

## WINTERING DISTRIBUTION AND DISPERSAL OF NORTHERN IDAHO AND EASTERN WASHINGTON OSPREYS

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**Abstract.**—Ospreys (*Pandion haliaetus*) banded in northern Idaho and eastern Washington wintered throughout much of Central America. Wintering birds were rarely recovered in the United States (southern Texas) and South America (Ecuador). Ospreys banded as nestlings were recovered from Nevada, Montana, Oregon and central Washington, a mean dispersal distance of 441 km. Two females banded as nestlings at Eagle Lake, California, were trapped as breeding adults in northern Idaho, a dispersal distance of 809 km. Mean dispersal distance may be greater in the western United States because of the discontinuous distribution of breeding habitat.

### DISTRIBUCIÓN INVERNAL Y DISPERSIÓN DE INDIVIDUOS DE *PANDION HALIAETUS* ORIGINALES DEL NORTE DE IDAHO Y ESTE DE WASHINGTON

**Sinopsis.**—Individuos de *Pandion haliaetus* anillados en el norte de Idaho y este de Washington, pasaron el invierno en gran parte de América Central. Se recobraron muy pocos individuos en los Estados Unidos (al sur de Texas) y Sur America (Ecuador). Pichones anillados en sus nidos, fueron recobrados en Nevada, Montana, Oregon y la parte central de Washington, con una dispersión promedio de 441 km. Dos hembras anilladas como pichones en el Lago Eagle, California, fueron atrapadas como adultos reproductores en el norte de Idaho, a 809 km de su lugar de origen. La distancia de dispersión promedio podría ser mayor en el oeste de los Estados Unidos, debido a la distribución descontinua de habitat adecuado para la reproducción de la especie.

Between 1970 and 1990 we banded 1233 nestling Ospreys (*Pandion haliaetus*) in northern Idaho and eastern Washington. Based on recoveries through 1990, 39 died during fall migration or on the wintering area and 20 were recovered, trapped or sighted as adults locally or elsewhere in the western United States. Earlier, we summarized the migration pattern indicated by 28 recoveries from this breeding population and one from central Idaho (Melquist and Johnson 1984, Melquist et al. 1978). Here we describe the wintering distribution and dispersal of Ospreys from this population as indicated by 25 additional recoveries, including one from central Idaho, and six returns from birds banded locally as nestlings.

#### METHODS

We assume that recoveries reported from November through February are wintering birds although some arrive on wintering areas before 1 November (Melquist and Johnson 1984). Based on the bimodal distribution of dispersal distances (see below) we arbitrarily identified birds

TABLE 1. Recoveries of northern Idaho and northeastern Washington Osprey banded as nestlings, except No. 15, which was banded as an adult.

No.	Banding site	Recovery site	Age at re-covery	Recovery date
1	Dalkena, WA	Dallas, SD	HY	09/08/89
2	Coeur d'Alene, ID	Mancos, CO	HY	09/—/86
3	Harrison, ID	Black Bayou, LA	HY	10/30/86
4	Dalkena, WA	Blythe, CA	HY	04/20/90
5	Post Falls, ID	Juarez, Coahuila, Mexico	HY	09/—/86
6	Killarney Lk, ID	(Unknown location), Hidalgo, Mexico	HY	10/—/89
7	Newport, WA	Alajuela, Costa Rica	HY	11/—/85
8	Post Falls, ID	Huichapan, Hidalgo, Mexico	HY	12/—/89
9	Coeur d'Alene, ID	Guasave, Sinaloa, Mexico	SY	02/—/89
10	Coeur d'Alene, ID	(Unknown location), Guatemala	SY	08/—/89
11	Coeur d'Alene, ID	Atoyac de Alvarez, Guerrero, Mexico	SY	10/05/88
12	Harrison, ID	Carricitos, TX	SY	10/09/90
13	Coeur d'Alene, ID	Zapotillo, Panama	ASY	06/15/89
14	Dalkena, WA	San Juan, Nayarit, Mexico	ASY	09/23/89
15	Killarney Lk, ID	Adrian, OR	ASY	10/16/88
16	Coeur d'Alene, ID	Coeur d'Alene, ID	ASY	06/01/90
17	Clark Fork, ID	Sandpoint, ID	ASY	04/30/85
18	Donnelly, ID	Donnelly, ID	ASY	05/18/85
19	Coeur d'Alene, ID	Fernan Lake, ID	ASY	07/13/89
20	Harrison, ID	Harrison, ID	ASY	04/24/89
21	Harrison, ID	Republic, WA	ASY	01/—/89
22	Coeur d'Alene, ID	Whitefish, MT	ASY	10/—/84
23	Harrison, ID	Rock Creek Dam, OR	ASY	06/03/86
24	Post Falls, ID	Gallatin River, MT	ASY	05/13/86
25	Harrison, ID	Steptoe Valley, NV	ASY	08/08/88

recovered within 25 km of their place of origin as non-dispersing and those recovered at greater distances as dispersing.

#### RESULTS AND DISCUSSION

Hatching year (HY) birds (Table 1) were recovered from sites north of their apparent wintering areas (South Dakota, Colorado, Louisiana and California) as well as in Mexico and Costa Rica, where wintering has been confirmed. Second year (SY) birds were recovered from Guatemala, the Mexican States of Sinaloa and Guerrero, and southern Texas, supporting previous observations (Henny and Van Velzen 1972, Melquist et al. 1978, Osterlof 1977) that SY Ospreys remain on wintering areas until nearly 2 yr of age.

After second year (ASY) birds were recovered in Panama and the Mexican State of Nayarit. No. 14 may have been held captive as the person possessing the band stated that it had "died from old age" (I. Templeton, pers. comm.). Here we correct the recovery location of a migrating ASY bird (Melquist and Johnson 1984, No. 6) as Buena Ventura, Chihuahua. These recoveries, and those previously reported, indicate that HY and ASY birds are widely dispersed in the western and

central United States and in northern Mexico during fall migration. Wintering birds from this breeding population occur throughout Mexico and Central America. Records of birds wintering outside this range are rare (e.g., Southern Texas, Table 1 and Ecuador, Melquist and Johnson 1984).

In 1986 and 1987 we trapped and banded 44 breeding adults at nests within the Coeur d'Alene watershed, one of which (Table 1, No. 15) was subsequently found dead near Adrian, Oregon. As a result of its decayed condition, we are uncertain of its status (breeding or migrant) at that location.

We found a bimodal distribution in the distance from site of origin to location of recovery or recapture. Eleven birds, identified as non-dispersing, were recovered or recaptured within 25 km of their site of origin. These included five recoveries (Nos. 16–20) and five adults trapped in the Coeur d'Alene watershed that we had banded locally as nestlings. These birds (ages 5–11 yr) were released at the site of capture. An additional breeding male that we banded locally as a nestling 7 yr earlier was identified using a spotting scope.

Birds identified as dispersers moved much greater distances. Five adults (Nos. 21–25) and a sixth reported earlier (Melquist and Johnson 1984, No. 15) were recovered in Montana, Nevada, Oregon and central Washington, a mean distance of 441 km (range 189–903 km) from their nests of origin. Although all were recovered during the nesting season, breeding at dispersal locations has not been confirmed. We also trapped two nesting females in the Coeur d'Alene watershed that J. Koplín had banded as nestlings 13 yr previously at Eagle Lake, California, a dispersal distance of 809 km.

Spitzer et al. (1983) confirmed that Osprey dispersal is sex-biased. Although 23% of the females ( $N = 39$ ) dispersed more than 50 km to breeding sites, males ( $N = 33$ ) dispersed a maximum distance of 37 km from their nests of origin. Based on a review of 32 band-recoveries, Henny (in Palmer 1988:84) found that only 6% of the east coast birds dispersed more than 125 km. Although sample size is small, mean dispersal distance of our study population was much greater than that observed in east coast populations, perhaps because nesting habitat is discontinuously distributed in the west.

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#### LITERATURE CITED

- HENNY, C. J., AND W. T. VAN VELZEN. 1972. Migration patterns and wintering localities of American ospreys. *J. Wildl. Manage.* 36:1133–1141.

- MELQUIST, W. E., AND D. R. JOHNSON. 1984. Additional comments on the migration of northern Idaho and eastern Washington ospreys. *J. Field Ornithol.* 55:483-485.
- , ———, AND W. D. CARRIER. 1978. Migration patterns of northern Idaho and eastern Washington ospreys. *Bird-Banding* 49:234-236.
- OSTERLOF, S. 1977. Migration, wintering area, and site tenacity of the European osprey *Pandion h. haliaetus* (L.). *Ornis Scand.* 8:61-78.
- PALMER, R. S. 1988. *Handbook of North American birds*. Vol. 4. Yale University Press, New Haven, Connecticut. 448 pp.
- SPITZER, P. W., A. F. POOLE, AND M. SCHEIBEL. 1983. Initial population recovery of breeding ospreys in the region between New York City and Boston. Pp. 231-241, in D. M. Bird, ed. *Biology and management of bald eagles and ospreys*. Harpell Press, Ste. Anne de Bellevue, Quebec.

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### **The International Osprey Foundation Grant**

The International Osprey Foundation seeks applications for its third grant to support graduate research on Ospreys or other raptors. Applicants should submit a proposal outlining the project and the intended use of the funds by 31 December 1991. The project description should be no more than two pages. Send an itemized estimate of expenses, and the name, address and phone number of the graduate supervisor to TIOF, Endowment Fund, P.O. Box 250, Sanibel, FL 33957-0250.