

Marine Mammals – Sea Otter Habitat and Range

description

Sea otters (*Enhydra lutris*) are among the smallest marine mammals and are insulated by thick coats of water-repellent fur. In British Columbia, sea otters are currently expanding their range after extirpation in the early 20th century and re-introduction to the west coast of Vancouver Island from 1969 to 1972. Sea otters spend all of their time in the ocean, usually in single-sex groups (either all males or all females) called rafts. Sea otters have a big appetite due to a high metabolic rate. They dive to the seafloor to gather a variety of invertebrates, feeding on what is most abundant.

This atlas page depicts two different representations of sea otter habitat in British Columbia. One is based on a habitat model that identifies a particular type of habitat and illustrates both occupied and potential habitat - areas sea otters have not yet occupied. The other is a generalized depiction of the range known to be occupied in BC (up to 2008) and within its bounds includes all habitat types. The habitat model (Gregg et al. 2008) was developed by characterizing and mapping the complexity of nearshore intertidal and sub-tidal bathymetric contours (i.e., the shape and depth of the seafloor). Known habitat, occupied by sea otters in Checleset Bay and Kyuquot Sound during spring and summer, was characterized by these physical parameters and used to build the model, which then identified both portions of the occupied habitat as well as similar but as yet unoccupied habitat on the BC coast. The depiction of the occupied range is a generalization of the known range occupied by rafts of sea otters observed during spring and summer population surveys up to 2008. The seaward extent of this generalized range is the 50 metre depth contour which is considered a reasonable cut off for most foraging sea otters, although sea otters can dive deeper for prey. The shoreward extent of the occupied range includes all inlets. Some inlet areas are known to be occupied, but as a precautionary measure all inlets are included in this depiction as the extent of occupation of such habitat is as yet unclear.



data sources

- Fisheries and Oceans Canada – Modeled Optimum Habitat and Sea Otter Range to 2008

data resolution

- The resolution of the habitat model is 500 x 500 metres, based on the final raster used for the analysis.
- Range was estimated based on observations, digitised, and then clipped on the seaward edges to a 50 metre depth contour. It is intended for use at a coast-wide scale and resolution.

date compiled

- 2010

reviewers

- Ed Gregg, SciTech Consulting
- Linda Nichol, DFO

reviewer comments

- None provided.

caveats of use

- Movements of animals into inlets and more sheltered areas may occur in other seasons when sea conditions are more severe.
- Marine planners should verify sea otter range with Fisheries and Oceans Canada whenever they use this map because the sea otter range continues to expand.
- Recommended date of expiry for use of range data in a marine planning context: 2012
- Recommended date of expiry for use of modelled habitat data in a marine planning context: The model should be updated or considered dated when better data/model results become available.

map, feature data and metadata access

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

references

- Gregg, E.J. et al. Estimating Carrying Capacity for Sea Otters in British Columbia. *The Journal of Wildlife Management* 72. 2008. 382-388.
- Nichol, L.M., Boogaards, M.D., Abernethy, R. Recent trends in the abundance and distribution of sea otters (*Enhydra lutris*) in British Columbia. DFO Can. Sci. Advis. Sec. Res. Doc. 2009/016. iv + 16 p.

BCMCA Atlas
Marine Mammals
Sea Otter Habitat and Range

Legend

- Modeled Optimum Habitat
- Range in 2008

Note:
 - Range data clipped to the 50 metre depth contour.

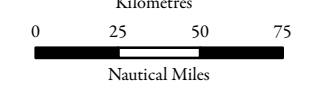
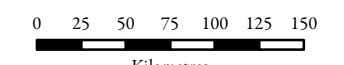
Reference:
 - Gregr, E.J. et al. 2008. Estimating Carrying Capacity for Sea Otters in British Columbia. *The Journal of Wildlife Management* 72: 382-388.
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Data Sources:
 Fisheries and Oceans Canada

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

Projection: BC Albers NAD83



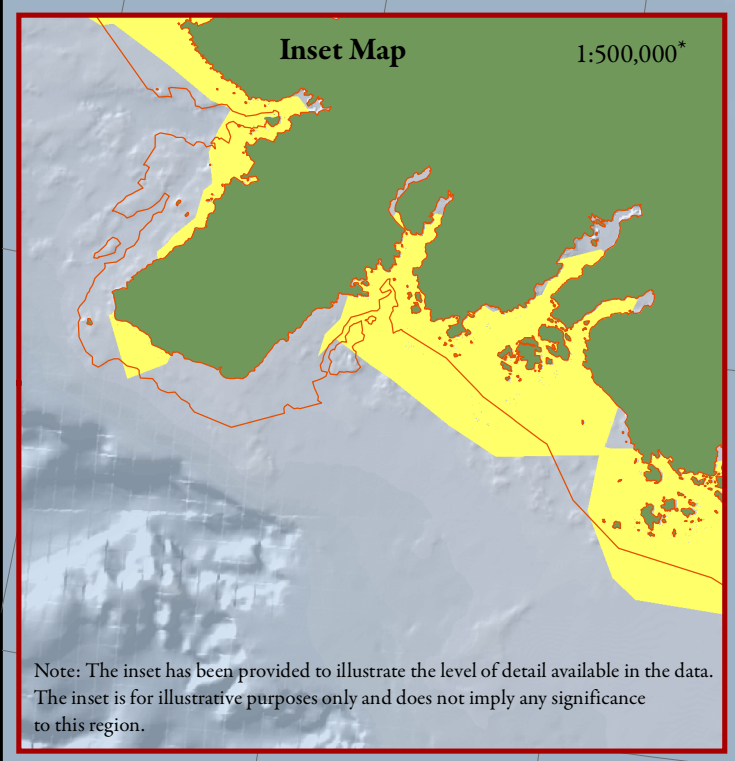
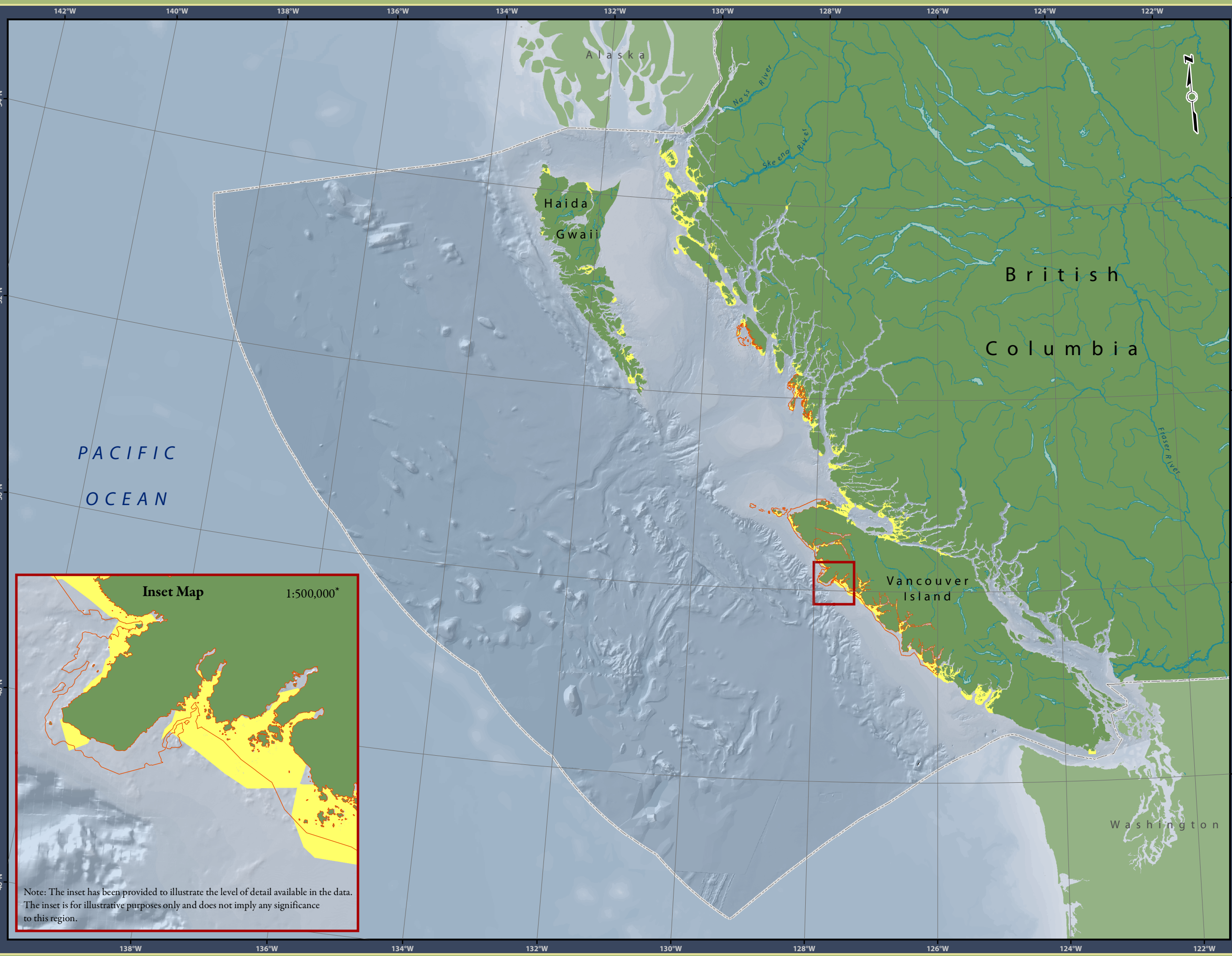
1:4,250,000 *

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

Prepared for:



Map template by Caslys Consulting Ltd.
 August 16, 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.