Commercial Fisheries – Sablefish (trap)

description

Sablefish (Anoplopoma fimbria) have long been harvested off the west coast of British Columbia, with recorded landings dating back to 1913. Originally, sablefish were caught by handavra in longline and trawl fisheries. Foreign vessels targeted Pacific sablefish from the mid-1960s until 1977, at which time Canada adopted the 200-mile Exclusive Economic Zone. By the late 1970s, Canadian fishermen worked to establish a viable sablefish fishery by pursuing markets in Japan and experimenting with trap gear to improve harvesting efficiency. The commercial fishery is managed using an overall total allowable catch (TAC). In 1990, with support from the Canadian Sablefish Association (CSA), individual vessel quotas (IVQs) were implemented. IVQ management involves allocating shares of the TAC to each licensed vessel. Since 2003, Fisheries and Oceans Canada (DFO) has focused on working with the commercial sablefish harvesters and others to address management and sustainability issues in the commercial sablefish fisheries. In 2006, a three year pilot was introduced to integrate the management of the total allowable catch (TAC) for sablefish fisheries across Canada.

Sablefish, often referred to as blackcod, inhabit shelf and slope water to depths of 1,500 metres. Spawning takes place in January through to March along the continental shelf at depths greater than 1,000 metres. Juveniles migrate toshore and rear in near-shore and shelf habitats until age two through five, when they migrate offshore and recruit into the fishery. Juveniles are highly migratory with significant movement from nursery areas in Hecate Strait to the Gulf of Alaska and the Bering Sea. Growth is very rapid with a mature (three to five year old) female average size of 55 centimetres. Maximum size is 80 centimetres, and the oldest fish aged to date is 113 years. Age and growth parameters vary considerably among areas and depths.

Directed commercial fishing for sablefish is conducted under a limited entry and vessel-based category “K” licence, which permits sablefish to be caught by trap and longline gear. In 1981, the implementation of limited entry resulted in 48 vessels receiving sablefish commercial fishing licences. Historically the majority of Canadian sablefish are harvested by trap, however this is changing and recently catch is about 50% per gear type. Trap gear is fished (soaked) at depths of up to 825 metres. Typically, a series of 60 to 80 traps are found along a common line (groundline) set on the ocean floor. Traps capture the fish alive and consist of a conical shaped steel frame covered with a single piece of nylon netting. The netting is attached so that the trap is permanently enclosed and the bottom can be opened and closed with a drawstring. The sablefish are attracted to the bait and enter through the tunnel. Sablefish trap regulations are outlined in the Groundfish Integrated Fisheries Management Plans (IFMPs) with size, design and material restrictions. In addition, a trap can only be set and left in the water for up to a maximum of four consecutive days before it is must be retrieved from the water and all catch removed.

The total estimated catch (kilograms) for the sablefish (trap) fishery was assembled by DFO into 4 kilometre x 4 kilometre grid cells directly from the Groundfish Stock Assessment harvest log database and includes the 1996-2004 fishing seasons. Information provided by DFO was modified to meet confidentiality requirements. The data are displayed using equal interval categories, meaning that the data are divided into 5 equally spaced classes where each class may contain a different number of grid cells. The percent of grid cells that fall in a given category is shown in the legend.

Permanent, year-round closures for the sablefish fishery were compiled based on the Amended Integrated Fisheries Management Plan (IFMP) for Groundfish dated March 8, 2008 – February 20, 2009 and 2008 Fisheries Notices (up to Oct. 2, 2008). Areas identified as closures may also include areas not licensed for this fishery. (Please read caveats of use for more information on closures.)

data sources

- Fishery data: Fisheries and Oceans Canada, Groundfish Stock Assessment Harvest Log Database, Pacific Biological Station
- Year-round commercial fishing closures: Living Oceans Society (see Robb et al., 2010)

data resolution

- 4 kilometre by 4 kilometre grid cells

date compiled

- Fishery data: 1996-2004
- Year-round commercial fishing closures: 2008

reviewers

- Commercial fishing industry representatives (who may or may not be experts for this specific fishery), assembled with the support of the Canadian Fishery Management Team (CFMT), which includes experts from Federal and Provincial government agencies, along with commercial fishery representatives.
- Experts may be appointed by the CFMT to attend meetings and provide input, advice and guidance.

reviewer comments

- General comments relating to the fishery and fishery management.
- Information and advice provided to improve the fishery and fishery management.

caveats of use

- In the case of discrepancies, catch information from DFO takes precedence over commercial fishery information portrayed by BCMCA.
- This map should be interpreted as showing only where fishing has taken place; it does not represent economic valuations or biological trends. Neither should it be inferred that species are more abundant where fished and less abundant in areas closed to commercial harvest.
- Data displayed should not be assumed to match current or future conditions due to ongoing changes in the environment and management.
- Data on this fishery have been screened to meet confidentiality requirements. The count of commercial fishing vessels for each spatial unit the data are provided in must be greater than 2 for information to be made public. This screen was set for each year before data were binned across years. This map represents 97.35% of the data from this fishery that met confidentiality requirements.
- The effort expended to capture targeted species differs among fisheries. Therefore it is difficult to compare weight caught for a low volume fishery versus a high volume fishery.
- Closed areas are permanent, year-round closures. Seasonal, temporary and voluntary closures were not included, all of which may impact catch. Areas identified as closures may also include areas not licensed for this fishery.
- Due to a lack of available spatial data regarding fisheries closures, the time period for closures does not match the time period for catch illustrated on the map. Many of the closures were implemented after the period for which catch is shown. As a result, the map may show harvesting in the closed areas, while in reality they did not overlap in time. Because the closure data are compiled in irregular polygons, closures may overlap the square grid cells delineating areas of commercial harvesting. Harvesting does not occur consistently throughout each grid cell and may not have occurred within the closure.
- 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

Inset Map

Legend

Kilograms of Sablefish Caught by Trap

- 206 - 200,000 (93.99%)
- 200,001 - 400,000 (4.6%)
- 400,001 - 600,000 (0.83%)
- 600,001 - 800,000 (0.35%)
- 800,001 - 1,000,000 (0.24%)
- Year-round Sablefish Closures

Notes:
- The number in brackets in the legend above is the percent of polygons that fell into the given category.
- This map represents 97.4% of the data from this fishery that meet confidentiality requirements (minimum 3 vessels reporting).

Data Sources:
Fisheries and Oceans Canada,
Living Oceans 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

Prepared for:
BC Marine Conservation Analysis

Map template by Caslys Consulting Ltd.
January 30, 2011