

## Tenures – Aquaculture

### description

The management of Crown land and coastal and marine resources plays a pivotal role in expanding and diversifying the economy, sustaining the environment, and fostering the health and well-being of residents and communities in British Columbia. Crown land is typically, and most commonly, referenced in regards to the province's terrestrial land base, and constitutes 94% of that land base, but it also applies to submerged lands (i.e., those lands covered by water) including tidal lands (i.e., the shoreline). Provincial Crown land includes the seabed floor of inland waters whereas the Federal Crown land extends over the seabed floor in offshore areas, as well as in designated ports and federal protected areas. The federal and provincial governments have not agreed where to place the boundary between inland and offshore areas, although there are agreements regarding jurisdiction in some areas (e.g., Strait of Georgia).

The tenure map series depicts provincial tenures only. Provincial agencies issue tenures for a variety of uses that may include everything from marine-based renewable energy development to commercial tenures for guide outfitters.

This atlas page depicts the distribution of marine-based finfish and shellfish aquaculture sites throughout BC as of January 2008. Aquaculture is the act of farming finfish, shellfish and aquatic plants in both freshwater and saltwater environments. Privately owned and operated aquaculture facilities culture several salmon and shellfish species, primarily on ocean foreshore or deepwater sites. In 2007 BC produced 54.2% of Canada's aquaculture production value. The final product value of output (the aggregate value of final products sold into the wholesale market) was calculated to be \$522.6 million for finfish (the majority of which is salmon farming) and \$37.1 million for shellfish (Fisheries and Oceans Canada, 2009). As of December 2010 Fisheries and Oceans Canada (DFO) is responsible for the licensing and regulatory oversight for all aquaculture operations. The provincial government continues to remain responsible to issue tenures where aquaculture operations take place.

BC is the world's fifth largest producer of farmed salmon (Price Waterhouse Coopers, 2009). In British Columbia salmon farms are located over a wide area: the Sunshine Coast, the west coast of Vancouver Island, the Discovery Islands, the Broughton Archipelago and the central coast around Klemtu. Atlantic salmon is the dominant species farmed, with chinook and coho salmon and sablefish also farmed in marine waters.

Shellfish aquaculture consists of a large number of small operators, with 324 operators on 513 tenures in 2012. The majority of shellfish production in BC takes place in Baynes Sound (between Denman Island and Vancouver Island), around Cortes Island and in Okeover Inlet (Sunshine Coast). The majority of the shellfish aquaculture production, by value, relies on the cultivation of Pacific oysters and Manila clams, although mussels and scallops are also produced.



FINFISH AQUACULTURE PHOTO: CARRIE ROBB



SHELLFISH AQUACULTURE PHOTO: BARB WATSON

### data sources

- Province of British Columbia, BC Ministry of Agriculture and Lands (via the Integrated Land Management Bureau)

### data resolution

- 1:20,000

### date compiled

- November 2012

### reviewers

An earlier version of this atlas page was reviewed by:

- Finfish: BC Salmon Farmers Association, Creative Salmon, Mainstream Canada
- Shellfish: BC Shellfish Growers Association
- BC Salmon Farmers Association

### reviewer comments

- Finfish:
  - The quality of the information is OK, but the map of tenure locations is not precise enough to be used for purposes like determining lease boundaries, tenure sizes, or navigation.
  - First Nation Territories on the maps would aid in future consultation with First Nation groups, especially in areas of overlap.
  - Proponents for many tenure types are required to compensate for potentially lost (fish) habitat upon approval of a tenure and before use of the site can occur. The habitat that is created as part of this zero net loss of habitat principle should be accounted for in BCMCA's work.
    - This comment was submitted prior to the 2013 changes to the Fisheries Act that revised the definition of habitat.
- Shellfish:
  - Existing spatial information accurately depicts the current locations of shellfish aquaculture tenures.
  - Current spatial information represents a "snapshot in time". Industry sees significant potential for expansion into new tenures in the future and wishes the maps could also include areas of high importance for potential new shellfish tenures.
  - Attribute information associated with the spatial data provides important context.
  - The map does not include other industry infrastructure such as wharves, ports, marinas, transportation corridors, etc that are important to the shellfish farming sector.
  - Maps that differentiated between deepwater, subtidal, intertidal, and upland leases would be useful.
  - It is important to note that shellfish aquaculture can be compatible with marine conservation and some recreational marine uses
  - Shellfish farming and conservation need not be mutually exclusive.

### caveats of use

- Tenures are issued and expire over time; the latest release of this data from the BC Land and Resource Data Warehouse should be gathered before use.
- Not all sites where tenures are issued are active at any given time. The BC Ministry of Agriculture reports that between 70 and 85 finfish farms are active at any given time (Ministry of Agriculture and Lands, 2010).
- The BC Aquaculture sector has made significant investment into securing tenures and for future farming expansion. No end date can be specified for use of data in marine planning as issued tenures may or may not be active at any point in time. Industry recommends reviewing the most current tenure information from the Provincial Agency in conjunction with industry consultation.
- Tenures are displayed as points on the accompanying map. Data was provided as polygons. The footprints of the tenures from the source polygons are too small to be visible at the scale of mapping used.
- Additional information is available in the database associated with the tenures, including size, location, legal lot description, owner and type of tenure.
- The Fisheries Act was revised in 2013 to focus the definition of habitat on areas that support fisheries. Habitat related policies are currently being revised to be consistent with the new definition.
- Recommended date of expiry for use of these data in a marine planning context: None provided.

### map, feature data and metadata access

- Visit [www.bcmca.ca/data](http://www.bcmca.ca/data) for more information.

### references

- BC Ministry of Agriculture and Lands. *The Facts On B.C. Aquaculture*. April 12, 2010. [www.gov.bc.ca/fortherecord/aquaculture/eq\\_environment.html?src=/environment/eq\\_environment.html](http://www.gov.bc.ca/fortherecord/aquaculture/eq_environment.html?src=/environment/eq_environment.html)
- Fisheries and Oceans Canada. *Socio-Economic Impact of Aquaculture in Canada*. (Report prepared by Gardner-Pinfold Consulting Economists Ltd.) 2009. [www.dfo-mpo.gc.ca/aquaculture/ref/aqua-es2009-eng.htm](http://www.dfo-mpo.gc.ca/aquaculture/ref/aqua-es2009-eng.htm)
- Price Waterhouse Coopers. *Profile of the BC Farmed Salmon Industry in 2008*. (Report prepared for the British Columbia Salmon Farmers Association). 2009. [http://salmonfarmers.khamiabosting.com/sites/default/files/2008\\_IndustryProfile\\_PWC.pdf](http://salmonfarmers.khamiabosting.com/sites/default/files/2008_IndustryProfile_PWC.pdf)

For information on the economic impact of the aquaculture sector see:

- BC Ministry of Environment. *British Columbia's Fisheries and Aquaculture Sector, 2007 edition*. [www.env.gov.bc.ca/omfd/reports/BC-Fisheries-Aquaculture-Sector-2007.pdf](http://www.env.gov.bc.ca/omfd/reports/BC-Fisheries-Aquaculture-Sector-2007.pdf)
- BC Ministry of Environment. *The 2008 British Columbia Seafood Industry Year in Review, 2010*. [www.env.gov.bc.ca/omfd/reports/YIR-2008.pdf](http://www.env.gov.bc.ca/omfd/reports/YIR-2008.pdf)

# BCMCA Atlas

## Tenures Aquaculture

### Legend

#### 2012 Tenures

- Finfish
- Shellfish

Note:  
- Tenures change over time. These tenures are current as of November 2012.

#### Data Sources:

Province of British Columbia

#### Base Data:

ESRI Base Data, GeoBase, GeoBC, NOAA, Natural Resources Canada, USGS, Washington State Government

#### Thematic Data:

For more information on data sources and methods please refer to the facing page to this map

Projection: BC Albers NAD83

0 25 50 75 100 125 150

Kilometres

0 25 50 75

Nautical Miles

1:4,250,000 \*

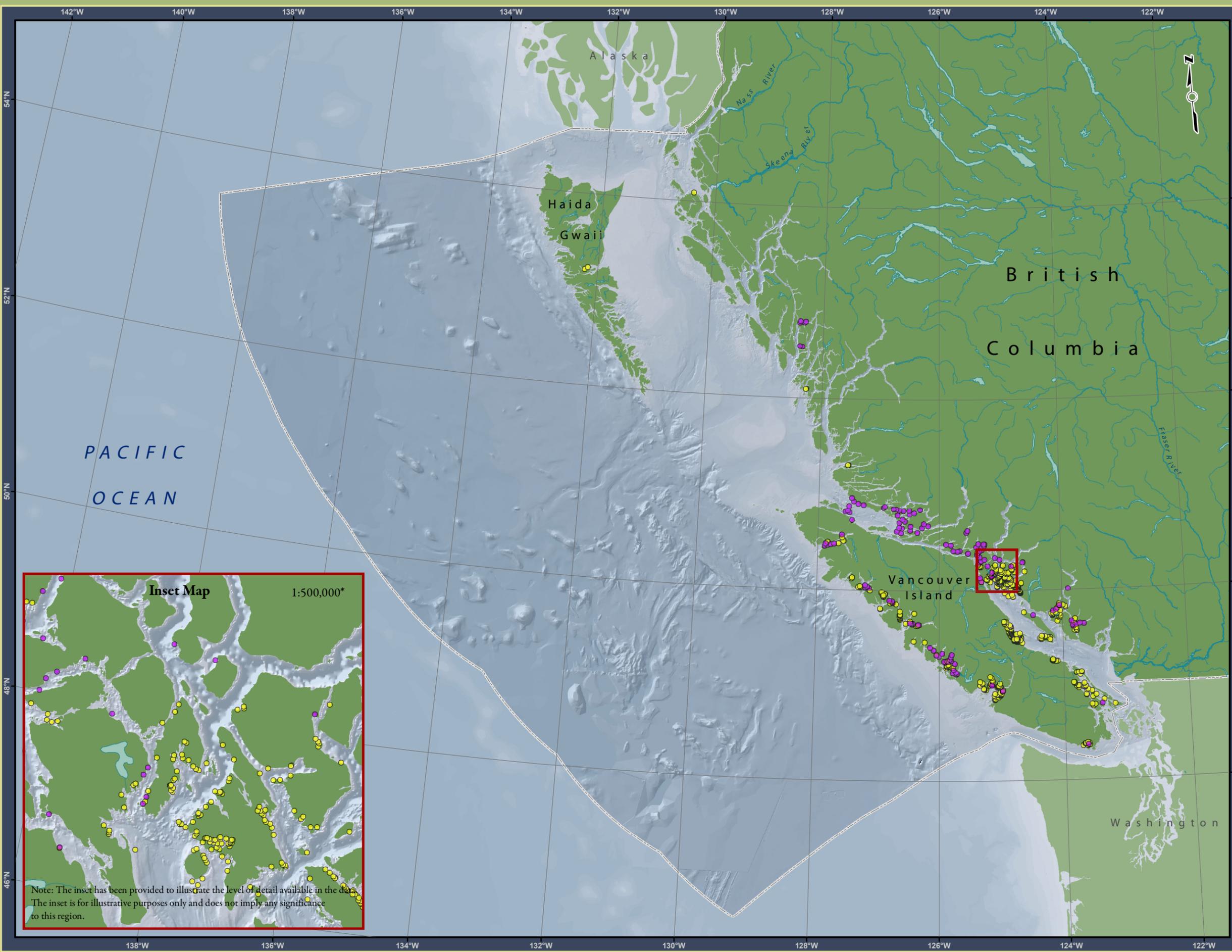
\* Written scales are approximate and are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

April 19, 2013



PACIFIC  
OCEAN

Alaska

Haida

Gwaii

British  
Columbia

Vancouver  
Island

Washington

**Inset Map** 1:500,000\*

Note: The inset has been provided to illustrate the level of detail available in the data. The inset is for illustrative purposes only and does not imply any significance to this region.