



Autumn Nesting of Red Crossbills in British Columbia

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Throughout its range in North America, the occurrence and breeding distribution of Red Crossbill (*Loxia curvirostra*; Figure 1) is primarily controlled by availability of coniferous seeds (Adkisson 1996). The species wanders nomadically in search of seed crops and when abundant food has been found breeding may be stimulated (Newton 1972, Benkman 1990). Newton (1972) suggested that worldwide, Red Crossbill may be found breeding somewhere in every month. In North America, egg dates range from mid-December to early September (McCabe and McCabe 1933, Lawrence 1949, Bailey et al. 1953, Hahn 1995, Campbell et al. 2001) with young reported as late as early October (Adkisson 1996). In British Columbia, the breeding cycle is known to occur from January to late September (Campbell et al. 2001).

In autumn 2012, at least one pair of Red Crossbills nested successfully in residential Saanich, on southern Vancouver Island, British Columbia, which extends the breeding season in the province to 11 months of a year. On 26 September 2012, a small flock of nine to 12 Red Crossbills was noticed feeding on seeds from the cones of tall Douglas-firs (*Pseudotsuga menziesii*) in the vicinity of Frank Hobbs Elementary School in Saanich on southern Vancouver Island. The immediate neighbourhood is residential but has pockets of second-growth Douglas-firs in a schoolyard with a few scattered remnant mature trees interspersed with individual large arbutus (*Arbutus menziesii*) and bigleaf maple (*Acer macrophyllum*). The flock of crossbills was present in the region, including nearby Haro Woods, an undeveloped forested area, until late November. The Douglas-firs were laden with cones (Figure 2) and the crossbills visited my bird feeder

intermittently for black-oil sunflower seeds and a backyard pond with running water for drinking and occasional bathing.



Figure 1. Throughout its range in North America, Red Crossbills wander nomadically in search of coniferous cones, which produce seeds that are the mainstay of their diet. In autumn and winter 2012, small flocks were present locally on southern Vancouver Island. *Photo by Alan Wilson*



Figure 2. Seeds in cones of Douglas-firs were ripening in September and matured in October and November. *Photo by R. Wayne Campbell, Saanich, BC, October 2012.*

Until early October 2012, a male and female within the flock that had been visiting my yard appeared paired and fed or drank together. Once, on 30 September, the male chased and followed a female into a tall Douglas-fir in the schoolyard, suggesting courtship behaviour. Also, during this two-week period, a male sang constantly, especially in the early morning, from near this Douglas-fir and when drinking the male of the pair behaved aggressively towards other nearby males. No courtship feeding or aerial displays were noticed (see Adkisson 1996).

On 9 and 10 October, I noticed a female flying with small twigs in its bill to a large limb of a Douglas-fir. The site was about 13 m from the ground on a densely-covered branch and about 2.5 m from the trunk. I assumed this was the nest site but it was never visible from below. Also, the nest was placed on the lee side of the tree, away from prevailing southeasterly winds, and always in the shadow of sunlight.

Over the following several weeks or so, specific activity at the nest site could not be determined but a male was occasionally seen flying to the nest site, possibly to feed the incubating female. On 4 November, the short alarm calls of a Red Crossbill were heard as an Eastern Grey Squirrel (*Sciurus carolinensis*) climbed down the trunk of the nest tree. This introduced mammal is resident in the area and is a potential predator of bird nests (Campbell 2009). During November, both male and female crossbills were infrequently seen flying to the nest site, probably to feed nestlings.

In October and November, the small flock of Red Crossbills was frequently seen feeding on cones of Douglas-firs, especially the tops of larger and older trees (Figure 3). Holimon et al. (1998) noted that cone production increases with size and older trees produce more cones than the younger firs. Douglas-fir cones mature in older trees in September and October when most seeds begin to fall and hence are available to crossbills. Also, Douglas-firs produce cones erratically with good seed crops occurring, on average, once every seven years (Environment Canada 2006).



Figure 3. A favoured feeding site for a small flock of Red Crossbills in autumn 2012 in Saanich, British Columbia, was in the tops of several cone-laden mature Douglas-firs. *Photo by R. Wayne Campbell.*

On 22 November, two recently fledged young Red Crossbills, accompanied by an adult male, appeared in the backyard pool to drink. The young begged continuously but were never observed being fed. The female may have been bathing on a lower tier of the pool with nine other crossbills. The family group and the foraging flock were last seen on 24 November.

Red Crossbill is an opportunistic breeder that appears to be unaffected by day length or weather and more by an available food source (Tordoff and Dawson 1965, Adkisson 1995). Temperatures during the Red Crossbill breeding period for southern Vancouver

Island in 2012 ranged from 8°C to 20°C in October and 1°C to 13°C in November. The month of November had the largest fraction of warmer-than-average days with 57% of days with higher-than-average temperatures. Rainfall and wind speed were below average for the same two-month period (WeatherSpark 2012).

The entire breeding period for the Red Crossbills nesting in Saanich probably lasted about 45 days. Ranges of calculated dates for each stage of breeding using averages published by Lawrence (1949), Bailey et al. (1953), Austin 1968, and Newton (1972), are as follows: nest-building (8 to 13 October), egg-laying (14 to 17 October), incubation (18 to 31 October), and fledging (1 to 22 November).

The Saanich nesting extends the known breeding season for Red Crossbill in British Columbia by two months. The species has now been recorded breeding in every month of the year except December (see Campbell et al. 2001). Cannings et al. (1987), however, reported that a female Red Crossbill built and completed a nest 10.8 m up in a Douglas-fir at Vaseux Lake, in the Okanagan valley, on 28 December 1974. The nest was not used and the temperature at the time was -10°C. †

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