



**PETITION TO THE NORTHERN AND
INTERMOUNTAIN REGIONS OF THE U.S. FOREST
SERVICE TO AMMEND NATIONAL FOREST PLANS
TO PROTECT THE NORTHERN GOSHAWK**

**Center for Biological Diversity, Alliance for the Wild Rockies, Biodiversity
Conservation Alliance, Friends of the Clearwater,
Idaho Conservation League, Wyoming Wilderness Association**

March 9, 2004

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Pursuant to the Administrative Procedures Act, which states: “each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.” (5 U.S.C § 553 (e)), the Center for Biological Diversity, Alliance for the Wild Rockies, Biodiversity Conservation Alliance, Friends of the Clearwater, Idaho Conservation League, Wyoming Wilderness Association, and Noah Greenwald hereby request that the Northern and Intermountain Regions of the U.S. Forest Service issue a rule amending the regional and national forest plans to provide regulations for the protection of the northern goshawk (*Accipiter gentilis*). Such regulations are needed to ensure that the cumulative effects of multiple logging, fuel reduction, recreation and other projects don’t compromise the long-term viability of the goshawk and to ensure its survival throughout forested habitats of the two regions in accordance with the National Forest Management Act.

Judicial review under the APA requires that “the reviewing court shall compel agency action unlawfully withheld or unreasonably delayed” (5 U.S.C. § 706(1)). Accordingly, the Forest Service cannot unreasonably delay action on this petition or we will be forced to bring judicial action. We expect a response to the petition within 90 days and a decision issuing regulations within 12 months. If you have any questions about this request, do not hesitate to contact me at (503) 243-6643

Sincerely,

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PETITIONERS:

Center for Biological Diversity is a conservation organization dedicated to preserving all native wild plants and animals, communities, and naturally functioning ecosystems in the Northern Hemisphere. CBD has 9,000 members from throughout the United States, including many in the area covered by this petition.

Alliance for the Wild Rockies formed to meet the challenge of saving the Northern Rockies Bioregion from habitat destruction. We are thousands of individuals, business owners, and organizations taking a bioregional approach to protect and restore this great region.

Biodiversity Conservation Alliance's mission is to protect and restore biological diversity, habitat for wildlife and fish, rare plants, and roadless lands in Wyoming and surrounding states.

Friends of the Clearwater is an organization dedicated to protecting the national forests and public lands of the Clearwater Basin from the forces of industrial destruction. Our national forests and public lands must be free from machines of destruction and provide the clean water, wildlife habitat, and spiritual renewal we all so desperately need.

The Idaho Conservation League works to protect Idaho's water, wildlands and wildlife through citizen action, public education and professional advocacy.

Wyoming Wilderness Association works to protect public wild lands in Wyoming because present generations are responsible for ensuring a future of wild places for people and wildlife. Wilderness carries on the history and spirit of Wyoming.

INTRODUCTION

The northern goshawk is closely associated with mature and late-successional forests for both nesting (see Reynolds et al. 1992) and foraging (e.g. Beier and Drennan 1997, Good 1998). Loss and fragmentation of mature forest due to logging has led to concern over the viability of the goshawk in the western U.S (USFWS 1998). In response, many national forests have adopted management guidelines to protect the goshawk, including all of Region 3 (Arizona and New Mexico), all national forests in the Sierra Nevada (California and Nevada), the six national forests in Utah, the Tongass National Forest in Alaska and many others (USFS 1996, 1997, 2000 and 2001, USFWS 1998).

To date, the Northern and Intermountain Regions, excluding Utah, have not adopted similar regulations. This lack of regulation is not for lack of need. The goshawk has lost an estimated 95% of its habitat in parts of the northern Rockies (Wisdom et al. 2000) and ongoing management is continuing to result in habitat loss (see below). The two regions have been managing goshawk habitat on a project by project basis, in some cases partially implementing goshawk recommendations developed by Reynolds et al. (1992) for the Southwest and in others not implementing any recommendations at all. Such inconsistent management is leading to the cumulative loss and degradation of goshawk habitat in the northern Rockies, and contributing to a downward trend in the goshawk's viability in violation of the National Forest Management Act. The extent of historic and present habitat loss necessitates adoption of regional guidelines to protect goshawk habitat and ensure the species' viability.

We are not the first to call for managing goshawk habitat in the northern Rockies. Patla et al. (1995) developed a conservation strategy for the state of Idaho, which the Forest Service was a party to, but never formally adopted into their management plans. The strategy called for managing "habitats for viable goshawk populations throughout the goshawk's natural range in Idaho and to collect additional information on goshawk distribution and habitat requirements." After an extensive study of goshawk ecology in the northern Rockies, Patla (1997) concluded:

“To counter balance the incremental and continued loss of suitable habitat over time, land managers need to plan on a forest-wide scale. Goshawk habitat management guidelines should include protection of core areas and high quality foraging habitat in traditional nesting territories, extended rotation times for treatment of individual stands throughout the TNF [Targhee National Forest], conservation of intact patches of productive lower elevation mature and old-growth forests, and managing younger stands in disturbed areas to create future goshawk habitat.”

In further support of the need for comprehensive management, the University of Idaho, Idaho Forest, Wildlife and Range Policy Analysis Group, which was established by the Idaho state legislature concluded:

“There is concern that changes occurring in goshawk nesting and foraging habitat, particularly reduction, fragmentation, and deterioration of mature conifer habitat, may be adversely affecting goshawk populations in Idaho and elsewhere in the western U.S. (USFWS 1998). Habitat changes are due, in part, to the management of forests for timber production. Several factors may contribute to decreased productivity and density in goshawk populations following particular changes in forest structure and composition, including increased predation on goshawks, loss of preferred conditions at nest sites, reduced prey availability, increased competition with other predators, and increased disturbance and human-caused mortality from increased human access (Iverson et al. 1996). Researchers attempting to develop guidelines for Idaho determined that more and better data were needed specific to Idaho forest types (Patla et al. 1995). Until such time as guidelines specific to Idaho are developed, the guidelines developed for the southwestern U.S. are recommended.”

Despite these conclusions, no management guidelines to protect the goshawk have been adopted in Idaho or the remainder of the northern Rockies.

In the following discussion, we present information indicating that adoption of management guidelines to protect the goshawk in all of the Northern Region and the portion of the

Intermountain Region including Idaho and Wyoming (collectively referred to as the “northern Rockies”) is essential to ensure its viability. This information includes discussion of goshawk habitat requirements, existing management for the goshawk in the western U.S., the status of the goshawk, effects of forest management on the species, and failure on the part of the regions to effectively manage goshawk habitat.

AREA COVERED BY PETITION

The area covered by this petition includes all twelve national forests in Region 1 and the Boise, Bridger-Teton, Caribou, Payette, Salmon-Challis, Sawtooth and Targhee National Forests in Region 4 (Figure 1). This area includes roughly 21 million acres in forest types potentially suitable for the goshawk with an unknown proportion of this acreage in seral stages (e.g. mature and late-successional) suitable for the goshawk (USFWS 1998). The Forest Service manages the vast majority of goshawk habitat in the northern Rockies.

Primary forest types utilized by the goshawk include Douglas-fir, lodgepole pine and ponderosa pine. USFWS (1998) collected data on nest stands from the Northern Rockies, determining that 60% were in Douglas-fir, 16% in lodgepole, 14% in ponderosa pine and 9% in other forest types. These proportions are not necessarily indicative of goshawk selection for particular forest types because they are not based on systematic surveys. Rather, they are based on data collected during preparation of timber sales, potentially biasing results towards more productive timber types.

Most of the area covered by this petition is found in the “Northern Rocky Mountain Forest-Steppe--Coniferous Forest--Alpine Meadow Province,” characterized by high rugged mountains, cold winters and dry summers (Bailey 1995). Fire has shaped all forest types in the region with fire regimes ranging from frequent, low intensity in some ponderosa pine forests to infrequent, high intensity in lodgepole pine forests (Keane et al. 2002).

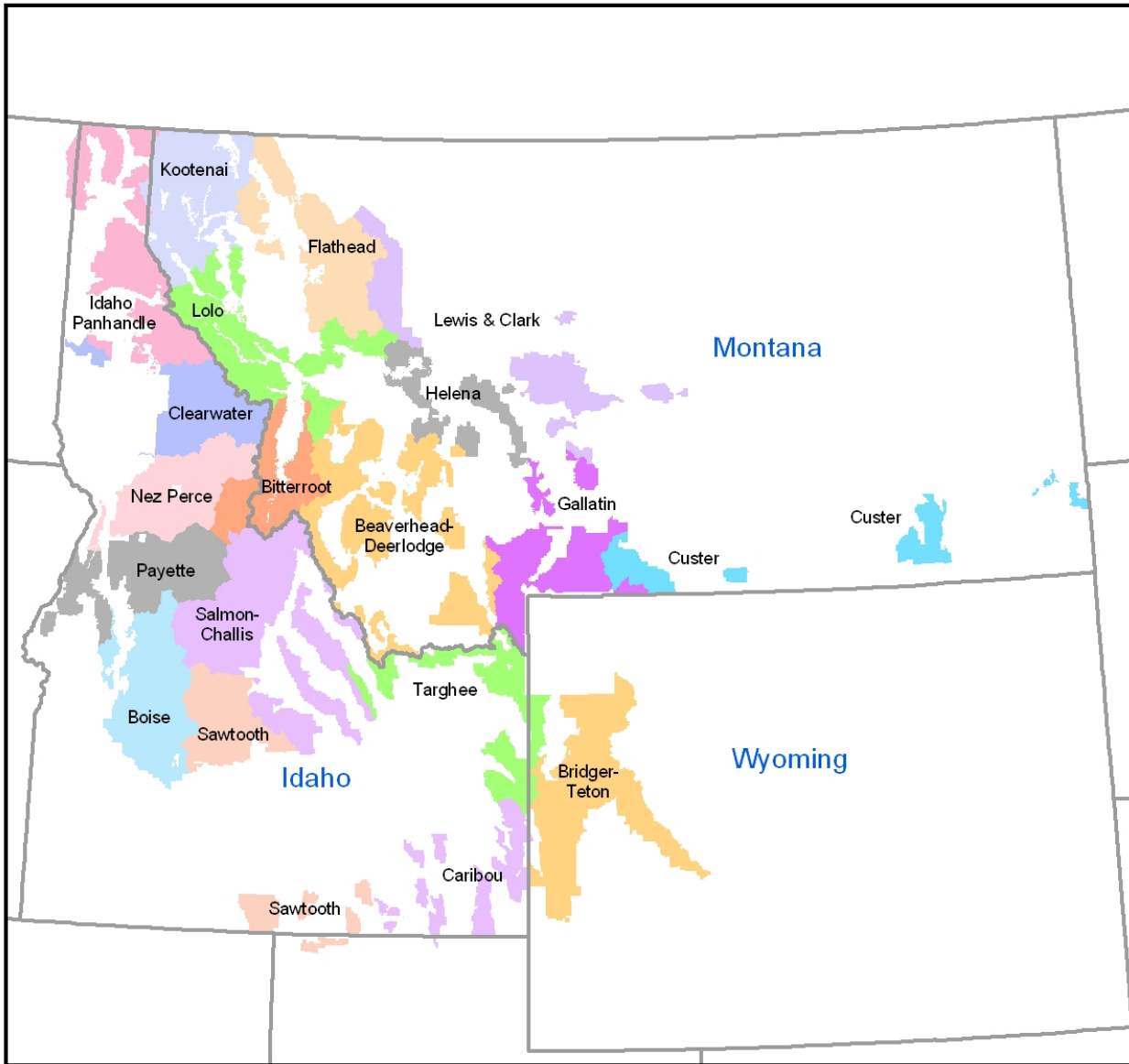


Figure 1. National Forests covered by this petition.

GOSHAWK HABITAT REQUIREMENTS IN THE NORTHERN ROCKIES

Because of the variety of forest types utilized by the goshawk and because goshawk home ranges are large and often encompass multiple habitat types, there has been considerable confusion about its habitat requirements. Typically, goshawk habitat is considered at three scales: the nest stand (30 acres), post-fledgling family area (“PFA”, 300-600 acres) and foraging area (5,000-6,000 acres). Nest stand and PFA habitat is well described with studies from across the western

United States consistently demonstrating that goshawks select mature and late-successional stands for nesting (see Reynolds et al. 1992). In contrast, foraging habitat has only recently been described.

In 1992, Reynolds et al. (1992) reviewed current knowledge about the habitat needs of the goshawk in the Southwest and based on this review developed management recommendations for the Southwest. At the time, information on northern goshawk habitat selection in the foraging area was limited with only one systematic study having been conducted in North America (Fischer 1986). Based on this study, Reynolds et al. (1992) concluded that “Limited radio-telemetry evidence suggests that goshawks prefer mature forests for foraging.” Despite this conclusion and a recognized lack of information, Reynolds et al. (1992) based their management recommendations on assumptions that goshawks are “forest habitat generalists” and that “foraging habitat may be as closely tied to prey availability as to habitat structure or composition.” Based on these assumptions, they recommended managing the landscape as a mosaic of structural stages from young to old forests. This recommendation has subsequently been used by the Northern and Intermountain Regions of the Forest Service to conclude that logging within goshawk home ranges benefits the goshawk by creating early-seral habitat for some goshawk prey species. Research conducted since Reynolds et al. in the northern Rockies and elsewhere, however, demonstrates that goshawks select mature forest structures for foraging, regardless of prey abundance, calling into question both the foundation of the recommendations and reliance on these recommendations by the Northern and Intermountain Regions. Differences in prey species between the two regions provides reason for further caution in applying the recommendations to the northern Rockies. In the following discussion, we summarize results from goshawk habitat studies in the northern Rockies.

Nesting habitat. There are two studies of goshawk nesting habitat in the northern Rockies (Hayward and Escano 1989, Patla 1997), both of which largely corroborate studies from across the western U.S. demonstrating that goshawks select mature forest habitats for nesting. In western Montana and northern Idaho, Hayward and Escano (1989) found that goshawk nesting stands consistently had high-canopy closure and basal area, were usually found on a north aspect, and were generally “mature to overmature conifer forest.” They conclude: “Mature and older

forests appear to most commonly achieve the proper stand structure for goshawk nest sites.” Similarly, Patla (1997) in a study of goshawks on the Targhee National Forests in Idaho and Wyoming found that “goshawks selected nest sites in mature forest stands on north and west-facing aspects that had greater basal area, taller trees, more trees in the 38.0-45.5 centimeter dbh size class, and more space beneath the canopy compared to available habitat.” Goshawks are believed to select mature stands for nesting because they provide: “Nesting platforms of adequate size, protection from predators and weather, and room for adult goshawks to maneuver beneath the canopy” (Patla 1997).

Foraging habitat. Only one study of goshawk habitat in the PFA and foraging area has been conducted in the northern Rockies. Patla (1997) related occupancy and productivity of goshawk territories to habitat in the nest stand, nest area, post-fledgling family area (PFA: 243 ha), and foraging area (2428.2 ha circle around nest) in Douglas-fir and lodgepole pine forests on the Targhee National Forest in Idaho and Wyoming. Patla (1997) documented that mature forest cover averaged over 60% in the post-fledgling Family Area and foraging area and concluded that “goshawk nest sites on the TNF were located in areas of extensive mature forest habitat.”

To determine the relative importance of mature forest cover to goshawks, Patla statistically compared high occupancy territories (occupied >50% of years) and low occupancy territories (Occupied <50% of years), finding that high occupancy territories had significantly greater proportions of mature forest cover in the PFA and significantly less young forest cover in the PFA and foraging area. These findings indicate that logging in the PFA or foraging area is harmful to goshawks. In support of this conclusion, Patla (1997) concluded:

“While the removal of some proportion of mature forest cover may not be detrimental to nesting goshawks, as indicated by the proportion of study territories on the TNF that contained areas of seedling/treated stands, repeated harvesting within management areas over time may effectively remove most mature stands that have suitable structure for nesting and foraging. To counter balance the incremental and continued loss of habitat over time, land managers need to plan on a forest-wide scale.”

Two other studies of goshawk foraging habitat were conducted in the central Rocky Mountains. Good (1998) identified stands where goshawks captured prey (kill sites) in the Medicine Bow National Forest, Wyoming and compared the stand characteristics of frequently used kill sites to other kill sites and to other goshawk locations, finding that goshawks returned most often to kill sites with “more mature forests, gentler slopes, lower ground coverage of woody plants, and greater densities of large conifers.” Large conifers in the study area, which was dominated by lodgepole pine, ranged from 23-37.5 cm dbh. Average canopy closure at kill sites was 53%. Relative use of kill sites was not correlated with prey abundance. Similarly, in a study of winter goshawk habitat use, Stephens (2001) found that goshawks in mixed conifer stands of the Uinta Mountains, Utah selected stands with greater canopy closure, which averaged 43.5%.¹

All three studies agree with numerous other studies from across the western U.S. demonstrating that goshawks select mature, closed canopy, large tree forests in the home-range (Austin 1993, Bright-Smith and Mannon 1994, Hargis et al. 1994, Pendleton et al. 1998, Boal et al. 2001, Bloxton 2002) and that such selection is tied more to forest structure than prey abundance (Fischer 1986, Beier and Drennan 1997, Drennan and Beier 2002). Given findings that the goshawk selects mature forest in the nest area, PFA and foraging area, conclusions by the Northern and Intermountain Regions that logging will benefit the goshawk are not supported by current research and further highlights the necessity of regional plans to protect the species.

Prey and forest openings. In an effort to create abundant prey, Reynolds et al. (1992) recommended creating openings to benefit some goshawk prey species. This recommendation was based on an analysis of the habitat needs of goshawk prey species in the Southwest and in particular on a finding that the golden-mantled ground squirrel was a common goshawk prey species that used openings. Golden-mantled ground squirrels, however, are not an important prey item in the northern Rockies with Patla (1997) concluding:

¹ A portion of the population migrated to more open pinyon-juniper stands during winter, utilizing closed canopy mixed conifer stands in the breeding season. Within these stands, goshawks still selected for high canopy closure.

“Most of the important goshawk prey items identified on the TNF [Targhee National Forest] (based on biomass or number) except for ground squirrels are associated with forest habitat: snowshoe hare, ruffed grouse, blue grouse, red squirrel, and northern flicker. From what I could determine through visual inspections of clear cut areas and discussions with forest service personnel, ground squirrels do not appear to move into harvested units in any noticeable numbers on the TNF even when replanting efforts fail and such units remain open for extended periods of time. Even if prey populations do increase in clear-cut units, the lack of certain habitat features, such as perches or adequate cover, may preclude foraging in such areas by goshawks.”

Patla (1997) did find that goshawk occupancy and productivity were correlated with amount of sage/shrub cover in the PFA and foraging area and a habitat suitability model for the goshawk in the northern Rockies created by Hayward et al. (1990) considered openings a valuable part of goshawk habitat. In both cases, however, natural openings rather than clearcuts are considered the key habitat component. Because of differences in the prey base and an absence of information indicating cutting benefits the goshawk, recommendations by Reynolds et al. (1992) to create openings through logging are not appropriate in the northern Rockies.

EXISTING MANAGEMENT FOR THE GOSHAWK IN THE WESTERN U.S.

Management guidelines for the goshawk were adopted by Region 3 (Arizona and New Mexico) of the Forest Service in 1996, by the Tongass National Forest in 1997, by all national forests in Utah in 2000, and by all national forests in the Sierra Nevada in 2001 (USFS 1996, 1997, 2000, and 2001). The following discussion summarizes the key protections provided by these various efforts.

Guidelines adopted by Region 3 based on the recommendations of Reynolds et al. (1992) focused on meeting two primary objectives: 1.) providing nesting, post-fledging and foraging areas for goshawks and 2.) providing habitat for 14 primary goshawk prey species. To meet the first objective, the guidelines required survey for goshawks and establishment of a 600 acre post-fledging family area (PFA), including six 30 acre stands for occupied, alternate and replacement

nest sites for a total of 180 acres. Within stands designated as nest sites, preferred treatment is “thinning from below” with disturbance limited to the non-breeding season. In the rest of the PFA and the landscape at large, the guidelines require creating a diversity of seral stages and stand ages to create abundant prey populations for the goshawk. As discussed above, this requirement was based on assumptions that the goshawk is a habitat generalist and is limited by prey abundance. Specifically, the guidelines call for managing 40% of the landscape in mature or old-forest, 20% in mid-seral forest, 20% in young forest, 10% in grass/forb/shrub and 10% in seedling-sapling forest. Treatments are allowed in mature and old forest, but must maintain average levels of canopy closure, specific numbers of live trees, snags and downed logs and cannot create openings greater than a particular size, all depending on forest type. The guidelines fail to specify the exact scale at which such management should occur only stating that:

“Distribution of habitat structures (tree size and age classes, tree groups of different densities, snags, dead and down woody material, etc.) should be evaluated at the ecosystem management area level, at the mid-scale such as drainage, and at the small scale of site.”

Guidelines based on recommendations of Graham et al. (1999) adopted for Utah national forests similarly require survey for goshawks and identification of 180 acres of occupied, alternate and replacement nest stands and limit treatments within these stands to those that maintain or create goshawk nesting habitat (e.g. mature forest). Unlike the Region 3 guidelines, however, these guidelines do not require maintenance of 40% of the landscape in mature or old-forest. Rather, in areas where there is less than 40% mature or old-forest, the guidelines require maintaining the existing amount of such forest. The Utah guidelines further require retention of a minimum number of snags and downed logs depending on forest type during any logging operation.

The Tongass Land and Resource Management Plan (USFS 1997) requires pre-project surveys for goshawks and protection of 100 acres of productive old-growth for all goshawk nest sites, where all timber harvest is prohibited. These protections are in addition to land designations that prohibit logging in 78% of the Tongass National Forest.

Specific to the goshawk, the Sierra Nevada guidelines require goshawk surveys and establishment of 200 acre “protected activity centers” (PAC) for all goshawk nest sites, in which treatments are limited primarily to prescribed burning. To protect old-forest ecosystems in general, the guidelines require maintaining 40% of the landscape in “old-forest emphasis areas,” in which cutting is limited to small trees (<12” d.b.h.). They also limit cutting across the landscape to primarily trees less than 20” d.b.h., require maintenance of snags and downed logs, and prohibit reducing canopy cover over set percentages. Although not specifically designed for the goshawk, these additional guidelines also likely benefit the goshawk and other old-forest associated species.

In contrast to the above regions, the Northern and Intermountain Regions of the Forest Service do not currently require surveys for goshawks, protection for nest stands or protection for substantial proportions of the landscape in mature or old-forest.² No evidence suggests that there is any less cause for concern for the goshawk in these regions compared to those where guidelines have been established.

STATUS OF THE GOSHAWK IN THE NORTHERN ROCKIES

Very little information is available on the status of goshawk populations in the northern Rockies. Few systematic surveys and no demographic studies have been conducted. Most information is from incidental sightings and project related surveys. The U.S. Fish and Wildlife Service (“FWS”) recently summarized this disparate information as part of their review of the status of the goshawk for listing, finding a total of 372 territories in national forests covered by this petition (USFWS 1998; Table 1). No information, however, is available on historic numbers of territories or in trends in numbers of territories.

Table 1. Goshawk territories per national forest from USFWS (1998).

² Individual national forests in the northern Rockies in some cases do have guidelines for the protection of old-growth forests. In most cases, however, these guidelines require protection of less than 10% of the landscape as old-growth (USFWS 1998).

National Forest	Estimated territories
Beaverhead-Deerlodge	34
Bitterroot	8
Boise	Unknown
Bridger-Teton	Unknown
Caribou	28
Clearwater	10
Custer	14
Flathead	Unknown
Gallatin	18
Helena	Unknown
Idaho Panhandle	49
Kootenai	20
Lewis and Clark	27
Lolo	16
Payette	53
Nez Perce	12
Salmon-Challis	31
Sawtooth	Unknown
Targhee	52

In the absence of information to directly assess the population status of the goshawk, an alternative is to assess trends in goshawk habitat. As part of the Interior Columbia Basin Ecosystem Management Project (ICEBMP), Wisdom et al. (2000) compared the historic and current distribution of source habitats for a range of species, including the goshawk. The assessment area overlaps with the western half of the area covered by this petition, including areas west of the Continental Divide in Montana and Idaho. Source habitats for the goshawk were defined as “late seral stages of the montane community group,” and unmanaged young forests with “large diameter-snags and logs.” In areas covered by this petition, source habitats were found to have declined dramatically (>60%) in a majority of watersheds (Wisdom et al. 2000). In a large area of northern Montana and Idaho (Ecological Reporting Units “ERU” 7, 8 and 9), for example, source habitats for the goshawk declined by an average of 95%. Wisdom et al. (2000) conclude:

“Basin-wide, there were moderately or strongly declining habitat trends in nearly 70 percent of watersheds within the range of species in group 5 [includes goshawk]... The most strongly negative trends were projected across the northern portion of the basin in

the Northern Cascades, Northern Glaciated Mountains, Lower Clark Fork, and Upper Clark Fork ERUs.”

Because of these severe declines in habitat, Quigley et al. (1997) concluded that there was only a 47% likelihood that the goshawk would have a functioning metapopulation across the Interior Columbia Basin.

As part of their status review of the goshawk, FWS also assessed trends in goshawk habitat. FWS’ review incorporated data from ICEBMP discussed above, and information submitted by the Forest Service. Based on documented loss of habitat, FWS concluded: “It is reasonable to conclude that there have been declines in goshawk populations in the Assessment Area when looking at habitat changes since pre-settlement times” (USFWS 1998).³

EFFECTS OF FOREST MANAGEMENT IN THE NORTHERN AND INTERMOUNTAIN REGIONS ON THE NORTHERN GOSHAWK

The northern goshawk has been listed as a sensitive species in the Northern Region since 1999 and the Intermountain Region since 1991. Although this designation provides little protection, it does require the Forest Service to analyze the effects of their actions on the species in biological evaluations for individual projects, such as timber sales, road construction, etc. To quantify the effects of current forest management on the goshawk, we requested through the Freedom of Information Act all biological evaluations from all national forests in the Northern Region and the portion of the Intermountain Region covered by this petition generated from 1999-2002 where it was determined the project “may affect individuals, but will not lead to a trend towards federal listing or loss in viability,” or “may affect individuals and will lead to a trend towards federal listing or loss in viability.” We excluded national forests in Utah from the request because these forests currently have a management plan to protect goshawk habitat.

³ Quote refers to Assessment Area 1, which includes much of region 1. The review reaches a nearly identical conclusion for Assessment Area 4, which includes southern Idaho as well as other areas.

Based on the documents received, we created a project-based database that included: project name, project type (e.g. timber sale, road construction, recreation development, etc.), national forest, project description, whether goshawk surveys were conducted, number of territories affected if noted, acres affected, acres of nesting or foraging habitat affected if noted, and the determination of effects on the goshawk.

Project affects on the goshawk in the Northern Region. In region 1, we identified a total of 99 projects proposed between 1999-2002 where the biological evaluation concluded there would be effects to the northern goshawk. Of these, it was determined that 86 projects “may impact individuals, but will not lead to a trend toward federal listing.” For 13 other projects the Forest Service did not make a determination or determined that a project “would not lead to a trend towards federal listing” without stating whether individuals would be impacted, but otherwise indicated goshawk habitat would be affected.

Of the 99 projects, 71 involved logging, 46 prescribed burning, 22 road construction, 10 general construction, and 4 recreation. Nearly all of the burning and road construction projects were in association with logging. Even-age management was the predominant logging method with most projects taking several different approaches, including clearcutting, seed-tree or regeneration cutting in 43 instances, salvage in 33 instances, shelterwood in 18 instances, and group selection in 6 instances. Even in those cases where the prescriptions were thinning (34 instances), sanitation or selective cutting (11 instances), the long-term goal remained even-aged management with these treatments simply acting as precursors to removal of the entire canopy.

Projects proposed to impact a minimum of 85,000 acres (acres impacted could not be determined for 48 projects), including a minimum of 7,942 acres of goshawk nesting habitat and 7,964 acres of identified goshawk foraging habitat. Logging projects proposed to remove a minimum of 288 million board feet and to log 1,886 acres of identified old-growth.

Goshawk surveys are not a routine part of project planning in the Northern Region with only 28 of the projects indicating surveys had occurred. Despite the low level of survey, goshawks were confirmed in the area for 44 of the projects and projects potentially impacted 73-91 territories.

Project effects on the goshawk in the Intermountain Region. In the seven national forests in region 4 included in this petition, we identified 84 projects proposed between 1999-2002 where the biological evaluation concluded there would be effects to the northern goshawk. Of these, it was determined that 75 projects “may impact individuals, but will not lead to a trend toward federal listing.” For the remaining 9 projects, the Forest Service indicated goshawk habitat would be affected, but either did not make a formal determination or determined that a project “would not lead to a trend towards federal listing” without stating whether individuals would be impacted.

Projects included logging in 41 instances, burning in 30 instances, recreation development in 15 instances, road construction in 13 instances and general projects in 11 instances. Most of the burning and road projects were associated with logging. Commercial thinning was the most common prescription (28 instances), followed by selection and sanitation cutting (16 instances), clearcutting, seed tree and regeneration cutting (15 instances), salvage logging (12 instances), shelterwood (8 instances), and group selection (1 instance). In most cases, the ultimate goal was even-aged management, although whether this occurred after one entry (e.g. clearcutting) or several, varied by treatment (shelterwood or commercial thin). In total, logging occurred on 59,338 acres, including at least 7,213 acres of old-growth, and resulted in planned removal of at least 189 million board feet.

As in the Northern Region, pre-disturbance goshawk surveys are not a routine part of project planning. Goshawk surveys were conducted prior to 42 of the 84 projects with a total of 156 goshawk territories identified as being impacted by 19 projects.

Conclusions. We identified a total of 183 projects in the Northern and Intermountain Regions, excluding Utah, planned from 1999-2002. These projects potentially impacted a minimum of 229-252 goshawk territories. This number can only serve as an index of impacts to goshawk territories because surveys were not conducted prior to a majority of the projects and because territories were not individually identified in the biological evaluations, precluding determination of multiple impacts to individual territories. Given that only 372 territories have been identified

in both regions, our index of impacts to goshawk territories suggests a substantial proportion of the goshawk population was impacted over a short period of time (1999-2002).

Logging was the primary cause of impacts to goshawk habitat and viability, and was carried out primarily using even-aged methods. Such methods result in the direct loss of habitat components, such as large trees and snags, important to maintenance of goshawk habitat.

Continued widespread impacts to goshawk territories and habitat are likely to lead to a loss in viability of the goshawk in the Northern and Intermountain Regions, necessitating a management plan to protect the species.

MANAGEMENT RECOMMENDATIONS

This petition requests the Northern and Intermountain Regions of the Forest Service to develop and adopt management standards and guidelines to protect goshawk home ranges and goshawk habitat. Guidelines should be developed through the National Environmental Policy Act and based on the best available scientific information. Although we are not petitioning for specific standards and guidelines, we offer the following recommendations as a starting point for the development of regulations:

- 1.) Conduct goshawk surveys prior to disturbance of goshawk habitat, assess cumulative effects and initiate demography studies to determine the status of goshawks in northern Rockies.
- 2.) Protect 600 acres in all goshawk territories for the post-fledgling family area (PFA) and a total of six nest areas, including active alternate and replacement nest areas as called for in Reynolds et al. (1992) and Patla (1997).
- 3.) Protect 60% of the foraging area including all existing mature and late-successional habitat.

4.) Institute forest-wide protections to ensure the survival of goshawks and other late-successional associated species.

Explanation of the Recommendations:

1. Goshawk surveys and demography studies. Our review of biological evaluations of projects potentially affecting goshawks or their habitat demonstrated that the forest service is not routinely conducting goshawk surveys prior to habitat destroying activities and is not assessing cumulative effects to goshawk territories. Lack of monitoring, particularly failure to keep track of the number of projects affecting individual territories, runs the risk of reducing habitat below sustainable levels for individual territories, eventually leading to population declines. In order to ensure this does not occur, the Forest Service needs to conduct pre-project surveys and maintain a database of goshawk territories and projects occurring within their habitat.

Goshawk habitat has declined dramatically in the northern Rockies. The effects of this habitat loss on goshawk populations are largely unknown. Because of this lack of knowledge, the goshawk was recently rejected for listing under the Endangered Species Act. Lack of knowledge, however, should not be a justification for lack of concern or action. To determine if the appropriate level of protection and concern is being provided to the goshawk, demography studies need to be initiated to determine population viability.

2. Nest stand and PFA protection. Reynolds et al. (1992) recommended protecting three active and alternate nest areas and three replacement nest areas, all 30 acres, per home range and 420 acres for the PFA. We are adopting these recommendations with some modifications specific to the northern Rockies. In the 180 acres reserved for nest areas, Reynolds et al. (1992) determined that “nest areas are typified by one or more stands of mature or old trees and dense forest canopies,” and recommended that “no adverse management activities should occur at any time in suitable nest areas.” We make the same recommendation.

In the PFA, Reynolds et al. (1992) recommended maintaining a mix of seral stages and forest openings. In contrast to these recommendations, Patla (1997) found that territory occupancy was

correlated with the amount of mature forest cover in the PFA. Based on this finding and a lack of evidence that cutting increases prey for goshawks in the northern Rockies, we recommend prohibiting any stand disturbing activities in the PFA.

3. Foraging area protection. Reynolds et al. (1992) recommended maintaining 40% of the foraging area as mature or late-successional forest. It is unclear, however, what this figure was based on. Patla (1997) documented that on average 60% of goshawk territories were comprised of mature or late-successional forest and stated that:

“Even though my analysis seems to support the recommended levels of mature forest habitat to be retained for nesting goshawks in the SW plan,⁴ I suggest that application of MRNG guidelines [Reynolds et al. 1992] should proceed cautiously and be monitored closely for three reasons. First, levels of mature forest cover in goshawk territories in undisturbed areas on the TNF averaged higher than the recommended levels (NA = 83%, PFA = 77%, FA = 68%). Intensive monitoring and prey studies of nesting pairs in undisturbed habitat could help us gain understanding why goshawks nest in such extensively forested habitat, and what specific habitat features are most important for reproductive success and survival. Second, it is important to remember that the averages I calculated for mature forest cover at different spatial levels represent a mixture of territories: some in highly disturbed areas and others in less disturbed areas of the TNF. Due to possible lag effects in goshawk response, it is still not clear if goshawks will continue to use all the disturbed territories. The amount of actual harvesting that may impact goshawk nesting efforts will depend ultimately on the quality of habitat that remains. While the 60% guideline may be adequate in some areas of the forest, in others it may be less than required. Third, these guidelines were written for southwestern forests where selection, uneven aged harvesting methods are used. Clearcut harvesting creates an entirely different landscape so proportions of mature habitat needed to support breeding goshawks may be quite different over time as well.”

⁴ In contrast to statements by Patla (1997) that the SW management guidelines called for management of 60% of the landscape in mature and old-forest cover types, Reynolds et al. (1992) actually only called for management of 40% of the landscape in mature and old-forest cover types.

Based on the findings of Patla (1997), we recommend protecting 60% of goshawk home ranges, including all existing mature and late-successional forest and sufficient mid-seral forest to provide for future development of late-successional forest.

Reynolds et al. (1992) failed to specify at what scale protection of mature forest should occur. As a result, each time the Forest Service proposes a project they use different analysis area boundaries to determine if they are meeting the landscape objectives for mature forest habitat. Under this system, an area that counts towards maintaining the 40% mature forest can be logged in a future project simply because the analysis area boundaries are redrawn. To counter this problem, we recommend that each national forest locate goshawk territories and permanently designate protected habitat surrounding each territory.

4. Forest-wide protections. Research by Patla (1997) demonstrates that goshawks use large areas of undisturbed forest. Many other species of wildlife in the northern Rockies also depend on undisturbed forest habitat (e.g. Wisdom et al. 2000). We thus recommend protecting all existing old-growth and all roadless areas over 1,000 acres by prohibiting any stand disturbing activities.

In protected habitat, which includes nest stands, the PFA and foraging habitat, all habitat disturbing activities should be prohibited. Outside of these areas, efforts should focus on restoring mature and old-growth conditions by retaining large trees, snags and downed wood and maintaining canopy cover. In ecosystems where frequent fire played a substantial role in forest development, such as some ponderosa pine and dry Douglas-fir forests, efforts should focus on restoring natural processes, including fire, primarily using prescribed burning. In cases where it can be demonstrated that stand densities far exceed natural conditions *and* prescribed fire cannot be safely reintroduced without endangering communities or legacy forest components, such as large trees, thinning of small trees (<8-12" dbh) would be allowed to restore natural processes.

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