

## NORTHERN SPOTTED OWL PAIR SUCCESSFULLY RENESTS

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**Abstract.**—A pair of Northern Spotted Owls (*Strix occidentalis caurina*) were observed to renest after an initial nest failure. This pair produced two fledgling owlets in a second nesting attempt in a second nest tree. Renesting has not been previously documented in this species.

### REANIDAMIENTO EXITOSO DE UNA PAREJA DE *STRIX OCCIDENTALIS CAURINA*

**Sinopsis.**—Se observó el reanidamiento de una pareja de buhos (*Strix occidentalis caurina*) luego de éstos haber fracasado en un primer intento. La pareja reanidó en un segundo árbol y produjo dos pichones. El reanidamiento no había sido documentado previamente en esta especie.

Knowledge of a species' reproductive biology is essential to understand its population dynamics. Listed as threatened under the Endangered Species Act, the Northern Spotted Owl (*Strix occidentalis caurina*) is being investigated and monitored extensively. Presently a number of demographic studies are being conducted throughout its range. In addition, state and federal land management agencies and many private companies are conducting extensive Spotted Owl reproductive and occupancy surveys in Washington, Oregon, and California.

Although Spotted Owl reproductive biology has been investigated (Forsman et al. 1984, Franklin et al. 1990), the occurrence of renesting in Spotted Owls has not been documented. Other closely related species including Great Gray Owls (*Strix nebulosa*) (Bull et al. 1989), Barred Owls (*Strix varia*) (Bent 1938) and Tawny Owls (*Strix aluco*) (Southern 1970), do renest, however.

In 1988 we observed a pair of Northern Spotted Owls that apparently renested after their first nesting attempt failed. The nest sites were located 24 km east of Reedsport, in Douglas County, Oregon. Techniques for locating owls and assessing reproductive status followed Forsman (1983).

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## SUMMARY OF FIELD OBSERVATIONS

*Observations Prior to 1988*

In 1986 an adult male Spotted Owl was banded with a blue band on his right leg; he was observed again at the banding site in 1987. An adult female was banded at the same site with a red band on her left leg in 1987. Hereafter these two owls, when identified, will be referred to as the "blue male" and the "red female."

*Observations During 1988*

7 Apr. 1988.—We observed the blue male take two live mice to a cavity in an old-growth Douglas-fir (*Pseudotsuga menziesii*) tree. An unidentified female Spotted Owl was heard calling from within the cavity as the blue male approached with the first mouse. We assumed the pair was nesting.

24 May 1988.—The blue male took one mouse to the same cavity as on 7 April 1988. An unidentified female was heard calling from within the cavity. There was no evidence of owlets present.

21 Jun. 1988.—We observed the blue male take three mice to a mistletoe (*Arceuthobium* spp.) infected branch (clump) of an old-growth Douglas-fir tree. An unidentified female was heard calling from the mistletoe clump as the blue male approached. We assumed that the blue male was feeding a female on a platform nest in a mistletoe clump (Forsman et al. 1984). This nest was located 213 m from the cavity nest documented on 7 Apr. 1988. No evidence of owlets was observed.

7 Jul. 1988.—We confirmed that this mistletoe clump was being used as a platform nest by the blue male and the red female as at least one owlet was fed by the red female. The owlet was small and completely covered with white natal down indicating that it was  $\leq 10$  d old (Forsman 1981).

1 Aug. 1988.—Two owlets were observed with the blue male and red female within 50 m of the platform nest.

15 Sep. 1988.—The cavity nest located 7 Apr. 1988 was inspected. Egg shell fragments were found in the cavity, however, the reason for nest failure was not apparent.

## DISCUSSION

We concluded that the first nesting attempt failed during the incubating or early brooding stages and that the pair renested. The female on the first nest was not observed, but we assume that the red female occupied both nests. There was no evidence of another female on any of our visits during 1988, so polygyny seems unlikely. This same pair occupied the site again in 1989.

Renesting in wild Spotted Owls has not been previously documented. The late fledging dates of occasional juveniles have led researchers to suspect renesting may occur infrequently, however (E. Forsman, pers. comm.; A. Franklin, pers. comm.). Forsman et al. (1984) reported a

captive Spotted Owl laying a second clutch of eggs after her first clutch was removed.

Forsman et al. (1984) found that females roost in or around the nest tree for several days prior to laying eggs. The 48 d between the two visits to the first (cavity) nest was sufficient for pre-nesting behavior (several days) and incubation (28–32 d) (Forsman et al. 1984). It is possible, given the 48 d nest occupation, that nestlings were present before next failure. Bull and Henjum (1990) found a Great Gray Owl female re-nesting after her nestlings died.

As Northern Spotted Owls have been studied extensively, the lack of previous documentation of re-nesting suggests that it occurs infrequently or is difficult to confirm. Current occupancy and reproductive surveys are not designed to monitor intensively individual pair behavior, however. Early re-nesting attempts may go unnoticed, especially those that occur in the same nest or nest tree.

Re-nesting may contribute occasionally to the productivity of Northern Spotted Owls at a local level. The survival of young produced during re-nesting attempts and the productivity of re-nesting pairs in subsequent years, must be understood to evaluate the contribution of re-nesting to reproduction.

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