

Marine Birds – At-sea Density of Listed Marine Birds

description

This atlas page illustrates the best available data describing marine habitat use by 'listed' marine birds. Included in this map are species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or considered a global priority in the Conservation Framework developed by the Province of British Columbia. These birds include:

- Ancient Murrelet (*Synthliboramphus antiquus*)
- Black-footed Albatross (*Phoebastria nigripes*)
- Cassin's Auklet (*Ptychoramphus aleuticus*)
- Pink-footed Shearwater (*Puffinus creatopus*)
- Short-tailed Albatross (*Phoebastria albatrus*)

Marbled Murrelets (*Brachyramphus marmoratus*) are also considered a global priority and listed by COSEWIC but observations of this species were mapped for a separate atlas page: At-sea Density of Marbled Murrelet.

Source data used to develop this map consisted of a range of ship-based surveys, which were focused on recording marine bird counts and locations. Midpoints were generated for each survey transect from each dataset. Observations of the listed species were totalled and divided by the survey area of each transect to generate a density of listed marine birds for each transect midpoint. All of the midpoints that fell within a single planning unit were averaged, adjusting for survey effort, to calculate the illustrated metric: average density of listed marine birds by planning unit. The density values range from 0.02 birds per square kilometre to 300 birds per square kilometre with the vast majority of the density values at the low end of the range. The values were symbolized using 6 quantiles so that the number of values within each class is the same but the class intervals vary in size and are larger at the extremes. (A quantile is established by dividing the frequency distribution of a variable into equal groups: that is, each quantile contains the same fraction of the total number of values being measured.)



PHOTO: MARC DRAGIEWICZ



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data sources

- Environment Canada (Canadian Wildlife Service) – Pelagic Seabird Surveys
- Environment Canada (Canadian Wildlife Service) – BC Ferry Surveys
- Environment Canada (Canadian Wildlife Service) – Marine Bird Database
- Alan Burger – Southwest Vancouver Island Shelf Surveys
- Laskeek Bay Conservation Society – Laskeek Bay Surveys
- Parks Canada Agency – West Coast Trail Surveys

Additional data that could be used to inform marine habitat use by 'listed' marine birds are known to be available from:

- Raincoast Conservation Society – At-sea surveys of marine birds and mammals

data resolution

- Source survey data transects were generally about 1 kilometre in length. Weighted averages were calculated for each 2 kilometre x 2 kilometre planning unit.

date collected

- 1987-2012

date compiled

- 2012

reviewers

- Bernard Schroeder, Consultant
- Representatives from Environment Canada, Canadian Wildlife Service

reviewer comments

- Rather than use the Conservation Framework listing of global priority, it should be based on IUCN listing. Especially for trans-boundary migrants, the IUCN ranking might be better. The list you have is too small, using IUCN list would be longer if it is combined with COSEWIC and the list the province drew up.
- If Ancient Murrelet and Cassin's Auklet (globally listed as least concern) are included then Heermann's Gull, Laysan Albatross, Mottled Petrel, Murphy's Petrel, Sooty Shearwater and Xantus's Murrelet should also be included.

caveats of use

- The density values in an area can change over time in response to natural population fluctuations and changes in habitat conditions (natural or anthropogenic).
- Survey effort is not consistent across all planning units or across all areas of the coast and some species tend to be under-represented by some survey methods. Areas with no data may not have been surveyed and these data gaps are not necessarily indicative of an absence of listed marine birds. Some locations may still be important to listed marine birds but currently lack associated data to confirm their value.
- This feature is a compilation of data collected by many people, for different purposes, using different survey techniques with different methodologies within each technique and, therefore, considerable care must be taken when using the data.
- Recommended date of expiry for use of these data in a marine planning context: None provided.

map, feature data and metadata access

- Visit www.bcmca.ca/data for more information.

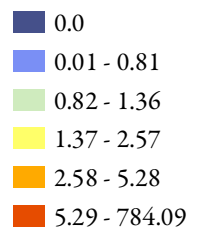
BCMCA Atlas

Marine Birds

At-Sea Density of Listed Marine Birds

Legend

Birds per square kilometre standardized by effort



Note:
- Classification based on 6 quantiles.

Data Sources:

Environment Canada
(Canadian Wildlife Service),
Alan Burger,
Laskeek Bay Conservation Society,
Parks Canada

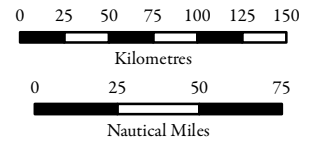
Base Data:

ESRI Base Data, GeoBase, GeoBC,
NOAA, Natural Resources Canada,
USGS, Washington State Government

Thematic Data:

For more information on data sources
and methods please refer to the
facing page to this map

Projection: BC Albers NAD83



1:4,250,000 *

* Written scales are approximate and
are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

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