

## Marine Birds – Northern Pintail Winter Surveys

### description

This atlas page illustrates the best available data that identifies Northern Pintail winter habitat, which falls within the months of December through to February. The Northern Pintail (*Anas acuta*) is a duck with a distinctly long neck and long tail feathers, especially in males. This species has a wide range of breeding habitats across North America and migrates to coastal waters during winter months, where it can be seen in shallow freshwater habitats and intertidal areas in British Columbia.

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 Northern Pintail 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: GEORGIOS ALEXANDRIS



PHOTO: BILL WARCHOL

### data sources

- Environment Canada (Canadian Wildlife Service) – Coastal Waterbird Inventory

### data resolution

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

### data collected

- 1947-1993

### date compiled

- 2010

### reviewers

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

### reviewer comments

- Northern Pintail in the Georgia Basin are under-represented.
- Large numbers of Northern Pintail (tens of thousands) regularly winter in Boundary Bay, on Roberts Bank and adjacent terrestrial habitats.

### 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 Northern Pintail.
- 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](http://www.bcmca.ca/data) for more information.

### references

Species description contains material from:

- B.C. Conservation Data Centre. *Species Summary: Anas acuta*. 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. <http://www.allaboutbirds.org/guide>

**BCMCA Atlas**

**Marine Birds**

**Northern Pintail**

**Winter Surveys**

**Legend**

**Birds per square kilometre standardized by effort**

- 0.73 - 2.16
- 2.17 - 11.10
- 11.11 - 48.70
- 48.71 - 71.50
- 71.51 - 560.65

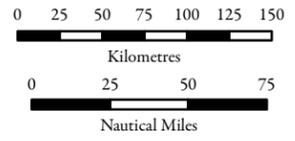
Note:  
- Classification based on 5 quantiles.

**Data Sources:**  
Environment Canada  
(Canadian Wildlife Service)

**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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