

REMEMBERING CALIFORNIA'S WINTERING DUSKY CANADA GEESE (*BRANTA CANADENSIS OCCIDENTALIS*)

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ABSTRACT: The Dusky Canada Goose (*Branta canadensis occidentalis*) once wintered regularly by the hundreds on the north coast of California, yet this fact has now vanished from much of the literature on the Canada Goose. In the 1930s James Moffitt found the subspecies was regular at two sites in Del Norte and Humboldt counties, but by the mid-1980s its numbers were much reduced and only occasional individuals were found thereafter. The retraction of the Dusky Canada Goose from the southern limit of its winter range parallels a rangewide population decline as well as surges in numbers of the recovering Aleutian Cackling Goose (*B. hutchinsii leucopareia*) and the proliferating Western Canada Goose (*B. c. moffitti*), possibly competitors.

The Dusky Canada Goose (*Branta canadensis occidentalis*) formerly wintered regularly on the north coast of California, yet this fact has now vanished from much of the literature on the Canada Goose, even in discussions of changes in distribution (e.g., Erickson et al. 2018). We review the historical status of the bird in northwestern California, document the final observations of this population, and discuss possible causes for the change in status.

As we began this project we were warned not to venture into anything having to do with the taxonomy of the Canada Goose. Although only seven subspecies have been recognized by various recent authorities (e.g., Dickinson and Remsen 2013, Mowbray et al. 2020), the species encompasses a bewildering degree of variation (Anderson 2022), with well over 100 subspecies recognized by Hanson (2006, 2007) and Anderson (2010)—but see critiques by Banks (2007, 2009) and Dickerman (2011). Now, with Canada Geese widely transplanted over much of their range (e.g., Griggs and Black 2004), categorizing populations has become more difficult than ever. Nevertheless, the Dusky Canada Goose is quite distinctive in its dark underparts and coastal distribution, and its changing distribution merits attention, as that change has been widely overlooked.

CURRENT DISTRIBUTION

The Dusky Canada Goose nests in southern Alaska, primarily in the Copper River delta and on Middleton Island. Some birds remain on the breeding grounds year round, but most winter in western Washington and western Oregon, primarily along the lower Columbia River and in the Willamette Valley (Pacific Flyway Council 2015). Strays have occurred across the United States, including northern California (<https://eBird.org>, S. G. Mlodinow pers. comm.).

HISTORICAL STATUS IN CALIFORNIA

Taxonomic confusion long plagued the understanding of Canada Goose distribution in California, and was still apparent at the time of Grinnell and

Miller (1944). Swarth (1913) made an early breakthrough, however, clarifying that *B. c. occidentalis*, then known as the White-cheeked Goose, was not the widespread wintering subspecies in California, and indeed had not been recorded anywhere in the state. He rightly predicted that if the subspecies reached California at all, it would be on the north coast.

Later, James Moffitt took Swarth's prediction as a challenge and was the first to confirm and document the subspecies' occurrence in California (Grinnell 1944). In considerable detail, Moffitt (1937) described his own experiences in Humboldt and Del Norte counties in 1932, 1933, and 1937, as well as those of several other local residents over the preceding 50 years. He found that Dusky Canada Geese concentrated in two areas: the Eel River delta in Humboldt County, and Lake Earl and environs in Del Norte County.

Centerville Marsh, south of the Eel River mouth, was the primary foraging and roosting area for the Humboldt County birds. Moffitt reported up to 300 birds there in March 1932, and Frank G. Williams of Ferndale told him that 225–250 geese visited the region annually. Williams had observed the geese for 50 years, typically from late October to mid-April. According to him, Frank Moranda, and other local residents, when the geese were disturbed on their preferred foraging grounds they might settle on the ocean for a period of time, or fly south to the hills behind False Cape. On occasion, some birds even ventured as far as Kinman Pond on Bear River Ridge, some 15 km inland from the cape. In the 1930s, Moffitt collected six Dusky Canada Geese in Humboldt County (specimens in the California Academy of Sciences).

In 1933 and 1937 Moffitt (1937) visited Del Norte County, where slightly fewer birds than in Humboldt County wintered in the vicinity of Lake Earl. Moffitt saw 125 geese in March 1937 and was told by a long-time resident, Ed McLaughlin, that about 150 birds typically wintered there, more than had done so 30 or 40 years earlier. McLaughlin stated that nearly 500 geese had been at Lake Earl during very cold weather in January 1937. The seasonality of the birds' visits was the same as in Humboldt County. When disturbed on their foraging grounds, the Lake Earl birds often retreated to Castle Rock offshore, but also to rocks off the Oregon coast north of Brookings, presumably including Goat Island. Probably they also used Prince Island and Hunter Rock, just south of the Oregon border. McLaughlin suggested there may have been a separate goose flock frequenting the Brookings area, as was also later suggested by Lowe (1987) and Jarvis (2003). Browning (1973) reported Canada Geese at Goat Island in March 1966 but later (2018: 101) suggested—perhaps in error—that at least some of those birds were Aleutian Cackling Geese (*B. hutchinsii leucopareia*). The California Academy of Sciences has two specimens of the Dusky Canada Goose from Del Norte County taken in 1933 and 1937, one by McLaughlin. The eight specimens total, from the two counties, are the only Dusky Canada Geese ever collected in California (Figure 1).

TAXONOMY

The subspecies *fulva* was separated from *occidentalis* by Delacour (1951), with the type locality of Graham Island, Haida Gwaii, British Columbia, and distinguished from *occidentalis* by its larger size and paler color. Delacour (1951, 1954) described *fulva* as “resident” in British Columbia and south-

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FIGURE 1. The eight Dusky Canada Geese collected in Humboldt and Del Norte counties, California 1932–1937, now housed at the California Academy of Sciences. The size and color variation shown here may hint at the possibility that two subspecies are represented, as discussed in the text.

Photo by Richard A. Erickson

eastern Alaska and stated that *occidentalis* “winters (at least in part) south to Oregon.” In spite of this, the AOU (1957) attributed all California birds to *fulva* rather than to *occidentalis*. Moffitt (1937:157) was aware of the size and color variation on which the description of *fulva* was later based, writing, “the largest examples of *occidentalis* apparently breed in the southern part of the form’s range, from Vancouver Island north to Glacier Bay, Alaska. Smaller ones are known to nest on the islands in the Prince William Sound region of Alaska. The winter birds collected in California seem to be intermediate in size between the two and probably nest in the region from Glacier Bay to Prince William Sound, perhaps in the vicinity of Yakutat Bay, whence no breeding specimens are known to have been collected.” The weights of the three specimens Moffitt (1937) mentioned agree with those of *fulva* tabulated by Mowbray et al. (2020). Perhaps this was in part the basis for the AOU (1957) ascribing the specimens to *fulva*, but we were unable to find any justification for this treatment in the literature or through personal communication with those potentially familiar with the situation. At some point the name on the labels on all the California specimens was changed from *occidentalis* to *fulva*, but, again, we were unable to find any explanation for this. Our best guess is that someone simply followed the AOU’s lead.

Not quite done with this story, we acknowledge that Anderson et al. (2021: Appendix 1), using multivariate analysis of numerous measurements and plumage colors and patterns, identified five of the eight California specimens as *fulva*, three as *occidentalis*. This after Anderson (2010) had described the range of *fulva* as, “winter in Gulf of Alaska; occasional to Washington.” Of *fulva*, Mowbray et al. (2020) also reported that “some move south to the Willamette Valley.”

Some authors (e.g., Dickinson 1953, Palmer 1976, Pyle 2008) have not recognized the distinction between *occidentalis* and *fulva* as a basis for two subspecies. The two are similar and have been confused in the literature. For our purposes, we follow the classification most recently summarized by Mowbray et al. (2020), recognizing *fulva*, considering all California specimens as *occidentalis*, and applying the term “Dusky Canada Goose” to *occidentalis* alone.

THE FINAL YEARS (1970s–1990s)

The north coast of California was not well covered ornithologically during the middle decades of the last century. After Moffitt’s visits in the 1930s, the Dusky Canada Goose went unreported until about 1970 (Osborne 1972, Harris 1996). Then Johnson et al. (1979) reported seeing up to 100 birds in the Lake Earl area each winter in the late 1970s. Regional accounts by Yocum and Harris (1975) and Harris (1991) reported the subspecies’ status similar to that reported by Moffitt, but by the mid 1990s, Harris (1996, 2005) considered the bird only a vagrant. Erickson et al. (1997) were slow to realize the plight of the Dusky Canada Goose and continued to show it as a rare annual visitor.

We were fortunate to live in Del Norte County in the early 1980s, with easy access to most areas important to Dusky Canada Geese, and were unwitting witnesses to some of the subspecies’ final showings in California. Intensive monitoring of the then-endangered Aleutian Cackling Goose (*B. h. leucopa-*

reia) led by Paul F. Springer heightened awareness of geese in many observers. Table 1 lists sightings from the late 1970s and early 1980s selected to show high counts and a range of locations the geese used. We also observed Dusky Canada Geese in small numbers at Goat Island and Harbor, Oregon, from 1982 to 1986; Lowe (1987) saw 103 at Goat Island 18 April 1987. In almost all cases, these birds were not associating with any other subspecies of the Canada or Cackling Goose.

The last reports that may actually represent shadows of the former status—as opposed to the current status as a wide-ranging vagrant—are of nine birds on the lower Eel River 4 January 1992 (Harris 1996), two at Goat Island, Oregon, 26 March 1994 (Colin Dillingham, <https://ebird.org/checklist/S15383135>), six in the Smith River bottoms 8 April 1998, and one at Crescent City 27 December 1998–19 January 1999 (the last two from S. W. Harris' and M. H. Harris' unpublished database of birds and marine mammals in northwestern California from September 1959 to September 2017). We are unaware of other Humboldt County records between 1937 and 1992, and it may be that the birds abandoned that area before abandoning Del Norte County farther north, although adequate coverage of the Eel River delta was largely lacking.

DISCUSSION

Grinnell and Miller (1944) and the AOU (1957; although referring to the birds as *fulva*) appear to be the last references to have summarized the 20th-century status of the Dusky Canada Goose in California accurately before the regional and specialized accounts published beginning in the 1970s. The subsequent disappearance of references to the subspecies in California in the more general literature is disheartening.

The Dusky Canada Goose declined in northwestern California at roughly the same time that the numbers of two other subspecies of white-cheeked geese (i.e., Cackling and Canada Geese) were surging. Figure 2 shows maximum counts of the Dusky Canada Goose, “Western” Canada Goose (*B. c.*

TABLE 1 Selected Observations of Dusky Canada Geese in Del Norte County, California 1977–1985

Date	Number	Location	Observer(s)
17 Oct 1977	12	Castle Rock	G. S. Lester
21 Jan 1978	21	Castle Rock	G. S. Lester
28 Jan 1979	43	Castle Rock	G. S. Lester
18 Dec 1980	2	Smith River bottoms	R. A. Erickson, G. S. Lester
30 Jan–21 Feb 1982	1	Smith River estuary	G. S. Lester et al.
12 Feb 1983	15	Prince Island	Rich Stallcup, R. A. Erickson et al.
13 Nov 1984	50	Hunter Rock	R. A. Erickson
16 Dec 1984	2	Lake Tolowa	R. A. Erickson
18 Dec 1984	75	Hunter Rock	G. S. Lester
20 Dec 1984	16	Smith River estuary	R. A. Erickson
5 Dec 1985	11	Lake Earl	P. F. Springer (Harris 1996)
22 Dec 1985	26	Del Norte County Christmas Bird Count	Lester and Lester (1986)

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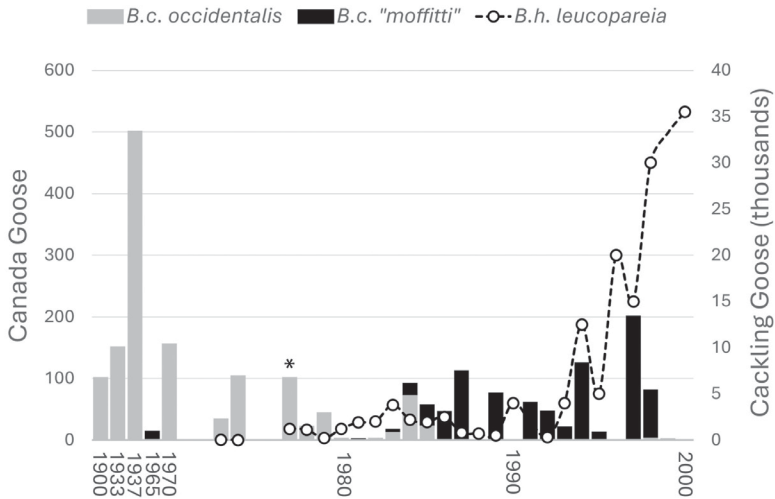


FIGURE 2. Maximum counts of the Dusky Canada Goose, “Western” Canada Goose, and Aleutian Cackling Goose in Del Norte County, California in the 20th century. Note that Moffitt (1939) considered the Dusky to be the default Canada Goose in northwestern California at that time. Sources of data: Moffitt (1937), Johnson et al. (1979), Harris (1991), S. W. Harris’ and M. H. Harris’ unpublished database of birds and marine mammals in northwestern California from September 1959 to September 2017, <https://eBird.org>, Erickson (unpubl. data), T. O. Osborne (pers. comm.). *“Up to 100...seen there each winter (P. F. Springer)” (Johnson et al. 1979).

“*moffitti*”), and Aleutian Cackling Goose in Del Norte County in the 20th century. We use quotation marks for the “Western” Canada Goose because the birds involved were primarily derived from transplanted birds—most but not all of which were referable to *moffitti* (Harris 1991)—with subspecific integrity compromised.

It is tempting to suggest that the decrease in numbers of *occidentalis* in northwestern California was caused at least in part by the increase in numbers of “*moffitti*” and *leucopareia*. Kraege (2005) suggested just such an interaction between *occidentalis* and *moffitti* in Washington. Banks and Springer (1994) suggested that the Dusky Canada Goose had declined since 1979 because of a combination of habitat deterioration in the Copper River delta due to uplift following the powerful Alaska earthquake of 27 March 1964 (the same quake that caused a tragic tsunami in Crescent City), increased predation (both elaborated on by Bromley and Rothe [2003] and the Pacific Flyway Council [2015]), and continued hunting (see also Pacific Flyway Council [1985]). Hunting of these birds is no longer allowed in Washington and Oregon. The Pacific Flyway Council (1985) and Harris (2005) added that the creation of national wildlife refuges in the Willamette Valley had effectively short-stopped the geese before moving farther south. Coupled with this, changes in agricultural practices in the Willamette Valley may also have benefited the geese there (Kelly Warren in litt.).

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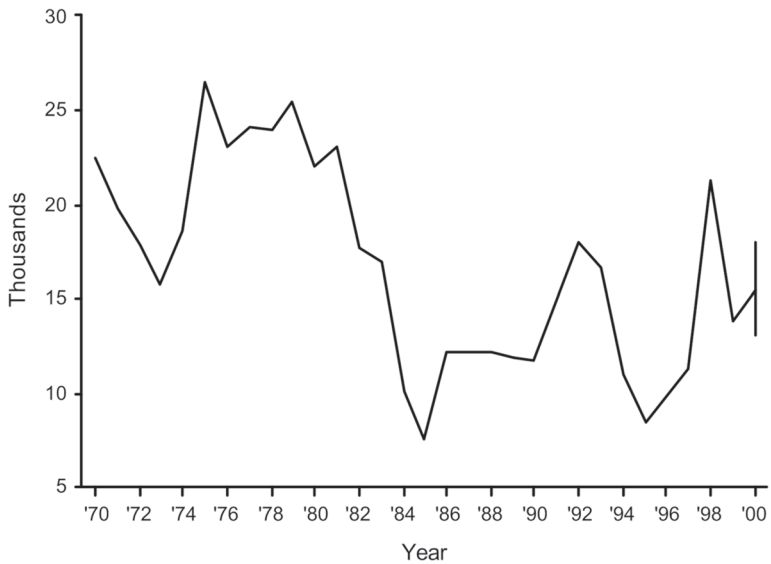


FIGURE 3. Size of the entire population of the Dusky Canada Goose estimated from winter surveys, 1970–2000, from Wilkins et al. (2000).

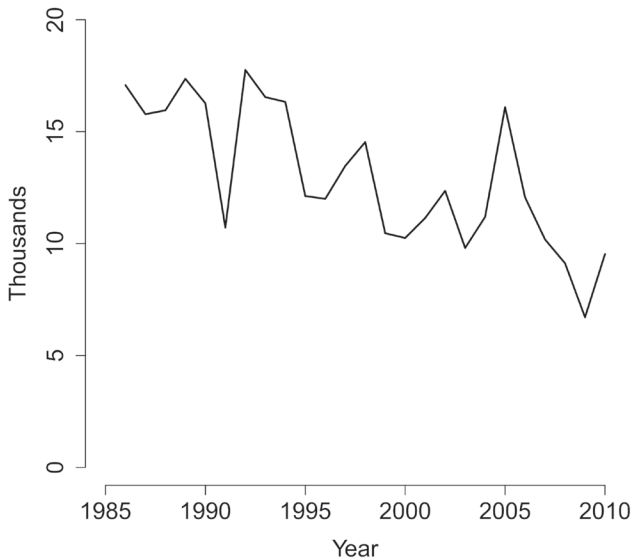


FIGURE 4. Estimated number of breeding adult Dusky Canada Geese, 1985–2010, from Fleming et al. (2010).

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For whatever combination of reasons, the population of the Dusky Canada Goose has declined and the subspecies now represents one of the smallest populations of geese in North America (Bromley and Rothe 2003). Figures 3 and 4 show the decline in the population through the final years of the last century. The winter range of the Dusky Canada Goose contracted northward as the population decreased, and the southernmost portion of the range is now abandoned. Erickson et al. (2018) reported that the ranges of many other California species, including the Western Canada Goose, have shifted northward in the face of climate change. It is interesting that Del Norte County, once home to the rare Dusky Canada Goose, now hosts tens of thousands of the once-endangered Aleutian Cackling Goose instead.

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