

Marine Birds – Ancient Murrelet Winter Surveys

description

This atlas page illustrates the best available data that identifies Ancient Murrelet winter habitat, which falls within the months of December through to February. The Ancient Murrelet (*Synthliboramphus antiquus*) nests in small colonies in coastal areas or islands, and builds its nest in burrows. This species forages at sea, diving underwater to catch its prey, mostly within 20 metres of the water surface. In the winter months, the colonies disperse and the Ancient Murrelet can be found in coastal areas, foraging within the kelp belt.

Source data used to develop this map consisted of a range of shoreline-based, ground, boat and aerial surveys, which were focused on identifying, counting and recording marine birds. The majority of the surveys were collected at sites with defined boundaries and areas. Surveys collected along transects from each dataset were buffered depending upon observation width described within the source survey methodology in order to generate a survey area.

Observations of the listed species were totalled for each survey location and divided by the area surveyed to generate a density value for each survey location. The densities of all of the survey locations within a single planning unit were averaged and adjusted for survey effort to calculate the illustrated metric, average density of Ancient Murrelet in the winter by planning unit. The values were then classified and symbolized using 5 quantiles, meaning that each class consisted of 20% of the non-zero planning units. (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: MATT SADOWSK

data sources

- Environment Canada (Canadian Wildlife Service) - BC Ferry Surveys
- Environment Canada (Canadian Wildlife Service) – Coastal Waterbird Inventory
- Environment Canada (Canadian Wildlife Service) - Pelagic Seabird Surveys
- Bird Studies Canada - BC Coastal Waterbird Survey
- Alan Burger - Southwest Vancouver Island Shelf Surveys

data resolution

- Weighted averages were calculated for each 2 kilometre x 2 kilometre planning unit.

data collected

- 1971-2008

date compiled

- 2010

reviewers

- Peter Davidson and Rob Butler, Bird Studies Canada
- James Kenyon, Ducks Unlimited Canada
- Representatives from Environment Canada, Canadian Wildlife Service

reviewer comments

- Bird Studies Canada has more recent data from the Gulf Islands for winter distribution (BC Coastal Waterbird Survey). Haro Strait seems a key place for Ancient Murrelet in autumn that should be included.
- Surveys conducted in 2007-2009, too late to be included in this analysis, have found high densities in Haro Strait and moderate densities in Boundary Bay during winter (November being a peak month of occurrence).

caveats of use

- Survey effort is not consistent across all planning units, across all areas of the coast or across all seasons. Areas with no data may not have been surveyed and these data gaps are not necessarily indicative of an absence of Ancient Murrelet.
- The density values in an area can change over time in response to natural population fluctuations and changes in habitat conditions (natural or anthropogenic).
- The precision of the average density values displayed in the legend is not indicative of the original precision of the survey counts.
- 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.
- Surveys performed in different seasons will produce different results.
- 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.

references

Species description contains material from:

- B.C. Conservation Data Centre. *Species Summary: Synthliboramphus antiquus*. BC Ministry of Environment (MoE) 2010. 21 Sep. 2010 <http://a100.gov.bc.ca/pub/eswp/>
- Seattle Audubon Society. *BirdWeb – Seattle Audubon's Guide to the Birds of Washington*. Revised 2008. www.seattleaudubon.org/birdweb

BCMCA Atlas

Marine Birds

Ancient Murrelet

Winter Surveys

Legend

Birds per square kilometre standardized by effort

- 0.01 - 0.11
- 0.12 - 1.29
- 1.30 - 3.21
- 3.22 - 6.25
- 6.26 - 162.52

Note:
- Classification based on 5 quantiles.

Data Sources:

Environment Canada
(Canadian Wildlife Service),
Bird Studies Canada,
Alan Burger

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

0 25 50 75 100 125 150

Kilometres

0 25 50 75

Nautical Miles

1:4,250,000 *

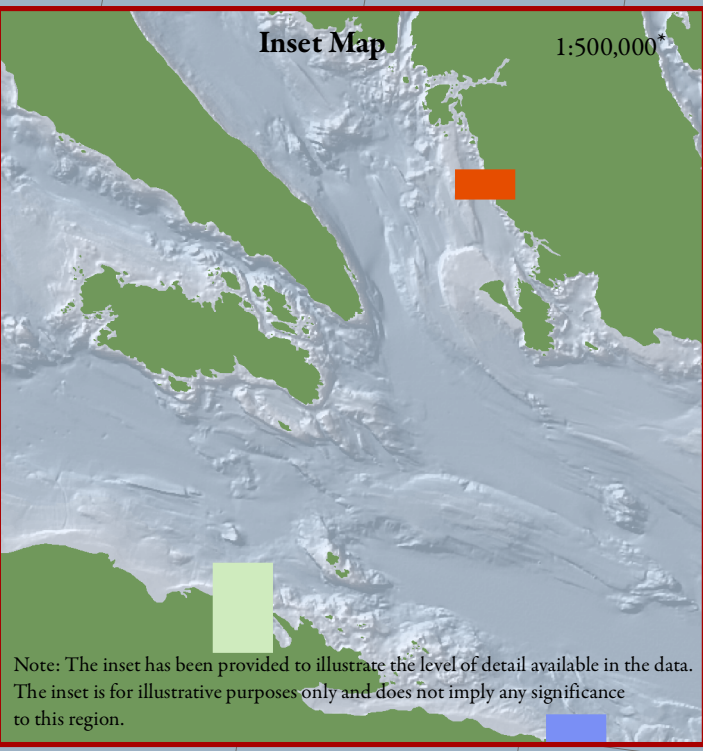
* Written scales are approximate and
are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

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Note: The inset has been provided to illustrate the level of detail available in the data. The inset is for illustrative purposes only and does not imply any significance to this region.