

**Halibut**

Pacific halibut (*Hippoglossus stenolepis*), are commonly found throughout BC, particularly along the continental shelf and slope from relatively shallow waters to depths of at least 1000 m. Mature halibut have been known to travel long distances (up to 3200 km), but most tend to stay on the same grounds and make only seasonal migrations, from shallow feeding areas in the spring to deeper spawning grounds in the winter.<sup>1</sup>

**The Pacific Halibut Fishery**

The Pacific halibut fishery is a groundfish fishery. 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. The program includes 100 percent at-sea and dockside monitoring; individual vessel accountability for all catch, both retained and released; individual vessel quotas (IVQs) and reallocation of these quotas between vessels and fisheries to cover catch of non-directed species.<sup>2</sup> Other management measures include licence limitations, establishment of total allowable catches, closures based on time and area, and vessel trip limits.<sup>1</sup>

The Pacific halibut fleet consists of a variety of vessels, both in size and purpose; they fish halibut as well as other licences such as sablefish, salmon, herring and rockfish. Other species retained in the Pacific halibut commercial fishery include rockfish (*Sebastes spp.* and *Sebastolobus spp.*) and lingcod (*Ophiodon elongates*). Halibut fishing is conducted using hook and line/longline gear, either conventional or snap-on. Fishing activity by longline gear involves setting a long ground-line that has hundreds of baited hooks along the ocean floor. The longline consists of a strong synthetic rope made up in lengths, or "skates", to which shorter lines with baited hooks are attached. The average length of a single skate is approximately 550 m and often two to six skates are linked to make up a "string of gear". Following a suitable "soak" time, the line is hauled back onto the vessel, fish are removed from the hooks and gear is re-baited and reset.<sup>3</sup>

Management measures are described using units known as Species/Stock Management Areas (SMAs), Groundfish Management Areas (GMAs) in the case of groundfish fisheries, and Pacific Fishery Management Areas (PFMAs). Of the eight GMAs identified for the Pacific, seven exist either entirely or partially within PNCIMA (see table).

**Fishery Effort**

The fishery effort map, using 25 by 25 km gridded data, represents 100 percent of the data available for PNCIMA after screening for confidentiality (minimum three vessels reporting per grid cell).<sup>4</sup> The five data classes presented on the map are based on natural 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, the distribution of fishing effort (number of skates) for halibut is variable. Fishing effort for halibut was measured by quantity of skates used during fishing events (standardized skate units are 554 m in length and consist of 100 baited hooks each). The cumulative halibut fishery effort is concentrated along the continental slope, particularly in areas off the northern and southern tips of Haida Gwaii as well as the northern tip of Vancouver Island. The halibut fishery effort is consistent with the known distribution of concentrations of adult halibut along the upper continental slope at depths between 230 and 460 m.<sup>3</sup>

The data displayed on the map may not represent current effort, as they predate the establishment of Rockfish Conservation Areas, IVQs and groundfish integration.<sup>5</sup>

Map data are viewable online through DFO Mapster at [www-heb.pac.dfo-mpo.gc.ca/maps/maps-data\\_e.htm](http://www-heb.pac.dfo-mpo.gc.ca/maps/maps-data_e.htm)  
 Material presented is drawn from the following literature reviews, which include primary references:  
 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 Fisheries and Oceans Canada. 2010. Pacific region integrated fisheries management plan: groundfish, February 21, 2010 to February 20, 2011, 185 pp.  
 3 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.  
 4 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.  
 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](http://www.bcmca.ca) (Accessed March 2011).

**The halibut fishery effort follows the distribution of adult halibut along the upper continental slope**

**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 |

