

Northern Spotted Owls and Forestry

Wildlife in Managed Forests:
Reference Series

Northern spotted owls (NSOs) (*Strix occidentalis caurina*) are protected in Oregon by the state and federal Endangered Species Acts, where they are listed as threatened. The species also receives protections through the Oregon Forest Practices Act (FPA).

NSOs have the northernmost range of the three spotted owl subspecies. These owls inhabit dense, mature forested areas and in Oregon are found from the eastern foothills of the Cascade Range west to the Coast Range. NSOs are a medium-sized owl that is dark brown overall with diagnostic white spots on the head and breast. Their tails are barred with white.

NSOs inhabit mature forest and old growth stands with large trees that form a multi-layered, multi-species canopy. They require forests with dense canopy closure (>60%), large standing and fallen dead trees, and many trees with deformities (such as cavities and broken tops). These abnormal trees and structures are important for nesting and roosting.

NSOs prey primarily upon small mammals, including wood rats, flying squirrels, and red tree voles. They also supplement their diet with insects, other birds, and the offspring of slightly larger mammals. They are “perch and pounce” hunters, and require adequate space beneath the forest canopy to fly and capture prey.

WHAT ARE SOME THREATS TO THE NSO?

NSO must compete with increasing barred owl populations for nesting habitat and food. In addition, timber harvest was historically, and still is today, a threat to NSO habitat. Timber harvest (especially near NSO activity centers) poses threats to nesting NSOs.

WHAT IS MOST LIKELY TO DISTURB A NESTING NSO?

- timber harvest
- road construction
- low-flying aircraft

WHEN DO NORTHERN SPOTTED OWLS NEST?

Critical nesting period:
Mar 15 - Sep 30

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Non-breeding season	Courtship behavior	Egg laying/ incubation	Hatching	Fledging	Parental care continues			Non-breeding season			



WHAT DOES THE FPA REQUIRE FOR NESTING SITES?

- protect the resource site, which consists of a 70-acre “core area” surrounding an NSO nest site or activity center of a pair of owls
- the shape of the 70-acre core area may depend upon the characteristics of the forest: It must encompass the activity center or nest tree and consist of forest stands that come closest to the habitat desired by NSOs
- seasonal restrictions

HOW DO I PROTECT THE RESOURCE SITE?

- maintain the suitable habitat for NSO within the core area. Forest practices that do not maintain the suitability of the core area are prohibited. Generally, timber harvests within the core area are not allowed.
- restrict operations within 0.25 mile of a nest site between March 1 and September 30. This may be waived if it can be shown that there are no NSOs present or they are not nesting.
- maintain protections to NSO resource sites until there is reliable evidence (usually protocol surveys) that the site is no longer occupied by owls.

SOURCES & MORE INFORMATION

Oregon Forest Practices Act:
<http://www.oregon.gov/odf/Pages/lawsrules.aspx>

Cornell Lab of Ornithology

Northern spotted owl Information site: <https://www.fws.gov/species/northern-spotted-owl-strix-occidentalis-caurina>

HOW DO I MAINTAIN SUITABLE HABITAT?

Suitable NSO requires a forest with suitable nesting and roosting structures, as well foraging and aging opportunities. Important habitat elements may include high canopy closure, a multi-layered, multi-species canopy with large overstory trees and a presence of large standing snags, broken-topped trees, or other nesting platforms (e.g., mistletoe clumps). Logs and stumps are other important habitat features that provide shelter for the prey of NSOs. The appearance and structure of these forests will vary across the range of the spotted owl, particularly in dry eastside forests. Maintaining or managing for these types of habitat conditions, both within core areas and within the larger home range area (up to 1.5 miles from a nest site) is likely to benefit spotted owls.

Maintain suitable habitat by:

- limiting or prohibiting timber harvest activities within the core area
- submitting a Notification of Operation to ODF when working within 1/2 mile of an NSO resource site
- if ODF finds that the proposed operation will be in conflict with an NSO resource site, submitting a written plan for review by ODF



Photo by Christine Maynard.



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