

## Commercial Fisheries – Sablefish (longline)

### 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 as bycatch 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 (IVQ's) 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 groundfish harvesters and others to address management and sustainability issues in the commercial groundfish fisheries. In 2006, a three year pilot was introduced to integrate the management of all seven commercial groundfish sector groups consistent with the objectives of improving stock management through improved bycatch monitoring, reducing discarded catch, and requiring harvesters to be accountable and responsible for all species harvested.

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 inshore 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. Longline fishing is accomplished by setting a long ground-line containing hundreds of baited hooks along the ocean floor. Longline gear is fished directly on the bottom and is held in position by anchors attached to one or both ends of the mainline. Following a suitable “soak” time, the line is then hauled back onto the vessel, the fish are removed from the hooks and gear rebaited and reset.

The total estimated catch (kilograms) for the sablefish (longline) 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 commercial fisheries representatives on the BC Marine Conservation Analysis (BCMCA) Human Use Data Working Group.
- Fisheries and Oceans Canada data providers.

### reviewer comments

- Generally reviewers wanted to see catch for longer time periods and closures that matched the time periods shown for the fishery.
- Display both fisheries on one map – no need to break up the datasets by trap and longline.

### caveats of use

- In the case of discrepancies, catch information from DFO takes precedence over commercial fisheries 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 89.5% 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.
- Closures illustrated 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](http://www.bcmca.ca/data) for more information.

### references

- BC Marine Conservation Analysis. *Workshop Report on Commercial Fisheries Data Review*. March 2010. [www.bcmca.ca/document-library](http://www.bcmca.ca/document-library)
- Fisheries and Oceans Canada. *Annual Integrated Fisheries Management Plans*. [www-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/MPlans.htm?&lang=en](http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/MPlans.htm?&lang=en)
- Robb C.K., K.M. Bodtker, K. Wright and J. Lash. “Commercial fisheries closures in marine protected areas on Canada’s Pacific coast: The exception, not the rule.” *Marine Policy* (2010), doi:10.1016/j.marpol.2010.10.010
- The 2008 Amended IFMP for groundfish is available at: [www-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/plans08/2008\\_Groundfish\\_IFMP\\_Complete\\_Amendment\\_12.pdf](http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/plans08/2008_Groundfish_IFMP_Complete_Amendment_12.pdf)

**BCMCA Atlas**  
**Commercial Fisheries**  
**Sablefish (longline) 1996 - 2004**

**Legend**

**Kilograms of Sablefish Caught by Longline**

- 90 - 70,000 (92.76%)
- 70,001 - 140,000 (5.01%)
- 140,001 - 210,000 (1.3%)
- 210,001 - 280,000 (0.56%)
- 280,001 - 350,000 (0.37%)
- 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 89.5% of the data from this fishery that meet confidentiality requirements (minimum 3 vessels reporting).
- Longline and trap closures obtained from the Mar. 8, 2008-Feb. 20, 2009 Integrated Fisheries Management Plan and from the 2008 Fisheries Notices to Oct. 2, 2008.

**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

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.

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