

Rockfish

Adult rockfish inhabit ranges within subtidal, shelf, or slope benthic habitats and have periodic high recruitment events, typically associated with favourable environmental conditions. Of the approximately 40 species of rockfish (*Sebastes* spp.) and thornyheads (*Sebastolobus* spp.) in BC, 26 are harvested in the Outside ZN fishery.¹

The Outside ZN Fishery

“ZN” is a fishing licence category. Within this category, most of the PNCIMA region is managed under the “Outside ZN” fishery. Queen Charlotte Strait and Johnstone Strait are managed under the “Inside ZN” fishery. The Outside ZN fishery is a groundfish fishery and the only directed commercial fishery targeting rockfish by hook and line gear. Rockfish are caught under a ZN licence. Outside ZN licences are personal licences that must be designated to a fishing vessel each year upon licence issuance.¹ The ZN fishery provides different annual fishing options that licence holders must select prior to fishing, which differ in the aggregates of rockfish species targeted.^{2,3}

In 2010, following a three-year pilot program designed by the Commercial Industry Caucus with input from the Commercial Groundfish Industry Advisory Committee, the Commercial Groundfish Integration Program was implemented. It includes 100 percent at-sea and dockside monitoring; individual vessel accountability for retained and released catch, individual vessel quotas (IVQs) and reallocation of IVQs between vessels and fisheries to cover catch of non-targeted species.³

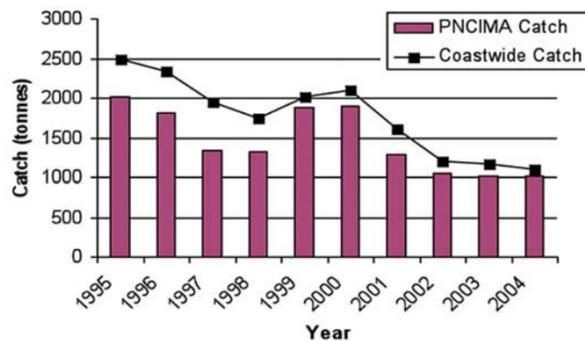
The Outside ZN hook and line fishery uses longlines, handlines, and rod and reel/jig. In longline fishing, a line containing hundreds of baited hooks is set along the ocean floor. It consists of lengths or “skates” to which shorter lines with baited hooks are attached. Average skate length is approximately 550 m and often two to six skates are linked. Following a certain “soak” time, the line is hauled back onto the vessel, fish are removed and gear is re-baited and reset.⁴

Management measures are described using units known as Groundfish Management Areas (GMAs) and Pacific Fishery Management Areas (PFMAs). Of the eight GMAs identified for the Pacific, seven are entirely or partially within PNCIMA (see table).

GMAs within PNCIMA, as defined by PFMAs/Subareas

GMA	PFMAs and/or Subareas
3D	Subareas 27-2 to 27-11, 127-1 and 127-2
4B	Area 13 and Subareas 12-1 to 12-13, 12-15 to 12-48
5A	Areas 11, 111 and Subareas 12-14, 27-1, 127-3, 127-4 and 130-1
5B	Areas 7 to 10, 108 to 110 and Subareas 102-3, 107-2, 107-3, 130-2 and that portion of 130-3 that lies south of the parallel passing through 51 degrees, 56 seconds north latitude
5C	Areas 6, 106 and Subareas 2-1 to 2-19, 102-2 and 105-2 and 107-1
5D	Areas 3 to 5, 103, 104 and Subareas 1-2 to 1-5 and 101-4 to 101-10, 102-1 and 105-1
5E	Area 142 and Subareas 1-1 and 2-31 to 2-100 and 101-1 to 101-3 and that portion of Subarea 130-3 that lies north of the parallel passing through 51 degrees, 56 seconds north latitude

Hook and Line ZN Catch (tonnes)



Fishery Effort

The fishery effort map, using four by four km cells, represents 63.09 percent of the data available for PNCIMA after screening for confidentiality (minimum three vessels reporting per grid cell). The five data classes presented on the map are based on groupings inherent in the data such that similar values are grouped and differences between classes are maximized (Natural Break or Jenks statistical method). In PNCIMA, cumulative Outside ZN effort (soak time in hours) is generally distributed over near shore reef habitats. In addition, groundfish fishery effort appears to be concentrated in shallow waters immediately seaward of the mainland inlets.² The proximity of fishing to the coast makes the gridded data appear to overlap land, an artifact of applying the data to a standard grid. The fishing data were layered above the land only to make the data more visible. The majority of the coastwide Outside ZN fishery occurs within PNCIMA (see graph).

The data on the map may not represent current effort, as they predate the establishment of Rockfish Conservation Areas, IVQs and groundfish integration. Rockfish are also currently caught in new areas such as the 100 fathom edge of Queen Charlotte Sound / Moresby Gulley.⁵

Map data are viewable online through DFO Mapster at www-heb.pac.dfo-mpo.gc.ca/maps/maps-data_e.htm
 1 Lucas, B.G., Verrin, S. and Brown, R. (Editors). 2007. Ecosystem overview: Pacific North Coast Integrated Management Area (PNCIMA). Can. Tech. Rep. Fish. Aquat. Sci. 2667: xiii + 104p.
 2 MacConnachie, S., Hillier, J. and Butterfield, S. 2007. Marine use analysis of the Pacific North Coast Integrated Management Area. Can. Tech. Rep. Fish. Aquat. Sci. 2677: viii + 188p.
 3 Fisheries and Oceans Canada. 2010. Pacific region integrated fisheries management plan: groundfish, February 21, 2010 to February 20, 2011, 185 pp.
 4 Hillier, C.J., Gueret, D., Butterfield, S. and Pellegrin, N. 2007. Fish harvesting activities within the proposed Gwaii Haanas National Marine Conservation Area. Can. Manuscr. Rep. Fish. Aquat. Sci. 2803: vi + 65p.
 5 British Columbia Marine Conservation Analysis Project Team. 2011. Marine atlas of Pacific Canada: a product of the British Columbia Marine Conservation Analysis. Available from www.bcmca.ca (Accessed March 2011).

About 65% of the rockfish and thornyhead species in BC are harvested in the Outside ZN fishery

