SATELLITE-TAGGED OSPREY NEARLY SETS LONGEVITY RECORD AND PRODUCTIVITY RESPONSE TO INITIAL CAPTURES

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We equipped adult Ospreys (Pandion haliaetus) from 24 nests in Oregon/Washington with satellite-tracked battery-powered radios, known as platform transmitter terminals (PTTs), in 1996–1999. These Ospreys from the lower Columbia River (river miles 76–286), and the Willamette Valley in western Oregon were part of a larger study of Osprey fall migration, wintering ecology, and spring migration, which included additional adults from the Upper Midwest and East Coast of the United States (Martell et al. 2001, 2014, Washburn et al. 2014). These early-generation PTTs weighed 30–35 g (Microwave Telemetry Inc., Columbia, MD U.S.A.) and utilized the ARGOS tracking system (www.argos-system.org). We placed PTTs on the birds’ backs using Teflon ribbon (Bally Ribbon, Bally, PA U.S.A.) in a standard backpack configuration (Kenward 2001). With the mass of adult male Ospreys 1400 to 1500 g (Poole et al. 2002), the ratio of tag mass to body mass was 2.0 to 2.5%. Ospreys also received a standard size 8 bird band (U.S. Geological Survey) on one leg and a numbered color band on the other. For more details on trapping techniques, attachment procedures, the battery-powered units, turn-on, turn-off cycles, and tracking equipment, see Martell et al. (2001).

The longevity record of one adult male captured at its nest on 4 June 1996 warrants special attention. We equipped this Osprey with a PTT, a metal color band (alphanumeric code X3) and band 608-43025. This male (hereafter “X3”) nested on the Washington side of the Columbia River near Bachelor Point on Channel Marker 13 at River Mile 91 (Fig. 1), Nest #91 in our records. Female X2 (hereafter “X2”), mate of X3, was also captured and equipped with a PTT in 1996, but provided limited longevity information. The PTT from the X3 sent signals for almost a year (6 June 1996 to 17 April 1997). After the 1996 breeding season, he was last detected at the nesting area 16 September 1996, and 10 d later (26 September) had migrated to his wintering area east of Los Mochis in north-central Sinaloa, Mexico (25°50.88’N, 107°50.52’W), at Bacurato Reservoir (a straight-line distance of 2583 km, suggesting an average migration rate of 258 km/d). The duty cycle setting on the PTT prevented us from receiving any information during his movements between the nesting and wintering area. After nearly 6 mo in Mexico, X3 was last detected at his wintering area 24 March 1997, and arrived back at the nesting area between 1–7 April. His spring migration took him through Sonora, Mexico (28 March), at 28°56.46’N, 112°4.74’W and just east of San Francisco, CA (31 March) at 38°3.54’N, 120°37.86’W. His mate X2 wintered along the coast approximately 120 km south-southeast of Mazatlan in the state of Nayarit, Mexico, at 22°22.32’N, 105°38.04’W (ca. 450 km away); she was last detected there on 18 March 1997 and arrived back at the nesting area between 28–31 March. We did not visit the nest on a regular basis, but did observe both Ospreys together back at Nest #91 on 14 April 1997. The final PTT transmission from X3 was from the nesting area on 17 April 1997. With no information for 1998 or 1999, our next field observation was on 20 June 2000, when X2 and X3 were again at Nest #91 with three young about 7–10 d old. A volunteer at nearby Ridgefield National Wildlife Refuge then photographed X3 (Fig. 2, note transmitter on back) at the refuge, 3.32 km from Nest #91 on 7 June 2011. Unfortunately, X3 was electrocuted at a distribution utility pole 3.98 km from its 1996 nest site on 27 April 2016 (38 d short of 20 yr after we attached the PTT) still carrying the PTT. Because the male was an adult when captured (at least 5 yr old, see Poole et al. 2002), this male Osprey was at least 22.83 yr old (years and months converted to decimal at Bird Banding Laboratory [BBL]) at the time of its death. And,