

## Basic Information

*This section contains basic information about the dataset, suitable for a minimal metadata entry.*

**Title:** Important Areas for Fish in Pacific North Coast Integrated Management Area

**Dataset ID:** ia-fish-pncima

**Quality Control:** Check Required

**Summary:** This layer details Important Areas (IAs) relevant to key fish species in the Pacific North Coast Integrated Management Area (PNCIMA). This data was mapped to inform the selection of marine Ecologically and Biologically Significant Areas (EBSA). Experts have indicated that these areas are relevant based upon their high ranking in one or more of three criteria (Uniqueness, Aggregation, and Fitness Consequences). The distribution of IAs within ecoregions is used in the designation of EBSAs.

Canada's Oceans Act provides the legislative framework for an integrated ecosystem approach to management in Canadian oceans, particularly in areas considered ecologically or biologically significant. DFO has developed general guidance for the identification of ecologically or biologically significant areas. The criteria for defining such areas include uniqueness, aggregation, fitness consequences, resilience, and naturalness. This science advisory process identifies proposed EBSAs in Canadian Pacific marine waters, specifically in the Strait of Georgia (SOG), along the west coast of Vancouver Island (WCVI, southern shelf ecoregion), and in the Pacific North Coast Integrated Management Area (PNCIMA, northern shelf ecoregion).

Initial assessment of IA's in PNCIMA was carried out in September 2004 to March 2005 with spatial data collection coordinated by Cathryn Clarke. Subsequent efforts in WCVI and SOG were conducted in 2009, and may have used different scientific advisors, temporal extents, data, and assessment methods. WCVI and SOG IA assessment in some cases revisits data collected for PNCIMA, but should be treated as a separate effort.

Other datasets in this series detail IAs for birds, cetaceans, coral and sponges, geographic features, invertebrates, and other vertebrates.

Though data collection is considered complete, the emergence of significant new data may merit revisiting of IA's on a case by case basis.

This package also includes project documentation and tech reports relevant to the IA process and its role within the selection of EBSAs.

**Maintainer Email:** Joanne.Lessard@dfo-mpo.gc.ca

**Cite this data as:** Cathryn Clarke, Ken Cooke, Doug Hay, Bruce McCarter, Jake Schweigert, Alan Sinclair, Tom Thierrault, and David Welch. 2005. Important Areas for Fish in Pacific North Coast Integrated Management Area. Published Mar 27, 2019. Data distributor: Joanne Lessard, Marine Spatial Ecology Section, Fisheries and Oceans Canada, Nanaimo, BC.

**Start Date:** 2004-09-01

**End Date:** 2005-03-31

## Contact Information

*This section contains contact information for the data creator and program manager.*

**Data Creator:**

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**Program Manager:**

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**General**

*General metadata compatible with the Canada Open Data metadata standard.*

**Topic Category:** Biota

**Date Completed:** 2005-03-31

**Date Published:** 2019-03-27

**Status:** Completed

**Update Frequency:** Not Planned

**Dataset Level:** Series

**Keywords (GoC Thesaurus):** environmental quality, ecology, environmental planning, marine ecosystems, fish

**Science**

*This section contains metadata specific to the Science branch at DFO.*

**Science Keywords:** british columbia, ia, queen charlotte basin, queen charlotte sound, ebsa, pncima, important areas

**Theme:** Coastal Species or Ecosystem

**Methods:** Researchers with expertise for key fish taxa drew polygons on paper map to denote Important Areas for species that met a priori criteria. The experts' hand-drawn polygons were heads-up digitized using

ArcView 3.2 on the 50,000 Canadian Hydrographic Service (CHS) coastline watershed basemap. Hand-drawn polygons were clipped using the PNCIMA boundary polygon provided by OHEB-GIS unit. The layers of individual experts were shared among all the experts for the species grouping. Experts were asked to provide confirmation and to check for accuracy and completeness. Any changes requested by the experts were performed and again returned to the experts for vetting.

The experts consulted were: Ken Cooke (hake), Doug Hay (eulachon, herring), Bruce McCarter (herring), Jake Schweigert (herring), Alan Sinclair (halibut, lingcod, Pacific cod, pollock, rockfish, sablefish, sole), Tom Thierrault (herring), and David Welch (salmon, green sturgeon).

The dataset was updated in 2019 to conform to MSEA's GIS Hub publication standards. The PNCIMA IA data series was split into taxonomic themes (birds, cetaceans, coral and sponges, fish, geographic features, invertebrates, and other vertebrates). The Check Geometry tool was used to validate each layer.

This package also includes project documentation and tech reports relevant to the IA process and its role within the selection of EBSAs.

**Data Sources:**

Source: Paper maps, March 2005, by Ken Cooke, Doug Hay, Bruce McCarter, Jake Schweigert, Alan Sinclair, Tom Thierrault, and David Welch.

Source: Map hard copy and PDF file obtained from Alan Sinclair. Map no. 9: 'Groundfish Spawning and juvenile rearing areas' from 'Response to Information Requirement No. 3 of the West Coast Offshore Hydrocarbon Exploration Environmental Assessment Panel' was heads-up digitized using ArcView 3.2 to create a layer for each of the species. Layer was clipped using the PNCIMA boundary layer provided by HEB-GIS unit. The map was vetted with the appropriate expert in Groundfish Stock Assessment Division.

**Scripts or Software Routines:** Data was digitized from paper maps in ArcView 3.2, using polygons which were hand-drawn upon maps by experts.

**Spatial Data Quality:** Location data is typically digitized from paper charts and snapped to geographic features such as coast-lines. Accuracy of locations designated is limited by expert knowledge of available research at time of publication.

**Positional Accuracy:** Positional accuracy is dependent on the expert responsible for polygon creation. Polygons were hand-drawn on PNCIMA-scale maps so boundaries at different scales may not be accurate.

**Attribute Accuracy:** This information is a one-time summary of the available expert knowledge.

**Logical Consistency:** All features are rated by standard criteria across the PNCIMA IA's, though multiple experts are used for different IA's and ratings are selected based upon their knowledge. Experts and their knowledge may change between the PNCIMA, WCVI and SOG IA's. Rating schema were adhered to in differing degrees between these series. The delineating and rating of IA's is dependant upon the experts cited. The experts themselves may have used a variety of study methods and literature to determine what areas are important to given taxa. Less information may have been available for particular taxa at time of publication. More easily studied taxa (eg those occurring in more accessible geography and water depth) may have better data.

**Completeness:** This information is a one-time summary of the available expert knowledge.

**Absence Data:** No Absence Data

**Uncertainties:** Criteria scores are subjective ratings assigned by experts based upon their understanding of their best available data.

**Use Restrictions:** This data was created to inform the selection of EBSAs. Not for navigational purposes. Criteria may be unsuitable for other forms of assessment.

**Change History:**

**Date of Change    Description of Change**

**Species Code List:**

- 148 - THALEICHTHYS PACIFICUS (EULACHON), Targeted
- 224 - MERLUCCIIDAE (FAMILY) (MERLUCCID HAKES), Targeted
- 614 - HIPPOGLOSSUS STENOLEPIS (PACIFIC HALIBUT), Targeted
- 467 - OPHIODON ELONGATUS (LINGCOD), Targeted
- 222 - GADUS MACROCEPHALUS (PACIFIC COD), Targeted
- 228 - GADUS CHALCOGRAMMUS (WALLEYE POLLOCK), Targeted
- 389 - SEBASTINAE (SUBFAMILY) (ROCKFISHES), Targeted
- 107 - ONCORHYNCHUS (GENUS) (PACIFIC SALMON AND NATIVE TROUT), Targeted
- 455 - ANOPILOPOMA FIMBRIA (SABLEFISH), Targeted
- 599 - PLEURONECTIDAE (FAMILY) (RIGHT EYE FLOUNDERS), Targeted

**Species Data:**

<b>Code and Name</b>	<b>Age Data</b>	<b>Obs Type</b>
148 - THALEICHTHYS PACIFICUS (EULACHON)		Targeted
224 - MERLUCCIIDAE (FAMILY) (MERLUCCID HAKES)		Targeted
614 - HIPPOGLOSSUS STENOLEPIS (PACIFIC HALIBUT)		Targeted
467 - OPHIODON ELONGATUS (LINGCOD)		Targeted
222 - GADUS MACROCEPHALUS (PACIFIC COD)		Targeted
228 - GADUS CHALCOGRAMMUS (WALLEYE POLLOCK)		Targeted
389 - SEBASTINAE (SUBFAMILY) (ROCKFISHES)		Targeted
107 - ONCORHYNCHUS (GENUS) (PACIFIC SALMON AND NATIVE TROUT)		Targeted
455 - ANOPILOPOMA FIMBRIA (SABLEFISH)		Targeted
599 - PLEURONECTIDAE (FAMILY) (RIGHT EYE FLOUNDERS)		Targeted

**References:**

Reference: Clarke, C.L., and G. S. Jamieson. 2006a. Identification of Ecologically and Biologically Significant Areas in the Pacific North Coast Integrated Management Area: Phase I - Identification of Important Areas. 2678: 97 p.

Reference: Clarke, C.L., and G. S. Jamieson. 2006b. Identification of Ecologically and Biologically Significant Areas for the Pacific North Coast Integrated Management Area: Phase II - Final Report. 2686: 32 p.

Reference: DFO. 2004. Identification of Ecologically and Biologically Significant Areas. DFO Canadian Science Advisory Secretariat Ecosystem Status Report 2004/006: 15 p.

Reference: DFO. 2007. Guidance Document on Identifying Conservation Priorities and Phrasing Conservation Objectives for Large Ocean Management Areas. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2007/010.

Reference: Jamieson, G.S. and C. Levesque. 2014. Identification of Ecologically and Biologically Significant Areas on the West Coast of Vancouver Island and the Strait of Georgia, and in some nearshore areas on the North Coast: Phase II – Designation of EBSAs. DFO Can. Sci. Advis. Sec. Res. Doc. 2014/101: 36 p.

**Collaboration:** David Welch was associated with Kinamata Research.

**Confidentiality:** Not Protected