

**Request for Proposals**  
**Los Padres National Forest Spotted Owl Protocol Surveys**  
**Los Padres National Forest, California**

**Background and Statement of Work:**

The purpose of the project is to determine the presence/absence and reproductive status of Federally Proposed Endangered California Spotted Owls (CSOW) in pre-identified areas of suitable habitat on the Los Padres National Forest (LPNF) during the 2025-28 breeding seasons. This information will be used by the LPNF for project planning and for contributing the long-term dataset of occupancy and reproduction of this species on the LPNF.

The Contractor will perform surveying, monitoring, and related activities of California Spotted Owl Territories on the Los Padres National Forest during the 2025-2028 breeding season, in compliance with the contract terms, specifications, and provisions. This includes furnishing all necessary personnel, labor, materials, equipment, supervision, transportation, operating supplies, and incidentals not otherwise provided by the government.

**Information Requested**

If interested in submitting a bid for this project, please provide a proposal for the above statement of work by providing:

- technical approach
- work experience
- cost
- capacity for this project
- experience in similar projects

Specific requirements are detailed below.

**I. PROJECT OVERVIEW AND REQUIREMENTS**

**General Specifications**

(a) Description of Work – This Request for Proposals is for restoration services related to California spotted owl surveys, including the following:

1. Pre-Work Coordination
2. California Spotted Owl Surveys
3. Weekly coordination meetings and/or weekly survey data submission

The Contractor shall identify what they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work described. The Contractor shall perform all work in a safe and conscientious manner.

- (b) Project Location – The contract area is located on the Los Padres National Forest. Survey areas include select parts of the Mt. Pinos, Santa Lucia, Monterey, Ojai and Santa Barbara Ranger Districts. (San Luis Obispo, Santa Barbara, Ventura, Monterey, and Kern Counties). See Appendix B: Maps for specific locations.

All work areas may be reached by driving on standard Forest Service roads, by driving on four-wheel drive roads, and/or by walking. Walking distances will vary by territory location and presence of owls. The Government will not provide special maintenance or snowplowing to keep roads open. The Government will provide gate keys to the contractor, if needed, to be returned upon completion of work. Contractor will be responsible for securing permissions across privately-owned lands, where necessary.

During spring 2025, survey areas will prioritize locations where fuels work is planned to occur. These include areas near East and West Camino Cielo, Ojai, Tecuya Ridge, Frazier Mountain, Mount Pinos, and some areas outside of Monterey,

- (c) Work Schedule – Work will begin in Spring 2025 and will continue through Fall 2028.

### **Other Project Requirements and Specifications**

- I. Utilities – In many locations there will be no or limited sanitation, water, electrical or housing services available. The Contractor shall make its own arrangements for temporary facilities if needed.
- II. Specifications – Project work shall be accomplished in accordance with the following:

### **Equipment**

Contractor will supply all equipment necessary for protocol surveys as listed described in Appendix A. This equipment includes but is not limited to vehicles, USGS topo maps, equipment to play and record calls, binoculars, field guides, GPS units, survey forms, clipboard and permanent waterproof ink pen and aerial photographs.

### **Surveyor Qualifications**

Work shall be performed only by qualified spotted owl surveyors with previous experience in conducting such surveys. The contractor is responsible for submitting resumes of the crew leader and crew members to the CO/COR for approval by the LPNF. The resumes must include references with phone numbers or emails of well-known and accomplished birders who can verify the surveying biologist's knowledge of CSOW field biology and expertise in surveying for these species. If expertise cannot be verified, bids will not be considered.

## **Pre-work Meeting and Coordination**

A pre-work meeting with the LPNF wildlife biologists and CO/COR will be required prior to commencement of fieldwork. The purpose of this meeting is to ensure a clear understanding of the scope of the contract, technical specifications, documentation requirements, and inspection schedules. This mandatory meeting will take place either at the Forest's supervisor's office in Solvang, CA or via a teleconference.

The Contractor shall review maps of survey areas and prioritize work plans according to habitat, terrain, access, and priority numbers on the maps. A written work plan with a schedule of survey dates and map of planned survey transects for the areas specified shall be supplied by the Contractor to the CO/COR before field work begins.

Unless otherwise stated, the Contractor's project leader shall communicate with the CO/COR first. The CO/COR will relay requests/information to Forest Service personnel and will inform the Contractor as to when they can contact Forest Service specialists without going through the CO/COR.

## **Field Surveys and Weekly Reporting**

Surveys shall be performed in sufficient depth and in a manner that conforms to the protocol (Appendix A and Appendix C). Phone or video calls shall be held at least weekly during the field season between the Contractor and the CO/COR to discuss work completed to date. During each weekly phone call the Contractor shall address the following:

- Spotted owl responses, nest locations found or not found, and areas surveyed.
- Any other biological observations of significance such as sightings of rare species.
- Any problems encountered during survey.
- Suggestions.
- Results and status of surveys and if on schedule.

Contractor shall submit electronic files weekly to CO/COR documenting dates on which territories were visited and results of surveys. This may substitute for weekly phone calls if agreed to by CO/COR. The Contractor will utilize the form in Appendix D - Data Submission Template for reporting.

## **Government-furnished Property**

The Government will deliver to the Contractor the following listed materials, supplies, property, and/or services (hereinafter referred to as "Government-furnished property"). The Contractor shall be liable for all loss or damage of such Government-furnished property until completion and final acceptance of all work required under the contract. Submission of a Proposal will indicate that you agree to the Transfer of Government property upon acceptance of Government-furnished property. All Government-furnished property will be given to you in person.

- Keys to Forest Service gates (if necessary)
- A letter from the Forest stating that you are performing biological work for the LPNF (to be provided at onset of work).

- USFS “Administrative Passes,” allowing contractor to park vehicles on USFS lands (to be provided at onset of work).
- Data and NRM spreadsheet in electronic files.

### **Permits and Responsibilities**

The Contractor shall, without additional expense to the NFF, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occurs because of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work that may have been accepted under the contract.

### **Site Investigation and Conditions Affecting the Work**

1. The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to:
  - a. Conditions bearing upon transportation
  - b. Uncertainties of weather, river stages, tides, or similar physical conditions at the site
  - c. The conformation and conditions of the ground
  - d. The character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the NFF or Forest Service, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the NFF or Forest Service.
2. The NFF and Forest Service assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the NFF or Forest Service. Nor does the NFF or Forest Service assume responsibility for any understanding reached or representation made concerning conditions that can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

### **Insurance Requirements**

Upon selection of the winning bid, the Contractor agrees that it has and shall maintain the following insurance coverage indicated below. The effective date of all coverage shall precede the start of any work.



- a. State minimum workers' compensation insurance coverage for its employees, if any.
- b. Broad form general liability, property damage, and automotive liability insurance in the minimum amount of \$1,000,000 for bodily injury, death, or damage to property of any person and \$2,000,000 for bodily injury, death, or damage to property of more than one person. The Contractor shall name NFF an Additional Named Insured and provide NFF with a certificate of insurance evidencing such coverages, prior to the initiation of the Scope of Services.
- c. If the Scope of Services includes professional services as identified herein, Contractor shall also provide professional errors and omissions liability insurance. Professional services for purposes of this section include, but are not limited to performing architecture, engineering, landscape architecture, land surveying or planning, preparation and signing or stamping of drawings, maps, surveys or construction specifications, or design and development of computer software, programs or websites by the Contractor or by subcontractors on behalf of the Contractor, for which professional liability insurance would typically be required. The minimum coverage limits required are \$1,000,000 for each claim and \$1,000,000 annual aggregate.

### **Prohibited Telecommunications Services and Equipment**

The Contractor is responsible for compliance with the prohibition on certain telecommunications and video surveillance services or equipment identified in 2 CFR 200.216.

### **Payment/Performance Security**

Contractor shall post cash, a letter of credit, bond, or other financial security that is easily convertible into cash in a form acceptable to the NFF, in its sole determination, to assure completion of the work required under any subsequent agreement and payment of all amounts lawfully due to all persons supplying or furnishing to the Contractor or Contractor's subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. Contractor may incorporate required associated costs into mobilization costs or other approved expenses.

- a. Work that is classified as construction in accordance with the Miller Act or Little Miller Act or if required per conditions of the funding source, payment and performance bonding will be required in the full amount of any Agreement. For the purposes of this Request for Proposal, construction is defined as "any contract greater than \$100,000 for the construction, alteration, or repair of any public building or public work where the federal government is the owner", or
- b. If Contractor is not self-performing at least 85% of the total contract value or if the cost of materials is in excess of the larger of \$100,000 or 50% of the contract total, payment and performance bonding will be required in the full amount of the agreement, or
- c. If the value of the agreement is in excess of \$250,000, Contractor will be required to post financial security in a form acceptable to the NFF in the amount of 5% of the total agreement value up to \$250,000 in total financial security.

**Federal Exclusion Verification**

The selected Contractor will be required to affirm that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

**Federal Flowdown Provisions**

Flowdown Requirements: Any Agreement associated with this RFP may be subject to flowdown requirements under associated federal or state funding agreements, which are included and made part of by this reference (see Appendix E Federal Flowdowns).

**II. REQUIRED COMPONENTS**

**Technical Proposal**

Please provide a detailed technical approach to the work.

**Contractor Qualifications**

- I. Past Experience – Please provide a brief explanation of previous work experience with land management agencies.
- II. References – Please provide three professional references that can speak to past performance.

**Pricing Schedule**

Contractor shall price work according to the schedule below. For the Survey item we would like contractors to submit a rate per day with a not to exceed amount.

	<b>Task/Item</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Extended Cost</b>
(a)	California Spotted Owl Surveys			
(b)	Reporting			
			<b>Total Bid</b>	

**III. SUBMISSION, EVALUATION, AND CONTACTS**

**Contractor Selection Process**

This is a request for proposals only and bids furnished are not offers from the National Forest Foundation. This request does not commit the National Forest Foundation to pay any costs incurred in the preparation or submission of the proposal or to contract for supplies or services.

The NFF will use the Evaluation Factors below to review each submitted bid. Based on the outcomes of that selection process, the NFF will notify successful and unsuccessful bidders by January 5, 2025 and will prepare a separate contract document.

## Evaluation Factors and Relative Importance

The following criteria will be used in the evaluation of submitted proposals, ordered from highest weighting (level 3) to lowest weighting (level 1).

### Level 3 Criteria

- Price / cost
- Equipment and contractor capability
- Timing of when contractor can begin and/or finish the project
- Past performance, references, and USFS feedback

### Level 2 Criteria

- Technical proposal / proposed approach to project
- Overall strategic benefits to meeting NFF goals and grant needs, requirements, and timelines

### Level 1 Criteria

- Benefits to the local community
- Relationship to local community

## Point of Contact

Please submit any questions about the project in writing to the Point of Contact.

Michelle Daneri  
National Forest Foundation Southern California Program Senior Associate  
[mdaneri@nationalforests.org](mailto:mdaneri@nationalforests.org)

Responses will be shared with known interested parties by email or otherwise posted at <https://www.nationalforests.org/rfp>.

## Bid Submission

Submit bids via email to [mdaneri@nationalforests.org](mailto:mdaneri@nationalforests.org) by December 17, 2024.

## Equal Opportunity Provider

In accordance with Federal law and U.S. Department of Agriculture policy, the National Forest Foundation is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs, or disability.

I received several questions about the proposed CASPO Surveys. Please note the answers are in bold text:

1. Can you provide an acreage total of suitable habitat to be surveyed in each of the survey areas? Or do you have a project area total for habitat to be surveyed? **The Los Padres NF is currently working to provide an area measurement for the habitats to be surveyed. A rough estimate will be available in the near future.**

2. Can we assume that all of this habitat will be surveyed over the 4 years of the project? If not, on what survey effort should we base our estimate of the not to exceed cost? **Yes, the goal is to complete survey all of the habitat for the subset of the fuels projects that are slated for implementation. If your group cannot complete that work we would consider hiring an additional contractor.**

3. Will all areas be surveyed over 2 years using the 2yr or half protocol (3 surveys/year) or will we be surveying any habitat areas with the one-year protocol (6 surveys)? **We are planning to use the 2-year method for all surveys.**

## **Appendix A**

### **CALIFORNIA SPOTTED OWL PROTOCOL SURVEYS**

#### **Technical Summary**

The Contractor shall complete the following:

1. Conduct protocol surveys within suitable habitats in the designated areas for California spotted owl, as identified in Appendix B maps. This contract is to be executed over multiple years from 2025 to 2028.
2. Prepare and submit Yearly Reports and a Final Report on the status of the survey results (the final report to be submitted on or before September 30, 2028).

#### **Methods**

The Contractor will use survey methodology as described within the attached 2011 Northern Spotted Owl Survey Protocol (Appendix C). While the 2011 methodology highlights specifically the northern spotted owls (*Strix occidentalis caurina*), the procedures are nevertheless applicable for the California spotted owl on the Los Padres National Forest for this particular contract. As with previous versions, this survey protocol is used to promote consistent and scientifically rigorous procedures to survey for spotted owls in areas where management activities may remove or modify spotted owl nesting, roosting or foraging habitat (excluding areas defined as dispersal habitat). This protocol can also be applied to activities that disrupt essential breeding activities and to activities that may injure or otherwise harm spotted owl other than through habitat modification (e.g., noise disturbance, smoke from prescribed fire).

As with previous versions, the use of the 2011 Protocol serves two primary purposes:

1. Provide a methodology that results in adequate coverage and assessment of an area for the presence of spotted owls.
2. Ensure a high probability of locating resident spotted owls and identifying owl territories that may be affected by a proposed management activity, thereby minimizing the potential for unauthorized incidental take.

#### **Identifying the Project and Study Areas**

The area on the Los Padres National Forest where Protocol Surveys will be conducted are identified in Appendix B.

#### **Survey Period**

Occupancy surveys (call station visits) are conducted between February 1 and April 1, but may occur as late as August 15 if initial visits yield no positive detections. Nesting status visits are conducted between April 1 and June 1. Reproductive success visits are conducted between May 15 and August 15. Three total visits need to be completed each year over a two-year

period, preferably with one visit per survey period. See Appendix C for more information on timing and types of visits.

### **Qualified Personnel/Biologists**

Work is to be performed only by qualified spotted owl surveyors with previous experience. See specifications in Request for Proposals (RFP.)

### **Survey Documentation**

Document surveys in the following manner:

1. A CSOW Daily Log as provided to the contractor by the Forest Service upon award of the contract.
2. Completed NRM Wildlife Data Form – Wildlife Observation Tab (Appendix D). This tab must include the list of animals observed during each survey that meet one or more of the following:
  - a. target species – CSOW
  - b. Forest Service Sensitive or LPNF Watchlist wildlife species
  - c. any other federally- or state-listed wildlife species
  - d. wildlife sited of interest observed including raptor nests, animal dens, breeding sites, etc.
  - e. non-native plants or animals
3. Completed CNDDDB forms for each California special animal and its location with dates each was observed.

A written report on findings that minimally includes:

1. Summary of each survey conducted (date, surveyor, etc)
2. Embed representative photos of occupied habitat and nest sites into the written report.
3. Summary of findings (survey efforts, occupancy status, nesting status, and reproductive status for each territory).
4. Nest tree information (species, dead/living, height, diameter-at-breast-height, nest type, GPS coordinates of tree, etc.).
5. Where surveys are conducted in areas recently impacted by fire, provide a summary of post-fire habitat conditions for each fire-affected territory and an assessment of whether near-future occupancy surveys are warranted.
6. Incidental species list and locations for all other wildlife species noted in the area (including common species).
7. If non-native plants or animals are observed during surveys, the report will contain an appendix table with the names, locations, and dates. Embedded photographs should be included if possible.

8. Coordinates of target species observation locations (if any; to include adults, juveniles, and nest sites).
9. Copies of raw field notes and/or CSOW Daily Log (provided to contractor once the contract is awarded) taken during the monitoring study.
10. A discussion of monitoring results and comparison to past territory occupancy and productivity at the same sites.

## **DELIVERABLES**

### **Weekly Coordination**

As noted in the RFP, communication (phone call or email) shall occur at least weekly during the field season between the Contractor and the CO/COR to discuss work completed to date.

During each weekly phone call the Contractor shall address the following:

1. Spotted owl nest locations found or not found and areas surveyed.
2. Any problems encountered during survey.
3. Suggestions.
4. Results and status of surveys and if on schedule.

Contractor will also submit electronically the CSOW Survey Tracking summary weekly (Appendix D) to CO/COR documenting dates on which territories were visited and results of surveys. This may substitute for weekly phone calls if agreed to by CO/COR.

### **Report of Findings**

An annual draft written report will be provided by September 30th each year. A final report based on Forest Service review and comments on the Draft will be completed by October 31.

### **Deliver To**

All deliverables will be delivered to Benjamin Vizzachero, LPNF Assistant Forest Wildlife Biologist, by mail (email for electronic documents) or in person.

### **Deliverables**

Three spiral-bound reports with the following chapters:

1. ALL completed protocol CSOW survey forms
2. Copies of all raw field notes
3. Completed Forest Service NRM Wildlife Electronic Data forms in table format as described in Appendix A.

4. All Completed CNDDDB forms for California wildlife species of interest observed.
5. A written final report for all of the territories surveyed
6. A Final "CSOW Survey Tracking" summary excel spreadsheet (Appendix D)

Three flash-drives with items listed above. The flashdrives should additionally include:

1. A folder with all photographs (in jpg format) that are embedded in the Final Report.
2. The final report, as described above, in a pdf format and a Microsoft Word document format.
3. Forest Service NRM Wildlife Electronic Data Form spreadsheet with each tab fully completed.

Format of deliverables will all be printed in 12-point Times New Roman font type and digital on thumb drive (3 thumb drives to be provided by contractor).

The Contractor shall ensure that all submitted forms are properly filled out and all information, reports and maps are legible. Any copied forms must be dark enough to be easily read and must include all margins of the form. All writing and marks must be dark enough to reproduce clearly on a copy machine.

### **Government Inspection Procedures**

The CO/COR shall determine if the specifications have been met. Failure of the Contractor to meet the specifications shall require prompt corrective action. Repeated failure to meet specifications may be cause for termination of Contractor's right to proceed for default.

The Contractor's work will be inspected prior to acceptance through field reviews, examination of survey and site documentation and review of final report packages. All reports will be inspected for completeness and legibility. Any work that does not conform to the specifications found in this contract will be found unacceptable and shall be corrected at no additional expense to the Government.

The Contractor shall notify the CO/COR when work commences and shall keep the CO/COR informed of any changes in the Contractor's work schedule. A tentative work/field schedule must be available to the CO/COR at the beginning of each work week.

A final inspection meeting between the Contractor and CO/COR shall be held before final payment is approved or this information may be relayed to the LPNF by mail. If not previously submitted, the contractor shall provide the following material to the government: all field survey forms, maps, aerial photos, and Government-furnished property. Final decisions concerning the technical phases of the work and its acceptance will rest with the CO/COR.

### **Acceptance**

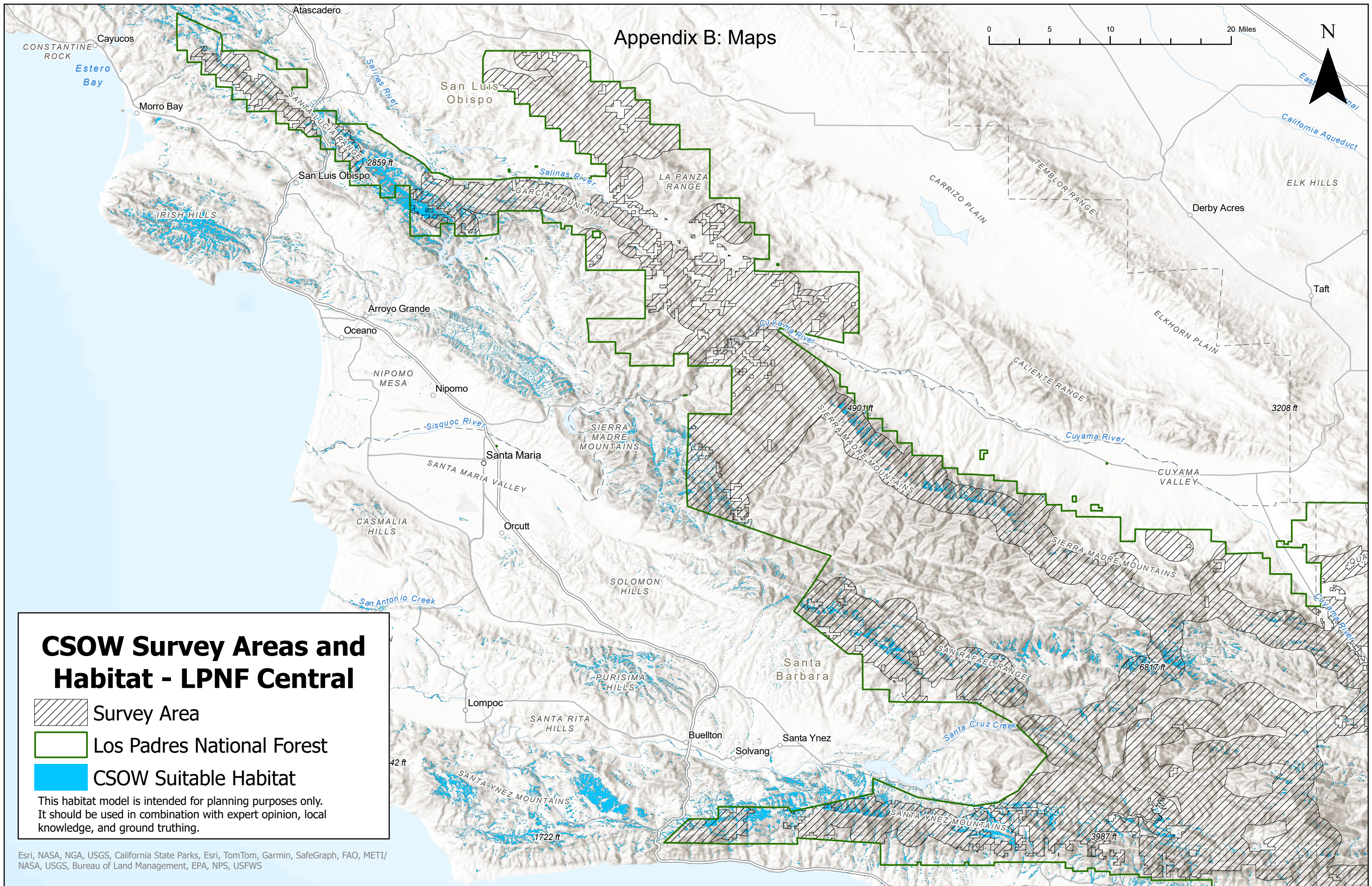
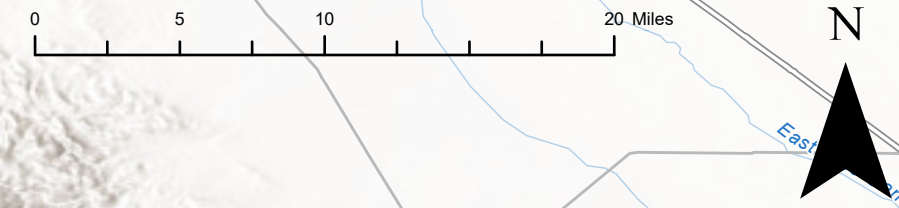
Acceptable work includes presentation of all documentation required in the Project Description of this contract.






If all documentation is not fully legible and correctly completed, or if the inspection results in unsatisfactory findings, the CO/COR will immediately notify the Contractor in writing and direct him/her to improve the quality of the field surveys or reports. Repeated failure to perform at the standards specified may be considered reason for contract termination for default. Rework shall be performed within 5 calendar days or by a predetermined date agreed upon by the CO/COR and contractor after receipt of phone call from the CO/COR of unsatisfactory work. Failure of the Contractor to comply with this order may be cause for the Contractor's right to proceed to be terminated for default.



# Appendix B: Maps



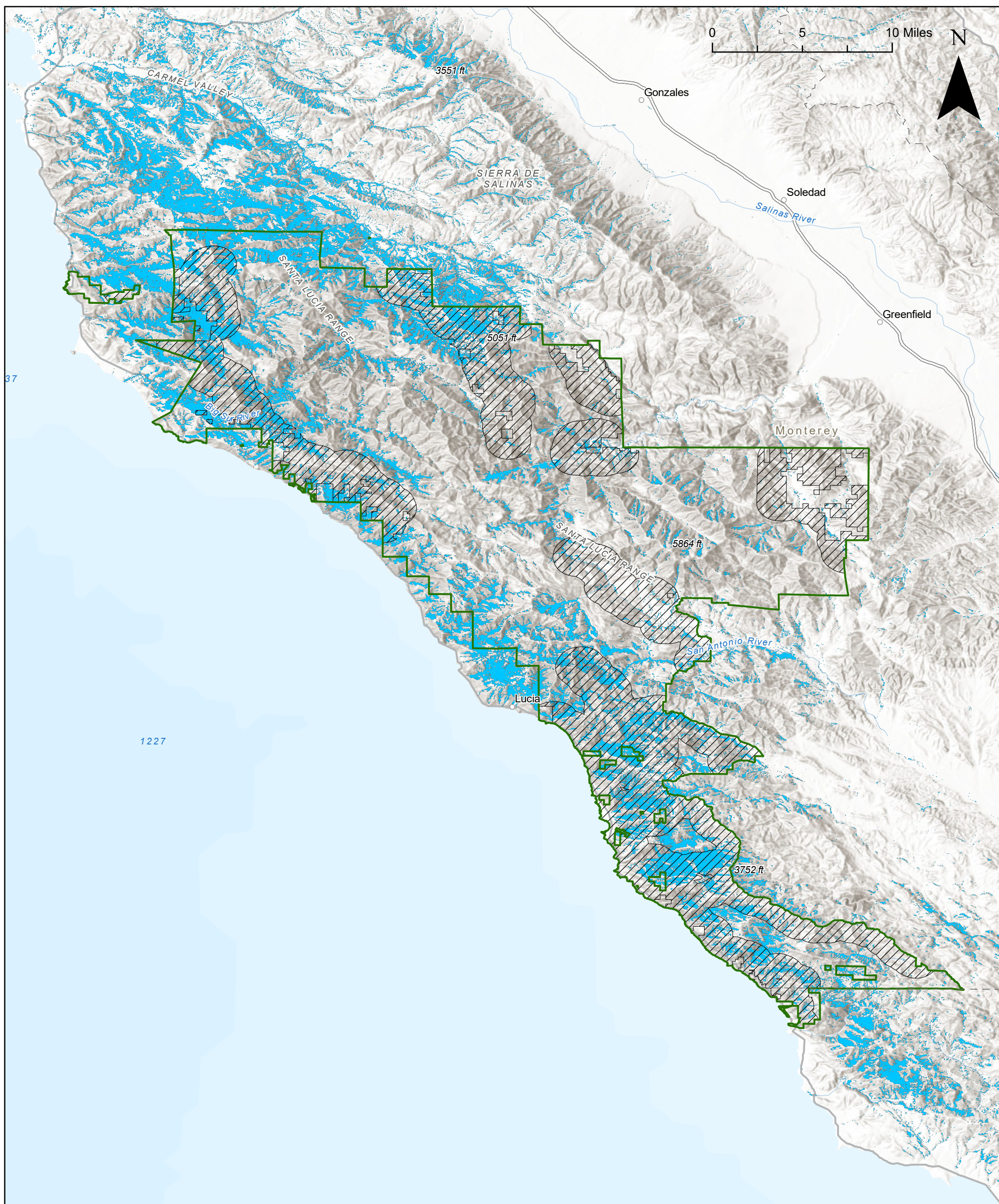
## CSOW Survey Areas and Habitat - LPNF Central

-  Survey Area
-  Los Padres National Forest
-  CSOW Suitable Habitat

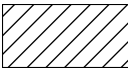


This habitat model is intended for planning purposes only. It should be used in combination with expert opinion, local knowledge, and ground truthing.

Esri, NASA, NGA, USGS, California State Parks, Esri, TomTom, Garmin, SafeGraph, FAO, METI/ NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS








## CSOW Survey Areas and Habitat - LPNF North

-  Survey Area
-  Los Padres National Forest
-  CSOW Suitable Habitat

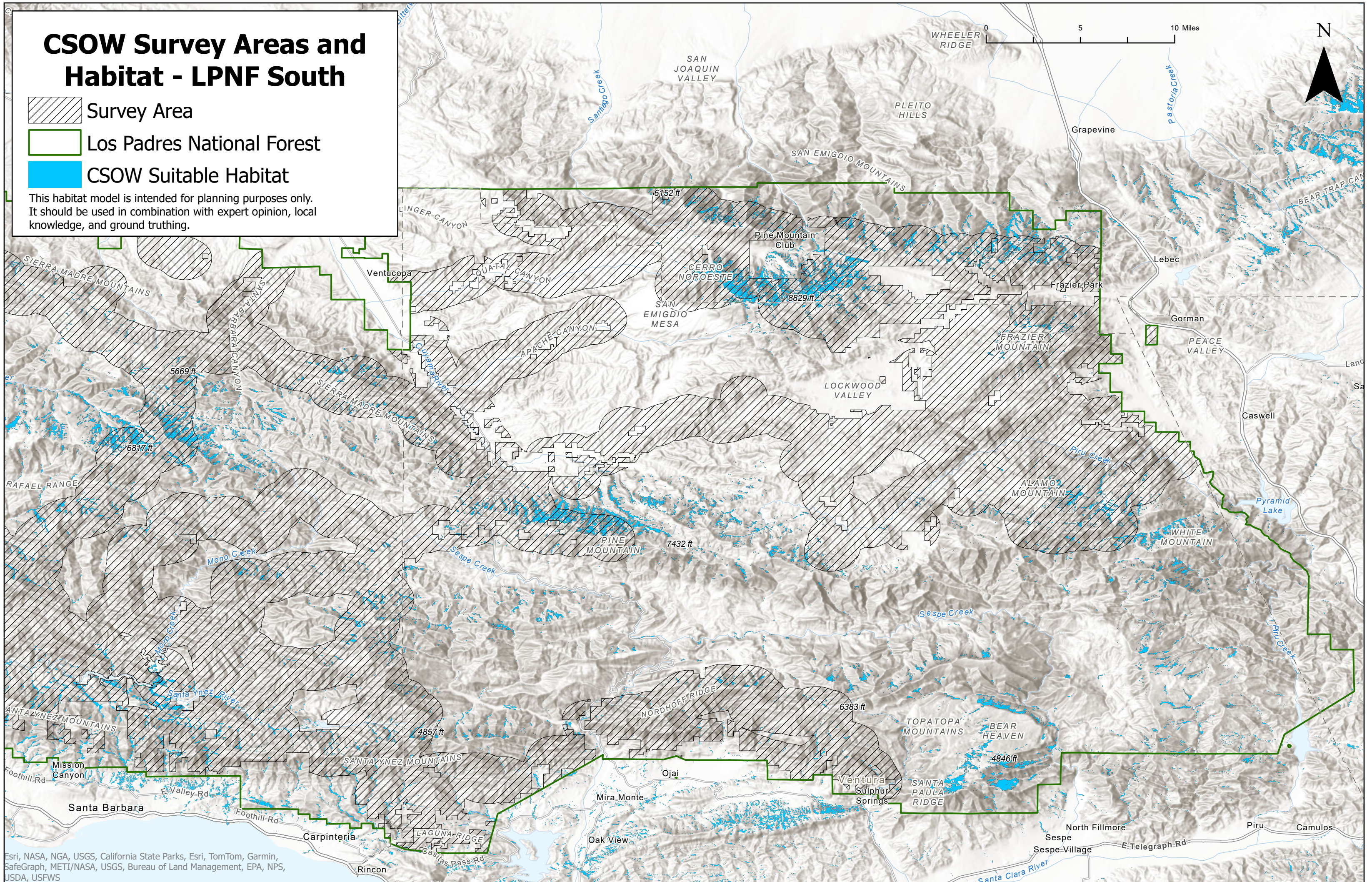
This habitat model is intended for planning purposes only. It should be used in combination with expert opinion, local knowledge, and ground truthing.



# CSOW Survey Areas and Habitat - LPNF South

-  Survey Area
-  Los Padres National Forest
-  CSOW Suitable Habitat

This habitat model is intended for planning purposes only. It should be used in combination with expert opinion, local knowledge, and ground truthing.



Esri, NASA, NGA, USGS, California State Parks, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS



## Appendix C

### **PROTOCOL FOR SURVEYING FOR CALIFORNIA SPOTTED OWLS IN PROPOSED MANAGEMENT ACTIVITY AREAS AND HABITAT CONSERVATION AREAS March 12, 1991 (Revised February 1993; November 2006)**

The following survey protocol is for locating spotted owl pairs and resident singles in proposed management activity areas and Habitat Conservation Areas (HCA). These are the minimum standards required for surveying areas. Further effort to determine status beyond what is required may be initiated.

Read the entire document before initiating any phase of the survey. The protocol guidelines are a step-by-step process. The steps are:

1. Establish calling stations and survey routes (see section II).
2. Conduct surveys to determine activity centers of pairs and resident singles (see section III).
3. Conduct reproductive status surveys if needed (see section IV).

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## I. SURVEY PERIOD

Table 1 lists recommended dates for conducting surveys to determine activity centers, nesting status, and reproductive success status. If different dates are used, contact the Regional Office and document the reasons why different dates are used. The duration and longevity of surveys are addressed in "Survey Period and Duration of Surveys." "Determination on Need to Survey or Assume Occupancy" addressed what level of survey could be completed.

Table 1. Recommended dates for conducting surveys to determine activity centers, nesting status, and reproductive success status by physiographic province.

Physiographic Province	Period		
	Station Visits	Nesting Status Visits	Reproductive Success Visits <sup>1</sup>
Sierra Nevada	3/1 to 8/15	4/1 to 6/1	5/15
Southern California	2/1 to 8/15	3/1 to 6/1	5/15

<sup>1</sup> = Reproductive success status visits may be initiated until the end of the seasonal restrictions.

## II. ESTABLISHING CALLING STATIONS/SURVEY ROUTES

This section provides guidelines for identifying and planning for surveying a management activity area or HCA.

- A. Delineate the boundaries of the management activity area or HCA and delineate the spotted owl habitat on a photograph, topographic map, or other suitable map.

Large areas should be divided into smaller survey areas to ensure that a visit can be completed in 7 days. Consider the known owl locations, habitat, and topography in making this decision. Delineate division boundaries to reduce the possibility of resident singles and pairs being counted more than once in the management activity area or HCA (i.e., ensure that each subdivision is not too small or too narrow relative to the other subdivisions of the management activity area or HCA).

## B. Survey Methods

Two types of surveys are accepted: spot calling and leapfrog calling. Each is described below. Spot calling is the recommended method. Whatever method you use, be sure you cover all spotted owl habitat within the survey area.

1. Spot calling: Set up a series of calling points 1/4 to 1/2 mile apart along the transects. When possible, pick prominent points which cover large areas. Spend at least 10 minutes at each point, more if the topography prevents you from hearing birds that might respond from the previous calling point (e.g., you cross a major ridge). If the topography lends itself to fewer, prominent calling points, spend more time at each point.
2. Continuous walking or leapfrog surveys: Walk the designated route. Spend at least 10 minutes at each call point. As you walk between call points, listen for responses. If there is no response at a station or between stations, continue to the remaining stations. If two people are involved, you may use a leapfrog method (See Forsman 1983 - Methods and Materials for Locating and Studying Spotted Owls, USFS Gen. Tech. Rept. PNW-162).

C. Determine what survey procedure(s) will be implemented in the survey areas. Many survey areas encompass combinations of well-roaded areas, roadless areas, and remote areas. One or more procedures of surveys may be used in the same survey area:

1. Nighttime Survey Using Roads. Survey areas that have accessible roads for establishing stations to cover the survey area should be called at night. Calling stations should be spaced no more than a straight-line distance of 0.5 mile from each other. Use the spot calling or continuous walking/leap-frog survey method. Procedures for conducting nighttime surveys using roads are explained in section III.B.2.a.
2. Nighttime Survey Using Trails. In habitat without roads, nighttime calling stations will only be established in survey areas that can be traversed safely. Calling stations may be established on well maintained trails where there is virtually no danger to a caller equipped with only a flashlight or headlamp. Fixed calling stations along trails should be spaced no more than a straight-line distance of 0.25 mile apart from each other. Fixed calling stations must be well marked and visible with a headlamp or flashlight (sense of distance while walking at night can be significantly distorted; there will be no distinctive bends in the road, cull decks, or road junctions for reference). Use the spot calling or continuous walking survey method. Procedures for conducting nighttime surveys using trails are explained in section III.B.2.b.
3. Daytime Surveys. Survey areas that cannot be effectively and safely surveyed from the roads or trails at night will be surveyed during the daytime. The beginning of the transect should be marked on the ground or be visible on the copy of the aerial photograph, topographic map, or other suitable map. Document the locations utilizing GPS if possible. Fixed calling stations along trails should be no more than a straight-line distance of 0.25 mile apart from each other. Use the spot calling or continuous walking survey method. Procedures for conducting daytime surveys are explained in section III.B.2.c.

- D. Establish calling stations and survey routes within the survey area to achieve complete coverage of the spotted owl habitat. The intent is that owls will be able to hear the surveyor and the surveyor will be able to hear the owls. Identify each established station on a photograph, topographic map, or other suitable map. Stations along trails should be identified by prominent topographic features and elevations, and/or some type of permanent identifier that cannot be easily destroyed or removed. It is expected that the surveyor will be within 100-200 feet of the fixed calling stations on repeat visits within each year, as well as between years.
- E. Prepare a survey plan for the management activity area or HCA (see definitions).

The following items should be considered when establishing calling routes:

- It may be necessary to conduct some 'pre-survey' work to assist in establishing calling routes and stations.
- The entire survey area must be covered in 7 days. If it cannot be covered in 7 days, divide it into smaller survey areas.
- Consider the physical characteristics of the survey area:
  - ◆ Sound travels in a straight line (sound does not travel around bends or go over ridges).
  - ◆ Establish calling stations that directly face each drainage.
  - ◆ Avoid establishing a calling station near loud noise sources, such as loud creeks and well-used roads.
  - ◆ Whenever possible, establish stations at "outstanding" physiographic features such as prominent ridge points, saddles, and openings in the vegetation to ensure complete coverage of the survey area.
- If marking a trail in a wilderness area, discuss appropriate methods for marking permanent calling stations with the local wilderness manager or recreation personnel.

### **III. SURVEY PROCEDURES FOR DETERMINING ACTIVITY CENTERS**

This section provides guidelines on how to locate owls to determine activity centers of pairs and resident singles.

#### **A. General Instructions and Considerations:**

##### **1. Number of complete visits required:**

HCA's - three complete visits per year; number of years of surveys to be determined through Regional direction in Appendix A.

Management activity areas - three complete visits per year for two consecutive years, or six complete visits for one year if a two year survey is not possible (see also section I for details on duration of surveys).



2. If a complete visit takes more than one outing, complete the remaining outings on the following consecutive days.
3. Complete a field visit form for all outings, regardless if an owl was detected or not.
4. Conduct night surveys between sunset and sunrise (use local sunrise/sunset tables to determine these times).
5. When a complete visit has been finished, 5 days must elapse between the end of the previous visit and the beginning of the next visit. For example, assume a visit ends on 3 May. Using a proper five-day spacing (4-8 May), the next possible visit date would be 9 May. Continue until the required number of complete visits is completed for that year.
6. If a two-year survey is being conducted, at least 2 of the visits must be conducted before 30 June in each year. If a one-year survey is being conducted, at least 4 of the visits must be conducted before 30 June. Document the reasons why if the 2 or 4 visits cannot be conducted before 30 June. The survey effort must be spread out over 2-3 months, to avoid survey efforts concentrated in a short period of time (for example, in a 3-week period at the first of the survey season).
7. Try to start each visit at a different station from the last visit. This could mean reversing the route from the last visit (starting the second visit at the last station of the first visit), but any combination is acceptable as long as the stations are done as efficiently as possible.
8. **DO NOT "MOUSE" OR CALL ANY MORE THAN IS NECESSARY. DO NOT STIMULATE ANY MORE THAN NECESSARY TO DETERMINE STATUS. BY STIMULATING OWLS TO MOVE AROUND DURING THE DAY, YOU MAY INCREASE THEIR RISK OF PREDATION.**
9. Do not call spotted owls in parts of the survey area where predators are active. Several stations may need to be skipped. Document reasons why stations are skipped.
10. It is recommended that the surveyor use a spotted owl calling tape, a tape player, and a sound amplification device (e.g., a hand-held megaphone or loudspeaker). Surveyors must be outside their vehicle, and use a projection device or have a tape player that can project the call so it can be heard at least 1/4 mile. Turn the tape off after 3-7 calls, listen for a minute or two, then play another set of calls. It is recommended that the owl tape contain calls from both male and female owls, in particular it should include male 4-note contact calls, and male and female agitated calls. Continue this process for at least 10 minutes at each calling station. Voice calling may be used by experienced surveyors at the discretion of the project leader. It is important to recognize that females may be under-represented if only male calls are used.

NOTE: The use of a calling tape, tape player, and sound amplification device enables surveyors to more effectively locate owls.

11. Characterize behavioral observations as best you can. Make note of agitated calls, continuous responses, movement (toward you or away from you), or other situations such as when one response is received and the owl is quiet thereafter. This will give the person(s) analyzing the data and determining activity centers additional information to consider.
12. Do not survey under inclement weather conditions, such as high winds (> 10 mph), moderate to heavy rain, or high noise levels (e.g., stream noise, machinery) which would prevent you from hearing a response that would be heard under better conditions.
13. If owls are heard during the daytime, it may be possible to visually locate them by walking in the direction of their calls. Additional broadcasts or vocal imitations of spotted owl calls may be needed to elicit additional responses from an owl to pinpoint its location.
14. Because owls will not always continue to call and because they may move, it is important to visually locate them as soon as possible after they respond. Keep the original approximate location of the owl response in mind, as the owl may be drawn toward the observer. If the owl is thought to have moved, search the original, approximate location for its mate or young.
15. The responsiveness of owls depends on many factors, which may include:
  - a. Time of day. Spotted owls are more likely to be detected early in the morning and late in the day, as these times are closest to their foraging hours. During the middle of the day they are relatively inactive and less likely to respond.
  - b. Temperature. Air temperature will affect an owl's responsiveness. In extremely hot weather, owls may be less likely to respond.
  - c. Individual variation. Individual owls appear to have individual "comfort" radii. Sometimes they will respond from a hundred yards away, but not respond as the caller draws nearer.
16. When appropriate, record similar information for predators and competitors of spotted owls (e.g., goshawk, great horned owl, barred owl) that are detected while surveying for spotted owls.

## B. Survey Procedures

The following three survey procedures should be initiated in order. First (optional), consider historical sites to determine if parts of the survey area do not need to be surveyed using stations. Second, survey the survey area using stations until the required number of complete visits are completed. Third (optional), conduct additional visits on sites in which a pair or resident single status could not be determined, but it is judged that the sites may be occupied by a pair or resident single.

## 1. Preliminary Survey Using Historic Information

Some current known pairs and resident singles (historical information) may be located more efficiently by going directly to their activity center during the day than by standard survey procedures using stations that emphasize nighttime procedures. If it is possible to locate pairs or resident singles without doing station visits, time and effort may be saved. Use your knowledge of the area, the owls in the area, and your professional judgement in deciding if this will be beneficial.

NOTE: For HCAs, start with section III.B.1.a. Check historic sites for pairs or resident singles. If a pair is not located, that portion will need to be surveyed using stations.

For management activity areas, if the known pair and resident single locations in a management activity area are accepted as current, go to section III.B.1.c to delineate the areas that do not need to be surveyed. If the known locations are not accepted as current, start with section III.B.1.a or conduct station visits in the area.

- a. Identify the centers of activity of the known pairs and resident singles in the survey area on a map or photograph.
- b. Go to the activity center areas during the day. Use whatever techniques that are appropriate to locate the pair or resident single (e.g., locating known nests, calling, mousing). If the pair or resident single is located, record the location and go to III.B.1.c. If the pair or resident single is not located, initiate complete visits at this location and to the remainder of the survey area using station calling procedures (see section III.B.2.).
- c. Delineate on a photograph or map the portion of the survey area that does not need to be revisited that year. This is generally beyond earshot of the bird (over a ridge and at least 1/2 to 3/4 mile away), but also consider other physical characteristics of the area and the average home range of pairs in your area. Initiate complete visits to the remainder of the survey area using station calling procedures (see section III.B.2.).

## 2. Survey Procedures For A Complete Visit Using Stations

The objective is to locate owls to determine the status of a site. Once presence of one or more owls is determined, conduct a follow-up visit as soon as possible after getting a response. The goal of this follow-up visit is to visually confirm or infer the existence of a pair of spotted owls. Each survey procedure explained in section II.C is presented.

### a. Nighttime Survey Using Roads

Conduct a complete visit by calling for 10 minutes at each station.

- (1) If there is no response along the survey route, continue to the remaining stations until the visit is complete or there is a response.

(2) If there is a response along the survey route:

- (a) Estimate the bird's location (the best method is to triangulate on the owl's call, taking compass bearings from 2 to 3 locations. Make sure compass bearings are taken in as short a time-frame as possible). Record the location on the map or photograph and the field visit form, mentioning the location method used.
- (b) Survey the remaining area beyond the earshot of the bird (generally over a ridge and at least 1/2 to 3/4 mile away).
- (c) Do a follow-up visit as soon as possible (see section III.B.2.d).

b. Nighttime Survey Using Trails

Conduct a complete visit by calling for 10 minutes at each station.

(1) If there is no response along the survey route, continue to the remaining stations until the visit is complete or there is a response.

(2) If there is a response along the survey route:

- (a) Estimate the bird's location (the best method is to triangulate on the owl's call, taking compass bearings from 2 to 3 locations. Make sure compass bearings are taken in as short a time-frame as possible). Record the location on the map or photograph and the field visit form, mentioning the location method used. Utilize a GPS for documenting location, if possible.
- (b) Survey the remaining area beyond the earshot of the bird (generally over a ridge and at least 1/2 to 3/4 mile away).
- (c) Do a follow-up visit as soon as possible (see section III.B.2.d).

c. Daytime Surveys

Conduct a complete visit by calling for 10 minutes at each station.

(1) If there is no response along the survey route, continue to the remaining stations until the visit is complete or there is a response.

(2) If there is a response along the survey route:

- (a) If there is sufficient daylight hours, do a follow-up visit (see III.B.2.d). After the follow-up visit is completed, survey the remaining area (as daylight allows) beyond the earshot of the bird.

- (b) If there is not sufficient daylight, estimate the bird's location (the best method is to triangulate on the owl's call, taking compass bearings from 2 to 3 locations. Make sure compass bearings are taken in as short a time-frame as possible). Record the location on the map or photograph and the field visit form, mentioning the location method used. Continue to the remaining stations (as daylight allows) beyond earshot of the detected bird. Do a follow-up visit as soon as possible (see section III.B.2.d).

#### d. Follow-up Visit

If an owl is detected during a visit, complete a follow-up visit as soon as possible, preferably within 48 hours of detecting an owl.

Starting as close as possible to the location where the owl position was determined, begin a search in the general area of the owl location (usually within 0.5 mile).

- (1) If no owl is found within 4 hours, the follow-up visit is complete.
- (2) If an owl is found, allow up to two hours to establish pair status. Use mousing and visual observation to help in determining status.
  - (a) If the owl is located, but is observed roosting/sleeping and ignoring any mice that are presented for one hour, the follow-up visit is over.
  - (b) If the owl is active and shows interest in mice that are offered, but pair status cannot be determined in the 2 hours, the follow-up visit is complete. Additional time is recommended if the surveyor believes pair status can be determined with further effort.
  - (c) If pair status is determined, the follow-up visit is complete.

NOTE: The follow-up visit may take at least 6 hours--at least 4 hours searching for an owl and at least 2 hours trying to determine pair status. Additional time may be used (the time constraints are minimums). When more than one observer is involved, the observers may split up into two groups, so long as distinctly separate areas are being searched by each group and the total number of hours spent searching for owls by each group amounts to four hours (i.e., 2 hours per group, or other combinations amounting to four hours). Splitting up into more than two groups is not acceptable.

### 3. Additional Visits

Additional visits may be conducted in areas in which pair or resident single status could not be determined even though an owl was detected, and it is judged that the site may be occupied by a pair or resident single. The additional visits are beyond the number of complete visits required and only the general area where the owl was detected should be searched. There is no time limit or minimum number of visits in conducting additional visits.

## C. Determining Status From Survey Results

### 1. Pair Status is determined by any of the following:

- a. a male and female are heard and/or observed in proximity (< 1/4 mile apart) to each other on the same outing during the day; or
- b. a male and female are heard and/or observed in proximity (< 1/4 mile apart) to each other on two separate outings at night within a 2-year time frame; or
- c. a male takes a mouse to a female; or
- d. a female is seen on a nest; or
- e. one or both adults are observed with young (young alone do not define a pair because young barred owls look like young spotted owls).

NOTE: Once pair status is determined, it is considered an activity center (historical information). Adjust the area to be surveyed for the remaining complete visits (see section III.B.1).

NOTE: The sexes must be positively identified by call and/or sight before pair status is determined as defined in a and b. If the sex of an individual is uncertain, pair status is not determined.

### 2. Resident Single Status is determined by:

- a. the presence or response of a single owl within the same general area on 3 or more visits within a breeding season, with no response by an owl of the opposite sex after a complete survey; or
- b. the presence or response of a single owl within the same general area on 3 or more visits during the breeding season over a one to three year period (i.e., 2 responses in one year and 1 response in the following year).
- c. Two Birds, Pair Status Unknown is a resident single location in which there was the presence of 2 birds of the opposite sex, pair status could not be determined, and at least 1 of the birds meets the resident single status requirements.

NOTE: Once resident single status is determined in a management activity area, it is considered an activity center (historical information). Adjust the area to be surveyed for the remaining complete visits (see section III.B.1). It may be desirable to conduct additional visits to determine pair status for a more reliable activity center.

NOTE: Resident single status in HCAs are recorded, but the area to be surveyed is not adjusted. Pair status must be determined in HCAs in order to adjust the area to be surveyed.

3. Status Unknown (Single Owl) is determined by the response of a male and/or female which does not meet the pair or resident single requirements.
4. Verified Unoccupied is determined when a complete survey has been conducted in a survey area, but no owls were detected.

#### **IV. SURVEY METHODS FOR DETERMINING REPRODUCTIVE STATUS**

Reproductive status visits are used to determine the nesting and/or reproductive success status of a site in a particular year. The status refers to the particular site (area around the activity center) only, and does not infer that the pair that was associated with the site did not nest or successfully produce young at another site.

Reproductive status visits are not required for HCAs and should not be conducted if the general inventory work will be impacted.

Reproductive status visits will result in the following classifications:

- Nonnesting inferred-nonreproduction inferred
- Nesting confirmed-reproduction unknown
- Nesting confirmed-reproduction confirmed
- Nesting confirmed-nonreproduction inferred
- Nesting unknown-nonreproduction inferred
- Nesting unknown-reproduction unknown

There are 2 types of reproductive surveys -- nesting status and reproductive success.

##### **A. General Instructions and Considerations**

1. Conduct reproductive status surveys between the dates listed in Table 1. The start date is based on nest initiation dates. If local data suggest a different date for nest initiation, adjust the start date accordingly. Young identified after 1 June would still confirm nesting.
2. Spread the surveys throughout the survey period. Do not conduct all nesting status surveys early in the breeding season.
3. Use a standard "mousing" procedure as described below to determine nesting status. For more details on mousing procedures, see Forsman (1983) Methods and Materials for Locating and Studying Spotted Owls. USDA Forest Service, Gen. Tech Rept. PNW-162. Make a concerted effort to get the owl(s) to take prey; be creative in placing prey where the owl can easily see and capture it, and offer prey to the mate of the owl that has refused prey on that visit.

4. DO NOT "MOUSE" OR CALL ANY MORE THAN IS NECESSARY. DO NOT STIMULATE ANY MORE THAN NECESSARY TO DETERMINE STATUS. BY STIMULATING OWLS TO MOVE AROUND DURING THE DAY, YOU MAY INCREASE THEIR RISK OF PREDATION. DO NOT CALL SPOTTED OWLS IN PARTS OF THE SURVEY AREA WHERE PREDATORS ARE ACTIVE.
5. Attempt to locate the pair between the dates listed in Table 1. Search the area for four hours on each visit.

## B. Determining Nesting Status

1. Nesting is confirmed if any of the following conditions are observed. Two observations, at least 1 week apart, are required to determine nesting status if the first observation occurs before 1 May. This is necessary because the owls may show signs of initiating nesting early in the season without actually laying eggs and their behavior could easily be mistaken for nesting behavior. After 1 May, a single observation is sufficient. Nesting is confirmed if, on 2 visits before 1 May, or 1 visit after 1 May:
  - a. the female is detected (seen) on the nest; or
  - b. either member of a pair carries natural or observer-provided prey to the nest; or
  - c. a female possesses a brood patch when examined in hand during mid-April to mid-June. Only 1 observation is required. Dates may vary with the particular areas. Be careful not to confuse the normal small areas of bare skin (apteria) on the abdomen with the much larger brood patch. A fully developed brood patch covers most of the lower abdomen, extending to the base of the wings. Describe the brood patch on the field form, including length, width, color, and texture of the skin, and any evidence of regenerating feathers around the edge (NOTE: while a scientific research permit from the U.S. Fish and Wildlife Service is not required for calling spotted owls, any capture or handling of spotted owls does require such a permit); or
  - d. young are detected in the presence of 1 or both adults. Because young barred owls look like young spotted owls until late in the summer, the presence of young alone is not sufficient to confirm nesting.
2. Non-nesting (and non-reproduction) is inferred if any of the following are observed. Two observations are required during the nest survey period, with at least three weeks separating these observations to ensure that late nesting attempts are not missed. The second observation should occur after 15 April. Because nesting attempts may fail before surveys are conducted, the non-nesting status includes owls that did not attempt to nest as well as those that have failed. Non-nesting is inferred if:
  - a. the female is observed roosting for 60 minutes, particularly early in the season (1 April to 1 May). (Be aware that nesting females with large nestlings often roost outside the



nest during warm weather. If in doubt, be sure to schedule 1 or more visits in mid-June to check for fledglings); or

- b. the female does not possess a brood patch when examined in-hand between mid-April and mid-June. Only one observation is required; or
- c. the pair is not located after a four hour search on 2 separate visits; or
- d. you offer prey to one or both members of the pair and they cache the prey, sit with prey for an extended period of time (30-60 minutes), or refuse to take additional prey beyond the minimum of 2 prey items. To be considered a valid nesting survey, an owl must take at least 2 prey items.

Surveys where the bird(s) leaves the area with prey and you are unable to determine the fate of the prey cannot be classified as to nesting status and do not count toward the required 2 visits. Banded or radio-marked birds may be reluctant to take prey at all; therefore, nesting status should be inferred from other means (e.g., checking for fledglings later in the season).

- 3. If nesting is not determined before the latest date (by Province) listed for nesting status visits in Table 1, You cannot classify the owls as non-nesting using the criteria listed above. Nesting is unknown if:
  - a. owls are found after these dates (see Table 1), without young; or
  - b. no owls are found after these dates at those sites where owls were present prior to these dates (see Table 1).

### C. Determining Reproductive Success

Reproductive success visits may be done for sites where nesting has been confirmed, nesting is unknown, or where nesting visits were not conducted in the same breeding season. Sites determined to be nonnesting do not need reproductive success visits.

Locate the pair or one member of the pair between the dates listed in Table 1 (conduct reproductive success surveys after the time young leave the nest, usually in late May to late June; if local fledging times are available, you may adjust the dates accordingly). ~~Mouse~~ if necessary.

Conduct at least two visits to the site to locate and count fledged young, timing the visits so that the fledged young are observed as soon after leaving the nest as possible to reduce losses to predation.

- 1. If fledged young are located: Nesting confirmed-reproduction confirmed.

2. If the bird(s) take at least 2 prey items and eventually cache, sit with, or refuse further prey without ever taking prey to fledged young on at least 2 occasions separated by at least one week; and
  - a. the status of the site is nesting confirmed: Nesting confirmed-nonreproduction inferred;  
or
  - b. the nesting status of the site is unknown: Nesting unknown-nonreproduction inferred.
3. If the owl(s) refuse to take at least 2 prey items, and:
  - a. the status of the site is nesting confirmed: Nesting confirmed-reproduction unknown; or
  - b. the nesting status of the site is unknown: Nesting unknown-reproduction unknown

## V. DEFINITIONS

Activity center: The point that best describes the focal area of use by a resident single or pair. This can be based on locations of adults, nests, roosts, or young. Refer to 'Guidelines For Selecting A Spotted Owl Location To Represent The Management Center' for more instruction.

Complete Survey: The survey area has been surveyed to protocol guidelines, including the required number of visits. (This could be completed in one or two years; see sections II and III.)

Complete Visit: The objective is to locate spotted owls by conducting a thorough survey of the spotted owl habitat in the entire survey area. A complete visit may be a combination of a day and night field outing and, in addition, may include a follow-up visit(s). A complete visit should be completed in 1 field outing, but this may not be possible in some cases. If every reasonable effort has been made to cover the survey area in 1 outing but this was not accomplished, then the remaining survey area must be surveyed in the following field effort(s). Complete the visit on consecutive days as much as possible, realizing weather may be a problem. The entire survey area must be covered within 7 days (e.g., 20 May-26 May) in order to be considered as 1 complete visit. If the management activity area or HCA is too large to be covered in 7 days, it should be divided into smaller survey areas based on available habitat, topography, drainages, and other physical characteristics.

If a surveyor gets an owl response at night and conducts a follow-up visit, the combination of the night outing and the follow-up visit would be counted as 1 complete visit. If a surveyor goes out at night and does not get a response, a follow-up visit would not be necessary so the night outing alone would be considered as 1 complete visit.

Current Pair: An owl pair that was verified within the last 5 years. The data on pairs from approximately the past 5 years is generally considered more reliable and most reflective of the pairs that actually exist. Thus, this definition is to be used to indicate if the owl site is

considered by the Forest to be a reliable, existing pair. There may be exceptions to using the "last 5 year rule" in determining which are the existing pairs on the Forest. For example, an owl pair verified in 1986 in an area where there has been no logging or disturbance, such as wilderness, would likely still be considered an existing pair even though the pair was verified more than 5 years ago.

In the Sierra Nevada Framework Plan Amendment, Standard and Guideline # 71 states current occupancy is based on surveys consistent with survey protocol in the last 2-3 years prior to project planning. It also states that historical occupancy is considered occupancy since 1990.

NOTE: Current pair, existing pair, and reliable pair are terms that have been used interchangeably.

Field season: Field season dates vary between physiographic provinces. Refer to Table 1 for the appropriate dates for your area.

Follow-up Visit: The objective of the follow-up visit is to locate spotted owl pairs during the day by conducting an intensive search (1 to 6 hours) around the original response location at night, usually within a 0.5 mile radius. The follow-up visit should be completed as soon as possible after an owl is detected, preferably the next day. A follow-up visit is part of a complete visit.

Historical information: Includes the location of a nest tree(s), roost site(s), or vocal response(s). Spotted owl response locations from 1 or more complete visits in which status is determined become historical information for the subsequent complete visits.

Mousing: Feeding mice to owls; it is the most efficient way to locate females and young. The assumption is that adult owls with live young will take a mouse to its young and the young will be observed.

Pair status: Pair(s) of owls are confirmed if any of the following is detected: (1) a male and female are heard and/or observed in proximity (< 1/4 mile apart) to each other on the same outing during daylight hours; (2) a male and female are heard and/or observed in proximity (< 1/4 mile apart) to each other on two separate outings at night within a 2-year time frame; (3) a male takes a mouse to a female; (4) a female is seen on a nest; or (5) one or both adults are observed with young (young alone do not define a pair because young barred owls look like young spotted owls).

Reproductive visit: A visit to determine the nesting status or reproductive success status of a known pair.

Resident single status: A resident single is confirmed if an owl is detected on 3 different visits within the same general area over a one to three year period.

Status unknown (single owl): Status is unknown if the response of an owl does not meet the pair or resident single status definitions.

Survey area: The spotted owl habitat that has been delineated to be surveyed. Management activity areas and HCAs may need to be divided into two or more smaller survey areas to meet protocol guidelines.

Survey plan: Includes: (1) a brief narrative describing the survey area(s); (2) a map showing boundaries of the survey area(s), spotted owl habitat, delineated survey areas, un-callable areas, survey routes, and calling stations; (3) estimates of time, number of personnel needed, and costs to complete; (4) acreages of spotted owl habitat in callable and un-callable areas.

Verified unoccupied: A complete survey of the area has been conducted and there were no detections of any owls.

Young: Alive or dead owlets that are out of the nest and seen with one or more adults.

## **VI. RECOMMENDATIONS FOR SPOTTED OWL SURVEYOR CREDENTIALS/QUALIFICATIONS**

Surveyor qualifications are provided as recommendations for evaluation of personnel that would be involved in spotted owl surveys. These recommendations are advisory.

### Project Leader:

Responsibility: Analyzes, draws conclusions from data, writes survey reports. Typically the Resource Area, District Biologist or Forest Biologist (Forest Service and BLM), or the Principal Investigator (University, Contractor, etc.) performs this function.

### Minimum requirements:

A bachelor's degree in wildlife biology or related field; Certified Wildlife Biologist (by the Wildlife Society); or meets OPM Wildlife Biologist requirements, **AND**

- one year/season of spotted owl survey experience or training in spotted owl survey techniques; **OR**
- Previous experience as a Project Leader as described above.

### Crew Leader:

Responsibilities: Supervises survey crew, data collection, performs basic data summary, and coordinates with other surveyors. Additional responsibilities include supervision of: 1) survey route layout, and 2) determination of area coverage requirements.

### Minimum requirements:

Normal hearing abilities are requisite. A crew leader must be able to hear the owl(s) if they were calling; **AND**

- One year/season of spotted owl survey experience, plus training in spotted owl survey techniques; **OR**
- Two years/seasons of spotted owl calling surveys.

Owl Caller or Surveyor:

Responsibility: conducts owl surveys and collects data.

Minimum requirements:

Normal hearing abilities are requisite. An owl caller must be able to hear the owl(s) if they were calling; **AND**

- Training in spotted owl survey techniques; **OR**
  - 1 year/season of spotted owl survey experience.

### **SURVEY PERIODS AND DURATION OF SURVEYS**

Previous survey data were analyzed to determine the number of visits needed to result in a high likelihood that territorial owls will be detected or that a lack of owl responses accurately reflects an absence of spotted owls. Preliminary analysis of the data provided the basis for determining the number of visits per year for both the 2-year and 1-year surveys. These 2-year surveys are more likely than 1-year surveys to accurately document the presence of owls or territories in these situations.

**1-year (6-visit) surveys** are acceptable. However, 1-year surveys provide a somewhat lower likelihood of determining the presence or absence of spotted owls. In addition, 1-year surveys will be valid only until the beginning of the following breeding season.

If a 1-year survey is completed (6 visits), and responses are obtained, project could proceed before the start of the next breeding season. If project is not completed within this time period, either a Limited Operating Period (LOP) could be in place if the project will be completed in the second year, or a 3-visit minimum survey would be needed prior to project commencement in the second year. This is equivalent to 1 year of a 2-year survey.

If a 1-year survey is completed (6 visits), and no responses are obtained, project could proceed before the start of the next breeding season. If project is not completed within this time period, a 3-visit minimum survey would be needed prior to project commencement in the second year. This is equivalent to 1 year of a 2-year survey.

Example: 1-year survey

Year 1	6 visits with or without response
Year 2	Implement LOP if response found in Year 1 (good only in a two year project) or conduct 3 more visits if project is not completed before the beginning of the breeding season. The 3 visits should be conducted prior to project commencement.
Year 3	Project proceeds without additional surveys, implement LOP if response.
Year 4	Project proceeds without additional surveys, implement LOP if response.

Year 5	3 visits with or without response. If response, implement an LOP. If no response in Year 1 and Year 2, and no LOP is in place, either implement an LOP, or suspend project until the area can be resurveyed.
Year 6	3 visits with or without response. If response, implement an LOP. If no response in Year 1 and Year 2, and no LOP is in place, either implement an LOP, or suspend project until the area can be resurveyed.
Year 7	Project proceeds without additional surveys, implement LOP if response.
Year 8	Project proceeds without additional surveys, implement LOP if response.

**2-year (3 visits per year)** surveys are preferable for surveying a management activity or planning area to determine the presence or absence of spotted owls. Two-year surveys may be valid for 2 additional years, even if no response is heard.

2-year surveys are encouraged to provide a higher likelihood of accurately determining presence or absence of spotted owls. They may also be more economical, especially in cases where the project will occur in more than one year. Two-year surveys provide more accurate results for an area because of the intermittent occupancy of spotted owls within particular areas, the impacts of the odd-even year effect, and weather impacts can diminish survey results within a single year.

Example: 2 year survey

Year 1	3 visits with or without response
Year 2	3 visits with or without response
Year 3	Project proceeds without additional surveys, implement LOP if response.
Year 4	Project proceeds without additional surveys, implement LOP if response.
Year 5	3 visits with or without response. If response, implement an LOP. If no response in Year 1 and Year 2, and no LOP is in place, either implement an LOP, or suspend project until the area can be resurveyed.
Year 6	3 visits with or without response. If response, implement an LOP. If no response in Year 1 and Year 2, and no LOP is in place, either implement an LOP, or suspend project until the area can be resurveyed.
Year 7	Project proceeds without additional surveys, implement LOP if response.
Year 8	Project proceeds without additional surveys, implement LOP if response.

**Year of Project:** If response is heard during surveys or the area is deemed occupied based on historical to current data, a LOP should be in place to protect the California spotted owl. If during the year of project, 3 surveys can be done, including a nesting survey and the results show no California spotted owls nesting nor fledgling present, the project can proceed without the LOP for that year.

**Nest Site:** If a nest site or activity center is located by a 1- or 2-year survey, and if the project will take place in the area in years following the initial surveys, further surveys may be necessary, as follows:

If an owl site is located during a 1-year survey, and the project area is large enough to possibly support more than one site, remaining potential sites should be surveyed three times in the

second year. It is not unusual for owls to change their nesting location from year to year. If the owls are not at the original location, all areas inside harvest units and within 0.25 miles of harvest units should be surveyed each year of harvest according to a 3-visit protocol to eliminate the chances of disturbance to spotted owls during the breeding season.

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.

**Unoccupied Sites:** If no responses have been obtained from a historically occupied site after three years of survey (using the guidelines in this document), the site may be considered unoccupied, barring any evidence to the contrary.

### **DETERMINATION ON NEED TO SURVEY OR ASSUME OCCUPANCY**

Utilize this dichotomous key to determine if surveys are needed, or if occupancy will be assumed, prior to project implementation.

1. Were California spotted owls surveys completed?  
Yes. Go to 2.  
No. Go to 4.
2. Were surveys completed utilizing protocol?  
Yes. Go to 3.  
No. Go to 4.
3. Were California spotted owls found?  
Yes. Utilize LOP and proceed with project.  
No. Proceed with project.
4. Does the project area contain suitable California spotted owl habitat? (i.e. greater than 40% canopy closure, multi-layered canopy, and mixed evergreen or hardwood-evergreen mix)  
Yes. Go to 5.  
No. Document and implement project that no suitable habitat exists.
5. Has the area been surveyed in the past?  
Yes. Go to 7.  
No. Go to 6.
6. Where are you located?  
SNFPA area (SNFPA S&G #33). Go to 8.  
Southern California. Go to 7.
7. Are you going to assume occupancy based on past surveys or suitable habitat?  
Yes. Assume occupancy and utilize LOP.

No. Survey utilizing protocol. Go to 8.

8. Did you find California spotted owls utilizing protocol?

Yes. Utilize LOP, define activity center and PAC, proceed with project.

No. Proceed with project.





## Appendix E

**NFF Funding Code: 1596082, 1596083**

**NFF Funding Name: SA SPA SoCAL Fireshed Risk Reduction**

**Funder Agreement ID: 23-SA-11052000-059**

### Flowdown Provisions

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