



Marine Birds – Survey Effort

description

This atlas page illustrates the areas surveyed for pelagic and nearshore birds across all seasons. Pelagic birds forage primarily in the offshore marine environment while nearshore birds forage in the nearshore environment. These species include:

American Wigeon (<i>Anas americana</i>)	Glaucous-winged Gull (<i>Larus glaucescens</i>)	Pigeon Guillemot (<i>Cephus columba</i>)
Ancient Murrelet (<i>Synthliboramphus antiquus</i>)	Great Blue Heron (<i>Ardea herodias</i>)	Pink-footed Shearwater (<i>Puffinus creatopus</i>)
Arctic Tern (<i>Sterna paradisaea</i>)	Greater Scaup (<i>Aythya marila</i>)	Pomarine Jaeger (<i>Stercorarius pomarinus</i>)
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Green-winged Teal (<i>Anas crecca</i>)	Red Phalarope (<i>Phalaropus fulicarius</i>)
Barrows Goldeneye (<i>Bucephala islandica</i>)	Harlequin Duck (<i>Histrionicus histrionicus</i>)	Red-breasted Merganser (<i>Mergus serrator</i>)
Black Scoter (<i>Melanitta nigra</i>)	Heermann's Gull (<i>Larus heermanni</i>)	Red-necked Grebe (<i>Podiceps grisegena</i>)
Black-footed Albatross (<i>Phoebastria nigripes</i>)	Herring Gull (<i>Larus argentatus</i>)	Red-necked Phalarope (<i>Phalaropus lobatus</i>)
Black-legged Kittiwake (<i>Rissa tridactyla</i>)	Hooded Merganser (<i>Lophodytes cucullatus</i>)	Red-throated Loon (<i>Gavia stellata</i>)
Blue-winged Teal (<i>Anas discors</i>)	Horned Grebe (<i>Podiceps auritus</i>)	Rhinoceros Auklet (<i>Cerorhinca monocerata</i>)
Bonaparte's Gull (<i>Chroicocephalus philadelphia</i>)	Horned Puffin (<i>Fraterecula corniculata</i>)	Ring-billed Gull (<i>Larus delawarensis</i>)
Brand's Cormorant (<i>Phalacrocorax penicillatus</i>)	Laysan Albatross (<i>Phoebastria immutabilis</i>)	Sabine's Gull (<i>Xema sabini</i>)
Brant (<i>Branta bernicla</i>)	Leach's Storm-Petrel (<i>Oceanodroma leucorhoa</i>)	Short-tailed Albatross (<i>Phoebastria albatrus</i>)
Bufflehead (<i>Bucephala albeola</i>)	Lesser Scaup (<i>Aythya affinis</i>)	Short-tailed Shearwater (<i>Puffinus tenuirostris</i>)
California Gull (<i>Larus californicus</i>)	Long-tailed Duck (<i>Clangula hyemalis</i>)	Slaty-backed Gull (<i>Larus schistisagus</i>)
Canada Goose (<i>Branta canadensis</i>)	Long-tailed Jaeger (<i>Stercorarius longicaudus</i>)	Sooty Shearwater (<i>Puffinus griseus</i>)
Caspian Tern (<i>Hydroprogne caspia</i>)	Mallard (<i>Anas platyrhynchos</i>)	Surf Scoter (<i>Melanitta perspicillata</i>)
Cassin's Auklet (<i>Ptychoramphus aleuticus</i>)	Manx Shearwater (<i>Puffinus puffinus</i>)	Thayer's Gull (<i>Larus thayeri</i>)
Common Goldeneye (<i>Bucephala clangula</i>)	Marbled Murrelet (<i>Brachyramphus marmoratus</i>)	Thick-billed Murre (<i>Uria lomvia</i>)
Common Loon (<i>Gavia immer</i>)	Mew Gull (<i>Larus canus</i>)	Trumpeter Swan (<i>Cygnus buccinator</i>)
Common Merganser (<i>Mergus merganser</i>)	Mottled Petrel (<i>Pterodroma inexpectata</i>)	Tufted Puffin (<i>Fraterecula cirrhata</i>)
Common Murre (<i>Uria aalge</i>)	Murphy's Petrel (<i>Pterodroma ultima</i>)	Tundra Swan (<i>Cygnus columbianus</i>)
Common Tern (<i>Sterna hirundo</i>)	Northern Fulmar (<i>Fulmarus glacialis</i>)	Western Grebe (<i>Aechmophorus occidentalis</i>)
Double-crested Cormorant (<i>Phalacrocorax auritus</i>)	Northern Pintail (<i>Anas acuta</i>)	Western Gull (<i>Larus occidentalis</i>)
Eurasian Wigeon (<i>Anas penelope</i>)	Northern Shoveler (<i>Anas platyrhynchos</i>)	Western-Glaucous-winged Gull (<i>Larus occidentalis</i>)
Flesh-footed Shearwater (<i>Puffinus carneipes</i>)	Pacific Loon (<i>Gavia pacifica</i>)	White-winged Scoter (<i>Melanitta fusca</i>)
Fork-tailed Storm-Petrel (<i>Oceanodroma furcata</i>)	Parakeet Auklet (<i>Aethia psittacula</i>)	Xantus's Murrelet (<i>Synthliboramphus hypoleucus</i>)
Gadwall (<i>Anas strepera</i>)	Parasitic Jaeger (<i>Stercorarius parasiticus</i>)	
Glaucous Gull (<i>Larus hyperboreus</i>)	Pelagic Cormorant (<i>Phalacrocorax pelagicus</i>)	

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. Surveys were conducted at sites with defined boundaries and areas or along transects. The transects were buffered depending upon the observation width described in the source survey methodology in order to generate a survey area. All of the BC Marine Conservation Analysis (BCMCA) 2 kilometre x 2 kilometre planning units that intersect with the survey areas are displayed on the map. This feature displays the areas surveyed across all seasons. A map of survey effort by season would look quite different, as effort is not consistent across all times of the year.

data sources

- Environment Canada (Canadian Wildlife Service) - BC Ferry Surveys
- 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) – Moulting Sea Duck Survey
- Environment Canada (Canadian Wildlife Service) – Pelagic Seabird Surveys
- Environment Canada (Canadian Wildlife Service) – Triennial Swan Surveys
- Environment Canada (Canadian Wildlife Service) – West Coast Vancouver Island Waterbird Survey
- Bird Studies Canada - BC Coastal Waterbird Survey
- Alan Burger – Southwest Vancouver Island Shelf Surveys
- Alan Burger – Trevor Channel Transects
- Capital Regional District – Harbours Atlas
- Laskeek Bay Conservation Society – Laskeek Bay Surveys

data resolution

- Survey effort is compiled into 2 kilometre x 2 kilometre planning units.

date collected

- 1907-2008

date compiled

- 2010

reviewers

- Not reviewed.

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 nationally or globally listed marine birds.
- Survey effort is not consistent across all seasons.
- 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.
- Two additional datasets were received, however, as they only contained observations of Marbled Murrelets, they were not included in this list and their extents are not displayed on the map. Those two data sources were: Bernard Schroeder - Central Coast Marbled Murrelet Survey and Parks Canada – West Coast Trail Surveys.
- 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

Survey Effort

Legend

- Survey Effort (Pelagic and Nearshore)

Data Sources:
Environment Canada
(Canadian Wildlife Service),
Bird Studies Canada,
Alan Burger,
Capital Regional District,
Laskeek Bay Conservation Society

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 *

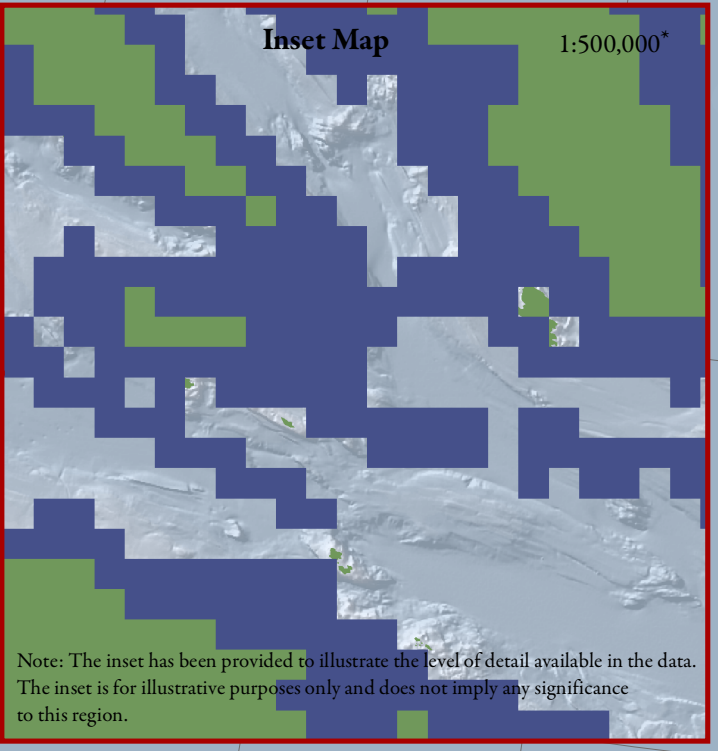
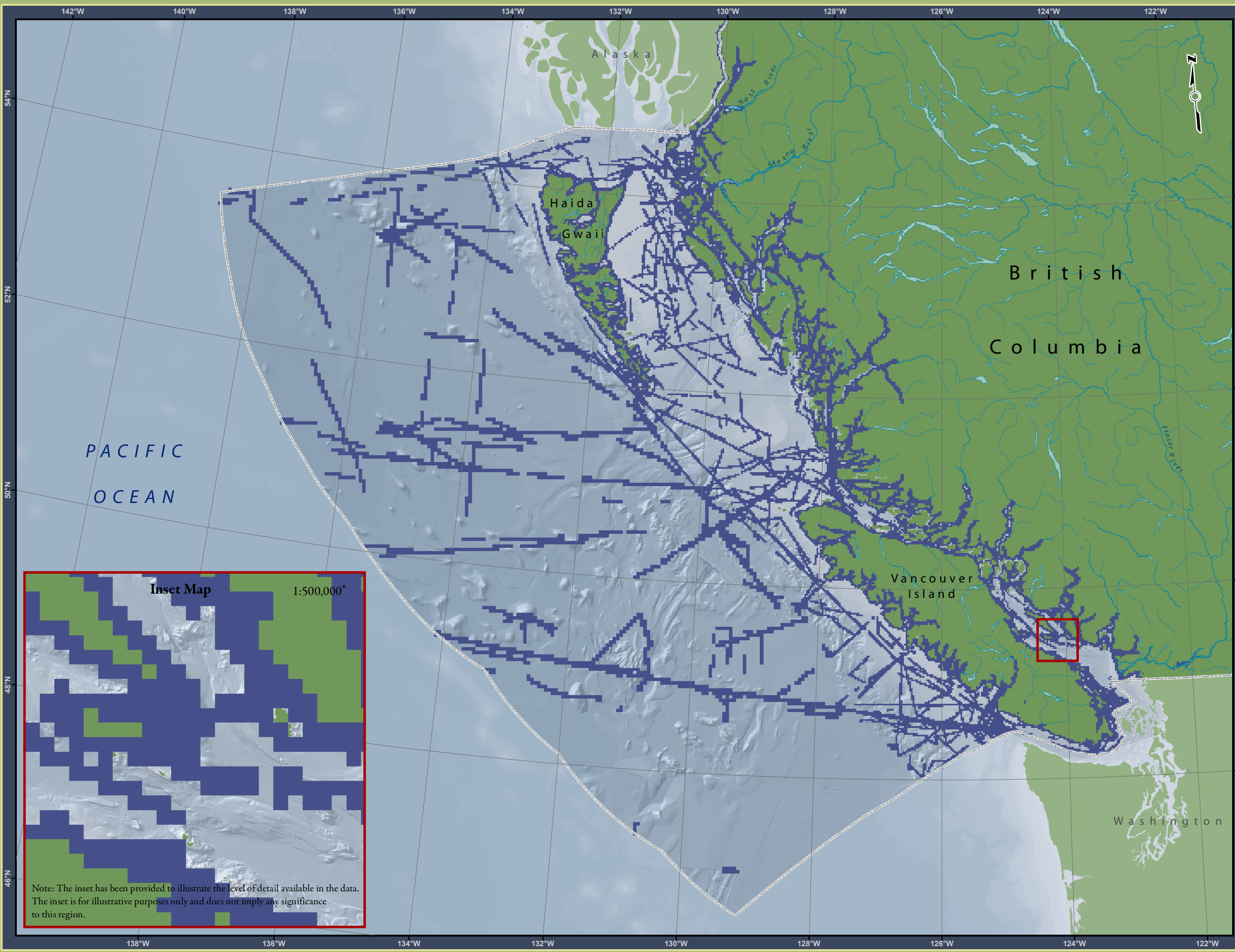
* Written scales are approximate and
are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

August 31, 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.