

British Columbia Coast BirdWatch

The Newsletter of the BC Coastal
Waterbird and Beached Bird Surveys



Graham Sorenson

Covid-19 and Long-term Citizen Science Programs

Birds Canada staff knew we needed to put your safety first and temporarily cancel Citizen Science projects this past year - even though, like you, we felt disappointed.

Thank you to everyone for sticking with us through early closures, and for jumping back into the programs when it was safe to do so! It is important to remember that a few months of missed data, or even a season of missed data, is not a huge problem for long-term data sets like the Coastal Waterbird and Beached Bird Surveys. On the Birds Canada website you can find [answers to some FAQs](#) about surveys and field work

BC Coastal Waterbird Survey Summary

Our team recently published an [in-depth analysis](#) of an impressive 20-year BC Coastal Waterbird Survey dataset in the journal *Avian Conservation and Ecology*. The results have important implications for the conservation of birds and habitats along BC's coasts. If you'd like to take a deeper dive into the results of our study, you can read the full paper [here](#). Or, you can watch a presentation by the authors and listen to the volunteers' feedback and ideas, [in this webinar](#).

Since the Coastal Waterbird Survey began two decades

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Prepared by Graham Sorenson, BC Projects Coordinator

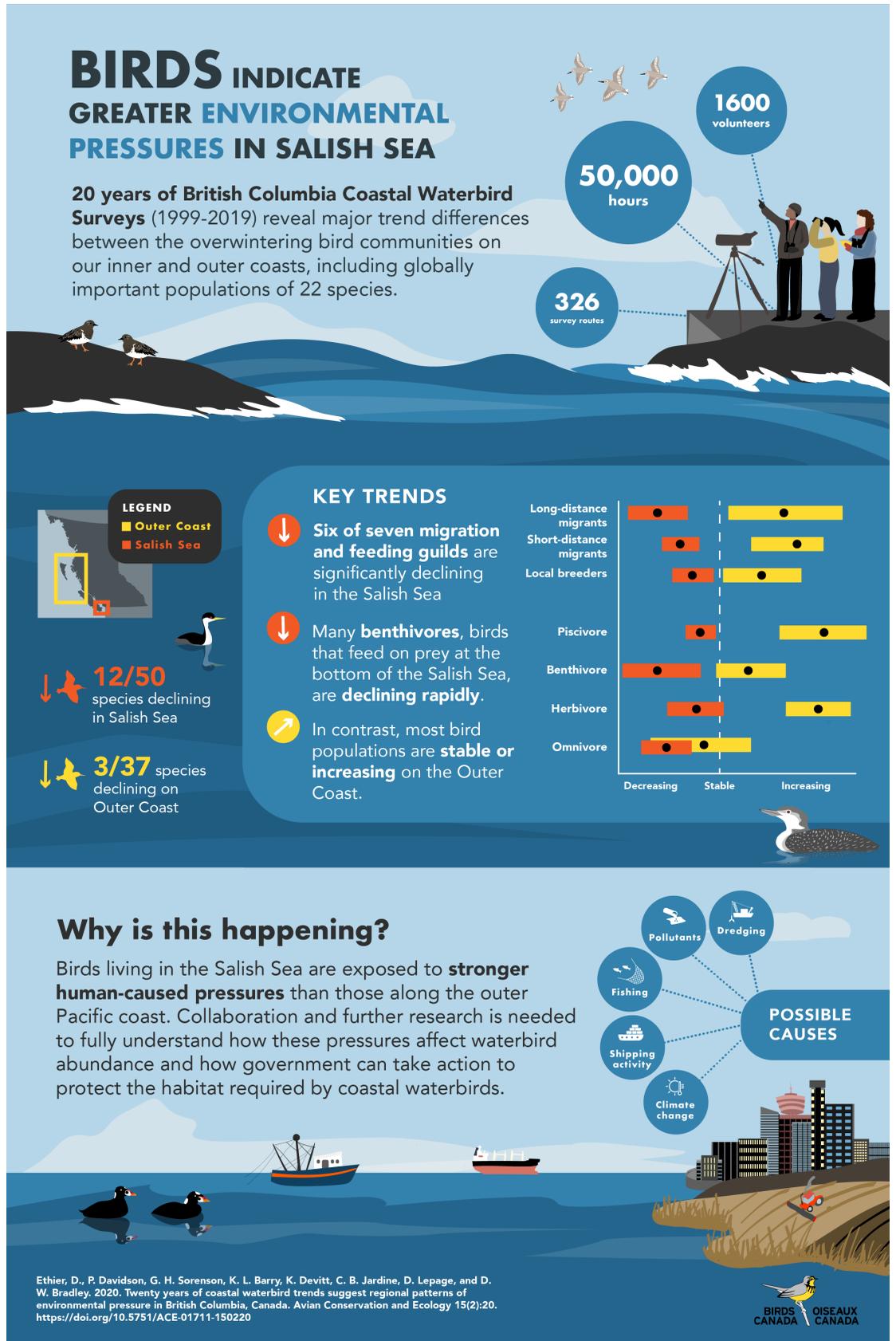
during Covid. Going forward, Birds Canada plans to have a much more regional approach to this, and please know that bird conservation and the health of our volunteers remain our top priorities.

ago, approximately 1600 volunteers have contributed an estimated 50,000 hours to monitor these bird populations throughout the winter. Their efforts have created one of the largest and most detailed monitoring datasets in British Columbia.

We analyzed – for the first time – the *entire* dataset ([previous analyses](#) were restricted to the Salish Sea region). Dr. Danielle Ethier, the study's lead author, performed the number-crunching. She analyzed population trends for 50 species and examined differences

among guilds with similar dietary requirements and migration strategies. We organized the species in this way to help tease out which factors are affecting bird populations. We also split the dataset into two regions: the Salish Sea (inner), and the Pacific Ocean (outer) coasts to allow us to see differences between the two regions in terms of how guilds responded to changes in their environment.

What are the take-home messages? For 12 of the Salish Sea species we studied, the population has declined or the species is overwintering in lower numbers when compared to 20 years ago. The same was true for just 3 species on the Pacific Ocean coast. For the first time in the region, our study reveals that species feeding on aquatic invertebrates in the benthos (the rocks, sand, or mud along the coast that are always underwater, or that get covered when the tide is high) are the ones that appear to be declining the most. This group includes the Surf, White-winged, and Black scoters; Long-tailed Duck; Black Turnstone; and Dunlin. Previously, fish-eating species have been shown to be at highest risk of declines or distribution shifts (Note: our study confirms that fish-eaters are still declining). This new finding highlights the need to investigate how human activities are impacting the quality of the benthic environment in the Salish Sea.



Infographic produced by Alice Sun for Birds Canada.

The good news emerging from our work is that populations appear “stable” for most species: 36 out of 50 species in the Salish Sea (and 2 increasing), and 32 out of 37 on Pacific Ocean coasts (and 2 increasing). These stable trends include 14 species for which the BC coast

plays an important role in supporting a “significant” (according to internationally standardized benchmarks) portion of the global population. However, an additional seven species with globally significant numbers in BC showed declines in the Salish Sea.

We will share our results with relevant managers at all levels of government and with our collaborators in

bird conservation, including our partners in neighboring Puget Sound, Washington. This will add to the body of work demonstrating the need for Canada to show stronger environmental leadership in the region, such as [this study calling for greater investment and strong co-governance of the Fraser River Estuary](#). We want to ensure the work of the Coastal Waterbird Survey’s incredible volunteers goes as far as possible for conservation.

Coastal Waterbird Survey Summary (2019-20)

The 2019-2020 season marked 21 years of the Coastal Waterbird Survey! Thank you to all past and current volunteers that continue to make this survey a success!

In this past season, 170 observers (with 375 assistants) did 1300 surveys at 234 sites across BC! One hundred and eight target species (waterbirds, raptors, and corvids) were detected. Some highlights from the season include; a Yellow-billed Loon near Roberts Creek in November 2019, a Long-billed Curlew at Blackie Spit in October 2019, and a Parasitic Jaeger off Neville Point in September 2019.



Yellow-billed Loon in Surrey. Photo: Frank Lin.

BC Beached Bird Survey Summary (2019, 2020)

The BC Beached Bird Survey is nearing its 20th contin-



Northern Pintail in Boundary Bay. Photo: Graham Sorenson

uous year! It remains one of the best methods for detecting marine species die-offs, oilings, or other environmental issues along our coasts. In 2019, 56 volunteers surveyed with 93 assistants and covered 132 sites. In 2020, there were 56 volunteers with 73 assistants that covered 126 sites.

If you know others that are regularly out on BC’s coast or walking beached, please encourage them to join this program! This survey is going to continue to be more important as oceans continue to warm, birds face increasing environmental threats from shipping, disturbance, and pollution, and weather events get more severe under the climate emergency.

As Beached Bird surveyors, you are our front line detection for mortality emergencies!

Coastal Protection Act

James Casey, Fraser Estuary Specialist, Birds Canada

After 22 years of volunteers monitoring coastal waterbirds, this might be the year the BC government decides to develop policies needed to protect the coastal birds about which we all care. In November of 2020, the government of British Columbia committed in writing to creating a Provincial Coastal Marine Strategy. The commitment to create this strategy can be found in 5 [mandate letters released by Premier Hogan](#) giving direction to his MLAs on what to prioritize over the next four years. Minister Popham of Agriculture, Food and Fisheries, and Minister Hayman of Environment of Climate Change Strategy both received instruction to “Support the Minister of State for Lands and Natural Resource Operations to develop a new provincial coastal marine strategy – in partnership with First Nations and federal and local governments – to better protect coastal habitat while growing coastal

Tracking Dunlin in the Fraser Estuary

Amie MacDonald, BC Motus Coordinator, Birds Canada

Large flocks of Dunlin swirling in unison over Boundary Bay are a delight to watch. These shorebirds breed across the circumpolar Arctic and birds of the *pacifica* subspecies congregate in the Fraser Estuary outside of the breeding season. These Dunlin migrate south from Alaska – some stay in the Fraser Estuary over the winter and some continue south along the US coast and into Mexico. Many Arctic-breeding and long distance migrant shorebirds are in steep decline. Overall, they have declined by 40% in Canada since 1970 and are in need of conservation action to ensure recovery. While Dunlin are not among those species with the most precipitous declines, ensuring they have access to good quality habitat throughout their annual journeys remains important.

The Fraser Estuary supports globally significant numbers of Dunlin during migration and over the winter. Already an urban area, it is under further threat from proposed container terminal expansion. Recently, Birds Canada started a new research project studying the distance and frequency of Dunlin movements to

economies.” MLA Nathan Cullen is the Minister of State for Lands and Natural Resource Operations, and [has been tasked](#) with leading the development of this new provincial coastal marine strategy. Thanks to the efforts of the BC Coastal Waterbird Survey volunteers over the last two decades, we now have solid evidence on how bird populations along the BC coast are doing. These data will be essential for Birds Canada to engage with the province. As volunteers who have spent hundreds of hours on the coast we encourage you to reach out to Minister of State Cullen, or indeed any MLA that is part of the current government, and let them know how important it is that the new Provincial Coastal Marine Strategy include consideration of birds, bird habitat, and birder lovers such as yourself. Official consultations haven’t started for this process, but Birds Canada will be tracking this issue closely and will share on our social media account ([@BirdsCanada BC](#)) and by email opportunities for further engagement.



Equipping a Dunlin with a radio transmitter. Photo: Amie MacDonald

better understand how they use the estuary over the fall and winter. We are tracking Dunlin using the [Motus Wildlife Tracking System](#), a collaborative research

network that uses radio telemetry to track small flying animals. Birds carry small transmitters that emit a unique signal that can be detected by nearby receiver stations. We deployed 45 transmitters on Dunlin in October and December 2020 at Boundary Bay and Brunswick Point. We worked with a reduced team and took precautions to ensure safety and compliance with provincial health guidelines due the COVID-19 pandemic.

Once the transmitters were on the Dunlin, we needed receiver stations that could detect those tagged birds. This is where the collaborative nature of Motus really came into play. The key to the success of Motus is that all tagged birds can be detected on anyone's receiver. Therefore, the Dunlin we tagged can be detected on receivers maintained by Environment and Climate Change Canada that were already in the area. We also installed two new receivers along Mud Bay and Boundary Bay in collaboration with the City of Surrey and Metro Vancouver Regional Parks. Environment



Motus receiver station on Boundary Bay installed in collaboration with Metro Vancouver Regional Parks. *Photo: Amie MacDonald*

and Climate Change Canada is planning to install several new receivers along the Strait of Georgia for research on Western Sandpiper that may also detect tagged Dunlin. Likewise, the receivers we install for Dunlin research may also benefit their Western Sandpiper work.

Data from the Dunlin continue to come in through the receivers and we are excited to see [preliminary tracks](#) of Dunlin moving between Brunswick Point and Boundary Bay. As the Motus Wildlife Tracking System continues to expand in western North America, we are looking forward to seeing where else Dunlin and other shorebirds travel along the Pacific coast. If you have a good location for a Motus receiver station, please contact Amie (amacdonald@birdscanada.org).



The City of Surrey helping to install a Motus receiver station at Blackie Spit. *Photo: Amie MacDonald*

Queen Charlotte Strait Surveys

Graham Sorenson, BC Projects Coordinator

I had the chance this year to spend two weeks conducting seabird surveys in the Queen Charlotte Strait. This remarkable region is well known for its abundance and diversity of marine mammals (which we witnessed and documented), but anecdotal evidence, past eBird lists, and old surveys from nearby all suggested the region was also heavily used by seabirds, especially during fall migration.

Tony Gaston (emeritus Research Scientist with Environment and Climate Change Canada) partnered with Raincoast Education Society to document seabird passage through the Queen Charlotte Strait. The project involved four weeks of at-sea surveys spaced out between mid-August and early October to attempt to capture temporal variation in species' migration timing and numbers. A team of two observers, one recorder, and a boat captain conducted transects throughout the strait that were repeated each of the four weeks. We focused our surveys on the waters north of Malcolm Island, Cormorant Channel (Telegraph Cove to just west of Port McNeill), and the north end of Johnstone Strait.



Red-necked Phalarope. Photo: Graham Sorenson



Black-legged Kittiwake. Photo: Graham Sorenson

Throughout the surveys, 46 species of waterbirds were detected, and six of these species were detected at high enough densities that greater than 1% of the North American population could have been in the survey area. These species were Common Murre, Pigeon Guillemot, California Gull, Iceland Gull, Mew Gull, and Red-necked Grebe. Some interesting patterns emerged showing the timing of passage or arrival for different species: scoter numbers increased each week of surveying, Red-necked Phalarope numbers peaked in early September, Common Murre peaked in mid-September, and most gull species numbers decreased through the survey period except Glaucous-winged Gull. You can read a full report on the survey and findings [here](#).

In the final week of surveys (Sept 27 – Oct 2), many flocks of loons, gulls, dabbling ducks, scoters, and Sandhill Cranes were observed flying southeast through the Johnstone Strait. This sparked interest from Tony in conducting a sea watch near Sayward or Campbell River to document the passage and numbers of these species moving through the strait. Please keep an eye out for more details about a potential survey in this region.

Suggested further reading

[Hemisphere wide collaboration to further understanding of migratory shorebird declines](#)
[Conservation in heavily urbanized biodiverse regions requires urgent management action...](#)
[Waterfowl winter refuge Fraser River Delta risks being lost forever](#)
[How will climate change and extreme weather impact alpine breeding birds?](#)
[2019/20 Christmas Bird Count in Canada](#)

Volunteer Spotlight – Betty Brooks

Betty conducted Coastal Waterbird Surveys from the start of the program, over 20 years ago. She conducted 179 surveys over those years and recorded 83 waterbird species. Amazing contributions like this make long-term trend analyses more successful, and have built the strong base for this program. Betty's daughter, Jocie, has also dedicated lots of time and effort to this survey and has entered much of Betty's data – thank you, Jocie.

"I became interested in birds when I was ten after receiving a copy of Canadian Nature for Christmas which had bird illustrations by Allan Brooks. Later I married [Allan's] son. I enjoyed doing the waterbird survey over the years and recording birds." - Betty Brooks

From all of us at Birds Canada, thank you, Betty, for your years of volunteer surveying!



Betty Brooks. Photo: [Comox Valley Naturalist](#).

Photos From 2020



Leg flagged Dunlin, Boundary Bay, G. Sorenson



Western Sandpiper, Blackie Spit, David Bradley



Gull aggregation, Queen Charlotte Strait, G. Sorenson



Bonaparte's Gull from Beached Bird Survey, Kitty Castle

The Beached Bird and Coastal Waterbird Surveys of Birds Canada are supported by:



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