

Marine Birds – Bufflehead

description

This atlas page illustrates the best available data that identifies Bufflehead habitat, derived from surveys conducted year-round. The Bufflehead (*Bucephala albeola*) is the smallest diving duck in Canada. It is black and white with a distinctive white patch at the back of the head. Buffleheads nest in tree holes and winter along the coast in shallow, sheltered waters. During winter months, they are often found in shallow bays in coastal areas.

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

Observations of Bufflehead were totalled for each survey location and divided by the area surveyed to generate a density value for each 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 Bufflehead 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.)

All of the planning units that were surveyed, regardless of whether Bufflehead was sighted, were displayed underneath the density layer. This allows the viewer to differentiate between an absence of Bufflehead and areas of no survey effort.



PHOTO: SHUTTERSTOCK

data sources

- Environment Canada (Canadian Wildlife Service) – Burrard Inlet Environmental Action Plan: Winter Bird Surveys
- Environment Canada (Canadian Wildlife Service) – Coastal Waterbird Inventory
- Environment Canada (Canadian Wildlife Service) – West Coast Vancouver Island Waterbird Survey
- Bird Studies Canada - BC Coastal Waterbird Survey
- Capital Regional District – Harbours Atlas

data resolution

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

data collected

- 1939-2008

date compiled

- 2010

reviewers

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

reviewer comments

- The distribution depicted represents the non-breeding season (October-April); Bufflehead breeds on interior wetlands and few if any remain on the coast in summer.

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 Bufflehead.
- 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.
- It is important to note that *in some cases* Coastal Waterbird Inventory surveys recorded only a subset of species present, but BCMCA did not use this information due to sheer volume and complexity of data. As a result, some areas depicted as zero density on this map may actually be 'no data' areas rather than true 'absence' 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.

references

Species description contains material from:

- B.C. Conservation Data Centre. *Species Summary: Bucephala albeola*. BC Ministry of Environment (MoE) 2010. 21 Sep. 2010 <http://a100.gov.bc.ca/pub/eswp/>
- Environment Canada (Canadian Wildlife Service). *Hinterland Who's*. Revised 2005. <http://www.bww.ca>
- Seattle Audubon Society. *BirdWeb – Seattle Audubon's Guide to the Birds of Washington*. Revised 2008. www.seattleaudubon.org/birdweb

BCMCA Atlas

Marine Birds

Bufflehead

Legend

Birds per square kilometre standardized by effort

- 0.0
- 0.01 - 1.08
- 1.09 - 3.43
- 3.44 - 7.84
- 7.85 - 21.07
- 21.08 - 565.67

Note:
- Classification based on 5 quantiles.

Data Sources:

Environment Canada
(Canadian Wildlife Service),
Bird Studies Canada,
Capital Regional District

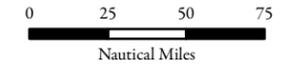
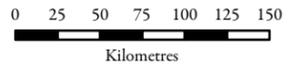
Base Data:

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 *

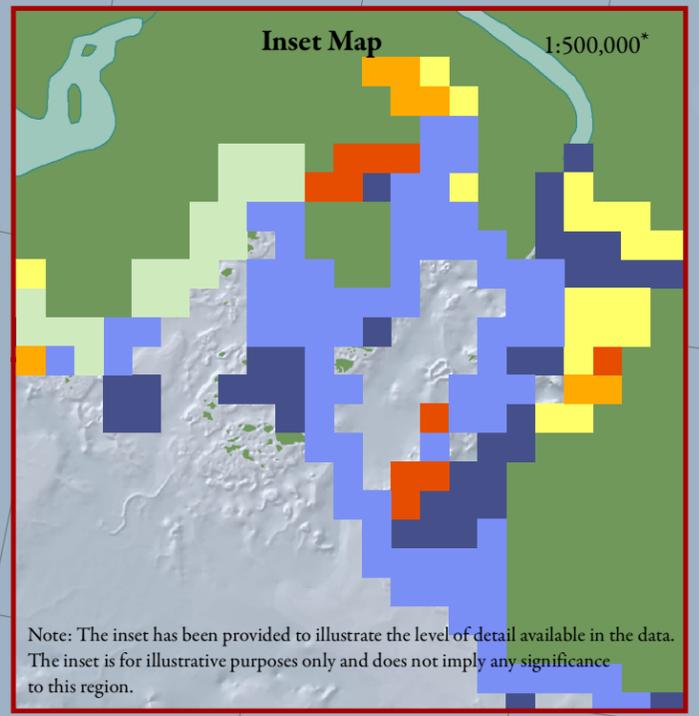
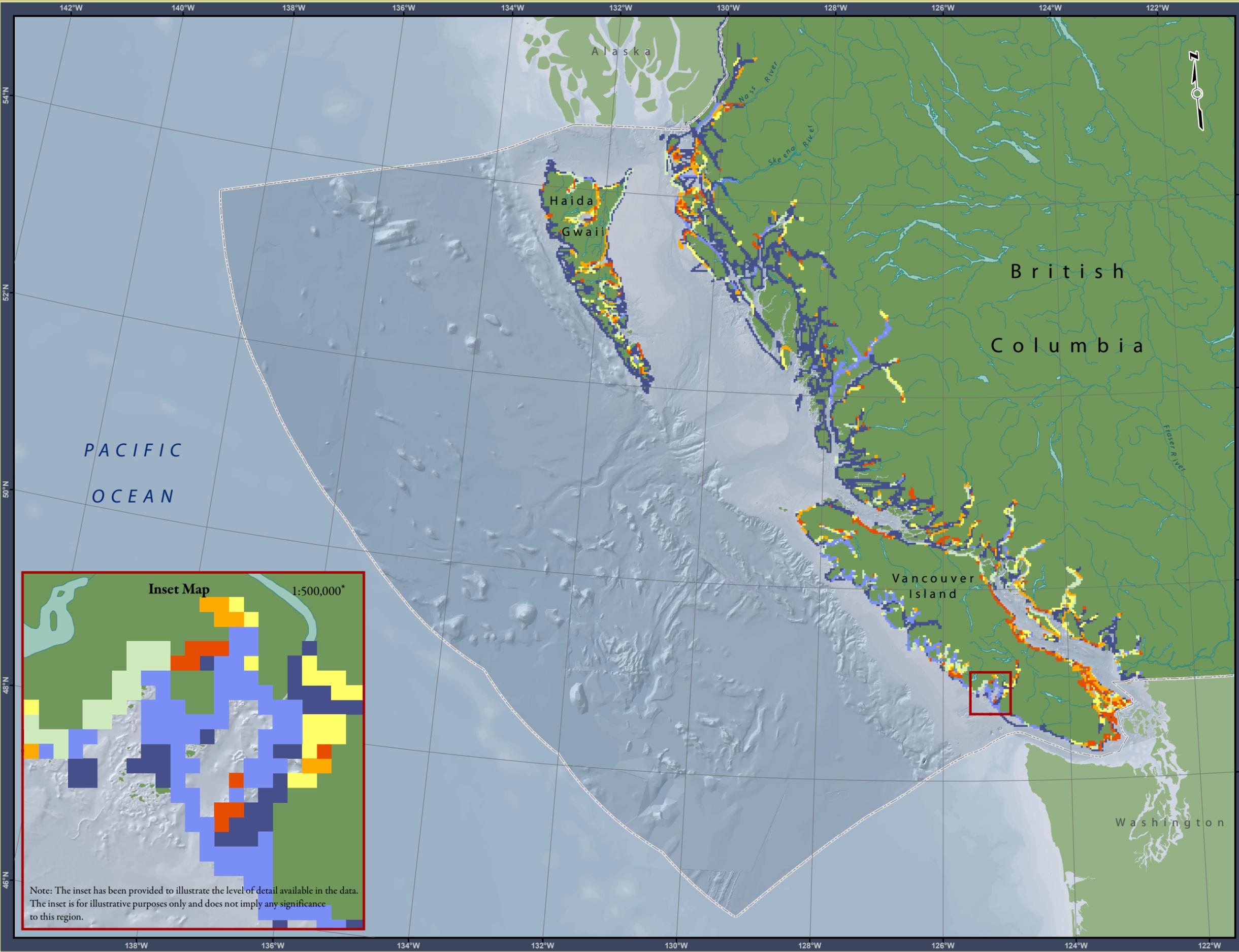
* Written scales are approximate and
are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

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.