

Standard Local Operating Procedures for Endangered Species
Bald Eagles

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USFWS South Florida Ecological Services Office

The Standard Local Operating Procedures for Endangered Species (SLOPES) for the bald eagle provides a tool to assist the user in determining if an action, i.e., a Federal permit, a Federal construction project, or other such action, may adversely affect bald eagles. These procedures provide the user with a stepwise process to determine what effect the action will have on eagles and options available that may avoid or minimize the action's effects to eagles.

The Fish and Wildlife Service (Service) encourages Federal agencies to utilize the guidelines set forth in the "Habitat Management Guidelines for the Bald Eagle in the Southeast Region" (Habitat Management Guidelines) (Service 1987) for any action they propose that may have an effect on bald eagles. Another useful document, when dealing with power line issues is the "Suggested Practices for Raptor Protection on Power Lines, the State of the Art in 1996" (APLIC 1996). The "South Florida Multi-Species Recovery Plan" (Service 1999) provides a synopsis of bald eagle ecology in this area.

The bald eagle SLOPES flowchart can be found in Figure 1. The first step requires project-specific information that includes a project description, habitat maps, and project location. On the project map, determine the boundaries of the project and a 457-m (1,500 ft) wide buffer surrounding the project boundaries. In evaluating project effects to the bald eagle in south Florida, the Service regards the primary protective zone as 229 m (750 ft) and the secondary protection zone as 457 m (1,500 ft) surrounding the nest tree (Service 1998). The buffer identifies the area where the primary and secondary protective zones of a bald eagle nest might overlap with project activities.

Suitable habitat for bald eagles is forested canopies that are within 3 km (1.9 mi) of open water, such as borrow pits, lakes, rivers, and large canals. Suitable nest sites also include utility and communication transmission towers. Nesting habitat comprises a nest tree, perch, and roost sites, and adjacent high-use areas, but usually does not include foraging areas.

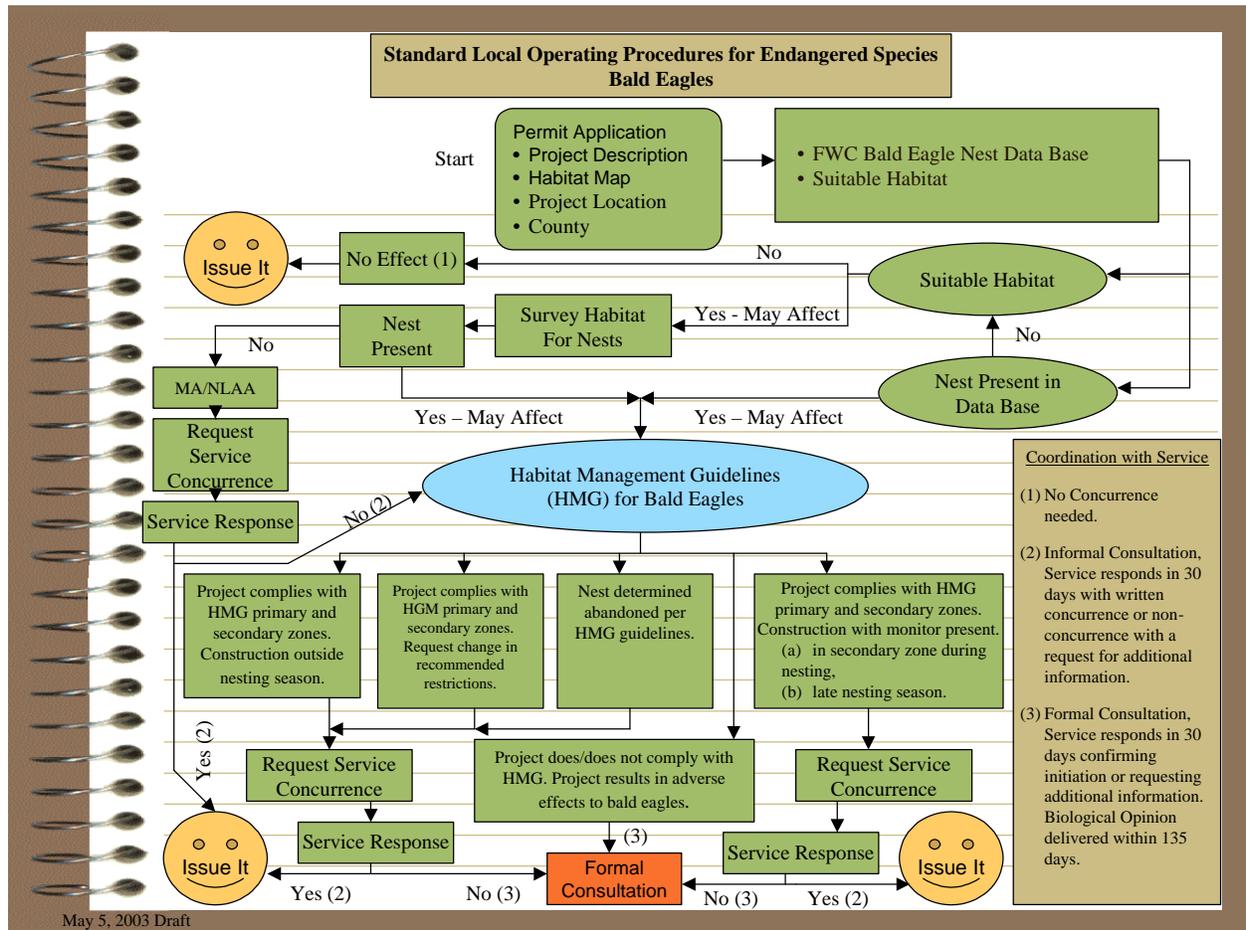


Figure 1. Bald Eagle SLOPES Flowchart Guide

The active nest, perch, roost sites, and use areas around the nest, comprise the nesting territory. Most eagles select nest trees that are larger and taller than surrounding trees, except in extreme southern Florida where nests are typically located in mangrove snags (Service 1999). Forest stands containing the nest site are usually multi-layered, mature, or old-growth stands. Nests are usually positioned below the treetop in live conifers, although many tree species have been used for nesting. The structure of the tree appears to be more important to nesting eagles than the tree species. In south Florida, nests are often in the ecotone between forest and marsh or water, and are constructed in dominant or co-dominant living pines (*Pinus* spp.) or bald cypress (*Taxodium distichum*) (McEwan and Hirth 1979). About 10 percent of eagle nests are located in dead pine trees, while 2 to 3 percent occur in other species, such as Australian pine (*Casuarina equisetifolia*) and live oak (*Quercus*

virginiana). The stature of nest trees decreases from north to south (Wood et al. 1989) and in extreme southwest Florida eagles nest in black (*Avicennia germinans*) and red mangroves (*Rhizophora mangle*), half of which are snags (Curnutt and Robertson 1994). Nest trees in south Florida are smaller and shorter than reported elsewhere; however, comparatively they are the largest trees available. In this area, bald eagles breed and nest during the winter. Contrary to changes in habitat use exhibited by northern bald eagle populations, eagles in the south do not substantially alter habitat use throughout the year.

The Florida Fish and Wildlife Conservation Commission's (FWC) conducts annual aerial surveys for bald eagle nests throughout Florida. Bald eagle nests are found throughout the area (Figure 2). Known bald eagle nest locations can be found at the FWC web site <http://www.wildflorida.org/eagle/eaglenests>. Nest locations are approximate so some nest sites might require nest surveys.

Although bald eagles and nest trees are usually very easily observed during the annual FWC eagle nest surveys, the recruitment of young eagles into the adult breeding population and existing nest locations in visually restrictive tree canopies may result in an unrecorded nest in suitable habitat. To determine if unrecorded nests are present in the project area and buffer, the Service recommends that all suitable habitat, any forest canopy within 3 km (1.9 mi) of open water, be inspected for nesting bald eagles.

If no nests are reported in the database and no suitable habitat is present within the project area and buffer, then a determination that the project will have "no effect" on bald eagles can be made and other permitting action can proceed. If desired, a concurrence letter from the Service can be requested.

May Affect Determinations

If suitable habitat is present in the project area and no nests are reported in the FWC database, the Service presumes that suitable habitat is occupied and a determination of "may affect" for the bald eagle would result then a nest survey should be conducted.

If the nest surveys do not detect bald eagle nests, then a "may affect, not likely to adversely affect" determination can be reached. To receive concurrence with this determination from the Service, supporting data in a biological evaluation report (see below for details) documenting the level of survey effort in suitable habitat and the reason for the determination, i.e., surveys of suitable habitats did not detect bald eagle nests.

If the surveys detect a bald eagle nest or the FWC database shows a nest present within the property and buffer, then a "may affect, likely to adversely affect" determination is made and further consultation with the Service is warranted. The Habitat Management Guidelines (Service 1987) provide a series of recommended activity restrictions in the primary and secondary zones during both nesting and non-nesting season. These recommendations are the basis for a Service concurrence with "may affect" determination. Five "may affect" scenarios are provided below for consultations. Four provide for "may affect, not likely to adversely affect" determinations, and the fifth for a "may affect, likely to adversely affect" determination requiring formal consultation.

Project Complies With Habitat Management Guidelines Non-nesting Season Construction

The first scenario requires the least amount of technical review. In this scenario, the project provides for full restriction of intrusive actions in the primary and secondary zones, with any acceptable land uses occurring outside the nesting season. Primary zone restrictions include no residential, commercial, or industrial development, no tree cutting or logging, no construction and mining, and no use of chemicals toxic to wildlife. The primary zone is set aside by deed restriction, easement, or other protective covenants as an environmentally sensitive area. During the nesting season, unauthorized human entry is restricted and helicopter or fixed-wing flyovers within 152 m (500 ft) vertically and 305 m (1,000 ft) horizontally are prohibited. The nest and the nest tree are protected by both Federal and State law and removal or other means of physical damage is prohibited year-round. However, during the non-nesting season, exotic species control and other wildlife enhancement actions may be permitted in the primary zone.

Restrictions in the secondary zone include no new commercial or industrial sites, no multi-story buildings, no high density housing developments or apartment complexes, no construction of new roads, trails, or canals that would facilitate access to the nest, and no use of chemicals toxic to wildlife. Again, these restrictions need to be assigned by deed restrictions, easements, or other protective covenants.

During the non-nesting season, activities not specifically restricted above for the secondary zone that are acceptable land uses include single family residential developments, parks, trails, etc.

The incorporation of these primary and secondary zone designations and prohibitions into land-use restriction documents and provided as a component of a Bald Eagle Management Plan would allow a determination that the project "may affect, but is not likely to adversely affect" the bald eagle and concurrence requested from the Service.

Project Complies With Habitat Management Guidelines
Non-nesting Season Construction
Modifications of Primary and Secondary Zone Areas

The Service believes that there are very few circumstances that biologically justify modifications of the primary zone. Some activities not recommended to occur within the primary zone may be allowed if data are available to support their implementation. This option provides guidance for projects where a modification of the recommended primary and secondary zones is requested. Modifications of the primary and secondary zone boundaries are viewed on a site-specific, project-specific basis and are based on the existing habitat qualities in these zones and the flight patterns of the eagles. In order to support a request to modify the dimensions of a zone, data are necessary on the habitat types in each of the zones, flight patterns of the eagles, available foraging areas, and foraging routes. A biological assessment of this data must be provided with an explanation of why the proposed modifications would not adversely affect the nesting eagles. This information should be incorporated as a component of the Bald Eagle Management Plan. If the data in the Bald Eagle Management Plan biologically supports a request to modify the primary and secondary zones, a

determination that the project "may affect, but is not likely to adversely affect" the bald eagle can be made and concurrence requested from the Service.

Nesting Season Construction
Secondary Zone Only

This "may affect" scenario provides for a project with the same site parameters as the first scenario, including the restrictions in the primary and secondary zone and the incorporation of the land development covenants into the project. The difference in this scenario, is that project construction activities are proposed in the secondary zone during the nesting season. In general, construction in the secondary zone during the nesting season is viewed by the Service as a "may adversely affect" for the species and may result in "take," which would require formal consultation. However, based on past nest monitoring reports provided to the Service that evaluated nesting bald eagle responses to various types of disturbances and noise levels, the Service found that bald eagles appear to be tolerant of new disturbances that mimic existing levels of disturbance. Based on these monitoring reports, the Service believes that passive construction activities, i.e., surveying, landscaping, and other similar types of construction actions that do not generate high levels of noise, vibration, or dust, may be conducted in the secondary zone. Because a wide range of construction activities could be considered passive or active and the levels of disturbance can vary greatly from site to site, the Service believes that the potential for adverse effects is still present. To assist in determining when an action approaches adverse effects and provide the Service with reasonable assurance that the potential for "take" from the construction action in the secondary zone during nesting does not occur, the Service requires that a site monitor be present during construction. The monitor's responsibilities and reporting requirements are discussed under the Bald Eagle Monitoring Report below.

The incorporation of the primary and secondary zone designations and prohibitions into land-use restriction documents, the commitment to provide a site monitor during passive construction actions in the secondary zone during the nesting season, and the preparation of a Bald Eagle Management Plan that documents the designations, prohibitions, and monitoring, would allow a

determination that the project "may affect, but is not likely to adversely affect" the bald eagle and concurrence requested from the Service.

Late Nesting Season Construction

This "may effect" scenario applies to a project where start of construction is proposed in the secondary zone prior to the end of the nesting season. In this situation, construction would be allowed provided the fledglings have left the nest and are capable of sustained flight. To determine if the fledglings have left the nest and are capable of flight, site monitoring is required. Specific monitoring requirements are discussed under the Bald Eagle Monitoring Report below. Documentation that the fledglings have left the nest and are capable of sustained flight would allow a determination that the project "may affect, but is not likely to adversely affect" the bald eagle and concurrence requested from the Service.

Nest Abandoned, Blown Down, or Taken Over by Other Raptors

This "may affect" scenario provides guidance in assessing adverse effects to bald eagle nests that may have been abandoned, blown down during storm events, or taken over by other nesting raptors. Documented bald eagle nests are protected both by Federal and State laws. In situations, where nests are blown down or damaged during storm events, the eagles will usually rebuild the nest during the next nesting season in the same or adjacent tree. In certain circumstances, several years may pass before a new nest is constructed. It has been observed that bald eagle nests may be taken over by other raptors that precluded the eagles from nesting in their historical locations. Also, it has been observed that in these situations, if the raptors vacate the nest, the eagles will again occupy the site. Bald eagles will also abandon a nest if the basic ecological functions necessary for survival are lost. The Service does not consider a nest abandoned until it has been documented so for five consecutive breeding seasons.

To evaluate such situations, the Habitat Management Guidelines (Appendix A) provide recommendations that a nest site be protected for no less than two years for blown down nests and five years for abandoned nests; no recommendations are made for nests occupied by other raptors. The Service believes that

consistency in the review of these issues is important. Throughout the Habitat Management Guidelines the discussions center around the importance of the nest site, not the nest itself, to the survival and well-being of bald eagles. To provide consistency the Service believes that the guidelines for a lost nest or nest tree should be applied to a blown down nest and a nest occupied by other raptors and the guidelines for an abandoned nest be applied only to a documented non-use nest site where a nest still exists.

The incorporation of these recommendations into the project and documented in the Bald Eagle Management Plan would allow a determination that the project "may affect, but is not likely to adversely affect" the bald eagle and concurrence requested from the Service.

Formal Consultation

The fifth "may affect" scenario addresses the circumstances where an action results in a "may affect, likely to adversely affect" determination for the bald eagle. In these situations, the proposed actions because of a variety of project-specific circumstances either cannot be achieved during the non-nesting season in the secondary zone, require intrusion into the primary zone, or other actions that will result in adverse effects to either the eggs in the nest, the nestlings, the nest tree, or the primary zone. In these situations, formal consultation is required with the Service. The Habitat Management Guidelines (Service 1997) are essential in determining the options that may be available to minimize adverse effects to eagles and reduce the amount of incidental take. Activities that may be appropriate to minimize project effects could include habitat enhancement actions, muffling of equipment, less intrusive constructions methods, and other project specific recommendations. In this scenario, the Service recommends early consultation to identify issues and options available to reduce the project's adverse effects to bald eagles.

When a request is received for formal consultation, the Service will provide within 30 days, acknowledgment that formal consultation has begun or that the Service believes that additional data are needed before formal consultation can begin. Formal consultation concludes 90 days following receipt of the initial request or following receipt of the additional data. An integral part of the initial review package is an analysis of

the manner in which the action may affect listed species. This analysis needs to also include an estimation of the extent of take. The Biological Opinion is completed within 45 days following conclusion of formal consultation. As defined in 50 CFR 402.14(c), the additional data is the best scientific or commercial data available that would assist the Service in formulating its Biological Opinion and is not to be a request for a special research project.

Report Guidelines

Three documents can help in the preparation of the analysis of actions that may affect the bald eagle.

Biological Evaluation/Biological Assessment Report

Guidelines for this report are found in Appendix A of the SLOPES Introduction and includes the typical data necessary to prepare the Biological Opinion (Service 2002). In general, the report includes a project introduction, proposed action, project habitat descriptions, project effects, recommendations to minimize project effects, and conclusions. More detail is required in a biological assessment report for formal consultation. This document is the basis for determination of effect and needs to include sufficient information to support the determination.

Bald Eagle Management Plan

A management plan is necessary when project actions may affect bald eagles. The plan addresses primary and secondary zone issues and compliance with the Habitat Management Guidelines. The plan includes any proposed monitoring and mitigation, baseline surveys, noise surveys, and actions proposed to minimize adverse effects to bald eagles. The management plan can be a component of the Biological Evaluation/Biological Assessment Report or may substitute if no other listed species are affected by the proposed action. All projects should be carefully considered on a case-by-case basis. Consider the following when assessing project effects to bald eagles:

What is the level of use of the project area by bald eagles? You may need to conduct surveys.

How is the area used? Why are eagles there? Are they transient, foraging, perching, roosting, nesting, etc.?

What effect will the project have on the eagle's primary food sources and foraging area in the areas influenced by the project?

What actions are proposed to minimize potential effects to bald eagles, include baseline monitoring, construction monitoring, and site enhancement actions, if any.

Methods to reduce impacts include conducting the activity out of the nesting season, limiting action to short duration, or using equipment that may reduce levels of noise or disturbing activity such as vibratory pile drivers, muffler systems or rubber mats, and use of a site monitor. Impacts may be different at each site, depending on the individual birds' tolerance, and existing levels of activity.

An outline for the Bald Eagle Management Plan is as follows:

1. Introduction
 2. Project Description
 3. Project History
 - 4 Existing Environmental Setting
 - a. Habitat Description
 - b. Wildlife Description
 5. Project Effects (include a discussion of the assessment factors listed in the preceding section)
 6. Conclusion and Commitments
- List of Figures
List of Appendices
Field Data Sheets

Bald Eagle Monitoring Report

This report is a product resulting from specific monitoring requirements of the Bald Eagle Management Plan and is necessary for actions that have the potential to affect nesting eagles. The key component in the plan is the site monitor. A monitor is a person with knowledge and technical skills sufficient to distinguish between the various types of verbal and physical at-rest and stress displays exhibited by bald eagles. The monitor

is designated by the project to observe bald eagle activity during on-site activities and must have authority to halt ongoing construction, if bald eagle stress displays are observed. Commonly observed non-stress displays include perching, preening, courtship, feeding, nest building, copulation, or incubation. Commonly observed stress displays include alarm calls, screeching, dive bombing, head bobbing, and rapid head turning.

The monitoring report including the raw data should be submitted to the Service within 30 days following work completion. All correspondence with the Service should be copied to both the local and Tallahassee offices of the Florida Fish and Wildlife Conservation Commission for their database (see (Service 1998) for details).

An outline for the monitoring report is as follows:

1. Introduction
 2. Project Description
 3. Project History
 4. Existing Environmental Setting
 - a. Habitat Descriptions
 - b. Wildlife Descriptions
 5. Monitoring Methodology
 - a. Literature Review and Agency Coordination
 - b. Baseline Monitoring Method
 - c. Noise Level Readings
 - d. Current Site Activity
 6. Results
 7. Conclusions
- List of Figures
List of Appendices
Field Data Sheets

References

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