

AERIAL AND GROUND SURVEYS OF OSPREYS NESTING ON UTILITY POLES IN THE WEST KOOTENAY REGION OF BRITISH COLUMBIA IN 1994

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Abstract -- Of 30 Osprey nests observed on 27 power poles along Arrow Lake in March 1994 and four new nests built early in the breeding season, nesting was attempted in 17, and 27 young in 14 nests were known to reach the stage of standing in the nest; most of these are believed to have fledged. Seven additional nests built later in the season were apparently not used for nesting. A brief account is included of 1995-1997 nesting success.

Key words: Alternate nests, Arrow Lakes, artificial nest-sites, Osprey, *Pandion haliaetus*.

During the mid 1950s, B.C. Hydro built two transmission lines from the Monashee substation, northwest of Needles in the Arrow Lakes valley, to distribute power to the west Kootenay region of British Columbia (Don Callewaest personal communication). Two lines, circuits 60L210 and 1L213, cross Arrow Lake a few kilometers north of Fauquier. The former extends north along the east side of Arrow Lake, delivering power to Nakusp and New Denver. The latter stretches south through Fauquier to Castlegar. In the late 1960s, the completion of the Hugh Keenleyside Dam at Castlegar raised the level of Arrow Lake, necessitating the relocation of much of the line. At that time, the line was also upgraded; most single poles were replaced with structures consisting of two or three poles. Each had either one or two timbers placed horizontally across the tops of the poles for support (Figure 1). These horizontal timbers are used as nest-sites by locally breeding Ospreys (*Pandion haliaetus*).

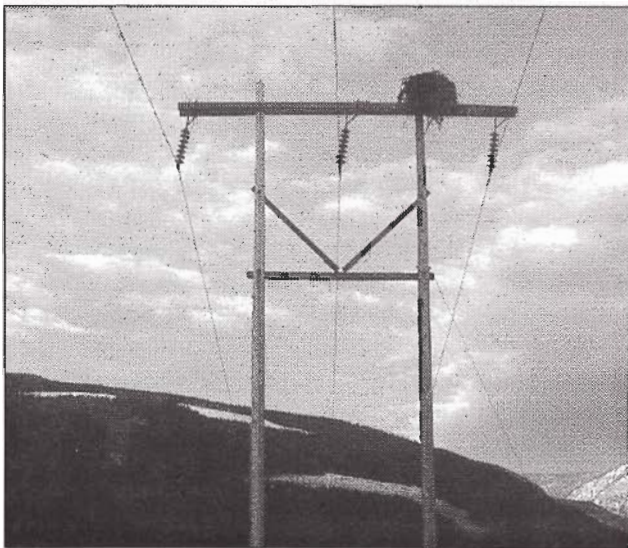


Figure 1. Osprey nest on power pole along Arrow Lake, British Columbia. Photo by Gary S. Davidson.

Similar structures have been used as nest-sites by Ospreys in other parts of North America (Poole 1989; Ewins 1996) and are thought to have aided in the recovery of this species from a widespread decline (Henny 1977; Poole 1989; White

1994). Extensive use of such structures by Ospreys was initially more common in eastern North America than in the west, but has increased over the last couple of decades in Oregon (Henny and Kaiser 1996). Similarly, use of these structures in the Arrow Lakes area seems to have increased in recent years.

Lack of recent historical data, however, makes it unclear whether this increase is the result of an expanding population, or a shift from natural sites. Prior to the continental decline, Ospreys nested regularly on tall snags along the Arrow Lakes (Kelso 1926), but subsequent population trends in this area have not been documented. If this population declined, a potential nearby source of immigration to the Arrow Lakes is the Creston Valley of the East Kootenay, where Ospreys have been increasing recently (Flook and Forbes 1983; Campbell *et al.* 1990).

On 30 March 1994, I accompanied R. M. Bradley, Senior Biologist with B.C. Hydro's Land and Environmental Resources Branch, on a helicopter survey of the structures along the 55 km. stretch of line from Nakusp to Fauquier. The survey was initiated in response to a proposal from the Nakusp Chamber of Commerce for Osprey interpretive signs at either end of the road from Nakusp to Fauquier, signs that were erected subsequently (Figure 2). We observed 30 nests on 28 structures of which 27 were multiple-pole structures with double timbers across the top and one was a multiple-pole structure with a single timber. As Ospreys usually begin nesting in May (rarely April) in British Columbia (Campbell *et al.* 1990), these results provided an indication of use by Ospreys of these structures for nesting prior to 1994.

To assess 1994 use of these nests (Table 1), I conducted 12 ground surveys of most of them between 22 April and 21 August. Since I could not locate nests 2, 24 and 26 (Table 1) from the ground, they were not monitored. Nest number 17 apparently fell some time after the helicopter survey and before I began the ground surveys. Nests 3, 12 and 16 were either unfinished or had fallen into disrepair and were therefore not suitable for nesting. Of the remaining 21 nests, breeding was attempted in 17. Nesting activity was also observed in four new

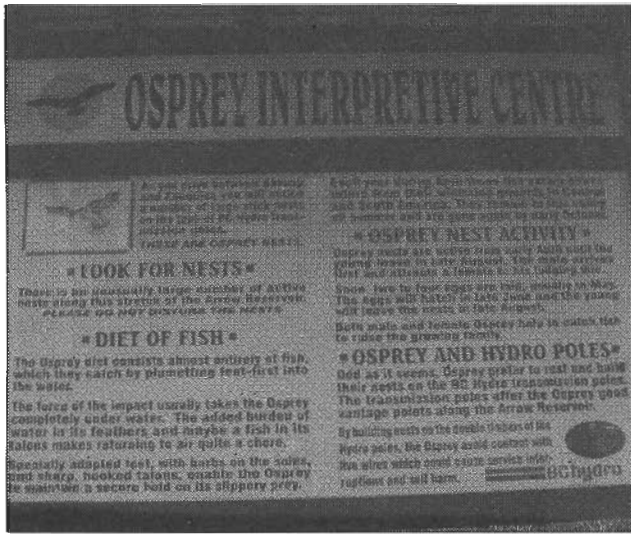


Figure 2. Information sign regarding Osprey use of power poles as nest-sites along Arrow Lake, British Columbia. Photo by Gary S. Davidson.

nest (8A, 18A, 18B and 20A) built early in the 1994 breeding season, although no young were fledged from any of them.

Monitoring the nests is quite difficult during the early stages of nesting (Postupalsky 1977). In this study, I assumed that eggs had been laid if I saw an adult sitting low in its nest, a clear indication of incubating (Poole 1989). Later, when the attending adult spends more time standing, it is likely that young have hatched. Seventeen of the 21 active nests appeared to reach this stage. It is not until the young are old enough to stand that they can be seen and counted from the ground below. In 1994, at least 27 young birds in 14 of the initial nests reached this stage, whereas no young were observed at the other seven nests that were active earlier in the season. Nestling mortality can be high even late in their pre-fledgling stage (Ewins and Miller 1995). My observations suggested that at least 19, but probably 22, young fledged successfully. These birds were seen exercising their wings vigorously. The fate of the other five young is uncertain.

Seven more nests (8B, a second nest on 18A, two nests on 20B, 22A, 22B and 26A) were built in July and August, but no nesting activity was observed at any of them. The purpose of these extra nests is not clear. Henny (*in* Palmer 1988) stated that some Ospreys build, and sometimes defend, two nests. These "alternative" nests are thought to result from nest failure. In areas where nest failure rates are traditionally high, up to 50% of the population may occupy alternative nests (Poole 1989). These nests sometimes become primary nests the following year.

In 1995, 14 nests appeared to be active early in the breeding season. Ten of these nests produced 19 young old enough to stand and flap their wings. Very few observations were made

in 1996. Only three young were seen in 1997, of which at least one failed to fledge. Although the number of nests declined slightly that year, the decline was not sufficient to account for so few young. A significant drop in local Kokanee (*Oncorhynchus nerka*) populations in the last couple of years is one factor that may explain or contribute to such a high rate of nest failure.

TABLE 1
OSPREY NESTS RECORDED DURING 1994
ON UTILITY POLES
IN THE AREA BETWEEN NAKUSP AND FAUQUIER
IN THE W. KOOTENAY REGION OF BRITISH COLUMBIA

KILOMETERS			
NEST	FROM NASKUP	TOWER NUMBER	COMMENTS
circuit 60L210			
1	0.6	36.1	
2	1.2	33.5	not located from ground
3	7.1	32.1	just a few sticks remaining
4	7.9	31.5	
5	8.3	31.3	
6	9.0	30.9	3 nests
7	12.7	28.5	
8 ¹		27.8	built August 1994
8A ¹		27.7	built spring 1994
8	15.9	26.5	
9	20.8	23.4	
10	21.4	23.2	
11	25.2	20.5	
12	28.3	18.6	just a few sticks remaining
13	28.4		
14	29.7	17.8	
15		14.2	
16		13.7	just a few sticks remaining
17		13.6	nothing left of this nest
18	41.3	12.4	
18A ¹		12.1	2 1994 nests
18B ¹			built early 1994
19	42.9	11.4	
20	44.3	10.5	
20B ¹		10.4	2 nests built August 1994
20A ¹		10.3	built early 1994
21	45.4	10.1	
22	45.9	9.6	
22A ¹		9.4	built July 1994
22B ¹		9.2	built July 1994
23	47.0		
24		8.8	not located from ground
25	49.5	7.4	
26A ¹		6.3	built July 1994
26		5.6	not located from ground
circuit 1L213			
27	56.3	6.5	
28		7.8	

¹ nests with alphanumeric designations indicate new nests built after helicopter survey.

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