

## Commercial Fisheries – Schedule II

### description

The Schedule II fishery involves a fishing privilege given to all commercial vessel-based licence eligibilities as part two of their licence conditions. Species caught in this fishery include lingcod (*Ophiodon elongatus*), spiny dogfish (*Squalus acanthias*), skates, sole, flounder, tuna, sturgeon, smelt and Pacific cod (*Gadus macrocephalus*). A vessel based limited entry licence category “C”, party based (issued to a person or company) category “FC”, or any vessel based licence, is authorized to commercially harvest Schedule II – Other Species.

Lingcod and dogfish are the primary species caught under the authority of the Schedule II privilege. The management of those fisheries, considered two of seven distinct commercial groundfish sector groups in the Integrated Fisheries Management Plans, are set by area and include opening times and total allowable catch (TAC). Fisheries and Oceans Canada (DFO) has initiated the regulatory process to create a separate Z licence for dogfish and lingcod, which will likely be pulled out of the Schedule II privilege by 2013. Pacific cod are managed by trip limits set at 100 pounds per trip, and skate are managed through seasonal and permanent closures in addition to monthly catch limits per vessel. Sole and flounder management includes seasonal and permanent closures with no limits on landed catch.

Lingcod have a long history of exploitation as a food fish, starting with First Nations as early as 5,000 years ago. Spiny dogfish, one of fourteen shark species in BC, were fished commercially as early as 1870, and spiny dogfish liver and body oil was used extensively for industrial lubricants and a source of Vitamin A. Since 1975, spiny dogfish have been sought after as a source of food for both European and Asian markets.

Since 2003, 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. As part of integration, bycatch of rockfish (any species) is permitted when fishing for and retaining spiny dogfish.

Schedule II – Other Species may be harvested by hook and line gear (longline, handline, jig and troll) with the exception of lingcod, for which fishing with longline gear is not permitted. 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. Small vessels typically use handline gear (rods and reels) to harvest rockfish species. Trollers are easily recognized, and move slowly through the water while deploying six to eight stainless steel fishing lines with numerous lures attached. Each line is attached to a pole by way of a pulley and may have up to 80 lures attached to it. The type and arrangement of lines and lures vary according to each fishery.

The total estimated catch (kilograms) for the Schedule II 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 Schedule II 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.)

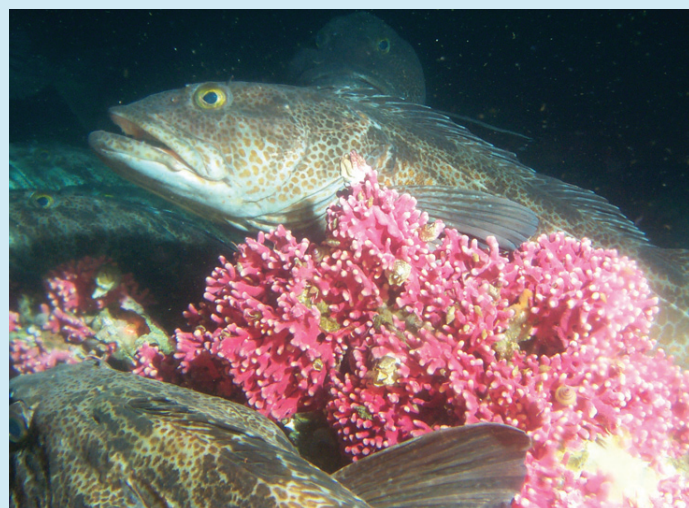


PHOTO: VICTORIA O'CONNELL, ALASKA DEPARTMENT OF FISH AND GAME.

### 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 collected

- 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.
- There have been dramatic changes in current fishery areas compared to the years the dataset represents (e.g. areas have been re-opened). For example, any data obtained from 2006-2009 would look very different, showing a shift into Barkley Sound from Nootka Sound that occurred after the rockfish conservation areas (RCAs) were established in 2004 and the rest of Barkley Sound opened up. Much of the west side of Haida Gwaii is also now fished.
- The map does not reflect areas where dogfish are known to be present but not currently fished due to market conditions. The International Pacific Halibut Commission Standardized Stock Assessment Survey might show this better.
- The high percentage of restricted data means this map poorly reflects the extent of the fishery. It would be valuable to show a presence or absence of use where areas do not meet the confidentiality requirements.
- Groundfish integration in 2006 resulted in a fundamental shift for specific fisheries such as dogfish, lingcod and rockfish. The move to IVQs and creation of Rockfish Conservation Areas also created fundamental shifts in people's behaviour. These management actions will likely have had a significant impact on fishing patterns. It is important to note that the data shown on the map are pre-IVQ, pre-groundfish integration, and pre-RCA closures so are unlikely to represent current catch or catch locations.

### caveats of use

- The map illustrates the cumulative catch of all Schedule II fisheries over multiple years. Fisheries occur at different times for different species.
- 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 70.9% 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. Bodtke, 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 can be accessed here: [http://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**  
**Schedule II 1996 - 2004**

**Legend**

**Kilograms of Schedule II Species Caught**

- 139 - 65,000 (95.04%)
- 65,001 - 130,000 (4.41%)
- 130,001 - 195,000 (0.14%)
- 195,001 - 260,000 (0.14%)
- 260,001 - 325,000 (0.28%)

Year-round Schedule II Closures

**Notes:**

- The number in brackets in the legend above is the percent of polygons that fell into the given category.
- This map represents 70.9% of the data from this fishery that meet confidentiality requirements (minimum 3 vessels reporting).
- 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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