

PRELIMINARY NORTHERN GOSHAWK AND FLAMMULATED OWL SURVEY:

ASHLAND DISTRICT, CUSTER NATIONAL FOREST, 1995

A Report to:

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Both the Northern Goshawk (*Accipiter gentilis*) and Flammulated Owl (*Otus flammeolus*) are designated by the U.S. Forest Service as "Sensitive", and are on the Montana Natural Heritage Program list of "Animal Species of Special Concern." The Northern Goshawk was also a U.S. Fish & Wildlife Service "Candidate" (C2) species for federal listing. Both species tend to be restricted to forests of commercially valuable timber, and timber management practices could influence the viability of populations for both species.

Ponderosa pine (*Pinus ponderosa*), the dominant tree species on the Ashland District in Rosebud and Powder River counties, Montana, is a major component of nesting habitat over large portions of the breeding ranges of Northern Goshawks (see Block et al. 1994) and Flammulated Owls (McCallum 1994). Although the Ashland District lies outside of the known breeding range of the Flammulated Owl in Montana (pine forests of the western mountains: Figure 1), nesting of the Northern Goshawk on the Ashland District has been documented previously (C. McCarthy pers. comm.: Figure 2). The occurrence of both species on the Ashland District is a reasonable possibility. Under contract with the Custer National Forest, a preliminary survey of Northern Goshawk and Flammulated Owl presence was conducted on the Ashland District during summer of 1995, and evidence of nesting by goshawks in 1995 was obtained from a new area on the District.

## METHODS

**Goshawks**--Visits to the seven historical (1985-1991) goshawk territories known on the Ashland District were made between 24 May and 5 June 1995, concurrent with other survey work. An attempt was made to traverse areas of dense forest cover in these former territories, while playing taped calls (adult alarm calls and/or juvenile food begs) of goshawks every 5-10 min. Inadequate broadcast equipment reduced the effectiveness of the surveys. Nevertheless, goshawks are aggressive towards humans around nests, so the surveys provided some evidence of goshawk presence in the areas walked. Duration of traverses lasted from 1-4 hours. Visits to other areas coincided with reptile and amphibian surveys and included at least five sites with potentially suitable forest cover. Evidence of potential goshawk activity (nests, vocalizations) was documented and is given below.

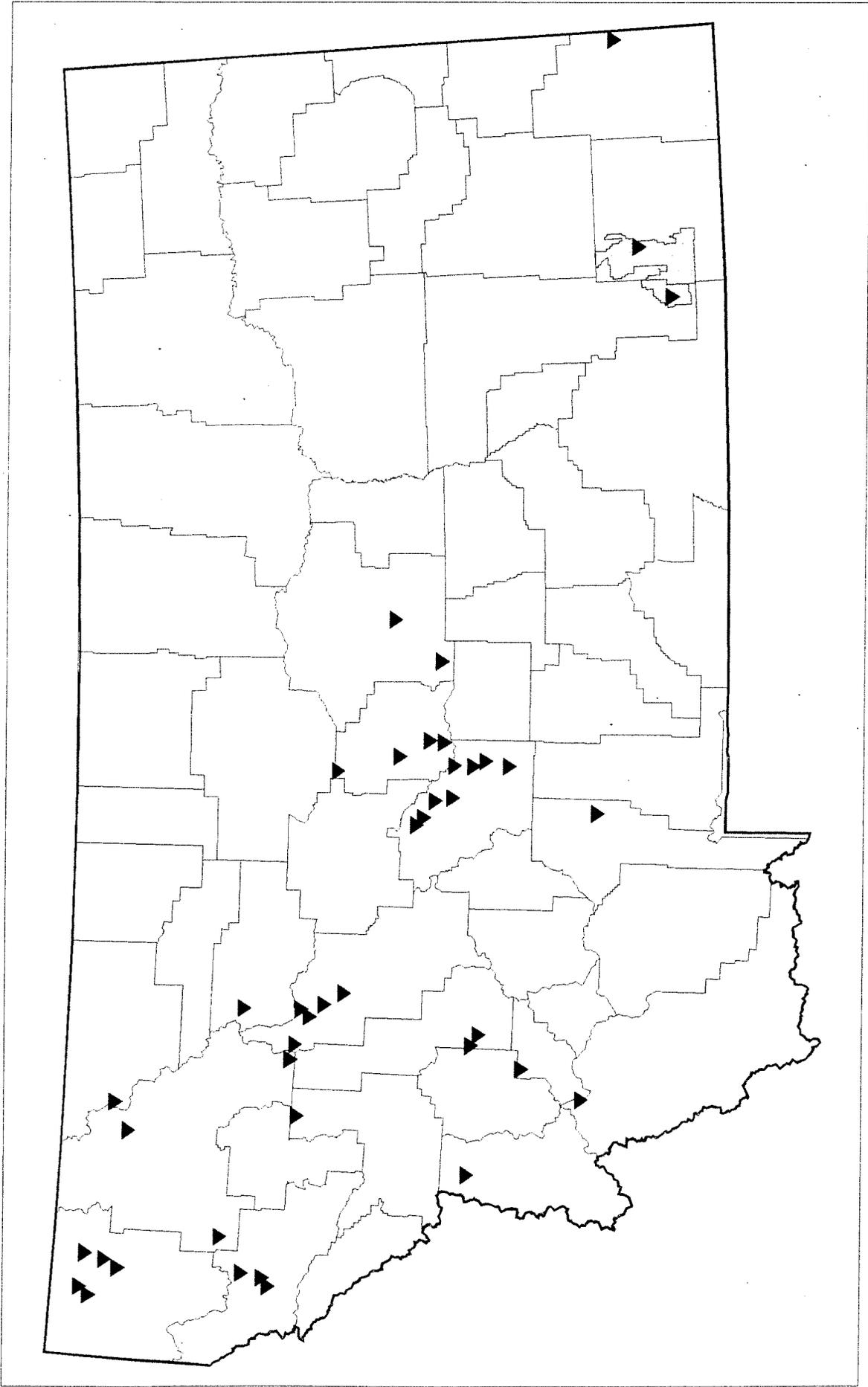
**Flammulated Owls**--Auditory surveys for Flammulated Owls were conducted only in the vicinity of Cow Creek Reservoir (T6S R45E S17) and Holiday Springs Campground (T2S R47E S19 and S30) between 24 May and 5 June 1995; three surveys were conducted in each area. Transects were conducted for about one hour at dusk, with frequent stops to listen for calling owls; both foot and roadside surveys were conducted at each site. A tape of Flammulated Owl calls, borrowed from Denver Holt of the Owl Research Institute in Missoula, was played during some of the early transects. Inadequate broadcast equipment made the use of tapes an unreliable survey technique for the field effort described in this report. However, merely walking and listening for calling Flammulated Owls has proven to be at least as effective as the use of tapes for detecting this species in western Montana (D. Holt pers. comm.).

FIGURE 1. Breeding-season distribution of Flammulated Owls in Montana.



FIGURE 2. Breeding-season distribution of Northern Goshawks in Montana.

# Northern Goshawk in Montana



Species locations from the Montana Natural Heritage Program, July 02, 1996

## RESULTS

No evidence of Flammulated Owl presence on the Ashland District was detected. The remaining results pertain to Northern Goshawks.

Below are findings from visits to the seven historical territories. Territory names are those provided by the Custer National Forest (C. McCarthy pers. comm.); times are MDT.

- 1). **Logging Creek** (T3S R47E S14)--checked annually, but last used in 1985 (two young fledged). Visited 1 June (12:00-14:00). Nest platform found in a side gully in the SW4 of the section. Nest was about 14 m above ground in a 19 m tall ponderosa pine (DBH=46.3 cm) on a N-facing slope. Nest platform was about 1 m diam. by 0.5 m deep, and adjacent to the trunk on a lateral limb. No prey remains or pellets were noted below the nest, and the nest was unoccupied. No other evidence of nesting by raptors was noted.
- 2). **Willie Bull Prong** (T7S R48E S7)--adult at nest (no young) in 1987. Visited 25 May (10:00-13:45). Active Red-tailed Hawk nest found in main side gully in the NE4 of the section. Nest was about 16 m up in a 19 m tall ponderosa pine (DBH=52.1 cm) near the base of an E-facing slope. Nest platform was 1 m diam. by 0.5 m deep, on a lateral limb 0.5 m from trunk. Pair actively defending the territory. No other evidence of nesting by raptors was noted.
- 3). **Upper Hay Creek** (T5S R44E S32)--two young fledged in 1987. Visited 24 May (12:00-13:30). No evidence of nesting raptors was noted.
- 4). **West Daily** (T2S R45E S34/35)--two young fledged in 1989. Visited 1 June (15:30-17:00). Portions of the area in old (1988?) burn. No evidence of nesting raptors was noted.
- 5). **Chalsea** (T6S R45E S9)--one fledgling in 1990, territory active in 1991 but no nest found. Visited 24 May (09:30-12:00). Large portions of the area in old (1988?) burn. Nest platform atop a 16 m tall pine snag (DBH=55.9 cm) at the upper edge of unburned forest in the bottom of the main gully (near "new" fence line) in the NE4 of the section. Nest platform 1 m diam. by approx. 0.4 m deep. Nest appeared unoccupied, but a pair of Red-tailed Hawks was soaring over the area. No other evidence of nesting by raptors was noted.
- 6). **Lemonade Road** (T4S R47E S4)--probably two young fledged in 1991. Visited 31 May (16:30-18:30). Logging trucks frequently traveling on FS Road 703 in the NW4 of the section. Nest platform found about 9 m above ground in a 16 m tall ponderosa pine (DBH=25.5 cm) on a N-facing slope of a small side gully in the NW4 of the section, off of FS Road 1463. Nest platform was about 1 m diam. by 0.3 m deep, on a lateral limb next to the trunk. No prey remains or pellets were found below the nest, and the nest appeared unoccupied. No other evidence of nesting by raptors was noted.
- 7). **Timber Creek** (T6S R44E S18)--two young possibly fledged in 1991. Visited 24 May (16:30-18:00). Much recent logging activity in portions of the section. No evidence of nesting raptors was noted.

Two additional areas were traversed for several hours. On 26 May (14:00-16:30) I hiked up the main side gully to Cow Creek in the W2 of T6S R45E S25. No evidence of nesting raptors was noted. On 2 June (07:40) at Holiday Springs Campground (T2S R47E S19) adult Northern Goshawk alarm calls were heard nearby from across the gully to the E of the campground (SE4 of the section). Calling lasted 3 min. No nest or birds were found when the area was traversed (07:50-08:30). Food beg calls were heard at 07:15 from the same general area on 4 and 5 June. Again, traverses of the area revealed no birds, but these observations indicate adult goshawks probably nested in the area. NOTE: on 17 June 1996 adult alarm calls were heard again at Holiday Springs Campground.

## DISCUSSION

The brevity of the 1995 survey effort, and the inadequate taped broadcast equipment, indicate that the surveys for Northern Goshawks and Flammulated Owls on the Ashland District of the Custer National Forest were less than comprehensive. Nevertheless, evidence was obtained that at least one pair of goshawks nested on or near Ashland District lands in 1995, and probably used this site in 1996 as well. The negative results of survey efforts for Flammulated Owls in 1995 should be considered only a preliminary effort.

Additional, more comprehensive, surveys for both species are recommended. Flammulated Owls begin calling in late April to May in the western U.S. (McCallum 1994), at about the time Northern Goshawks are on nests with eggs or nestlings (Block et al. 1994, pers. obs.). Thus, it appears that the timing of the 1995 surveys would be adequate for future survey efforts. Taped playback calls of Northern Goshawks are recommended for goshawk surveys, but taped owl calls may not be needed for reliable Flammulated Owl surveys (D. Holt pers. comm.). Owl surveys should be conducted both with and without the use of taped playback calls. Northern Goshawks tend to nest in pine forest with dense canopy cover (Block et al. 1994), whereas Flammulated Owls use open stands of ponderosa pine (McCallum 1994), so survey efforts for the two species should be focused on forest stands with different physiognomy.

## LITERATURE CITED

- Block, W. M., M. L. Morrison, and M. H. Reiser, eds. 1994. The Northern Goshawk: ecology and management. Stud. Avian Biol. No. 16. 136pp.
- McCallum, D. A. 1994. Flammulated Owl (*Otus flammeolus*). In The Birds of North America, No. 93 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union. 24pp.