

## Marine Fish and Invertebrates – Shrimp Trawl Survey Species Richness – 2005

### description

Shrimp trawl surveys are conducted by Fisheries and Oceans Canada (DFO) to provide biomass indices of shrimp by species for the shrimp trawl fisheries. Surveys take place annually in the spring (late May to June) and all biota from each tow are recorded. The surveys are termed 'area swept' surveys, and are of a fixed station design. These surveys are considered to be fishery independent, defined as research efforts undertaken independent of commercial fishing activity.

This series of maps illustrates the relative richness of biota among different years, and across regions within any given year. (One map is provided in the print atlas, and BC Marine Conservation Analysis (BCMCA) provides separate maps for each year from 2004 to 2009 on their data repository. See the link below, under 'Map, feature data and metadata access.'). To tally 'species' for these maps, everything identified in the catch to any taxonomic level was included. In 2005, total species encountered varied from 57 to 125, depending on the survey area or 'mask' (i.e., see atlas page titled, Shrimp Trawl Survey Areas). Values displayed are a percent of these maximum species counts.

Data were provided by DFO as number of species observed in each BCMCA planning unit with a successful survey tow in this year. BCMCA calculated percentages based on total counts for each year and each survey area provided by DFO. Percentage values are displayed in equal interval classes determined by looking at the range of values from all years of data. Thus, data may not exist in all classes for every survey year, but colour classes are comparable among years.



PHOTO: LIVING OCEANS SOCIETY

### data sources

- Fisheries and Oceans Canada, Marine Ecosystem and Aquaculture Division, Shellfish Section

### data resolution

- Source data is collected by tow and GPS locations are recorded. DFO summarized the data illustrated here into 2 kilometre by 2 kilometre planning units.

### date collected

- 2005

### reviewers

- Leslie Barton, Fisheries and Oceans Canada (April 2010)

### reviewer comments

- None provided.

### caveats of use

- Spatial extents of trawl surveys are limited (see atlas page titled, *Shrimp Trawl Survey Areas*). Lack of data outside these areas should not be interpreted as lack of fish and invertebrate biota.
- All surveys are a limited view of reality. Species caught and recorded are partly a function of the fishing gear used. Each survey has unique gear limitations and therefore the size of individuals caught varies and the net efficiency varies. Data are post-processed by DFO to standardize for gear and duration of tow.
- These surveys target shrimp species primarily; other species are caught but not necessarily consistently. Therefore, these richness indices are relative values for the area surveyed only, and for limited species. These values should not be interpreted as indices of overall species richness.
- Survey data represents only the season when the data were collected (generally spring), and many species do migrate with season.
- There has been a gradual change over time in DFO's ability to identify taxonomic units. More recent data reflect a greater capacity to identify discrete taxonomic units.
- 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.

**BCMCA Atlas**  
**Marine Fish and Invertebrates**  
**Shrimp Trawl Survey**  
**Species Richness - 2005**

**Legend**

Percent of maximum number of species observed per survey area

- 2 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100

Depth (m)  
 ~ 100 ~ 150

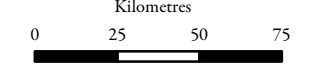
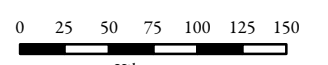
Notes:  
 - Data may not exist in all classes for this survey year.  
 - "Species" includes everything identified in the catch to any taxonomic level.

**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 \*

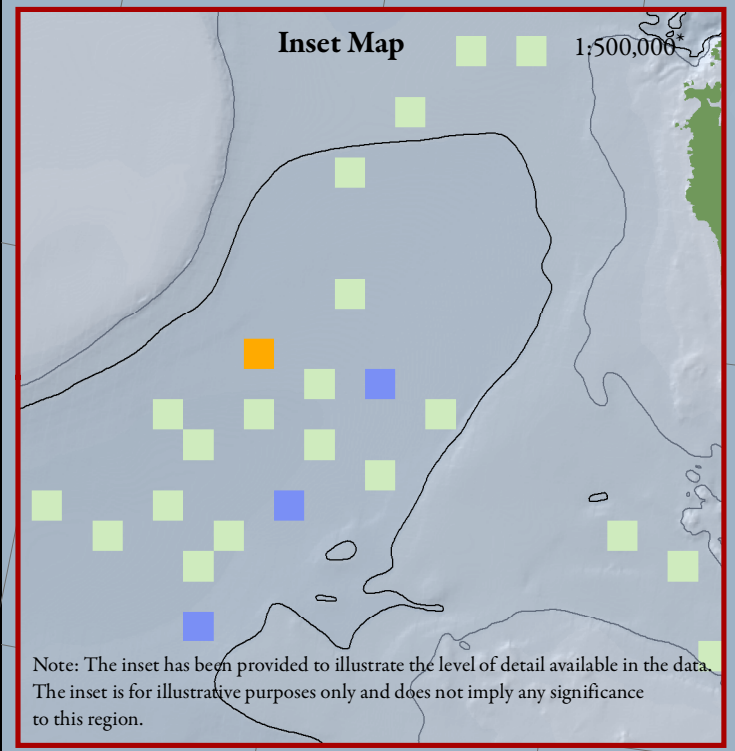
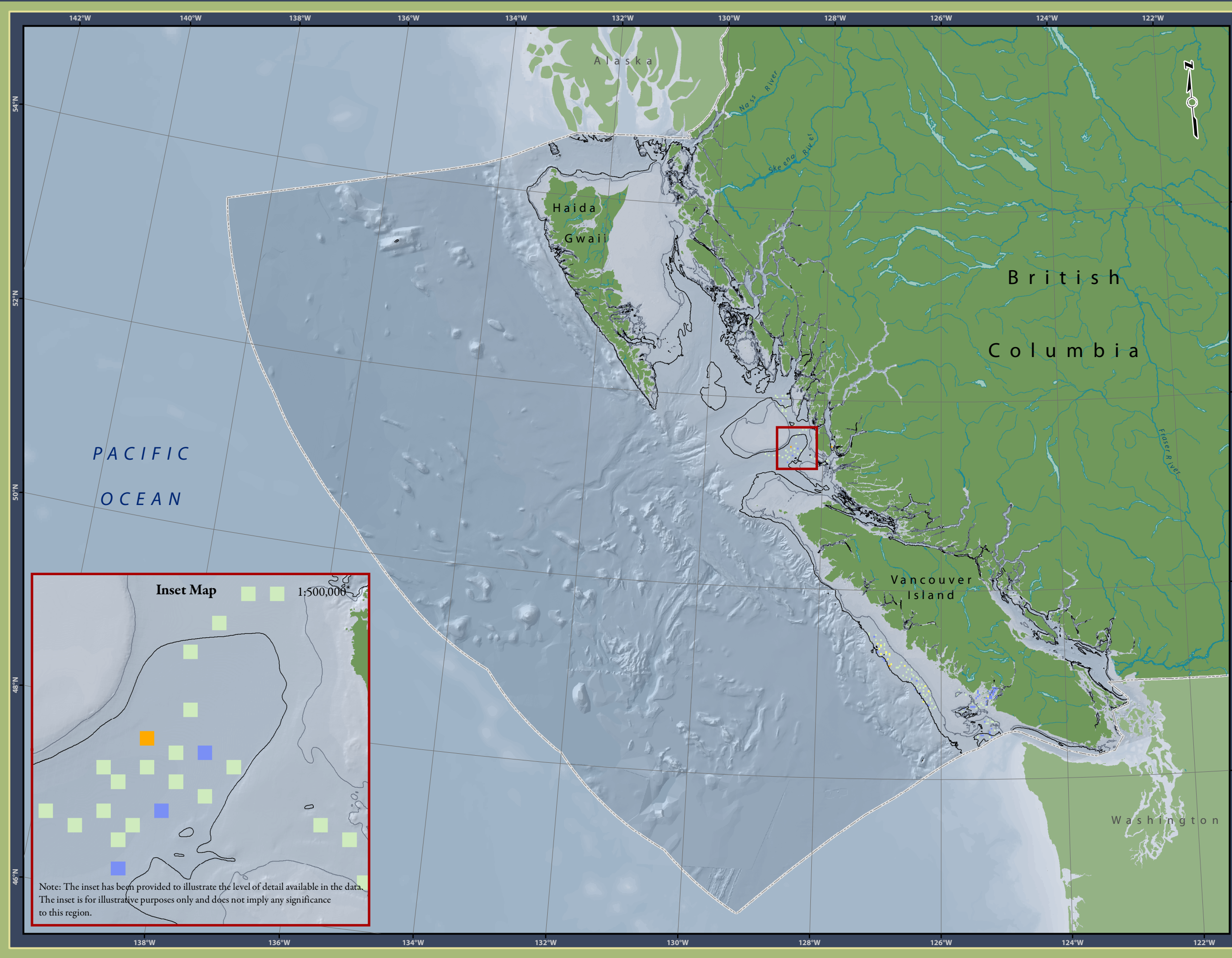
\* Written scales are approximate and are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

June 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.