Office
Tim Rodenkirk	Botanist—Myrtlewood Field Office
Cheryl Foster-Curley	Cultural Resource Specialist/Archaeologist
William Kerwin	District Archaeologist
Julia Jackson	District Environmental Protection Specialist/Safety/HazMat
Jennifer Feola	Fish Biologist—Umpqua Field Office
James ‘Jim’ Kirkpatrick	Forester/Noxious Weed Specialist—Myrtlewood Field Office
Casara Nichols	Forester/Noxious Weed Specialist—Umpqua Field Office
Greta Krost	Geologist
John Guetterman	GIS Specialist
John Colby	Hydrologist—Umpqua Field Office
Joanne Miller	Realty Specialist—Umpqua Field Office
John Harper	District Supervisory Outdoor Recreation Planner
Jeanne Standley	District Invasive Species and Noxious Weed Coordinator
Jennifer Kirkland	Wildlife Biologist—Myrtlewood Field Office

Chapter 6 References

- Coos County Noxious Weed Advisory Board.** 2018. Coos County Noxious Weed List. Coquille, OR. <http://www.co.coos.or.us/Portals/0/Weed%20Board/April%202018%20Coos%20County%20Noxious%20Weed%20List.pdf?ver=2018-05-02-115340-903>.
- Curry County Noxious Weed Advisory Board.** 2014. Curry County Noxious Weed List. Curry County. Gold Beach, OR.
- Cushman, K. and R. Huff.** 2007. The conservation assessment for fungi included in Forest Service Regions 5 and 6 Sensitive and BLM California, Oregon and Washington Special Status Species programs. U.S. Dept. of Agriculture - Forest Service Regions 5 and 6, Oregon and Washington, U.S. Dept. of the Interior - Bureau of Land Management, California, Oregon and Washington. Portland, OR. <http://www.fs.fed.us/r6/sfpnw/issssp/documents/planning-docs/ca-fu-text-2007-07-10-doc.doc>.
- NWCG.** 1996. Glossary of wildland fire terminology. National Wildfire Coordinating Group, Boise, ID.
- NWCG.** 2016. Interagency Helicopter Operations Guide. PMS 510. NWCG National Interagency Aviation Committee. <https://www.nwcg.gov/sites/default/files/publications/pms510.pdf>.
- ODA.** 2017. Noxious Weed Policy and Classification System. Oregon Department of Agriculture–Noxious Weed Control Program. Salem, OR. <http://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf>.
- ODEQ.** 2016b. Wetlands/Waterways Removal-Fill. Oregon Department of Environmental Quality. http://www.oregon.gov/dsl/PERMITS/Pages/when_is_permit_required.aspx.
- ODEQ.** 2017. Surface water drinking water source areas in Oregon Version 5. Accessed March 12, 2018. <http://www.oregon.gov/deq/wq/programs/Pages/DWP-Maps.aspx>.
- Olson, D. H. and R. J. Davis.** 2009. Conservation assessment for the foothill yellow-legged frog (*Rana boylei*) in Oregon Version 2.0. U.S. Department of Agriculture- Forest Service and U.S. Department of the Interior - Bureau of Land Management. Portland, OR. <https://andrewsforest.oregonstate.edu/sites/default/files/lter/pubs/pdf/pub4527.pdf>.
- Reiter, M. L. and R. L. Beschta.** 1995. Effects of forest practices on water. Pages Chapter 7 in Beschta, R. L., J. R. Boyle, et al., editors. *Cumulative Effects of Forest Practices in Oregon*. Oregon Department of Forestry. Salem, OR.
- USDA-FS and USDI-BLM.** 2004. Final Supplemental Environmental Impact Statement For Management of Port-Orford-cedar in southwest Oregon. U.S. Dept. of Agriculture - Forest Service, U.S. Dept. of the Interior - Bureau of Land Management. Portland, OR. <http://www.fs.usda.gov/detail/rogue-siskiyou/landmanagement/resourcemanagement/?cid=stelprdb5316256>.
- USDA-FS and USDI-BLM.** 2015. Criteria for determining FS R6 and OR/WA BLM Sensitive and Strategic species. U.S. Department of Agriculture - Forest Service and U.S. Department of the Interior - Bureau of Land Management. <https://www.fs.fed.us/r6/sfpnw/issssp/documents3/6840-final-sss-list-criteria-20150713.pdf>.
- USDA-FS and USDI-BLM.** 2015. Federally threatened, endangered, and proposed species, and Bureau Sensitive and Strategic Species List. Interagency Special Status/Sensitive Species Program. U.S. Department of Agriculture - Forest Service and U.S. Department of the Interior - Bureau of Land Management. Portland, OR. <https://www.fs.fed.us/r6/sfpnw/issssp/documents3/6840-final-sss-list-20150713.xlsx>.
- USDC-NMFS.** 2018. Endangered Species Act Section 7(a)(2) Programmatic Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Response for Routine Actions and Maintenance Activities of USDA Forest Service, USDI Bureau of Land Management, and the Coquille Indian Tribe on Lands Held in Trust for the Tribe by the Bureau of Indian Affairs in Western Oregon and Southwest Washington (RAMBO). U.S. Department of Commerce - National Marine Fisheries Service. Portland, OR.
- USDI-BLM.** 1997. Coos Bay District Integrated Noxious Weed Program EA—DOI-BLM-ORWA-C000-1997-0011-EA (formerly OR120-97-11). DOI-BLM-ORWA-C000-1997-0011-EA (formerly OR120-97-11). U.S. Department of the Interior - Bureau of Land Management. North Bend, OR.
- USDI-BLM.** 2004. Record of Decision and Resource Management Plan Amendment for Management of Port-Orford-cedar in Southwest Oregon, Coos Bay, Medford, and Roseburg Districts. U.S. Dept. of the Interior - Bureau of Land Management. Portland, OR.
- USDI-BLM.** 2007a. Final Programmatic Environmental Impact Statement Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. FES 07-21, U.S. Dept. of the Interior - Bureau of Land Management, Washington, D.C.
- USDI-BLM.** 2007b. Programmatic Environmental Report (PER) for Vegetation Treatments on BLM Lands in 17 Western States. U.S. Department of the Interior - Bureau of Land Management. Reno, NV.

- USDI-BLM.** 2007c. Record of Decision for the Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement. *Record of Decision*. U.S. Dept. of the Interior - Bureau of Land Management, Washington, D.C.
- USDI-BLM.** 2008. BLM NEPA Handbook H-1790-1 Release 1-1710. U.S. Department of the Interior - Bureau of Land Management. Washington, D.C. https://www.ntc.blm.gov/krc/uploads/366/NEPAHandbook_H-1790_508.pdf.
- USDI-BLM.** 2010. Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in Oregon Final Environmental Impact Statement and Record of Decision. U.S. Department of the Interior – Bureau of Land Management. Portland, OR.
- USDI-BLM.** 2014. Coos Bay District Spill Containment Plan For Fisheries and Riparian Operations. U.S. Department of the Interior - Bureau of Land Management. North Bend, OR.
- USDI-BLM.** 2015a. Coos Bay District Summer 2015 Planning Update. U.S. Department of the Interior-Bureau of Land Management, North Bend, OR. <http://www.blm.gov/or/districts/coosbay/plans/files/plan-update-sum15.pdf>.
- USDI-BLM.** 2015b. Coos Bay District Fall 2015 Planning Update. U.S. Department of the Interior-Bureau of Land Management, North Bend, OR. <http://www.blm.gov/or/districts/coosbay/plans/files/plan-update-fall15.pdf>.
- USDI-BLM.** 2016. Coos Bay District Spring 2016 Planning Update. U.S. Department of the Interior-Bureau of Land Management, North Bend, OR. <http://www.blm.gov/or/districts/coosbay/plans/files/plan-update-spr16.pdf>.
- USDI-BLM.** 2016. Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Aminopyralid, Fluroxypyr and Rimsulfuron on Bureau of Land Management Lands in 17 Western States. U.S. Department of the Interior - Bureau of Land Management. Denver, CO. <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=103601>.
- USDI-BLM.** 2016. Northwestern and Coastal Oregon Record of Decision and Approved Resource Management Plan (ROD/RMP). U.S. Department of the Interior - Bureau of Land Management. Portland, OR. https://eplanning.blm.gov/epl-front-office/projects/lup/57902/79046/91311/NCO_ROD_RMP_ePlanning.pdf.
- USDI-BLM.** 2016. Proposed Resource Management Plan/Final Environmental Impact Statement for the Resource Management Plans for Western Oregon. U.S. Department of the Interior - Bureau of Land Management. Portland, OR. https://eplanning.blm.gov/epl-front-office/eplanning/docset_view.do?projectId=57902¤tPageId=76777&documentId=71567.
- USDI-BLM.** 2016. Scoping Document for Helipond and Pump Chance Maintenance EA. U.S. Department of the Interior-Bureau of Land Management, North Bend, OR. <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=76757>.
- USDI-FWS.** 1997. Recovery Plan for the Threatened Marbled Murrelet (*Brachyramphus marmoratus*) in Washington, Oregon, and California. U.S. Dept. of the Interior - U.S. Fish and Wildlife Service. Portland, OR. http://ecos.fws.gov/docs/recovery_plans/1997/970924.pdf.
- USDI-FWS.** 2011. Revised Recovery Plan for the Northern Spotted Owl (*Strix occidentalis caurina*). U.S. Dept. of Interior - U.S. Fish and Wildlife Service. Portland, OR. <http://www.fws.gov/oregonfwo/Species/Data/NorthernSpottedOwl/Recovery/Library/Documents/RevisedNSORecPlan2011.pdf>.
- USDI-FWS.** 2014. Biological Opinion Addressing Fiscal Years 2014–2018 Programmatic Suite of Activities that May Affect Spotted Owls, Murrelets and their Designated Critical Habitats Proposed by the Coos Bay District BLM and the Coquille Indian Tribe. 01EOFW00-2014-F-0163. U.S. Dept. of the Interior - U.S. Fish and Wildlife Service - Roseburg Field Office. Roseburg, OR.
- USDI-FWS.** 2017. Informal consultation on helipond maintenance proposed by the Coos Bay District Bureau of Land Management. Reference Number 01EOFW00-2017-I-0211, U.S. Dept. of the Interior - Fish and Wildlife Service, Roseburg, OR.
- USDI-OAS.** 2013. Basic Aviation Safety. NFES 002907. U.S. Department of the Interior - Office of Aviation Services. Boise, ID.
- Vindigni, M. A., A. D. Morris, et al.** 2009. Use of modified water sources by bats in a managed pine landscape. *Forest Ecology and Management* **258**(9), 2056–2061. <https://doi.org/10.1016/j.foreco.2009.07.058>.

Appendix A Sites with Proposed Flight Path Tree Removal



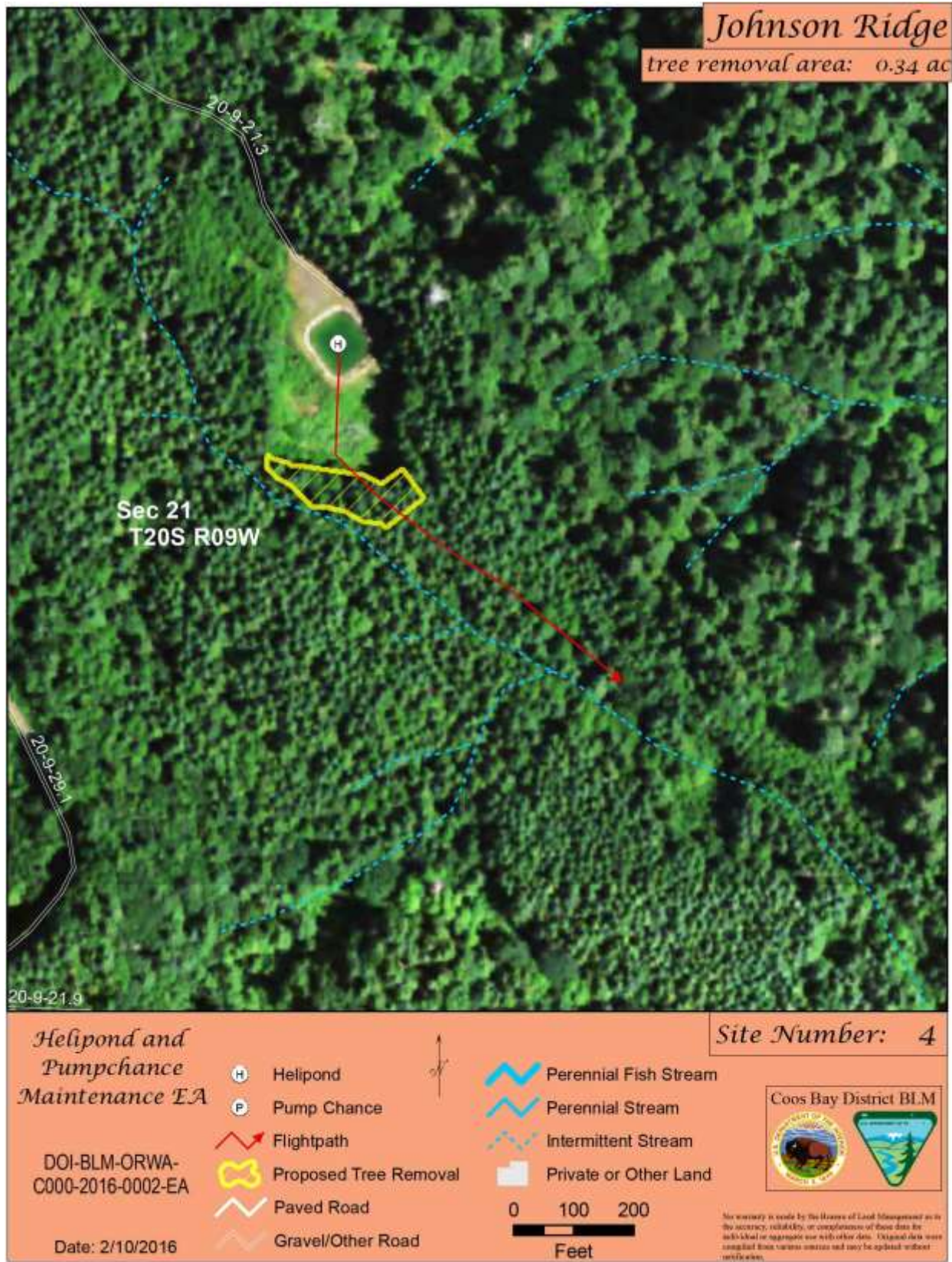
Map A-1. Beaver Creek Ridge helipond (Site #1) and proposed flight path tree removal area



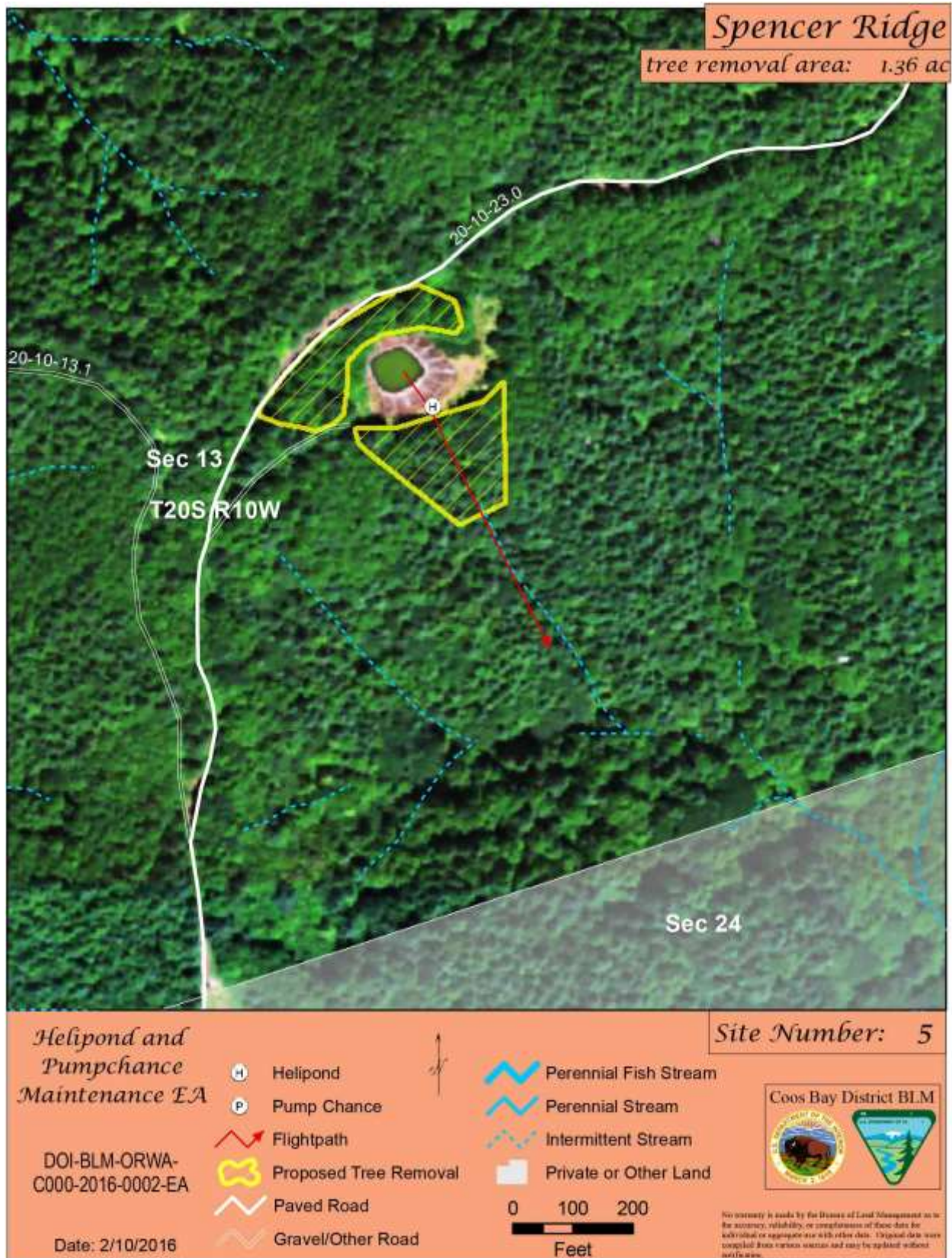
Map A-2. Jeff Creek helipond (Site #2) and proposed flight path tree removal area



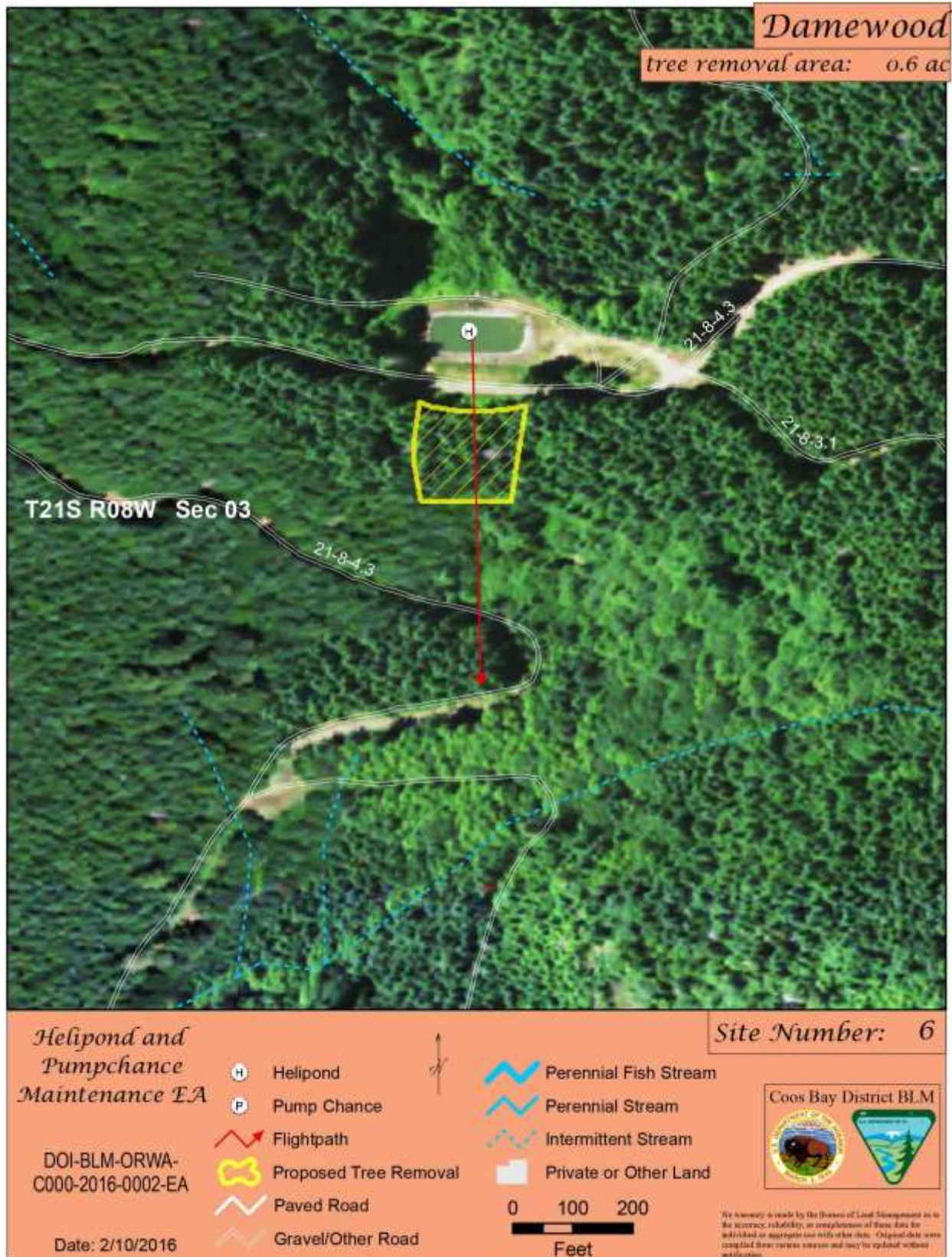
Map A-3. Windy Ridge helipond (Site #3) and proposed flight path tree removal area



Map A-4. Johnson Ridge helipond (Site #4) and proposed flight path tree removal area



Map A-5. Spencer Ridge helipond (Site #5) and proposed flight path tree removal area



Map A-6. Damewood helipond (Site #6) and proposed flight path tree removal area



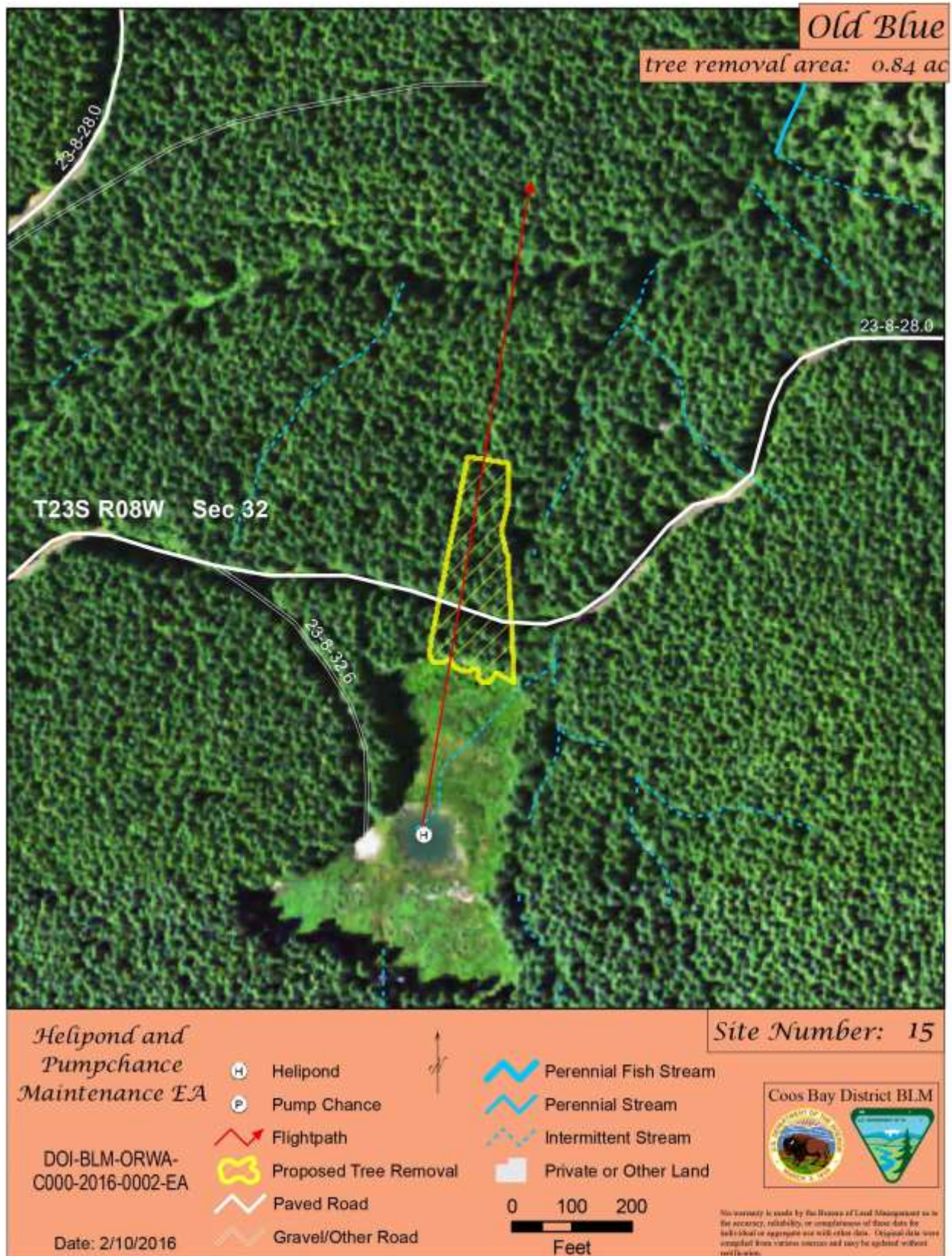
Map A-7. Upper Paradise helipond (Site #7) and proposed flight path tree removal area



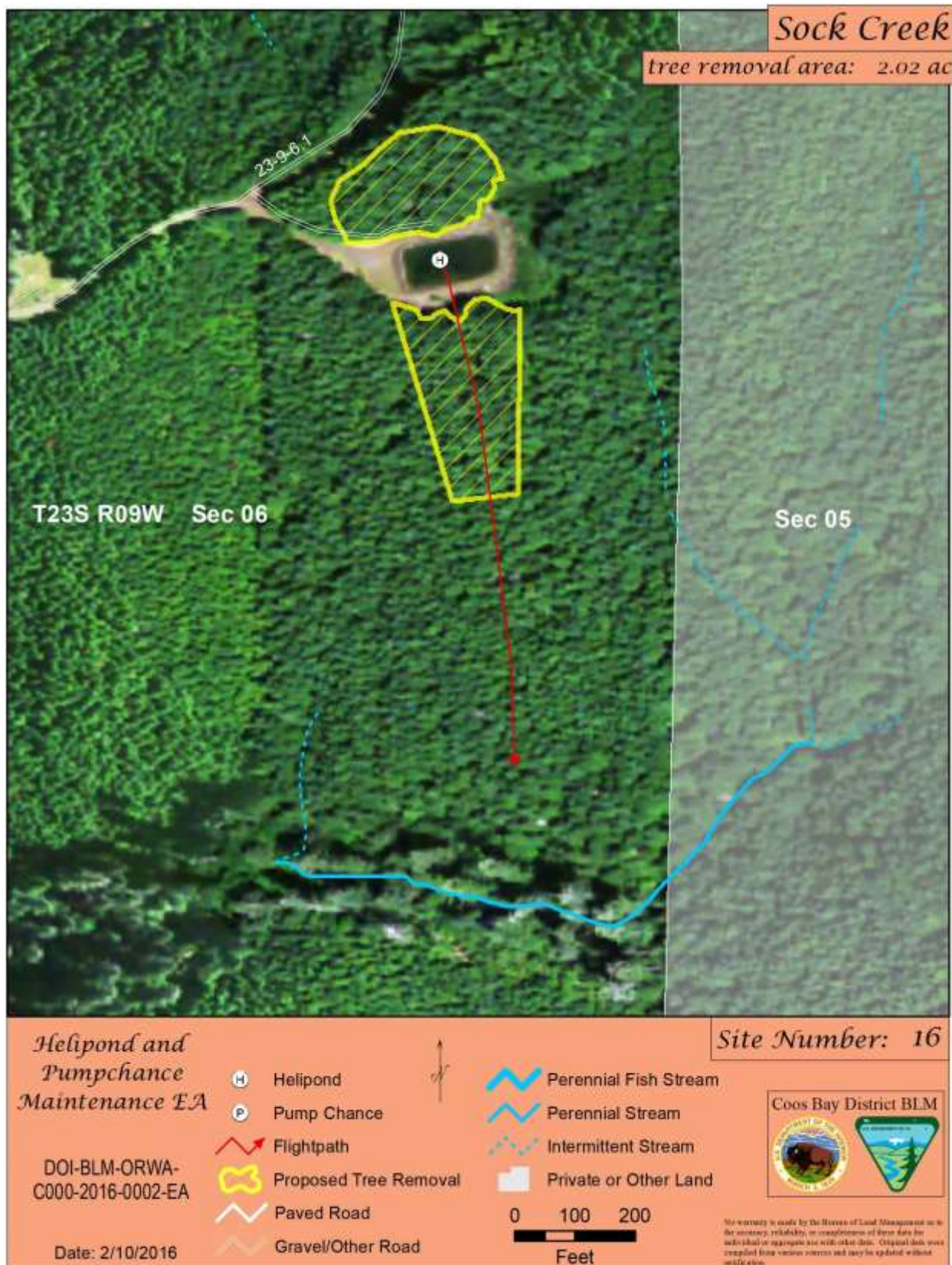
Map A-11. Steampot Ridge helipond (Site #11) and proposed flight path tree removal area



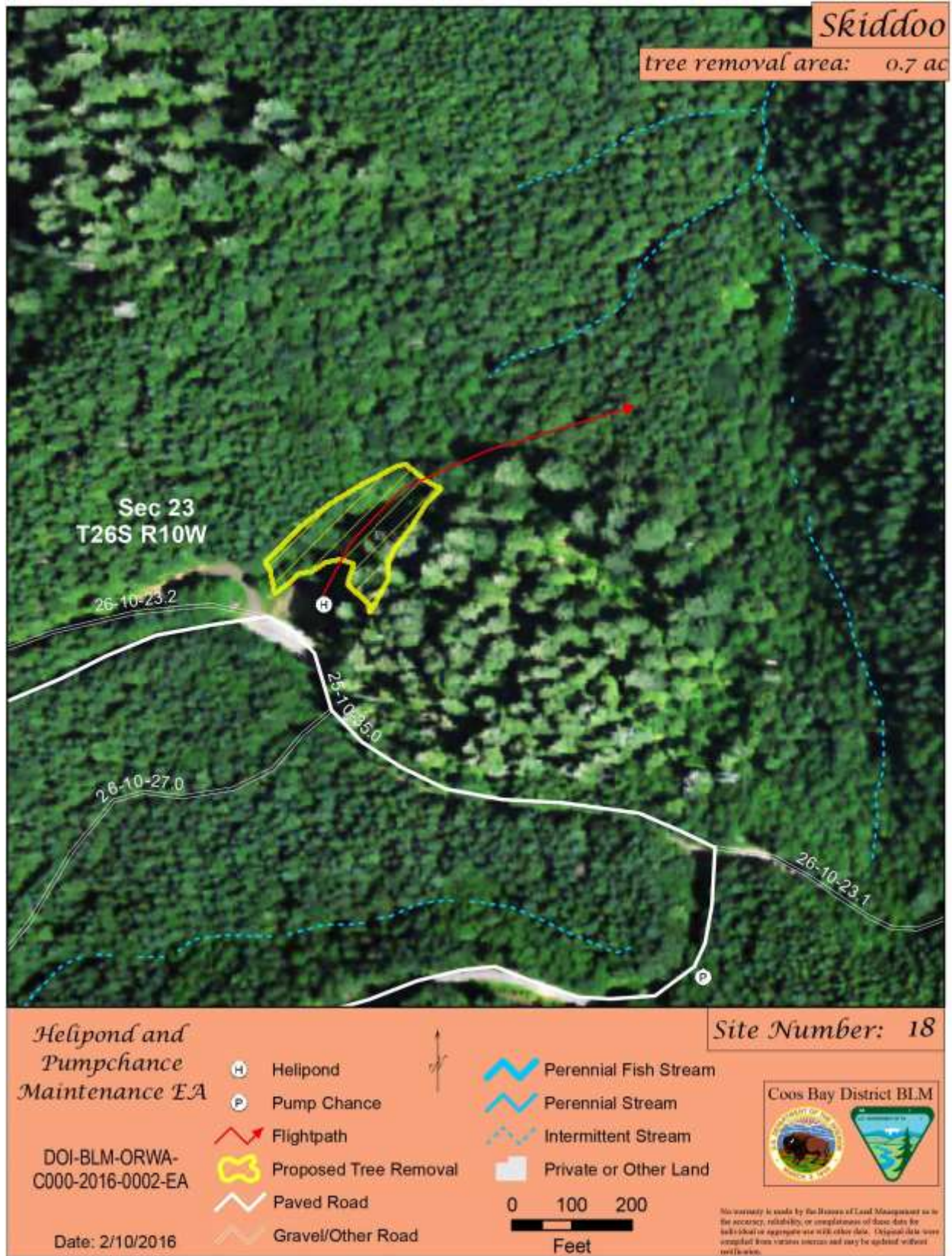
Map A-14. Upper Luchsinger helipond (Site #14) and proposed flight path tree removal area



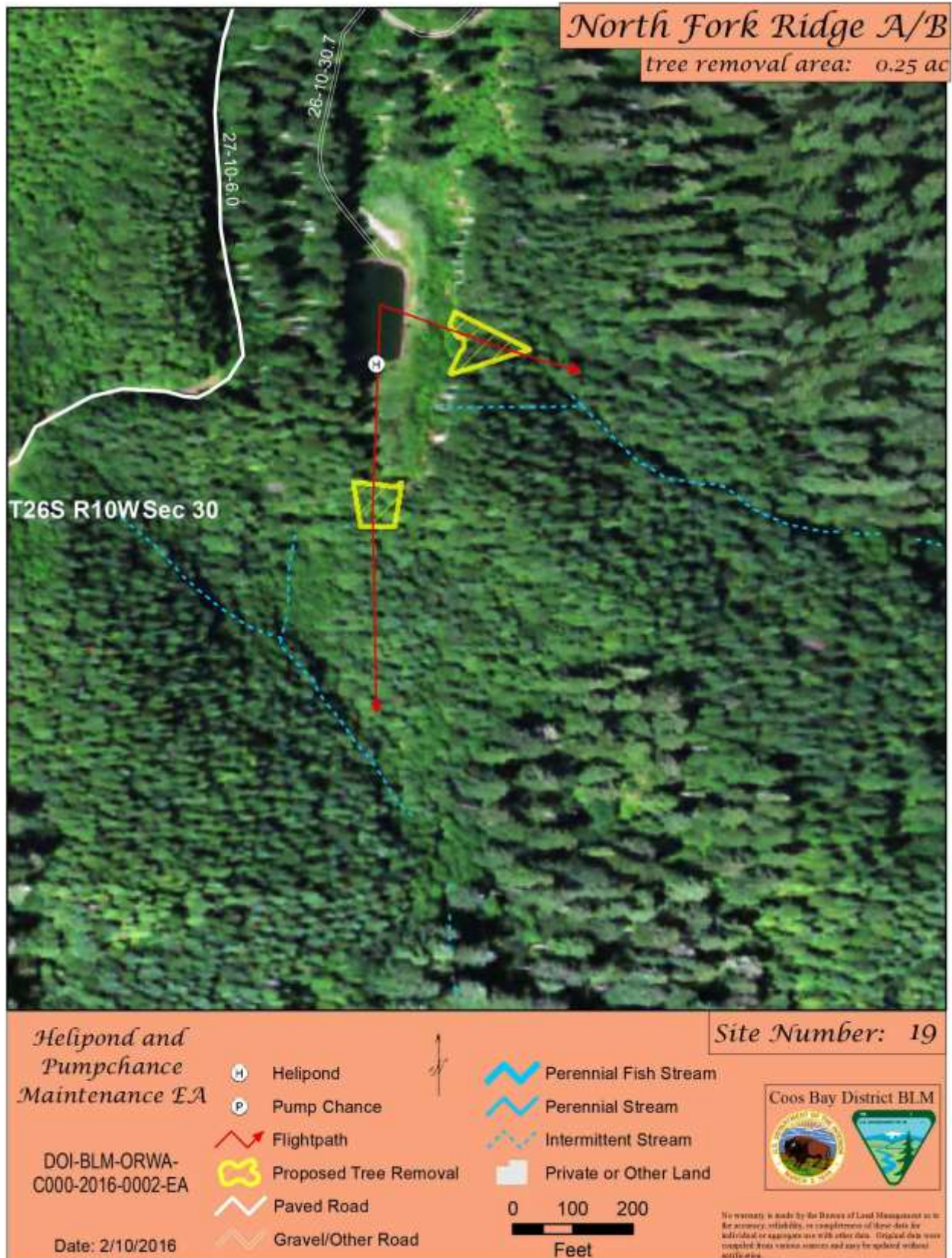
Map A-15. Old Blue helipond (Site #15) and proposed flight path tree removal area



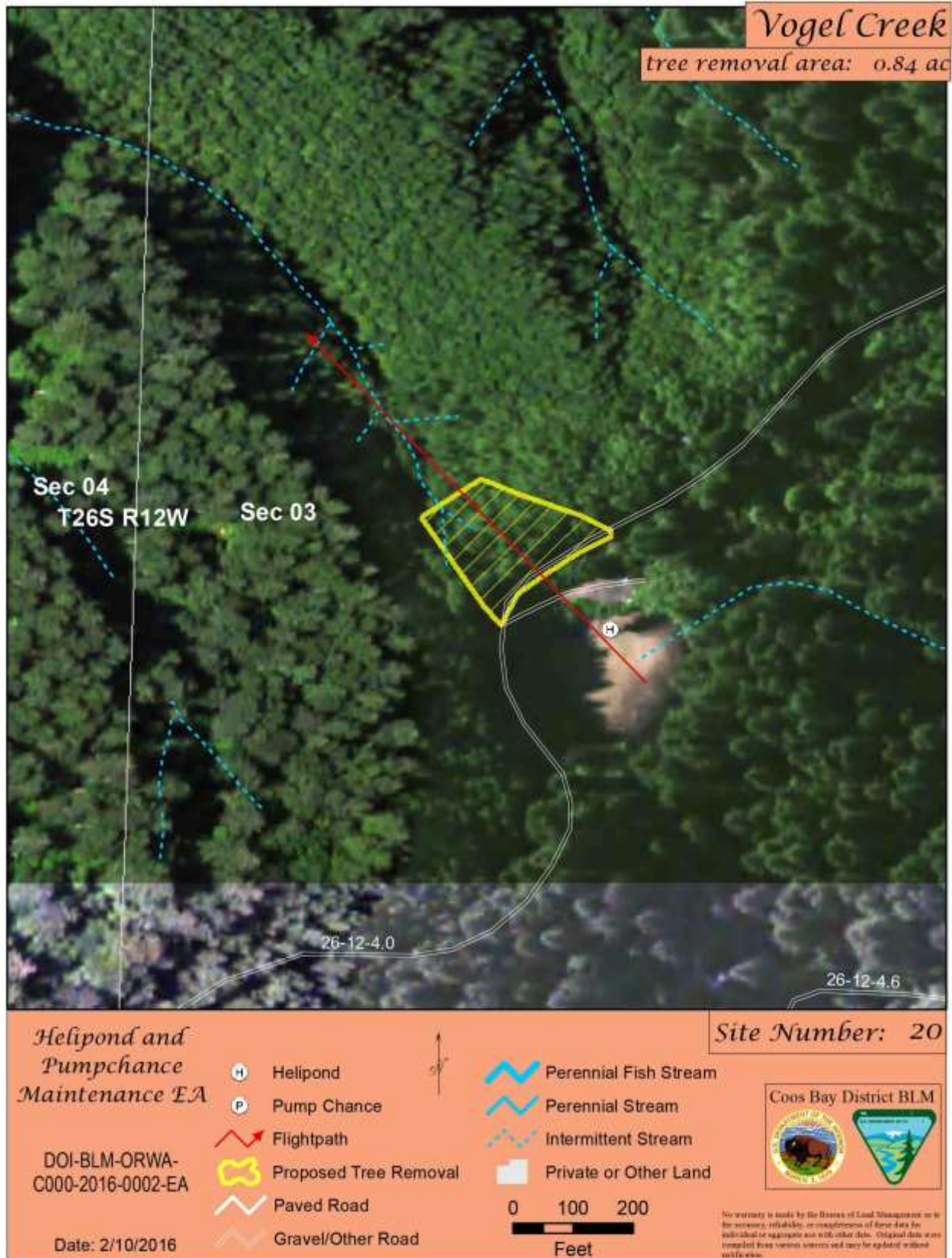
Map A-16. Sock Creek helipond (Site #16) and proposed flight path tree removal area



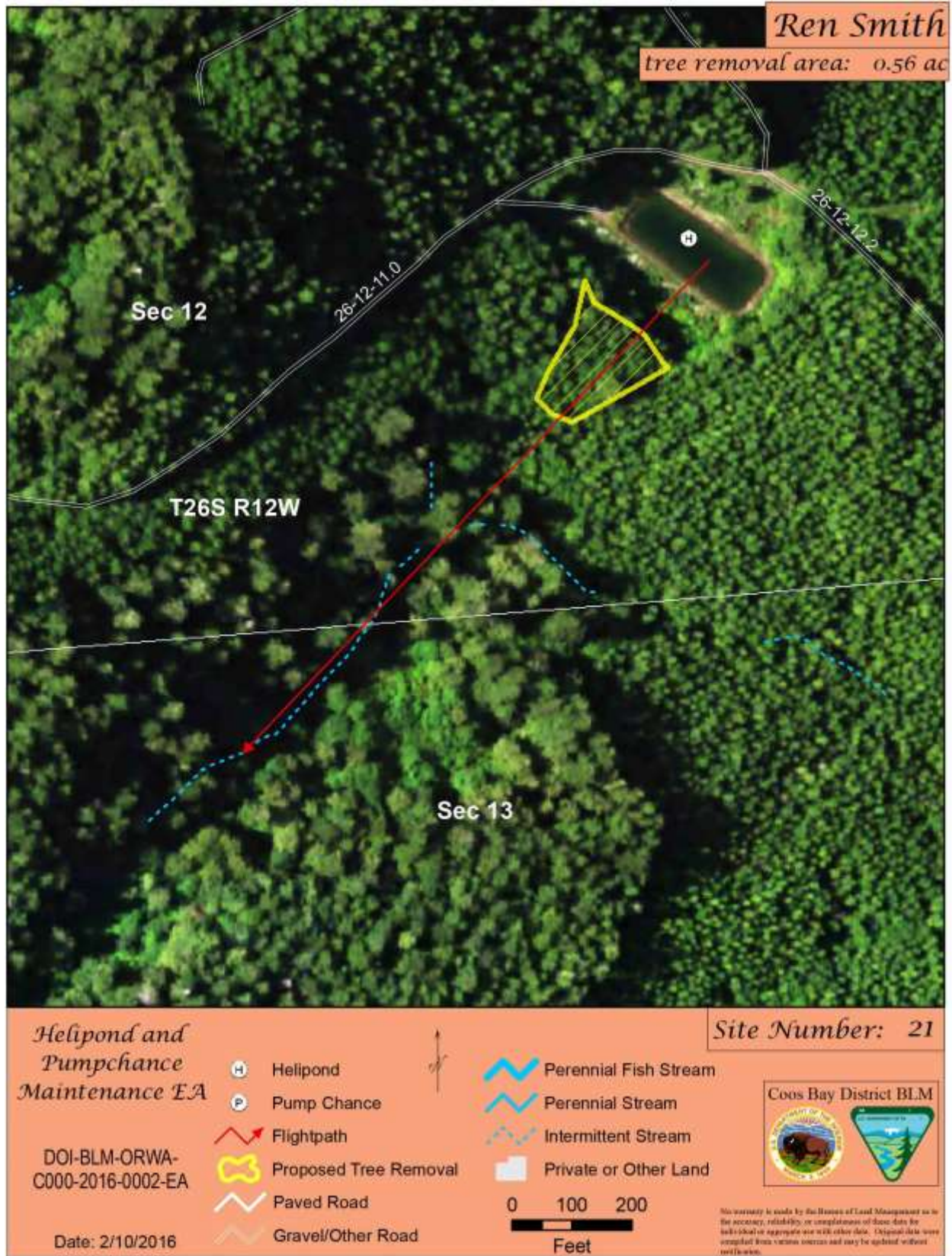
Map A-18. Skiddoo helipond (Site #18) and proposed flight path tree removal area



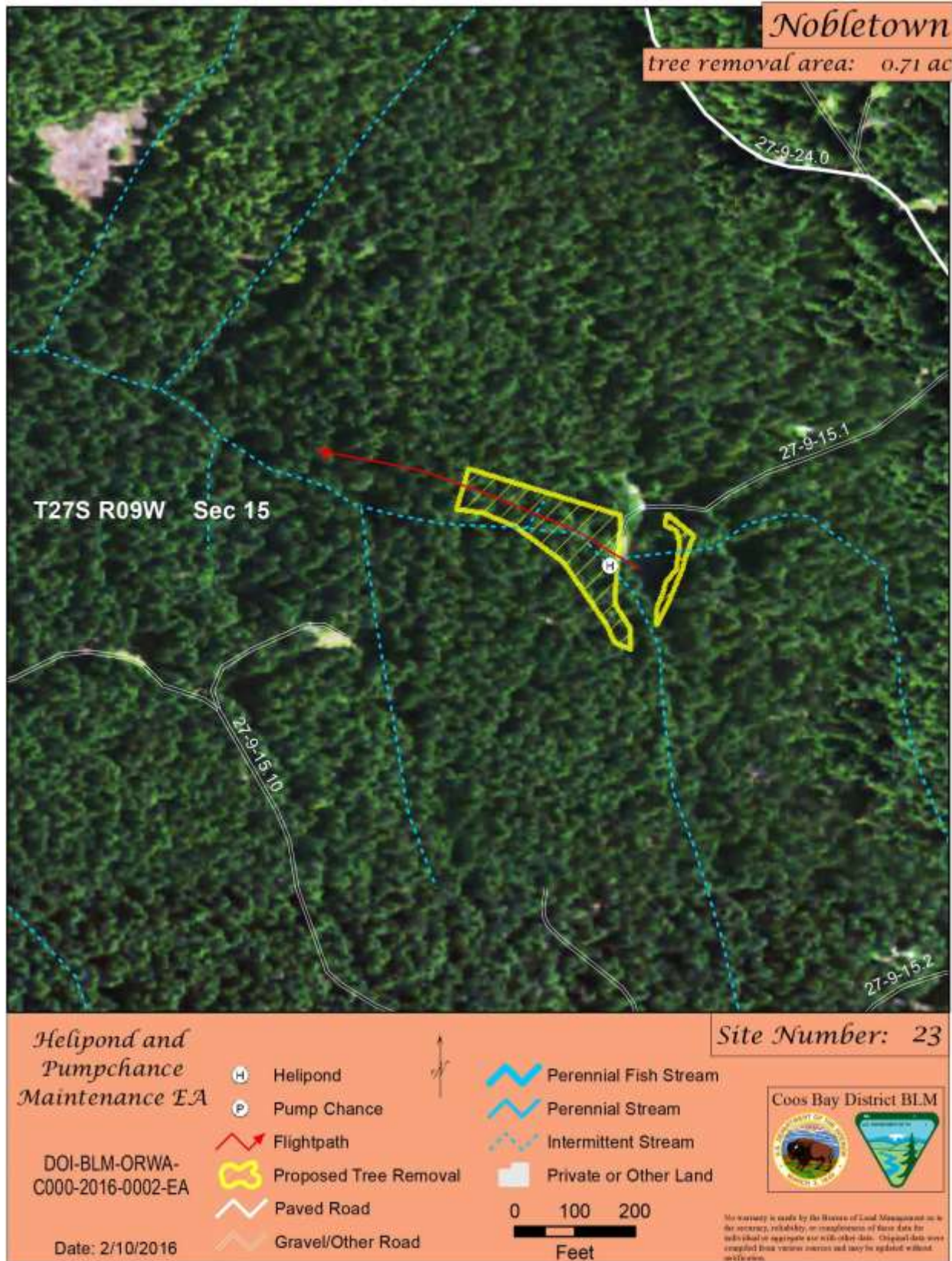
Map A-19. North Fork Ridge A/B helipond (Site #19) and proposed flight path tree removal areas



Map A-20. Vogel Creek helipond (Site #20) and proposed flight path tree removal area



Map A-21. Ren Smith helipond (Site #21) and proposed flight path tree removal area



Map A-23. Nobletown Creek helipond (Site #23) and proposed flight path tree removal area



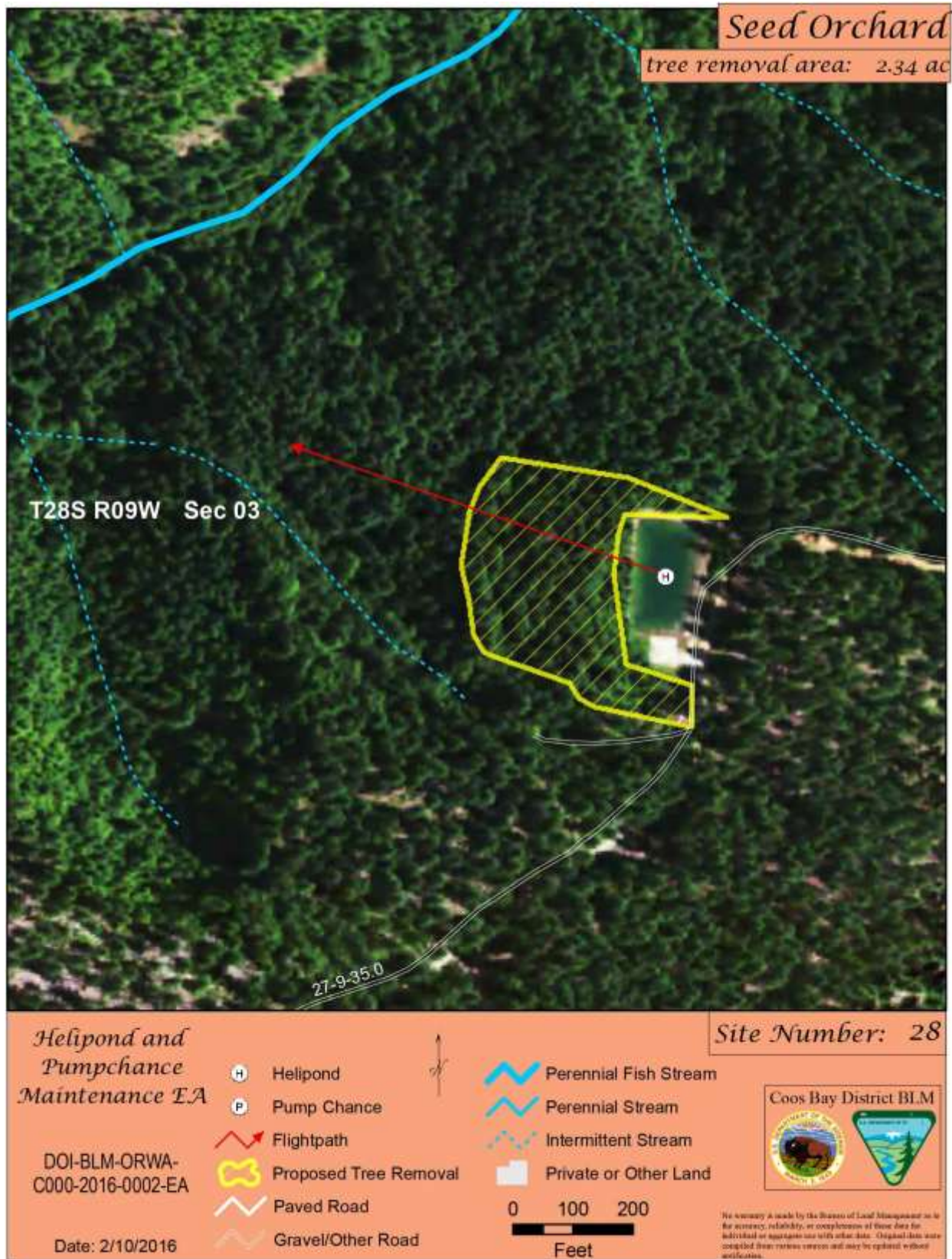
Map A-25. Burnt Tie helipond (Site #25) and proposed flight path tree removal area



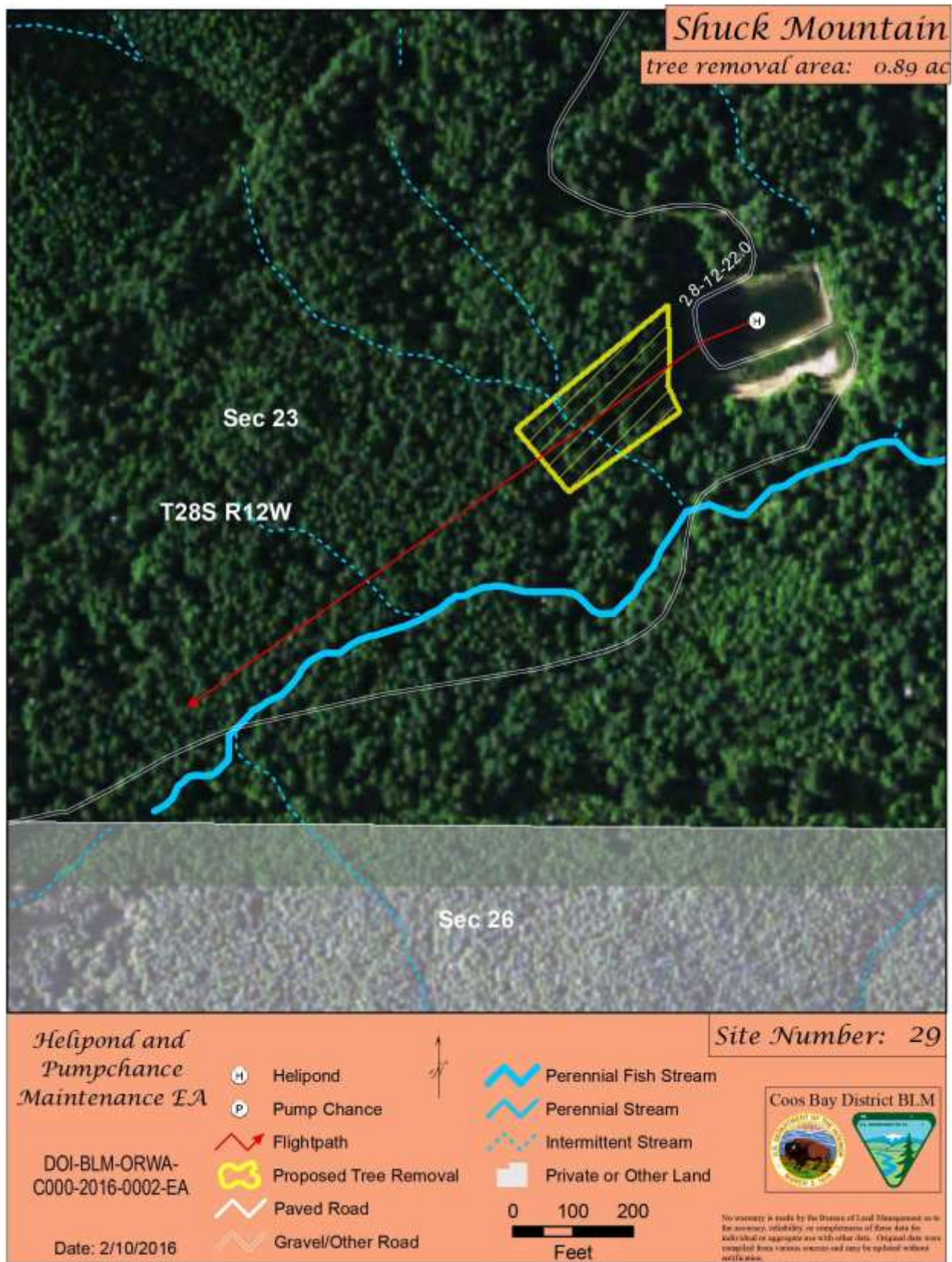
Map A-26. Brewster Rock South heliport (Site #26) and proposed flight path tree removal area



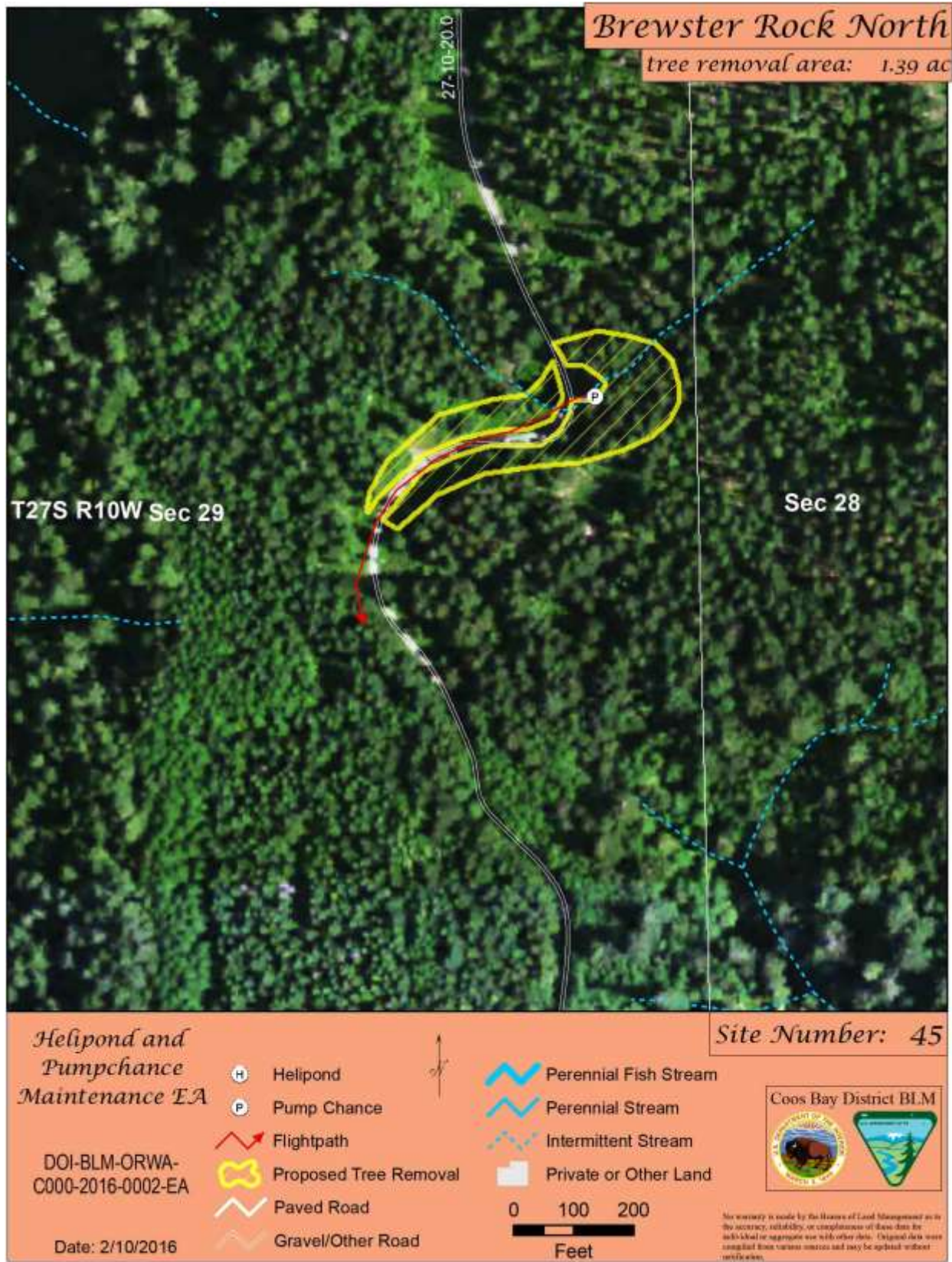
Map A-27. Garbage Dump helipond (Site #27) and proposed flight path tree removal area



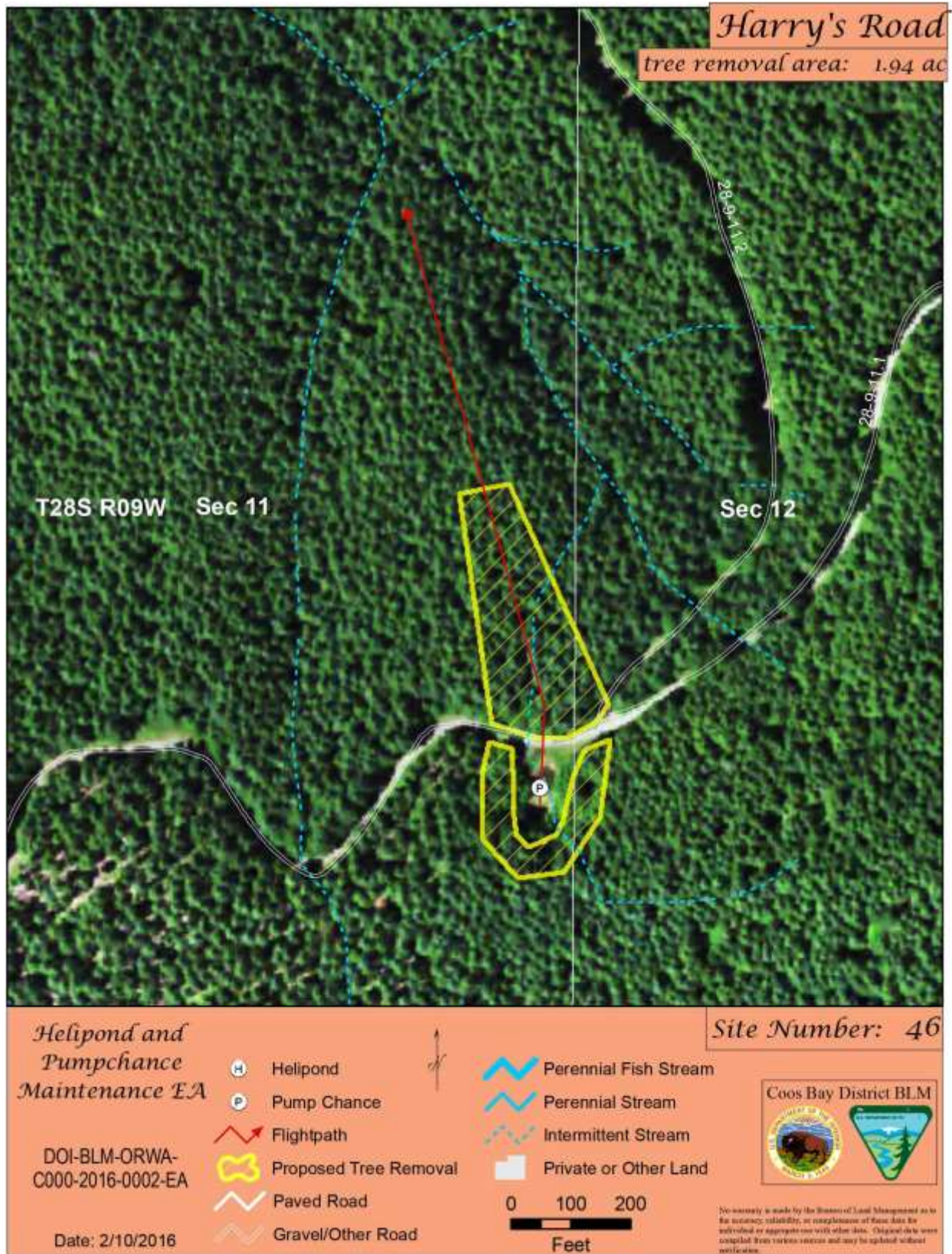
Map A-28. Seed Orchard helipond (Site #28) and proposed flight path tree removal area



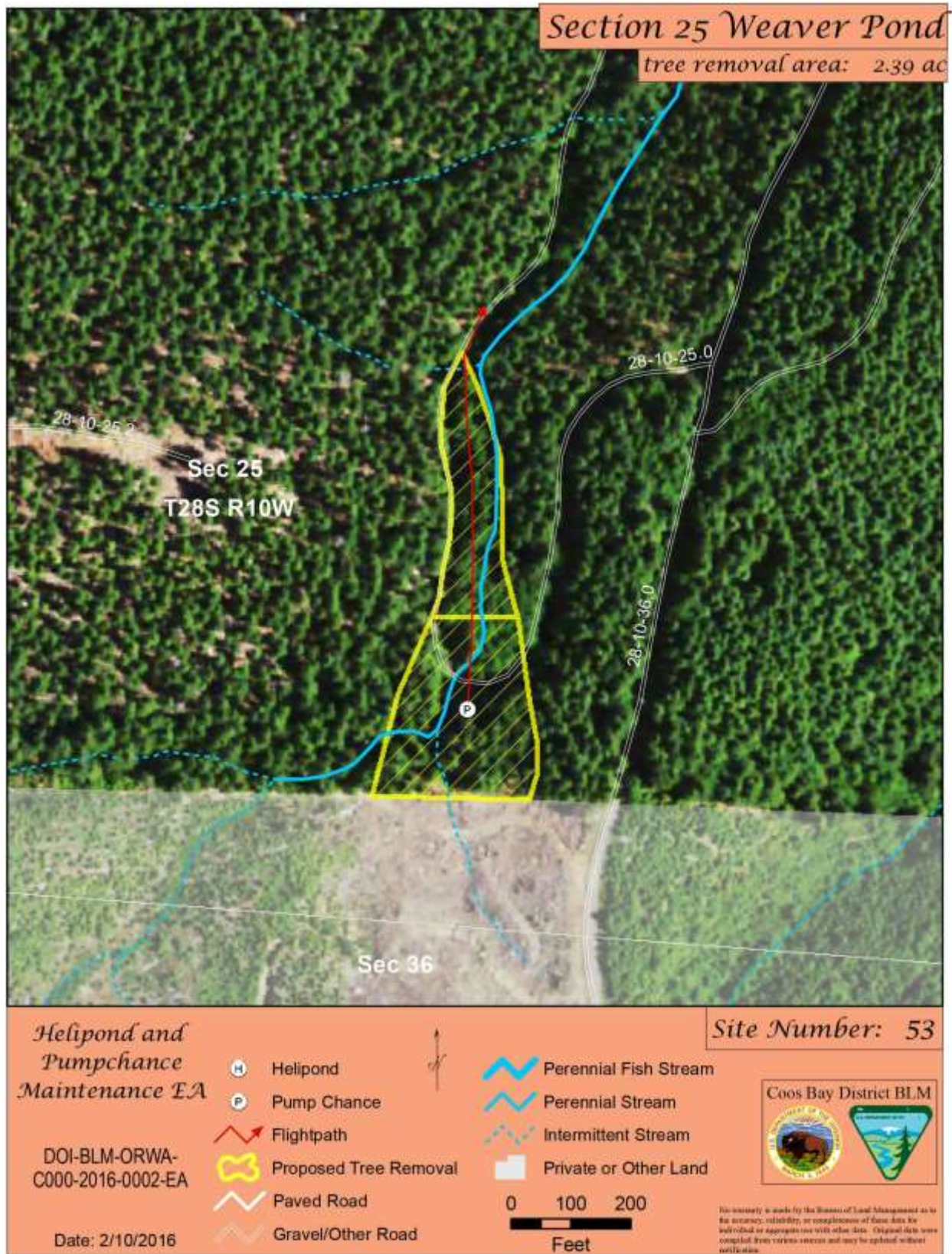
Map A-29. Shuck Mountain helipond (Site #29) and proposed flight path tree removal area



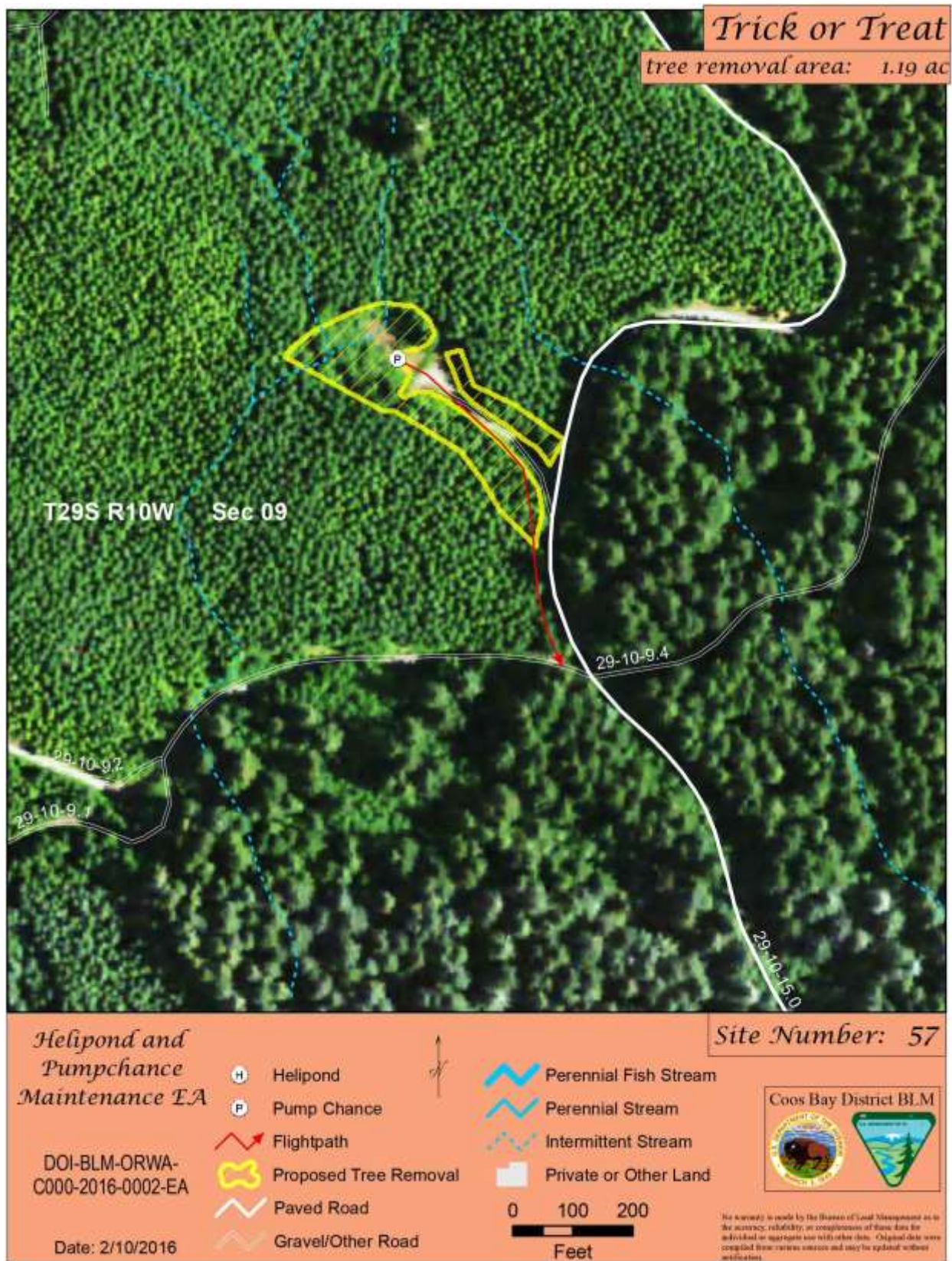
Map A-45. Brewster Rock North pump chance (Site #45) and proposed flight path tree removal area



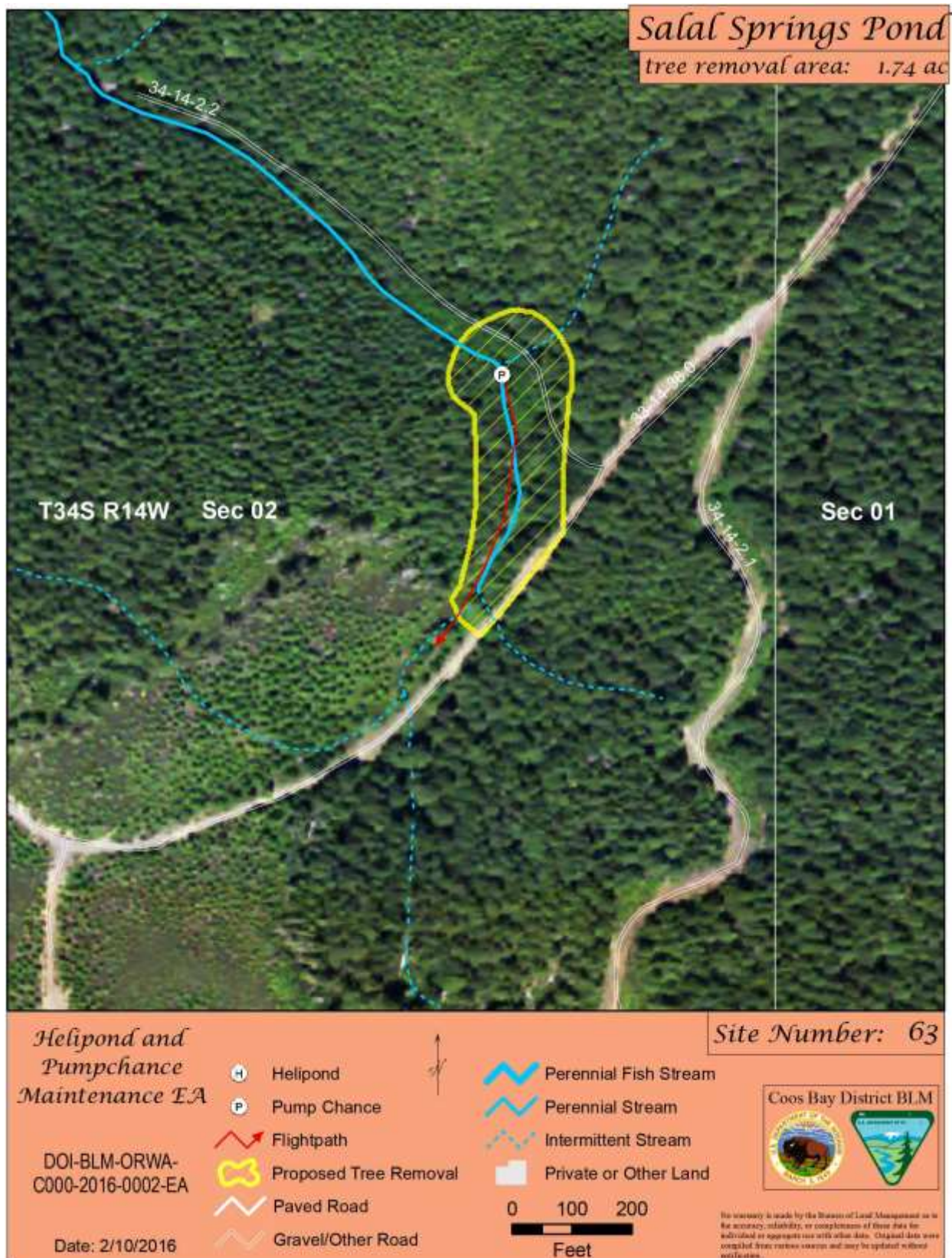
Map A-46. Harry's Road pump chance (Site #46) and proposed flight path tree removal area



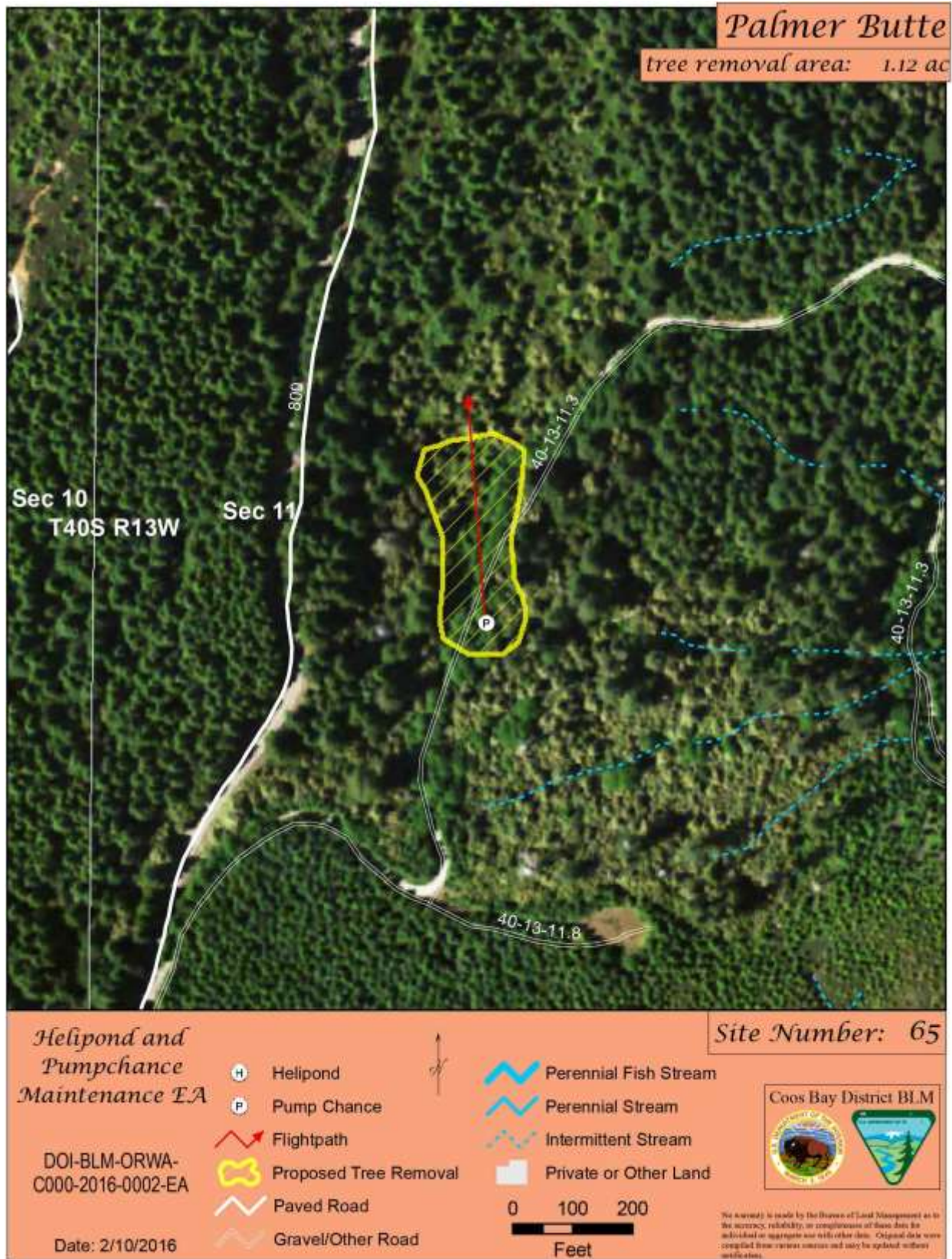
Map A-53. Section 25 Weaver Pond pump chance (Site #53) and proposed flight path tree removal area



Map A-57. Trick or Treat pump chance (Site #57) and proposed flight path tree removal area



Map A-63. Salal Springs Pond pump chance (Site #63) and proposed flight path tree removal area



Map A-65. Palmer Butte pump chance (Site #65) and proposed flight path tree removal area

Appendix B Special Status Aquatic Species

Table B–1. Special Status fish species found in the aquatic analysis area

Species Common Name	Species Scientific Name	Status
Oregon Coast Coho	<i>Oncorhynchus kisutch</i>	Federally threatened
Southern Oregon/Northern California Coast Coho	<i>Oncorhynchus kisutch</i>	Federally threatened
Southern Oregon/Northern California Coast Chinook	<i>Oncorhynchus tshawytscha</i>	Bureau Sensitive
Oregon Coast Steelhead	<i>Oncorhynchus mykiss</i>	Bureau Sensitive
Klamath Mountains Province Steelhead	<i>Oncorhynchus mykiss</i>	Bureau Sensitive
Chum Salmon	<i>Oncorhynchus keta</i>	Bureau Sensitive
Pacific Lamprey	<i>Entosphenus tridentatus</i>	Bureau Sensitive

Table B–2. Bureau Sensitive non-fish aquatic species on the Coos Bay District

Species Common Name and Scientific Name	Species Habitat and Range	In Project Area?
Rotund lanx (snail) <i>Lanx subrotunda</i>	<u>Habitat:</u> Unpolluted river and large streams at low to moderate elevations (~900–3,700 feet), in highly oxygenated, swift flowing, cold water on stable cobble, boulder or bedrock substrates and in deeper channels <u>Range:</u> Mainstem Rogue and Umpqua rivers, North Umpqua River, South Umpqua River	Habitat and range not within project area
Pacific walker (snail) <i>Pomatiopsis californica</i>	<u>Habitat:</u> Wet leaf litter and vegetation near flowing or standing water in shaded areas, with high humidity; all known records from Oregon are associated with springs and seeps in forested habitats. <u>Range:</u> Narrow coastal fog belt of the Pacific Coast, from central Oregon Coast to northern San Mateo County, California <u>Documented sites:</u> East Fork Millicoma River subwatershed, Lampa Creek-Coquille River subwatershed, and Twomile Creek	Habitat and range within project area
Robust Walker (snail) <i>Pomatiopsis binneyi</i>	<u>Habitat:</u> Perennial seeps, shallow mud banks, and marsh seeps leading into shallow streams provide habitat for the robust walker. <u>Range:</u> Southwest Oregon and northwest California coastal endemic with very limited potential range <u>Documented sites:</u> 1998 survey—Twomile 6 th field sub-watershed, which is within the New River 5 th field watershed, Lower Millicoma River sub-basin	Habitat and possibly range likely within project area
Caddisfly <i>Rhyacophila chandleri</i>	<u>Habitat:</u> Very cold, large spring-fed streams; elevation of known populations range from 4,000–5,600 feet <u>Range:</u> Oregon—Deschutes, Lane, Linn, Jefferson counties, California—Siskiyou County	Range not within project area
Haddock’s rhyacophilan caddisfly <i>Rhyacophila haddocki</i>	<u>Habitat:</u> Haddock’s rhyacophilan caddisfly occupy small mountain streams <u>Range:</u> Caddisflies have been extensively collected and studied in Oregon, and this species has not been found in locations other than one in Benton county and the documented sites listed next. <u>Documented sites:</u> 1.5 miles above the Elk River fish hatchery in Curry County, 2016—tributary to Mill Creek	Range not within project area
Western ridged Mussel <i>Gonidea angulata</i>	<u>Habitat:</u> Associated with low shear stress (fast flowing water over substrate), substrate stability, and flow refuges; they are found mainly in low- to mid-elevation watersheds <u>Range:</u> broadly distributed in Washington, Oregon. <u>Documented sites:</u> Coquille River	Habitat likely within project area
Newcomb’s littorine snail <i>Littorina subrotundata</i>	<u>Habitat:</u> Found within coastal environments, clinging to rocky shores. It inhabits a narrow zone of intertidal habitat on glasswort/pickleweed salt marshes at the edges of bays and estuaries where fresh and ocean waters mix. <u>Range:</u> Humboldt Bay, California to the Gulf of Alaska <u>Documented sites:</u> North Spit of Coos Bay	Habitat and range not within project area

Table B–3. Distance from proposed activities to fish habitat for treatment sites with a connection to a stream

Map Site	Helipond or Pump Chance Site Name	Coho (Miles)	CHU (Miles)	Steelhead and Pacific Lamprey (Miles)	Chinook and Chum (Miles)	Proposed Tree Removal	Proposed Vegetation Control	Proposed Helipond Dredging	Proposed Pump Chance Dredging
9	Buck-Wassen	1.09	1.09	0.38	1.09	—	Yes	—	—
14	Upper Luchsinger	9.20	9.20	9.20	9.20	Yes	Yes	Yes	—
16	Sock Creek	0.74	0.74	0.74	0.74	Yes	Yes	—	—
17	Buck Creek	7.15	7.15	7.15	7.15	—	Yes	—	—
20	Vogel Creek	1.03	0.24	1.03	2.87	Yes	Yes	Yes	—
21	Ren Smith	0.53	0.53	0.53	1.96	Yes	Yes	—	—
22	Blue Ridge	1.80	2.21	0.61	3.56	—	Yes	Yes	—
23	Nobletown	1.92	1.77	0.60	3.12	Yes	Yes	Yes	—
24	Upper Deadhorse	4.46	4.46	4.16	6.08	—	Yes	Yes	—
26	Brewster Rock South	4.50	4.50	4.50	4.50	Yes	Yes	—	—
27	Garbage Dump	0.49	0.74	0.49	0.74	Yes	Yes	Yes	—
29	Shuck Mountain	1.42	1.42	1.42	1.42	Yes	Yes	—	—
31	Devil’s Club	0.00	0.00	0.00	0.00	—	Yes	—	—
32	Coldwater Creek	0.00	0.00	0.00	0.00	—	Yes	—	—
33	Scare 13	0.74	1.28	0.50	4.58	—	Yes	—	Yes
34	Tyee-Camp	10.00	10.00	10.00	10.00	—	Yes	—	Yes
35	Slide Creek	0.13	0.53	0.34	4.30	—	Yes	—	Yes
36	Bone Crusher	0.88	1.16	0.76	2.45	—	Yes	—	Yes
37	Fruin Pond	0.51	0.51	0.51	7.45	—	Yes	—	Yes
38	Elk Run Progeny	0.42	0.42	0.42	7.70	—	Yes	—	Yes
39	Skidoo Primer	1.28	1.70	1.28	11.30	—	Yes	—	Yes
40	Burnt Creek	1.00	1.00	0.87	1.77	—	Yes	—	Yes
41	Burnt Ridge	2.00	2.00	1.87	2.77	—	Yes	—	Yes
42	Beyer’s Way	3.88	3.64	3.64	5.54	—	Yes	—	Yes
43	Skeeter Camp	10.30	10.30	10.30	10.30	—	Yes	—	Yes
44	Karl’s Creek	7.93	7.60	7.82	7.60	—	Yes	—	Yes
45	Brewster Rock North	2.42	2.42	1.19	5.77	Yes	Yes	—	Yes
46	Harry’s Road	11.60	11.60	11.60	11.60	Yes	Yes	—	Yes
47	Knepper Creek	12.40	12.40	12.40	12.40	—	Yes	—	Yes
48	Sun Stud Road	14.00	14.00	14.00	14.00	—	Yes	—	—
49	Weaver Tie Pond	11.00	13.80	11.00	16.20	—	Yes	—	—

Map Site	Helipond or Pump Chance Site Name	Coho (Miles)	CHU (Miles)	Steelhead and Pacific Lamprey (Miles)	Chinook and Chum (Miles)	Proposed Tree Removal	Proposed Vegetation Control	Proposed Helipond Dredging	Proposed Pump Chance Dredging
50	North Signal Tree	10.00	10.00	10.00	10.60	—	Yes	—	Yes
51	Maria C. Jackson	4.80	4.80	4.80	4.80	—	Yes	—	Yes
52	East Fork Coquille River	0.00	0.00	0.00	0.00	—	Yes	—	—
53	Section 25 Weaver Pond	9.40	9.20	9.40	9.20	Yes	Yes	—	Yes
54	West Sandy Tie	0.00	0.00	0.00	0.00	—	Yes	—	—
55	Elk Creek	0.00	0.00	0.00	1.30	—	Yes	—	—
56	Sandy Slide	0.00	0.00	0.00	0.00	—	Yes	—	—
57	Trick or Treat	1.10	1.10	1.10	1.89	Yes	Yes	—	Yes
58	Sandy Main	0.00	0.00	0.00	0.00	—	Yes	—	—
59	Fall Creek	0.00	0.15	0.10	0.91	—	Yes	—	—
60	Endicott Creek	1.82	1.82	1.82	2.13	—	Yes	—	—
62	Edson Butte Pond	4.00	4.00	4.00	4.00	—	Yes	—	—
63	Salal Springs Pond	10.30	N/A	9.40	10.30	Yes	Yes	—	Yes
64	Hunter Creek	2.00	N/A	0.64	2.00	—	Yes	—	Yes

Appendix C Special Status Wildlife Species

Table C–1. Proposed project areas in relation to potential disturbance, disruption, and Critical Habitat for northern spotted owl (NSO)

Map Site	Site Name	Helipond (H), Pump Chance (P), or Upgrade Site (UP)	Approximate Project Footprint* (Acres)	Approximate Proposed Tree Removal† (Acres)	Approximate Area of Potential NSO Disruption‡ (Acres)	Approximate Area of Potential NSO Disturbance§ (Acres)	Approximate NSO Critical Habitat Unit¶ (Acres)	Approximate NSO Critical Habitat Unit* (Acres)	Approximate NSO NRF Habitat# (Acres)	Approximate NSO Dispersal Habitat** (Acres)
1	Beaver Creek Ridge	H	2.83	1.10	—	29.15	2.83	ORC 3	—	1.15
22	Blue Ridge	H	4.21	—	—	—	—	—	—	—
26	Brewster Rock South	H	4.74	1.20	7.32	128.81	4.74	ORC 6	—	—
17	Buck Creek	H	4.27	—	—	54.13	4.27	ORC 5	—	—
9	Buck-Wassen	H	3.47	—	—	82.04	3.47	ORC 5	—	—
25	Burnt Tie	H	2.64	0.56	3.81	3.81	2.64	ORC 6	—	—
6	Damewood	H	2.75	0.60	—	1.71	—	—	—	—
8	East Weatherly	H	0.18	—	—	—	0.18	ORC 3	—	—
27	Garbage Dump	H	2.36	1.07	—	—	—	—	—	—
2	Jeff Creek	H	3.20	0.39	—	—	—	—	—	—
4	Johnson Ridge	H	2.15	0.34	1.46	61.63	—	—	—	—
13	Little Paradise	H	4.96	—	—	13.00	4.96	ORC 3	—	—
23	Nobletown	H	1.28	0.71	—	2.72	—	—	—	—
19	North Fork Ridge A/B	H	2.26	0.25	—	58.90	0.16	ORC 6	—	—
15	Old Blue	H	3.96	0.84	—	9.30	—	—	—	—
21	Ren Smith	H	4.01	0.56	—	58.30	—	—	—	—
28	Seed Orchard	H	3.46	2.34	—	—	—	—	—	2.53
29	Shuck Mountain	H	3.07	0.89	—	—	—	—	—	—
18	Skidoo	H	1.33	0.70	—	—	1.33	ORC 6	—	—
16	Sock Creek	H	3.23	2.02	—	32.84	3.23	ORC 5	—	—
5	Spencer Ridge	H	2.10	1.36	—	2.28	—	—	—	—
11	Steampot Ridge	H	4.36	0.61	6.73	125.41	—	—	—	—
24	Upper Dead Horse	H	1.73	—	—	—	—	—	—	—
14	Upper Luchsinger	H	3.05	0.62	2.33	38.63	—	—	—	—
7	Upper Paradise	H	4.21	0.36	—	53.26	4.21	ORC 3	—	—
10	Vincent Fire Road	H	1.83	—	—	—	—	—	—	—
20	Vogel Creek	H	3.17	0.84	3.62	88.93	—	—	—	—
12	Wells-Vincent	H	3.06	—	—	46.89	—	—	—	—
3	Windy Ridge	H	3.33	0.46	—	27.34	—	—	—	—
42	Beyer's Way	P	0.19	—	—	—	—	—	—	—
36	Bone Crusher	P	0.18	—	4.15	99.14	0.18	ORC 6	—	—
40	Burnt Creek	P	0.31	—	—	19.20	0.31	ORC 6	—	—
41	Burnt Ridge	P	0.24	—	—	—	—	—	—	—
32	Coldwater Creek	P	0.18	—	—	9.68	—	—	—	—
31	Devil's Club	P	0.18	—	—	—	—	—	—	—
52	East Fork Coquille River	P	0.18	—	—	3.17	0.16	ORC 6	—	—
62	Edson Butte Pond	P	0.18	—	—	1.41	—	—	—	—
55	Elk Creek	P	0.18	—	—	—	—	—	—	—

Map Site	Site Name	Helipond (H), Pump Chance (P), or Upgrade Site (UP)	Approximate Project Footprint* (Acres)	Approximate Proposed Tree Removal† (Acres)	Approximate Area of Potential NSO Disruption‡ (Acres)	Approximate Area of Potential NSO Disturbance§ (Acres)	Approximate NSO Critical Habitat Unit¶ (Acres)	Approximate NSO Critical Habitat Unit¶	Approximate NSO NRF Habitat# (Acres)	Approximate NSO Dispersal Habitat** (Acres)
38	Elk Run Progeny	P	0.18	—	—	1.44	0.18	ORC 6	—	—
60	Endicott Creek	P	0.18	—	—	—	—	—	—	—
59	Fall Creek	P	0.18	—	4.15	103.57	0.18	ORC 6	—	—
37	Fruin Pond	P	0.18	—	—	27.10	0.18	ORC 6	—	—
64	Hunter Creek	P	0.18	—	—	6.08	—	—	—	—
44	Karl's Creek	P	0.18	—	—	30.38	0.18	ORC 6	—	—
47	Knepper Creek	P	0.18	—	—	18.18	—	—	—	—
51	Maria C. Jackson	P	0.18	—	4.15	134.10	0.18	ORC 6	—	—
50	North Signal Tree	P	0.18	—	—	87.38	—	—	—	—
30	Roman Nose Quarry	P	3.73	—	7.07	88.53	2.59	ORC 3	—	—
58	Sandy Main	P	0.18	—	2.95	46.74	0.18	ORC 6	—	—
56	Sandy Slide	P	0.18	—	3.12	31.12	—	—	—	—
33	Scare 13	P	0.18	—	—	—	—	—	—	—
43	Skeeter Camp	P	0.18	—	1.79	183.08	0.18	ORC 6	—	—
39	Skidoo Primer	P	0.18	—	2.47	48.20	0.18	ORC 6	—	—
35	Slide Creek	P	0.18	—	—	24.30	0.18	ORC 5	—	—
48	Sun Stud Road	P	0.18	—	—	29.51	0.18	ORC 6	—	—
34	Tyee-Camp	P	0.18	—	1.29	24.06	0.18	ORC 5	—	—
49	Weaver Tie Pond	P	2.19	—	8.34	93.39	0.00	—	—	—
54	West Sandy Tie	P	0.18	—	3.41	88.78	0.18	ORC 6	—	—
45	Brewster Rock North	UP	1.46	1.39	—	59.07	1.46	ORC 6	—	1.08
46	Harry's Road	UP	2.40	1.94	—	—	—	—	—	1.61
65	Palmer Butte	UP	1.12	1.12	4.47	32.50	—	—	—	—
63	Salal Springs	UP	1.74	1.74	—	7.69	—	—	—	1.74
53	Section 25 Weaver Priority 1	UP	1.53	1.53	—	—	—	—	—	1.53
53	Section 25 Weaver Priority 2	UP	0.86	0.86	—	—	—	—	—	—
57	Trick or Treat	UP	1.56	1.19	1.88	89.89	1.56	ORC 6	—	—
—	Totals	—	108.86	27.62	74.49	2,306.77	40.45	—	—	9.63

* Project footprint, actual acres of the sites when treatments are completed

† Acres of the sites with proposed tree removal and/or flight path extension

‡ Northern spotted owl disruption is 65 yards from proposed action for NRF habitat

§ Northern spotted owl disturbance is 440 yards from proposed action for NRF

|| Acres of the project footprint within designated Critical Habitat for northern spotted owl

¶ The unit of designated Critical Habitat within the project footprint

The acres of northern spotted owl NRF habitat that occur within the project footprint

** The acres of northern spotted owl dispersal habitat that occur within the project footprint

Table C–2. Proposed project areas in relation to potential disturbance, disruption, and Critical Habitat for marbled murrelet

Map Site	Site Name	Helipond(H) or Pump Chance(P) or Pump Chance Upgrade Site (UP)	Approximate Project Footprint* (Acres)	Approximate Proposed Tree Removal† (Acres)	Approximate Area of Potential MM Disruption‡ (Acres)	Approximate Area of Potential MM Disturbance§ (Acres)	Approximate MM Critical Habitat¶ (Acres)	MM Critical Habitat§ Unit	Approximate MM Habitat# (Acres)	Approximate MM Occupied Habitat** (Acres)
1	Beaver Creek Ridge	H	2.83	1.10	—	29.15	2.83	OR-04-c	—	—
22	Blue Ridge	H	4.21	—	—	—	—	—	—	—
26	Brewster Rock South	H	4.74	1.20	15.50	108.95	4.74	OR-06-b	—	—
17	Buck Creek	H	4.27	—	2.62	54.13	4.27	OR-04-e	—	—
9	Buck-Wassen	H	3.47	—	1.62	61.62	3.47	OR-04-d	—	—
25	Burnt Tie	H	2.64	0.56	0.94	45.32	2.64	OR-06-b	—	—
6	Damewood	H	2.75	0.60	—	1.73	—	—	—	—
8	East Weatherly	H	0.18	—	—	—	—	—	—	—
27	Garbage Dump	H	2.36	1.07	—	—	—	—	—	—
2	Jeff Creek	H	3.20	0.39	—	—	—	—	—	—
4	Johnson Ridge	H	2.15	0.34	4.52	61.63	—	—	—	—
13	Little Paradise	H	4.96	—	—	13.00	4.96	OR-04-g	—	—
23	Nobletown	H	1.28	0.71	—	2.72	—	—	—	—
19	North Fork Ridge A/B	H	2.26	0.25	2.94	58.90	2.26	OR-06-b	—	—
15	Old Blue	H	3.96	0.84	—	9.30	3.96	OR-04-e	—	—
21	Ren Smith	H	4.01	0.56	0.91	58.30	—	—	—	—
28	Seed Orchard	H	3.46	2.34	—	—	—	—	—	—
29	Shuck Mountain	H	3.07	0.89	—	—	—	—	—	—
18	Skidoo	H	1.33	0.70	5.03	40.62	1.33	OR-06-b	—	—
16	Sock Creek	H	3.23	2.02	—	32.84	—	—	—	—
5	Spencer Ridge	H	2.10	1.36	—	2.28	—	—	—	—
11	Steampot Ridge	H	4.36	0.61	13.23	117.37	—	—	—	—
24	Upper Dead Horse	H	1.73	—	—	—	—	—	—	—
14	Upper Luchsinger	H	3.05	0.62	5.06	17.19	3.05	OR-04-e	—	—
7	Upper Paradise	H	4.21	0.36	—	53.26	4.21	OR-04-g	—	—
10	Vincent Fire Road	H	1.83	—	—	—	—	—	—	—
20	Vogel Creek	H	3.17	0.84	8.50	58.08	—	—	—	—
12	Wells-Vincent	H	3.06	—	1.49	46.89	3.06	OR-04-d	—	—
3	Windy Ridge	H	3.33	0.46	—	27.34	—	—	—	—
42	Beyer's Way	P	0.19	—	—	—	—	—	—	—
36	Bone Crusher	P	0.18	—	10.23	98.96	—	—	—	—
40	Burnt Creek	P	0.31	—	—	2.83	0.31	OR-06-b	—	—
41	Burnt Ridge	P	0.24	—	—	—	—	—	—	—
32	Coldwater Creek	P	0.18	—	1.26	9.68	—	—	—	—
31	Devil's Club	P	0.18	—	—	—	—	—	—	—
52	East Fork Coquille River	P	0.18	—	—	3.17	—	—	—	—
62	Edson Butte Pond	P	0.18	—	—	2.49	—	—	—	—
55	Elk Creek	P	0.18	—	—	—	—	—	—	—
38	Elk Run Progeny	P	0.18	—	—	21.23	—	—	—	—
60	Endicott Creek	P	0.18	—	—	0.70	—	—	—	—
59	Fall Creek	P	0.18	—	10.23	103.39	—	—	—	—

Map Site	Site Name	Helipond(H) or Pump Chance(P) or Pump Chance Upgrade Site (UP)	Approximate Project Footprint* (Acres)	Approximate Proposed Tree Removal† (Acres)	Approximate Area of Potential MM Disruption‡ (Acres)	Approximate Area of Potential MM Disturbance§ (Acres)	Approximate MM Critical Habitat (Acres)	MM Critical Habitat¶ Unit	Approximate MM Habitat# (Acres)	Approximate MM Occupied Habitat** (Acres)
37	Fruin Pond	P	0.18	—	—	7.31	—	—	—	—
64	Hunter Creek	P	0.18	—	0.52	6.08	—	—	—	—
44	Karl's Creek	P	0.18	—	—	30.38	—	—	—	—
47	Knepper Creek	P	0.18	—	0.74	18.18	—	—	—	—
51	Maria C. Jackson	P	0.18	—	10.23	133.92	—	—	—	—
50	North Signal Tree	P	0.18	—	1.90	87.38	—	—	—	—
30	Roman Nose Quarry	P	3.73	—	13.50	88.43	3.72	OR-04-c	—	—
58	Sandy Main	P	0.18	—	5.98	43.53	—	—	—	—
56	Sandy Slide	P	0.18	—	6.48	31.12	—	—	—	—
33	Scare 13	P	0.18	—	—	—	—	—	—	—
43	Skeeter Camp	P	0.18	—	0.39	—	—	—	—	—
39	Skidoo Primer	P	0.18	—	—	7.59	—	—	—	—
35	Slide Creek	P	0.18	—	0.66	24.30	—	—	—	—
48	Sun Stud Road	P	0.18	—	—	29.51	—	—	—	—
34	Tyee-Camp	P	0.18	—	2.20	23.98	—	—	—	—
49	Weaver Tie Pond	P	2.19	—	17.33	93.39	2.19	OR-06-d	—	—
54	West Sandy Tie	P	0.18	—	7.63	67.34	—	—	—	—
45	Brewster Rock North	UP	1.46	1.39	—	65.68	1.46	OR-06-b	—	—
46	Harry's Road	UP	2.40	1.94	—	—	—	—	—	—
65	Palmer Butte	UP	1.12	1.12	7.91	15.93	—	—	—	—
63	Salal Springs	UP	1.74	1.74	—	0.83	—	—	—	—
53	Section 25 Weaver Priority 1	UP	1.53	1.53	—	—	—	—	—	—
53	Section 25 Weaver Priority 2	UP	0.86	0.86	—	—	—	—	—	—
57	Trick or Treat	UP	1.56	1.19	—	—	—	—	—	—
—	Totals	—	108.86	27.62	159.58	1917.92	48.47	—	—	—

* Project footprint, actual acres of the sites when treatments are completed

† Acres of the sites with proposed tree removal and/or flight path extension

‡ MM Disruption is 110 yards from the action for un-surveyed suitable or occupied habitat

§ MM Disturbance is 440 yards from the action for un-surveyed suitable or occupied habitat

|| Acres proposed to be maintained treeless for the footprint of the project

¶ The unit of the critical habitat

The acres of MM habitat (un-surveyed suitable) that occur within the project footprint

** The acres of MM occupied habitat within the project footprint

Table C–3. Northern spotted owl (NSO) and marbled murrelet (murrelet) seasonal restriction guide for proposed activities that create noise above ambient levels (e.g., chainsaws, heavy equipment)

Map Site	Site Name	Helipond (H), Pump Chance (P), or Pump Chance Upgrade (UP)	NSO Potential for Disruption*	NSO Seasonal Restrictions† (Mar 1–Jul 7)	Murrelet Potential for Disruption‡	Murrelet Seasonal Restrictions§ (Apr 1–Aug 5) + Daily Timing Restrictions¶ (Aug 6–Sep 15)
1	Beaver Creek Ridge	H	—	—	—	—
22	Blue Ridge	H	—	—	—	—
26	Brewster Rock South	H	Yes	Yes	Yes	Yes
17	Buck Creek	H	Yes	Yes	—	—
9	Buck-Wassen	H	—	—	Yes	Yes
25	Burnt Tie	H	Yes	Yes	Yes	Yes
6	Damewood	H	—	—	—	—
8	East Weatherly	H	—	—	—	—
27	Garbage Dump	H	—	—	—	—
2	Jeff Creek	H	—	—	—	—
4	Johnson Ridge	H	Yes	Yes	Yes	Yes
13	Little Paradise	H	—	—	—	—
23	Nobletown	H	—	—	—	—
19	North Fork Ridge A/B	H	—	—	Yes	Yes
15	Old Blue	H	—	—	—	—
21	Ren Smith	H	—	—	Yes	Yes
28	Seed Orchard	H	—	—	—	—
29	Shuck Mountain	H	—	—	—	—
18	Skidoo	H	—	—	Yes	Yes
16	Sock Creek	H	—	—	—	—
5	Spencer Ridge	H	—	—	—	—
11	Steampot Ridge	H	Yes	Yes	Yes	Yes
24	Upper Dead Horse	H	—	—	—	—
14	Upper Luchsinger	H	Yes	Yes	Yes	Yes
7	Upper Paradise	H	—	—	—	—
10	Vincent Fire Road	H	—	—	—	—
20	Vogel Creek	H	Yes	Yes	Yes	Yes
12	Wells-Vincent	H	—	—	Yes	Yes
3	Windy Ridge	H	—	—	—	—
42	Beyer’s Way	P	—	—	—	—
36	Bone Crusher	P	Yes	Yes	Yes	Yes
40	Burnt Creek	P	—	—	—	—
41	Burnt Ridge	P	—	—	—	—
32	Coldwater Creek	P	—	—	Yes	Yes
31	Devil’s Club	P	—	—	—	—
52	East Fork Coquille River	P	—	—	—	—
62	Edson Butte Pond	P	—	—	—	—
55	Elk Creek	P	—	—	—	—
38	Elk Run Progeny	P	—	—	—	—
60	Endicott Creek	P	—	—	—	—
59	Fall Creek	P	Yes	Yes	Yes	Yes
37	Fruin Pond	P	—	—	—	—
64	Hunter Creek	P	—	—	Yes	Yes
44	Karl’s Creek	P	—	—	—	—
47	Knepper Creek	P	—	—	Yes	Yes
51	Maria C. Jackson	P	Yes	Yes	Yes	Yes
50	North Signal Tree	P	—	—	Yes	Yes
30	Roman Nose Quarry	P	Yes	Yes	Yes	Yes
58	Sandy Main	P	Yes	Yes	Yes	Yes
56	Sandy Slide	P	Yes	Yes	Yes	Yes
33	Scare 13	P	—	—	—	—

Map Site	Site Name	Helipond (H), Pump Chance (P), or Pump Chance Upgrade (UP)	NSO Potential for Disruption*	NSO Seasonal Restrictions† (Mar 1–Jul 7)	Murrelet Potential for Disruption‡	Murrelet Seasonal Restrictions§ (Apr 1–Aug 5) + Daily Timing Restrictions (Aug 6–Sep 15)
43	Skeeter Camp	P	Yes	Yes	Yes	Yes
39	Skidoo Primer	P	Yes	Yes	—	—
35	Slide Creek	P	—	—	Yes	Yes
48	Sun Stud Road	P	—	—	—	—
34	Tyee-Camp	P	Yes	Yes	Yes	Yes
49	Weaver Tie Pond	P	Yes	Yes	Yes	Yes
54	West Sandy Tie	P	Yes	Yes	Yes	Yes
45	Brewster Rock North	UP	—	—	—	—
46	Harry's Road	UP	—	—	—	—
65	Palmer Butte	UP	Yes	Yes	Yes	Yes
63	Salal Springs	UP	—	—	—	—
53	Section 25 Weaver Pond Priority 1	UP	—	—	—	—
53	Section 25 Weaver Pond Priority 2	UP	—	—	—	—
57	Trick or Treat	UP	Yes	Yes	—	—

* The potential NSO disruption area is within 65 yards of nesting, roosting, foraging (NRF) habitat (Programmatic BO) (USDI-FWS 2014) (p. 15).

† The full NSO breeding season is March 1–September 30 and the critical breeding season is March 1–July 7. Seasonal restrictions for NSO means that no activities that create noise above ambient levels would be allowed from March 1 to July 7.

‡ The potential murrelet disruption area is within 110 yards of un-surveyed suitable or occupied habitat (Programmatic BO) (USDI-FWS 2014) (p. 17)

§ The full murrelet breeding season is April 1–September 15 and the critical breeding season is April 1–August 5. Seasonal restrictions for MAMU means that no activities that create noise above ambient levels would be allowed from April 1 through August 5.

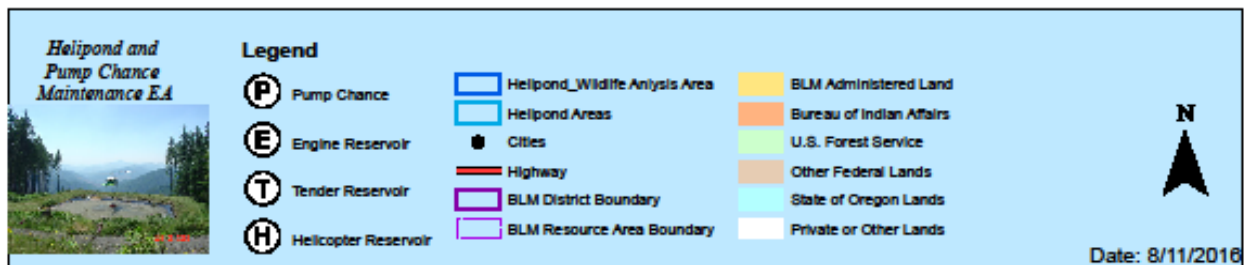
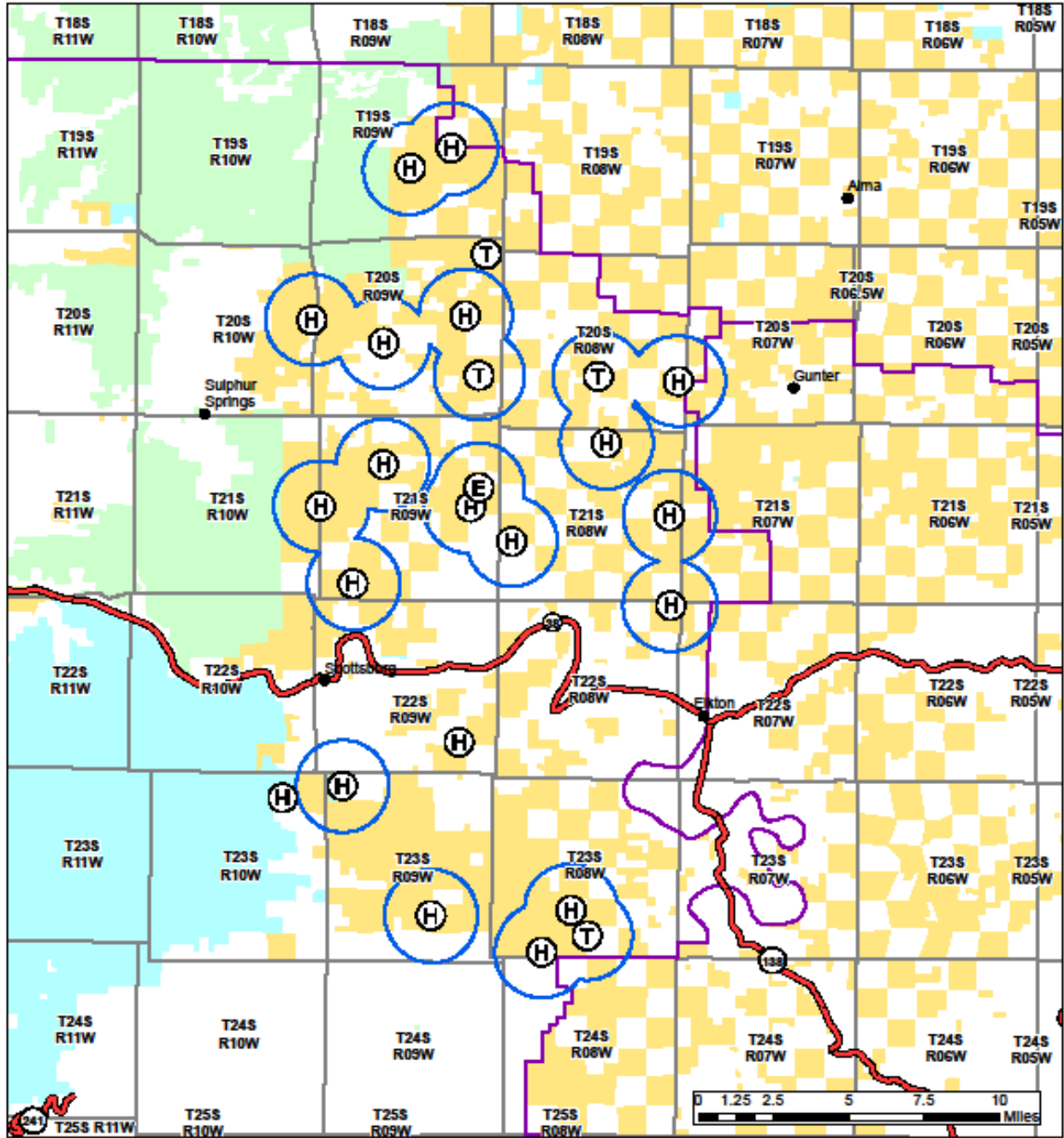
|| Murrelet daily timing restrictions would then continue from August 6 to September 15 and activities that create noise above ambient levels would be restricted to two hours after sunrise until two hours before sunset.

The BLM eliminated species from further analysis in the EA for one of the following reasons: 1) the species is not known to occur within the project analysis area; 2) other evidence suggests they would not be present or affected by the proposed project (e.g., rare migrants).

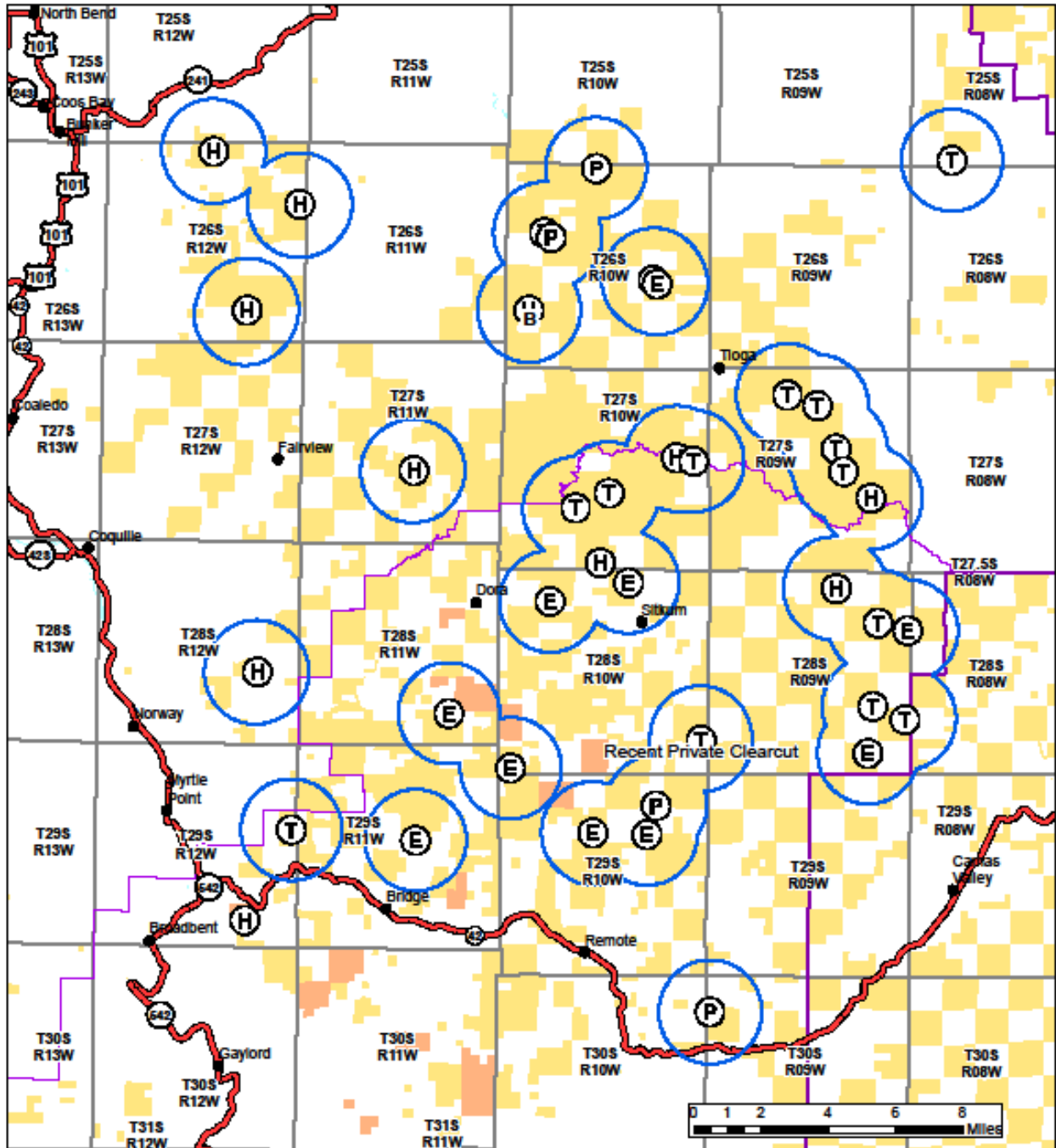
Table C–4. Special Status Species documented (D) and suspected (S) to occur on the Coos Bay District (Interagency Special Status/Sensitive Species Program (ISSSP) List, July 2015) (USDA-FS and USDI-BLM 2015)

Common Name	Scientific Name	Documented (D) or Suspected (S) on the Coos Bay District	Reason Not Analyzed	Key Habitats
Amphibians				
California slender salamander	<i>Batrachoseps attenuates</i>	D	1	Late-seral forests, large down logs (especially class 3–4); tightly associated with down wood; species does not need standing or flowing water for any part of its life cycle
Foothill yellow-legged frog	<i>Rana boylei</i>	D	1	Requires permanent (and some types of intermittent), low-gradient, medium size streams (4 th –6 th order); often associated with large streams with coarse substrates and larger cobbles and gravel bars; however, they also have been found in smaller tributaries, and in areas with relatively fine substrates or in areas with bedrock; documented from 1 st to 8 th order streams; breeding is documented in the larger streams and not smaller tributaries (Olson and Davis 2009); Edson Creek Campground has a known population of yellow-legged frogs
Birds				
Aleutian Canada goose	<i>Branta hutchinsii leucopareia</i>	D	1	Coastal grasslands; stages in spring in New River bottoms; also a fall migrant
American peregrine falcon	<i>Falco peregrinus anatum</i>	D	1	Nests along coastal and inland cliffs
Bald eagle	<i>Haliaeetus leucocephalus</i>	D	2	Nests mainly in large trees close to open water habitats
California brown pelican	<i>Pelecanus occidentalis californicus</i>	D	1	Rests on coastal beaches, headlands, harbors, bays, docks, and pilings; feeds on fish in bays, estuaries, and marine near shore; non-breeder along the entire Oregon coast
Harlequin duck	<i>Histrionicus histrionicus</i>	D	1	Primarily breeds in white water streams in the eastern and western slopes of the Cascade Mountains; only one breeding location (on the Nestucca River in Tillamook County) documented in the Coast Range; regular winter migrant to the Oregon Coast
Merlin	<i>Falco columbarius</i>	D	1	Near global range; does not nest on Coos Bay District
Purple martin	<i>Progne subis</i>	D	1	Snags in early-seral habitats; heard once or twice each breeding season; probably breeding somewhere close to New River
White-tailed kite	<i>Elanus leucurus</i>	D	1	Open areas in coastal and valley lowlands, especially along river valleys with scattered trees for perching and nesting; nests in the Coquille Valley and Dean Creek Elk Viewing Area
Invertebrates				
Broadwhorl tightcoil	<i>Pristiloma johnsoni</i>	S	1	Found in moist and diverse forest sites with abundant ground cover
California shield-backed bug	<i>Vanduzeeina borealis californica</i>	S	1	Tall grass prairie specialist inhabits high elevation (e.g., 900 m) natural balds and meadows
Coastal greenish blue butterfly	<i>Plebejus saepiolus littoralis</i>	S	2	Typically along stream edges, bogs, or wet meadows, but also along drier sites that have blooming clovers such as roadsides and open meadows; the name littoralis means “of the shore”; found on the immediate coast and sand dunes
Green sideband	<i>Monadenia fidelis flava</i>	D	1	Documented in Sixes River Recreation Site; primarily a Curry County, OR species


Common Name	Scientific Name	Documented (D) or Suspected (S) on the Coos Bay District	Reason Not Analyzed	Key Habitats
Hairy necked tiger beetle	<i>Cicindela hirticollis couleensis</i>	D	1	Coastal species
Hairy shore bug	<i>Saldula villosa</i>	D	1	Coastal species
Hoary elfin	<i>Callophrys polios maritima</i>	S	1	Closely associated with kinnikinnik (<i>Arctostaphylos uva-ursi</i>); coastal species
Johnson's hairstreak	<i>Callophrys johnsoni</i>	D	1	Old-growth obligate species; host: <i>Arceuthobium</i> sp. of dwarf mistletoe; documented in Hunter Creek ACEC
Klamath tail-dropper	<i>Prophyaon sp.</i>	S	1	A slug found in Ponderosa pine and Douglas-fir forests with moist, open habitat; threats have not been identified
Mardon skipper	<i>Polites mardon</i>	D	1	Grass openings with native grasses and serpentine; documented in Hunter Creek ACEC
Marsh walker	<i>Pomatiopsis chacei</i>	S	1	Likely scattered sites along the Oregon coast from Florence to Brookings; found in shaded, swampy sites and margins of seeps, springs, stable streams with fresh water and high humidity
Oregon shoulderband	<i>Helminthoglypta hertleini</i>	S	2	Rocky and talus substrates; many mollusk surveys, but no Coos Bay District records; current known range is Douglas, Jackson, and Josephine counties
Siuslaw sand tiger beetle	<i>Cicindela hirticollis siuslawensis</i>	D	1	Open beach sand; documented at New River ACEC
Western bumblebee	<i>Bombus occidentalis</i>	S	2	Pollinators of wild flowering plants and crops; as generalist foragers, they do not depend on any one flower type
Mammals				
Fringed myotis	<i>Myotis thysanodes</i>	D	2	Roosts in trees, snags, buildings, caves, rocks, cliffs and bridges; feeds on beetles and moths but will eat spiders and crickets; occurs in Coast Range from Jackson County to Clatsop County and in the northeastern corner of Oregon
Gold Beach pocket gopher	<i>Thomomys mazama helleri</i>	S	1	Not well surveyed, but documented in Curry County; occupy burrows from which they rarely emerge; typically occupies prairies, pastures, and occasionally young, open woodland or forest
Pacific marten	<i>Martes caurina</i>	D	1	Historically uses dense herbaceous and shrubby vegetation in old growth habitat; more recent surveys have primarily found individuals between the coast and Highway 101 in dense shore pine
Pallid bat	<i>Antrozous pallidus</i>	S	1	Much of the American west, up and down the coast from Canada and Mexico; arid regions with rocky outcroppings to open, sparsely vegetated grasslands; water must be available close by to all sites
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	D	1	Caves, rock crevices, buildings, and bridges
Reptiles				
Pacific pond turtle	<i>Actinemys marmorata</i>	D	2	Lentic water (ponds, slow sections of rivers); requires both aquatic and terrestrial habitat; nests in open areas adjacent to water, typically within 200m of aquatic habitat in areas with compact soil, sparse vegetation, and good solar exposure; can overwinter in forest; documented in New River and along the Rogue River



Map C-1: Northern spotted owl and marbled murrelet analysis areas (Douglas County)



Helipond and Pump Chance Maintenance EA

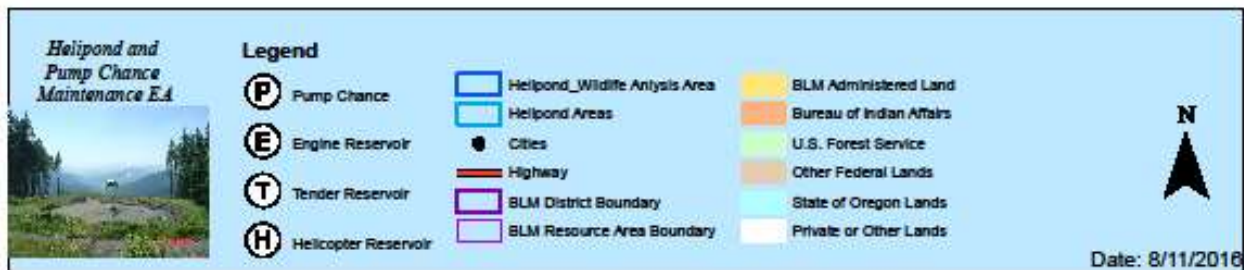
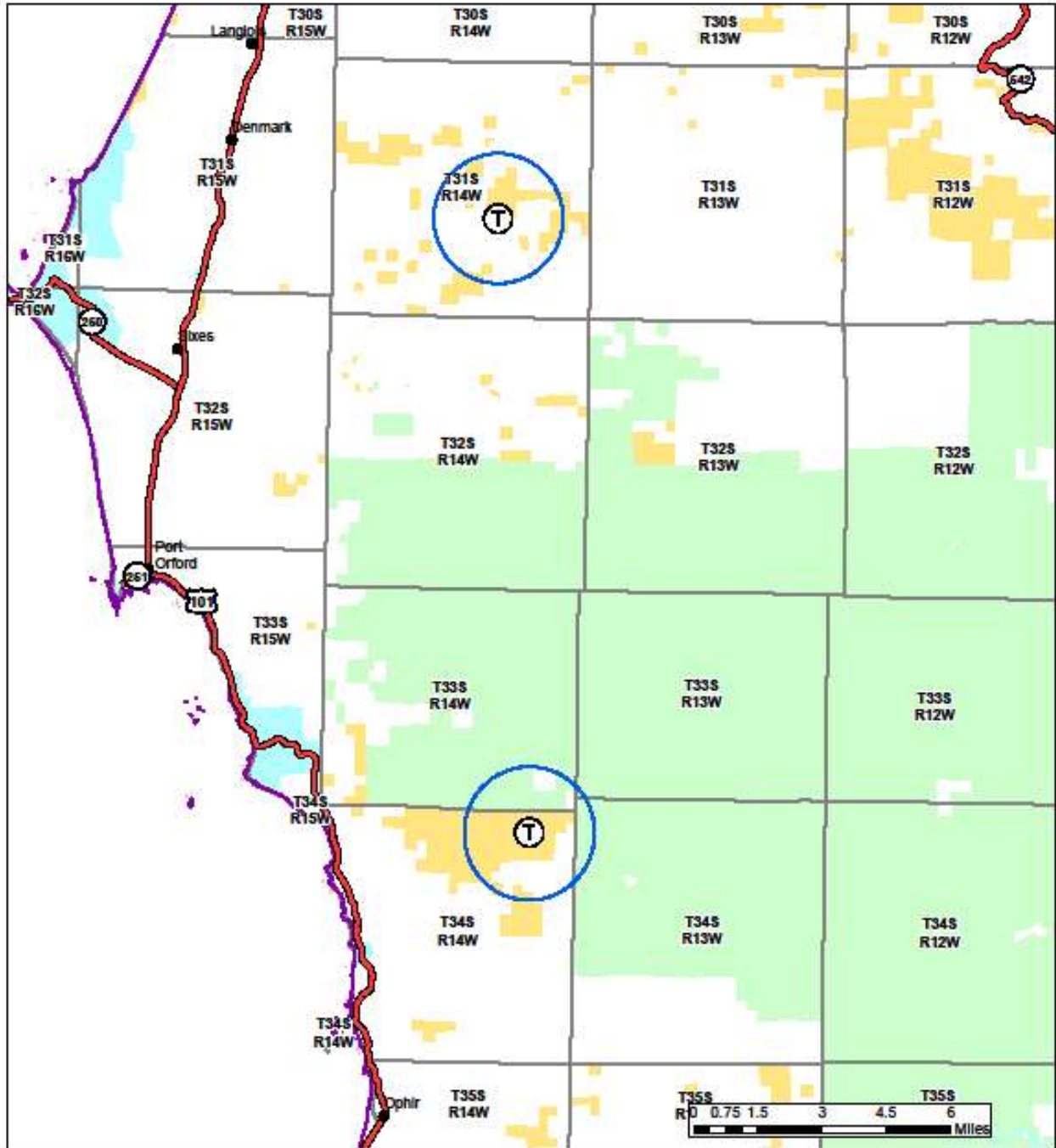


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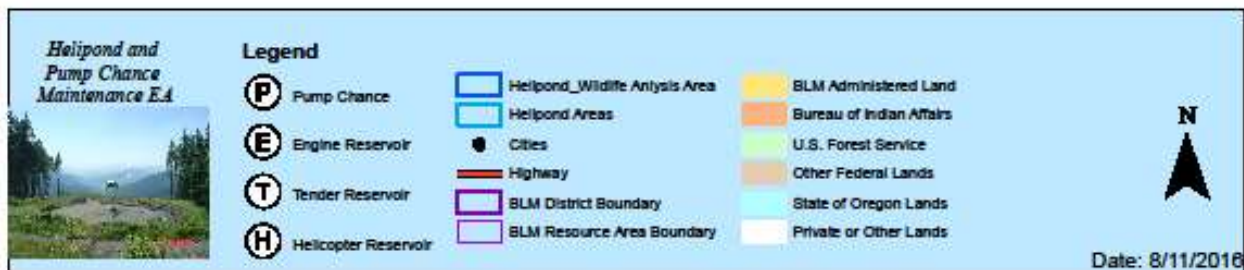
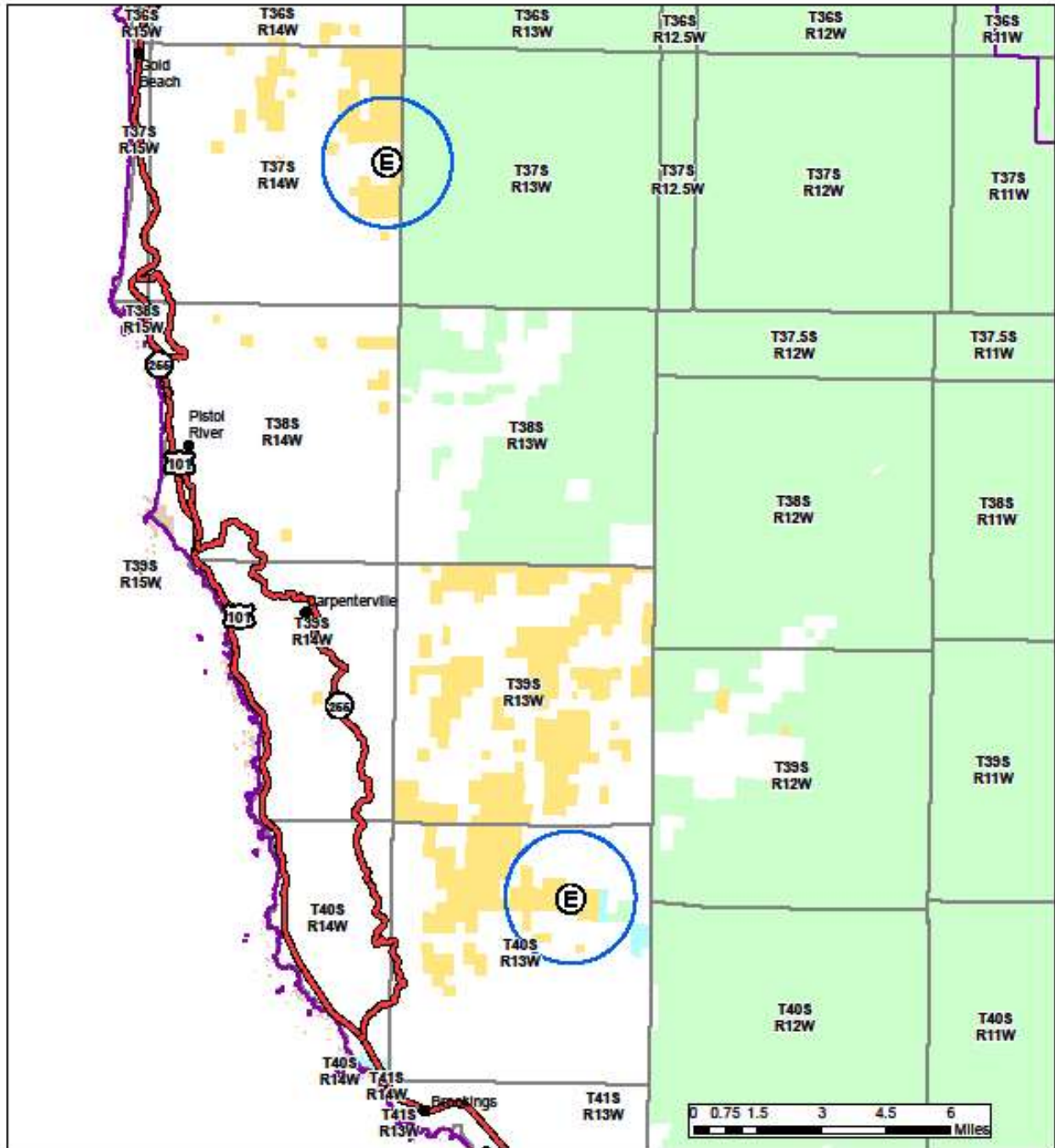
(P) Pump Chance	Helipond_Wildlife Analysis Area	BLM Administered Land
(E) Engine Reservoir	Helipond Areas	Bureau of Indian Affairs
(T) Tender Reservoir	Cities	U.S. Forest Service
(H) Helicopter Reservoir	Highway	State of Oregon Lands
	BLM District Boundary	Private or Other Lands
	BLM Resource Area Boundary	

Date: 8/11/2018

Map C-2: Northern spotted owl and marbled murrelet analysis areas (Coos County)



Map C-3: Northern spotted owl and marbled murrelet analysis areas (northern Curry County)



Map C-4: Northern spotted owl and marbled murrelet analysis areas (southern Curry County)

Appendix D Port-Orford-cedar Risk Key

The BLM applied the standard POC Risk Key to the action alternative.

1a. Are there uninfected POC within, near (25–50 ft.), or downstream (100–200 ft.) of the activity area whose ecological, Tribal, or product use or function measurably contributes to meeting land and resource management plan objectives? No.

1b. Are there uninfected POC within, near (25–50 ft.) or downstream (100–200 ft.) of the activity area that, were they to become infected would likely spread infection to trees whose ecological, Tribal, or product use or function measurably contributes to meeting land and resource management plan objectives? No.

1c. Is the activity within an uninfested 7th field watershed (as defined in Risk Key Attachment 1)? No.

2. Will the proposed project introduce appreciable additional risk of infection to these uninfected POC? No.

The answer to Risk Key questions 1a, 1b, 1c, and 2 is “no” because the project areas are small, with a limited population of Port-Orford-cedar, or the project areas are outside of the range of Port-Orford-cedar. Therefore, the proposed actions do not meet the *measurably contributes to* definition (in questions 1a and 1b) or *appreciable additional risk* in question 1c. All watersheds within the Coos Bay District are either infested with *Phytophthora lateralis*, or do not have populations of POC. POC trees that are not near water or a road are likely to avoid infection. The Coos Bay District does not have any forest stands that are predominately POC—as these trees are a minor species on the District.

Because the answer to all Risk Key questions is “no”, the risk of spreading the pathogen is low, and no POC management practices are required. The Helipond and Pump Chance Maintenance EA would add the recommended PDFs such as scheduling projects during the dry season, washing equipment prior to beginning work, and removing POC trees within 50 feet of helipond and pump chance water sources to further minimize the risk.

Appendix F Noxious Weed Risk Assessment

A Noxious Weed Risk Assessment is prepared for all projects when an action may introduce or spread noxious weeds or other invasive plants or when known habitat exists (USDI-BLM 2007a).

1. **Does suitable habitat for noxious weeds exist in the planning area?** Yes.

If so, what are these areas? Primarily areas managed in early seral condition such as roadsides, flight paths, riparian areas, especially where water level changes sufficiently to allow plant establishment or growth. Aquatic plants grow in ponds, however, surveys to determine species and noxious weed status were not conducted.

2. **May the actions proposed in the 2016 Helipond Maintenance EA introduce or spread noxious weeds or other invasive plants within the planning area?** Yes. Ground disturbing equipment and vehicle accessing the site have the potential to introduce invasive plants and create areas for seed germination and establishment.

3. **What is the level of risk for spreading weeds via project activities?** Moderate to High. The specific prevention measures listed below would reduce the risk of spreading or introducing weeds within the planning area.

- Report planned work to weed coordinator as early as possible, so that invasive plants can be inventoried and treated prior to ground disturbance, followed by monitoring, and re-treated as needed.
- Before ground-disturbing activities begin, inventory for weed infestations and prioritize areas for treatment in project operating areas and along access routes.
- Prevent the introduction and spread of noxious weeds and other invasive plants by cleaning all vehicles and equipment of mud, soil, oil, plant materials and other materials that may contain weed seed before entering BLM lands. Vehicles that stay entirely on existing road surfaces may be exempted from this cleaning requirement.
- Avoid driving through or parking in known weed infestations and minimize all types of motorized travel through vegetation, especially where invasive plants are present.
- Minimize soil disturbance and retain native vegetation in and around project activity areas to the extent practical.
- Stockpile topsoil and native vegetation and reposition in project area where feasible and consistent with project objectives.
- Seed bare soil with BLM-approved native seed mix and mulch with weed-free material following soil disturbance. At its discretion, the BLM may supply approved native seed.
- Use locally adapted, locally sourced planting stock from the same seed zone and sites of similar elevation when conducting revegetation. If feasible, order planting stock 1–3 years before project implementation to ensure plant material is available when needed.
- All seed must be all-states certified weed free (BLM Manual 9015); and non-native seed would only be used if, through the NEPA process, it is shown that natives alone would not be successful (BLM Manual 1745).
- Use weed-free straw or mulch to protect seeded areas when doing revegetation activities.
- Avoid moving weed-infested gravel and fill material to prevent the introduction and spread of weeds onto BLM lands or access routes. For example, the top 3+ inches of source material (i.e., soil, gravel, rock) can be stripped off to eliminate the seed bank and expose weed free material. Use certified weed-free materials when available.

4. **What are the primary actions/conditions/vectors that may pose a risk of spreading weeds within the planning area?**

- Vehicles and equipment moving into the project area could introduce new invasive plants
 - Vehicles and equipment within the project area and within or adjacent to infestations could move seed or propagules out of the project area
 - Pond cleaning and construction equipment have potential to move infested soil within the project area and to other areas
 - Soil disturbance associated with project activities improves seed bed for invasive plants
 - Vegetation disturbance associated with tree and shrub removal reduces competition and increases sunlight to facilitate germination and plant growth in the short term
 - Maintaining vegetation in early seral condition reduces competition and increases sunlight to facilitate germination and plant growth in the long term
5. **What are the primary weeds of concern that may be found within or introduced to the planning area?** Invasive plants known in the planning area and detected during botanical surveys include: Scotch broom, Himalayan blackberry, evergreen blackberry, silver wattle, and teasel. See full list in **Table D–1** below. Introduction of any large herbaceous invasive plants such as Japanese or giant knotweed and fennel, or woody invasive plants such as gorse or French broom not already in each project areas or on access roads would be treated when detected.
 6. **Can actions be taken to avoid or minimize weed spread associated with project activities?** Yes. See PDFs above.
 7. **Have any high-risk sites been identified for treatment prior to project implementation?** No. The BLM field office personnel conduct weed inventories and treatments on an annual basis. When the BLM identifies high-risk sites, they will be treated using integrated pest management techniques as deemed necessary to prevent the spread or introduction of weeds within the planning area prior to project implementation.
 8. **Are there any additional conditions or circumstances that need to be considered in relation to weed management within the planning area?** None have been identified.

The specific prevention measures referred to above that are not already being implemented through other ongoing policies and procedures, have been incorporated into the Project Design Features located in Chapter 2, under *Invasive Plants, including Noxious Weeds*.

Appendix G Issues and Alternatives Reviewed but Eliminated

There were many different issues identified through internal review and through comments submitted during the formal scoping period. The ID Team reviewed comments and determined that the issues raised did not identify circumstances that would require the development of additional action alternatives. Some comments were concerned with issues that are outside the scope of this project and are not relevant to this National Environmental Policy Act (NEPA) process and the development of this EA.

Air Quality

Issue: *How would the proposed prescribed burning affect air quality?*

Rationale for elimination: The BLM eliminated this issue question from further analysis because all prescribed burning would comply with the guidelines established by the Oregon Smoke Management Plan (OAR 629-048-0001-0500), as addressed in the PRMP/FEIS (USDI-BLM 2016) (pp. 145–146). Prescribed burning typically takes place during cooler, wetter times of year and that reduces the likelihood of a large-scale escaped wildfire. As explained in the PRMP/FEIS, “The BLM must register all prescribed burns on BLM-administered forestlands within the planning area with ODF in compliance with Oregon’s administration of the Clean Air Act” (p. 150). The ODF meteorologists evaluate the BLM burn plan to determine whether smoke is likely to enter a Smoke Sensitive Receptor Area (SSRA) like Coos Bay or North Bend; and the BLM follows the resulting burn instructions in compliance with the Clean Air Act.

The Helipond and Pump Chance Maintenance project’s prescribed burning activities would not exceed the effects analyzed in the PRMP/FEIS. The PRMP/FEIS acknowledged adverse effects to air quality from prescribed burning; however, those effects were “of short duration (hours) and limited to the local area (less than five miles from the burn)” (p. 155). Furthermore, as noted in the PRMP/FEIS, “At present, there are no factors that provide a clear indication that the increased prescribed burning under the alternatives and the Proposed RMP would result in additional effects on visibility and air quality from smoke intrusions as compared to the observed past” (p. 162).

Botany

Issue: *How would the proposed actions affect threatened and endangered (T&E), proposed threatened and endangered, candidate, or State-listed plant species?*

Rationale for elimination: The BLM eliminated this issue from further analysis because there are no T&E, proposed T&E, candidate, or State-listed plant or fungi species known or suspected to occur at any of the 64 helipond or pump chance sites; therefore, the proposed actions would not affect T&E, proposed T&E, candidate, or State-listed plant species.

Issue: *How would cutting trees affect Bureau Sensitive fungi?*

Rationale for elimination: The BLM botanist determined there are nine Bureau Sensitive fungi species that could potentially occur in the proposed helipond/pump chance EA project area where forested habitat exists (**Table G–1**). The BLM proposes to cut trees at 27 sites cut (**Table 2-1**). Fungi, however, are considered impractical to survey for (Cushman and Huff 2007), so the BLM would not do surveys for fungi at any of the proposed helipond/pump chance sites.

Table G–1. Bureau Sensitive fungi species documented or suspected to occur within the Helipond and Pump Chance Maintenance project areas with the effects summary from the 2000 Final Supplemental Environmental Impact Statement (FSEIS) for Amendment to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines.

Scientific name	Number of Occurrences in the Proposed Project Area	Number of Occurrences within the Coos Bay District	Number of Occurrences in OR and WA*	Environmental Consequences from 2000 FSEIS (pp. 241–252)
<i>Albatrellus avellaneus</i>	—	1	5	All alternatives would provide inadequate habitat to maintain this species.
<i>Chamonixia caespitosa</i>	—	—	2	All alternatives would provide inadequate habitat to maintain this species.
<i>Cortinarius barlowensis</i>	—	—	4	Insufficient information in any alternative to determine how they would affect distribution and stability of this species.
<i>Dermocybe humboldtensis</i>	—	—	2	All alternatives would provide inadequate habitat to maintain this species.
<i>Gastrolactarius camphoratus</i> (= <i>Arcangeliella camphorata</i>)	—	1	5	All alternatives would provide inadequate habitat to maintain this species.
<i>Phaeocollybia californica</i>	—	13	62	All alternatives would provide inadequate habitat to maintain this species.
<i>Phaeocollybia gregaria</i>	—	—	7	All alternatives would provide inadequate habitat to maintain this species.
<i>Ramaria rubella</i> var. <i>blanda</i>	—	2	2	All alternatives would provide inadequate habitat to maintain this species.
<i>Rhizopogon exiguus</i>	—	—	2	All alternatives would provide inadequate habitat to maintain this species.

* Includes BLM, USFS, ORBIC; per GeoBob/ORBIC databases from November 2017

There are currently 27 sites in which the BLM proposes to cut trees (**Table 2-1** and **Table 2-2**). Fungi, however, are considered impractical to survey for (Cushman and Huff 2007) so the BLM would not do surveys for fungi at any of the proposed helipond/pump chance sites.

Prior to August 5, 2016, all nine Bureau Sensitive fungi species were considered Survey and Manage species. Since the signing of the 2016 ROD/RMP, the 2000 Final Supplemental EIS for Amendment to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (2000 Survey and Manage FSEIS) no longer applies to BLM-administered lands in western Oregon; thus, it is not possible for project-level analyses to tier to the 2000 Survey and Manage FSEIS. However, the 2000 Survey and Manage FSEIS does contain useful analytical information that may still be relevant to project-level analyses.

Under the BLM’s previous (1995) Coos Bay District Resource Management Plan and the 2000 Survey and Manage SEIS, protection of known sites was required, as were “equivalent-effort surveys” for habitat-disturbing projects proposed in old-growth forests. Although those mitigations resulted in a moderate level of uncertainty that there would be inadequate habitat to maintain these species, this management was intended to “provide a reasonable assurance of species persistence” within the Northwest Forest Plan area of Oregon, Washington, and northern California.

Under the new (2016) Resource Management Plan, known sites for these (formerly Survey and Manage) species are protected (as Bureau Sensitive sites), as are all of the old-growth habitats where previously equivalent-effort surveys would be triggered for habitat-disturbing activities.

Based on similar management of these species under the two plans, including higher amounts of reserve lands and old-growth reserved under the 2016 ROD/RMP, the effects to these nine Bureau Sensitive fungi are incorporated by reference from the 2000 FSEIS and 2001 Record of Decision (pp. 241–252; see EA **Table E–1** for summary of effects). Although there is uncertainty of effects, the approach (manage sites, protect old-growth habitat) provides for a reasonable assurance of species persistence, and as such the BLM will not analyze this issue in further detail.

Carbon Storage and Greenhouse Gas Emissions

Issue: *How would the proposed action affect carbon storage and greenhouse gas emissions?*

Rationale for elimination: The effects of the proposed action [state the action type] on carbon storage and greenhouse gas emissions is not analyzed in detail, because, regardless of project-specific or site-specific information, there would be no reasonably foreseeable significant effects of the proposed action beyond those disclosed in the 2016 Final Environmental Impact Statement.

On August 5, 2016, the BLM issued the Northwestern and Coastal Oregon Record of Decision and Resource Management Plan (2016 ROD/RMP) revising the 1995 RMP for Coos Bay District. The ROD was based on the analysis conducted in the Proposed Resource Management Plan/Final Environmental Impact Statement: Western Oregon (USDI-BLM 2016). The 2016 Final Environmental Impact Statement (FEIS) analyzed the effects of timber harvesting, prescribed burning, and livestock grazing on greenhouse gas emissions and carbon storage, and the potential impacts of climate change on major plan objectives.

The effects of the proposed action (i.e., helipond and pump chance maintenance activities) on carbon storage and greenhouse gas emissions tiers to the analysis in the FEIS. As described below, the proposed action is consistent with the Northwestern and Coastal Oregon ROD, and the proposed action is not expected to have significant effects beyond those already analyzed in the FEIS. While analysis of the project-specific and site-specific conditions could give greater specificity to the analysis in the FEIS, there is no potential for reasonably foreseeable significant effects of the proposed action beyond those disclosed in the FEIS. The analysis in the FEIS addressed the effects on carbon storage and greenhouse gas emissions of implementing the entire program of work in the fire program based on high quality and detailed information (FEIS, pp. 165–180; 1295–1304). The information available on project-specific and site-specific conditions, while more specific, is not fundamentally different from the information used in the FEIS analysis of effects on carbon storage and greenhouse gas emissions, and thus cannot reveal any fundamentally different effects than that broader analysis.

The FEIS upon which the 2016 ROD/RMP was based examined the most recent science regarding climate change, carbon storage, and greenhouse gas emissions. The analysis in Volume 1 on pages 165–211 are relevant to this project and are incorporated by reference.

The key points from 2016 FEIS analyses include (FEIS, p. 165):

- Net carbon storage would increase.
- Annual greenhouse gas emissions would increase although annual emissions would remain less than 1 percent of the 2010 statewide greenhouse gas emissions.
- Climate change increases the uncertainty that reserves will function as intended and that planned timber harvest levels can be attained, with the uncertainty increasing over time.
- Active management provides opportunities to implement climate change adaptive strategies and potentially reduce social and ecological disruptions arising from warming and drying conditions.

The FEIS concluded that the approved RMPs support the state of Oregon’s interim strategy for reducing greenhouse gas emissions (FEIS, p. 173). Both the state of Oregon’s strategy and Federal climate change

strategies have goals to increase carbon storage on forest lands to partially mitigate greenhouse gas emissions from other sectors of the economy. Neither the State of Oregon nor the Federal government have established specific carbon storage goals so quantifying BLM’s contribution to that goal is not possible. Assuming no changes in disturbance regimes such as fire and insects (acres affected and severity of impact) from the recent past, timber harvesting is the primary activity affecting carbon storage (FEIS, p.169).

The FEIS estimated the effects of implementing actions consistent with the Northwestern and Coastal Oregon and the Southwestern Oregon RMPs as follows in **Table G–2**:

Table G–2. Estimated current and future carbon storage and greenhouse gas emissions from the 2016 FEIS

	Current	2033	2063
Carbon Storage	336 Tg C	404 Tg C	482 Tg C
Greenhouse Gas Emissions	123,032 Mg CO ₂ e/year	256 Mg CO ₂ e/year	230,759 Mg CO ₂ e/year

The carbon storage and greenhouse gas emissions analysis was based on assumptions concerning the level of management activity:

- The FEIS assumed an average annual harvest level of 278 MMBf per year (205 MMBf from the Harvest Land Base and 73 MMBf from non-ASQ related harvest) over the entire decision area (FEIS, p. 307). The expected annual harvest for the Coos Bay District is 30 MMBf (12 MMBf from the Harvest Land Base and 18 MMBf from non-ASQ related harvest).
- Activity fuels treatments are aligned with the harvest program with estimated acres of prescribed fire treatment type provided by the Woodstock model (FEIS, p. 1,300). The decadal average of activity fuels prescribed burning for the first 20 years of the RMP would be an estimated 64,806 acres over the entire decision area (FEIS, p. 362). For the Coos Bay District, the expected decadal average activity fuels program covers 5,589 acres.
- The FEIS assumed that the non-commercial hazardous fuels (natural fuels) treatment levels would not differ from the 2003–2012 period although there is substantial year-to-year variability in the size of the program over the planning area and within any one District (FEIS, p. 270). Approximately 173,300 acres of natural fuels treatment is expected to occur on average each decade across the planning area (FEIS, p. 167). The expected natural fuels treatment program for the Coos Bay District is 4,713 acres per decade, on average.

Under the Northwestern and Coastal Oregon ROD/RMP, no allotments would be available for livestock grazing through the issuance of a grazing lease (FEIS, p. 481; Northwestern and Coastal Oregon ROD and RMP, p. 84). As a result, no greenhouse gas emissions from a regular grazing program would occur.

The amount of activity fuels prescribed burning is the primary driver of greenhouse gas emissions (FEIS, p. 178). Greenhouse gas emissions would increase substantially largely due to the projected increases in activity fuels prescribed burning. The FEIS assumed no change in the natural fuels prescribed burning program from the recent past. Greenhouse gas emissions analyzed included those from grazing, prescribed burning, and harvest operations (FEIS, p. 174).

There is no new information, or changed circumstances, that would substantially change the effects anticipated in the 2016 FEIS. This is because:

1. The harvest levels remain within the range of that analyzed in the FEIS. For the Coos Bay District, the harvest level was 33.4 MMBf in 2017, which is in conformance with the ROD/RMP.

2. The acres of activity fuels prescribed burning and expected tonnage consumed remains within the range analyzed in the FEIS. For the Coos Bay District, the activity fuels prescribed burning was 1,406 acres (or 4,299 tons) in 2017, which is in conformance with the ROD/RMP.
3. The acres of natural fuels prescribed burning and expected tonnage consumed does not exceed the levels analyzed in the FEIS. For the Coos Bay District, the natural fuels prescribed burning was 174 acres (or 3,007 tons) in 2017, which is in conformance with the ROD/RMP.

Cultural Resources

Issue: *How would the proposed actions affect cultural resources?*

Rationale for elimination: The Coos Bay District heliports and pump chances occur within the ancestral territory claimed by the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians, and the Coquille Indian Tribe. Some of the water sources fall within areas claimed by the Cow Creek Tribe of Umpqua Indians, the Confederated Tribes of Siletz Indians, and the Confederated Tribes of Grand Ronde. Based on the pre-field literature and data review, the BLM determined that any prehistoric sites or isolates encountered at or near the water sources would likely be sparse lithic scatters representing one time use. The likelihood of major National Register of Historic Places (NRHP) eligible resources would be negligible, and historic sites, if found, would be related to logging activities and road construction and would not typically be eligible for NRHP inclusion.

The BLM surveyed seven water sources (Shuck Mountain, Garbage Dump, Sock Creek, Ren Smith, Old Blue, Steampot and Beaver Lake) for cultural resources based on the following selection criteria:

- 1) Location within in a high probability area, as defined by slope and distance to year-round water sources;
- 2) Previous survey(s) had been conducted within a mile of the water source, and/or cultural resources had been documented within that one-mile zone;
- 3) An existing archaeological site occurred within the immediate project area; and
- 4) The site had a larger area of proposed tree removal when compared to others.

The BLM did not locate any new archaeological sites or isolates during surveys, primarily due to dense vegetation and ground cover. Construction of the Shuck Mountain heliport in 1987 destroyed the previously recorded cultural site number 35CS78, which was a sparse lithic scatter on a flat bench. The BLM concluded that, although the remains of site 35CS78 are located within the Shuck Mountain project area, protection measures would not be necessary, as the site is not eligible for the NRHP.

Based on the above information, the BLM, therefore, determined that the proposed heliport and pump chance maintenance activities would not affect cultural resources and no further analysis is required.

Issue: *How would the proposed actions affect tribal plant collection areas?*

Rationale for elimination: Although the ethnographic background of the geographical area of the proposed project area overlaps ancestral tribal lands, where a wide variety of plants (such as acorns and camas) were collected for consumption or medicinal purposes, the BLM's pre-field literature and data review did not identify any overlap of project sites with known tribal plant collection areas. As such, the BLM does not expect the proposed heliport and pump chance maintenance activities to affect tribal plant collection areas, and no further analysis is required.

Environmental Justice

Issue: *How would heliport and pump chance maintenance activities affect environmental justice?*

Rationale for elimination: The BLM is not aware of the project sites being used by, or disproportionately used by, minority or low-income populations for specific cultural activities at greater rates than the general population. This includes their relative geographic location and cultural, religious, subsistence or recreational activities that may bring them to the proposed project areas. The BLM would implement maintenance activities on a site-by-site basis and over several years. Thus, the BLM concludes that no disproportionately high or adverse human health or environmental effects would occur to Native Americans, minorities, or low-income populations from implementing the project and as such further analysis is not required.

Fire Management

Alternative: *Deepen an area of Panther Creek Pond to concentrate and extend the availability of water to helicopter dipping and engine pumping later in the summer.*

Rationale for elimination: The ID Team dropped the Panther Pond site (Site #61) in Douglas County (T. 30 S., R. 09 W., Sec. 7) from the project for several reasons including—

- Avoiding disturbance in a wetland.
- Deepening could potentially disturb the existing water-holding soil layers.
- Modifying the holding capacity of the natural mid-slope pond could potentially affect the recurring slide above Highway 42.

Alternative: *Dredge the Elk Creek (Site #55), Sandy Slide (Site #56), Sandy Main (Site #58), and Fall Creek (Site #59) pump chances to remove accumulated sediment.*

Rationale for elimination: The ID Team dropped the proposed dredging actions at these sites because the streams are habitat for Oregon Coast Coho Salmon (i.e., a federally threatened species).

Suggestion(s): *Consider the retention of emergent vegetation within ponds, not treating the whole perimeter, and retaining shade over part of the water features.*

Rationale for elimination: The ID Team considered these ideas; however, the ideas presented do not meet the project's purpose and need. The retention of emergent vegetation in heliponds contributes to debris and sedimentation within the ponds, which reduces the holding capacity of the impoundments, and retains potential helicopter bucket snagging hazards. The suggestion to only treat a portion of the perimeter of the helipond would also retain aircraft snagging hazards and pose access challenges to fire apparatus and ground personnel. As firefighting facilities, heliponds are typically open areas with staging decks around the perimeters. Retaining shade over parts of these facilities would narrow helicopter safety perimeters and pose snagging hazards during high-stress, rapid turnaround flight operations. On the other hand, pump chances are streamside facilities often with tree canopies. The majority of pump chances in this project would retain the existing trees unless that tree is restricting fire equipment access and creating a hazard. Only 6 pump chances have tree removal proposed for helicopter access, and they were selected because they offered suitable access to vehicles and could optimize firefighting response in helipond-deficient areas of the District. As these suggestions do not meet the project's purpose and need, the ID Team eliminated them from further consideration.

Issue: *How would the proposed action affect residual fuels loading?*

Reason for elimination: The BLM eliminated this issue from further consideration because the BLM analyzed activity fuel loading in the PRMP/FEIS (pp. 264–270) and the proposed activities in the Helipond and Pump Chance Maintenance project are within the range of that effects analysis. In the PRMP/FEIS, the BLM determined the fire risk associated with residual activity fuels resulting from

timber management, and that the relative weighting of residual activity fuel would remain following timber management activities based on management and intensity. The small areas (0.3–2.4-acre) of tree removal per site in the Helipond and Pump Chance Maintenance project would increase down dead fuel loading in these project areas, and that activity slash would increase the risk to surrounding trees and vegetation if a fire were to occur. In other areas, slash would interfere with pond access for a short time during site cleanup (e.g., 1 week). However, the forecast effects from the proposed activities would not exceed those already analyzed in the PRMP/FEIS.

Fish

Issue: *How would tree clearing and vegetation control affect fish and fish habitat (i.e., stream temperature)?*

Rationale for elimination: Sites #1–8, 10–13, 15, 18–19, 25, 28, 30, and 65 have no connections to streams or fish habitat, and as such, the BLM will not discuss them further.

The BLM proposes removing low-growing shrubs, vines, forbs, and saplings for vegetation control at eight sites adjacent to fish habitat and at other sites approximately 0.13 miles to greater than five miles from fish habitat (**Appendix B, Tables B–1, B–2, and B–3**). The BLM also proposes tree removal at 13 of the vegetation treatment sites. Two tree-removal sites are approximately 0.24–0.50 miles from fish habitat, three sites are 0.51–1.0 miles, three sites are 1.01–2.00 miles, and five sites are greater than 4.5 miles upstream from fish habitat (**Appendix B, Table B–3**). The BLM is dismissing this issue from further analysis because, based on the Water Resources analysis, the vegetation control and tree cutting would not measurably effect perennial stream temperatures, therefore the actions would not affect fish and fish habitat.

Issue: *How would dredging in heliponds and pump chances affect fish and fish habitat?*

Rationale for elimination: First, the BLM incorporated project design features (PDFs) to avoid or minimize effects to fish or fish habitat. These include not dredging within 200 feet of ESA-listed fish habitat, keeping mechanized equipment outside of the wetted stream channel wherever possible, pumping ponds and pump chances below the level of their outlets (if they are present) before dredging, pumping clean bypass water below outlets during dredging, and fish salvage in dewatered channels. Second, the BLM would reduce short-term effects in all dredging treatment areas located in streams by incorporating applicable ROD/RMP BMPs, including adherence to the ODFW in-water work period. This is when stream reaches have lower densities of some life stages of fish and the amount of water in the streams would be much lower than other times of the year. Additionally, dredging material disposal sites would be located outside wetlands, Riparian Reserve, floodplains, and unstable areas to minimize risk of sediment delivery to waters of the State.

Pump chances in streams needing extensive excavation with abundant fine sediment could see turbidity plumes hundreds of feet downstream, while in other situations turbidity plumes may be seen only for a few feet (USDC-NMFS 2018) (p. 62). Fine sediment would likely settle just downstream of the excavated site, but could travel further if fine textured soils are present (USDC-NMFS 2018) (p. 62). The nearest pump chance is 700 feet from fish habitat (**Appendix B, Table B–3**) and the average distance of pump chances from fish habitat is 4.70 miles. Excavation would be limited to the low-flow period and turbidity increases are likely to be short term, lasting no more than a few minutes to hours (USDC-NMFS 2018) (p. 62). Overall, there is a low probability of localized adverse impacts (USDC-NMFS 2018) (p. 62).

Proposed helipond dredging sites are approximately 0.24 miles to greater than 4.2 miles (Table 2) from fish habitat and there would be a lag time (several hours to a few days) between the time that the BLM or contractors pull a bypass pump after dredging and a (perennial) water source refilling to the outlet. This

would give suspended sediment stirred up during the dredging process time and distance to settle before reaching fish habitat.

The BLM is dismissing this issue from further analysis because any possible short-term increase in suspended sediment would not be meaningfully measurable, would disperse over a large area, and would be unlikely to persist through storm flows in the fall and winter following the activity.

Geology

Issue: *How would the proposed helipond and pump chance maintenance affect the risk of a landslide or slope failure?*

Rationale for elimination: The BLM geologist evaluated helipond and pump chance ('features') using LiDAR bare earth⁶ data collected in part in 2008 and 2016, aerial imagery, photos, a geology map, and site visits, and determined whether features were within or adjacent to a landslide. If the features were within or adjacent to a landslide, the geologist evaluated if the activities included in the proposed action would increase the risk of reactivating a landslide.

The geologist concluded that the activities proposed at features located outside of existing landslides were not likely to create new landslides because the BLM does not propose new pond or road construction, and the tree removal areas are limited in scope (approximately 1–2 acres for specific sites).

The geologist determined that 16 features are within—or adjacent to—landslides. Of these, five features are pump chances and 11 features are heliponds. The proposed actions at the pump chances would not increase the risk of initiating or reactivating a landslide because activities would not undercut the toe of the existing landslide deposit, or implement any other action that would cause instability. Small-scale (1–2 acre) tree removal would not initiate shallow rapid debris flows or increase the risk of reactivating the deeper slide because rapidly moving landslides typically occur on greater than 65 percent slopes, and the small (~5-acre) helipond sites are on gentler slopes near the scarp (top) or middle of much larger (100–1,000 acres) slide masses. In addition, eight of the 11 heliponds are lined with a concrete or butyl liner, and if the liners are intact, the liners would prevent water from seeping into the slide mass, decreasing the driving force that would increase the risk of instability. Based on the history of the ponds, the areas are stable.

In addition to the above, the BLM incorporates project design features and best management practices that minimize the risk of landslides, such as draining ponds for maintenance when soils are dry (generally June–September), directing water onto vegetated slopes, and placing dredging material on stable areas (ROD/RMP BMP R 11, p. 144). Based on the above, the BLM is dismissing this issue from further analysis.

Hazardous Materials

Issue: *How would the proposed actions affect hazardous materials spills and releases?*

Rationale for elimination: Activities resulting from the proposed project would be subject to State of Oregon Administrative Rule No. 340-142, Oil and Hazardous Materials Emergency Response Requirements. This specifies the reporting requirements, cleanup standards, and liability that attaches to a spill or release or threatened spill or release involving oil or hazardous substances. Normal contract administration would also include site monitoring for solid and hazardous waste. When needed, the BLM would apply the Coos Bay District Spill Containment Plan for Fisheries and Riparian Operations (USDI-BLM 2014) when a release threatens to reach surface waters or is in excess or reportable quantities.

⁶ LiDAR bare earth data shows the land surface in detail beneath vegetation and trees.

Additionally, the proposed action incorporates BMPs specific to spill prevention and abatement and the relevant BMPs would be incorporated in the project design.

Herbicide Use

Alternative: *Site-specific herbicide use for the control of saplings, shrubs, and weeds along helicopter flight routes, on access roads, at obstructed inlets and outlets, or anywhere vegetation interferes with water control devices (e.g., culverts and standpipes) (Scoping Document) (USDI-BLM 2016).*

Rationale for elimination: Currently, the BLM relies on the Coos Bay District Integrated Noxious Weed Management EA (DOI-BLM-ORWA-C000-1997-0011-EA) (USDI-BLM 1997) for district-wide treatment of noxious weeds; however, the Noxious Weed Management EA does not address the treatment of undesirable vegetation. At this time, the Coos Bay District Invasive Plant Management EA, ([DOI-BLM-ORWA-C000-2017-0003-EA](#)) is pending. The ‘step down’ EA tiers to the *Record of Decision and Final Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in Oregon* (FEIS) (USDI-BLM 2010), and the *Record of Decision and Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States* (USDI-BLM 2007c), and the *Record of Decision and Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Aminopyralid, Fluroxypyr and Rimsulfuron on Bureau of Land Management Lands in 17 Western States* (USDI-BLM 2016). Since the District does not yet have an analysis of effects for native vegetation treatments using herbicides, the Helipond and Pump Chance Maintenance EA would bear the burden of conducting this analysis. The ID Team also considered whether District objectives for the safety of operations around heliponds and pump chances could be met without the use of herbicides to control undesirable native vegetation. The ID Team considered the rate of re-sprouting of trees such as red alder and bigleaf maple at approximately 5–6 feet per year; and judged that while beneficial, the benefits of herbicide use compared to manual maintenance were similar. Both would achieve the desired result. Although herbicide treatments would be longer lasting and provide an economic savings, manual maintenance would also achieve the needed vegetation control. However, the maintenance return interval would be more frequent. In order to advance the analysis of the other maintenance activities at these sites, the authorized officer, based on the professional judgement of the ID Team, decided to drop the use of herbicides from the list of proposed activities.

Invasive Plant Species, Including Noxious Weeds

Issue: *How would the proposed helipond and pump chance maintenance activities affect the spread of invasive plants, including noxious weeds (e.g., Scotch broom)?*

Rationale for elimination: The BLM management objective (desired future condition) for maintaining heliponds and pump chances is *early seral*, which includes increased light and open space, as well as reduced competition from other plants. These conditions provide opportunities for invasive plants and noxious weed seeds to germinate and establish including on an additional 27.6 acres of new flight paths; however, the BLM is dismissing this issue from further analysis because staff would inventory for and treat priority invasive plants (**Appendix E**) to prevent spread prior to ground- or vegetation-disturbing actions under all alternatives. The BLM would monitor sites not treated for invasive plants prior to disturbance for a minimum of 3–5 years, and conduct appropriate weed control to prevent weed establishment. To prevent establishment and spread, the BLM would treat sites with established priority noxious weeds and invasive plants annually. The BLM is also dismissing this issue from further analysis because the Helipond and Pump Chance Maintenance project incorporates numerous PDFs based on the Standard Operating Procedures (SOPs) in BLM Manuals (9011, 9014, and 9015) to reduce adverse effects to environmental and human resources from vegetation treatment activities (USDI-BLM 2007a, USDI-BLM 2007b, USDI-BLM 2007c, USDI-BLM 2010, USDI-BLM 2016). The following list of incorporated PDFs is not all encompassing, but is designed to give an overview of practices that the BLM would consider

when designing and implementing a vegetation treatment project on public lands (Programmatic Environmental Report) (USDI-BLM 2007b) (p. 2-29).

- Inspect and clean all vehicles and equipment of mud, soil, plant materials, excess oil or grease that may contain weed seed before entering BLM lands. Vehicles that stay entirely on existing road surfaces are exempt from this cleaning requirement.
- Avoid driving through or parking in vegetation and minimize all motorized travel through vegetation, especially where invasive plants are known.
- Minimize soil disturbance and retain native vegetation in and around project activity areas to the extent practical.
- Stockpile topsoil and native vegetation and reposition in project area where feasible.
- Seed bare soil (including dredge spoils) with BLM-approved native seed and weed free mulch following soil disturbance. At its discretion, BLM may supply approved native seed.
- Avoid moving weed-infested materials such as dredge spoils, outside of designated project areas.
- Use weed-free materials such as sand, gravel, borrow, and fill material within project areas and access roads to prevent the introduction and spread of weeds. Use materials from sources with the highest weed-free material accreditation available.

Based on the incorporation of weed prevention measures (SOPs and PDFs), which reduce opportunities for invasive species and noxious weeds to spread within and outside the project areas, the project would have negligible short- and long-term effects.

Port-Orford-cedar Root Disease

Issue: *How would the proposed heliport and pump chance maintenance activities affect the spread of Port-Orford-cedar root disease?*

Rationale for elimination: Although the Heliport and Pump Chance Maintenance project sites are within the range of Port-Orford-cedar, the BLM eliminated this as an issue because all management activities would conform to the guidelines specified in the 2004 Final Supplemental Environmental Impact Statement (FSEIS) for Management of Port-Orford-cedar in Southwest Oregon where applicable (USDA-FS and USDI-BLM 2004).

Recreation

Issue: *How would the proposed heliport and pump chance maintenance activities affect recreational activities on public lands?*

Rationale for elimination: Heliports and pump chances are typically located in rural areas, and are often attractive locations for sportsmen and campers because of their accessibility, privacy, and geographic and topographic features. The Coos Bay District BLM considers heliport and pump chance sites areas of dispersed recreation; however, their primary purpose is natural resource protection. The BLM does not specifically prohibit the use of heliport and pump chance sites by the sporting or recreating public; nor are there noise ordinances in these areas to prohibit the discharge of firearms. The BLM will not analyze the effects to recreational activities in these areas because numerous other dispersed recreation areas are available to the public.

Soils

Issue: *How would the proposed clearing, expanding, and maintaining a tree-free perimeter around heliports and pump chances affect soil?*

Rationale for elimination: The BLM eliminated this issue from further analysis because proposed tree removal in 1–2-acre perimeters using skyline (cable yarding) and ground-based harvest methods would

not cause detrimental soil disturbance. Detrimental soil disturbance generally represents unacceptable erosion levels, organic matter loss, soil compaction, soil displacement, severe heating to seeds or microbes, or a combination of these due to the implementation of management actions. However, as the long-term intent of the heli pond and pump chance perimeters is to be free of trees and tall vegetation, these acres are not included in the harvest land base, and the maximum compaction thresholds defined in the 2016 ROD/RMP are not a concern because the intent of those thresholds is for replanting and tree growth. Furthermore, based on the incorporation of best management practices (BMPs), such as limiting operations to periods of low soil moisture and using existing skid trails ((ROD/RMP pp. 159–160, BMPs TH 11–13, and 17) the activities would minimize soil compaction and prevent soil erosion.

Water Resources

Issue: *How would the proposed heli pond and pump chance maintenance and improvement treatments affect turbidity in drinking water source areas (DWSAs)?*

Rationale for elimination: Seven heli ponds and 20 pump chances are in DWSAs for Myrtle Point and Coquille (ODEQ 2017).

Public Water System name: City of Myrtle Point
Public Water System ID: 4100551
Drinking Water Source Area: North Fork Coquille River
Heli ponds within source area (Site #s): 19, 22, 26–29
Pump chances within source area (Site #s): 37, 38, 43–48, 51–53, 55

Public Water System name: City of Coquille
Public Water System ID: 4100213
Drinking Water Source Area: Coquille River
Heli ponds within source area (Site #s): 25
Pump chances within source area (Site #s): 49, 50, 54, 56–60

Maintenance and improvement treatments may cause turbidity lasting minutes to hours in work areas with surface water or within stream reaches between work areas and the closest downstream confluence, but controls would be in place to minimize turbidity, and in no case would turbidity impair the operation of public water systems several miles distant from work areas. Work at any one site would be isolated in space and time, and project design features in many cases would not just minimize but prevent turbidity. For example, working during the dry season when no surface water is present would prevent turbidity in work areas, and lowering heli ponds and pump chances below the level of their outlets prior to dredging would prevent downstream turbidity.

The BLM eliminated this issue from further analysis because heli pond and pump chance maintenance and improvement treatments including tree cutting, impoundment dredging, vegetation control, and facility maintenance/improvement would not result in persistent or widespread turbidity in DWSAs or cause turbidity leading to operational impairment of public water systems.

Issue: *How would the proposed heli pond and pump chance maintenance and improvement treatments affect downstream water rights?*

Rationale for elimination: The BLM eliminated this issue from further analysis because the BLM does not expect detrimental effects to points of diversion associated with private water rights registered with the Oregon Department of Water Resources because of the proposed project. No heli ponds and pump chances, with two exceptions, are in drainages containing points of diversion and/or points of diversion

are over one mile downstream. The Maria C. Jackson (Site #51) and Elk Creek (Site #55) pump chances are greater than 4,000 feet from mapped points of diversion. Surface and subsurface flow changes resulting from the maintenance of facilities would most likely not be identifiable thousands of feet downstream given discharge gains (e.g., tributary and groundwater inputs) and losses (e.g., evapotranspiration, floodplain storage) occurring continuously throughout stream networks. Dredging select heliponds and pump chances would increase water storage by less than 50 cubic yards (in many cases much less than 50 cubic yards), and flow in excess of full pool would still continue downstream or downgradient. Heliponds and pump chances discharging water at their outlets would be bypass pumped during dredging to isolate work areas, prevent sediment movement downstream, and maintain downstream flows.

Tree clearing up to 2.4 acres and vegetation control at select heliponds and pump chances would not affect water volume at points of diversion. Removal of trees and shrubs decreases evapotranspiration making more soil water available and potentially more stream flow, but the treatment areas are relatively small and several thousand feet from any point of diversion. In addition, remaining vegetation would likely benefit from increased soil moisture muting any potential stream flow response. According to Reiter and Beschta (1995), “where individual trees or small groups of trees are harvested, the remaining trees will generally utilize any increased soil moisture that becomes available following harvest. Because of such ‘edge effects’, partial cuts, light shelterwoods, and thinnings are expected to have little effect, if any, on annual water yields.”

The BLM received one specific comment during the scoping period concerning proposed work at the Palmer Butte (Site #65) pump chance and possible effects to springs to the south. Proposed tree clearing, dredging, vegetation control, and capital improvements including lining the pump chance would not likely affect the springs because the springs are located in different surface water drainages and the springs are most likely in different groundwater basins. All but one of the points of diversion is topographically higher than the pump chance, on the same elevation contour as the pump chance, or lower than the pump chance but located beyond a ridge and a valley, and therefore not connected via surface or groundwater to the pump chance. Even if the groundwater basin below the Palmer Butte pump chance coincides with the one mapped point of diversion physically lower but on the other side of the mountaintop (approximately 3,500 feet straight-line distance), there is almost no possibility of the proposed project harming water quantity or quality. The Palmer Butte pump chance is a relatively small (0.07 acre foot or 22,800 gallon storage capacity), ditch-fed feature that discharges to the forest floor when full making water available to the groundwater basin, and underground travel time for water from one side of a mountain to the other side could take months to years. Prolonged water contact with the subsurface soils and geology, and not the quality of runoff spilled from the pump chance, would determine water quality at the spring.

Issue: *How would the proposed impoundment dredging affect jurisdictional wetlands?*

Rationale for elimination: The BLM’s proposed helipond and pump chance impoundment dredging would affect jurisdictional wetlands by removing less than 50 cubic yards of material per site per year; however, State and Federal fill-removal laws allow maintenance dredging in jurisdictional wetlands that have developed within the as-built footprints of heliponds and pump chances. Sediment and organic matter deposition in infrequently maintained water impoundments has created shallow water habitats with emergent wetland vegetation and saturated soils with wetland vegetation. The BLM is dismissing this issue from further analysis because the heliponds and pump chances are not in Essential Fish Habitat or State Scenic Waterways, and the BLM would deposit dredge spoils in upland locations. In addition, the BLM would be exempted from fill-removal permitting in these wetland habitats because the BLM would remove less than 50 cubic yards of material per site per year (ODEQ 2016b) (B. Lobdell, Oregon

Department of State Lands, personal communication, July 28, 2016; T. Krug, U.S. Army Corps of Engineers, personal communication, July 29, 2016).

The BLM received a scoping comment that advocated for not treating vegetation around the entire perimeter of ponds, retaining diverse vegetation, and retaining some emergent vegetation. These criteria would be attainable at pump chance sites due to limited equipment access and a treatment plan that involves removing the minimum amount of fill necessary to reestablish safe and effective water drafting.

Issue: *How would the proposed tree cutting and vegetation control affect perennial stream temperatures?*

Rationale for elimination: The BLM eliminated this issue from further analysis because helipond and pump chance tree cutting and vegetation control would have no measurable effect on perennial stream temperatures based on the following information.

Heliponds, by design, are open to the sky and susceptible to daily heating. Heliponds, however, are on or near ridges, and they are either isolated from drainage networks, or they are in the headwaters of drainage networks where intermittent streams have isolated pools separated by areas of no surface flow or intermittent streams are dry entirely during summer when solar exposure and stream temperature increases are a concern. Isolated heliponds catch rain and receive ditch flow, but they do not discharge to defined stream channels. Examples of isolated heliponds include Johnson Ridge (Site #4), Spencer Ridge (Site #5), Steampot Ridge (Site #11), Sock Creek (Site #16), and Seed Orchard (Site #28). Brewster Rock South (Site #26) is an example of a headwater helipond that discharges to an intermittent stream. On February 17, 2016, the Brewster Rock South helipond was discharging water from a concrete spillway north of the 27-10-20.0 road. The intermittent channel below the helipond and south of the 27-10-20.0 road was dry because the water went subsurface and was therefore not susceptible to heating from direct solar exposure.

Pump chances are generally more shaded than heliponds because they only require vehicle and not helicopter access, and they typically require less vegetation removal to maintain access. Pump chances like Karl's Creek (Site #44) and Knepper Creek (Site #47) are located on well-shaded perennial stream reaches. Access roads to these sites do little to diminish shade at the stream reach scale because the openings at these streams are relatively narrow and analogous to a yarding corridor or an area along a stream that has lost a tree or two to bank erosion or wind throw. In a study of riparian and aquatic habitats of the Pacific Northwest, Everest and Reeves (2007) state that although little research has been done on gap dynamics in riparian buffer strips, gaps created by both stem snap of weakened trees and uprooting of healthy trees probably have minimal effects on summer and winter water temperatures.

The BLM proposes tree cutting at 21 of 29 helipond sites. Daily pond heating does not affect downstream surface water temperatures where ponds are isolated or where ponds lack summertime discharge to stream channels (e.g., Jeff Creek (Site #2), Johnson Ridge (Site #4), Spencer Ridge (Site #5), Steampot Ridge (Site #11), Burnt Tie (Site #25), and Seed Orchard (Site #28)). Flight path tree clearing that does not remove shade directly over intermittent streams (i.e., 13 of the 21 sites) would not result in stream heating because undisturbed riparian trees and shrubs, and downed wood in and over the channels would continue to shade surface water, if present during the summer. The BLM proposes flight path tree cutting at the remaining eight heliponds over intermittent streams with approximately 90–270 feet of clearing. Riparian shrubs and downed wood in and over the channels would continue to shade surface water, if present during the summer, in the flight path clearings post-project.

The BLM proposes tree clearing at six of 35 pump chances to make the sites helicopter accessible. The flight path at Palmer Butte (Site #65) does not go over a stream channel and the flight paths at Brewster Rock North (Site #45), Harry's Road (Site #46), and Salal Springs Pond (Site #63) call for clearing from

approximately 220 to 700 feet along intermittent streams. Shrubs and downed wood in and over the channels would continue to shade surface water during the summer if present in these flight path clearings post-project. On August 10, 2016, greater than half of the intermittent channel was dry along the nearly 700-foot proposed flight path clearing upstream of Salal Springs Pond. Dense salal and huckleberry shaded the surface water that was present. The flight paths for Trick or Treat (Site #57, approximately 200 feet of clearing) and Section 25 Weaver Pond (Site #53, approximately 360 feet of clearing under one scenario and an additional nearly 490 feet of clearing under a second scenario) are over perennial streams. On August 11, 2016, the Trick or Treat channel in the flight path was a seep, and the channel at Section 25 Weaver Pond was flowing at roughly two gallons per minute. Salmonberry shades the channel in the proposed Section 25 Weaver Pond flight path, and there are several downed large trees (greater than 12 inches diameter) in and over the channel. The 1–2-foot wetted channel moves back and forth across a 15–20-foot valley formed from sediments deposited by water. Exchange of near-surface groundwater and surface water in valleys like this with permeable substrate facilitates conductive cooling.

Heat energy transferred into and out of surface water traveling downstream would dilute the signature of any localized stream heating from flight path tree clearing. Long stretches of intact riparian forest are present below each of the eight over-channel flight path clearings associated with heliponds and the five over-channel flight path clearings associated with pump chances that the BLM would make helicopter accessible. The length of continuous riparian forest cover between the eight over-channel helipond clearings and downstream tributaries averages 3,280 feet. The length of continuous riparian forest cover between the five over-channel pump chance clearings and downstream tributaries ranges from nearly one mile to over five miles. These intact riparian zones shade the channels downstream from the proposed clearings and ensure that there is a continuous supply of large wood available to positively influence channel morphology and promote the exchange of groundwater and surface water across the streambed. Aerial photo interpretation and field reconnaissance verified the absence of recent debris flow activity in the channels draining the proposed clearings and the presence of intermittent flow or mixing of surface and subsurface water.

In summary, heliponds that are isolated from the stream network have no mechanism to raise perennial stream temperatures. Heliponds that discharge to the stream network during the rainy season either do not discharge to the stream network during the summer when stream temperatures are a concern due to reduced inflow and evaporation, or they discharge to relatively narrow (less than three-foot wetted width) intermittent stream reaches that are characterized by discontinuous surface flow and shade provided by shrubs and downed wood in and over the channel. Water in these intermittent reaches mixes with cooler near-surface groundwater and flows through thousands of feet of intact forest where any heat signature from an exposed helipond would be lost. The loss of select trees and shrubs for access to pump chances is analogous to the stochastic loss of natural vegetation on a stream reach. Tree cutting for helicopter ingress and egress would happen almost entirely away from stream channels or over relatively short sections of intermittent channels that have discontinuous surface flow or no flow during the summer when stream temperatures are a concern. Shade provided by shrubs and downed wood in and over the channels, mixing of surface and cooler near-surface groundwater, and energy exchange as streams flow through intact riparian areas would prevent measurable heating of downstream perennial reaches.

Wildlife

Issue: *How would the proposed tree removal affect designated Critical Habitat for northern spotted owl (NSO)?*

Rationale for elimination: Designated NSO Critical Habitat (50 CFR Part 17, November 21, 2012) overlies 29 heliponds and pump chances (approximately 31.8 acres of treeless, open water areas) (**Wildlife Staff Report Map Sets C and D**). The existing tree-free helipond and pump chance facilities

do not have PBFs that contribute to current or future NSO Critical Habitat. The proposed tree clearing would remove approximately 8.8 acres of trees from designated NSO Critical Habitat (**Appendix C Table C-1**); however, the trees proposed for removal do not have the PBFs of nesting, roosting, foraging (NRF) habitat, such as structural features for nesting, protection from adverse weather conditions, and cover to reduce predation risks for adults and young. The trees proposed for removal lack NRF habitat characteristics, including multilayered, multispecies canopies with large (20–30 inch or greater) diameter overstory trees, high diversity of different diameters of trees, high incidence of large live trees with deformities, large snags and accumulations of woody debris on the ground, and sufficient open space below the canopy for NSO to fly. In addition, the BLM would divide the 8.8 acres of proposed tree removal in NSO Critical Habitat between nine separate locations, spanning three CHUs (ORC 3, ORC 5, and ORC 6) (**Appendix C Table C-1**), and limit the new openings to 0.25–2 acres. The BLM is therefore dismissing this issue from further analysis because—

- the BLM would not remove NRF habitat,
- the remaining stands would continue to function as Critical Habitat,
- the quantity of tree removal would be small and widely distributed,
- the actions would not affect the ability of NSO to disperse to other Critical Habitat, and
- the actions would not inhibit the District’s efforts for Recovery Action (RA) 10 (conservation of NSO sites and high-value habitat) or RA 32 (maintain and restore older and more structurally-complex multi-layered conifer forests).

Issue: *How would the proposed tree removal, vegetation maintenance, dredging, pond liner installation, and pipe repair and associated activities that create noise over ambient levels affect NSO nesting behavior?*

Rationale for elimination: The BLM expects tree clearing, vegetation maintenance, dredging, pond liner removal, repair, and installation, and pipe repair activities to create noise above ambient levels due to the use of chainsaws and heavy equipment. The NSO disruption review area has the footprint of the proposed project sites and the surrounding areas within the potential disruption distance (65 yards) of suitable nesting, roosting, and foraging (NRF) habitat; this area is approximately 74 acres (**Appendix C Tables C-1 and C-3; Wildlife Staff Report Map Sets C and D**). The NSO disturbance analysis area has the footprint of the proposed project sites and the surrounding areas within the potential disturbance distance (440 yards or 0.25 mile) of NRF habitat; this area is approximately 2,307 acres (**Appendix C Tables C-1 and C-3**).

The BLM is dismissing this issue from further analysis because the proposed action includes a project design feature that prohibits proposed activities that create noise above ambient levels from occurring during the NSO critical breeding season within the potential disruption distances of NRF NSO habitat. Site-specific seasonal restrictions for NSO for all 64 proposed project sites are included in **Appendix C Table C-3**. The implementation of site-specific seasonal restrictions, where appropriate, would therefore eliminate potential disturbance or disruption of nesting NSO, and as such, the proposed actions would not affect nesting behavior of NSO.

Issue: *How would the proposed tree removal affect designated Critical Habitat for marbled murrelet (MM)?*

Rationale for elimination: Designated MM Critical Habitat (81 FR 51348, August 4, 2016) overlies 16 heliponds and pump chances (approximately 41.5 acres of treeless, open water areas) (**Wildlife Staff Report Map Set B**). The existing tree-free helipond and pump chance facilities are not MM habitat and do not contain physical and biological features (PBFs) for habitat for current or future conditions. The proposed tree clearing would remove approximately seven acres of trees from designated MM Critical

Habitat (**Appendix C Table C-2**); however, the trees proposed for removal do not provide any of the PBFs that define Critical Habitat, such as nest trees, nesting structure, or trees interlocked with nesting structure. In addition, the BLM would divide the seven acres of proposed tree removal between nine separate locations, spanning two Critical Habitat Units (CHUs, OR-4 and OR-6) (**Appendix Table C-2**), and limit the new openings to 0.25–1.4 acres. The BLM is therefore dismissing this issue from further analysis because—

- the BLM would not remove PBFs of MM habitat,
- the quantity of tree removal would be small and widely distributed, and
- the remaining stands would continue to function as MM Critical Habitat.

Issue: *How would the proposed tree removal affect marbled murrelet habitat?*

Rationale for elimination: The BLM dismissed this issue from further analysis because the existing tree-free heliport and pump chance facilities, and the additional proposed 27.6 acres of small patches (0.25–2 acres) of adjacent tree removal, are not MM habitat (**Appendix C Table C-2; Wildlife Staff Report Map Set B**). The BLM wildlife biologist reviewed these areas, and determined none of them to be MM un-surveyed suitable or occupied habitat, nest trees, nesting structure, or trees interlocked with nesting structure. Based on this review, the proposed tree removal would not affect MM habitat and no further analysis is required.

Issue: *How would the proposed tree removal, vegetation maintenance, dredging, pond liner installation, and pipe repair and associated activities that create noise over ambient levels affect marbled murrelet nesting behavior?*

Rationale for elimination: The BLM expects tree clearing, vegetation maintenance, dredging, pond liner removal, repair, and installation, and pipe repair activities to create noise above ambient levels due to the use of chainsaws and heavy equipment. In the absence of surveys, the BLM considers un-surveyed suitable MM habitat as occupied MM habitat. The MM disruption review area has the footprint of the proposed project sites and the surrounding areas within the potential disruption distance (110 yards) of un-surveyed suitable habitat or occupied habitat; this area resulted is approximately 160 acres (**Appendix C Table C-2; Wildlife Staff Report Map Set B**). The MM disturbance analysis area has the footprint of the proposed project sites and the surrounding areas within the potential disturbance distance (440 yards or 0.25 mile) of un-surveyed suitable or occupied habitat; this area is approximately 1,918 acres (**Appendix C Tables C-2 and C-3; Wildlife Staff Report Map Set B**).

The BLM is dismissing this issue from further analysis because the proposed action includes a project design feature that prohibits proposed activities that create noise above ambient levels from occurring during the MM critical breeding season within the potential disruption distances un-surveyed suitable or occupied MM habitat. Site-specific seasonal restrictions and daily timing restrictions for proposed project sites are included in **Appendix C Table C-3**. The implementation of seasonal and daily timing restrictions, where appropriate, would therefore eliminate potential disruption of nesting MM, and as such, the proposed actions would not affect nesting behavior of MM.

Scoping Comment: *“Project sites should be surveyed for survey and manage and other special status wildlife such as salamanders, frogs, mollusks, lichen, etc.”*

Issue: *How would the proposed tree removal, vegetation maintenance, dredging, pond liner installation, and pipe repair affect Special Status wildlife species (SSS) and former Survey and Manage (S&M) wildlife species?*

Rationale for elimination: As of August 5, 2016, the BLM signed a new Record of Decision/Resource Management Plan (ROD/RMP), which does not include Survey and Manage measures. As detailed in the

analysis in the Proposed RMP/Final Environmental Impact Statement, the RMP allocates a larger Late-Successional Reserve network, protects older and more structurally-complex forests, and continues to provide management for many of the former Survey and Manage species (as Bureau Sensitive species) (USDI-BLM 2016) (p. 28).

The BLM is not required to conduct species surveys prior to developing the EA, and the scoping comment does not specify which specific Special Status Species is of concern, nor is there any legal authority that would impose a duty under NEPA to survey for or monitor a particular species population.

The BLM is dismissing this issue from further analysis because 1) the overall site conditions for wildlife would remain unchanged after implementation, 2) no Special Status Species have been documented at these sites (**Appendix C Table C-4**), and 3) the proposed actions incorporate PDFs designed to minimize effects to streams. Hence, the BLM does not anticipate beneficial or adverse effects to Special Status wildlife species.

Scoping Comment: “[C]onsider topping trees to create short trees with features valuable to wildlife.”

Issue: *Would topping trees around heliponds and pump chance sites—rather than tree removal—be a viable alternative?*

Rationale for elimination: The BLM considered tree topping; however, this did not meet the purpose and need for the project for safety clearing limits to provide open access for aircraft operations. Because topped trees in the flightpath may be a hazard to aircraft, the BLM determined that topping trees, rather than falling them whole, would not provide immediate and safe access to water resources.

Scoping Comment: “Inlet and outlet pipes and ditches should be wildlife friendly.”

Issue: *How would the proposed inlet and outlet pipe and facility repairs affect the ability of wildlife to escape inlet and outlet pipes and ditches?*

Rationale for elimination: The BLM is dismissing this issue from further analysis for the following reasons:

- 1) the scoping comment did not include information on the specific animal species of concern,
- 2) inlet and outlet pipes (and ditches) are horizontally oriented water impoundment and routing structures, at ground level, and unlikely to cause entrapment, and
- 3) wildlife species can walk or fly out on their own as the pipe openings are large enough to allow turnaround and egress.

Furthermore, there is no documented case of inlet or outlet pipes or ditches resulting in negative wildlife interactions at the helipond sites since they were constructed over 30 years ago.

Though numerous wildlife species can and do utilize water from these sites, heliponds and pump chances are not specifically designed for use by wildlife. Furthermore, these sites have a natural edge/shoreline that would allow for egress from the site for any wildlife unintentionally entrapped.

Issue: *How would the proposed tree removal, vegetation maintenance, dredging, pond liner installation, and pipe repair affect bald and golden eagles, Pacific fisher, gray wolf, Oregon spotted frog, Siskiyou mountain salamander, vernal fairy shrimp, and western snowy plover?*

Rationale for elimination: The BLM’s wildlife biologist determined the species listed above do not occur within the helipond or pump chance maintenance sites; therefore, the BLM will not analyzed this issue in further detail.

Issue: *How would the proposed tree removal, vegetation maintenance, dredging, pond liner installation, and pipe repair affect Bureau Sensitive bats?*

Rationale for elimination: The BLM assumes that various species of bats could occur adjacent to the project areas because several species of Bureau Sensitive bats are documented or suspected to occur on the Coos Bay District, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and fringed myotis (*Myotis thysanodes*) (**Appendix C Table C-4**). Bats are known to forage above modified water features, such as heliponds and pump chances, and these open, man-made facilities may be important resources for bats because they are accessible and reliable sources of standing water and can support high abundance of prey (Vindigni *et al.* 2009). Furthermore, components of the proposed action, such as tree removal and brush clearing, could increase foraging habitat for various bat species, including the aforementioned Bureau Sensitive bat species. However, the BLM has dismissed this issue from further analysis because the areas of potentially beneficial or disturbing effects are 1) relatively small (a few acres at any one site), 2) widely scattered across the landscape, and 3) of short duration (a few days to a few weeks).

Issue: *How would the proposed activities affect the North Oregon Coast Distinct Population Segment (DPS) of the red tree vole (RTV)?*

Rationale for elimination: The Coos Bay District is outside of the range of the North Oregon Coast DPS of the RTV (USDI-BLM 2016) (p. 54). Since the BLM has no management objectives or survey requirements outside of its range (USDI-BLM 2016) (p. 101), the BLM will not analyze this question in further detail.

Issue: *How would the proposed tree removal, vegetation maintenance, dredging, pond liner installation, and pipe repair affect migratory birds?*

Rationale for elimination: Executive Order 13186 directs and requires federal agencies to protect migratory birds and incorporate conservation measures into agency activities. The BLM recognizes that manmade heliponds and pump chance facilities may provide beneficial edge habitat and water sources for migratory birds, birds may transition through or nest in these areas, and that maintenance activities and equipment may cause disturbance from operational noises above ambient levels. However, the BLM has dismissed this issue from further analysis because the areas of potentially beneficial or disturbing effects are 1) relatively small (a few acres at any one site), 2) widely scattered across the landscape (64 sites across the Coos Bay BLM District), and 3) of short duration (a few days to a few weeks).