

Marine Fish and Invertebrates – Groundfish Trawl Survey Observed Catch Density - 2005

description

Groundfish bottom trawl surveys are jointly conducted and funded by the Canadian Groundfish Research and Conservation Society (CGRCS) and Fisheries and Oceans Canada (DFO). The objective of these surveys is to provide fishery independent abundance indices of all demersal fish species available to bottom trawling, as well as to collect biological samples of selected species. Surveys take place annually in the summer and all biota from each trawl are recorded.

In 2005, only the Hecate Strait and Queen Charlotte Sound survey areas were surveyed.

This series of maps illustrates the spatial variability in catch densities (kilograms per square kilometre) observed among different years, and the relative catch densities across each region 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 2003 to 2009 on their data repository. See the link below, under 'Map, feature data and metadata access.'). In this instance the catch includes all biota, both fishes and invertebrates. Catch densities are generally low because the survey tows are designed so that the net has contact with the bottom for only 20 minutes. Catch density values for 2005 range to about 42,000 kilograms per square kilometre, but the distribution is quite skewed to lower values (Figure 1).

Data were provided by DFO as values for BCMCA planning units with successful survey tows. These values are displayed in equal interval classes that are 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.

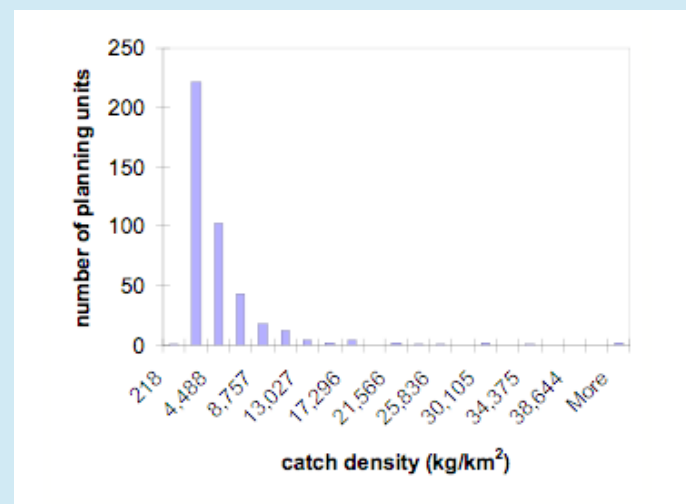


FIGURE 1. DISTRIBUTION OF OBSERVED CATCH DENSITY VALUES FOR THIS SURVEY YEAR.

data sources

- Fisheries and Oceans Canada, Pacific Region, Science Branch, Groundfish 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

- Reviewed for accuracy and presentation by data providers and industry representative.

reviewer comments

- Tow times are set to only have the net in contact with the bottom for 20 minutes. Therefore, it would be more useful to show CPUE (kilograms per hour) rather than densities.

caveats of use

- Spatial extents of trawl surveys are limited (see atlas page titled, *Groundfish Trawl Survey Areas and Untrawlable Areas*). Lack of data outside these areas should not be interpreted as lack of fish and invertebrate biota. The Strait of Georgia, Strait of Juan de Fuca, Queen Charlotte Strait, Johnstone Strait and offshore areas have not been surveyed.
- 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. However, groundfish trawl surveys do use standardized gear and tow duration.
- These surveys do not target juvenile fish.
- Densities are relative measures, not absolute measures.
- Survey data represents only the season when the data were collected (generally summer), and many species do migrate with season.
- 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

- Reports on Trawl Surveys are available for download here: www.dfo-mpo.gc.ca/libraries-bibliotheques/manu-eng.htm

BCMCA Atlas
Marine Fish and Invertebrates
Groundfish Trawl Survey
Catch - 2005

Legend

Observed Catch Density
(kilograms per square kilometre)

- 1 - 20,000
- 20,001 - 40,000
- 40,001 - 60,000
- 60,001 - 80,000
- 80,001 - 100,000
- 100,001 - 120,000

Depth (m)
 100 200

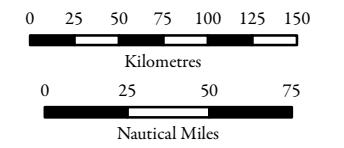
Notes:
 - Data may not exist in all classes for this survey year.
 - Areas surveyed: Hecate Strait, Queen Charlotte Sound.

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.
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