

CAL FIRE's Use of 14 CCR § 919.9(g) [939.9(g)] in Making Northern Spotted Owl Take Avoidance Determinations

The Forest Practice Rules (FPRs) require the California Department of Forestry and Fire Protection (CAL FIRE) to disapprove any timber harvesting plan (THP) if project implementation would result in the taking of the northern spotted owl (NSO) (14 CCR § 898.2 (f)). CAL FIRE bases its determination of take avoidance on substantial evidence provided by the registered professional forester (RPF) and other sources during the review of the THP. The information on which CAL FIRE bases its determination comes in the form of one of the six alternatives contained in 14 CCR § 919.9(a)-(g) [939.9(a)-(g)].

14 CCR § 919.9(g) [939.9(g)] is meant to be used where an NSO nest site or activity center has been located within the THP boundary or within 1.3 miles of that boundary. When the Board of Forestry and Fire Protection (BOF) adopted the NSO-related FPRs, 14 CCR § 919.9(g) [939.9(g)] gave THP submitters a performance standard to apply to known owl sites. BOF records note:

The performance standards are based on the current [U. S.] F[ish and] W[ildlife] S[ervice] guidelines regarding their authoritative position on the adequate level of protection which must be afforded a known site. (Page 9, Final Statement of Reasons, BOF Rulemaking File #135)

Thus, authoritative biological expertise is built into the measures contained in 14 CCR § 919.9(g) [939.9(g)] and, when applied to a known NSO nest or activity center, are supposed to ensure avoidance of take. This built-in biological expertise should allow the RPF to apply the protection measures and post-harvest habitat retention levels prescribed in 14 CCR § 919.9(g) [939.9(g)] to known sites and avoid take. Therefore, individual review of such proposals by either the U. S. Fish and Wildlife Service (USFWS) or the California Department of Fish and Game (DFG) is not necessary, because of the inherent biological surety built into the protection measures and habitat retention levels contained in the rule.

In addition, 14 CCR § 919.10 [939.10] requires CAL FIRE to evaluate the information provided per 14 CCR § 919.9(g) [939.9(g)] to determine if “harm” or “harassment,” the primary actions associated with timber operations that may result in take of the NSO, may occur. “Harm” may occur when timber operations adversely modify NSO habitat, and “harassment” may occur when timber operations significantly disrupt essential NSO life processes. Given that the measures contained in 14 CCR § 919.9(g) [939.9(g)] are based on USFWS guidelines regarding adequate protection for a known site against harm and harassment, as long as CAL FIRE is able to verify the location of any known NSO site, ensure the prescribed measures are adequately applied and post-harvest habitat retention should be achieved, then take of the NSO should be avoided.

However, since the adoption of the NSO-related FPRs in the early 1990s, USFWS has indicated that use of the measures contained in 14 CCR § 919.9(g) [939.9(g)] may not

always ensure avoidance of take of the NSO based upon more recent input by spotted owl researchers. USFWS notes:

...use of [California] W[ildlife] H[abitat] Relationship[s] habitat definitions in the FPRs is unlikely to avoid take. This is because the WHR types considered to be NSO habitat (4M & 4D) are widely variable, and at the lower end of size class/density are typically poor habitat or non-habitat. 4M and 4D MAY be NSO habitat, but also may not. If no evaluation is made as to the ACTUAL stand characteristics, a large overestimation of available habitat may occur, harvest of "excess" habitat is permitted, and functional habitat is reduced to the point that take is likely. In addition, harvest within 4D and 4M stands typically reduces habitat quality significantly, sometimes to the point where take is likely, even when the post-harvest structure still meets 4M or 4D criteria. (1-24-2008 Email from USFWS' Brian Woodbridge to CAL FIRE's Chris Browder)

Relative to the coastal portion of the range in California USFWS notes:

919.9,939.9(g)(1) Within 500 ft. of the active nest site or pair activity center the characteristics of functional nesting habitat must be maintained. No timber operations shall be conducted in this area during the breeding season unless reviewed by the Department of Fish and Game and approved by the Director as not constituting a take. Timber operations may be conducted in this area outside the breeding season if appropriate measures are taken to protect nesting habitat.

First of all, "active nest site or pair activity center" is not inclusive enough to apply to all the sites entitled to protection under the [Federal] E[ndangered] S[pecies] [A]ct. But aside from that, this rule is way too vague. "Timber operations" refers to everything involved in a logging operation up to and including the removal of trees. When "timber operations" refers only to hauling on public roads, (g) is more restrictive than necessary to avoid take. I have often considered timber operations/hauling during the breeding season to be not likely to result in take even when within 500 feet of mainline, open year-round, public roads. Highway 20 is a good example of where this rule is impossible to enforce or be applicable.

Of course, "timber operations" also refers to the removal of trees. Given the very wide variety of conditions in which spotted owl nests are found, I don't even bother to try to define "nesting habitat". It is virtually impossible for anyone to say exactly what characteristics of the habitat within 500 feet of an activity center the owls keyed in on when selecting the nest site. How then can an RPF, the DFG, the Director, or the Service for that matter determine what measures are appropriate to adopt to protect nesting habitat other than to prohibit tree removal? The Eureka office of the DFG recognized this over 10 years ago when in a Memorandum dated 6/20/98 their instructions to all PCBs included the harvest restriction within the 500 ft. radius of a tree containing an NSO nest. This document contains what became known as the "standard protection measures"

that are still in use today. I'd be happy to provide a copy of this document at your request.

919.9,939.9(g)(2) Within 500-1,000 ft. of the active nest site or a pair activity center, retain sufficient functional characteristics to support roosting and provide protection from predation and storms.

Again, besides not being inclusive enough to include all activity centers entitled to protection, this rule asks a non-biologist, the RPF, to determine what is sufficient in terms of functional characteristics to be provided post harvest. It does not even suggest the DFG or the Director need approve what the RPF considers "sufficient". Also, the rule does not take into consideration 1,000 foot circles that are shared by two adjoining landowners, and as the review process does not utilize any information from one landowner's plan to the next, it is quite possible you could have two unqualified RPFs making independent determinations regarding what is sufficient to retain within a single roost zone, and CAL FIRE would have no idea that half of the roost zone had already been reduced to the first RPF's idea of what is sufficient when it approves the second. Furthermore, considering the habitat fragmentation that has resulted from many decades of timber management, nest trees are often found nearer than 1,000 feet to the edge of blocks of habitat. With no requirement that the 1,000 foot circle contain even a minimum amount of habitat described in the rules as roosting prior to proposing operations within the circle, this rule could very easily result in the only actual roosting habitat contiguous with the nest tree being reduced to some RPF's idea of minimum functionality without benefit of review by DFG, the Director, or anyone else besides CAL FIRE. Highly possible that the removal of habitat necessary to provide sheltering would occur.

919.9,939.9(g)(3) 500 acres of owl habitat must be provided within a 0.7 mile radius of the active nest site or pair activity center, unless an alternative is reviewed by the Department of Fish and Game and approved by the Director as not constituting a take....

Again, besides not being inclusive enough to include all activity centers entitled to protection, this rule ignores the well documented fact (Zabel et. al., 2001, and subsequent publications by many of the same authors) that spotted owl territories require a combination of habitat types to provide habitat for breeding, feeding, and sheltering, be functional and retain occupancy. This rule would allow nearly 50% of the habitat within the entire 995 acre/0.7 mile circle to be removed completely, and the other 50% to be reduced to the lowest possible habitat quality still considered suitable, outside the 1,000 foot circle. I doubt that there is a single piece of peer reviewed literature anywhere that concludes that a landscape reduced to the minimums allowed by this rule provides enough of a variety of habitat types to sustain spotted owls. And lastly, on what would the DFG or the Director base a decision that not even retaining 500 acres of the worst possible

quality habitat within 0.7 mile of an activity center would not constitute a take?
(4-3-2009 Email from USFWS' Ken Hoffman to CAL FIRE's Chris Browder)

Relative to the interior portion of the range in California USFWS notes:

Possibly the best way for me to begin a discussion of the Service's evaluation of the FPRs for northern spotted owls (NSO) is to strengthen the language you've used ("may not avoid take") to pose the question. Service staff in the Yreka Fish and Wildlife Office believe that application of the FPRs *typically does not* avoid or reduce the likelihood of take of NSO. This is because the habitat definitions and retention standards in the FPRs represent minimum values that are below the habitat parameters associated with reasonable levels of territory occupancy, survival, and reproduction by NSO. In our experience, "take avoidance" has been accomplished through technical assistance, which ensured that the actual quality and quantity of habitat retained in a THP was indeed adequate.

The draft report "Regulatory and Scientific Basis for U.S. Fish and Wildlife Service Guidance for Evaluation of Take for Northern Spotted Owls on Private Timberlands in California's Northern Interior Region" is in final review stage. This will provide detailed support for the conclusions I describe below.

Below I've inserted brief paragraphs (in bold) following the portions of the rules in question. My comments are in addition to those already provided by Ken Hoffman.

895.1 Definitions

Functional Foraging Habitat is dependent upon the presence and availability of prey on the forest floor or in the canopy; presence of accessible perching limbs; and adjacency to stands with canopy closures >40%. Average stem diameter is usually >6" D.B.H. for hardwoods and >11" D.B.H. for conifers among dominants, and codominants, and the total overhead canopy closure, including intermediate trees is at least 40%. Where overall canopy closure is >80%, foraging habitat is limited to areas with ample flight space below limbs and among stems. Foraging habitat in smaller size classes and lower percentage canopy closures must be justified by local information.

Functional Nesting Habitat means habitat with a dominant and codominant tree canopy closure of at least 40% and a total canopy (including dominant, codominant, and intermediates) of at least 60%. Usually the stand is distinctly multi-layered with an average stem diameter in dominant, and codominant conifers, and hardwoods >11" D.B.H. The stand usually consists of several tree species (including hardwoods) of mixed sizes. All nests, snags, down logs, and decadent trees shall also be considered as part of the habitat. Nesting substrates are provided by broken tops, cavities, or platforms such as those created by a hawk or squirrel nest, mistletoe broom, or accumulated debris. Owls are known

to occasionally nest in less than optimal habitat. Nesting areas may also be associated with characteristics of topographic relief and aspect which alter microclimates.

Functional Roosting Habitat during the territorial breeding season, consists of stands where average stem diameter is >11" D.B.H. among dominant and codominant trees. Hardwood and conifers provide an average of at least 40% canopy closure but the stand can have a high degree of variability. Stand size and configuration must be sufficient to provide multiple perch sites which are suitable for protection from various environmental conditions, including wind, heat, and precipitation.

The habitat definitions contained in 895.1 describe habitats typically considered unsuitable, or at best represent bare minimum conditions. Take may easily occur as repeated harvest entries reduce stand structure from whatever the owls originally occupied to the uniformly low values allowed under the Rules. For example, Functional Nesting Habitat is defined essentially as 4M/D or greater; however virtually all NSO research describes nesting habitat as consisting of stands of much larger trees, with nest sites associated with very dense clumps. The description of Functional Foraging Habitat suffers the same problem. In our review/assessment of NSO habitat relationships in the Interior zone, were unable to find any support for significant NSO use of habitat conditions allowed under the definitions in 895.1.

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(g) Where a nest site or activity center has been located within the THP boundary or within 1.3 miles of that boundary, the RPF shall determine and document that the habitat described in (1)-(5) below will be retained after the proposed operations are completed:

(1) Within 500 ft. of the active nest site or pair activity center the characteristics of functional nesting habitat must be maintained. No timber operations shall be conducted in this area during the breeding season unless reviewed by the Department of Fish and Game and approved by the Director as not constituting a take. Timber operations may be conducted in this area outside the breeding season if appropriate measures are adopted to protect nesting habitat.

(2) Within 500-1000 ft. of the active nest site or pair activity center, retain sufficient functional characteristics to support roosting and provide protection from predation and storms.

There is strong evidence that habitat modification within the critical nesting core area is likely to result in take – this is partially the result of the low habitat quality allowed under the Rules (see comment above), but also because the actual habitat features selected by a given pair of NSO are unknown and likely associated with features such as dense clumps, deformed

trees, shading, aspect, water..etc that in combination form a nest site. Timber harvest typically disrupts, modifies, and removes these elements.

(3) 500 acres of owl habitat must be provided within a .7 mile radius of the active nest site or pair activity center, unless an alternative is reviewed by the Department of Fish and Game and approved by the Director as not constituting a take. The 500 acres includes the habitat retained in subsections (1) and (2) above and should be as contiguous as possible. Less than 50% of the retained habitat should be under operation in any one year, unless reviewed by the Department of Fish and Game and approved by the Director.

Studies of NSO territory occupancy and fitness relative to habitat quality and quantity strongly indicate that in the Interior zone, NSO rely on functional (= high quality) habitat at much larger scales than described in the Rules. The small patches of habitat within 500 – 1000’ buffers (even if maintained well above the minimum “suitable habitat” definition) are much less than the 200-300-acre core areas associated with continued occupancy and reproduction by NSO. NSO nesting core areas often consist of multiple nest sites within a cluster of stands...not just one.

The 500 acre/0.7 mile COULD be an effective standard for take avoidance IF the retention acres were clumped closest to the nest and consisted of a balance of high-quality habitat. As written, however, 919.9(g)(3) allows harvest of virtually the entire core area down to unsuitable conditions.

(4) 1336 total acres of owl habitat must be provided 1.3 miles of each nest site or pair activity center, unless an alternative is reviewed by the Department of Fish and Game and approved by the Director as not constituting a take. The 1336 acres includes the habitat retained within subsections (1) - (3) above.

The buffer size and number of acres to be retained under 919(g)(4) are adequate. The problem here, as with (g)(3), is the poor quality habitat allowed under the definitions.

(5) The shape of the areas established pursuant to subsections (1) and (2) shall be adjusted to conform to natural landscape attributes such as draws and streamcourses while retaining the total area required within subsections (1) and (2) above.

This could be described as getting at the abiotic considerations in the FWS guidelines. Research on foraging behavior and nest-site selection demonstrate that NSO are strongly associated with landscape features such as lower slopes and stream courses. The FPRs do not require any consideration of the spatial distribution of retained habitat; enabling harvest operations to occur in preferred areas where effects to NSO are relatively greater than, for example, upper slopes. (4-22-2009 Email from USFWS’ Brian Woodbridge to CAL FIRE’s Chris Browder)

In order to provide CAL FIRE with up-to-date guidance on how to avoid take of the NSO associated with timber operations, USFWS developed take avoidance scenarios and associated protection measures and post-harvest habitat retention levels. These are contained in USFWS documents entitled, “*Northern Spotted Owl Take Avoidance*

Scenarios,” “Attachment A: Take Avoidance Analysis-Coast” and “Attachment B: Take Avoidance Analysis-Interior”

(http://www.fire.ca.gov/resource_mgt/downloads/Revised%20USFWS%20Attachement%20B%20NSO%20Take%20Avoidance%20Analysis--%20Interior%202-27-08.pdf, http://www.fire.ca.gov/resource_mgt/downloads/U.S.%20Fish%20and%20Wildlife%20Service%20Review%20of%20THPs%20and%20NTMPs,%20Transition%20Documents%20202-1-08.pdf and

http://www.fire.ca.gov/resource_mgt/downloads/Revised%20USFWS%20Attachement%20A%20NSO%20Take%20Avoidance%20Analysis--%20Coast%202-27-08.pdf). The documents (USFWS guidelines) are meant to be used by CAL FIRE THP reviewers when assessing NSO take avoidance proposals, and by RPFs in designing NSO take avoidance strategies for inclusion in THPs. The USFWS documents indicate, in part:

The following describes how the Fish and Wildlife Service determines whether take is likely to occur for spotted owls. While we believe this is the most effective manner in avoiding take, it is likely not the only manner in which take can be avoided. The [USFWS guidelines] are recommended tools to avoid take, but are not required approaches imposed by the Fish and Wildlife Service.

Clarifying the use of the take avoidance scenarios, USFWS notes:

The guidelines describe how the U. S. Fish and Wildlife Service (Service) determines when take is likely at a course [*sic*] scale. That is, without any site-specific information, the guidelines outline the general methods that the Service employs to determine if take is likely. As stated in the guidelines, “while we believe [the guidelines are] the most effective manner in avoiding take, it is likely not the only manner in which take can be avoided.”

In years past, it was commonplace for our biologists to travel to the THP site and assess the habitat, conditions, local climate, habitat edge, and many other site-specific factors that aided in determining if take would be likely. We encourage your staff to adopt a similar approach in assessing THPs, as there are many instances when site-specific conditions provide insights that the guidelines cannot capture by virtue of their broad nature in describing the likelihood of take. The guidelines were not intended to be a hard rule for when take is likely; they simply describe how we evaluated the likelihood of take in a general manner.

We encourage your staff to assess each THP in light of site-specific conditions and under the broader context of the guidelines we provided. (5-22-2008 letter from USFWS’ Darrin Thome to CAL FIRE’s Ruben Grijalva, http://www.fire.ca.gov/resource_mgt/downloads/USFWS%20Letter%20Regarding%20Clarification%20of%20Guidelines%20for%20Review%20of%20THPs%205-22-08.pdf)

Based on the guidelines and the subsequent clarification, CAL FIRE encourages RPFs proposing timber operations within the NSO evaluation area (synonymous with the range

of the NSO), or within 1.3 miles of a known NSO activity center outside of the NSO evaluation area, to adhere to the USFWS guidelines where possible. This is due to the USFWS' observation that following its guidelines "is the most effective manner in avoiding take." As stated, CAL FIRE recommends use of the USFWS guidelines, but, consistent with USFWS' statement that its guidelines are "likely not the only manner in which take can be avoided," CAL FIRE allows plan submitters to propose different NSO take avoidance strategies.

For those THP submitters that propose something different than the USFWS guidelines, CAL FIRE requires them to meet or exceed the minimum standards contained in 14 CCR § 919.9(g) [939.9(g)] and provide a site-specific analysis explaining how deviation from the USFWS Guidelines will still ensure take avoidance. This analysis must be performed by a qualified person and must clearly and substantively demonstrate why the proposed, site-specific protection measures and level and configuration of post-harvest habitat retention should avoid take of the NSO. This analysis has to address how the proposal should not significantly impair or disrupt feeding, breeding, nesting, and sheltering of the NSO. CAL FIRE believes that this approach is consistent with USFWS observations about the need to evaluate the actual timber stand characteristics and to assess each THP in light of site-specific conditions. This approach takes into account USFWS' observations that use of the measures contained in 14 CCR § 919.9(g) [939.9(g)] may not always ensure avoidance of take of the NSO and that its guidelines are "likely not the only manner in which can be avoided" and should not be viewed as regulation.

CAL FIRE believes that this approach is consistent with the requirements of the California Environmental Quality Act (CEQA). USFWS has presented a fair argument, based on substantial evidence, that use of the standards contained in the FPRs may not always avoid take of the NSO. CAL FIRE views this fair argument as applying to all THPs within the range of the NSO. Thus, CAL FIRE needs substantial evidence in the plan record that take of NSO has been avoided (PRC § 21081(a), 14 CCR §§ 15065(a)(1), 15091(a)(1) and (b)). By requiring THP submitters who propose deviations from the most recent guidance provided to CAL FIRE by USFWS to provide a site-specific data and analysis performed by a qualified person, CAL FIRE ensures that its decision is based on substantial evidence in light of the whole record.

The process that CAL FIRE goes through to determine that take of the NSO should be avoided is similar to that currently used by USFWS and private biologists. Details of the general process that CAL FIRE uses on THPs that propose to avoid take using 14 CCR § 919.9(g) [939.9(g)] is described in the July 7, 2008 CAL FIRE "*Evaluation Process for Northern Spotted Owl Information to Determine Compliance with 14 CCR §§ 919.9(g) [939.9(g)] and 919.10 [939.10]*" memorandum ([http://www.fire.ca.gov/resource_mgt/downloads/Evaluation%20Process%20for%20NSO%20Info%20to%20Determine%20Compliance%20919.9\(g\)%20and%20919.10.pdf](http://www.fire.ca.gov/resource_mgt/downloads/Evaluation%20Process%20for%20NSO%20Info%20to%20Determine%20Compliance%20919.9(g)%20and%20919.10.pdf)).

The process generally consists of:

- a. Establishing historic activity center locations: CAL FIRE uses the DFG NSO database reports 1, 2 and 3 to identify activity centers on, and within 1.3 miles of, the plan area that require protection measures or habitat retention or both.
- b. Assessing historic activity center habitat and protection measures:
 - i. For activity centers (AC) located on the THP area, CAL FIRE evaluates each AC to ensure sufficient habitat is retained post harvest and appropriate protection measures are applied.
 - ii. For activity centers located within 1.3 miles of the plan area (but not within the plan area), CAL FIRE evaluates each AC to ensure sufficient habitat is retained.
- c. Confirming activity center locations and establishing new activity centers:
 - i. CAL FIRE evaluates the most current year's survey results using the 3/17/92 "*Protocol for Surveying Proposed Management Activities that May Impact Northern Spotted Owls*" and any applicable USFWS technical assistance pertaining to survey protocol to confirm or change historic activity center locations and establish new activity centers.
 - ii. If activity center locations change or new activity centers are identified, CAL FIRE requires the plan submitter to change the plan to reflect the new location(s) and apply necessary protection measures and retain sufficient habitat.

CAL FIRE uses the general process described above whether a THP submitter chooses to address the NSO using the protection measures and habitat retention levels recommended by USFWS or contained in the FPRs.