Frequently Asked Questions about Northern Spotted Owl Recovery

Status of the Northern Spotted Owl:

What are the main chacteristics of the northern spotted owl?

The northern spotted owl (*Strix occidentalis caurina*) is a medium-sized owl and the largest of three subspecies of spotted owls currently recognized by the American Ornithologists' Union (the other two subspecies are the Mexican and California spotted owls).

Northern spotted owls are dark brown with a barred tail and white spots on the head and breast, and have dark brown eyes surrounded by prominent facial disks. Males and females have similar plumage but males are smaller than females. The spotted owl's head does not have ear tufts as some owls do. They weigh about 22 ounces, are about a foot and a half in length, and have a wingspan of about 45 inches. In the wild, spotted owls often live 16-17 years.

Spotted owls feed primarily on northern flying squirrels in the northern western hemlock/Douglas fir forests and dusky-footed woodrats in the southern, drier, mixed conifer/mixed evergreen forests. They also will prey on other small mammals, birds, reptiles, and insects. Non-migratory and highly territorial, spotted owls general remain in the same areas throughout the year but will expand their territories in fall and winter when prey becomes more difficult to find. They are primarily nocturnal and they mate for life.

The current range of the northern spotted owl extends from southwest British Columbia through the Cascade Mountains, coastal ranges, and intervening forested lands in Washington, Oregon, and California as far south as Marin County. Spotted owls generally rely on older forested habitat that contains the structures and characteristics they require for nesting, roosting, and foraging. Like most species of owls, spotted owls do not build nests. They nest in the broken tops of trees, in tree cavities, and on natural platforms in large trees, such as mistletoe brooms and nests built by other species.

What is the status of the northern spotted owl?

Since 1990, the northern spotted owl has been listed under the Endangered Species Act as "threatened," meaning it is likely to become "endangered" within all or a significant portion of its range in the foreseeable future. Endangered status is more serious, meaning a species is already in danger of extinction.

There are currently 11 long term "demographic study areas" throughout the spotted owl's range in Washington, Oregon, and California where owls are annually surveyed. Within those study areas there are dozens of spotted owl sites. Each year, scientists collect demographic data (relating to occupancy, survival, reproduction, and movement) from a portion of those sites. Every five years, data from the annual surveys is consolidated to calculate population trend estimates. This is how scientists determine the overall rate of decrease or increase in the spotted owl population. These surveys are designed to monitor population trends, not count how many individual owls there are; however, scientists estimate there are 7,000 to 10,000 spotted owls rangewide.

The most recent annual survey indicates that the spotted owl continues to decline in seven of the 11 study areas, primarily in the northern part of the range where there are higher concentrations of encroaching barred owls. Populations are considered stationary in the other four areas. The overall population is declining at a rate of 2.9 percent per year.

The most important factors scientists consider in assessing the viability of the spotted owl are 1) whether population trends are increasing and 2) whether spotted owls are maintaining their geographic distribution throughout their range. Recovery efforts seek to promote an increasing population trend so that spotted owls are well-distributed

across their range. This will ensure sufficient genetic interchange and the species' ability to withstand catastrophic events.

What are the main threats to the northern spotted owl?

There are two main threats to the northern spotted owl's continued survival. One is habitat loss primarily due to timber harvest and catastrophic fire. The other is competition from barred owls, a larger, more aggressive, and more adaptable relative from eastern North America that has progressively encroached into the spotted owl's range. Spotted owl recovery can only be achieved by addressing both of these threats.

Both threats were identified when the spotted owl was listed under the Endangered Species Act in 1990, but their magnitude has changed over the years. In the early years after the spotted owl was listed, the U.S. Fish and Wildlife Service anticipated that the spotted owl would continue to decline in the short term and that it would take decades to re-grow habitat that has been lost over the last 100 years or more. As replacement habitat is grown, the habitat threat facing spotted owls should lessen. Barred owls were recognized as a threat when the spotted owl was listed, but the magnitude of that threat has grown significantly since then as their populations continue to expand throughout the forests of the Pacific Northwest. We are concerned that the spotted owl is likely to go extinct in some parts of its range without barred owl management.

How much habitat is there for the northern spotted owl?

The northern spotted owl generally inhabits late-successional forest habitats with high canopy cover and larger trees (late-successional forests are dominated by stands of mature and old growth age classes of trees). The spotted owl ranges from southwest British Columbia through the Cascade Mountains and coastal ranges in Washington, Oregon, and California as far south as Marin County.

When the spotted owl was listed under the Endangered Species Act in 1990, the U.S. Fish and Wildlife Service estimated that its habitat had declined 60-88 percent since the early 1800s. Habitat protections put in place since that time have slowed habitat loss and are starting to increase the amount of older forest habitat available for spotted owls.

The latest data indicate there are about 8.6 million acres of nesting and roosting habitat on federal lands and about 3.5 million acres of nesting and roosting habitat on non-federal lands throughout the spotted owl's range. Spotted owls use a broader area for foraging, but recovery efforts focus more on nesting and roosting habitat.

How do encroaching barred owls affect northern spotted owls?

The U.S. Fish and Wildlife Service has identified competition from encroaching barred owls as one of two main threats to the northern spotted owl's continued survival (habitat loss is the other).

Barred owls now outnumber spotted owls in many portions of the latter's range. Researchers have seen strong evidence that spotted owl population declines are more pronounced in areas where barred owls have moved into their range. Declines are greatest where barred owls have been present the longest. We are concerned that the spotted owl is likely to go extinct in some parts of its range without barred owl management.

Barred owls are larger, more aggressive, and more adaptable than spotted owls. They displace spotted owls, disrupt their nesting, and compete with them for food. Researchers also have seen a few instances of barred owls interbreeding with or killing spotted owls. Because the spotted owl is already struggling due to diminished habitat, the effect of the barred owl's presence is like "adding insult to injury." An already vulnerable population has a much more difficult time withstanding dramatic changes in the ecosystem such as the encroachment of a competitor. A healthy population, on the other hand, has more flexibility to adapt to changes.

Until recently, most of the information on barred owl/spotted owl interactions was gathered incidentally from observations taking place in the course of other field research. Researchers' observations seemed to indicate that barred owl populations were increasing and causing harm to spotted owls, but they were only getting a sense of the trend, not comprehensive data. These observations eventually led to more specific research to study barred owl populations, the nature and magnitude of competition between the two species, and the impacts of the barred owl's presence on spotted owls.

How long will it take to recover the northern spotted owl?

Recovery of species listed under the Endangered Species Act usually occurs in three general phases. First, a listed species is prevented from going extinct. Then, initial recovery actions help a listed species' population stabilize. The final phase is turning the trajectory around and helping the species rebound to the point it no longer needs Endangered Species Act protection. This final recovery phase is often the most difficult and time-consuming.

The northern spotted owl recovery plan outlines actions over a 30-year timeframe and envisions that recovery can be accomplished in that time if those actions are effectively implemented. Reducing competition from the encroaching barred owl is our most imminent challenge in recovering the spotted owl. With strong habitat conservation and forest restoration, the U.S. Fish and Wildlife Service maintains there is a good chance of succeeding in recovering the spotted owl over the long term if we adequately address the barred owl threat in the short term.

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