

California Department of Forestry and Fire Protection

Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl



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SACRAMENTO, CALIFORNIA
DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

Important Information for Timber Operations Proposed within the Range of the Northern Spotted Owl

Changes to the Northern Spotted Owl Take Determination Process

As of February 1, 2008, the way in which a plan proponent addresses take of the northern spotted owl (NSO) in a timber harvesting plan, program timber harvesting plan, and non-industrial timber management plan (plan) has changed.

Changes to the take determination process are as follows:

1. Requests for technical assistance (TA) from the U. S. Fish and Wildlife Service (USFWS) will now have to be made through the Department of Forestry and Fire Protection (CAL FIRE).
2. CAL FIRE will review all requests for TA from USFWS for completeness and accuracy. USFWS has provided a description of what constitutes a complete TA request¹.
3. Based upon USFWS staff availability, estimated TA review time is six weeks from the time the USFWS receives the complete TA request.
4. In situations where the USFWS cannot review the TA request, the plan proponent must submit sufficient information for CAL FIRE to make a take avoidance determination under one of the options listed under 14 CCR §§ 919.9(a)-(g) [939.9(a)-(g)]. At present, the only available options under 14 CCR §§ 919.9(a)-(g) [939.9(a)-(g)] are subsections (d), (e) and (g). Thus, if the plan proponent cannot operate under the provisions of an HCP and USFWS cannot provide TA review, the **only** option presently available under 14 CCR § 919.9 [939.9] is subsection (g).
5. The plan proponent may choose to address NSO take avoidance per 14 CCR § 919.9(g) [939.9(g)]. In this case, CAL FIRE will make the take avoidance determination based on information contained in the plan.

Note: USFWS currently indicates it will reduce its review of TA requests by 75%. Therefore, plan proponents must assume USFWS will not be able to review most TA requests. In order to optimize the limited available USFWS TA review, plan proponents need to consider addressing NSO take avoidance per 14 CCR § 919.9(g) [939.9(g)] when possible.

How to Address Take of NSO at Plan Submittal with Currently Available Options

14 CCR § 919.9(d) [939.9(d)]: Current HCP

1. In Section II, under timber harvesting plan Item 32(a), program timber harvesting plan Item 13(a), or non-industrial timber management plan Item 32(a):
 - a. Indicate the plan is located within the range of the NSO.
 - b. Indicate the plan proponent will proceed under an existing incidental take permit per 14 CCR § 919.9(d) [939.9(d)].
 - c. Provide a copy of the incidental take permit, if requested.

14 CCR § 919.9(e) [939.9(e)]: TA from USFWS Using Existing NSO Guidelines

http://www.fire.ca.gov/rsrc-mgt_content/downloads/NSOReviewGuidelines03_25_05.pdf

1. In Section II, under timber harvesting plan Item 32(a), program timber harvesting plan Item 13(a), or non-industrial timber management plan Item 32(a):
 - a. Indicate the plan is located within the range of the NSO.
 - b. Indicate the plan proponent will proceed with TA from USFWS per 14 CCR § 919.9(e) [939.9(e)].
 - c. Provide the operational information described in CAL FIRE's NSO Guidelines.
2. In Section V:
 - a. Provide the non-operational information described in CAL FIRE's NSO Guidelines.
3. When the plan proponent is ready to request TA from USFWS, provide a complete TA package to CAL FIRE. The TA request should be provided as a complete package separate from the plan either at the time of submittal, during review, or after plan approval. If it is submitted after plan approval, it should not be submitted as an amendment to the plan. CAL FIRE will review it for completeness and accuracy and forward it to USFWS for review. If the information contained in the TA request changes the environmental setting or the proposed operations described in the plan, the plan will need to be amended to reflect these changes. Submittal of the information during plan review may trigger re-circulation.

Please consider the following:

1. USFWS indicates that use of the definitions of functional habitat contained in 14 CCR § 895.1 may not provide sufficient protection of the NSO to guarantee take avoidance. To avoid any delay in plan review when addressing NSO take avoidance,

the plan proponent should use the habitat descriptions contained in the U. S. Fish and Wildlife Interior and Coastal Northern Spotted Owl Habitat Descriptions² when addressing NSO take avoidance using the NSO Guidelines and 14 CCR § 919.9(e) [939.9(e)].

2. If the plan proponent proposes to deviate from the protection measures or habitat retention levels currently recommended by USFWS, he or she may have to acquire the TA through CAL FIRE from USFWS prior to plan approval.

14 CCR 919.9(g) [939.9(g)]: Provide Protection Measures and Habitat Retention

1. In Section II, under timber harvesting plan Item 32(a), program timber harvesting plan Item 13(a), or non-industrial timber management plan Item 32(a):
 - a. Indicate the plan is located within the range of the NSO.
 - b. Indicate whether there are known NSOs on, or within 1.3 miles of, the plan.
 - c. Indicate the plan proponent will apply the protection measures and habitat retention levels contained in 14 CCR § 919.9(g) [939.9(g)] to any known NSOs or to any NSOs found on, or within 1.3 miles of, the plan.
 - d. Describe how the proposed timber operations will avoid take of the NSO and provide the operational information and protection measures contained in 14 CCR § 919.9(g)(1)-(5) [939.9(g)(1)-(5)].
2. In plan Section V:
 - a. Provide the non-operational information contained in 14 CCR § 919.9(g)(1)-(5) [939.9(g)(1)-(5)] and additional information CAL FIRE will need to make a take avoidance determination³.

Note: Some of this information may be provided prior to operations, if the current status of NSOs on, or within 1.3 miles of, the plan area has not been fully determined at the time of plan submission and completion of review.

Please consider the following:

1. CAL FIRE will review the information provided per (1)(a)-(d) and (2)(a) in the plan for NSO take avoidance.
2. Any proposals to decrease the level of protection afforded by the standard protection measures and habitat retention levels contained in 14 CCR § 919.9(g)(1)-(5) [939.9(g)(1)-(5)] must be reviewed by DFG. Thus, if DFG staff is unavailable, CAL FIRE will not be able to approve proposals to decrease the standard protection measures and habitat retention levels contained in 14 CCR § 919.9(g)(1), (3) and (4) [939.9(g)(1), (3) and (4)].

3. Based on historic NSO activity center locations and habitat, CAL FIRE may be able to approve the plan if status of NSOs within the plan boundary, or within 1.3 miles of that boundary, have not been determined by current year surveys at the time of plan submission and completion of review. However, the plan will have to stipulate that no timber operations can occur until such time as all surveys for the current, or immediately preceding, survey period are complete, the results have been provided to CAL FIRE, and any resultant changes in timber operations to avoid take have been incorporated into the plan. (**Note:** The RPF must provide all reasonably foreseeable operational changes that might be required in the plan as a result of surveys prior to plan approval.) Any change in timber operations that results from a change in location, or the discovery, of an NSO after plan approval will have to be incorporated into the plan through the amendment process per 14 CCR §§ 1039, 1040, 1090.24, 1090.25 and 1092.27. CAL FIRE will treat such a change in timber operations as a minor or substantial amendment, depending on the extent of the change.
4. Some of the standard protection measures contained in 14 CCR § 919.9(g)(1)-(5) [939.9(g)(1)-(5)] differ from those contained in the U. S. Fish and Wildlife Interior and Coastal Northern Spotted Owl Habitat Descriptions⁴ as currently necessary to avoid take of the NSO in most cases. The plan proponent should consider this when designing the proposed timber operations to avoid take of the NSO. To avoid any delay in plan review when addressing NSO take avoidance, the plan proponent should consider incorporation of the protection measures recommended by USFWS.
5. USFWS indicates that use of the definitions of functional habitat contained in 14 CCR § 895.1 and the habitat retention levels contained in 14 CCR § 919.9(g)(3)-(4) [939.9(g)(3)-(4)] may not provide sufficient protection of the NSO to guarantee take avoidance. To avoid any delay in plan review, the plan proponent should consider use of the U. S. Fish and Wildlife Interior and Coastal Northern Spotted Owl Habitat Descriptions when addressing NSO take avoidance per 14 CCR § 919.9(g) [939.9(g)].

What about Already Submitted Plans in Review?

Plans that have been filed prior to February 1, 2008, but not approved, address NSO take avoidance by one of two ways:

1. An existing HCP for the NSO per 14 CCR § 919.9(d) [939.9(d)].
2. By following the NSO Guidelines and incorporating a letter of TA from USFWS into the plan per 14 CCR § 919.9(e) and (g) [939.9(e) and (g)].

The change in addressing NSO take avoidance does not affect plans that address take avoidance per (1). The change may affect plans that address take avoidance per (2).

Please consider the following:

1. USFWS has indicated that if the plan proponent has submitted a complete NSO TA request by February 1, 2008 that it will complete the TA review without CAL FIRE involvement.
2. For those filed plans that have not submitted a TA request, or that have an incomplete request, USFWS may be able to complete review of the TA request when made through CAL FIRE by the plan proponent.
3. If USFWS indicates it cannot complete the TA request, or the plan proponent requests that CAL FIRE make the take avoidance determination, the plan proponent will have to revise the plan to indicate he or she will address take through the retained habitat configuration and protection measures proposed in the plan per 14 CCR § 919.9(g) [939.9(g)] and provide any required information in the plan.

This assumes the options contained in 14 CCR § 919.9(a), (b), (c) and (f) [939.9(a), (b), (c) and (f)] are not available.

What about Approved Plans Requiring Initial TA or Re-Certification of Existing TA?

There are two possible outcomes for approved plans that require the initial TA or re-certification of the existing TA:

1. Approved plans that require the initial or re-certified TA per use of the NSO Guidelines may not have to be changed as long as USFWS is able to provide the requested TA review. However, the plan proponent will have to submit the request for TA through CAL FIRE. CAL FIRE will review it for completeness and accuracy and forward it on to USFWS. The TA request should be provided as a complete package, which is separate from, and not as an amendment to, the plan
2. If USFWS indicates it cannot complete the TA request, or the plan proponent requests that CAL FIRE make the take avoidance determination, the plan proponent will have to amend the plan to indicate he or she will address take through the retained habitat configuration and protection measures proposed in the plan per 14 CCR § 919.9(g) [939.9(g)] and provide any required information in the plan.

Use of 14 CCR §§ 919.9(a), (b), (c) and (f) [939.9(a), (b), (c) and (f)]

These rule sections are still in effect as of the date of this writing. However, they cannot be implemented until such time as CAL FIRE or the Department of Fish and Game (DFG) are able to provide staff to fulfill the role of the state-employed biologist required therein.

Justification for CAL FIRE Request for Sufficient Information to Demonstrate Take Avoidance of, and No Significant Adverse Impacts to, the NSO

1. CAL FIRE must determine whether plan will result in take of state and federally listed species and NSO before approval. (14 CCR § 898.2(d) and (f))
2. The registered professional forester (RPF) must provide CAL FIRE with information about the plan and resource areas and the nature and purpose of the operations proposed that is sufficiently clear and detailed to permit CAL FIRE to exercise the discretion and make the determinations required by the Act and rules. (14 CCR § 897(b)(3))
3. Every plan located in the range of the NSO owl must follow one of the procedures required in 14 CCR §919.9(a)-(g) [939.9(a)-(g)].
4. CAL FIRE must apply the criteria described in 14 CCR §§ 919.10(a)-(b) [939.10(a)-(b)] to the information provided by the plan submitter and obtained during the review period to make a finding as to whether the proposed timber operations will take an NSO.
5. The RPF must provide information on the presence and protection of known NSO habitat or individuals. (14 CCR § 1034(w))
6. CAL FIRE must determine if the plan has the potential to substantially reduce the habitat of the NSO, to cause the NSO population to drop below self-sustaining levels, to threaten to eliminate the NSO community, or to substantially reduce the number or restrict the range of the NSO, all of which constitute a significant adverse impact on the environment under the California Environmental Quality Act. If any of these actions will occur as a result of the proposed project, then CAL FIRE must ensure that adequate mitigation has been included in the plan. In order to make this determination, CAL FIRE must evaluate the effects of the proposed plan on the NSO and its habitat and whether the proposed protection measures will likely mitigate any significant adverse impacts to a level less than significant. This requires a description of the project, the environmental setting, consideration of significant environmental impacts, and consideration of mitigation measures proposed to minimize any significant effects. (14 CCR §§ 15065(a)(1), 15124, 15125(a), 15126.2, and 15126.4)

¹ Information Needed for U. S. Fish and Wildlife Service Timber Harvest Document Northern Spotted Owl Technical Assistance Analysis:

1. All documentation submitted for Technical Assistance must be legible.
2. A letter requesting technical assistance, which provides general information relevant to the plan:
 - a. The plan number.
 - b. The legal description.
 - c. The presence and absence of northern spotted owls (NSO).
 - d. Other important information that might influence take determination, such as:
 - A. Whether operating outside of breeding season.
 - B. Is the plan located at high elevation (above 6000 feet)?
 - C. The forest type or physiographic province in which the plan is located.

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3. An overview map showing location of plan units in relation to NSO activity centers and detection locations.
 4. Silvicultural prescription information:
 - a. The silvicultural prescription map(s) from the plan showing the location of plan units and type(s) of silvicultural prescriptions to be applied there on.
 - A. Silvicultural prescription information is important in the cases where units are within 1.3 miles of NSO activity centers.
 - b. A description of the silvicultural prescriptions from the plan, including the number of acres of each silvicultural prescription.
 5. The current California Department of Fish and Game (DFG) California Natural Diversity Database (NDDDB) Spotted Owl Viewer Reports 1, 2, and 3 for the area extending 1.3 miles from the plan boundary.
 - a. Report 1 is sufficient if no NSO activity centers are returned by the query.
 - b. The version date (in the upper left corner) must correspond to the present rendition of the DFG database.
 - c. If known NSO locations deviate from the locations indicated on the DFG reports, submit documentation from the landowner supporting placement of the NSO activity centers and detections.
 6. A map showing nesting-roosting and foraging habitat out to 0.7 mile from the plan boundary or out to 0.25 mile for plans that will only operate in unsuitable habitat.
 7. Pre- and post-harvest habitat typing maps for each NSO activity center on, or within 1.3 miles of, the plan area.
 - a. Typing should be done around the best-known location for NSO activity center(s).
 - A. The best known location for NSO activity centers is not always coincident with DFG Report 2 or 3.
 - B. Reasons for deviations of NSO activity center locations from DFG report must be documented
 - b. Maps shall delineate the 1000-foot, 0.5-mile, 0.7-mile, and 1.3-mile radii distances from the NSO activity center(s).
 8. The habitat descriptions contained in U. S. Fish and Wildlife Interior and Coastal Northern Spotted Owl Habitat Descriptions should be used to delineate suitable habitat in (6) and (7) (see endnote 2).
 9. A table listing the number of pre- and post-harvest acres of nesting-roosting and foraging habitat within 0.5 mile, 0.7 mile, and 1.3 miles of NSO activity centers based on maps provided for (7).
 10. The following survey data:
 - a. Map of call route.
 - b. Survey forms or summary sheet including survey date, survey start time, and survey results.
 - c. Follow-up forms, if NSOs are detected during surveys.
 - d. Maps of detection and response locations, if NSOs are detected during surveys.
 11. For operations proposed within 1.3 miles of NSO activity centers, habitat typing must be verifiable. The following is required:
 - a. Aerial photo coverage, or equivalent imagery, of the 1.3 mile area surrounding NSO activity centers within which timber operations are proposed.
 - b. Maps of timber operations within 1.3 miles of known NSOs that have occurred since the date of the aerial photo or equivalent imagery.
 - c. Maps of approved timber operations within 1.3 miles of known NSOs.
 12. If requesting a determination of unoccupied status for an activity center, the following are also required:
 - a. The activity center occupancy history.
 - b. The survey history.
 - c. The current condition of the habitat in the vicinity of the activity center.
 - d. Discussion of past and approved timber operations and natural events, such as fire, that have, or will, alter the condition of the habitat.

² **U. S. Fish and Wildlife Interior Northern Spotted Owl Habitat Description:**

1. Definitions of nesting-roosting and foraging habitat.
 - a. Nesting-Roosting Habitat.
 - A. High Quality Nesting-Roosting Habitat includes the following:
 - i. Basal area = 210+ ft²/acre.

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- ii. ≥ 15 inches quadratic mean diameter (QMD).
 - iii. ≥ 8 trees/acre (TPA) ≥ 26 inches diameter at breast height (dbh).
 - iv. $\geq 60\%$ canopy closure.
 - B. Nesting-Roosting Habitat includes the following:
 - i. A mix of basal areas ranging from 150-180+ ft²/acre.
 - ii. ≥ 15 inches QMD.
 - iii. ≥ 8 TPA ≥ 26 inches dbh.
 - iv. $\geq 60\%$ canopy closure.
 - b. Foraging Habitat.
 - A. Foraging Habitat includes the following:
 - i. A mix of basal areas ranging from 120-180+ ft²/acre.
 - ii. ≥ 13 inches QMD.
 - iii. ≥ 5 TPA ≥ 26 inches dbh.
 - iv. A mix of ≥ 40 -100% canopy closure.
 - B. Low Quality Foraging Habitat includes the following:
 - i. A mix of basal areas ranging from 80-120 ft²/acre.
 - ii. ≥ 11 inches QMD.
 - iii. $\geq 40\%$ canopy closure.
2. Priority Ranking of Habitat Retention Areas.
- a. Tree Species Composition.
 - A. Mixed conifer stands should be selected over pine-dominated stands.
 - B. Abiotic Considerations include the following:
 - i. Distance to Nest.
 - I. Nesting-roosting and foraging habitat should be located closest to identified nest tree(s), or closest to roosting tree(s), if no nesting trees are identified.
 - ii. Contiguity.
 - I. Nesting-roosting habitat within the 0.5-radius circle around an activity center must be as contiguous as possible.
 - II. Fragmentation of foraging habitat must be minimized as much as possible.
 - iii. Slope Position.
 - I. Habitats located on the lower one-third of slopes provide optimal micro-climatological conditions and an increased potential for the presence of intermittent or year-round water resources.
 - iv. Aspect.
 - I. Habitats located on northern aspects provide optimal vegetation composition and cooler site conditions.
 - v. Elevation.
 - I. Habitat should be located at elevations of less than 6000 feet, although the elevation of some activity centers (primarily east of Interstate 5) may necessitate inclusion of habitat at elevations greater than 6000 feet.
3. Habitat Quantities.
- a. Within 1000 feet of each activity center:
 - A. Outside of the breeding season (September 1 through January 31), no timber operations shall occur within 1000 feet of an activity center other than use of existing roads.
 - B. During the breeding season (February 1 through August 31), no timber operations shall occur within 1000 feet of an activity center other than use of existing, permanent, year-round roads.
 - b. Within 0.5-mile radius (502 acres) of, and centered on, each activity center:
 - A. Retention of habitat should follow the ranking guidelines contained in (2) above.
 - B. At least 250 acres of nesting-roosting habitat must be present, as follows:
 - i. 100 acres of high quality nesting-roosting habitat.
 - ii. 150 acres of nesting roosting habitat.
 - C. At least 150 acres of foraging habitat must be present, as follows:
 - i. 100 acres of foraging habitat.
 - ii. 50 acres of low quality foraging habitat.
 - iii. No more than 1/3 of the remaining suitable habitat shall be harvested during the life of the plan.

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- c. Between the 0.5-mile and 1.3-mile radius circles centered on each activity center:
 - A. Retention of habitat should follow the ranking guidelines contained in (2) above.
 - B. ≥ 935 acres of suitable habitat must be present, as follows:
 - i. At least 655 acres of foraging habitat.
 - ii. At least 280 acres of low quality foraging habitat.
 - iii. No more than 1/3 of the remaining suitable habitat shall be harvested during the life of the plan.
 - 4. Applying Habitat Definitions to Forest Stands
 - a. Because of the structural characteristics of forest stands used by Northern Spotted Owls are heterogeneous, management based on average values is unlikely to retain habitat suitability. For this reason, the habitat definitions provided in (1)(a) and (b) above are intended for application at the scale of roughly 20 acres (which may be somewhat more or less depending on plot density or measurement technique). This means that within any given 20-acre area intended to serve as Nesting-Roosting or Foraging habitat, the values for QMD, basal area, TPA, and canopy closure should be variable, but stand averages should follow the standards provided (e.g. 150-180 ft²/acre of basal area). This means that the mean values can vary across the many 20-acre areas that make up a spotted owl core area and home range. It is important to recognize habitat quality will be compromised by timber harvesting that moves stand parameters towards uniformly low average values for stand density and tree size, even during multiple entries. This is particularly true at spotted owl territories with low amounts of habitat (at or below quantities described in (3)(a)-(c) above); in these cases, the highest quality habitat available should be identified and retained before treatment of other suitable habitat is considered.
 - 5. Size and Shape of Habitat Patch
 - a. Narrow strips of habitat (WLPZs, retention areas between clearcuts, etc.) may contain the characteristics of nesting-roosting habitat. However, when these narrow strips of habitat are surrounded by unsuitable or low quality habitats, they function as foraging habitat at best.
 - b. Narrow strips of habitat (100 meters or less) provide for a lot of edge habitat and little or no interior habitat. Franklin et al (2000) describe interior habitats as the amount of spotted owl habitat ≥ 100 meters from an edge. They describe edge habitat as edge between spotted owl habitat and all other vegetation types.
 - c. Because WLPZs, for example, are 100 meters or less in total width, they are considered edge habitats surrounded by unsuitable habitat. Edge habitats do not provide for protection from predators nor do they provide the microclimates of interior habitats.

U. S. Fish and Wildlife Coastal Northern Spotted Owl Habitat Description:

- 1. Definitions of nesting-roosting and foraging habitat.
 - a. Nesting-Roosting Habitat includes the following:
 - A. $\geq 60\%$ canopy cover of trees ≥ 11 inches diameter at breast height (dbh).
 - b. Foraging Habitat includes the following:
 - A. $\geq 40\%$ canopy cover of trees 11 inches dbh.
 - B. Basal area = ≥ 75 ft²/acre of trees ≥ 11 inches dbh.
- 2. Priority Ranking of Habitat Retention Areas.
 - a. Tree Species Composition.

Mixed conifer stands should be selected over pine-dominated stands.

 - A. Abiotic Considerations include the following:
 - i. Distance to Nest.
 - I. Nesting-roosting and foraging habitat should be located closest to identified nest tree(s), or closest to roosting tree(s), if no nesting trees are identified.
 - ii. Contiguity.
 - I. Nesting-roosting habitat within the 0.5-radius circle around an activity center must be as contiguous as possible.
 - II. Fragmentation of foraging habitat must be minimized as much as possible.
 - iii. Slope Position.
 - I. Habitats located on the lower one-third of slopes provide optimal micro-climatological conditions and an increased potential for the presence of intermittent or year-round water resources.
 - iv. Aspect.

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- I. Habitats located on northern aspects provide optimal vegetation composition and cooler site conditions.
 - v. Elevation.
 - I. Habitat should be located at elevations of less than 6000 feet, although the elevation of some activity centers (primarily east of Interstate 5) may necessitate inclusion of habitat at elevations greater than 6000 feet.
3. Habitat Quantities.
- a. Within 1000 feet of each activity center:
 - a. Outside of the breeding season (August 1 through January 31), no timber operations shall occur within 1000 feet of an activity center other than use of existing roads.
 - b. During the breeding season (February 1 through July 30), no timber operations shall occur within 1000 feet of an activity center other than use of existing, permanent, year-round roads.
 - b. Within 0.7-mile radius (1000 acres) of, and centered on, each activity center:
 - A. Habitat shall be retained to maximize attributes desirable for NSOs described in (2) above.
 - B. At least 500 acres of suitable habitat must be present, as follows:
 - i. 200 acres of nesting-roosting habitat.
 - I. No timber harvest shall occur within the 100 acres of nesting-roosting habitat immediately surrounding each activity center.
 - II. If the remaining 100 acres of nesting-roosting habitat is contiguous with the activity center or is located within the same drainage, harvest shall not reduce the pre-harvest basal area of these acres by more than 33%.
 - III. If the remaining 100 acres of nesting-roosting habitat is not contiguous with the activity center or is not located within the same drainage, $\geq 60\%$ canopy cover of trees ≥ 11 inches dbh shall be retained.
 - ii. ≥ 300 acres of foraging habitat.
 - C. No more than 1/3 of the remaining suitable habitat shall be harvested during the life of the plan.
 - c. Between the 0.7-mile and 1.3-mile radius circles centered on each activity center:
 - A. Retention of habitat should follow the ranking guidelines contained in (2) above.
 - B. ≥ 836 acres of suitable habitat must be present.
 - C. No more than 1/3 of the remaining suitable habitat shall be harvested during the life of the plan.
4. Size and Shape of Habitat Patch
- a. Narrow strips of habitat (WLPZs, retention areas between clearcuts, etc.) may contain the characteristics of nesting-roosting habitat. However, when these narrow strips of habitat are surrounded by unsuitable or low quality habitats, they function as foraging habitat at best.
 - b. Narrow strips of habitat (100 meters or less) provide for a lot of edge habitat and little or no interior habitat. Franklin et al (2000) describe interior habitats as the amount of spotted owl habitat ≥ 100 meters from an edge. They describe edge habitat as edge between spotted owl habitat and all other vegetation types.
 - c. Because WLPZs, for example, are 100 meters or less in total width, they are considered edge habitats surrounded by unsuitable habitat. Edge habitats do not provide for protection from predators nor do they provide the microclimates of interior habitats.

³ **Information in Addition to that Contained in 14 CCR § 919.9(g)(1)-(5) [939.9(g)(1)-(5)] CAL FIRE Will Need to Make Take Avoidance Determination:**

1. The current California Department of Fish and Game (DFG) California Natural Diversity Database (NDDDB) Spotted Owl Viewer Reports 1, 2, and 3 for the area extending 1.3 miles from the plan boundary.
 - a. Report 1 is sufficient if no NSO activity centers are returned by the query.
 - b. The version date (in the upper left corner) must correspond to the present rendition of the DFG database.
 - c. If known NSO locations deviate from the locations indicated on the DFG reports, submit documentation from the landowner supporting placement of the NSO activity centers and detections.
2. The following survey data:
 - a. A map of the call route.
 - b. Survey summary sheets, including the survey date, the survey start time, and the survey results.

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- c. Follow-up forms, if NSOs are detected during surveys.
 - d. Maps of detection and response locations, if NSOs are detected during surveys.
 3. Pre- and post-harvest habitat typing around NSO activity centers must be submitted overlaying an ortho quad, aerial photo or equivalent of sufficient clarity to allow scanning and copying.
 4. Information regarding activity centers located within 0.25 mile of:
 - a. Existing roads to be used for timber operations that do not receive frequent year-round or seasonal use.
 - b. Proposed roads.

⁴ **Standard Protection Measures in 14 CCR § 919.9(g)(1)-(5) [939.9(g)(1)-(5)] That Differ from USFWS Recommendations:**

1. 14 CCR § 919.9(g)(1) [939.9(g)(1)]: No timber operations shall be conducted within 500 feet of the active nest site or pair activity center during the breeding season. [USFWS recommends for the interior portion of the NSO range: *During the breeding season (February 1 through August 31), no timber operations shall occur within 1000 feet of an activity center other than use of existing, permanent, year-round roads.* USFWS recommends for the coastal portion of the NSO range: *During the breeding season (February 1 through July 31), no timber operations shall occur within 1000 feet of an activity center other than use of existing, permanent, year-round roads.*]
2. 14 CCR § 919.9(g)(1) [939.9(g)(1)]: If timber operations will be conducted within 500 feet of the active nest site or pair activity center outside the breeding season, then provide a description of appropriate measures to protect nesting habitat. [See the USFWS recommendations contained in (1).]
3. 14 CCR § 919.9(g)(2) [939.9(g)(2)]: Sufficient functional characteristics to support roosting and provide protection from predation and storms shall be retained within 500-1000 feet of the active nest site or pair activity center. [See the USFWS recommendations contained in (1).]

Appendix I

U. S. Fish and Wildlife Service Documents



In Response Reply To:
Region 8-ES

United States Department of the Interior

FISH AND WILDLIFE SERVICE

California and Nevada Region
2800 Cottage Way, Room W-2606
Sacramento, California 95825-1846



Mr. Bill Snyder
Cal Fire
PO Box 944246
Sacramento, California
94224-2460

FEB 01 2008

Subject: U. S. Fish and Wildlife Service review of timber harvest plans and non-industrial timber management plans, transition documents

Dear Mr. Snyder:

As per our November 16, 2007, letter and discussed in numerous meetings and telephone conversations, the U.S. Fish and Wildlife Service (Service) will no longer accept requests for technical assistance directly from applicants after February 1, 2008. To ensure that technical assistance requests contain all required information prior to forwarding to the Service, we will only accept technical assistance requests directly from Cal Fire. We will return incomplete technical assistance requests to Cal Fire, and will not initiate review on timber harvest plans (THPs) and non-industrial timber management plans (NTMPs) until all required information is provided. Once initiated, the expected completion time for most THP/NTMP reviews will be approximately six weeks from receipt of the complete request from Cal Fire.

To assist with this transition, we committed to and are providing Cal Fire with a description of the information required to initiate technical assistance with the Service for northern spotted owl, California red-legged frog, and San Francisco garter snake. In addition, we are providing information to familiarize Cal Fire personnel with the analysis process used by the Service to conduct 'no take' evaluations of THPs, including simple 'no take' scenarios for all three species and habitat criteria currently applied by the Service for northern spotted owls during THP review.

This letter transmits the documents described above. Enclosed please find:

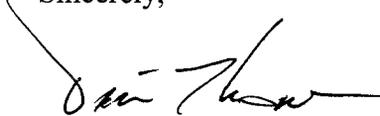
- 1) Information needed for northern spotted owl technical assistance analysis
- 2) Flow chart describing 1-year protocol for northern spotted owl surveys
- 3) Flow chart describing 2-year protocol for northern spotted owl surveys
- 4) Take avoidance scenarios for northern spotted owl
- 5) Take avoidance analysis process for the northern spotted owl - Interior region
- 6) Take avoidance analysis process for the northern spotted owl - Coastal region



- 7) Information needed for California red-legged frog technical assistance
- 8) Take avoidance scenarios for California red-legged frog
- 9) Information needed for San Francisco garter snake technical assistance
- 10) Take avoidance scenarios for San Francisco garter snake

We are scheduled to have a workshop with Cal Fire on February 13, 2008 to discuss the technical assistance process and answer questions that you may have regarding the above documents. Please feel free to contact Darrin Thome or Vicki Campbell at 916-414-6464 if you have any questions regarding this transition.

Sincerely,

A handwritten signature in black ink, appearing to read "Darrin Thome". The signature is fluid and cursive, with a long horizontal stroke at the end.

Darrin Thome
Acting Assistant Regional Director, Ecological Services

Enclosures

Information Needed for US Fish and Wildlife Service
Timber Harvest Plan – Northern Spotted Owl Technical Assistance Analysis

- 1) All documentation submitted for Technical Assistance must be legible
- 2) Letter requesting technical assistance providing general information relevant to the Timber Harvest plan (THP):
 - a. THP number
 - b. Township-Range-Section location data
 - c. Presence/absence of northern spotted owls (NSO)
 - d. Other important information that might influence take determination, such as:
 - i. Operating outside of breeding season
 - ii. THP at high elevation (above 6000 feet)
 - iii. Forest type or physiographic province
- 3) Overview map showing location of THP units in relation to NSO activity centers and detection locations
- 4) Silviculture information:
 - a. Silviculture map(s) from THP showing location of THP units and type(s) of silviculture
 - i. Silviculture prescription important in the case(s) where units are within 1.3 miles of NSO activity centers
 - b. Description of silviculture from THP including number of acres of each silviculture prescription
- 5) Current California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB)/Spotted Owl Viewer Reports 1, 2, and 3 for area extending 1.3 miles from THP boundary
 - a. Report 1 is sufficient if no NSOs activity centers returned by query
 - b. Version date (upper left corner) must correspond to the present rendition of the CDFG database
 - c. If known NSO locations deviate from CDFG reports, submit documentation from landowner supporting placement of NSO activity centers and detections
- 6) Nesting/roosting and foraging habitat mapped out to 0.7 mile from THP boundary or out to 0.25 mile for THPs that will only operate in unsuitable habitat

- 7) Habitat typing maps pre- and post-harvest for each NSO activity center within 1.3 miles of THP boundary
 - a. Extend typing to a 1.3 miles radius from the best-known location for NSO activity center(s)
 - i. Not always be coincident with CDFG Report 2 or 3
 - ii. Reasons for deviations from CDFG report documented
 - b. Maps shall delineate 1000 foot, 0.5 mile, 0.7 mile, and 1.3 miles radii distances from activity center
- 8) Table listing number of acres of nesting/roosting and foraging habitat within 0.5 mile, 0.7 mile, and 1.3 miles of activity centers pre- and post-harvest based on maps provided for #6.
- 9) Survey data:
 - a. Map of call route
 - b. Survey forms or summary sheet including survey date, survey start time, and survey results
 - c. Follow-up forms, if NSOs detected during surveys
 - d. Maps of detection/response locations, if NSOs detected during surveys
- 10) For operations proposed within 1.3 miles of NSO activity centers, habitat typing must be verifiable
 - a. Aerial photo coverage, or equivalent imagery, of the 1.3 miles area surrounding activity centers within which timber operations are proposed
 - b. Include maps of timber operations within 1.3 miles of known NSOs that have occurred since the date of the aerial photo or equivalent imagery
 - c. Include maps of approved timber operations within 1.3 miles of known NSOs
- 11) If requesting a determination of unoccupied status for an activity center, the following are also required:
 - a. Activity center occupancy history
 - b. Survey history
 - c. Current condition of habitat
 - i. Include discussion of past and approved timber operations and natural events such as fire that has or will alter the condition of the habitat.

Northern Spotted Owl Take Avoidance Scenarios

2/1/08

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 below scenarios are recommended tools to avoid take, but are not required approaches imposed by the Fish and Wildlife Service.

- I. Scenario 1: No Take**
 - A. No suitable habitat in harvest units, and
 - B. No suitable habitat within 0.25 mile of timber operations (hauling, roads, units).

- II. Scenario 2: No Take**
 - A. No suitable habitat in harvest units, and
 - B. Suitable habitat within 0.25 mile of timber operations, then:
 - 1. Seasonal restriction from February 1 to July 9,
–OR–
 - 2. Protocol surveys completed with no reproductive behavior and no timber operations until the conclusion of protocol surveys.

- III. Scenario 3: No Take**
 - A. Suitable habitat within harvest units, and
 - B. Protocol surveys are complete, and
 - 1. No owls are detected within 1.3 miles of timber operations
–AND–
 - 2. No historic NSO activity centers within 1.3 miles of timber operations.

- IV. Scenario 4: Avoidance of Disturbance and Direct Take Through Habitat Retention**
 - A. Suitable habitat within some or all harvest units, and
 - B. Protocol surveys detect NSO and/or historic activity centers within 1.3 miles of timber operations, and
 - C. All habitat and operational conditions (see 1 and 2 below) shall be followed for each activity center.
 - 1. Habitat conditions that avoid take
 - a. For Coast, see Attachment A
–OR–
 - b. For Interior, see Attachment B
 - 2. Operational conditions that avoid take
 - a. For harvest units that do not contain suitable NSO habitat, but are within 0.25 mile of suitable NSO habitat

- i. Seasonally restrict timber operations from February 1 to July 9

–OR–

- ii. Protocol surveys completed with no reproductive behavior and no timber operations until the conclusion of protocol surveys

–OR–

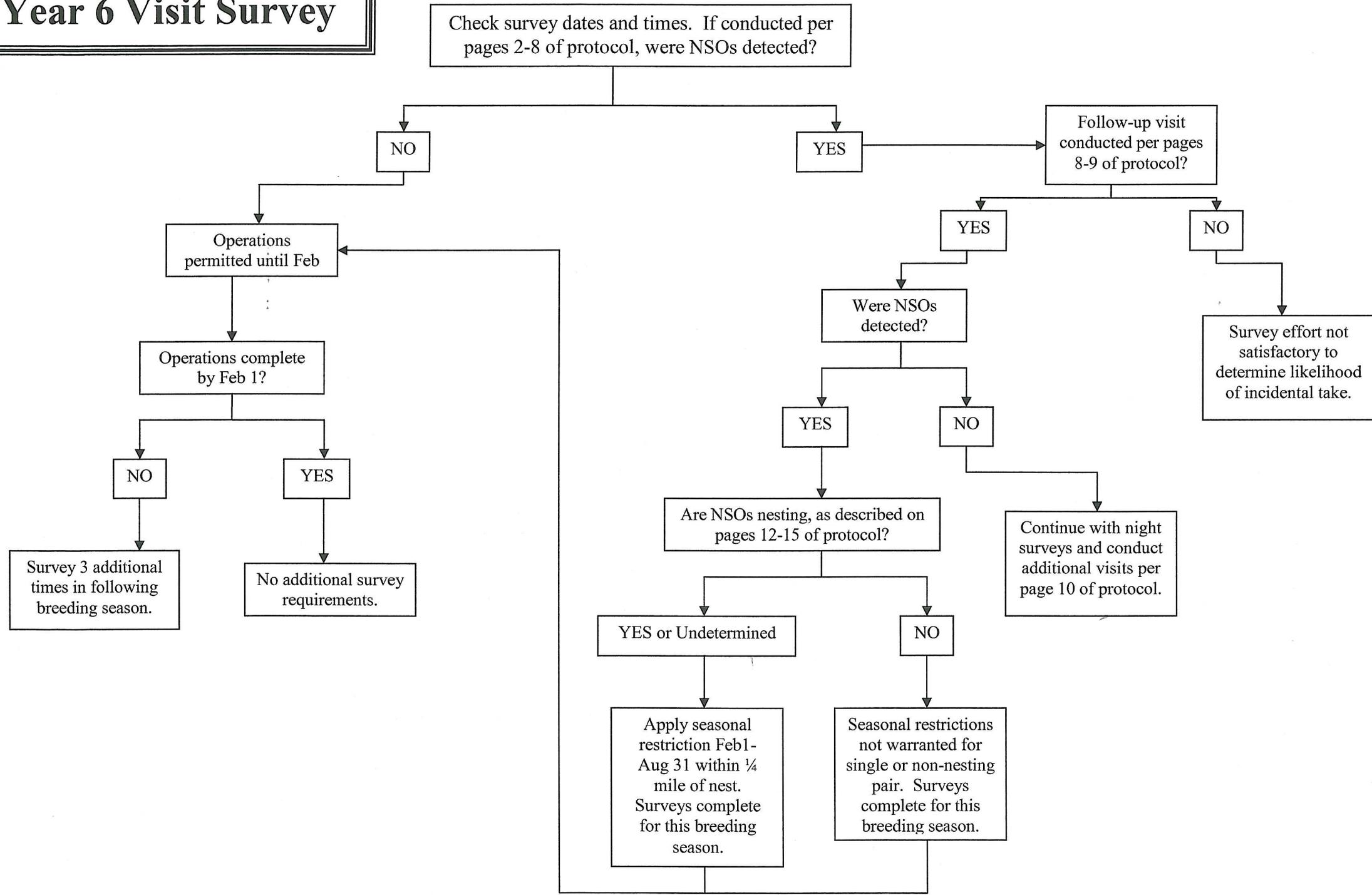
- b. For harvest units that contain suitable NSO habitat

- i. Protocol surveys completed with no reproductive behavior and no timber operations until the conclusion of protocol surveys

–OR–

- ii. Protocol surveys completed with reproductive behavior, no operations from February 1 to August 31 within 0.25 mile of activity center.

1-Year 6 Visit Survey



Check survey dates and times. If conducted per pages 2-8 of protocol, were NSOs detected?

NO

YES

Follow-up visit conducted per pages 8-9 of protocol?

YES

NO

Operations permitted until Feb

Operations complete by Feb 1?

NO

YES

Survey 3 additional times in following breeding season.

No additional survey requirements.

Were NSOs detected?

YES

NO

Survey effort not satisfactory to determine likelihood of incidental take.

Continue with night surveys and conduct additional visits per page 10 of protocol.

Are NSOs nesting, as described on pages 12-15 of protocol?

YES or Undetermined

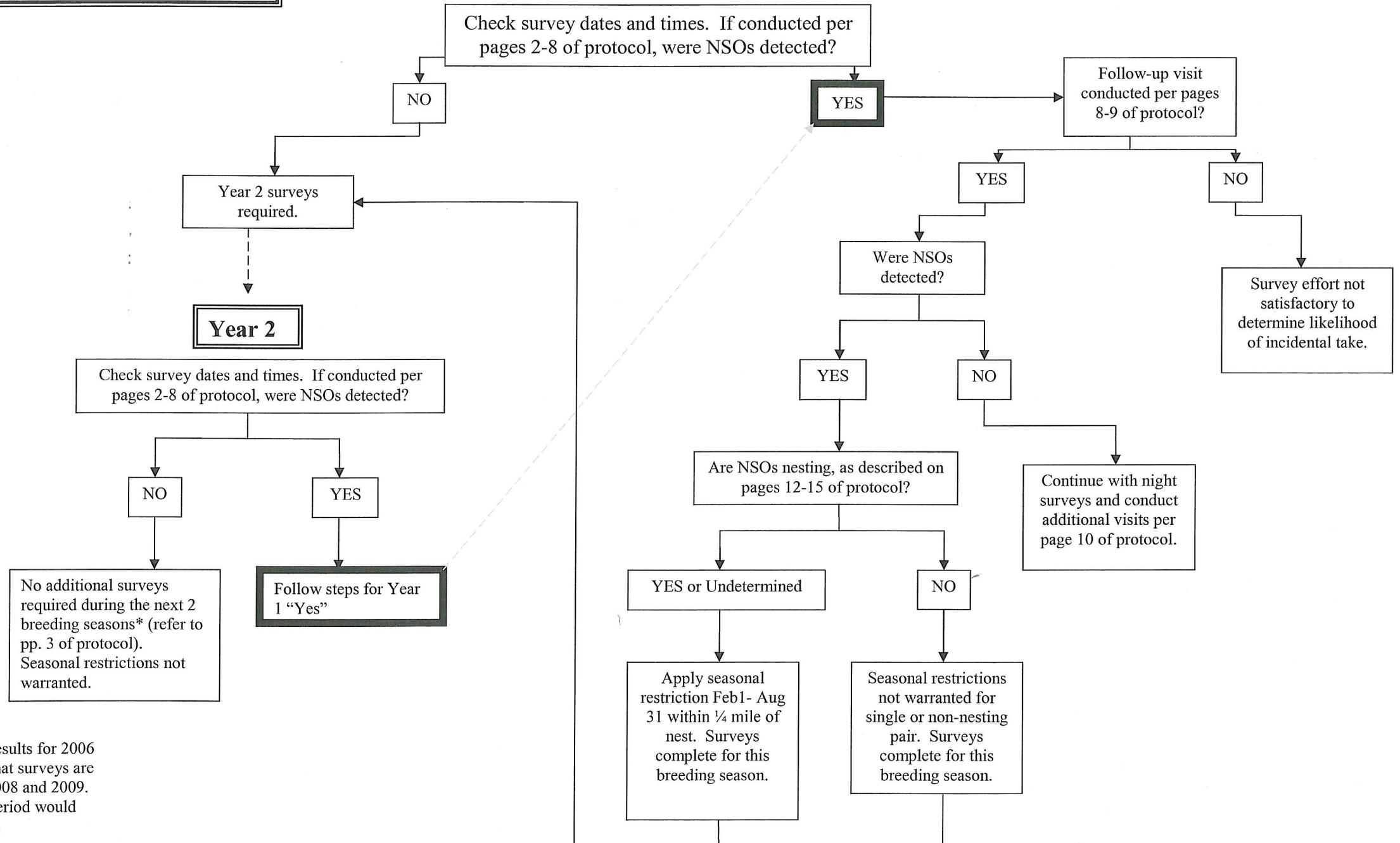
NO

Apply seasonal restriction Feb 1-Aug 31 within 1/4 mile of nest. Surveys complete for this breeding season.

Seasonal restrictions not warranted for single or non-nesting pair. Surveys complete for this breeding season.

2-Year 3 Visit Survey

Year 1



*Example:
 Negative survey results for 2006 and 2007 means that surveys are not required for 2008 and 2009. The next survey period would begin Feb 1, 2010.

Attachment A: Take Avoidance Analysis-Coast

I. Accuracy of NSO activity center location and status

1) Location

- a. Confirm plotted activity center location accuracy
 - i. CDFG Reports 2 and 3
 - ii. Data from adjacent landowners
 - iii. Recent surveys
- b. Document deviations from CDFG locations
- c. Update habitat analysis maps as necessary

2) Status

- a. Valid site
 - i. Review page 11 of protocol to determine
 - ii. If not valid, report to CDFG for inclusion in next database update
- b. Current occupancy status
- c. Current reproductive status, if determined

II. Survey Effort

1) Coverage

- a. Surveys of nesting/roosting habitat out to 0.7 miles from THP boundary
 - i. Use THP habitat map(s) to verify

2) Protocol survey

- a. Time of day
- b. Spacing between visits
- c. Number of surveys
- d. Survey dates
- e. Time spent at each call point

3) Follow up visit(s)

- a. Confirm that the area searched covers suitable habitat within response location/last known location within a logical distance.
- b. Time of follow up and duration of follow up
- c. Additional night surveys
 - i. Review page 10 of protocol

III. Habitat

1) Typing

- a. Verify habitat typing with aerial photos, equivalent imagery, or field visits
- b. Changes to typing need to be reflected in the NSO habitat acres table and habitat analysis maps
- c. Post harvest typing

- i. Post-harvest habitat typing must agree with the silviculture prescription
- 2) Definitions
 - a. Nesting/roosting
 - i. $\geq 60\%$ canopy cover of trees $\geq 11''$ in diameter at breast height (DBH)
 - b. Foraging
 - i. $\geq 40\%$ canopy cover of trees $\geq 11''$ DBH
 - ii. Basal area ≥ 75 square feet per acre of trees $\geq 11''$ DBH
- 3) Quantities
 - a. Within 1000 feet of activity center
 - i. Outside breeding season (August 1 through January 31): no timber operations other than use of existing roads
 - ii. During the breeding season (February 1 through July 30): no timber operations other than the use of existing, permanent, year-round roads
 - b. Within 0.7 mile radius (1000 acres) centered on activity center
 - i. Habitat shall be retained to maximize attributes desirable for NSOs (see Section III. 4 of this document)
 - ii. At least 500 acres of suitable habitat present, as follows:
 - 1. 200 acres of Nesting/roosting Habitat,
 - a. No harvest on 100 acres of Nesting/roosting Habitat immediately surrounding the activity center
 - b. If the remaining 100 acres of Nesting/roosting Habitat is contiguous with the activity center or within the same drainage, harvest may reduce pre-harvest basal area of these acres by no more than 33%
 - c. If the remaining 100 acres of Nesting/roosting Habitat is not contiguous with the activity center or not within the same drainage, retain $\geq 60\%$ canopy cover of trees $\geq 11''$
 - AND–
 - 2. ≥ 300 acres of Foraging Habitat
 - iii. No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP
 - c. Between 0.7 mile radius and 1.3 miles radius circles centered on activity center
 - i. Retention of habitat should follow Section III. 4 of this document
 - ii. ≥ 836 acres suitable habitat must be present
 - iii. No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP
- 4) Priority Ranking of Habitat Retention Acres
 - a. Tree species composition
 - i. Mixed conifer stands should be selected over hardwood dominated stands
 - b. Abiotic considerations

- i. Distance to nest
 1. Nesting/roosting and foraging habitat closest to identified nest trees, or roosting trees if no nest trees identified
- ii. Contiguous
 1. Nesting/roosting habitat within the 0.7 mile radius must be as contiguous as possible
 2. Minimize fragmentation of foraging habitat as much as possible
- iii. Slope position
 1. Habitats located on the lower 1/3 of slopes provide optimal micro-climate conditions and an increased potential for intermittent or year-round water sources
- iv. Aspect
 1. Habitats located on northerly aspects provide optimal vegetation composition and cooler site conditions
- v. Elevation
 1. Habitat should be at elevations of less than 6000 feet, though the elevation of some activity centers (primarily east of Interstate 5) may necessitate inclusion of habitat at elevations greater than 6000 feet.

5) Size and Shape of Habitat Patch

- a. Narrow strips of habitat (WLPZs, retention areas between clearcuts, etc.) may contain the characteristics of nesting/roosting habitat. However, when these narrow strips of habitat are surrounded by unsuitable or low quality habitats, they function as foraging habitat at best.
- b. Narrow strips of habitat (100m or less), provide for a lot of edge habitat and little to no interior habitat. Franklin et al (2000) describe interior habitats as the amount of spotted owl habitat $\geq 100\text{m}$ from an edge. They describe edge habitat as edge between spotted owl habitat and all other vegetation types.
- c. Because WLPZs, for example, are 100m or less in total width, they are considered edge habitats if surrounded by unsuitable habitat. Edge habitats do not provide for protection from predators nor do they provide the microclimates of interior habitats.

IV. Determination

- 1) If surveys are inadequate or do not meet the intent of protocol, take determination may not be possible.
- 2) If habitat typing is inadequate, take determination may not be possible.
- 3) If NSO home range habitat acres are below desired conditions (Section III. 2, 3, and 4), additional loss of suitable habitat can lead to take.
- 4) If NSOs are nesting, utilize seasonal restriction for all timber operations within 0.25 mile of nest (February 1 through July 30).

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- 5) If effects are limited to noise disturbance (e.g., no suitable habitat in harvest units, but suitable habitat within 0.25 mile of units), a modified seasonal restriction may be used from February 1 through July 9
 - a. Seasonal restriction applies to unsurveyed suitable habitat within 0.25 mile of unit boundary.
 - b. If protocol surveys were conducted **and** did not detect reproductive NSOs, seasonal restrictions not warranted.
- 6) Multiple THPs located within a given NSO territory need to be considered collectively or a take determination may not be possible.

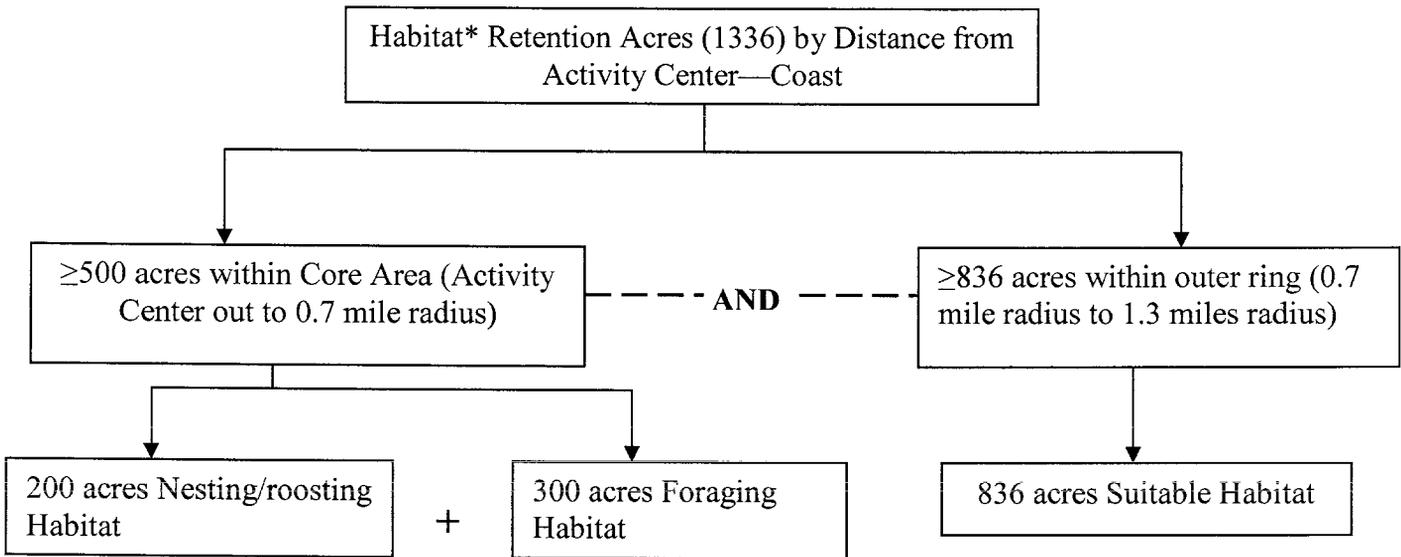
V. TA Letter Contents

- 1) Date of written TA request
- 2) Date request received
- 3) Note if previous TA(s) provided in past
- 4) Number of acres within THP boundary
- 5) Amounts and types of silviculture prescriptions
- 6) Location of THP
 - a. Township, Range, and Section
 - b. Meridian
 - c. County
- 7) Identify NSO activity centers returned by CDFG reports
- 8) Surveys conducted and activity center status
- 9) Logic behind take determination
 - a. Habitat considerations
 - i. Acres, quality, and location of suitable habitat pre- and post-harvest
 - ii. Effects of timber operations on suitable habitat
 1. Degrade: suitable habitat is harvested but still functions in the capacity it did pre-harvest (i.e. Foraging habitat before harvest functions as foraging habitat post-harvest, nesting/roosting habitat pre-harvest functions as nesting/roosting habitat post-harvest)
 2. Downgrade: pre-harvest nesting/roosting habitat becomes foraging habitat post-harvest
 3. Remove: nesting/roosting or foraging habitat is harvested such that it no longer functions as habitat post-harvest
 - b. Proximity of activity center to operations
 - c. Survey data
- 10) Sunset date and seasonal restrictions
 - a. If operations are not complete before February 1, surveys are required to determine location and status of NSOs prior to operations during each breeding season that operations are ongoing.
 - b. If no owls within 1.3 miles of THP (CDFG reports), no suitable habitat within units, **and** no suitable habitat within 0.25 mile of units, additional technical assistance may not be required.
- 11) Name of agency person to contact if there questions regarding TA

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Literature Cited

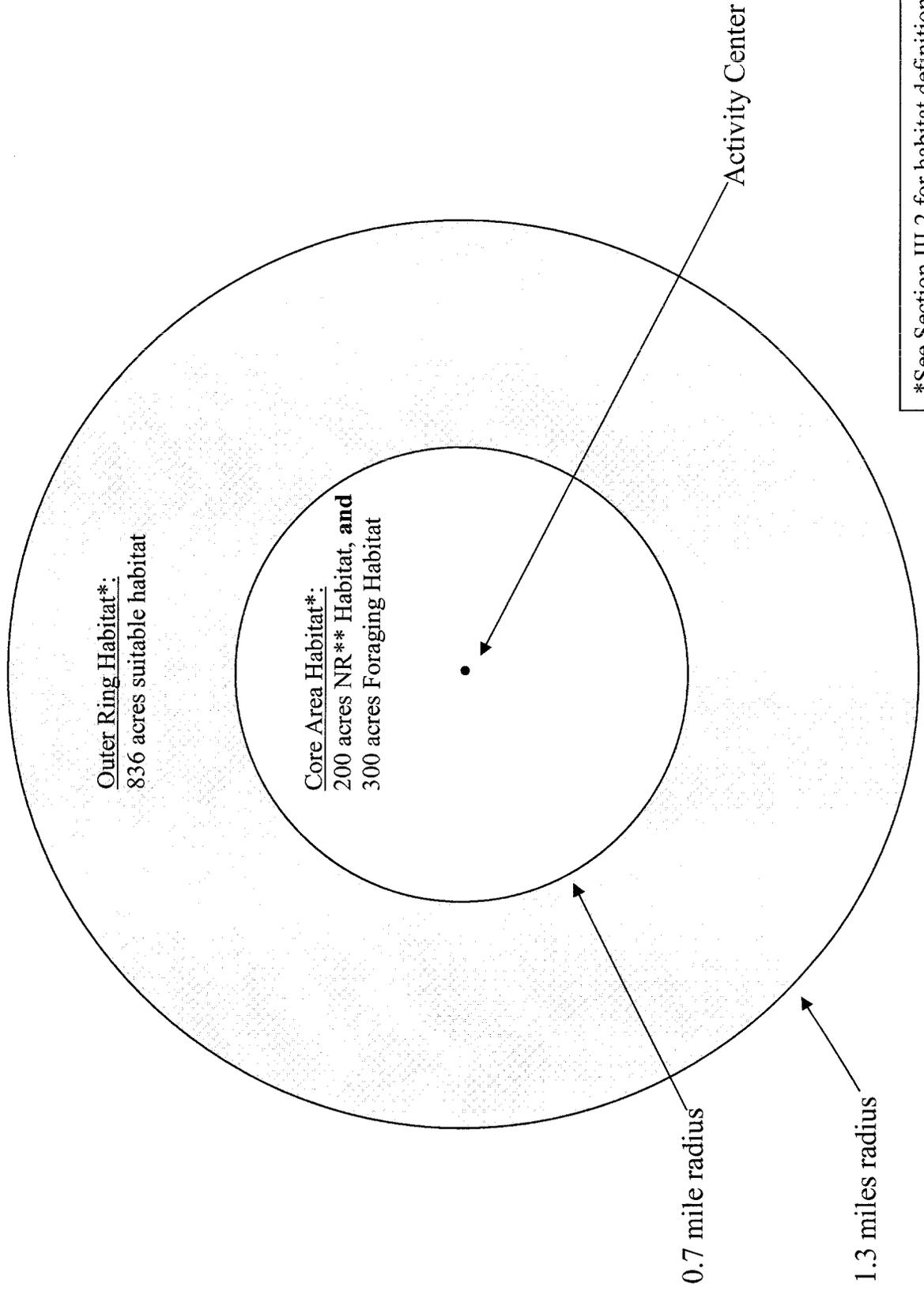
Franklin, A., D. Anderson, R. Gutierrez, and K. Burnham. 2000. Climate, Habitat Quality, and Fitness in Northern Spotted Owl Populations in Northwestern California. *Ecological Monographs*, 70(4), pp. 539-590



*See Section III.2 for habitat definitions

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Habitat Retention within Core Area and 1.3 mile Home Range–Coast



*See Section III.2 for habitat definitions
**NR = Nesting/roosting habitat

Attachment B: Take Avoidance Analysis-Interior

I. Accuracy of NSO activity center location and status

1) Location

- a. Confirm plotted activity center location accuracy
 - i. CDFG Reports 2 and 3
 - ii. Data from adjacent landowners
 - iii. Recent surveys
- b. Document deviations from CDFG locations
- c. Update habitat analysis maps as necessary

2) Status

- a. Valid site
 - i. Review page 11 of protocol to determine
 - ii. If not valid, report to CDFG for inclusion in next database update
- b. Current occupancy status
- c. Current reproductive status, if determined

II. Survey Effort

1) Coverage

- a. Surveys of nesting/roosting habitat out to 0.7 miles from THP boundary
 - i. Use THP habitat map(s) to verify

2) Protocol survey

- a. Time of day
- b. Spacing between visits
- c. Number of surveys
- d. Survey dates
- e. Time spent at each call point

3) Follow up visit(s)

- a. Confirm that the area searched covers suitable habitat within response location/last known location within a logical distance.
- b. Time of follow up and duration of follow up
- c. Additional night surveys
 - i. Review page 10 of protocol

III. Habitat

1) Typing

- a. Verify habitat typing with aerial photos, equivalent imagery, or field visits
- b. Changes to typing need to be reflected in the NSO habitat acres table and habitat analysis maps
- c. Post harvest typing

- i. Post-harvest habitat typing must agree with the silviculture prescription

2) Definitions

a. Nesting/roosting

i. High Quality Nesting/roosting Habitat

1. Basal Area = 210+ square feet, **and**
2. $\geq 15''$ quadratic mean diameter (QMD) , **and**
3. ≥ 8 trees per acre (TPA) of trees $\geq 26''$ in diameter at breast height (DBH) , **and**
4. $\geq 60\%$ canopy closure

ii. Nesting/roosting Habitat

1. A mix of basal areas ranging from 150-180+ square feet, **and**
2. $\geq 15''$ QMD, **and**
3. ≥ 8 TPA of trees $\geq 26''$ DBH, **and**
4. $\geq 60\%$ canopy closure

b. Foraging

i. Foraging Habitat

1. A mix of basal areas ranging from 120-180+ square feet, **and**
2. $\geq 13''$ QMD, **and**
3. ≥ 5 TPA of trees $\geq 26''$ DBH, **and**
4. A mix of $\geq 40\%$ -100% canopy closure

ii. Low Quality Foraging Habitat

1. A mix of basal areas ranging from 80-120+ square feet, **and**
2. $\geq 11''$ QMD, **and**
3. $\geq 40\%$ canopy closure

3) Quantities

a. Within 1000 feet of activity center

- i. Outside breeding season (September 1 through January 31): no timber operations other than use of existing roads
- ii. During the breeding season (February 1 through August 31): no timber operations other than the use of existing, permanent, year-round roads

b. Within 0.5 mile radius (502 acres) centered on activity center

- i. Retention of habitat should follow Section III. 4 of this document
- ii. At least 250 acres nesting/roosting habitat present, as follows:
 1. 100 acres High Quality Nesting/roosting Habitat, **and**
 2. 150 acres Nesting/roosting Habitat
- AND–
- iii. At least 150 acres foraging habitat must be present, as follows:
 1. 100 acres Foraging Habitat, **and**
 2. 50 acres Low Quality Foraging Habitat
- iv. No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP

c. Between 0.5 mile radius and 1.3 miles radius circles centered on activity center

- i. Retention of habitat should follow Section III. 4 of this document
- ii. ≥ 935 acres suitable habitat must be present, as follows:
 1. At least 655 acres Foraging Habitat, **and**
 2. At least 280 acres Low Quality Foraging, **and**
 3. No more than 1/3 of the remaining suitable habitat may be harvested during the life of the THP

4) Applying Habitat Definitions to Forest Stands

- a. Because the structural characteristics of forest stands used by Northern Spotted Owls are heterogeneous, management based on average values is unlikely to retain habitat suitability. For this reason, the habitat definitions provided under Section III.2.a and b. (above) are intended for application at the scale of roughly 20 acres (may be somewhat more or less depending on plot density or measurement technique). This means that within any given 20-acre area intended to serve as Nesting/Roosting or Foraging habitat, the values for QMD, basal area, TPA, and canopy closure should be variable, but stand averages should follow the standards provided under each habitat definition. Where ranges of values are provided (e.g. 150-180 ft² basal area), this means that the mean values can vary across the many 20-acre areas that make up a spotted owl core area and home range. It is important to recognize habitat quality will be compromised by timber harvesting that moves stand parameters towards uniformly low average values for stand density and tree size, even during multiple entries. This is particularly true at spotted owl territories with low (at or below quantities in Section III.3.a-c) amounts of habitat; in these cases the highest-quality habitat available should be identified and retained before treatment of other suitable habitat is considered.

5) Priority Ranking of Habitat Retention Acres

- d. Tree species composition
 - i. Mixed conifer stands should be selected over pine dominated stands
- e. Abiotic considerations
 - i. Distance to nest
 1. Nesting/roosting and foraging habitat closest to identified nest trees, or roosting trees if no nest trees identified
 - ii. Contiguous
 1. Nesting/roosting habitat within the 0.5 mile radius must be as contiguous as possible
 2. Minimize fragmentation of foraging habitat as much as possible
 - iii. Slope position
 1. Habitats located on the lower 1/3 of slopes provide optimal micro-climate conditions and an increased potential for intermittent or year-round water sources
 - iv. Aspect
 1. Habitats located on northerly aspects provide optimal vegetation composition and cooler site conditions

v. Elevation

1. Habitat should be at elevations of less than 6000 feet, though the elevation of some activity centers (primarily east of Interstate 5) may necessitate inclusion of habitat at elevations greater than 6000 feet.

6) Size and Shape of Habitat Patch

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- 2) If habitat typing is inadequate, take determination may not be possible.
- 3) If NSO home range habitat acres are below desired conditions (Section III. 2, 3, and 4), additional loss of suitable habitat can lead to take.
- 4) If NSOs are nesting, utilize seasonal restriction for all timber operations within 0.25 mile of nest (February 1 through August 31).
- 5) If effects are limited to noise disturbance (e.g., no suitable habitat in harvest units, but suitable habitat within 0.25 mile of units), a modified seasonal restriction may be used from February 1 through July 9
 - a. Seasonal restriction applies to unsurveyed suitable habitat within 0.25 mile of unit boundary.
 - b. If protocol surveys were conducted **and** did not detect reproductive NSOs, seasonal restrictions not warranted.
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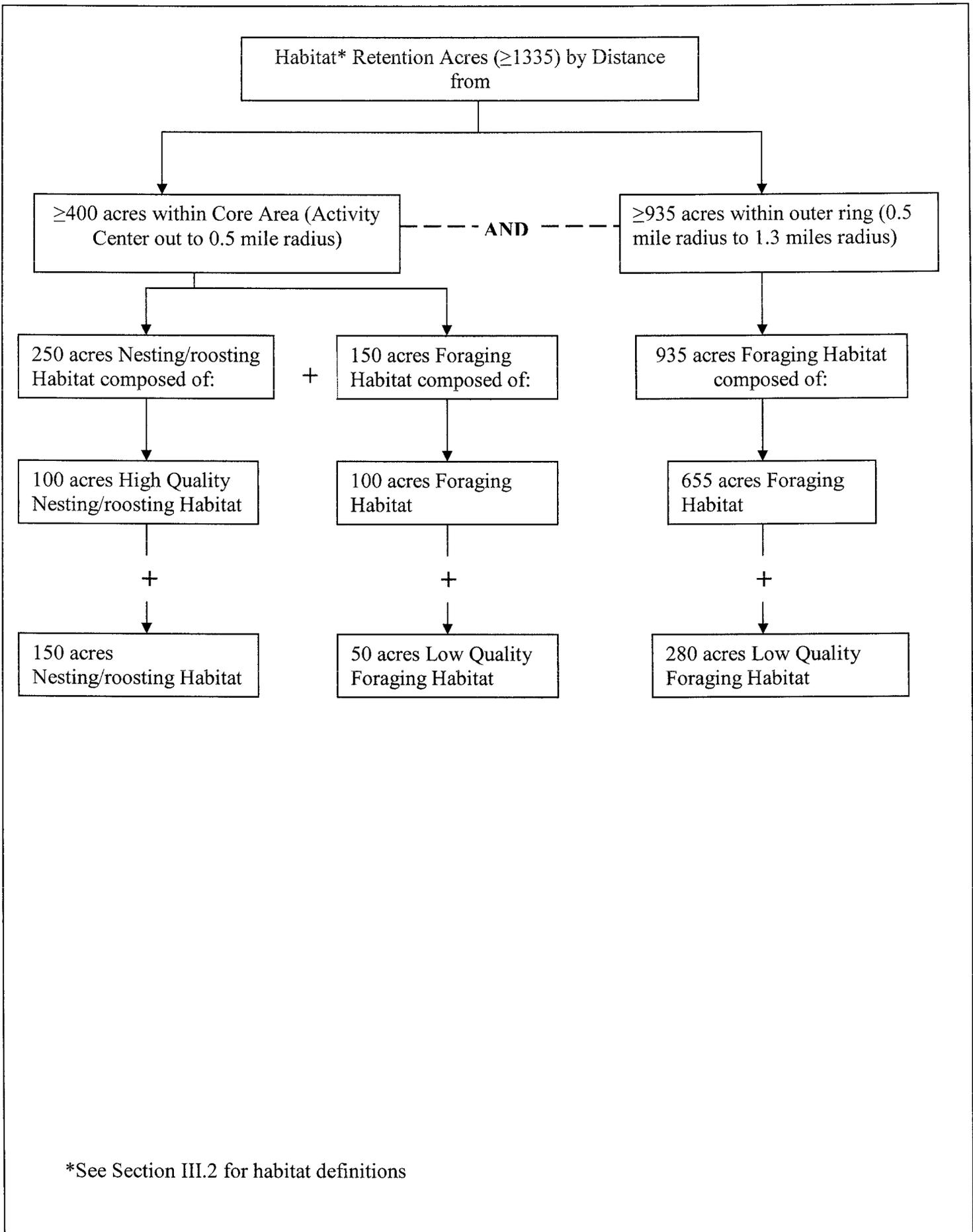
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 - i. Acres, quality, and location of suitable habitat pre- and post-harvest
 - ii. Effects of timber operations on suitable habitat
 1. Degrade: suitable habitat is harvested but still functions in the capacity it did pre-harvest (i.e. Foraging habitat before harvest functions as foraging habitat post-harvest, nesting/roosting habitat pre-harvest functions as nesting/roosting habitat post-harvest)
 2. Downgrade: pre-harvest nesting/roosting habitat becomes foraging habitat post-harvest
 3. Remove: nesting/roosting or foraging habitat is harvested such that it no longer functions as habitat post-harvest
 - b. Proximity of activity center to operations
 - c. Survey data
- 10) Sunset date and seasonal restrictions
 - a. If 2 year protocol and surveys are current and negative, additional TA needed if operations not completed by February 1, *YEAR* (review protocol page 3).
 - b. If 1 year protocol and surveys are current and negative, additional TA needed if operations not completed by February 1, *YEAR* (review protocol page 3).
 - d. If NSOs detected in previous surveys and operations are not complete before February 1, surveys are required to determine location and status of NSOs prior to operations during each breeding season that operations are ongoing.
 - e. If no owls within 1.3 miles of THP (CDFG reports), no suitable habitat within units, **and** no suitable habitat within 0.25 mile of units, additional technical assistance may not be required.
- 11) Name of agency person to contact if there questions regarding TA

Literature Cited

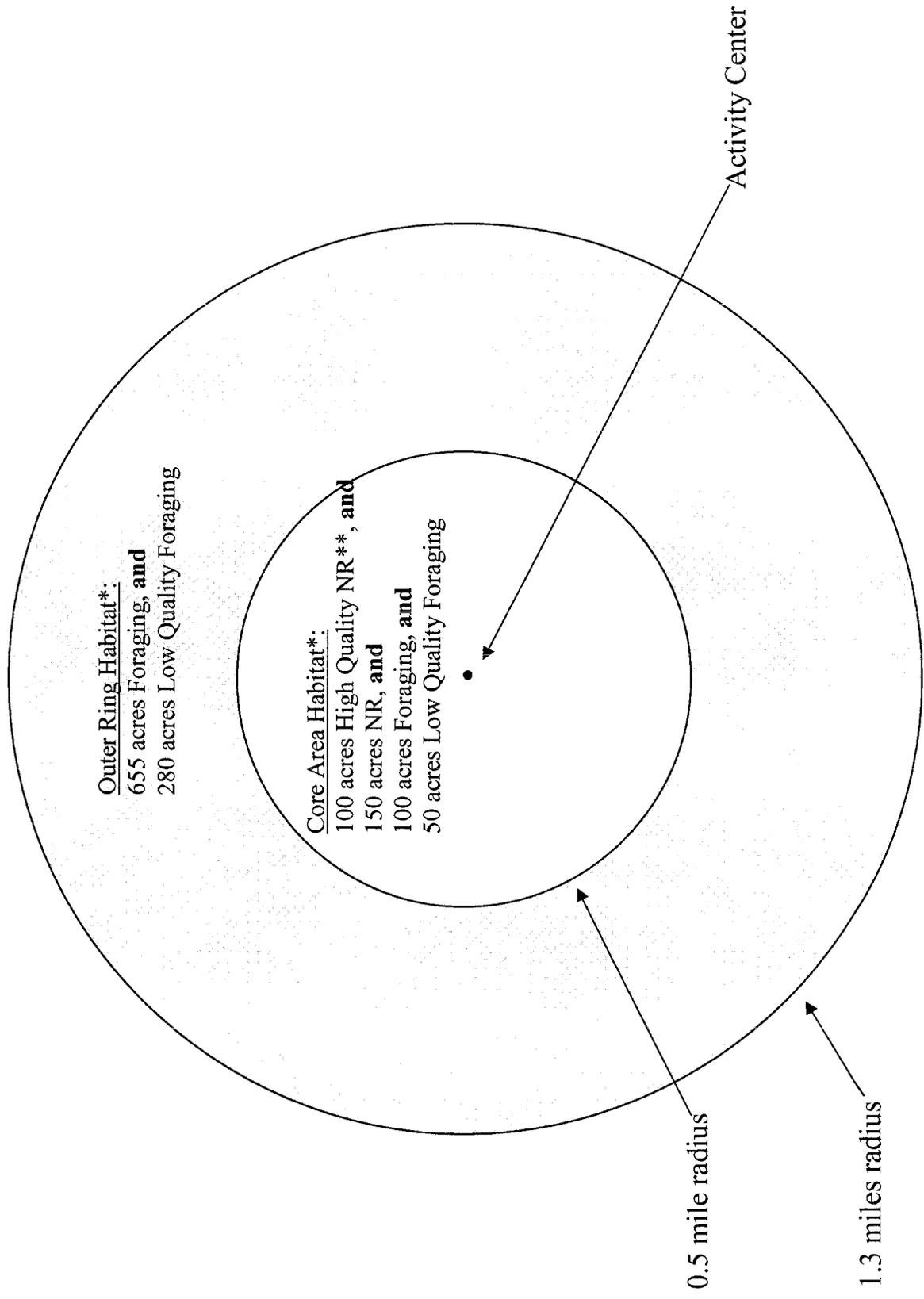
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**NR = Nesting/roosting