

Marine Birds – Tundra Swan Winter Surveys

description

This atlas page illustrates the best available data that identifies Tundra Swan winter habitat, which falls within the months of December through to February. The Tundra Swan (*Cygnus columbianus*) is a large, white marine bird with a long neck and black bill and face. It breeds on the high tundra across the top of North America. It winters in large flocks along the coast, and is frequently encountered during its migration across the continent.

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 Tundra Swan in the winter by planning unit. Due to limited data, values were not classified and were symbolized using the average density.



PHOTO: SF PHOTO



PHOTO: MCARTER

data sources

- Environment Canada (Canadian Wildlife Service) – Coastal Waterbird Inventory
- Bird Studies Canada - BC Coastal Waterbird Survey

data resolution

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

data collected

- 1949-2004

date compiled

- 2010

reviewers

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

reviewer comments

- None provided.

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 Tundra Swan.
- 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

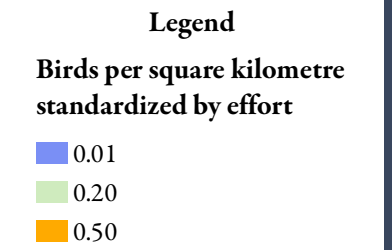
- Visit www.bcmca.ca/data for more information.

references

Species description contains material from:

- B.C. Conservation Data Centre. *Species Summary: Cygnus columbianus*. BC Ministry of Environment (MoE) 2010. 21 Sep. 2010 <http://a100.gov.bc.ca/pub/eswp/>
- The Cornell Lab of Ornithology. *All about Birds*. 2009. www.allaboutbirds.org/guide

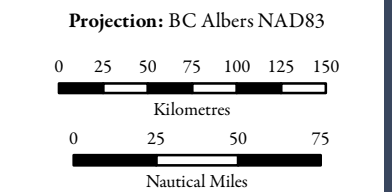
BCMCA Atlas
Marine Birds
Tundra Swan Winter Surveys



Data Sources:
 Environment Canada
 (Canadian Wildlife Service),
 Bird Studies Canada

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

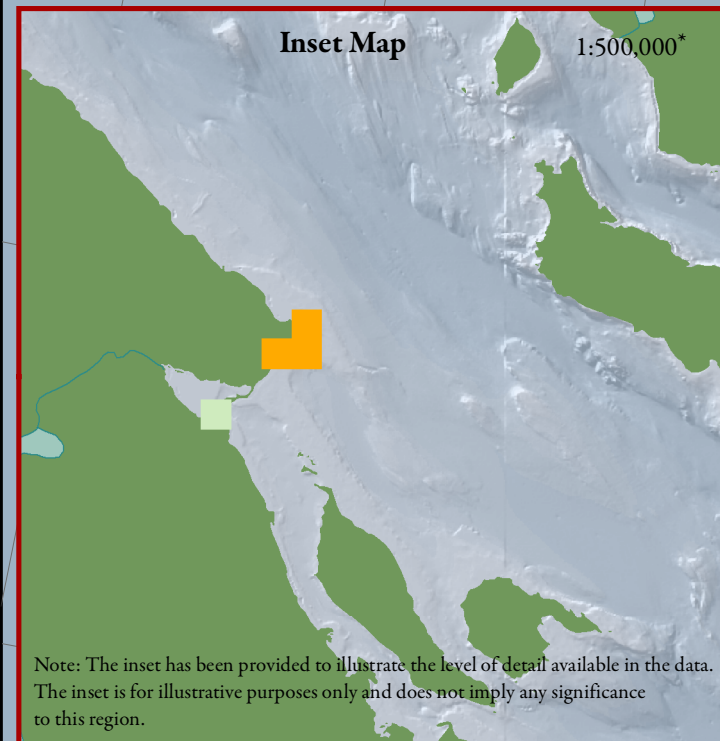
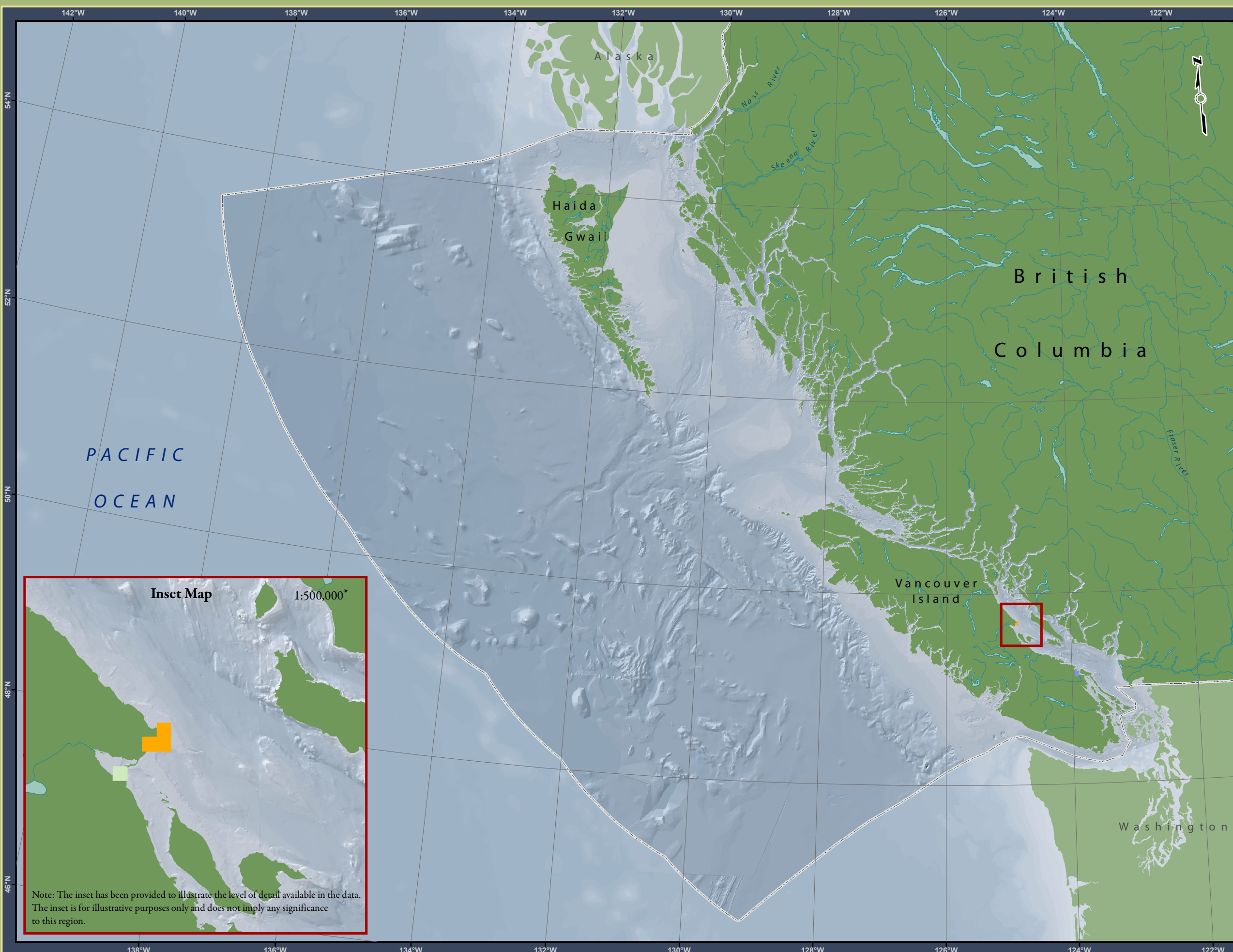
Thematic Data:
 For more information on data sources
 and methods please refer to the
 facing page to this map



1:4,250,000 *
 * Written scales are approximate and
 are based on a 11 x 17 inch paper size.



Map template by Caslys Consulting Ltd.
 August 27, 2010



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.