

Prawns

Prawns (*Pandalus platyceros*) are the largest of the seven commercially harvested species of shrimp in Canada's west coast waters.¹ Although adult prawns are mobile, they show limited migration. This results in hundreds of localized adult stocks.²

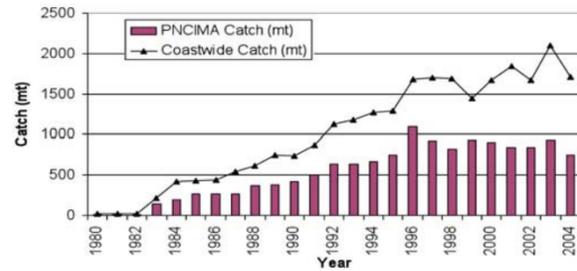
The Prawn Fishery

Prawns in the commercial fishery are caught in traps deployed on longlines at depths of 55 to 90 m and primarily on rocky bottoms. In the trap fishery, prawns are the primary target along with some harvesting of humpback shrimp (*Pandalus hypsinotus*) and coonstripe shrimp (*Pandalus danae*). Of the various trap designs, approximately 95 percent of commercial prawn fishermen use web or soft mesh traps. A single licence may fish a maximum of 300 traps on up to six ground lines. A licence may be "doubled up", a practice that involves two trap limits that are combined and fished from a single vessel, with a maximum of 500 traps on ten ground lines permitted.¹

The commercial prawn trap fishery is managed using a female spawner escapement index rather than a total allowable catch. Prawns are short-lived and their stocks are highly variable, so stock strength cannot be forecasted from the abundance of preceding adult stocks. The fishery is monitored and closes in an area when the number of spawning individuals falls below a predetermined level. As individual coastal areas close during the season, fishing fleets move and vessel effort becomes concentrated in the remaining open areas.² Management measures are implemented and communicated using Pacific Fishery Management Areas and Subareas (PFMAs).¹

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Prawn Catch by Year in PNCIMA



The trap fishery accounts for 98 percent of total prawn landings, the remaining two percent being shrimp trawl by-catch. Prawn catches in PNCIMA and coastwide are presented in the graph.³

Fishery Effort

The fishery effort map, using four by four km gridded data, represents 97.78 percent of the data available for PNCIMA after screening for confidentiality (minimum three vessels reporting per grid cell).³ 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, effort in this fishery represents the time in which the trap gear was in the water (calculated from the "set" and "hauled" times) in hours and is often referred to as "soak time".¹ Like many other invertebrate fisheries, in PNCIMA the prawn trap fishery is predominantly found along the inner coast where access, transport, and shipping for products are more readily available.³ The highest effort occurs in the mainland inlets of Johnstone Strait and the inlets of Haida Gwaii.

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.

Map data are viewable online through DFO Mapster at 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 Hillier, C.J., Gueret, D., Butterfield, S. and Pellegrin, N. 2007. Fish harvesting activities within the proposed Gwaii Haanas National Marine Conservation Area. Can. Manusc. Rep. Fish. Aquat. Sci. 2803: vi + 65p.
 2 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.
 3 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.



Prawn sampling. Photo: Jacob Joslin

