

Final Environmental Assessment for the Proposed Issuance of Enhancement of Survival Permits to Roseburg Resources Company and Oxbow Timber I, LLC to Authorize the Incidental Taking of Northern Spotted Owls in Lane County, Oregon

1.0 Introduction

The U.S. Fish and Wildlife Service (Service, USFWS) is conducting a barred owl removal experiment to test benefits to the threatened northern spotted owl (spotted owl). This action implements Recovery Action 29 of the 2011 Revised Recovery Plan for the Northern Spotted Owl (USFWS 2011). Experimental Removal of Barred Owls to Benefit Threatened Northern Spotted Owls (Barred Owl Removal Experiment) (USFWS 2013a) is being implemented on two study areas in Oregon, one in the Oregon Coast Ranges west of Eugene, Oregon, and one in the forest lands around Canyonville, Oregon. While the experiment is focused on Federal lands, the landscapes involved in the study areas include significant interspersed private lands, including lands owned by Roseburg Resources Company (RRC) and Oxbow Timber I, LLC (Oxbow). Access on non-Federal lands is important to efficient completion of the experiment.

The RRC, Oxbow, and the Service have worked together to develop a Safe Harbor Agreement (SHA) to assist in implementing the Barred Owl Removal Experiment in Lane County, Oregon. Through this SHA, RRC and Oxbow will contribute to the conservation of the spotted owl by allowing the researchers to survey for barred owls on RRC and Oxbow lands throughout the Study Area, and remove barred owls from RRC and Oxbow lands within the removal portion of the experiment. This information and access is crucial to efficient and effective implementation of this experiment. Information from this experiment is critical to the development of a long-term management strategy to address the barred owl threat to the spotted owl.

In return for the information and access, the Service would issue an Enhancement of Survival Permit (permit) under Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1553 et seq.). The proposed issuance of a permit by the Service is a Federal action that may affect the human environment and therefore is subject to review under the National Environmental Policy Act (NEPA). This Environmental Assessment (EA) provides the compliance with NEPA.

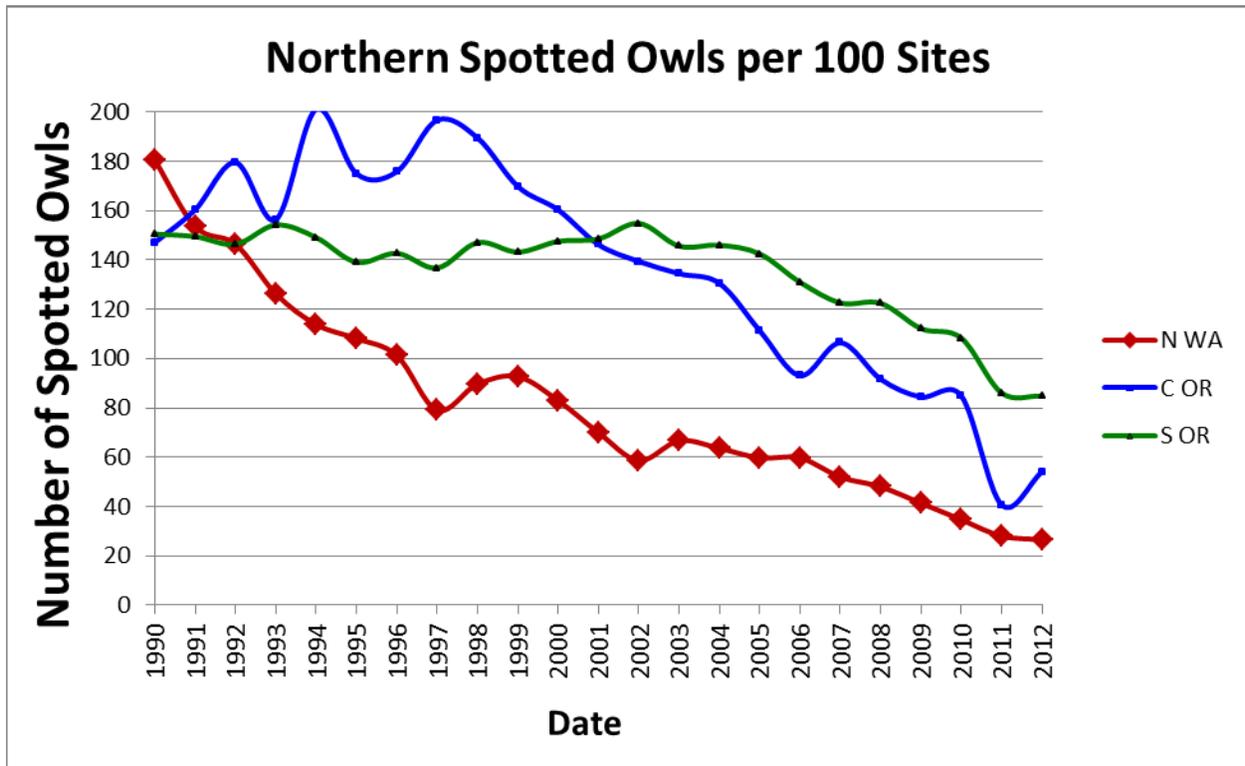
1.1 Background on the Barred Owl Effect on Spotted Owls

Because the SHA is specific to the implementation of the barred owl removal experiment, understanding the approach to and value of the experiment is important to understanding the effects of the SHA.

The Service noted in the Final Environmental Impact Statement for the Experimental Removal of Barred Owls to Benefit Threatened Spotted Owls (FEIS) (USFWS 2013b) that spotted owl populations have been declining for many years, particularly in the northern part of their range. The Federal agencies track spotted owl populations on through several demographic studies spread across the range of the spotted owl. Populations on the Cle Elum Spotted Owl Demography Study Area in the Washington Cascades declined 85 percent between 1990 and 2012 (Figure 1). In the Oregon Coast Ranges, populations fell by 73 percent between 1997 and

2012. Even in southern Oregon, on the Klamath Demography Study Area, spotted owl populations have declined 45 percent from 2002 to 2012. Some of this decline is undoubtedly driven by habitat loss and habitat remains important to the conservation of spotted owls, not all areas experienced significant declines in habitat during these decline timeframes.

Figure 1. Plot of the number of spotted owls located per 100 sites surveyed on ongoing spotted owl demography studies.



Many of these observed declines appear to correlate with the invasion by, and increase in, barred owls. Barred owls are not native to the Pacific Northwest, arriving from Canada sometime after the 1950s. Recent spotted owl population demography analysis show that the presence of barred owls has a strong negative effect on spotted owl survival and colonization of new sites on some study areas. (For more information on the background, see FEIS, USFWS 2013b).

The maintenance and development of spotted owl habitat is important to the long-term conservation of the spotted owl, but habitat management alone will not recover the spotted owl. In the short term, the effects of barred owl competition will likely overwhelm habitat management efforts, and may result in the extirpation of the spotted owl from large portions of the range. Thus, management of barred owl populations in the Pacific Northwest is crucial to the conservation of the spotted owl.

As early as 2005, scientist, biologists, and managers began exploring options for managing barred owl competition with spotted owls (Buchanan et al. 2007, Johnson et al. 2008). After several workshops and publications, the most feasible option for addressing the effect of barred

owls on spotted owls that appears to be likely to succeed is the removal of barred owls in areas to increase spotted owl populations (Gutierrez et al. 2007, Johnson et al. 2008). While we continue to explore all options, the Service identified the need to conduct an experiment to test the removal of barred owls in Recovery Action 29 of the 2011 Revised Recovery Plan for the Northern Spotted Owl.

In September 2013, the Service signed the Record of Decision to conduct experimental removal of barred owls to benefit threatened northern spotted owls (USFWS 2013a). The experiment is being conducted on four study areas distributed across the range of the spotted owl, including the Oregon Coast Ranges Study Area where RRC and Oxbow own or manage land. The experiment involves dividing the Study Area into treatment and control areas. Barred owls will be removed from the treatment area and not from the control area. If spotted owls respond positively to the removal of barred owls, the Service anticipates spotted owls will reoccupy historic sites that are currently unoccupied, and demographic parameters will improve (e.g., reproduction, adult survival), resulting in a spotted owl population increase in the treatment area. Spotted and barred owl populations in the control area are not anticipated to change as a result of the experiment, though spotted owl populations may continue to decline as a result of increasing competition from barred owls.

To conduct the experiment, researchers survey the entire Study Area for barred owls. Barred owls will be removed from the treatment areas during the non-breeding season (approximately September to March). Ongoing spotted owl surveys conducted under the Northwest Forest Plan Monitoring program, Bureau of Land Management (BLM) monitoring, and RRC surveys will continue. The Service will use the data from these ongoing efforts to determine the effect that the removal of barred owls has on spotted owls.

RRC and Oxbow lands are intermingled with Federal and other lands on the Oregon Coast Ranges Study Area (Map 1). While the experiment can be conducted by surveying from public roads and removing barred owls on Federal lands, the resulting scientific data will be stronger and the efficiency will be greatly enhanced by access to non-Federal lands. In the Oregon Coast Ranges Study Area, the experiment will be greatly enhanced by access to RRC and Oxbow lands for surveys, and permission to remove barred owls from RRC and Oxbow lands.

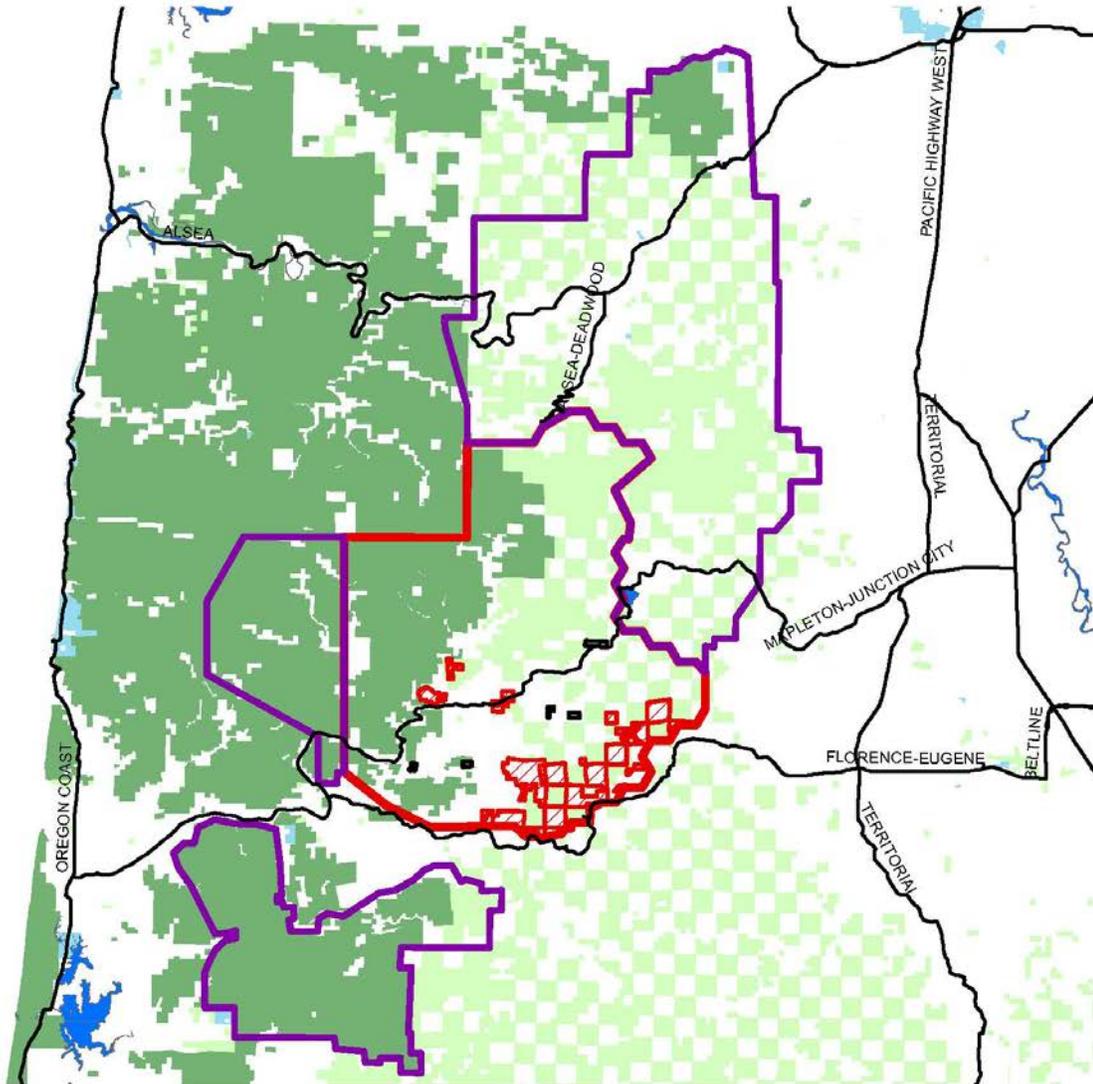
1.2 Purpose and Need for Action

The Service's purpose for the proposed action of entering into a SHA and issuing an ESA section 10(a)(1) Enhancement of Survival Permit to RRC and Oxbow is to gain enhanced access to important areas within the Oregon Coast Ranges Study Area for barred owl surveys and barred owl removal.

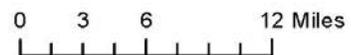
The need for this access and information is to complete the Barred Owl Removal Experiment in the most efficient and effective manner for the conservation of the northern spotted owl in accordance with Recovery Action 29 of the Recovery Plan (USFWS 2011, p. III-65). More specifically, the experiment will allow the Service to: (1) obtain information regarding the effects of barred owls on spotted owl vital rates of occupancy, survival, reproduction, and

Map 1. General land ownership for Oregon Coast Ranges Study Area, including treatment and control areas.

Land Ownership - Oregon Coast Ranges Study Area



- Legend**
- Highways
 - Study Area Boundaries
 - Treatment
 - Control
 - Owner
 - ▨ OXBOW
 - ▩ RRC
 - US FOREST SERVICE
 - BLM
 - STATE
 - PRIVATE
 - WATER



population trend through experimental removal of barred owls; (2) determine the feasibility of removing barred owls from an area and the level of effort required to maintain reduced barred owl population levels for the duration of the experiment; (3) estimate the cost of barred owl removal in different forested landscapes; and (4) develop the information necessary to contribute to developing future options for potential management of barred owls as expeditiously as possible.

RRC's and Oxbow's purpose for this SHA is to demonstrate good faith cooperation with the Service regarding this recovery action while maintaining a reasonable level of certainty regarding the anticipated biological response and subsequent regulatory requirements impacting both forest operations and management during and soon after the experiment period. RRC and Oxbow lands are managed as timberlands primarily for timber production providing economic, community and stewardship values on a long term sustained yield basis while meeting State and Federal regulatory requirements. The RRC and Oxbow lands within the Oregon Coast Ranges Study Area are an important part of RRC's and Oxbow's overall operating plans from both a short term and long term perspective. Therefore, in return for cooperation on the experiment, RRC and Oxbow need certainty for their continued forest operations and management on their lands as would occur in the absence of the Barred Owl Removal Experiment.

1.3 Regulatory and Planning Environment

Several Federal and State regulations and/or laws govern the activities proposed under the SHA Harbor Agreement. A brief summary of relevant regulations is provided below.

1.3.1 Endangered Species Act

The ESA is intended to protect and conserve species listed as endangered or threatened, and to conserve the habitats on which they depend. The ESA also mandates that all Federal agencies seek to conserve endangered and threatened species and use their resources and authorities to further such purposes.

Section 9 of the ESA prohibits the "take" of Federally-listed endangered and threatened species unless authorized under the provisions of Section 7, 10(a), or 4(d) of the ESA. Section 3 of the ESA defines take as "to harass, harm, pursue, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Sections 2, 7, and 10 of the ESA allow the Service to enter into an agreement embodied in the SHA. Section 2 of the ESA states that encouraging interested parties to develop and maintain conservation programs through Federal financial assistance and a system of incentives is a key to safeguarding the Nation's heritage in fish, wildlife, and plants. Section 7 of the ESA requires the Service to review programs that they administer and to use such programs to further the purposes of the ESA.

A SHA under Section 10(a)(1) of the ESA, is a voluntary agreement between the Service and a non-Federal landowner whose land management actions provide a net conservation benefit to species listed under the ESA. In exchange for complying with the SHA and permit conditions that are reasonably expected to provide a net conservation benefit to listed species, the landowner is assured that the Service will not require additional management activities without

their consent. In addition, under the SHA, landowners may return their lands to mutually agreed baseline conditions, as described in the SHA.

The Section 10 permit associated with this SHA would authorize incidental take of the spotted owl that may occur while the Applicants conduct forest management activities. The permit would authorize incidental take during implementation of the SHA for conducting forest management activities under current State regulations.

1.3.2 Migratory Bird Treaty Act

The spotted owl is protected under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-711) (MBTA). It is Service policy that an ESA Section 10 permit for listed migratory birds is sufficient to relieve the permittee from liability under the MBTA. For the MBTA, this is accomplished by having the permit double as a Special Purpose Permit authorized under 50 Code of Federal Regulations (CFR) 21.27. For the experiment itself, the direct take of barred owls is covered by a MBTA Scientific Take Permit issued to the Service.

1.3.3 National Environmental Policy Act

Issuance of an ESA Section 10 permit is a Federal action as defined under NEPA, 42 U.S.C. 4331 *et seq.* and its implementing regulations (40 CFR 1500 *et seq.*). With respect to SHAs in general, compliance with NEPA is not a direct obligation or requirement of the applicant for the Section 10 permit. However, the Service must comply with NEPA when making their decisions on the application and implementing the Federal action of issuing a Section 10 permit. Consequently, the appropriate environmental analyses must be conducted and documented before a Section 10 permit can be issued. The Service has determined that an EA is initially appropriate for this action to determine if there will be significant impacts to the environment. If the Service determines that the environmental consequences of the proposed action evaluated in this EA are not significant, the Service would issue a Finding of No Significant Impact (FONSI). This EA analyses the potential effects of implementing this Safe Harbor Agreement and issuing a section 10(a)(1)(A) permit under the ESA for the incidental take of the spotted owl that may occur during implementation of the SHA.

1.3.4 Oregon Forest Practices Rules

In Oregon, the Forest Practices Act (ORS 527.610) identifies forest practices as any operation conducted on or pertaining to forestland, including but not limited to: (a) reforestation of forestland; (b) road construction and maintenance; (c) harvesting of forest tree species; (d) application of chemicals; (e) disposal of slash; and (f) removal of woody biomass. The rules specifically state that compliance with the forest practices rules does not substitute for or ensure compliance with the ESA and nothing in the rules imposes any state requirement to comply with the ESA. Landowners and operators are advised by the state that Federal law prohibits a person from taking certain threatened or endangered species, which are protected under the ESA.

Forest management operations must submit to the State Forester a written plan as required by ORS 527.670(3) before conducting any operations requiring notification under OAR 629-605-

0140, including those operations within: (1) 300 feet of a specific site involving threatened or endangered wildlife species, or sensitive bird nesting, roosting, or watering sites; or (2) 300 feet of any resource site identified in OAR 629-665-0100 (Sensitive Bird Nesting, Roosting and Watering Resource Sites on Forestlands), 629-665-0200 (Threatened and Endangered Species that use Resource Sites on Forestlands), or 629-645-0000 (Significant Wetlands); or (3) 300 feet of any nesting or roosting site of threatened or endangered species listed by the U.S. Fish and Wildlife Service or by the Oregon Fish and Wildlife Commission by administrative rule.

Written plans required under OAR 629-605-0170 must contain a description of how the operation is planned to be conducted in sufficient detail to allow the State Forester to evaluate and comment on the likelihood that the operation will comply with the Forest Practices Act or administrative rules.

2.0 Alternatives

Two alternatives were developed as part of this EA: the No Action Alternative and the Proposed Action Alternative.

2.1 No Action Alternative

Under the No Action Alternative, the proposed SHA would not be signed and the Service would not issue a permit to the Applicants. Under this alternative, RRC and Oxbow would continue to manage their lands under current Federal and State regulations. The Service would not have access to RRC or Oxbow lands and roads within the Study Area. Barred owl surveys that require access to RRC or Oxbow lands and roads or the ability to walk across RRC or Oxbow lands to access other ownerships, resulting in gaps in the data for the Study Area. No barred owls would be removed from RRC or Oxbow lands within the treatment area, unless they can be called to adjacent lands.

2.2 Proposed Action Alternative

Under the Proposed Action Alternative, the SHA would be implemented in the Oregon Coast Ranges Study Area and the Service would issue permits to both RRC and Oxbow for a term of 10 years, based on the estimation that we will complete the Barred Owl Removal Experiment after 4 years of removal activities. In the FEIS and Record of Decision for the experiment, (USFWS 2013 a and b) we note that if the spotted owl response to removal of barred owls is not as strong as anticipated the experiment could include up to 10 years of removal. Therefore, we have analyzed the expected permit term (10 year permit, including 5 years following the completion of the experiment) and a permit for 15 years in the event we need to extend the experiment, and therefore the permit. For Service to issue the permits, the SHA must contain voluntary conservation measures that are reasonably expected to provide a net conservation benefit to spotted owls. The SHA must identify the baseline that will be maintained over the term of the agreement. The Service's Safe Harbor policy is available at: http://www.fws.gov/endangered/policy/SAFE_HAR.HTM and http://www.fws.gov/endangered/pdfs/FR/FRnoticeCCAA_SHArevis_revision.pdf. The following section briefly describes conservation measures outlined in the SHA. For more information, see

the Roseburg Resources and Oxbow Safe Harbor Agreement (RRC 2015) (incorporated by reference).

Under the Safe Harbor Agreement, RRC and Oxbow will:

- Provide access and permission for Service and the U.S. Geological Survey (USGS) biologists to use roads owned or managed by RRC and Oxbow, and to access RRC and Oxbow lands to survey barred owls throughout the Oregon Coast Ranges Study Area.
- Provide access to RRC and Oxbow lands and permission for Service and USGS biologists to remove barred owls located on RRC or Oxbow lands within the treatment portion of the areas.
- Provide permission for Service and USGS biologists to use roads owned or managed by RRC or Oxbow to access sites for the removal of barred owls located on Federal lands, and any other lands for which the Service has landowner permission to removal barred owls within the treatment portion of the experiment.
- Maintain habitat for nesting spotted owls that may reoccupy non-baseline sites during the nesting and rearing season (March 1 to September 30 of the year).

These contributions will allow the Service to complete the Barred Owl Removal Experiment in an efficient and effective manner and minimize effects to nesting spotted owls that may reoccupy the non-baseline sites during the study. The information from this experiment is crucial to the development of a long-term barred owl management strategy, which is itself essential to the conservation of the northern spotted owl.

Under the SHA, the Service established the baseline condition, for which no incidental take would be authorized. In the treatment portion of the Oregon Coast Ranges Study Area, nine occupied spotted owl sites (represented by their Thiessen polygons) overlap RRC or Oxbow lands or lands where RRC or Oxbow holds easements and agreements that allow them to access the covered lands for timber haul and management (Table 1). The Service identified another 19 sites where spotted owls have not been detected in the past three years. These are the non-baseline sites (Table 2). The Service also examined RRC and Oxbow lands outside of the Thiessen polygons on the Study Area and determined that they are not likely to support undetected resident spotted owls and are not part of the baseline. If spotted owls reoccupy these sites or areas during or soon after the Barred Owl Removal Experiment is implemented (a total of 10 to 15 years), they may be incidentally taken under the permit by the covered activities.

Table 1. Baseline spotted owl sites for Roseburg Resources and Oxbow Safe Harbor Agreement, Oregon Coast Ranges Study Area.

BASELINE SPOTTED OWL SITES	
Master Site Number	Spotted Owl Site Name
0812	Barber Creek
0762	Failor Creek
0160	Miller Creek
3553	Raleigh Creek
2721	Rock Creek
2723	San Antone Creek
4474	Upper McVey Creek
0159	Walker Creek West
4559	West Fork Deadwood

Table 2. Spotted owl sites that are not baseline sites.

POSSIBLE NON-BASELINE SPOTTED OWL SITES		
Master Site Number	Spotted Owl Site Name	Last Year With Spotted Owl Response
Oregon Coast Ranges Study Area		
0526	Boyle Creek	2012
0779	Brush Creek	2008
2637	Buck Creek	2008
2545	Chickahominy Creek	2010
4491	Chicken Creek	2010
0524	Elk Mountain	2011
2549	January Creek	2012
2546	Knapp Creek	2008
3251	Lake Creek	2010
3126	Lower Deadwood	2009
2313	Lower Greenleaf	2010
4088	McVey Creek	2012
0519	Meadow Creek	2011
3554	Nelson Creek	2003
4600	North San Antone	2008
3362	Pat Creek	2007
4686	Upper Hula	2006
0764	Velvet Creek	2008
2722	Wheeler Creek	2011

3.0 Affected Environment and Environmental Consequences

Potential impacts on the human environment from the Barred Owl Removal Experiment, including the No Action and Proposed Action Alternatives were analyzed in the FEIS for the Barred Owl Removal Experiment (USFWS 2013b). The Affected Environment from the FEIS for the Barred Owl Removal Experiment is incorporated by reference. Impacts to resources on the covered lands from the activities analyzed in that environmental review and are incorporated by reference. This includes Effects on Barred Owls, Ongoing Spotted Owl Demographic Study Areas, Other Species, the Social Environment, Recreation and Visitor Use, the Economy, Costs of the Experiment, and the Cultural Environment.

In the FEIS, the Service stated its intent to explore the development of SHAs with interested non-Federal landowners.

“In the removal areas, the Service will explore the potential for Safe Harbor Agreements with non-Federal landowners willing to cooperate with the experiment. Safe Harbor Agreements are voluntary agreements under which landowners manage for listed species and their habitats with an assurance that they may later return their lands to the baseline condition without regulatory ESA restrictions. This could reduce the impacts of this experiment on timber harvest to a very low or no effect by providing management flexibility. However, as these are voluntary on the part of the landowner, and each is developed relative to the specific conditions of the area, we did not attempt to assume any specific reduction in the maximum potential effect.” (USFWS 2013b, p 218)

As noted, the components of each SHA are developed with the landowner and specific to the circumstances of each landowner. Therefore, we were not able to address the specific effects of SHAs to all resources.

We also tiered this EA to the FEIS Affected Environment and Environmental Consequences (USFWS 2013, Chapter 3). The effects of the Study anticipated under the SHA are consistent with the effects considered in the Preferred Alternative in the FEIS for the Barred Owl Removal Experiment on barred owls, ongoing spotted owl demographic study areas, other species, the social environment, recreation and visitor use, costs of the experiment, or the cultural environment. As noted in the FEIS Effects to the Economy, “[a]ny safe harbor agreements would lessen the effects described in the economic analysis” (USFWS 2013b, p 452).

Effects to the northern spotted owl resulting from RRC and Oxbow forest management on lands covered under the Agreement were not considered in the FEIS and are the subject of the analysis below.

3.1 Effect on Northern Spotted Owl

For the Background and Affected Environment and Environmental Consequences of the Barred Owl Removal Experiment, see the FEIS (USFWS 2013b, pp 143-162).

In the FEIS, we anticipated that the overall effects of this alternative on spotted owls across the subspecies' range would be minimal. We did acknowledge the small potential for accidental killing of a spotted owl during barred owl removal efforts, though we noted that this is unlikely given the rigorous protocol for removal of barred owls (USFWS 2013b, p 150).

However, the Service noted the potential for an increase in spotted owl site occupancy as a result of the experiment, and also noted that this was likely a short-lived improvement because barred owls are anticipated to reoccupy these sites soon after completion of the experimental removal.

“We anticipate decreased competition between spotted owls and barred owls on the treatment area for the duration of the experiment, leading to a potential increase in spotted owl site occupancy rates following barred owl removal.” USFWS 2013b, p148

“Because the areas treated are small relative to the range of the northern spotted owl, the effect of barred owl removal on spotted owl site occupancy is expected to diminish after barred owl removal ceases. Barred owls are expected to increase to pre-removal levels after a lag of 3 to 5 years, resulting in subsequent declines in spotted owl site occupancy once the experiment is concluded.” USFWS 2013b, p149

3.1.1 Effects on Spotted Owls under the No Action Alternative

Under this alternative, the Service would not issue a permit for incidental take to RRC and Oxbow. We anticipate that RRC and Oxbow would not allow access to their lands for barred owl surveys and removal without the certainty that they could return to baseline condition. Thus, RRC and Oxbow would continue to manage their lands under current Federal and State regulations. The Service would not have access to RRC and Oxbow roads and lands within the Oregon Coast Ranges Study Area.

The non-baseline spotted owl sites (where resident spotted owls have not been detected in at least three years), and areas outside the sites where spotted owls have not been located despite extensive surveys, are likely to remain unoccupied unless we remove barred owls from the area, and once verified, unoccupied sites receive no protection under State or Federal regulations. Therefore, habitat on RRC and Oxbow lands associated with these sites could be harvested under the No Action Alternative.

The experiment, which this SHA supports, is a short-term experiment, estimated to include 4 years of barred owl removal, with a maximum of 10 years. In our analysis of the effects of the experiment, we estimated that barred owl populations would return to pre-study levels within three to five years of the end of the barred owl removal (USFWS 2013b, p 148-9). Any spotted owl population gains from the experiment are expected to be lost in this period. Thus, any spotted owls that do reoccupy the historic sites as a result of barred owl removal on accessible Federal lands would again be displaced within five years post-experiment.

This was the expectation at the time of the decision to move forward with the experiment. The conservation value of the experiment is specifically in the information on the effect of barred owl removal on spotted owl populations, the cost of such removal, potential methodologies, and the

value of this information to the development of a long term barred owl management strategy. We did not anticipate long-term conservation value from the spotted owls that might reoccupy historic sites in the study areas.

If the Service or its contractors cannot conduct surveys on RRC and Oxbow lands within the Study Area, there will be holes in our coverage of barred owl populations, complicating the analysis of the results of this experiment. If we cannot remove barred owls from RRC and Oxbow lands within the Study Area, we anticipate that barred owls will continue to occupy some lands within the treatment area and affect some of the spotted owl sites in the area. This could lead to a muted response to the experimental removal of barred owls and affect our ability to detect the effect of the barred owl removal. For example, if barred owls remain in an area, spotted owls may not be able to respond to the removal of some barred owls within a historic spotted owl site (currently unoccupied spotted owl sites). Removing some, but not all, of the barred owls that are currently utilizing an historic spotted owl site may not be enough to allow the spotted owls to return, masking the result of the removal.

Lack of access and permission to remove barred owls from RRC and Oxbow lands could lead to the need to extend the experiment duration to compensate for weaker responses. Young produced at barred owl sites within the treatment area may increase the likelihood that currently unoccupied spotted owl sites would be reoccupied by barred owls, rather than spotted owls. In all cases, the lack of more complete removal could mask some of the experimental results and complicate the analysis, reducing the quality of data available to contribute to the development of a long-term barred owl management strategy. Currently because spotted owls have been displaced, likely by barred owls, all of the suitable spotted owl habitat involved in the permit, whether within or outside a spotted owl site, is available for harvest by the RRC and Oxbow without restrictions.

3.1.2 Effects on Spotted Owls under the Action Alternative

Under the SHA, RRC and Oxbow would be permitted to take spotted owls that may reoccupy up to 19 historic spotted owl sites during the Barred Owl Removal Experiment and for five years following the end of the experiment, for a total of 10 years. If the spotted owl response to barred owl removal is not as strong as anticipated, we may extend removal for up to a total of 10 years, and in this case would anticipate extending the Safe Harbor Agreement for up to a total of 15 years. Spotted owls have not been detected on these non-baseline sites for three or more years.

3.1.2.1 Duration of the spotted owl population gains

The Barred Owl Removal Experiment is a short-term experiment, estimated to include four years of barred owl removal. In our analysis of the effects of the experiment, we estimated that barred owl populations would return to pre-removal levels within three to five years of the end of the barred owl removal (USFWS 2013b, p 148-9). Any spotted owl population gains from the experiment are expected to be lost in this period. Thus, any spotted owls that do reoccupy the historic sites as a result of barred owl removal on accessible lands would again be displaced within five years post-experiment.

The eventual loss of the re-occupying spotted owls was the expectation at the time of the decision to move forward with the experiment and the analysis of effects in the FEIS. The conservation value of the experiment is primarily in the information gained on the effect of barred owl removal on spotted owl populations, the cost of such removal, and potential methodologies, and the value of this information to the development of a long term barred owl management strategy. We did not anticipate long-term conservation value from the spotted owls that might reoccupy historic sites in the Study Area.

3.1.2.2 Incidental take

Incidental take of spotted owls under this SHA would be in the form of harm and harassment. Harm would occur from forest operation activities that result in spotted owl habitat loss or degradation supporting a reoccupied spotted owl site.

Spotted owls use a relatively large home range, often including over three square miles of land. Within the treatment area, the Federal, State, and private lands are interspersed on a square mile or smaller scale. Thus, an individual spotted owl will use habitat owned and managed by several landowners.

3.1.2.3 Incidental take as a result of habitat removal

Most habitat-based take under this SHA would be a result of timber harvest of the small amount of spotted owl habitat remaining on RRC and Oxbow lands. A small amount of additional habitat removal may occur with the development of roads to access lands for timber management or other operational activities on lands not owned by RRC or Oxbow, but for which they have existing easements and agreements. Within the treatment portion of the Oregon Coast Ranges Study Area, 75 percent of the remaining spotted owl suitable habitat occurs on Federal lands, 15 percent on State lands, 8 percent on other private lands, and 2 percent on RRC and Oxbow lands (Table 3). This actually represents a worst case analysis because our spotted owl habitat data overestimates the amount of habitat on private lands, as compared to Federal lands. In a few cases, Federal lands may contain sufficient habitat to support the spotted owls without contribution from RRC and Oxbow lands. Thus not all habitat removal with the SHA's may result in take of spotted owls. In addition, RRC and Oxbow will not be authorized to take spotted owls that may remain on or reoccupy the baseline spotted owl sites (Table 1).

The potential effect of the removal of spotted owl habitat under this SHA on the experiment depends on the amount of habitat lost relative to the available habitat. Of the 19 non-baseline spotted owl sites in the treatment area (Table 2) where incidental take is authorized under this SHA, 13 sites include varying amounts of RRC or Oxbow lands (Table 4). These are the sites where incidental take resulting from habitat loss may occur under this SHA.

Table 3. Spotted owl habitat within the treatment portion of the Oregon Coast Ranges Study Area.

Spotted Owl Habitat within the Treatment Area, Oregon Coast Ranges Study Area		
Landowner	Acres of Spotted Owl Habitat¹	% of Total Habitat
Federal	39,600	76%
State	7,400	14%
Other Private	4,200	8%
RRC and Oxbow Lands	830	2%
Total	52,000	
¹ Includes suitable and highly suitable habitat		

Table 4. Percent ownership of land and spotted owl suitable habitat within the Thiessen polygons of spotted owl sites where RRC or Oxbow own lands.

SITE NAME	Percent of Lands within Thiessen Polygon				Percent of Suitable Habitat within Thiessen Polygon			
	Federal	State	RRC and Oxbow Lands	Other private	Federal	State	RRC and Oxbow lands	Other private
Boyle Creek	40	0	10	50	78	0	4	18
Brush Creek	36	34	1	28	57	33	1	9
Chickahominy Creek	36	11	17	26	24	28	29	18
Chicken Creek	7	43	1	49	11	58	1	30
Elk Mountain	57	9	7	26	75	16	2	7
January Creek	53	2	35	10	79	3	8	10
Knapp Creek	45	38	12	5	71	27	1	1
McVey Creek	43	41	1	15	54	40	1	5
Meadow Creek	42	1	46	11	67	5	14	14
Nelson Creek	52	42	2	5	53	45	0	2
North San Antone Creek	16	61	23	0	12	84	5	0
Pat Creek	17	77	4	2	33	54	1	11
Wheeler Creek	29	0	4	66	72	0	0	28

RRC and Oxbow are minor owners on seven of the 13 sites (based on the Thiessen polygon) with less than 10 percent of the land ownership. The Thiessen polygon represents the area likely used by spotted owls associated with the site. On the remaining six non-baseline spotted owl sites, RRC and Oxbow own between 10 and 46 percent of the land with the Thiessen polygon.

RRC and Oxbow lands include less than five percent of the remaining suitable habitat on the seven sites where RRC and Oxbow are minor landowners, and one percent or less on six of the seven sites. In actual acres, RRC and Oxbow lands include less than 15 acres of suitable habitat on each of these seven sites. Federal lands contain the majority of the remaining suitable spotted owl habitat on six of these seven sites.

On four of these six sites where RRC and Oxbow own more than 10 percent of the lands, the companies together own less than 10 percent of the remaining suitable habitat, which is less than 40 acres of suitable habitat (Table 5). On the two remaining sites, RRC and Oxbow have a combined 86 and 99 acres of suitable habitat. Again, Federal lands contain the majority of remaining suitable habitat on four of these six sites.

Table 5. Acres of land and spotted owl suitable habitat within the Thiessen polygons of spotted owl sites where RRC or Oxbow own lands.

SITE NAME	Acres of Lands within Thiessen Polygon				Acres of Suitable Habitat within Thiessen Polygon			
	Federal	State	RRC and Oxbow Lands	Other private	Federal	State	RRC and Oxbow lands	Other private
Boyle Creek	791	0	199	1002	469	0	21	109
Brush Creek	1155	1094	48	913	814	478	13	131
Chickahominy Creek	610	185	456	442	72	83	86	54
Chicken Creek	116	754	25	859	83	438	7	231
Elk Mountain	992	159	128	458	366	81	11	33
January Creek	1053	49	692	201	331	11	35	40
Knapp Creek	773	641	205	87	269	100	3	5
McVey Creek	727	691	17	263	417	314	11	35
Meadow Creek	1373	41	1488	358	470	34	99	94
Nelson Creek	1294	1051	42	114	567	473	0	19
North San Antone Cr.	302	1365	67	36	180	291	8	62
Pat Creek	258	985	366	7	28	202	11	0
Wheeler Creek	667	0	97	1500	502	0	2	196

Thus, even if all non-baseline spotted owl sites are reoccupied by spotted owls, and RRC and Oxbow remove all habitat remaining on their lands within these sites under their permit, many of these sites are likely to remain viable at some level as a result of habitat remaining on other landowners, including the Federal agencies.

If spotted owls do reoccupy RRC or Oxbow lands, and initiate nesting, RRC and Oxbow will maintain habitat for nesting spotted owls that may reoccupy non-baseline sites during the nesting and rearing season (March 1 to September 30 of the year). This allows the owl pairs to produce young and contribute to the future spotted owl population.

3.1.2.4 Incidental take as a result of disturbance

Incidental take due to harassment would occur if loud forest management activities occur during the early part of the nesting season in the vicinity of nesting spotted owls, including but not limited to routine harvest, road maintenance and construction activities, rock pit development, and spraying and fertilization. Our data include the location of all known spotted owl site centers from over 20 years of spotted owl survey effort. Some sites may have multiple site centers as owls shifted their area of use, and many of these site centers represent nest sites. These historic site centers are the most likely to be reoccupied by spotted owls in response to barred owl removal, where habitat remains. Disturbance take is a short-term impact, limited to the year in which it occurs. It increases the potential for loss of nesting or young, but does not guarantee such loss.

Of the 48 historic spotted owl site centers known in the treatment area, none occur on RRC or Oxbow lands (Table 6), though three are close enough that forest management activities on RRC or Oxbow lands could result in some disturbance of the sites if these site centers were reoccupied. Some timber management and operations activities (e.g. road construction, timber hauling, rock pit use) may occur near site centers that occur in the vicinity of areas where RRC or Oxbow holds easements and agreements, though we cannot determine to what extent. However, given the limited nature of these activities and the limited time over which these activities may cause disturbance, there is only a small possibility that these activities would occur near enough to a reoccupied core area to disturb spotted owls during the early nesting season. Given the small number of site centers on or immediately adjacent to RRC and Oxbow lands and the limited time frame when disturbance affect spotted owls, take from disturbance is not likely to represent a significant impact on spotted owls in the Study Area.

Table 6. Spotted owl site centers within the treatment portion of the Oregon Coast Ranges Study Area.

Spotted Owl Site Centers within the Treatment Area, Oregon Coast Ranges Study Area		
Landowner	Site Centers	% of Site Centers
Federal	36	75%
State	10	21%
Other Private	2	4%

RRC and Oxbow lands	0	0%
Total	48	
¹ May be multiple site centers for some spotted owl sites		

3.1.2.5 Level of contribution of RRC and Oxbow lands to spotted owl sites

RRC and Oxbow lands contain less than two percent of the suitable spotted owl habitat within the treatment portion of the Oregon Coast Ranges Study Area. No take of spotted owls associated with the baseline sites is authorized by this SHA (Table 1). Take of spotted owls that reoccupy non-baseline sites may occur with the removal of this small area of habitat (Table 2). However, removal of some of this habitat may not result in take of any spotted owls because the lands lie outside the areas used by spotted owls and because some sites may retain sufficient habitat to support the spotted owls on Federal lands. Nor do we expect all of the non-baseline sites to be reoccupied as a result of the Barred Owl Removal Experiment.

Take due to disturbance is also likely to be very limited. No historic spotted owl site centers occur on RRC and Oxbow lands. These are the areas that are most likely to be reoccupied by spotted owls with the removal of barred owls. Three site centers are close to the boundary of RRC and Oxbow lands or associated with timber management and operations activities (e.g. road construction, timber hauling, rock pit use) near site centers that occur in the vicinity of RRC or Oxbow easements and agreements such that if occupied, incidental take due to disturbance could occur.

The spotted owls that may be taken under this SHA are reoccupying sites or areas where no resident spotted owls have been located in the last three years, despite extensive survey efforts. When the experiment ends, barred owl populations are anticipated to recover to pre-removal levels in three to five years, likely resulting in the displacement of the spotted owls that did reoccupy these sites. Therefore, we anticipated that these spotted owls would be temporarily contributing to the spotted owl population for the duration of the experiment.

In developing the experiment and analyzing the effect of the experiment and this SHA, we did not anticipate long-term conservation contribution from the spotted owls that might reoccupy historic sites in the Study Area. The conservation value of the Barred Owl Removal Experiment, and this SHA which supports that Experiment, is the information the Service will gain about the feasibility and efficiency of removal as a tool for barred owl management. This information will be crucial for the development of long range barred owl management strategies. The 2011 Revised Recovery Plan for the Northern Spotted Owl clearly identified the need for the information that would be provided from the Barred Owl Removal Experiment. Thus, even with some small amount of habitat loss, the Barred Owl Removal Experiment still has significant value to the recovery of the spotted owl. It is important to note that all of the spotted owl habitat involved in the permit, whether within or outside a spotted owl site, is currently available for harvest by RRC and Oxbow without restrictions.

3.2 Cumulative Effects

Cumulative Effects from the Barred Owl Removal Experiment, including the No Action and Proposed Action Alternatives were analyzed in the FEIS for the Barred Owl Removal Experiment (USFWS 2013b, p. 239). The Cumulative Impacts Section of the FEIS for the Barred Owl Removal Experiment is incorporated by reference. The Barred Owl Removal Experiment is currently being implemented on this Study Area and barred owls are being removed from Federal lands within the treatment portion of the Study Area. This SHA contributes to the full implementation of the experiment. This analysis evaluates effects not reasonably foreseeable at the time of the FEIS.

The Council on Environmental Quality's regulations for implementing NEPA define cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR § 1508.7). The effects of the proposed project and the conditions resulting from past are contained in the above Section 3.1.

The Service is now in conversations with two other non-Federal landowners concerning potential SHAs in the Oregon Coast Ranges Study Area, however, no applications have even been received to date. The SHA process is an applicant driven process. There is no certainty that the applicants will follow through with an application, and applicants can withdraw at any time. Not only has no application been received, it is also important to emphasize that we have made no decision to issue section 10 permits to either of these potential applicants; such decisions would be made only after all applicable substantive and procedural requirements have been met. Therefore, we do not believe these potential actions are reasonably foreseeable. However, to ensure a robust NEPA analysis, we have added a discussion of the two Safe Harbor Agreements that are currently under discussion.

The Weyerhaeuser Company owns approximately 7,489 acres of forest lands within the treatment portion of the Oregon Coast Ranges Study Area in Lane County, Oregon. The Weyerhaeuser SHA and permit, if completed and issued, may authorize incidental take of spotted owls that may reoccupy up to 16 non-baseline sites and areas as a result of the harvest or modification of 829 acres of suitable habitat. Weyerhaeuser owns less than 10 percent of the suitable habitat on all of these sites. Most of these sites are in the northern portion of the treatment area, whereas RRC and Oxbow are primarily in the southern portion of the treatment area.

The Oregon Department of Forestry (ODF) manages approximately 20,000 acres of forest lands within the treatment portion of the Oregon Coast Ranges Study Area. The ODF SHA and permit, if completed and issued, may authorize take for of spotted owls that may reoccupy up to 18 non-baseline sites and areas, as a result of the harvest or modification of 4,020 acres of suitable habitat. The current draft of the ODF SHA provides for an elevated baseline, and as such ODF would not receive take authorization for some sites that are covered in the RRC and Oxbow SHA.

All three of the SHAs (RRC and Oxbow, Weyerhaeuser, and ODF) do, or will likely, contain the same basic requirements of the applicants: (1) access to lands and roads for the survey of barred owls on the applicant's lands throughout the study area; (2) access and permission to remove barred owls from the applicant's lands within the treatment portion of the study area; and (3) avoidance of disturbance of actively nesting spotted owls. All three SHAs contribute to the implementation of Recovery Action 29 through support of the Barred Owl Removal Experiment. The information gained from this experiment is critical to the development of a long-term management strategy to address the barred owl threat to the spotted owl as part of the recovery strategy for the northern spotted owl. Access to the lands included in the RRC and Oxbow SHA is crucial to efficient and effective implementation of this experiment. The RRC and Oxbow SHA, in conjunction with the other two potential SHAs, will contribute to our ability to remove the majority of barred owls from the treatment area and avoid creating pockets of barred owls within the treatment area that could reduce the power of the experiment to detect the effect, and thereby lengthen the duration of the study.

3.3 Conclusion

For the following reasons, we conclude that the issuance of permits allowing incidental take of non-baseline spotted owls resulting from implementation of the RRC and Oxbow SHA will not significantly impact the northern spotted owl:

- The SHA does not authorize the removal of nine currently occupied spotted owl sites. These are the baseline for the SHA and are not covered for incidental take by the permits.
- The spotted owls that may be taken under the permits are only temporarily reoccupying non-baseline sites and areas.
 - The experimental removal of barred owls will be conducted for an estimated four years, with a maximum of 10 years, after which barred owls are anticipated to again displace spotted owls from these sites as their population rebuilds over the following three to five years.
 - Spotted owl presence on these sites is temporary in all cases. Any non-baseline sites that become occupied by spotted owls during the experiment would likely be lost as barred owls repopulate the area following the end of the removal experiment.
 - In developing the experiment and assessing the effects in the FEIS (USFWS 2013b), we did not anticipate long-term conservation value from the spotted owls that might reoccupy historic sites in the Study Area.
- The conservation value of the permits is in the support of the experiment, and thus the information from the experiment regarding the effect of barred owl removal on spotted owl populations, the cost of such removal, and potential methodologies, and the value of this information to the development of a long term barred owl management strategy.

- The permits will authorize incidental take of any spotted owls that may reoccupy up to 19 currently unoccupied spotted owl sites during the course of the experimental removal of barred owls, as defined in the SHA. The actual take and impact of that take is likely to be small because:
 - Not all currently unoccupied spotted owl sites are likely to be reoccupied during the experiment.
 - Less than 2 percent of the current spotted owl habitat would be removed in the treatment portion of the Coast Ranges Study Area. Removal of small patches of habitat at a distance from the site center of some of these sites may not result in incidental take of the spotted owls in the areas if Federal and other lands have sufficient habitat.
 - Disturbance of a few spotted owl nest sites may occur within the vicinity of RRC and Oxbow lands or where RRC or Oxbow holds easements and agreements. This take is temporary and limited to the year of the disturbance.
 - Spotted owl habitat within treatment portion of the Oregon Coast Ranges Study Area represents only 0.39 percent of northern spotted owl habitat range-wide, therefore this will have little effect on the range-wide condition of the species.
- The cumulative effects of incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, does not significantly impact the northern spotted owl.

4.0 List of Preparers

This document was prepared by the Service’s Oregon Fish and Wildlife Office. The following individuals contributed to its preparation.

Name	Affiliation	Responsibility
Paul Henson	U.S. Fish and Wildlife Service, State Supervisor, Oregon Fish and Wildlife Office	Policy oversight and approval
Jody Caicco	U.S. Fish and Wildlife Service, Supervisor, Forest Resource Division, Oregon Fish and Wildlife Office	ESA process and technical oversight
Robin Bown	U.S. Fish and Wildlife Service, Barred Owl Removal Experiment USFWS Project Lead, Oregon Fish and Wildlife Office	Draft EA analysis and preparation, spotted owl expert
Betsy Glenn	U.S. Fish and Wildlife Service, Barred Owl Removal Experiment Team, Oregon Fish and Wildlife Office	Draft EA analysis expert, spotted owl expert

5.0 Coordination

The Service conducted extensive scoping and outreach on the EIS for the Barred Owl Removal Experiment (USFWS 2013b, pp. 7-8; 188-193; and 343-350). We established a Barred Owl Stakeholder Group including a broad range of environmental, animal welfare, and industry groups; Federal, State, and local governments; and Native American tribes to assist with early scoping. We conducted public comment periods for scoping and the draft EIS, including one public meeting, five public webinars, and meetings with affected Federal agencies. We mailed notices of the availability of the draft EIS to over 600 individuals and organizations.

We discussed the approach of a SHA for the Barred Owl Removal Experiment with the Private Forest Program of the Oregon Department of Forestry, BLM Districts and National Forests within the study areas included in the experiment, and with regional offices of the BLM, U.S. Forest Service, and the National Park Service. We have discussed the potential for SHAs with the Oregon Department of Forestry and several private landowners within the study areas.

The EA and related documents will be posted on the Service’s web site at (<http://www.fws.gov/ofwo/>) and will be made available at the Service’s Oregon Fish and Wildlife Office, 2600 SE 98th Ave, Suite 100, Portland, Oregon 97216.

6.0 References

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