

Status and Occurrence of Loggerhead Shrike (*Lanius ludovicianus*) in British Columbia.

By Rick Toochin and Don Cecile.

Introduction and Distribution

The Loggerhead Shrike (*Lanius ludovicianus*) is a small elegant passerine species found across North America (Dunn and Alderfer 2011). The bird is classified as Threatened to Endangered throughout much of its northern range due to habitat loss (COSEWIC 2004). In Canada, the Loggerhead Shrike has suffered significant, more than 80%, population declines over the past 35 years (COSEWIC 2004). These declines have been linked to loss of native prairie and pastureland habitats and pesticide residues (COSEWIC 2004). The Loggerhead Shrike eats insects, shrews and small rodents (COSEWIC 2004). The Loggerhead Shrike's breeding range in Eastern North America is from southern Wisconsin (Robbins 1990) and from southeast Illinois (Bohlen 1989), southern Indiana (Yosef 1996), and southwestern Ohio (Peterjohn 1989) south to Gulf Coast, and from eastern West Virginia (Buckelew and Hall 1994) and all but eastern portions of both Virginia (Yosef 1996) and North Carolina south to Gulf Coast and all but extreme southern Florida (Robertson and Woolfenden 1992). Remnant breeding populations remain in western and northeastern Lower Peninsula of Michigan (Brewer *et al.* 1991), southcentral Pennsylvania (Brauning 1992), and portions of southern Ontario. Three isolated populations (40 pairs total) in southern Ontario, in what may be a long-standing association with limestone plains bordering the southern edge of the Precambrian Shield (Cadman *et al.* 1987). Formerly bred throughout southern Quebec, Maritime Provinces (Erskine 1992), most of New England (Laughlin and Kibbe 1985), and mid-western U.S. Local breeding still occurs within this area, increasingly toward the west. In Quebec, only 2 active nests located in 1992, both in southeastern regions (Laporte and Robert 1995).

In central North America the Loggerhead breeds from southern Saskatchewan and southwestern Manitoba (Godfrey 1986), North Dakota (except for northeast corner; Stewart 1975), and portions of southern Minnesota (Janssen 1987), eastern Iowa (Yosef 1996), northwestern and southeastern Missouri (Robbins and Easterla 1992), and northern Arkansas (James and Neal 1986) south through Louisiana, most of Texas (Yosef 1996), New Mexico, and Arizona, and through Mexico to northern Sinaloa on the Pacific slope and Oaxaca in the interior (occasionally farther south); absent from Atlantic slope (Howell and Webb 2010). In central Mexico, breeds at elevations of 1,500–2,400 m (Binford 1989).

In Western North America the Loggerhead Shrike breeds from southeastern Alberta (Semenchuk 1992), western Montana (Bergeron *et al.* 1992), northwestern Wyoming (Oakleaf *et al.* 1992), southern Idaho (Stephens and Sturts 1991), south-central Washington (Wahl *et al.* 2005), eastern Oregon (Gilligan *et al.* 1994), and California (except for northwest, heavily

forested higher mountains, and higher portions of deserts) (Small 1994) south to southern Baja California. In Baja California, breeds from sea level to 3,000 m (Wilbur 1987). In the Channel Islands off California coast, there are a couple of resident sub-species that occur on Santa Rosa, Santa Catalina, and Santa Cruz Island (*Lanius ludovicianus anthonyi*) and on San Clemente I. (*L. l. mearnsi*) which is also referred to by authorities as the San Clemente Loggerhead Shrike (Small 1994).

All Northern populations of the Loggerhead Shrike are migratory (Yosef 1996). Most birds winter from northern California, northern Nevada, northern Utah, central Colorado, southern and eastern Kansas, western Missouri, northern Kentucky, and northern Virginia south through the southern U.S. and in Mexico south throughout breeding range and along Atlantic slope irregularly to Chiapas (Howell and Webb 2010).

In British Columbia there are over 80 records and this species appears to be of annual occurrence, but with the classification of very rare to rare in the Province each year (Toochin *et al.* 2014a, see Table 1). In local regions the Loggerhead Shrike would be classified as a casual vagrant (Toochin *et al.* 2014b). There are no definitive breeding records for the Loggerhead Shrike in British Columbia (Campbell *et al.* 1997). It is unclear if all or some of the birds seen during the spring and summer months are overshoots in migration or could be birds that might end up breeding occasionally in the interior when the circumstances are correct (Cannings *et al.* 1987, Campbell *et al.* 1997).

The Loggerhead Shrike is a vagrant species to the Bahama Islands (Sharpe 1897), Bermuda (Amos 1991), and Guatemala (Ericsson 1981). Birds from snowy areas also migrate to where snow is lacking, and leave areas where snow is on ground for more than 10 days of the year (Miller 1931). Sedentary populations generally remain on breeding territories throughout the winter (Yosef 1996).

Identification and Similar Species

The identification of the Loggerhead Shrike is covered in all standard field guides. Although the Loggerhead Shrike is fairly straight-forward to identify, they are a small bird about 9 inches in length with a wingspan of 12 inches (Sibley 2000). Observers lacking experience should always make sure to rule out the larger, but similar looking Northern Shrike (*Lanius excubitor*) which measures 10 inches in length with a wingspan of 14.5 inches (Sibley 2000).

The adult Loggerhead Shrike has a broad, thick black mask that remains thick towards the bill base and goes from behind the eye over the bill base (Dunn and Alderfer 2011). There is a thin white line that goes over the black mask and also goes over the bill base (Sibley 2000, Dunn and

Alderfer 2011). The bill is thick, but stubby with no long hook as seen on the Northern Shrike (Dunn and Alderfer 2011). The crown is round and dark blue-gray which extends down onto the back (Dunn and Alderfer 2011). This dark blue-gray back color is offset by a bright white line that separates the back from the black wings (Dunn and Alderfer 2011). There is a white patch in the outer edge of the wing is smaller to that of the Northern Shrike (Sibley 2000). The tertials are edged in thin white with the feather centers black (Sibley 2000). The rump is normally dark blue-gray, but some populations show a whitish rump (Sibley 2000). The tail is short, with a rounded tip (Dunn and Alderfer 2011). The tail is predominantly black with the outer tail feathers white and the tail tips, white (Dunn and Alderfer 2011). The throat contrasts sharply with the rest of the head and face due to the clearly cut white color that is separated by a clean blue-gray line on the sides of the neck (Sibley 2000, Dunn and Alderfer 2011). The white extends down the breast to the undertail coverts (Sibley 2000). The legs are short and black (Dunn and Alderfer 2011).

Birds hold Juvenile plumage from April to September (Sibley 2000). These birds have a reduced black mask that extends over the bill (Dunn and Alderfer 2011). The black bill is the same size and structure as the adult (Sibley 2000). The crown and back is dark blue-gray with light white bars (Dunn and Alderfer 2000). The white line above the wings of the adult is replaced by mottled dark black edged gray feathers (Dunn and Alderfer 2011). The wings are black with light feather edges (Dunn and Alderfer 2000). The white spot is the same as the adult on the wing (Dunn and Alderfer 2000). The tertials and the primary feathers have light edges (Dunn and Alderfer 2000). The rump is light the back gray with light bars (Sibley 2000). The tail is the same as the adult bird (Sibley 2000). The throat is white with a gray breast band that has dark bars, the rest of the breast is white to the undertail coverts, but there are light dark bars down the sides of the bird (Dunn and Alderfer 2000).

The song of the Loggerhead Shrike is a series of precise, mechanical, two-syllable phrases that are often repeated many times (Sibley 2000). Calls include harsh, scolding, almost grating notes (Sibley 2000).

The Northern Shrike is a larger, bulkier bird with a long heavy and heavily hooked bill (Dunn and Alderfer 2011). The adults are pale gray, with a thin black mask that doesn't extend over the bill (Dunn and Alderfer 2011). The forehead is gray and this extends down to the top of the bill (Dunn and Alderfer 2011). The breast is white, but adults have light horizontal bars (Dunn and Alderfer 2011). The white patch in the wing is very large and round in shape (Sibley 2000). The tail is longer than a Loggerhead Shrike's tail, but is also rounded with white outer tail feathers and white tips to the tail tip feathers (Sibley 2000, Dunn and Alderfer 2011).

The juvenile birds hold their plumage from July to April (Sibley 2000). Some fresh plumaged juvenile birds look very brown overall early in the fall and early in the winter (Dunn and Alderfer 2011). By late winter these birds become grayer overall, but the facial mask is light and often the breast is barred and retains some brownish tones (Dunn and Alderfer 2011). The rump on the Northern Shrike is always white (Dunn and Alderfer 2011). The wings of the young birds have light edges to their feathers and the white spot is large, just not as large as the adults (Dunn and Alderfer 2011).

Once an observer is familiar with both species identification, should be straight-forward as long as good views are obtained of the bird in question.

Occurrence and Documentation

In British Columbia the Loggerhead Shrike has been recorded on 83 occasions with many birds having been photographed or with historical records collected (Toochin *et al.* 2014, see Table 1 and 2). This species has been seen from many regions of the Province with Vancouver having 18 records, Vancouver Island having 3 records, the Fraser Valley having 6 records, the Cariboo having at least 1 record, and the Kootenay's having 13 records (Toochin *et al.* 2014, see Table 1). The highest numbers of records come from the Okanagan and surrounding dry belt regions with 40 records (Toochin *et al.* 2014, see Table 1). This is logical given the close proximity of the Loggerhead Shrike's breeding range in northern Washington and that the habitat is fairly continuous in the region (Wahl *et al.* 2005). Most records occur in the spring migration period from March to early June with 49 records (Toochin *et al.* 2014, see Table 2). These records likely indicate birds that are spring migrant overshoots, but it they could also indicate the odd bird moving north to try and breed (Cannings *et al.* 1987, Campbell *et al.* 1997). It is clear that any shrike found in southern British Columbia from late March to early June should be scrutinized for the Loggerhead Shrike (R. Toochin Pers. Obs.). This is the prime time of year when Loggerhead Shrikes have occurred and Northern Shrikes become less numerous in southern British Columbia (R. Toochin Pers. Obs). There is only 1 summer record from July for British Columbia (Toochin *et al.* 2014, see Table 2). This relative lack of summer records could reflect that birds occurring in the spring are overshoots, but it could also reflect a lack of observer coverage during the breeding season. In the future any summer occurrences of the Loggerhead Shrike should be carefully investigated by observers to see if there are two birds involved as there is potential to add a new breeding species for the Province. The Loggerhead Shrike has been found 10 times in the fall migration period between August to November (Toochin *et al.* 2014, see Table 2). There are 25 winter records, many of these are historical records from the Lower Mainland with most coming from the dry interior region (Toochin *et al.* 2014, see Table 1 and 2). As more observers carefully check appropriate habitat and scrutinize all late odd looking Northern Shrikes more carefully, it is likely more Loggerhead Shrikes will be found in the future.



Figure 1: Record #52: Loggerhead Shrike immature at Martindale Flats, near Victoria on September 5-7, 1995. Photo © David Allinson.



Figure 2: Record #74: Loggerhead Shrike adult at White Lake Road on March 20, 2010. Photo © Chris Charlesworth.



Figure 3 & 4: Record #81: Loggerhead Shrike adult at the Squamish River Estuary on May 29, 2013. Photos © Chris Dale.



Figure 5 & 6: Record #83: Loggerhead Shrike adult at Hope Airport on April 4, 2015. Photos © Rick Toochin (left) and Melissa Hafting (right).

Table 1: Records of Loggerhead Shrike for British Columbia:

- 1.(1) adult April 9, 1888: (collected: MVZ 244657) Chilliwack (Fannin 1891, Brooks 1917, Munro and Cowan 1947)
- 2.(1) adult March 9, 1908: (specimen: MVZ 104125) Osoyoos (Brooks 1909, Munro and Cowan 1947)
- 3.(1) adult April 6, 1915: Midway (Macoun and Macoun 1909, Kelso 1926)
- 4.(1) adult May 16, 1917: Edgewood (Brooks and Swarth 1925, Kelso 1926)
- 5.(1) March 28, 1927: (specimen: MVZ 104024) Okanagan Landing (Cannings *et al.* 1987)
- 6.(1) October 15, 1928: Okanagan Landing (Munro and Cowan 1947)
- 7.(1) February 28, 1943: (specimen: MVZ 88341) Okanagan Landing (Campbell *et al.* 1997)
- 8.(1) February 28, 1948: Okanagan Landing (Cannings *et al.* 1987)
- 9.(1) adult May 23, 1950: (specimen: UBC 7174) Grinrod (Munro 1953)
- 10.(1) November 1, 1955: Victoria (Flahaut and Schultz 1956a, Campbell *et al.* 1997)
- 11.(1) adults May 18, 1959: Steve Cannings: Oliver (Cannings *et al.* 1987)
- 12.(1) adult May 28, 1963: Steve Cannings: White Lake (Cannings *et al.* 1987)
- 13.(1) adult January 1- March 21, 1968: Sea Island and Iona Island Sewage Ponds, Richmond (Toochin *et al.* 2014b)
- 14.(1) adult April 9, 1969: Steve Cannings: Penticton (Cannings *et al.* 1987)
- 15.(1) adult December 21, 1969: GAP: West Vancouver (Crowell and Nehls 1970b, Campbell *et al.* 1997)
- 16.(1) adult April 26, 1970: WH, HH: Iona Island Sewage Ponds (Campbell *et al.* 1972a, Campbell *et al.* 1997)
- 17.(1) adult October 23, 1970: Sorrento (Schnider *et al.* 1971)
- 18.(1) June 1973: Vermillion Pass (Scott 1973)
- 19.(1) adult December 22, 1973: MAS: near the Delta Landfill (Campbell *et al.* 1997)
- 20.(1) adult June 24, 1974: Ashnola (Campbell *et al.* 1997)
- 21.(1) adult May 14, 1976: BMK: Iona Island Sewage Ponds, Richmond (Campbell *et al.* 1997)
- 22.(1) adult May 15, 1976: north end of Vaseux Lake (Campbell *et al.* 1997)
- 23.(1) August 21, 1976: Steve Cannings, J.M. Cannings: Swan Lake (Cannings *et al.* 1987)
- 24.(1) adult April 29, 1977 (BC Photo 2010) Golden (Campbell *et al.* 1997)
- 25.(1) December 26, 1977: Penticton (Cannings *et al.* 1987)

- 26.(1) January 8, 1978: D. Oke: Kelowna (Cannings *et al.* 1987)
- 27.(1) December 26, 1978: Vernon (Cannings *et al.* 1987)
- 28.(1) adult January 7-March 3, 1979: GA, JI, DAI, mobs (photo) Sea Island & Iona Island, Richmond (Campbell *et al.* 1997)
- 29.(1) adult November 2-5, 1980: BMK, RWP, MMc, VN: Beach Grove Lagoon, Tsawwassen (Weber 1982, Campbell *et al.* 1997)
- 30.(1) January 9, 1981: Penticton (Cannings *et al.* 1987)
- 31.(1) February 1, 1981: K. Gruener: Vernon (Cannings *et al.* 1987)
- 32.(1) adult March 22, 1981: BMK: Blackie Spit, White Rock, Surrey (Weber 1982, Campbell *et al.* 1997)
- 33.(1) adult April 4, 1983: Hank Van der Pol: Island View Beach (Anonymous 1983g, Toochn *et al.* 2014c)
- 34.(1) adult January 2, 1984: BMK: White Rock, Surrey (Campbell *et al.* 1997)
- 35.(1) adult April 5, 1984: 1 along Oxbows, Osoyoos (Campbell *et al.* 1997)
- 36.(1) adult April 20, 1984: Kamloops (Campbell *et al.* 1997)
- 37.(1) adult April 7-10, 1985: Riske Creek (Campbell *et al.* 1997)
- 38.(1) adult May 6-7, 1985: Joe Bartel, MF, JI, TP, mobs (photo: BC 1045) River Rd., Delta (Campbell 1985c, Campbell *et al.* 1997)
- 39.(1) adult June 1, 1985: Tranquille (Campbell *et al.* 1997)
- 40.(1) December 29, 1985: Doug Brown: Oliver-Osoyoos area (Cannings *et al.* 1987)
- 41.(1) December 28, 1986: Oliver – Osoyoos (Campbell *et al.* 1997)
- 42.(1) adult May 3, 1987: Dick Cannings (BC Photo 1179) Richter Pass, Chopaka (Campbell *et al.* 1997)
- 43.(1) September 2, 1987: Port Neville (Campbell 1987d, Campbell *et al.* 1997)
- 44.(1) adult September 7-10, 1987: DS, DAJ, mobs: Jericho Park, Vancouver (Mattocks 1988, Campbell *et al.* 1997)
- 45.(1) adult February 3-6, 1989: BMK, Mike Darney, mobs: vicinity of 3240 64th St., Delta (Weber 1992, Campbell *et al.* 1997)
- 46.(1) adult April 8 & 12, 1989: Bill Lamond; RTo, DTy, mobs: Vanier Park & Jericho Park, Vancouver (Weber 1992, Campbell *et al.* 1997)
- 47.(1) December 14, 1991: Eric MacAlary: along Lac Le Jeune: Kamloops (Siddle 1992b, Campbell *et al.* 1997)
- 48.(1) adult December 27, 1991: Doug Kragh: Colony Farm, Coquitlam (Siddle 1992b, Campbell *et al.* 1997)
- 49.(1) adult February 23, 1993: 6km north of Parsons (Campbell *et al.* 1997)
- 50.(1) adult April 7-8, 1993: Swan Lake (Campbell *et al.* 1997)
- 51.(1) adult May 7, 1995: A. del a Chevrotier: Brackendale (Bowling 1995c)
- 52.(1) immature September 5-7, 1995: Bryan Gates, and other observers (photo) Martindale Flats (Bowling 1996a, Campbell *et al.* 1997, Toochn *et al.* 2014c)
- 53.(1) adult December 31, 1995: Laurie Rockwell: Summerland (Bain and Holder 1996a)
- 54.(1) adult May 4, 1997: Dr. Keith Riding: Iona Island Sewage Ponds, Richmond (Plath 2000, Toochn *et al.* 2014b)
- 55.(1) adult January 1, 1999: Vaseux Lake (Bain and Shannon 1999a)
- 56.(1) adult January 4, 1999: Oliver –Osoyoos (Bain and Shannon 1999a)

- 57.(1) December 11, 1999: *fide* Gail Spitler: Kaslo (Toochin *et al.* 2014a)
- 58.(1) December 26, 1999: Ed Beynon: Castlegar Lagoon (Toochin *et al.* 2014a)
- 59.(1) adult June 3, 2000: Gail Spitler, mobs: North Kootenay Lake, near Kaslo
(Bain and Shannon 2000d)
- 60.(1) October 26, 2000: Gwen Nichol: Waneta near Trail (Toochin *et al.* 2014a)
- 61.(1) November 25, 2000: Ed Beynon: Dove Hill (Toochin *et al.* 2014a)
- 62.(1) adult March 19, 2002: Doug Brown: Black Sage Road, outside Oliver (Bain 2002b,
Cecile 2002c)
- 63.(1) adult June 4, 2002: Rick Toochin, Mitch Meredith, mobs: Iona Island, Canfor Point,
Richmond (Bain 2002d, Cecile 2002c, Toochin *et al.* 2014b)
- 64.(1) adult June 5, 2003: James Bradley: Twin Lakes Road, near White Lake (Bain 2003d)
- 65.(1) adult March 20-29, 2004: Joan Kelly, Madelon Schouten: Separation Lake, Princeton
(Cecile 2004c)
- 66.(1) adult April 13-May 15, 2004: Avery Bartels: Duck Lake, Creston
(Toochin *et al.* 2014a)
- 67.(1) adult April 18, 2005: MKM: along Airport Fence near McDonald Road, Sea Island
(Toochin *et al.* 2014b)
- 68.(1) adult June 15, 2005: Tom Plath: Ferguson Road, Sea Island, Richmond (Cecile 2005d,
Toochin *et al.* 2014b)
- 69.(1) adult July 24, 2005: Doug Brown: Mt Kobau (Cecile 2005d)
- 70.(1) adult May 4, 2007: Ryan Tomlinson: Robert Lake, Kelowna
(Toochin *et al.* 2014a)
- 71.(1) adult May 21, 2007: George Gardner (photo) Rose Hill near Knutsford (Cecile 2007c)
- 72.(1) adult April 22, 2009: Bob McKay, Donna McKay (photo) Road 18, Oliver
(Toochin *et al.* 2014a)
- 73.(1) adult June 10, 2009: Marc-Andre Beaucher: Duck Lake, Creston
(Toochin *et al.* 2014a)
- 74.(1) adult March 20-23, 2010: Chris Charlesworth, Ryan Tomlinson, mobs (photo) White Lake
Road (Toochin *et al.* 2014a)
- 75.(1) adult March 30, 2010: Murray Brown, mobs: Hope Airport (Toochin *et al.* 2014d)
- 76.(1) adult June 2-16, 2011: RT, mobs (photo/specimen) field beside Hope Airport
(Toochin *et al.* 2014d)
- 77.(1) adult May 5, 2012: Gary Breault (photo) Duck Lake, Creston
(Toochin *et al.* 2014a)
- 78.(1) adult March 21, 2013: Rick Toochin (photo) Columbia Valley (Toochin *et al.* 2014d)
- 79.(1) adult May 26, 2013: Russ Cannings, mobs: Revelstoke
(Toochin *et al.* 2014a)
- 80.(1) adult May 29, 2013: Chris Dale (photo) Squamish River Estuary
(Toochin *et al.* 2014a)
- 81.(1) adult April 5, 2014: Rick Toochin (photo) Hope (R. Toochin Pers. Comm.)
- 82.(1) adult June 30, 2014: *fide* Russ Cannings (photo) 4km on Lac du Bois Road, outside
Kamloops (R. Cannings Pers. Comm.)
- 83.(1) adult April 1-4, 2015: Deb Dal Bello, mobs (photo) Hope Airport (M. Hafting Pers. Comm.)

Hypothetical records

- 1.(1) winter 1960: Kitimat (Vance 1966, Hay 1976)
- 2.(2) January 2, 1966: Terrace (Campbell *et al.* 1997)
- 3.(1) January 2, 1966: Kitimat (Campbell *et al.* 1997)
- 4.(1) December 22, 1999: *fide* Rick Howie: Shuswap (Toochin *et al.* 2014)
- 5.(2) August 17, 2014: *fide* Russ Cannings (photo) Beaver Lake Road, Winfield (R. Cannings Pers. Comm.)

Table 2: Seasonal distribution of Loggerhead Shrike records in British Columbia:

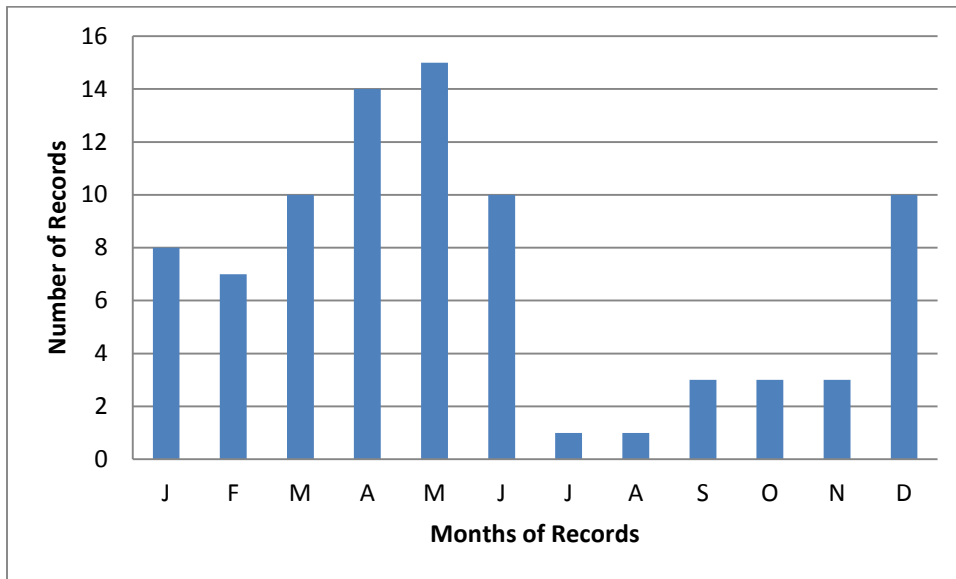


Table 2: Note the sharply defined occurrence in the spring for this species with April, May and June having the highest number of records. Of note are the high number of winter records for British Columbia.

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References

Amos, E. J. R. 1991. The Birds of Bermuda.

Anonymous. 1983g. Bird Observations. April 1983. Victoria Naturalist 40 (1): 14..

Bain, M. 2002b. Cross Canada round-up: February and March 2002 – British Columbia. Birders Journal 11: 32-35.

Bain, M. 2002d. Cross Canada Round-up: June and July 2002 – British Columbia. Birders Journal 11: 123-124.

- Bain, M. 2003d. Cross Canada Round-up: June and July 2003 - British Columbia. *Birders Journal* 12: 140-141.
- Bain, M. and M. Holder. 1996a. Cross Canada round-up: December 1995 and January 1996 – British Columbia. *Birders Journal* 5: 3-4.
- Bain, M. and D. Shannon. 1999a. Cross Canada Round-up: December 1998 and January 1999- British Columbia. *Birders Journal* 8: 3-5.
- Bain, M. and D. Shannon. 2000d. Cross Canada Round-up: June and July 2000 - British Columbia. *Birders Journal* 9: 164-165.
- Bergeron, D., C. Jones, D. L. Genter, and D. Sullivan. 1992. P.D. Skaar's Montana bird distribution. 4th ed. Montana Nat. Heritage Prog. Spec. Publ. no 2, Helena.
- Binford, L. C. 1989. A distributional survey of the Mexican state of Oaxaca. *Ornithol. Monogr.* 43.
- Bohlen, H. D. 1989. The birds of Illinois. Indiana Univ. Press, Bloomington.
- Bowling, J. 1995c. The Spring migration – British Columbia/Yukon region. *North American Field Notes* 49: 294-300.
- Bowling, J. 1996a. The fall migration – British Columbia/Yukon region. *North American Field Notes* 50: 99-105.
- Brauning, D. W. 1992. Atlas of breeding birds in Pennsylvania. Univ. of Pittsburgh Press, Pittsburgh, PA.
- Brewer, R. G., A. McPeak, and R. J. Adams, Jr. 1991. The atlas of breeding birds of Michigan. Mich. State Univ. Press, East Lansing.
- Brooks, A. 1909. Some notes on the birds of Okanagan, British Columbia. *Auk* 26: 60-63.
- Brooks, A. 1917. Birds of the Chilliwack district, BC. *Auk* 34:28-50.
- Brooks, A. and H. S. Swarth 1925. A distributional list of the birds of British Columbia. *Pacific Coast Avifauna* No. 17, Berkeley, California. 158pp.

- Buckelew, Jr., A. R. and G. A. Hall. 1994. The West Virginia breeding bird atlas. Univ. of Pittsburgh Press, Pittsburgh, PA.
- Cadman, M. D., P. F. J. Eagles, and F. M. Helleiner. 1987. Atlas of the breeding birds of Ontario. Univ. of Waterloo Press, Waterloo, ON.
- Campbell, R. W. 1985c. Wildlife atlases progress report – summer 1985. B.C. Naturalist 23(3): 6-7.
- Campbell, R. W. 1987d. British Columbia wildlife – autumn report 1987. B.C. Naturalist 25(4): 6-7.
- Campbell, R. W., M. G. Shepard, and R. H. Drent. 1972a. Status of birds in the Vancouver area in 1970. Syesis 5: 137-167.
- Campbell, R. W., N. K. Dawe, I. McTaggart-Cowan, J. M. Cooper, G. W. Kaiser, M. C. E. McNall, and G. E. J. Smith. 1997. The Birds of British Columbia – Volume 3 (Passerines [Flycatchers through Vireos]). Vancouver: UBC Press.
- Cannings, R. A., R. J. Cannings, and S. G. Cannings. 1987. Birds of the Okanagan Valley, British Columbia. Royal British Columbia Museum, Victoria. 420pp.
- Cecile, D. 2002c. Summer season – British Columbia – Yukon. North American Birds 56: 474-475.
- Cecile, D. 2004c. Spring season – British Columbia. North American Birds 58: 421-422.
- Cecile, D. 2005d. Summer season– British Columbia. North American Birds 59: 642-643.
- Cecile, D. 2007c. Spring season- British Columbia. North American Birds 61: 497-498.
- COSEWIC 2004. COSEWIC assessment and update status report on the Loggerhead Shrike *excubitorides* subspecies *Lanius ludovicianus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.
- Crowell, J. B. and H. B. Nehls. 1970b. The winter season – northern Pacific coast region. Audubon Field Notes 24: 530-533.
- Dunn, J. L. and J. Alderfer. 2011. National Geographic Field Guide to the Birds of North America. National Geographic Society, Washington D.C. 574pp.

- Ericsson, S. 1981. Loggerhead Shrike in Guatemala in December 1979. *Dutch Birding* 3:27-28.
- Erskine, A. J. 1992. Atlas of breeding birds of the maritime provinces. Nimbus Publ. Ltd. and Nova Scotia Mus. Halifax.
- Fannin, J. 1891. Check-list British Columbia birds. British Columbia Provincial Museum, Victoria. 49pp.
- Flahaut, M. R. and Z. M. Schultz. 1956a. The fall migration-north Pacific coast region. *Audubon Field Notes* 10: 47-50.
- Gilligan, J., M. Smith, D. Rogers, and A. Contreras. 1994. Birds of Oregon: status and distribution. Cinclus Publ. McMinnville, OR.
- Godfrey, W. E. 1986. The birds of Canada. Rev. ed. Nat. Mus. Nat. Sci, Ottawa.
- Hay, R. B. 1976. An environmental study on the Kitimat region with special reference to the Kitimat River estuary. Canadian Wildlife Service Unpublished Report, Delta, British Columbia. 85pp.
- Howell, S. N. G. and S. Webb. 2010 (eds). A guide to the birds of Mexico and northern Central America. Oxford University Press Inc., New York. 851pp.
- James, D. A. and M. C. Neal. 1986. Arkansas birds: their distribution and abundance. Univ. of Arkansas Press, Fayetteville.
- Janssen, R. B. 1987. Birds in Minnesota. Univ. of Minnesota Press, Minneapolis.
- Kelso, J. E. H. 1926. Birds of the Arrow Lakes, West Kootenay, British Columbia. *Ibis* 2: 689-723.
- Laughlin, S. B. and D. P. Kibbe. 1985. The atlas of breeding birds of Vermont. Vermont Inst. Nat. Sci. Hanover, NH.
- Macoun, J. and J. M. Macoun. 1909. Catalogue of Canadian birds. Department of Mines, Geological Survey Branch, Ottawa. 761pp.
- Mattocks, P. W. 1988. The Autumn migration – northern Pacific coast region. *American Birds* 42: 121-126.

- Miller, A. H. 1931. Systemic revision and natural history of the American shrikes (*Lanius*). Univ. Calif. Publ. Zool. 38:11-242.
- Munro, J. A. 1953. Bird records from the southern interior of British Columbia. Murrelet 34: 15-17.
- Munro, J. A. and I. McTaggart-Cowan. 1947. A review of the bird fauna of British Columbia. Victoria: British Columbia Provincial Museum, Special Publication No.2. , Victoria. 285pp.
- Oakleaf, B., B. Luce, S. Ritter, and A. Cerovski. 1992. Wyoming bird and mammal atlas. Wyoming Game Fish Dept. Lander.
- Peterjohn, B. G. 1989. The birds of Ohio. Indiana Univ. Press, Bloomington.
- Plath, T. 2000. Vancouver Bird records Committee Report 1994-1998. Vancouver Natural History Society Discovery 29: 41-57.
- Robbins, M. B. and D. A. Easterla. 1992. Birds of Missouri: their distribution and abundance. Univ. of Missouri Press, Columbia.
- Robertson, Jr., W. B. and Woolfenden. 1992. Florida bird species: an annotated list. Fla. Ornithol. Soc. Spec. Publ. no. 6.
- Schnider, B., D. Beacher, and T. Stevens. 1971, Schuswap Lake Nature House Annual Report (1971). British Columbia Parks Branch Unpublished Report, Victoria. 15pp.
- Scott, G. 1973. Avifauna of the Vermillion Pass burn. B. SC. Thesis, University of Calgary, Alberta. 60pp.
- Semenchuk, G. P. 1992. The atlas of breeding birds of Alberta. Fed. Alberta Nat. Edmonton.
- Sharpe, R. B. 1897. On *Lanius ludovicianus* from the Bahamas. Bull. Br. Ornithol. Club 7:7.
- Sibley, D. A. 2000. The Sibley field guide to birds. Alfred A. Knopf, New York. 545pp.
- Siddle, C. 1992b. The winter season – British Columbia/Yukon region. American Birds 46: 303-306.
- Small, A. 1994. California birds: their status and distribution. Ibis Publ. Co. Vista, CA.

- Stephens, D. A. and S. H. Sturts. 1991. Idaho bird distribution. Idaho Mus. Nat. Hist, Pocatello, and Idaho Dep. Fish Game, Boise.
- Stewart, R. E. 1975. Breeding birds of North Dakota. Tri-College Cent. Environ. Stud. Fargo, ND.
- Toochin, R., J. Fenneman and P. Levesque. 2014a. British Columbia rare bird records: January 1, 2014: 3rd Edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BCRareBirdListJanuary2014XZBC.pdf> [Accessed: March 2, 2014].
- Toochin, R., P. Levesque and J. Fenneman. 2014b. Checklist of the Rare Birds of the Vancouver Area: Casual and Accidental Records. Revised Edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BirdsRareVancouver%20X.pdf> [Accessed: March 2, 2004]
- Toochin, R., P. Levesque, and J. Fenneman. 2014c. Rare Birds of Vancouver Island. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/RareBirdRecordsofVancouverIslandXZA.pdf> [Accessed: March 2, 2014].
- Toochin, R. and J. Fenneman. 2014d. Rare birds of the upper Fraser Valley: Revised edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BirdsRareFraserValleyXZA.pdf> [Accessed: March 2, 2014].
- Vance, H. 1966. Sixty-sixth Christmas Bird Count – Terrace, BC. Audubon Field Notes 20: 114.
- Weber, W. C. 1982. Vancouver Bird Records Committee Report: First Annual Report. Vancouver Natural History Society Discovery 11: 110-115.
- Wilber, S. R. 1987. Birds of Baja California. Univ. of California Press, Berkeley.
- Yosef, Reuven. 1996. Loggerhead Shrike (*Lanius ludovicianus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology [Online Resource] Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/231>.