

Second in a series of *Feature Articles*

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Migration Strategies and Wintering Areas of North American Ospreys as Revealed by Satellite Telemetry

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Since 1995 we have trapped and tagged 110 Ospreys (*Pandion haliaetus*) from 12 study sites in 8 states (Fig. 1). This total includes 71 females, 32 males and 7 juveniles. Our study areas encompass the major Osprey population concentrations found in the United States including the Western States, the Great Lakes region and the Eastern Seaboard.

Tagging of nesting pairs along with three complete family groups revealed that departure times from nesting areas varied by gender; with females leaving before the juveniles and the males departing last. Neither nesting pairs, nor families, migrated or wintered together (Fig. 2). Departure dates from the breeding areas ranged from 12 July to 1 October. Migration routes differed between populations but not gender (Fig. 3). Western Ospreys migrated through California and to a lesser degree other western states and then into Mexico. Minnesota Ospreys migrated along three routes; 1) through the central U.S. and then along the east coast of Mexico, 2) along the Mississippi River then across the Gulf of Mexico, or 3) through the Southeastern U.S., then across the Caribbean. East Coast birds migrated along the Eastern Seaboard of the U.S. through Florida and across the Caribbean.

North American Ospreys winter from the southern United States south through Central and most of South America (Fig. 4, see page 4). Western nesting Ospreys wintered in Mexico (88 percent), El Salvador (6 percent), and Honduras (6 percent). Midwestern birds wintered from Mexico south to Bolivia, while East Coast birds wintered from Cuba to as far south as Brazil. Western birds traveled a shorter distance than either midwest or eastern Ospreys. Females traveled further than males from the same population, which resulted in females typically wintering south of the males. Ospreys remained on the same wintering area for about 168 days until



Figure 1. Study areas where Ospreys were trapped and fitted with satellite telemetry units.



North American Osprey tagged with a 30 gram PTT.



Figure 2. Fall movements and wintering sites of Ospreys from a 1999 nest in Minnesota. Male (blue triangle) wintered in southern Mexico, female (red circle) wintered in Venezuela, and juveniles (blue and green square), both of whom crossed the Gulf of Mexico, wintered in Panama and Colombia.



Figure 3. Fall migration routes of Ospreys from three areas of North America.