

## 2 Pacific North Coast Integrated Management Area

PNCIMA is one of five national Large Ocean Management Areas in Canada. It is the only area on the Pacific Coast that Fisheries and Oceans Canada (DFO) has selected for piloting a new approach to oceans governance, as called for in Canada's *Oceans Act*.<sup>1</sup>

### Boundaries

In accordance with the *Oceans Act*, the boundary of PNCIMA is the result of a mix of ecological considerations and administrative boundaries. Ecologically, the PNCIMA boundary represents the Northern Shelf ecoregion of the Pacific Ocean within Canadian jurisdiction.<sup>2</sup> Specifically, its boundary extends from the base of the continental slope in the west to the coastal watershed in the east (adjacent terrestrial watersheds are not included<sup>3</sup>). North to south, PNCIMA extends from the Canada-US border for Alaska to Brooks Peninsula on northwest Vancouver Island and Quadra Island in the south.<sup>1</sup> These boundaries include an area of approximately 102,000 km<sup>2</sup>, and roughly two thirds of the BC coast.<sup>3</sup>

Note that while the shallow waters found between Haida Gwaii and the mainland coast represent a distinctive oceanographic and geological feature within PNCIMA, they are considered a weak boundary within PNCIMA and more likely represent a substructure, meaning an ecological feature of a smaller scale than the broad ecoregions used in the management of large ocean areas.<sup>2</sup>



Hecate Cove.  
Photo: Steve Diggon

### Geography

In general, the coastline within PNCIMA is predominantly steep fjords carved into the granitic Coast Mountains that were created by the last of several glaciations about 12,000 years ago. Two large coastal watersheds that drain into PNCIMA include the Skeena and Nass, which are located in the interior plateau in the northeast portion of PNCIMA. These river systems contribute the largest freshwater and sediment sources within this portion of the coast.<sup>3</sup>

PNCIMA's semi-enclosed basin, varied bottom topography and freshwater input set it apart from other areas of North America's west coast. Bathymetric troughs and steep edges influence, and likely enhance plankton and fish production.<sup>1</sup> In addition, intersecting straits and channels provide a wide variety of exposures and habitats, while strong tidal mixing in the narrow passes and channels enhances productivity around the periphery.<sup>3</sup> This results in PNCIMA being home to a wide variety of marine flora and fauna. Many of the species and populations of organisms occupying PNCIMA do not extend southward beyond Brooks Peninsula.<sup>2</sup>

Climatically, PNCIMA is located in a transition zone; the dominant influence from the north is the down-welling Alaska Coastal Current and from the south is the upwelling of the California Current.<sup>1</sup> As part of the coastal temperate zone, PNCIMA is characterized by mild temperatures and high rainfall due to the Pacific Ocean's prevailing wind patterns and the effect of the coastal mountains.<sup>3</sup>

### Mapping

The accompanying map is intended to be a reference for the rest of the atlas. It displays the boundaries for most of the map data compiled for the atlas. The maps are intended to relay information relevant to PNCIMA; data in Alaskan waters are not displayed.

Several maps, such as those presenting commercial fisheries, have been clipped so that only data within PNCIMA are displayed, and are indicated as such, i.e. "PNCIMA Data". Other maps include data that were only generated within PNCIMA, such as Important Areas. Some maps, however, include data outside PNCIMA, respecting that administrative authorities, including DFO, and some features do not operate exclusively within PNCIMA. Marine areas outside of PNCIMA have been covered with a semi-transparent white "mask" which highlights the PNCIMA region yet enables information beyond the PNCIMA boundary to still be seen.

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 MacConnachie, S., J. Hillier and Butterfield, S. 2007. Marine use analysis of the Pacific North Coast Integrated Management Area. Can. Tech. Rep. Fish. Aquat. Sci. 2677: viii + 188p.  
 2 Powles, H., Vendette, V., Siron, R. and O'Boyle, B. 2004. Proceedings of the Canadian Marine Ecoregions Workshop. DFO Can. Sci. Advis. Sec. Proceed. Ser. 2004/016.  
 3 Johannessen, D.I., Macdonald, J.S., Harris, K.A. and Ross, P.S. 2007. Marine environmental quality in the Pacific North Coast Integrated Management Area (PNCIMA), British Columbia, Canada: a summary of contaminant sources, types and risks. Can. Tech. Rep. Fish. Aquat. Sci. 2716: xi + 53 p.

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