State of California
The Natural Resources Agency

Memorandum

To: **Board of Forestry and Fire Protection, Forest Practice Committee**

Date: September 11, 2012

Telephone: (916) 653-4995

Website: www.fire.ca.gov

From: **Chris Browder, Deputy Chief, THP Administration, California Department of Forestry and Fire Protection**

Subject: Northern Spotted Owl Update

The following describes recent information pertaining to how the California Department of Forestry and Fire Protection (CAL FIRE) is addressing various issues relating to the northern spotted owl (NSO).

Plan Review: 2011-2012 THPs, PTHPS and NTMPs

Recent plan review uses the following methods of addressing take avoidance of NSO:

- 14 CCR § 939.9(a): Such review involves use of Spotted Owl Resource Plans (SORPs). These are used by the following:
  - W. M. Beatty and Associates.
  - Hancock Forest Management [in preparation].
- 14 CCR § 919.9(e) [939.9(e)]: Most plans use this method to address NSO take avoidance in plans. These include use of:
  - USFWS Attachments A and B and Take Avoidance and No Take Scenarios I-V.
  - Technical assistance from USFWS through CAL FIRE.
  - Habitat Retention Agreements with Arcata Fish and Wildlife Office (AFWO).
  - Spotted Owl Management Plans, which are used by the following:
    - ✓ Timber Products Company.
    - ✓ The Conservation Fund.
    - ✓ Mendocino Redwood Company.
    - ✓ Hearst Forests
- 14 CCR § 919.9(d): This involves use of incidental take permits from USFWS in the form of Habitat Conservation Plans (HCPs), which are used by the following:
  - Green Diamond Resource Company.
  - Humboldt Redwood Company.

  At least two additional HCPs are in preparation:
  - Mendocino Redwood Company.

  - Fruit Growers Supply Company.
- 14 CCR § 919.9(g) [939.9(g)] with additional site-specific analysis: This involves using the standards contained in the Forest Practice Rules and often includes
- additional measures derived from USFWS-recommended take avoidance guidelines. Use of this subdivision is concentrated in THPs located on industrial timberlands in the Northern Forest District. Many of these use the recently created disclosure document from CAL FIRE, *Northern Spotted Owl Disclosure and Impacts Analysis Using 14 CCR § 919.9(g) [939.9(g)]* to provide the additional site-specific analysis.

CAL FIRE's part-time senior wildlife biologist is regularly involved in NSO-related plan review. This includes:

- Reviewing certain plans that propose use of 14 CCR § 919.9(g) [939.9(g)].
- Pre-consulting with biologists on survey proposals that deviate from current USFWS protocol.
- Reviewing applicability of proposals to certain forest types and USFWS take avoidance guidelines.
- Reviewing proposed Spotted Owl Resource Plans.

NSO-related plan review:

- Appears to be going smoothly.
- Regularly requests additional information and clarification.
- Rarely is the cause of delay.
- Consumes much CAL FIRE staff time.

Critical Habitat and Small Landowners

There are two areas of the NSO range—the lower Russian River area of Sonoma County and the Mayacamas Mountains on the Napa-Sonoma County line—where critical habitat has been designated on private lands, which include small parcels, none of which are less than 40 acres. These areas are at the south end of the range and represent isolated, outlying NSO populations that need special protection per the recovery plan, according to USFWS staff. The lower Russian River area includes 105 private landowners, and the Mayacamas Mountains area includes 280 private landowners. All such landowners received a letter notifying them of the possible designation of critical habitat on their property.

There is a spreadsheet circulating that contains a number of landowners in northwestern California that are supposed to be affected by the critical habitat designation. This was supposedly created by the superimposition of a USFWS shapefile onto a county assessor's parcel map. The critical habitat boundary erroneously overlaps a number of small private parcels, which are not intended to be designated as such. USFWS is aware of this. No parcels smaller than 40 acres have been designated as critical habitat.

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The federal Notice of Availability states the following about critical habitat's effect on private lands:

> ...State and private lands may also be subject to consultation under section 7(a)(2) of the Act if a "Federal nexus" exists, meaning the Federal government authorizes, funds, or carries out an activity on privately-held or State-owned property.
> For example, a Federal nexus may exist because a project involves Federal funding or requires a Federal permit, such as a Clean Water Act permit or an incidental take permit for another listed species that co-occurs with the northern spotted owl. In areas occupied by the northern spotted owl, the protections provided by consultation under the jeopardy standard for the northern spotted owl would apply regardless of critical habitat.

Survey Protocols

- The 2011 survey protocols require two breeding season's worth of effort to establish presence of the owl. This makes it more costly and difficult to take advantage of market conditions in a timely manner.
- A transition period has allowed those that commenced surveys in 2009-2011 to gradually adjust to the greater demands of the new protocol.
- The USFWS allowed landowners to use a one-year, six-visit survey during the 2011 breeding season after much comment from users about the additional cost and planning required by the new protocol.
- CAL FIRE submitted a take avoidance procedure that included a one-year, six-visit survey effort to USFWS for comment in the fall of 2011. USFWS declined to comment other than to indicate its two field offices in northern California disagreed on the procedure's efficacy in avoiding take of the owl. It also pledged to continue discussions with CAL FIRE about the viability of a take avoidance procedure that includes a one-year survey effort. In the interim, USFWS and CAL FIRE agreed to jointly review proposals for a one-year survey for the 2012 breeding season. CAL FIRE received six of such requests. Five of them had previously received technical assistance from USFWS, so the Service reviewed those. The one additional request was not a substantive deviation from the 2011 protocol, and CAL FIRE was able to review it. Based on the less-than-enthusiastic response to the one-year survey proposal offer, CAL FIRE has not pursued developing its take avoidance procedure with USFWS.

Small Landowners and USFWS Coastal Take Avoidance Standards

CAL FIRE has met with RPFs representing small non-industrial landowners, biologists, CLFA and Cooperative Extension regarding the development of a take avoidance option similar to the former Arcata Fish and Wildlife Office's Habitat Retention Agreement program. The current USFWS Attachment A requires a 100-acre virtual non-operational area, which can severely limit small landowners in close proximity to an NSO activity center. The aim of the group is to develop a draft take avoidance option for small landowners. It will be brought to USFWS for its possible review and acceptance.

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DFG Spotted Owl Database

In 2011 CAL FIRE met with DFG and other agencies about the spotted owl database. The discussion focused on upcoming changes to the database, its usefulness, current entry backlog, Gordon Gould's impending retirement, uncertainty about future maintenance, the need for an inter-agency agreement, and options for joint agency funding. Based on overwhelming agency opinion that the database is of high importance, DFG has just hired a spotted owl database manager to replace Mr. Gould.

USFWS Take Avoidance and No Take Guidelines

AFWO staff notes that its Attachment A—take avoidance guidelines for the redwood region of coastal California—will likely be revised beginning in late 2012 and early 2013. The revised Attachment A will include an emphasis on creating forest openings to encourage wood rat production. There will be a review step in the revision process whereby the public may comment on the document, and there should be an accompanying document that will provide the scientific basis for the habitat retention and operational protection measures contained therein.

Yreka Fish and Wildlife Office (YFWO) does not foresee any changes to its Attachment B-- take avoidance guidelines for the non-redwood region of California-- from a scientific perspective in the near term. However, if Attachment A is undergoing changes, YFWO will likely correct some outdated sections of Attachment B.

General Conservation Plan for NSO?

In June 2012, CAL FIRE staff met with USFWS staff regarding continuing discussion about the one-year take avoidance procedure. USFWS indicated they prefer to prepare a General Conservation Plan (GCP) for NSO. The GCP would apply range-wide in California. It is part of the Service's effort to streamline the process associated with HCPs, and it allows them to develop a conversation strategy suitable for the needs of a local area. Unlike the HCP, which is prepared by the applicant, the GCP is prepared by the Service. AFWO's Nancy Finley describes it as "a mechanism to develop a series of strategies that would streamline technical assistance for some large percentage of the cases." She says it would consist of "one scenario that would be developed to address a series of landowner activities potentially." USFWS prefers this because "the GCP would be more binding and a clearer communication of partnership in some ways." Estimated time to prepare it would be one and a half years.

NSO Petitions

The Environmental Protection Information Center filed two petitions designed to increase protections for the northern spotted owl. The first is with the Secretary of the Interior to change the status of the owl under the federal Endangered Species Act from "threatened" to "endangered," and the second is with the California Fish and Game Commission to list the owl as "endangered" under the California Endangered Species

Act. CAL FIRE does not expect either of the petitions or any resulting changes they may precipitate to substantially change the way RPFs address NSO in plans.

Recent and Future Rule Changes

Spotted Owl Experts:

There are 32 spotted owl experts (SOEs). SOEs continue to play a role in plan review by providing information and preparing SORPs.

CAL FIRE's biologist notes:

> ...SOE involvement actually creates more review time when/if the THP comes my direction. Project assumptions/findings are typically not sufficiently described; the SOE assuming that his/her explanation can be abbreviated since it comes from an SOE. A few SOEs have made biological determinations without biological data to expedite the project. I don't give an SOE any additional weight than I would a[n] RPF when it comes to plan review/take avoidance determination and so their involvement does not make a bit of difference to me.

Activity Center:

The current definition of "activity center" in 14 CCR § 895.1 is based on portions of the 1992 USFWS "Protocol For Surveying Proposed Management Activities That May Impact Northern Spotted Owls" and a 2008 USFWS letter of technical assistance related to activity center abandonment. This term is not consistent with more recent USFWS survey protocols and other documents. The BOF may want to consider updating the definition. The amended definition could reference the applicable NSO survey protocol in a general sense in order to allow for future changes. Future changes in the protocol would not then precipitate changes in the Forest Practice Rules. Please see attached information relative to the current definition of activity center.

Take Avoidance and No Take Measures:

Most of the current Forest Practice Rules related to NSO have been in place since the early 1990s. Some retain validity while others appear out-of-date and of questionable use (14 CCR § 919.9(a), (b) (c) and (f) [939.9(a), (b) (c) and (f)]). CAL FIRE previously recommended to the BOF that it simplify the rules (see CAL FIRE letter to BOF regarding the NSO Take Evaluation 2009 rule package). If such action is to occur, CAL FIRE believes simplified options for avoiding take could be provided in the rules. The options would allow the plan proponent to address take avoidance of the owl through programmatic means, incidental take permits, discussion with the listing agency or the Department of Fish and Game or some other appropriate site-specific method.

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Northern Spotted Owl Disclosure and Impacts Analysis Using 14 CCR § 919.9(g) [939.9(g)]

The following impacts disclosure and analysis is intended for use in timber harvesting and non-industrial timber management plans that propose to avoid take of the northern spotted owl (NSO) through the use of 14 CCR § 919.9(g)[1] [939.9(g)]. The information may be needed in order for the California Department of Forestry and Fire Protection (CAL FIRE) to evaluate whether the proposed timber operations avoid take of the NSO per 14 CCR § 919.10 [939.10]. Take avoidance strategies that propose the use of 14 CCR § 919.9(g) [939.9(g)] must meet the requirements of 14 CCR §§ 895.1 and 919.9(g) [939.9(g)], but are not required to meet the currently-recommended U. S. Fish and Wildlife Service (USFWS) standards for activity center protection and post-harvest habitat retention. However, since USFWS has indicated that use of 14 CCR 919.9(g) [939.9(g)] may not avoid take of NSO[2], CAL FIRE may need additional information, which clearly and substantively demonstrates why the proposed, site-specific protection measures and the level and configuration of post-harvest habitat retention avoids take of the NSO. The following questions are meant to elicit the information that CAL FIRE may need to determine whether the proposed timber operations avoid take of the NSO.

NSO Habitat Definitions

1. Which definition of NSO habitat is used?

   ☐ 14 CCR § 895.1: Functional nesting, functional roosting and functional foraging habitat.

   ☐ USFWS Attachment B: High quality nesting-roosting, nesting-roosting, foraging and low quality foraging habitat.

   ☐ Other (provide basis):

2. If using functional nesting, roosting and foraging habitat contained in 14 CCR § 895.1 or "Other," discuss how using non-USFWS recommended habitat definitions will provide for the biological needs of the NSO:

NSO Activity Center Impacts Analysis

Complete the following tables and accompanying impacts analysis for <u>each</u> NSO activity center within 1.3 miles of the plan area and within 0.25 mile of appurtenant roads. The

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[1] This document is intended for use within the Coast and Northern Forest Districts wherever *Revised USFWS Attachment B Northern Spotted Owl Take Avoidance Analysis – Interior (2/27/08)* applies. It is not applicable to areas within the Coast Forest District where *Revised USFWS Attachment A NSO Take Avoidance Analysis – Coast Redwood 3-15-11* applies.

[2] See:
http://www.fire.ca.gov/resource_mgt/downloads/USFWS_%20NSO_TakeAvoidanceGuidelines_ScienceSupportDocument_121409.pdf.

Habitat Summary in the following table presumes use of the owl habitat definitions of functional nesting, roosting and foraging habitat contained in 14 CCR § 895.1.

Activity center:			
Habitat Summary			
Within 0.5 mile radius (503 acres) of the activity center (acres)	**Pre-harvest**	**Post-harvest**	**Net change**
Nesting habitat			
Roosting habitat			
Foraging habitat			
Total owl habitat			
Non-habitat			
Within 0.7 mile radius (985 acres) of the activity center (acres)	**Pre-harvest**	**Post-harvest**	**Net change**
Nesting habitat			
Roosting habitat			
Foraging habitat			
Total owl habitat			
Non-habitat			
Within 1.3 miles radius (3398 acres) of the activity center (acres)	**Pre-harvest**	**Post-harvest**	**Net change**
Nesting habitat			
Roosting habitat			
Foraging habitat			
Total owl habitat			
Non-habitat			

Effect on USFWS Habitat					
Are timber operations proposed in NSO habitat that meets the USFWS definition of habitat within 0.5 mile of the activity center?			**If yes, provide the pre- and post-harvest habitat quantities and the net change in habitat (acres):**		
	No	**Yes**			
			Pre-harvest	**Post-harvest**	**Net change**
High quality nesting-roosting					
Nesting-roosting					
Foraging					
Low quality foraging					
Total owl habitat					

Effect on USFWS Habitat					
Are timber operations proposed in NSO habitat that meets the USFWS definition of habitat between 0.5 mile and 1.3 miles of the activity center?			**If yes, provide the pre- and post-harvest habitat quantities and the net change in habitat (acres):**		
	No	**Yes**			
			Pre-harvest	**Post-harvest**	**Net change**
High quality nesting-roosting					
Nesting-roosting					
Foraging					
Low quality foraging					
Total owl habitat					

Proposed Timber Operations			
During the NSO breeding season will timber operations occur within any of the following distances to an occupied or unsurveyed activity center?			**If yes, describe the type, timing and extent of timber operations:**
	Yes	**No**	
0 – 500 feet?			
500 – 1000 feet?			
1000 feet – 0.25 mile?			
0.25 – 0.5 mile? (Helicopter Use only)			
During the non-breeding season will timber operations occur within any of the following distances to the activity center?			**If yes, describe the type, timing and extent of timber operations:**
	Yes	**No**	
0 – 500 feet?			
500 – 1000 feet?			

Impacts Analysis

1. If the answer to any item under **Effect on USFWS Habitat** above is yes, address what measures have been incorporated into the plan in order to retain the best available habitat in light of the requirements of the Forest Practice Rules to avoid take of the NSO, the current USFWS recommendations regarding NSO habitat and the biological requirements for feeding, breeding, nesting and sheltering for the NSO:

2. If the answer to any item under **Proposed Timber Operations** above is yes, address whether the proposed timber operations have the potential to **harass** the NSO. Each item should demonstrate lack of direct and indirect impacts, and any conclusions will need to be supported by substantial evidence[3].

   a. Because the prey base or the ability to catch prey could be impaired, demonstrate how the proposed timber operations will avoid significantly disrupting feeding habits:

   b. Demonstrate how the proposed timber operations will avoid significantly disrupting breeding success:

   c. Because activities could be conducted near to the activity center, demonstrate how the proposed timber operations will avoid significantly disrupting nesting behavior:

   d. Because the ability to escape predators, survive severe weather, and find appropriate microclimes could be adversely altered, demonstrate how the proposed timber operations will avoid significantly disrupting sheltering, which includes roosting, nesting, and feeding:

3. If timber operations are proposed within 1.3 miles of an activity center, address the following relative to whether the proposed timber operations have the potential to **harm** the NSO. Each item should demonstrate lack of direct and indirect impacts, and any conclusions will need to be supported by substantial evidence.

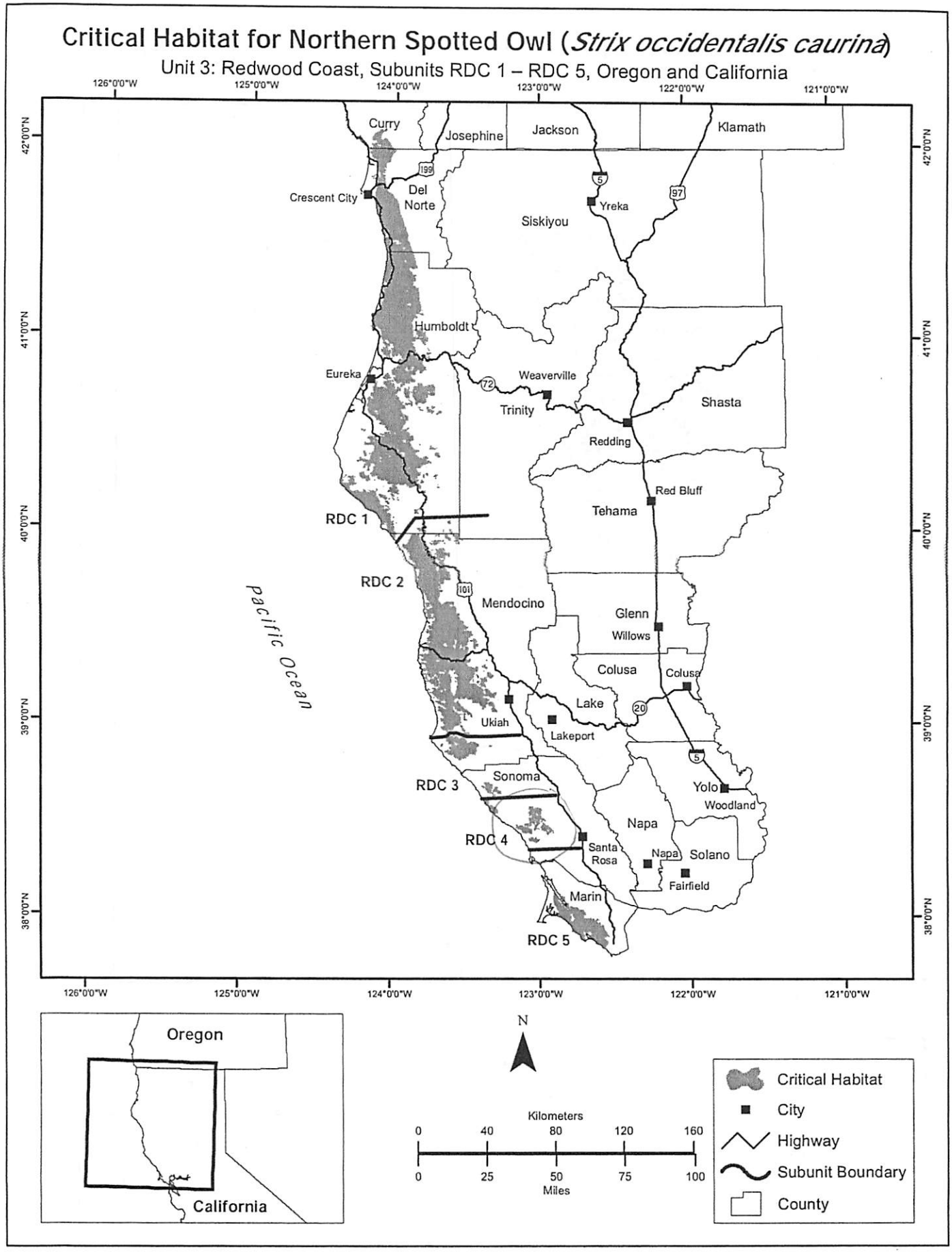
   a. Because the prey base or the ability to catch prey could be impaired, demonstrate how the proposed timber operations will avoid significantly impairing feeding habits:

   b. Because of a possible reduction in surrounding owl habitat before the young have had an opportunity to successfully disperse from the activity center, demonstrate how the proposed timber operations will avoid significantly impairing breeding success:

[3] 14 CCR §15384(b): Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

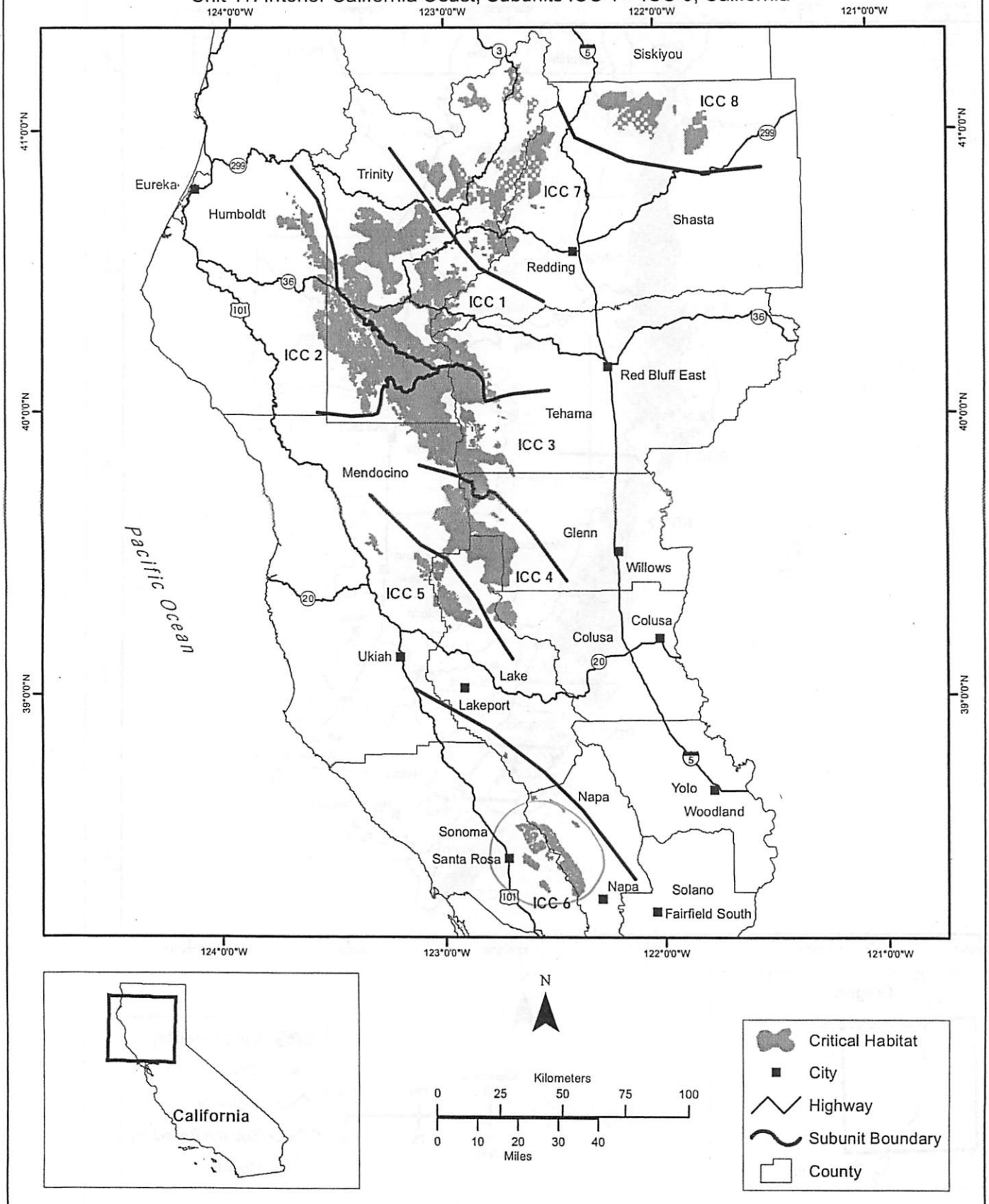
c. Because the activity center or adjoining area up to 500 feet from the activity center could be adversely altered, demonstrate how the proposed timber operations will avoid significantly impairing nesting behavior:

d. Because the ability to escape predators, survive severe weather, and find appropriate microclimes could be adversely altered, demonstrate how the proposed timber operations will avoid significantly impairing sheltering, which includes roosting, nesting, and feeding:


Critical Habitat for Northern Spotted Owl (Strix occidentalis caurina)
Unit 3: Redwood Coast, Subunits RDC 1 – RDC 5, Oregon and California
126°0'0"W
125°0'0"W
124°0'0"W
123°0'0"W
122°0'0"W
121°0'0"W
42°0'0"N
41°0'0"N
40°0'0"N
39°0'0"N
38°0'0"N
Curry
Josephine
Jackson
Klamath
Crescent City
Del Norte
Siskiyou
Yreka
Humboldt
Eureka
Weaverville
Trinity
Shasta
Redding
Red Bluff
Tehama
RDC 1
RDC 2
Mendocino
Glenn
Willows
Colusa
Lake
Ukiah
Lakeport
Sonoma
RDC 3
Yolo
Woodland
Napa
RDC 4
Santa Rosa
Solano
Fairfield
Marin
RDC 5
Pacific Ocean
Oregon
California
N
Kilometers
0
40
80
120
160
0
25
50
75
100
Miles
Critical Habitat
City
Highway
Subunit Boundary
County

Critical Habitat for Northern Spotted Owl (*Strix occidentalis caurina*)

Unit 11: Interior California Coast, Subunits ICC 1 – ICC 6, California



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, California 95521
Phone: (707) 822-7201 FAX: (707) 822-8411

In Reply Refer To:
AFWO-12B0102-12TA0192

JUN 22 2012

Dear Interested Party:

On March 8, 2012, the U.S. Fish and Wildlife Service (Service) proposed critical habitat for the northern spotted owl (*Strix occidentalis caurina*), a threatened species under the Federal Endangered Species Act (ESA), in California, Oregon, and Washington. The proposed rule has been published in the *Federal Register* (March 8, 2012) and can be obtained via the internet at http://www.gpo.gov/fdsys/pkg/FR-2012-03-08/pdf/2012-5042.pdf. The public-comment period for the proposed rule closes on July 6, 2012. The proposed rule revises our previous 2008 critical habitat designation. Property that you own has been proposed for critical habitat designation and is located in one of the two critical habitat subunits in Sonoma and Napa counties, which are described in the *Federal Register* notice.

We would like to invite you to an informational meeting to provide details, and be available for questions, concerning this proposal. We will hold informational meetings in Santa Rosa, on July 11; and in Ukiah, on July12, 2012. Driving directions are enclosed.

Time and Date:	July 11, 2012 (1:00 to 4:00 pm)
Location:	North Coast Regional Water Quality Control Board meeting room 5550 Skylane Boulevard, Santa Rosa, California
Time and Date:	July 12, 2012 (9:00 am to 12:00 pm)
Location:	Ukiah Chamber of Commerce Conference Center, Riesling Room 200 South School Street, Ukiah California

Pending our evaluation and responses to public comments on the proposed rule, we are scheduled to issue the final rule in November 2012. Please note that proposed or final designation of critical habitat does not set up a preserve or refuge, and has no specific regulatory impact on private landowners who take actions on their land, unless the action is funded, permitted, or authorized by a Federal agency. Two examples of how Federal agencies may fund or permit activities on private lands are disaster assistance grants from the Federal Emergency Management Agency (FEMA), and water quality permits issued by the U.S. Army Corps of Engineers (Corps). In both examples, the Federal agency, FEMA or the Corps, would be required under section 7 of the ESA to consult with the Service in regard to their proposed funding or permitting actions on private lands within designated critical habitat. These instances are likely to be uncommon, and thus this proposal may have little to no impact on your property.

We look forward to talking with you. If you have any questions, please contact John Peters, Fish and Wildlife Biologist at (707) 822-7201.

Sincerely,

Nancy J. Finley
Field Supervisor

cc:
Representative Lynn Woolsey
Representative Mike Thompson
California Forestry Association; Sacramento (Attn: Ed Struffenegger)
California Licensed Foresters Association (Attn: Matt Greene)
Land Trust of Napa County (Attn: Joel Tranmer)
Sonoma County Agricultural Preservation and Open Space District (Attn: Bill Keene)
Sonoma Land Trust (Attn: Ralph Benson)

Enclosure

Landowner	Sum_Acres
Van Eck Forest Trust	2085
Bohemian Club	939
Philbrick Family Trust et al	710
Joseph & Claudia Ayres	412
Wayne Miller	339
Duncan Mills Redwood Forest Enterprise, Russian River Redwoods	307
Chuck Hasty et al	295
Skaggs Tree Farm LLC	290
Paul, Mark & Dana Weir	258
Mt Gilead Bible Camp & Conference Ctr	229
North Coast Timberlands	226
Bernard Agrons	205
Biaggi Family Partnership	187
Parker Land & Timber Partnership	140
Charles & Vanna Bello	111
John Hutchinson	96
Stevens-Sherwood Ranch	90
Gift Ranch	89
Cooks Flat Assoc	86
Boy Scouts, Redwood Empire	81
SF Boys & Girls Club	73
Comptche Community Farm	59
Larry Chapman Family LP	54
Mary Comerio, Michael Teitz	52
Save the Redwoods League, Melvin Thompson	45
Douglas & Nancy McLelland	41
Tunzi Inc	39
Ernest Ohlson Jr	39
Lawrence Ford Family LLC et al	38
Anderson Enterprises et al	35
Robert Prior	35
Dan Carter	34
Treelands Ltd et al	29
Henry Smith	29
James & Karen Calvert, Calvert Family Trust	27
Victor & Dorothea Guynup	26
Jean Logan, Valerie Saifur, Carol Enos	26
Ellen & David Saxe	21
Margaret Macdonald	21
Robert & Berta Guthridge	19
Brice & Pat Martin, Table Rock Ranch Partnership	18
Weger Interests Ltd	18
Marc Jameson	18
City Garbage Co of Eureka	17
Steve & Alicia Galliani et al	17
Wallace & Geraldine Young	17

George Masterson	17
Maple Creek Ranch et al	17
Moore Trust	14
Cookson Ranch Foundation	14
Clyde Cummings	14
Anita Johnston et al	14
Thelma Ray	13
Ellen & David Saxe, Ronald Karish	13
Robert & James Kirk Trust, Charles Kirk	13
Scott Dunn Logging et al	13
Walsh Timber Corp	12
Randy MacMillan Logging	12
Whittaker Familly Trust, Robert Whittaker	12
Michael & Polly Sumner	12
Anderson Hinsch	12
Mary Tauzer	11
Alice Fashauer	11
Russ Wahlund et al	11
Edra & Mark Moore	11
McKee et al	11
Frank & Gary Trone	11
Richard & Howard Gilchrist	10
C C & V E Douglas Rev Family Living Trust	10
Elizabeth Runner	10
Duane & Karen Fredrickson, Erwin & June Fredrickson	10
Dennis Balassi et al	10
Scott Dunn Logging, William F Dunn Exemption	10
John H Swanson Family Trust	10
Karen Kahn	9
Perry Gulch Ranch	9
John & Claudia Lima et al	9
Jean & Anne DuVigneaud	9
Arthur Rasmason	9
Marion Van Cleave	9
Larry & Linda Burgh	9
Surprise Valley Ranch Inc, David & Kathleen King	8
Perry Ranch LLC et al	8
Orrs Springs Properties	8
Mullen Survivors Trust	8
Paul & Cheryl Grunden, Bob & Britt Grunden	7
Stephanie Pardini et al	7
Robert & Arlene Manzi	7
Ed Powers, Gregg Kulijian	6
Mable Jasper et al	6
James Timmons, Shark Hill Properties	6
BALU Inc	5
Sandra McKee et al	5

A & E Gray Estate	5
George, Aletta & Anne Hollister	5
Marshall Rousseau	5
Marjorie A Brundy Trust et al	5
Adrian Bruce	5
Paine Family Properties LP	5
Edra Moore	5
Grover & Pauline Taylor, James Smith	5
Don Jaunarena et al	5
Twyman Teasley, Betty Mae Teasley 1997 Trust	5
Lorenz Spring, Dale Spring	5
Donald & Brenda Phillips	5
Barbara Stewart Lindsay & Janice Tosten	5
Harvey Hoechstetter, Lari Shea	4
George Brightman	4
John & Susan Zeh, Patricia Claus	4
Bill Walsh	4
Maxine Bolt	4
George Patmore	4
Ribar Timberlands LP	4
Gonzalo Sanchez et al	4
City of Arcata	4
Leonard & Myrna Rousseau	4
Trees Inc dba Wages Creek	4
Paul Satterfield Jr, Raymond Coolidge	4
Richard Mitchell	4
Ronald Atkinson	4
George Apsley et al	4
John Koski, Doug Koski, David Koski, Linda Wilkins	4
Jeff & Laura Lewis	4
Frederick & Patricia Landenberger	3
Pete Bussman	3
4S Management et al	3
June Tassie	3
Dwight Crum et al	3
Eddie & Diana Mendes et al	3
Brent & Kelly Ehrhardt et al	3
Annemarie Dietzgen	3
McCloud Fly Fishing Club	3
Gerald & Gay Toroni	3
Carla & William Schneiderman	3
Bruce & Leslie Odelberg, Alan Odelberg	3
Trinidad LLC, Azalea Alliance LLC	3
William Jackson	3
Peter & Beatrice Coukoulis	3
Donald & Connie Campbell	3
Jonathan West et al	3

Kenneth & Rena Stiver, Sequoia XVII LLC	3
Joseph & Joanne Fashauer et al	3
H & B Tsarnas Family Trust	3
Robert Vanderbosch, Sarah OLeary	3
Robert & Sherie England	3
Frank Fulton	2
Richard Hawks	2
Skaggs Family Trust	2
Angelo & Eileen Pronsolino	2
Slack & Winzler Properties	2
Revocable Living Trust	2
Ivy Brashear, Barbara Robinson	2
Larry & April Erlei	2
Gary Ballard et al	2
Lyle Walker	2
Leendert & Kathryn DeVries	2
Lee Ulansey	2
Melbourne Berkeley Oakland, Tunzi Inc	2
R Patrick Scanlon, Robert Scanlon	2
Ross & Kaleen Fisher	2
Merle & Patricia Schreiner	2
Jack & Nancy Boone	2
Ralston Ross et al	2
George Weger	2
Terry & Linda Wold	2
Strickler et al	2
George Milton Cole	2
Alice Garrett	2
Bob & Britt Grunden, Paul & Cheryl Grunden	1
Windspirit Aum et al	1
Beth Van Sickle	1
Ken & Carlene Richardson	1
Kristine Reiber	1
Kenneth & Pamela Johnson	1
John B Pierson et al	1
Michael Torbert	1
Gerald & Mada McDonald	1
Robert Whittaker	1
Richard Herr et al	1
Joe & Jill Rice	1
L Harrison-Mackie, Jane Harris	1
Vern Buell	1
Jon Cook	1
Linney Family Trust	1
Sharon King	1
Plantation Forest	1
Steven Jacobs	1

Pacific Union College et al	1
Al & Wilda Mimms	1
Guido Pronsolino et al	1
Robert & Sarah Ballard	1
Warren Yager et al	1
Paul Soward	1
Survivors Trust U T D	1
Norman Burgess	1
Jack Rice	1
Babich Agricultural Trust	1
Stephen Arietta, Elizabeth Arietta, Albina Arietta	1
Donna Moxon	1
Paul & Kendra Kolling	1
County of Mendocino	1
Charlie & Lynn Lawrence	1
James & Marcia Joyce	1
Anthony Lucchesi, Jacoby Creek Land Trust	1
Anne Fashauer	1
Richard & Ginger Wells	1
Kantaer Bartis Trust	1
Kevin & Kim Berg	1
Ben & Tawny MacMillan	1
Robert Britt	1
Doris Spurlock	0
Little River Inn	0
Bibi Sillem	0
Robert & Margaret Dickerson	0
Dennis & Donna Possehn, Bruce Allen. Nora Summers	0
Doug Shears, Ulla Nielsen	0
Fred & Mary Corson, Corson Family LP	0
John & Jeanette Johnson	0
James & Helen Sansi, William Westfall	0
Bowman Family Trust et al	0
Kirby & Nancy Bay, Robert Eggel	0
Frank Iacuaniello	0
Robin & Steven Childs	0
Richard McClure Trust	0
City of Eureka	0
Stuart Titus, Steve Titus	0
Nicely Nicely Farms Inc	0
Linda Mercurio	0
Everett Liljeberg et al	0
Michael Hill	0
Drinkwater Rancho Laguna Family LP et al	0
Edson McCullough et al	0
BI Investments (Willow Brook)	0
Peter James & Alexandra Profant	0

David & Suzanne Brown	0
Barbara Duncan	0
Patrick Bartlett	0
Alice Fiscus Trust, Darrell Rogers	0
Bill Robelen	0
Forster-Gill Inc	0
Robert Ketchum	0
Sandra Booth	0
Forster-Gill Inc et al	0
Betty Hill	0
William Carlson	0
Nicholas King	0
Nolan-Benbow Inc	0
Alice Pawlus, RH Emmerson & Son LLC	0
Bohemia Ranch LLC, Bohemian Waterfall Park Estates LLC	0
Harry & Suzanne Babcock	0
Ray Pinoli	0
Galen Hathaway	0
Florence Scott, Brent Fox	0
Oscar Smith, Al & Wilda Mimms	0
Les & Linda Plack	0
Richard Cuneo, Mary Sebastiani Cuneo	0
Robert & Janet Grundman	0
Douglas Way	0

Northern Spotted Owl Activity Center

The current definition of "activity center" in 14 CCR § 895.1 is based on portions of the 1992 USFWS *Protocol For Surveying Proposed Management Activities That May Impact Northern Spotted Owls Survey Protocols* and a 2008 USFWS letter of technical assistance related to activity center abandonment. This term is not consistent with more recent USFWS survey protocols and other documents.

The following are sections of documents related to the current definition of "northern spotted owl activity center."

From 1992 USFWS Survey Protocol:

PAIR STATUS is established by any one of the following:

1. a male and female are heard and/or observed (either initially or through their movement) in proximity (<1/4/ mile apart) to each other on the same visit; or
2. a male takes a mouse to a female (see "mousing" clarification under GUIDELINES FOR DETERMINING REPRODUCTIVE STATUS); or
3. a female is detected (seen) on a nest; or
4. one or both adults are observed with young...

RESIDENT SINGLE STATUS is established by:

1. the presence or response of a single owl within the same general area on 3 or more occasions within a breeding season, with no response by an owl of the opposite sex after a complete survey; or
2. multiple responses over several years (i.e., 2 responses in year 1 and 1 response in year 2, from the same general area)...

TWO BIRDS, PAIR STATUS UNKNOWN is established by:

- The presence or response of 2 birds of the opposite sex where pair status cannot be determined and where at least 1 member must meet the resident single requirements...

DETERMINING UNOCCUPIED STATUS OF AN HISTORICALLY OCCUPIED SITE

- If no responses have been obtained from an historical site after 3 years of survey (using the guidelines established in this document), the site may be considered unoccupied, barring other evidence to the contrary.

From 5/28/08 USFWS Technical Assistance for Determination of Unoccupied and Abandoned Status for Northern Spotted Owl Sites:

> The Service does not rely solely on the "three surveys per year for three years" method described in the 1992 survey protocol to determine the status (unoccupied or abandoned) of a NSO activity center. For a given activity center, we estimate the likelihood of occupancy and the potential for re-occupancy of the site by NSO through the evaluation of the history of NSO surveys and status in the area, and the quality of recent surveys. Survey information is used, in combination with current habitat conditions and history of management activities, to determine the status of an individual NSO site.

The following is from *Northern Spotted Owl (NSO) Review Guidelines for Timber Harvesting Plans, Modified Timber Harvesting Plans, Program Timber Harvesting Plans, and Nonindustrial Timber Management Plans" (3-25-05)*, which was jointly developed by CAL FIRE and USFWS. The definition came from USFWS.

> **Activity Center**: means sites identified through surveys acceptable to USFWS resulting in either the presence of nesting, pair status or resident single status. The final determination of an activity center's status and location is at the discretion of USFWS.

The following are sections of current documents related to "activity center." The BOF may want to consider these if it chooses to amend the definition.

From 2011 NSO Survey Protocols:

> **Abandoned Activity Centers**: Activity centers that have been determined through appropriate analyses with state or federal agencies, as no longer likely to be supporting territorial owls due to habitat changes and/or long-term surveys with negative responses. Synonymous with abandoned historical spotted owl site.
>
> **Activity Center**: Spotted owls have been characterized as central-place foragers, where individuals forage over a wide area and subsequently return to a nest or roost location that is often centrally-located within the home range (Rosenberg and McKelvey 1999). Activity centers are a location or point representing "the-best-of detections" such as nest stands, stands used by roosting pairs or territorial singles, or concentrated nighttime detections. Activity centers are within the core use area and are represented by this central location.
>
> **Historical Site**: Spotted owl sites that contained territorial spotted owls in the past. For the purposes of this protocol, these spotted owl sites are considered a subset of known spotted owl sites (see glossary below).
>
> **Known Spotted Owl Site**: Includes both owl sites found during the current survey period and owl sites identified in previous years (historical site). Known spotted owl

2. Multiple responses over several years (e.g., 2 responses in year 1 and 1 response in year 2) from the same general area.

A resident single may represent a succession of single owls of either sex within the same general area in a single or multiple years. Determining if the responses occur within the same general area should be based on topography and the location of any other owls known for the surrounding area. This should be determined by the wildlife biologist for the particular area.

16.1.4 Status Unknown

STATUS UNKNOWN is the appropriate determination, following a complete survey, whenever the response of a male and/or female does not meet any of the above site status definitions.

From 2011 Revision of the Northern Spotted Owl Take Avoidance Analysis and Guidance for California Coast Forest District:

Activity center: Area of concentrated activity of either a pair of NSO or a single territorial NSO, represented by a mapped location (e.g., usually a nest tree) that occurs within, but not necessarily in the exact center of, the core area, defined below.

Core Area: 100 acres of the 200 acres of nesting-roosting habitat retained within a 0.7 mile radius contiguous with the activity center. If 100 acres of contiguous nesting-roosting is not available, then the highest quality habitat available shall be included.

Current FPR

895.1 Definitions

Activity Center means a known northern spotted owl site documented from detections, pursuant to the USFWS document "Protocol For Surveying Proposed Management Activities That May Impact Northern Spotted Owls" revised March 17, 1992.

(a) An activity center is established by:

(1) Resident Single Status is established by:

(A) The presence or response of a single owl within the same general area on three or more occasions within a breeding season, with no response by an owl of the opposite sex after a complete survey;

(B) Multiple responses over several years (i.e., two responses in year one and one response in year 2, from the same general area).

(2) Pair Status Unknown is where the presence or response of two birds of the opposite sex is detected but pair status cannot be determined and where at least one member must meet the resident single requirements.

(3) Pair Status wherein a male and female are heard and/or observed (either initially or through their movement) in proximity (less than one-quarter mile apart) to each other on the same visit; or a male takes a mouse to a female; or a female is detected on the nest; or one or both adults are observed with young.

(4) Unoccupied Status where no responses have been obtained from a previously identified northern spotted owl activity center after 3 years of survey, barring other evidence to the contrary.

An activity center with unoccupied status will not be considered an activity center when it has been evaluated and a determination made by the Director. The determination shall be based upon available information on survey history, habitat conditions within the home range, and changes to habitat that may have occurred since the northern spotted owl site was first identified.

1992 Protocol

PAIR STATUS is established by any of the following:

1) a male and female are heard and/or observed (either initially or through their movement) in proximity (< 1/4 mile apart) to each other on the same visit; or

2) a male takes a mouse to a female (see "mousing" clarification under GUIDELINES FOR DETERMINING REPRODUCTIVE STATUS); or

3) a female is detected (seen) on a nest; or

4) one or both adults are observed with young. Young alone do not define a pair because young barred owls look like young spotted owls until late in the summer.

o When unidentified calls are heard in the vicinity of a known spotted owl do not assume species identification of the unknown owl. Daytime follow-ups should be used to clarify these situations.

RESIDENT SINGLE STATUS is established by:

1) the presence or response of a single owl within the same general area on 3 or more occasions within a breeding season, with no response by an owl of the opposite sex after a complete survey; or

2) Multiple responses over several years (i.e., 2 responses in year 1 and 1 response in year 2, from the same general area).

o A resident single may represent a succession of single owls within the same general area in a single or multiple years.

Determining if the responses occur within the same general area should be based on topography and the location of any other owls known for the surrounding area. This should be determined by the wildlife biologist for the particular area. Radio-telemetry and banding data can also be used to aid in determining status of singles.

TWO BIRDS, PAIR STATUS UNKNOWN is established by:

- The presence or response of 2 birds of the opposite sex where pair status cannot be determined and where at least 1 member must meet the resident single requirements.

STATUS UNKNOWN is established by:

- The response of a male and/or female which does not meet any of the above category definitions.

1992 Protocol

OVERLAP OF NEW AREAS WITH AREAS SURVEYED IN THE PREVIOUS YEAR

- In cases where a survey area overlaps all or part of a previous year's survey area, a minimum of 3 visits should be completed for those areas covered by the previous year's surveys, and the new areas should be surveyed with either the 1-year or 2-year protocol (see DURATION OF SURVEYS)

DETERMINING UNOCCUPIED STATUS OF AN HISTORICALLY OCCUPIED SITE

- If no responses have been obtained from an historical site after 3 years of survey (using the guidelines established in this document), the site may be considered unoccupied, barring other evidence to the contrary.

2008 USFWS TA letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Yreka Fish and Wildlife Office
1829 South Oregon Street
Yreka, California 96097
Tel: (530) 842-5763 Fax: (530) 842-4517

IN REPLY REFER TO:

81333-2008-TA-0040

May 28, 2008

Mr. Chris Browder
California Department of Forestry and Fire Protection
P.O. Box 944246
Sacramento, California 94244-2460

Subject: Technical Assistance for Determination of Unoccupied and Abandoned Status for Northern Spotted Owl Sites

Dear Mr. Browder:

This is in response to your February 13, 2008, request for U.S. Fish and Wildlife Service (Service) technical assistance requesting clarification of the process the Service uses for determination of "unoccupied" and "abandoned" status for Northern Spotted Owl (*Strix occidentalis caurina*) (NSO) sites. You requested that the Service specifically address whether the survey requirements in the Service-endorsed NSO survey protocol (USFWS 1992) may be used to support a request for "abandoned" status for an historical NSO site.

Rigorous determination of the presence and status of NSO in the vicinity of proposed timber management projects is critical for avoiding take of listed species under Section 9 of the Endangered Species Act. If surveys fail to detect owls that are present (false negative) or if owls move into an area following surveys, the potential exists for timber harvest to result in take.

The Service does not rely solely on the "three surveys per year for three years" method described in the 1992 survey protocol to determine the status (unoccupied or abandoned) of a NSO activity center. For a given activity center, we estimate the likelihood of occupancy and the potential for re-occupancy of the site by NSO through the evaluation of the history of NSO surveys and status in the area, and the quality of recent surveys. Survey information is used, in combination with current habitat conditions and history of management activities, to determine the status of an individual NSO site.

Unoccupied Sites

The NSO survey protocol contains a provision that addresses the survey requirements for determination of "unoccupied" status at historic activity centers. This guidance (inserted below) does not address the permanence of unoccupied status (i.e., abandoned). Occupancy is an annual rate and is not equivalent to "abandoned," which is a permanent status. In addition, the guidance for unoccupied status, provided in the USFWS 1992 survey protocol, assumes strict adherence to the field methods described in the survey protocol. Service records have documented that this assumption is frequently not met in surveys conducted in support of timber harvest plans.

TAKE PRIDE IN AMERICA

RECEIVED
MAY 29 2008
REDDING
FOREST PRACTICE

From the 1992 *Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owls:*

Determining Unoccupied Status of an Historically Occupied Site:

- If no responses have been obtained from an historical site after 3 years of survey (using the guidelines established in this document), the site may be considered unoccupied, barring other evidence to the contrary.

New research information available on NSO site occupancy indicates that sites may be unoccupied (or NSOs fail to respond) for more than 3 years and then subsequently are utilized by nesting NSO. The Yreka Fish and Wildlife Office has records from our review of timber harvest plans where 3 or more years of surveys failed to detect NSO within historic sites, and where owls were then later determined to be present. In addition, it has been recently noted among NSO research biologists that NSO seem to exhibit reduced responses when barred owls are present.

Abandoned Sites

The NSO survey protocol does not contain a process to assist Service biologists in determining whether or not an activity center has been permanently abandoned. The Service utilizes available information on survey history, habitat conditions within the home range, and changes to habitat that may have occurred since the NSO site was first identified to reach a determination of permanent site abandonment.

Survey History

The Service evaluates historical survey information from the California Department of Fish and Game Northern Spotted Owl Database (database) and more recent survey information provided by the applicant (usually covering the previous 3 to 5 years). Information provided in the database provides the historical reference point for the year in which an owl was first detected, the subsequent amount of survey effort in the vicinity of the detection, an indication of the owl status at the site (pair, resident single, unknown), and may provide documentation of previous reproductive behavior at the site. The outcome of this evaluation is used by the Service to assist us in determining the likelihood that the site has provided for owl occupancy historically.

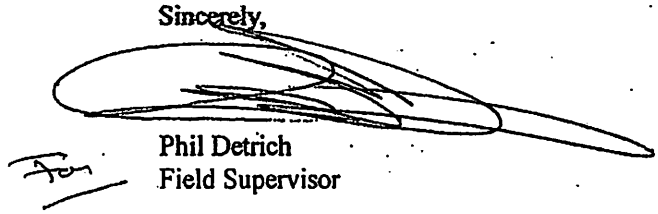
To further evaluate the likelihood of site abandonment by NSO, the Service requires more detailed survey information, usually spanning more than the previous 3 years. The Service requests maps of survey routes, aerial photos or digital imagery of the habitat within 1.3 miles of the historic site, data sheets of road and/or walk-in surveys, and any follow up visits that may have been completed. In many instances, the Service has requested that additional call points be added to improve coverage of the activity center out to 1.3 miles. In addition to night surveys, the Service has requested daytime stand searches of areas of nesting/roosting habitat within 0.7 mile of the historic location.

In some cases, our evaluation of the survey history reveals that NSO have not abandoned the historic activity center, but have moved to an alternate nest site within their core area or home range. Territorial NSOs may shift nest areas in response to habitat changes; presence of predators or competitors such as great horned owls, northern goshawks, or barred owls; or other factors. In these cases, the original nest area is not considered "abandoned," it is simply part of the nesting habitat used over time by the NSO.

Home Range Condition
The 2004 NSO 5-Year Review summarized information from a number of NSO studies that found that the majority of these studies, throughout the species range, suggest a correlation between the amount of mature and old-growth forests and the probability of NSO occupancy in a landscape. Service staff in Yreka Fish and Wildlife Office use the new information contained in these studies, in combination with our descriptions of quality and amounts of habitat for the interior Klamath province, to evaluate the likelihood that an historical NSO site will continue to support occupancy by NSO. Both field review and aerial photo interpretation are necessary to evaluate whether or not the current condition of the NSO site appears to contain the types, distribution, and amounts of habitat found in occupied sites on both federal and non-federal lands. In particular, the Service considers whether previous timber harvest operations or other events have resulted in recent changes in suitable NSO habitat that may have caused NSO to move to alternate nesting habitat, or rendered the home range unsuitable for occupancy.

In summary, the Service does not concur that the sole use of 3 years of protocol surveys is appropriate to determine permanent abandonment of historic NSO sites. There is no single, reliable criterion that can be used to make this determination. Rather, the combined evaluation of habitat conditions, survey results, and survey quality may be used to support determination of abandoned status.

Sincerely,



Phil Detrich
Field Supervisor

cc:
Vicki Campbell, Region 8, Sacramento, CA
William Schultz, CAL FIRE, Redding, CA

2005 NSO Guidelines

harvest habitat determinations, thereby avoiding potential delays following plan approval.

4. A copy of the most recent Northern Spotted Owl database inquiry and results for the proposed plan, including the date and version utilized.

5. In the absence of an Incidental Take Permit (ITP), protection measures proposed in the plan should be designed to avoid take. CDF recommends inclusion of the following protection measures for avoidance in each plan. These protection measures may be modified to provide equal or greater protection through subsequent technical assistance with USFWS.

Activity Center: means sites identified through surveys acceptable to USFWS resulting in either the presence of nesting, pair status or resident single status. The final determination of an activity center's status and location is at the discretion of USFWS.

Recommended Protection Measures to Avoid Take

In the absence of authorized take under the terms of an approved Habitat Conservation Plan, the following recommended protection measures should be incorporated into the plan to avoid take of NSO:

Recommended Habitat Protection Measures

(a) The habitat protection zone for NSOs shall consist of the area within 1000 ft. radius of a tree, or trees, containing a nest or supporting an activity center.

(b) No timber operations shall occur within a 500 ft. radius of an NSO activity center, and the habitat qualities of functional nesting habitat will be maintained within the area between the 500 ft. radius and 1000 ft. radius of an NSO activity center.

(c) A minimum of 500 acres of suitable NSO habitat shall be retained within an area out to 0.7 mile, surrounding a tree, or trees, containing a nest or supporting an activity center. Less than 50% of the retained area may be operated on in any given year, depending on the amount of pre-harvest suitable NSO habitat present within 0.7 mile of the tree, or trees, containing a nest or supporting an activity center.

(d) A minimum of 1,336 acres of suitable NSO habitat shall remain post harvest within the area out to 1.3 miles surrounding a tree, or trees, containing a nest

2011 Protocol

Appendix 1. Glossary of Terms

Many of these terms have a long history and various meanings in regard to spotted owl biology and management. This glossary defines the context in which they are used in this document.

Abandoned Activity Centers: Activity centers that have been determined through appropriate analyses with state or federal agencies, as no longer likely to be supporting territorial owls due to habitat changes and/or long-term surveys with negative responses. Synonymous with abandoned historical spotted owl site.

Activity Center: Spotted owls have been characterized as central-place foragers, where individuals forage over a wide area and subsequently return to a nest or roost location that is often centrally-located within the home range (Rosenberg and McKelvey 1999). Activity centers are a location or point representing 'the best of' detections" such as nest stands, stands used by roosting pairs or territorial singles, or concentrated nighttime detections. Activity centers are within the core use area and are represented by this central location.

Activity Center Search: Stand searches of any known or historical core use areas that are within the survey area perimeter. (See Section 8.0 for specific guidance on methods to conduct these searches).

Additional Visits: Supplemental visits needed to locate and determine spotted owl pair status or reproductive status. May also be necessary to determine species of unknown Strix owl responses.

Adult: A northern spotted owl $\geq$ 2 years old.

Breeding Season: The time period from 1 February through 31 August that includes courtships, nesting, nestling and fledgling dependency periods. This time period may vary by geographic locale.

Calling Route: An established route within a survey area where recorded calls of northern spotted owls are used to elicit a response.

Calling Stations: Point locations used to conduct surveys, distributed throughout an area so as to attain complete coverage of spotted owl habitat within the survey area.

Complete Coverage: Complete coverage of suitable owl habitat is obtained when the calling stations have been located within a survey area so that a northern spotted owl anywhere in the survey area would be able to hear surveyors and vice-versa.

Complete Visit: A complete visit occurs when all calling stations or calling routes within a survey area have been called with the seven day period, including daytime follow-up surveys for all spotted owl responses. See Section 5.5 for specifics.

Complete Survey: Complete coverage of suitable habitat throughout the survey area that

consists of two years of six visits per year, including activity center searches, and, if appropriate, spot checks and additional activity center searches in years 3 and 4, as described in section 10.0 and 8.0 respectively.

Core Use Area: An area of concentrated use within a home range that receives disproportionally high use (Bingham and Noon 1993), and commonly includes nest sites, roost sites, and foraging areas close to the activity center. Core use areas vary geographically, and in relation to habitat conditions. This is a biological definition of core use area and is not the same as a 70-acre core as defined by the Oregon Forest Practices Act nor is it equivalent to the 100acre LSRs referred to as NSO cores on federal lands.

Daytime Stand Searches: Optional. *The objective is to search habitats most likely to contain roosting or nesting spotted owls.* A daytime stand search should cover nesting/roosting habitat within the project area.

Dispersal Habitat: Juvenile owls often must disperse through a range of forest types prior to finding habitat on which to establish a territory. These forest types include nesting, roosting, and foraging habitat in addition to other forest stand types that provide minimum diameter and canopy closure of trees. Definition of this habitat type vary by physiographic province.

Fledgling: Young of the year that are off of the nest.

Follow-up Outing: Follow-ups are conducted with an intensive search of spotted owl habitat within the general vicinity (approximately a 0.5-mile radius) of the response location -that prompted the follow-up. (See Section 6.0 for recommended methodology for conducting these searches).

Foraging Habitat: Foraging habitat is defined as habitat that provides foraging opportunities for spotted owls, but without the structure to support nesting and roosting (USFWS 1992*b*). Owls often forage in forest conditions that meet the definition of nesting/roosting habitat, but also use a broader range of forest types for foraging. This definition identifies habitat that functions as foraging habitat, but does not meet requirements for nesting /roosting

Habitat-capable area: Forests below the elevation limits of occupancy by territorial spotted owls that are capable of growing and sustaining structural (Davis and Lint 2005:30) and ecological conditions of spotted owl habitat.

Habitat Modification: Activities that occur in spotted owl nesting, roosting, or foraging habitat that reduce the canopy or other elements of spotted owl habitat at the stand-level. Wildlife biologists with the appropriate federal and state agencies may be able to provide technical assistance assessing these types of effects.

Historical Site: Spotted owl sites that contained territorial spotted owls in the past. For the purposes of this protocol, these spotted owl sites are considered a subset of known spotted owl sites (see glossary below).

2011 Protocol

Home Range: The area in which a spotted owl conducts its activities during a defined period of time (USFWS 1992b) that provides important habitat elements for nesting, roosting, and foraging. Home range sizes vary generally increase from south to north and vary in relation to habitat conditions and prey availability and composition

Juvenile: A northern spotted owl is considered as juvenile age class in the first 5 months after hatching. Juveniles 1 to 3 months old are very white with downy plumage over all of the body or evident on breast and head; at 4 to 5 months old, juvenile begin losing downing plumage.

Known Spotted Owl Site: Includes both owl sites found during the current survey period and owl sites identified in previous years ('historical site). Known spotted owl sites include both the activity center and the area surrounding concentrations of 'the best of' detections such as nest stands, stands used by roosting pairs or territorial singles, or areas of concentrated nighttime detections.

Mousing: Mousing describes the act of offering prey items to spotted owls. The purpose of mousing spotted owls is to determine pair status and/or reproductive status. A male spotted owl may take a prey item to an unseen female; likewise, adult owls may take prey items to unseen young.

Nest: Northern spotted owls use broken-topped trees, old raptor nests, witches brooms, cliff ledges, mistletoe brooms, and tree cavities for nests. A spotted owl must be observed using the structure or have mice taken to a nesting female positively identified in the structure to designate a nest tree.

Nesting and Roosting Habitat: Habitat that provides nesting and roosting opportunities for spotted owls. Important stand elements may include high canopy closure, a multi-layered, multi-species canopy with large overstory trees and a presence of broken-topped trees or other nesting platforms (*e.g.*, mistletoe clumps (USFWS 1992*b*). The appearance and structure of these forests will vary across the range of the spotted owl, particularly in the dry-forest provinces.

Nestling: A young owl that is still in the nest.

Northern Spotted Owl (*Strix occidentals caurina*): One of three subspecies of spotted owl that ranges from southern British Columbia, Canada, through western Washington and Oregon, and into northwestern California. Listed as a threatened species by the U.S. Fish and Wildlife Service.

Physiographic Province: a geographic area having a similar set of biophysical characteristics and processes because of the effects of climate and geology that result in patterns of soils and broad-scale plant communities. Habitat patterns, wildlife distributions, and historical land use patterns may differ significantly from adjacent provinces.

Project Area: The polygon that forms the perimeter (footprint) of the proposed project. (Refer to Section 3.1 for specifics on determining the polygon).

2011 Protocol

sites include both the activity center and the area surrounding concentrations of "the-best-of detections" such as nest stands, stands used by roosting pairs or territorial singles, or areas of concentrated nighttime detections.

Nest: Northern spotted owls use broken-topped trees, old raptor nests, witches brooms, cliff ledges, mistletoe brooms, and tree cavities for nests. A spotted owl must be observed using the structure or have mice taken to a nesting female positively identified in the structure to designate a nest tree.

16.0. DETERMINING ACTIVITY CENTER STATUS

Depending on the use for which the survey data will be applied, determining the occupancy/reproductive status of sites may be necessary. This section provides guidance on the appropriate techniques to collect necessary information, and in correctly interpreting that information, to make the relevant determination. Verify the activity center status according to the following definitions (status visits can be day or night). The definitions may be somewhat different from the status definitions outlined in the density/demography survey guidelines, due to the different objectives of the guidelines for surveying proposed management activities.

16.1 Determining Resident/Territorial Spotted Owl Pairs or Singles

The following subsections for determining if an activity center is occupied by a territorial pair, and pair with status unknown, a resident single, or status unknown.

16.1.1 Territorial Pair Status.

Any one of the following criteria establishes *TERRITORIAL PAIR* status:

1. A male and female are heard and/or observed (either initially or through their movement) in close proximity (< ¼ mile apart) to each other on the same visit; or
2. A male takes a mouse to a female (see "mousing" clarification under section 15.0 or REPRODUCTIVE SUCCESS SURVEYS 17.5); or
3. A female is detected (seen or heard) on a nest; or
4. One or both adults are observed with young; or
5. Young identifiable based on plumage characteristics observed late in the season by knowledgeable surveyors or young identifiable based on molecular data.

16.1.2 Two Birds/Pair Status Unknown.

The presence or response of 2 birds of the opposite sex where pair status cannot be determined and where at least 1 of the owls meets the resident single requirements establishes TWO BIRDS, PAIR STATUS UNKNOWN.

16.1.3 Resident Single Status

RESIDENT SINGLE STATUS is established by any one of the following criteria:

1. The presence or response of a single owl within the same general area on 3 or more occasions within the breeding season, with no response by an owl of the opposite sex after a complete survey; or

2011 Protocols

1. A male and female are heard and/or observed (either initially or through their movement) in close proximity (< ¼ mile apart) to each other on the same visit; or
2. A male takes a mouse to a female (see "mousing" clarification under section 15.0 or REPRODUCTIVE SUCCESS SURVEYS 17.5); or
3. A female is detected (seen or heard) on a nest; or
4. One or both adults are observed with young; or
5. Young identifiable based on plumage characteristics observed late in the season by knowledgeable surveyors or young identifiable based on molecular data.

16.1.2 Two Birds/Pair Status Unknown.
The presence or response of 2 birds of the opposite sex where pair status cannot be determined and where at least 1 of the owls meets the resident single requirements establishes *TWO BIRDS, PAIR STATUS UNKNOWN.*

16.1.3 Resident Single Status
RESIDENT SINGLE STATUS is established by any one of the following criteria:

1. The presence or response of a single owl within the same general area on 3 or more occasions within the breeding season, with no response by an owl of the opposite sex after a complete survey; or
2. Multiple responses over several years (e.g., 2 responses in year 1 and 1 response in year 2) from the same general area.

A resident single may represent a succession of single owls of either sex within the same general area in a single or multiple years. Determining if the responses occur within the same general area should be based on topography and the location of any other owls known for the surrounding area. This should be determined by the wildlife biologist for the particular area.

16.1.4 Status Unknown
STATUS UNKNOWN is the appropriate determination, following a complete survey, whenever the response of a male and/or female does not meet any of the above site status definitions.

17.0 DETERMINING NESTING & REPRODUCTIVE STATUS

Reproductive surveys are usually conducted to determine if breeding season restrictions intended to protect nesting owls can be lifted.

Reproduction surveys include two stages: nesting status and reproductive success. The following is the recommended protocol for determining reproductive status of spotted owls. Reproduction surveys may provide information on nest tree locations which provide the most relevant management (activity) center locations.

17.1 Nesting Status Surveys

Nesting Status Surveys should be done whenever it is necessary to determine if spotted owl may be nesting. The following criteria determine appropriate timing and procedures for

Attachment A

II. Definitions

This section defines several terms used in the analysis of take avoidance of the NSO within the coast redwood ecotype of the Coast District (additional terms are defined within the protocol guidance documents, referenced above):

Activity Center (AC): Area of concentrated activity of either a pair of NSO or a single territorial NSO, represented by a mapped location (e.g., usually a nest tree) that occurs within, but not necessarily in the exact center of, the "Core Area," defined below.[2]

Core Area: 100 acres of the 200 acres of Nesting/Roosting habitat retained within a 0.7 mile radius contiguous with the Activity Center. If 100 acres of contiguous Nesting/Roosting is not available, then the highest quality habitat available shall be included.

Foraging Habitat: Habitat that contains ≥40% canopy cover of trees that are ≥ 11" DBH (diameter at breast height), and have a basal area ≥75 square feet per acre of trees ≥ 11" DBH. Trees may be conifer or hardwood.

Nesting/Roosting Habitat: Forested habitat that supports successful nesting and associated roosting behavior by NSO. Habitat with ≥60% canopy cover of trees that are ≥ 11" DBH, and have a basal area ≥ 100 square feet per acre of trees ≥ 11" DBH. Trees may be conifer or hardwood.

Nesting/Roosting Polygon: All Nesting/Roosting habitat which is contiguous with an NSO Activity Center.

NSO Breeding Season: Defined as February 1 to July 31 within the coast redwood ecotype found in the Coast District of California.

NSO Home Range: Defined as a 0.7 mile radius circle centered on the Activity Center for the coast redwood ecotype found in the Coast District.

Suitable or Functional Habitat: Habitat that meets either Nesting/Roosting or Foraging definitions, or a combination of Nesting/Roosting and Foraging habitat.

Survey Area: All Suitable/Functional NSO habitat within 0.7 mile from the project boundaries; or for disturbance only activities, a 0.25 mile area outside the edge of the project should be surveyed.

Survey-Start Date: In the coast redwood ecotype, Coast District, NSO Surveys should start on or after March 1.

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[2] NSOs have been characterized as central-place foragers, where individuals forage over a wide area and subsequently return to a nest or roost location that is often centrally-located within the home range (Rosenberg and McKelvey 1999).