

**Pacific Salmon**

There are eight species of Pacific salmon (genus *Oncorhynchus*), six of which (sockeye, pink, chum, chinook, coho and steelhead) are commonly found on the west coast of North America. All but steelhead are targeted in commercial fisheries (see table).<sup>1</sup>

**Pacific salmon species targeted in Pacific commercial fisheries**

Common names	Scientific Name
Chinook (spring, tye, king)	<i>Oncorhynchus tshawytscha</i>
Coho (silver salmon)	<i>Oncorhynchus kisutch</i>
Sockeye (red salmon)	<i>Oncorhynchus nerka</i>
Pink (humpies)	<i>Oncorhynchus gorbuscha</i>
Chum (dog salmon)	<i>Oncorhynchus keta</i>

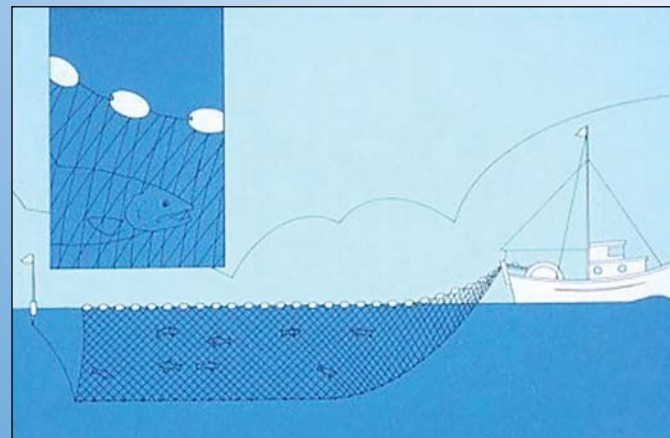
All six species of North American salmon are currently found in the freshwater and marine ecosystems of PNCIMA. PNCIMA is an important migration corridor, marine rearing area, and staging area for juvenile salmon migrating seaward and adults returning to their coastal watersheds of origin. PNCIMA is occupied for a variable period of time not only by the majority of salmon stocks originating from BC, but also by many populations originating from Washington, Oregon, and California.<sup>1</sup>

**The Salmon Gillnet Fishery**

Fisheries and Oceans Canada (DFO) regulates commercial salmon harvest rates through a system of fishing licences combined with seasonal-time and statistical-area restrictions to control catch and effort by gear type in specific areas or by sectors of the salmon fishery.<sup>1</sup>

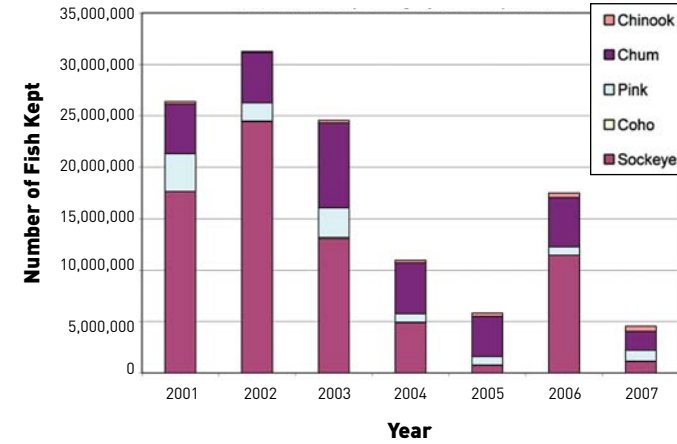
Commercial salmon licences are issued under one of the three gear types: troll, seine and gillnet. In 2003, commercial salmon fisheries coastwide included 1,406 gillnet boat licences on slightly more than 2000 active salmon vessels.<sup>2</sup>

Salmon gillnets are rectangular nets that hang in the water and intercept salmon that swim headfirst into the net and entangle their gill plates in the mesh. Variations in mesh size and the ways in which nets are suspended allow nets to



Gillnet. Illustration: DFO

**Salmon Gillnet Fishery Landings by Year and Species in BC**



selectively target certain species and sizes of fish. Gillnets are generally used near coastal rivers and inlets, and take approximately 25 percent of the commercial salmon catch.

Statistical-area restrictions are set by gear type; for the salmon gillnet fishery, all of Area C (Pacific Fishery Management Areas [PFMAs] 1 to 10) and a portion of Area D (PFMAs 11, 12, portion of 13 and 27) are within the boundaries of PNCIMA.<sup>2</sup>

**Fishery Effort**

Effort for the salmon gillnet commercial fishery is displayed on the accompanying map as boat days by salmon catch estimate areas (SCEAs).<sup>3</sup> SCEAs were created to provide a means to roll up and map the catch and effort resulting from annual openings for commercial salmon fishing. Because fleets fish at different times for different species, the SCEAs have been digitized to represent where

all openings took place for the given geographic unit. When a certain geographic area is consistently not opened for any gear type, for example a ribbon boundary around a creek mouth or protected area, that feature has been removed from the SCEA.<sup>4</sup>

Fishery effort data were merged from seven annual fishery data files, some of which had an unspecified amount of data removed for confidentiality (minimum three licences reporting per grid cell). 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).

The species and annual variation in gillnet landings over the period 2001 to 2007 are presented in the graph.<sup>4</sup>

Material presented is drawn from the following literature reviews, which include primary references:  
 1 Hyatt, K., Johannes, M.S. and Stockwell, M. 2007. Appendix I: Pacific salmon. In Ecosystem overview: Pacific North Coast Integrated Management Area (PNCIMA). Edited by Lucas, B.G., Verrin, S. and Brown, R. Can. Tech. Rep. Fish. Aquat. Sci. 2667: vi + 55 p.  
 2 DFO. 2008. Integrated fisheries management plan, salmon, Northern BC: June 1, 2008 – May 31, 2009. 86 pp + Appendices.  
 3 A boat day represents any portion of a day on which a boat has gone out to fish for salmon.  
 4 Sean MacConnachie, Fisheries and Oceans Canada. March 2009. Metadata for GIS shapefile "SCEA\_GN\_2001\_07".

