Research Forest News

Quick Sheet #15

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# Raptor Habitat Management on the Alex Fraser Research Forest

***Research Project # 99-07***

There are 15 species of diurnal raptors found in the Cariboo Forest Region, 12 of which will breed here. Any of these species may be present on the Alex Fraser Research Forest. Research Project 99-07 addresses their management through a report[1], a database of raptor nests on the forest and ongoing monitoring.

## Why Are Raptors Important?

Birds of prey are particularly dependent on the quality of their habitat due to their relatively large home ranges and need for suitable nesting sites. As predators, these birds are vulnerable to changes in prey populations, as well as changes in habitat that affect the availability of prey. The population status of raptor species can be difficult to estimate because most species are widely dispersed (nesting in low densities) and many are secretive in their habits. In addition, their populations can fluctuate cyclically in relation to prey abundance.

Raptors are most sensitive during the breeding season. Suitable nesting sites, which vary according to species, must exist in order for breeding to occur successfully. As well, breeding adults are much more prone to persecution or disturbance because of their reduced mobility. Human activities can cause incubating adults to leave their nests, which can potentially result in the loss of eggs or small chicks, or nest abandonment. Some species have a smaller foraging range when breeding than when not breeding. Food availability is critical year-round, but breeding adults are particularly sensitive to this. This is because one member of the breeding pair often does most of the hunting and must be able to catch enough prey for itself, its partner and the fledglings in order to breed successfully.

## What Can Forest Managers Do?

Before management decisions are made, it is essential to know what species could be present and the status and key habitat requirements of each of these species. The raptor species of the Cariboo Forest Region and the status of each are listed in Table 1. Habitat requirements are described in the completed report for this research project[1].

*Table 1. Raptor species of the Cariboo Forest Region.*

| Species | Status | Breeding |
|---|---|---|
| American Kestrel | Not Listed | Y |
| Bald Eagle | Blue Listed | Y |
| Cooper's Hawk | Not Listed | Y |
| Golden Eagle | Not Listed | Y |
| Gyrfalcon | Blue Listed | N |
| Merlin | Not Listed | Y |
| Northern Goshawk* | Not Listed | Y |
| Northern Harrier | Not Listed | Y |
| Osprey | Not Listed | Y |
| Peregrine Falcon | Red Listed | Y |
| Prairie Falcon* | Red Listed | Y |
| Red-tailed Hawk | Not Listed | Y |
| Rough-legged Hawk | Not Listed | N |
| Sharp-shinned Hawk | Not Listed | Y |
| Swainson's Hawk | Blue Listed | N |

** Identified Species*[2]

Once potential species are known, the next step is to determine where raptors may be breeding in the forest, and what species are utilizing these breeding sites. Large stick nests are the most easily identified evidence of breeding. Several species build large nests that may be easily seen from the air and/or the ground. This is not always the

[1] Smith, L.K. 2000. *Managing Breeding Raptors in the Cariboo Forest Region: A Case Study of the Alex Fraser Research Forest.* Unpublished Report.

[2] Anonymous. 1999. *Managing Identified Wildlife: Procedures and Measures, Volume 1.* BC Environment and Ministry of Forests, Victoria, BC. 180 pp.

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case, however, since nests built in the tree canopy may be difficult to see. Some species will often build more than one nest and use the nests in alternate years.

Not all raptor species build large nests within forest canopies. Some species prefer to nest in cliff habitat, and may or may not build a stick nest there. Northern harriers build their nests on or near the ground in wetlands or meadows, and other species will utilize tree cavities and abandoned nests of other bird species. It is difficult to locate these nests. Workers should be watchful near cliff or wetland habitat. If raptors are spotted showing fidelity to these areas during breeding season, it is possible that a nest is active in the area. Protecting wildlife trees and bird nests in wildlife tree patches should help ensure that the more difficult-to-see nests are not destroyed.

There are many general management recommendations that can be applied to any species of raptor. All raptor nests should be protected from harvesting and windthrow, regardless of whether they appear to be active or not. Some raptor species will use more than one nest in alternate years, and some will use the abandoned nests of other species. Consequently, if a nest is inactive in a given year, it should not be assumed to be permanently abandoned.

Disruptive activities should not be conducted near active nests during breeding season. Buffers should be established around active nests, with a distance appropriate to the level of disturbance anticipated. The Ministry of Environment, Lands and Parks should be consulted when determining buffer widths.

Raptors vary greatly in their habitat requirements. For example, the northern goshawk prefers breeding and foraging in a closed-canopy forest with large trees and a fairly open understory. Red-tailed hawks, on the other hand, prefer hunting in more open conditions, but still require perches in order to utilize their foraging area effectively. The ideal forest management scenario is very different for these two species. The relative scarcity of the species and habitat in question helps to prioritise management scenarios if two species are in conflict over the same area. Species-specific recommendations are made in the completed report for this research project[1].

## Raptor Management on the Alex Fraser Research Forest

At the Alex Fraser Research Forest there are currently ten raptor nests identified, three at Knife Creek and seven at Gavin Lake. Four of these nests were confirmed active in 1999 and 2000; three were osprey nests and one was a northern goshawk nest. Of the remaining nests, three are suspected to be osprey nests, two red-tailed hawk nests, and one has yet to be assessed.

A database has been developed to inventory and describe the attributes of each of these nests. It includes a description of nest site characteristics and distances to mature stands, recent openings (age class 1), and bodies of water. This database will be updated as new nests are found, or additional information on existing nests becomes available.

Known nests, particularly those near areas being developed, will be monitored annually for activity. Nests will be protected and forest management activities will be planned to protect active nesting sites from disturbance.

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