



Coastal Waterbird Population Trends From the Past 17 Years of Surveys

By David Bradley

The BC Coastal Waterbird Survey (BCCWS) has now been running for a remarkable 17 years! This length of time is very impressive and has resulted in a hefty dataset which we have recently analyzed to determine species trends over this period. The aim of this analysis is to determine which of the species are doing well and which are not doing so well. There are some species that are definitely declining over the full time period. Those birds are (% population change per year); Canvasback (-40.0), Western Grebe (-15.7), Sanderling (-12.8), Black Scoter (-10.9), Dunlin (-10.7), Red-throated Loon (-9.4), Lesser Scaup (-8.1), Long-tailed Duck (-6.8), Red-necked Grebe (-6.3), American Wigeon (-4.8), White-winged Scoter (-3.6), Barrow's Goldeneye (-3.4), Glaucous-winged Gull (-2.3), and Common Loon (-1.7).

Some species appear to be increasing, including Black Oystercatcher (+3.1), Canada Goose (+5.4), and Ring-necked Duck (+9.8). There are also some species that appear to be declining, but the trend is not statistically significant so we cannot definitively say this is the case, such as Surf-bird (-10.7), Snow Goose (-7.2), Herring Gull (-7.1), Gadwall (-6.6), Greater Scaup (-5.6), Peregrine Falcon (-4.2), Thayer's Gull (-4.1), Green-winged

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Teal (-4.0), Trumpeter Swan (-3.9), Greater Yellowlegs (-3.7), Northern Harrier (-2.6), Bald Eagle (-2.5), Ring-billed Gull (-2.1), Double-crested Cormorant (-1.3), Black Turnstone (-1.2), Hooded Merganser (-1.1), Great Blue Heron (-1.0), and Red-breasted Merganser (-0.9).

Similarly, there are some birds that seem to be increasing, but again we cannot be sure of these trends, such as Common Merganser (+0.8), Bufflehead (+1.2), Pelagic Cormorant (+1.6), Northern Pintail (+1.6), Brant (+2.0), Horned Grebe (+2.2), Killdeer (+2.7), Mallard (+2.8), Marbled Murrelet (+4.0), Mute Swan (+4.8), Heermann's Gull (+5.8), Pigeon Guillemot (+6.6), and Common Murre (+9.6).

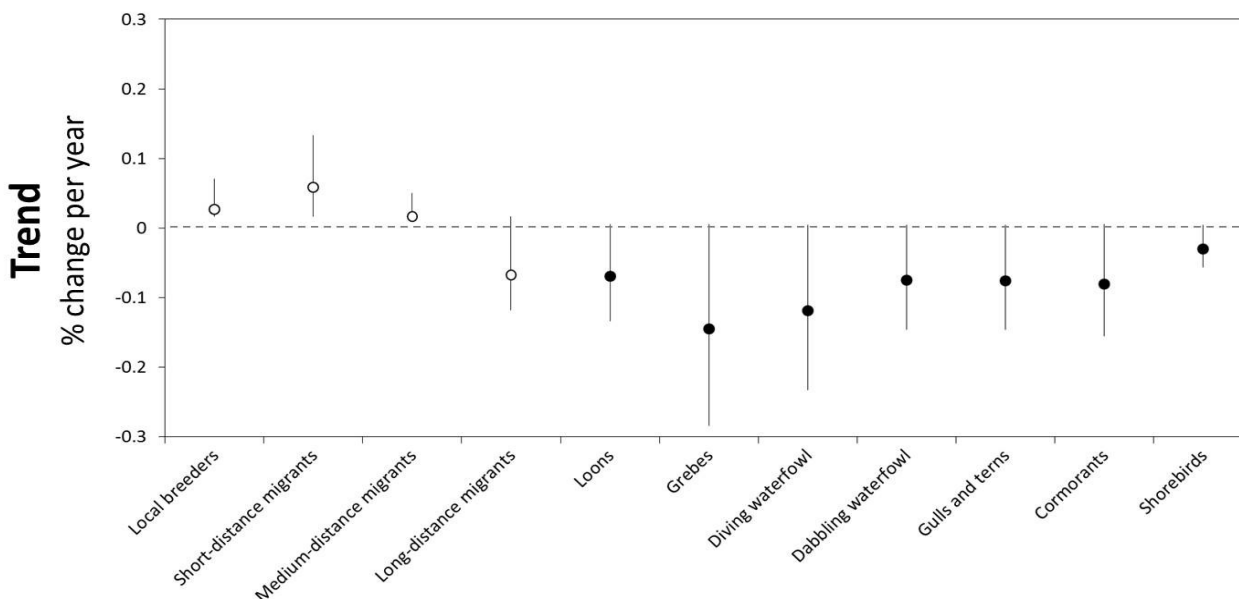
For some species, we do not have enough data to determine a trend. Species that lack data include Rhinoceros Auklet, Bonaparte's Gull, Mew Gull, California Gull, Brandt's Cormorant, Pacific Loon, Surf Scoter, Common Goldeneye, Eurasian Wigeon, Northern Shoveler, Black-bellied Plover and Red-tailed Hawk.

Of the 98 bird species that are included in the survey, some breed locally and others have to travel over vast distances to reach their breeding grounds. One of the disrupting effects of climate change is the heterogeneous pace at which warming occurs at different sites across the landscape, which can cause birds to misjudge the timing of migration and have lower reproductive success as a result. One of the proxies for this effect is migration distance, and so we categorized all 98 birds in the BCCWS into 3 categories; those that breed locally on BC coasts, such as Glaucous-winged Gull; short-distance migrants like those birds that breed in the interior of BC, such as Common Loon; middle-distance migrants that breed in the prairies, and long-distance migrants that may breed in the high arctic, such as Dunlin. We found that there are

statistically significant declines in the long-distance migrants of -0.07% per year, yet mild increases in short-distance migrants ($+0.06$) and birds that breed locally ($+0.03$).

The sad news is that all groups of birds were found to be declining overall, with the greatest declines seen in grebes (-0.15) and diving ducks (-0.12), and lesser declines in cormorant (-0.08), dabbling birds (-0.08), gulls (-0.08), loons (-0.07), and shorebirds (-0.03).

These results demonstrate the importance of continued monitoring. We look forward to sharing them with environmental resource managers, other conservation groups, and the general public. Thank you to everyone who contributed to this important dataset.



Guild

Trend analysis results for the last 17 years of Coastal Waterbird Surveys by guild and migration distance. Results indicate that long-distance migrants are declining, while short and medium-distance migrants and local breeders show mild increases. Despite increases observed in some species, at a group level, all guilds are declining.

Summary of the 2015-2016 Coastal Waterbird Survey

It was another successful season with 1606 surveys completed at 213 sites along BC's coast, amassing 19,071 records. The largest flock reported was of 41,000 Dunlin in Boundary Bay. Unusual species spotted this past season include a Fork-tailed and a Leach's Storm Petrel in Sooke following a storm; one Franklin's Gull in White Rock, and two Black-headed gulls (one in Vancouver and one in Simoom Sound).

Thanks to all of the wonderful volunteers who have dedicated their time and expertise to this important monitoring program and welcome to the new volunteers who have recently started participating. As always, we are looking for more volunteers to improve our coverage. If you know of anyone that might be interested or if you are interested in becoming a BC Coastal Waterbird Survey mentor and helping to train budding birders, please contact Karen at BCvolunteer@birdscanada.org.

Rhinoceros Auklet Mortality Event

By Karen Devitt

Beginning at the end of May, Beached Bird Surveyors and the general public began reporting Rhinoceros Auklet carcasses along beaches around Victoria. Thanks to all of our dedicated volunteers, we know that on average, three Rhinoceros Auklets are reported through the Beached Bird Survey in BC every year. Around Southern Vancouver Island, we also know that the baseline encounter rate is approximately one Rhinoceros Auklet carcass for every 70 km of beach surveyed. In 2016, the average carcass encounter rate for Rhinoceros Auklets was one bird for every 2.5 km of beach surveyed, 25 times higher than the baseline.

A total of 243 birds were reported between May and September, with peak numbers in July and August (figure 1). Ninety-two carcasses were collected, 42 of which were examined by the BC Ministry of Agriculture's Animal Health Centre. Results from the post-mortem exams indicate that the birds were in fair body condition and died of a bacterial infection. In Canada, the response to this event was truly a collaborative effort between volunteers, the Canadian Wildlife Service, Ministry of Forests, Lands, and Natural Resource Operations, Wild ARC, and the BC Ministry of Agriculture's Animal Health Centre.



Figure 1 Distribution of Rhinoceros Auklet carcasses reported in Canada from May—September. Carcasses in the US were concentrated around Protection Island and the outer Washington Coast.

Across the border, the Coastal and Seabird Survey Team (COASST) also reported an increase in the number of Rhinoceros Auklet carcasses washing ashore. Of the 548 carcasses reported in the US, most were found on beaches around Protection Island (Washington), where an estimated 72,000 Rhinoceros Auklets breed. Carcasses examined in the US were classified as emaciated and showed similar bacterial infections.



Forty-two Rhinoceros Auklets were examined by veterinary pathologists at the BC Ministry of Agriculture's Animal Health Centre.

The bacteria involved belong to the Pasteurellaceae family, and have been found in gulls, ducks, and hawks. To our knowledge, these bacteria have not been associated with any seabird mortality events. Little information exists on the bacterial taxa involved, as such, the significance and impacts of this event have yet to be determined and are still under investigation.

Although some members of the Pasteurellaceae family can cause human illness, the particular bacteria found during this mortality event are not known to cause disease in people. A reminder to please take precautions when in contact with dead or sick birds. Please wear protective gloves and avoid contact with bare skin.

We are still learning about this and other die-off events, however many researchers suggest that these events signal larger environmental changes. This highlights the continued importance of the Beached Bird Survey as well as collaboration across sectors and borders.

Beached Bird Survey 2015 Summary

Karen Devitt

In 2015, 537 surveys were conducted at 77 beaches, amounting to over 1000 km of beach surveyed (Table 1). Sixty-four beached birds were reported through the survey, far fewer than what was found in 2014 (157) and the baseline (119). Volunteers around the Georgia Strait encountered the most carcasses this season, however, the carcass encounter rate (birds/km of beach surveyed) was highest in Boundary Bay.

Like most years, gulls were one of the most common groups encountered (Figure 1), with 20 Glaucous-winged Gulls, 10 unidentified gulls, two California Gulls, one herring gull, and one mew gull. Fewer Alcids were reported in 2015 (9), than in 2014 (57). Alcids encountered this past season include one Marbled Murrelet, three Pigeon Guillemots, three Common Murre, and two unidentified alcids. Three Canada Geese, two American Wigeon, one Green-winged Teal, two White-winged Scoters, and one Mallard were encountered in 2015. Other species encountered, include one Red-necked Phalarope, one Dunlin, two Great Blue Heron, two Horned Grebes, two Pelagic Cormorants, one Common Raven, and a first report for the BC Beached Bird Survey of a Virginia Rail found near Victoria.

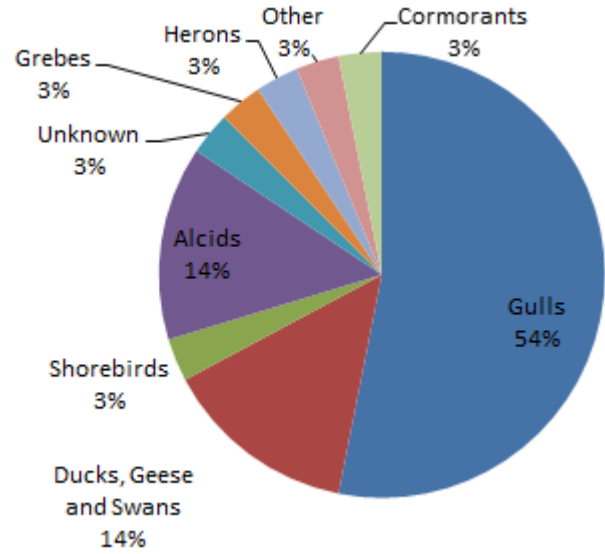


Figure 1 Carcasses found during the 2015 Beached Bird Survey

The cause of death for most birds encountered was unknown. Carcasses that were submitted for a post-mortem exam died from trauma and starvation.

A big 'Thank You' to all of our dedicated volunteers for another successful year and 'Welcome' to new volunteers. A friendly reminder to still submit data, even if you do not find a beached bird. Please take photos of any carcasses encountered and send them by email. We are looking for new volunteers to help improve our coverage, if you know anyone that might be interested, please tell them to contact Karen at BCvolunteer@birdscanada.org.

Table 1 Summary of Beached Bird Survey effort and carcass encounter rates in 2015

Region	Number of Sites	Number of surveys	Total beach length surveyed (km)	# of birds found	Carcass encounter rate (birds/km)
Boundary Bay	10	73	127.33	18	0.14
Gulf Islands	8	55	54.10	1	0.02
Lower Mainland	12	73	119.26	1	0.01
North and Central Coast	1	4	4.00	0	0.00
Southern Vancouver Island	17	121	173.34	15	0.09
Georgia Strait	20	159	476.87	21	0.04
West and North Coast Vancouver Island	9	52	70.73	8	0.11
Total	77	537	1025.63	64	0.06

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