

would be much less than the vulnerability of entirely wild peregrines as it averaged in the interval 1924 through 1963. Hence, data on band recoveries for Peregrine Falcons appear not to support the Snyders' forecast, based on observation of Cooper's Hawks,

that Peregrine Falcons released after being held in captivity will have a high mortality from shooting.

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## RECENT RANGE EXTENSIONS OF THE BARRED OWL IN WESTERN NORTH AMERICA, INCLUDING THE FIRST RECORDS FOR OREGON

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AND  
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Recent records from southwestern British Columbia and northwestern Montana indicate that the Barred Owl (*Strix varia*) is extending its range southward in these areas (Grant 1966, Campbell 1973, Shea 1974). This paper presents evidence of further range extensions, including the first two records in Oregon. Implications of range overlap with the Spotted Owl (*Strix occidentalis*) are also discussed.

Grant (1966) described the recent arrival of the Barred Owl in much of the southeastern half of British Columbia, but at that time there were no records of Barred Owls in coastal British Columbia or in Washington, Idaho or Oregon. Records of Barred Owl sightings made since Grant's work are presented in figure 1 and in chronological order below:

1) 2 October 1965: Sighting, Blueslide, Pend Oreille Co., Wash. (Rogers 1966); 2) 1966 and 1968-71: Numerous sightings, Glacier Nat. Park, Flathead Co., Mont. (Shea 1974); 3) October 1968: Bird shot, Moscow Mt., Latah Co., Ida. (Rogers 1970); 4) 15 October 1968: Bird found shot, Mica Pk., Spokane Co., Wash. (Rogers 1969); 5) 1969 and 1972: Five sightings near Fortine, Lincoln Co., Mont. (Shea 1974); 6,7,8) 1969-73: Five sightings, southwest B. C. (Stirling 1970, Campbell 1973); 9) 4 June 1970: Remains of adult collected, Manning Park, B. C. (Grass 1971); 10) 17 January 1972: Bird photographed, Summerland, B. C. (Rogers 1972); 11) 6 September 1973: Sighting along shore of Priest Lake, Bonner Co., Ida. (Rogers 1974); 12) 11 October 1973: Bird flew into window near Spokane, Spokane Co., Wash. (Rogers 1974); 13) 23 June 1974: Pair near Park Rapids, Stevens Co., Wash. (Rogers 1974); 14) December 1973: Dead bird found near Skykomish, King Co., Wash. by B. and P. Evans (Wahl, pers. comm.); 15) July 1973: Sighting near Middleport, Stevens Co., Wash. by D. Paulson (Wahl, pers. comm.); 16) 16 September 1974: Pair, Colonial Creek Campground, Whatcom Co., Wash. (Crowell and Nehls 1975a); 17) 24 April-2 October 1974: Pair noted often near Bacus Hill, Skagit Co., Wash. (Reichard 1974); 18) May 1975: Reichard found nest with three young (Wahl, pers. comm.); 19) June 1975: J. Fackler found nest with one young, Ross Lake, Whatcom Co., Wash. (Wahl, pers. comm.); 20) 7 July 1975: Adult with two imm., Cortes Island, B. C. (Crowell and Nehls 1975b); 21) 13-15 August 1975: Two heard, Twin Lakes, Kootenai Co., Ida. (Rogers 1976); 22) First Oregon sightings; description follows.

On 18 June 1974, in the Wenaha River drainage of the Blue Mountains 7.2 km south of the Oregon-Washington border and 26.7 km west of Troy, Wallowa Co., Oregon (pt. 21, fig. 1) Karl Hulbert and the senior author observed a pair of adult Barred Owls. The owls were first seen at 16:30, roosting together in a mixed conifer stand of Grand Fir (*Abies grandis*), Engelmann Spruce (*Picea engelmannii*), Western Larch (*Larix occidentalis*) and Douglas Fir (*Pseudotsuga menziesii*) at 1280 m elevation on a bench 365 m above the Wenaha River. Within the forested area are several ponds bordered by Black Cottonwood (*Populus trichocarpa*) and Quaking Aspen (*Populus tremuloides*), and swamps with dense thickets of shrubby Alder Buckthorn (*Rhamnus alnifolia*) about 1 m high. The owls were observed for about 15 min with 10× binoculars at a distance of 10 m. The dark eyes, rounded head and streaked rather than barred lower breast were evident. When Taylor returned to the area the next day, he found one of the birds present, and photographed it from a distance of 20 m. On 22 July 1974, about 200 m northwest of the previous sightings, Taylor again saw a single adult bird, which was being harassed by a Pileated Woodpecker (*Dryocopus pileatus*). He found the owls again on trips into the area on 12 and 13 June 1975 and, 15 and 29 May 1976.

John M. Hillis, who has considerable experience with owls in Oregon, reported (pers. comm.), that during July, August and September 1974 he regularly saw and heard a pair of Barred Owls near his home 24 km southeast of Pendleton, Umatilla Co., Oregon (fig. 1, pt. 22). This sighting is about 56 km southwest of the Wenaha sightings, and 47.5 km south of the Oregon-Washington border.

These observations constitute the first records of the Barred Owl in Oregon, as well as a southwesterly range extension of about 160 km from the previously known limit near Moscow, Idaho (Rogers 1970). The fact that both Oregon records were of paired birds during the breeding season suggests that the species may breed in Oregon. Whether these records represent actual extensions of the range, or whether Barred Owls have been present but undetected in these areas is unknown. It seems unlikely, however, that the species could have gone undetected until the last decade in Washington, Idaho and Oregon.

The recent movement of Barred Owls into southwestern British Columbia and northwestern Washington has created range overlap with the Spotted Owl, which occurs at least as far inland as Manning Park (fig. 1) and as far north along the British Columbia coast as Alta Lake (Guignet 1970). Barred Owls are slightly larger than Spotted Owls, and both species inhabit forest. Both forage primarily upon nocturnal forest rodents and small birds and nest most often in large cavities in trees (Dunstan and Sample 1972, Bent 1938, Forsman 1976). It seems doubtful that two species so similar in general food habits and habitat requirements could coexist in the same areas for long, but this relationship remains to be investigated.

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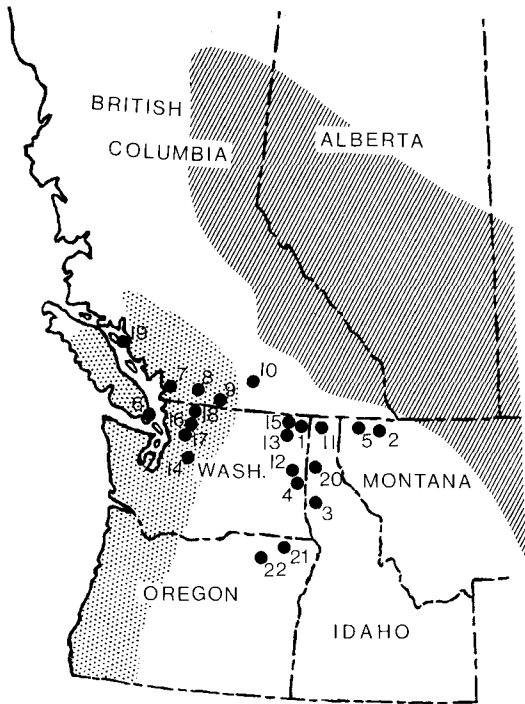


FIGURE 1. Distribution of Barred and Spotted Owls in northwestern North America. Solid dots indicate recent records of Barred Owls outside the previously known range (lined area). Stippled area indicates range of the Spotted Owl. Locations, authorities and dates for numbered Barred Owl records are presented in text.

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## POLYGyny IN THE WESTERN WOOD PEWEE

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Although families closely related to the Tyrannidae exhibit diverse breeding systems, simple pair bonding appears to predominate among the tyrant flycatchers. Skutch (Pacific Coast Avifauna 34, 1960) pointed out that while monogamy is the most common breeding system in the tropical representatives of the family, "in a few genera the birds appear never to mate and the males have not been seen to take any interest in nest, eggs, or young . . .". It is thought that, in these few genera males may copulate with

more than one nesting female, but form no pair bonds with them and take no part in any other breeding function. Among tropical tyrannids which form permanent or semi-permanent pair bonds, Skutch also noted that no instances of polygyny had been reported.

I know of only two reports of polygynous behavior in temperate flycatchers. Mumford (Misc. Pub. 125, Univ. Michigan Mus. Zool., 1964) observed two polygynous male Acadian Flycatchers (*Empidonax virens*), both of which tended two nests and two females simultaneously, but only one of which was pressed by circumstances to feed young at both nests during the same period of time. W. J. Smith (pers. comm.) observed a single case of polygyny in the Eastern Wood Pewee (*Contopus virens*) in 1967 near