



Red-tailed Hawk Pair Successfully Fledge Four Young in the Creston Valley, British Columbia

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Red-tailed Hawk (*Buteo jamaicensis*) is the most widely distributed and commonly observed raptor in British Columbia, including the larger offshore islands. Northern populations are migratory but the species may be present, year-round, in some southern regions (Campbell et al. 1990). In the Creston valley of southeastern British Columbia, Red-tailed Hawk is resident and breeds (Van Damme 2012).

As part of a larger program on the annual feeding ecology and populations of hawks and owls in the Creston valley, I have monitored the nesting activity, site occupancy, and productivity of Red-tailed Hawks (Van Damme 2005, 2008, Campbell et al. 2011). Over an 18 year period from 1997 to 2014, details on 254 broods of Red-tailed Hawks have been recorded in collaboration with Cyril Colonel, Marcia Long, and Gary Breault. Adults (assuming mates) remain together throughout the year (see Preston and Beane 1993) and like elsewhere in North America territories are well-defined by proximity to physical features such as waterways, forest edges, and roads (Fitch et al. 1946, Preston and Beane 1993). Breeding territories, as Janes (1984) has noted, are remarkably “stable year-to-year.”

Nesting activity in the Creston valley, such as nest refurbishing, may begin as early as 2 January in some years (Gary Breault pers. obs., Campbell et al. 2013). The earliest occupied nest, suggesting incubation, is 24 February but generally most Red-tailed Hawks have completed nest-building or nest refurbishing and settle in during the first two weeks of March. Nestlings have been observed from 8 April to 25 June and brood size ranged from one to four

young. The earliest fledging date is 27 May, but most young fledge during the second and third weeks of June (pers. obs.). Generally in British Columbia, Red-tailed Hawk may initiate nesting activities in southern regions of the province in late February with a peak egg-laying period between 16 April and 5 May (Campbell et al. 1990).

In 2008, long-time Creston resident Terry Good invited me to check a new and active Red-tailed Hawk nest at his rural property in Lister. The nest was built 20 m (65 ft) up in the crotch of a 24 m (80 ft) grand fir (*Abies grandis*) tree at the edge of a mixed deciduous and coniferous forest bordering a hayfield. Two young successfully fledged that year. The nest was occupied by a pair of Great Horned Owls (*Bubo virginianus*) in 2009 but was inactive in 2010 and 2011. Red-tailed Hawks refurbished the nest in 2012 and two young fledged.

In 2013, the site was again occupied by a pair of Red-tailed Hawks and was monitored throughout the breeding period. The following are field observations from 21 February to 29 June:

21 February – An adult was calling in flight over the nest tree.

27 February – An adult was seen in the general nesting territory.

14 March – Two adults were calling near the nest tree.

23 March – An adult was crouched low in the nest, as if incubating.

30 March to 14 April – An adult was sitting low in the nest.

20 and 25 April – An adult was sitting low in the nest; its mate perched nearby.

28 April – An adult was sitting low in the nest, suggesting eggs or small nestlings.

2 May – An adult was sitting high in the nest, suggesting hatching has occurred.

9 May – An adult was agitated near the nest.

14 May – Two pale, whitish to light gray downy chicks were moving in the nest; adult was absent.

17 May – Two pale gray downy chicks were observed in the nest; both adults were nearby.

23 May – Two nestlings were observed.

28 May – Two nestlings were standing in the nest showing pale heads; wing feathers were emerging.

3 June – Three nestlings were standing in the nest; one has brown feathering on the breast.

6 June – Four nestlings were observed. One is larger and more developed and was stretching its feathered wings while perched on a branch adjacent to the nest. The smallest nestling still had a down-covered head (Figure 1). One adult caught a Columbian Ground Squirrel (*Spermophilus columbianus*) and in an elaborate aerial display transferred the prey to its mate who returned to the nest (Figure 2).



Figure 1. Red-tailed Hawk nest showing four large nestlings at different stages of development in and out of the nest. All young left the nest by the end of June. *Photo by Linda M. Van Damme, Lister, BC, 6 June 2013.*



Figure 2. After much calling and aerial displaying by a pair of Red-tailed Hawks, a Columbian Ground Squirrel was exchanged in mid-air and then taken to their nest containing four well-developed young. *Photo by Linda M. Van Damme, Lister, BC, 6 June 2013.*

11 and 17 June – Two pale-headed nestlings were visible in the nest.

20 June – Three nestlings were observed; one was standing in the nest and two were perched on branches near the nest.

24 June – Both adults were circling and calling overhead. Only one young was observed perched on a branch near the nest which is now falling apart.

29 June – The last young fledged; heard calling near the nest.

In British Columbia and elsewhere in North America, Red-tailed Hawk nests containing four young are very rare (Campbell et al. 1990, Preston and Beane 1993). Only four such nests have been reported in British Columbia between 1891 and 1990 ($n = 237$ nests; 1.7%) and in the Creston valley only this single instance has been observed between 1997 and 2014 ($n = 254$; 0.4%). In Saskatchewan, nestling Red-tailed Hawks were banded in 975 successful nests between 1957 and 2006 and only two nests (0.2 %) contained four young (C.S. Houston pers. comm.).

In several studies on reproductive success in Red-tailed Hawk in Canada and the United States, the mean number of fledglings to successfully leave a nest per pair per year ranged from a low of 0.91 in Michigan ($n = 22$; Craighead and Craighead 1956) to a high of 1.8 in Wisconsin ($n = 27$); (Orians and Kuhlman 1956). The four young that successfully fledged from the nest in Creston is exceptional and may be related to prey abundance in 2013 of Columbian Ground Squirrels, Meadows Voles (*Microtus pennsylvanicus*) and other animals such as gartersnakes (*Thamnophis* spp.). Stout et al. (2009) showed that Red-tailed Hawk productivity in Wisconsin varied annually with prey abundance and availability and that the main prey base (e.g., *Microtus* spp.) was significantly higher in years with favourable weather. †

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About the Author

Linda continues her rambles around the Creston valley monitoring the nesting activity of raptors and documenting breeding activity for all species. She is a long-time participant in the British Columbia Nest Record Scheme.