



Aboriginal Aquaculture Association Shellfish Facts **Scallops**



A traditional First Nations shellfish harvesting basket

Scallops

Scallop farming is seen by a growing number of First Nations as an economic development opportunity which can provide revenue, training and employment for their communities. Currently there are First Nations involved in the early stages of scallop aquaculture development in BC.

Cultured Scallops:

The Japanese/weathervane scallop (*Patinopecten yessoensis x caurinus* - Latin name)

Also known as the Pacific scallop – it is the primary scallop species farmed in British Columbia.

The Pacific scallop is a cross between the native Weathervane scallop and the Japanese scallop. It was developed for culture by Island Scallops Ltd. of Qualicum, BC.

The Japanese scallop was first introduced to BC waters in 1985.

BC Culture Shellfish Production 2008			
	Harvest '000 tonnes	Landed Value \$ millions	Wholesale \$ millions
Cultured			
Scallops & Other	0.6	2.5	5.0
Total Shellfish	7.2	15.7	27.0

Source: <http://www.env.gov.bc.ca/omfd/fishstats/graphs-tables/farmed-shellfish.html>
Visit site to view shellfish production statistics from 1999 - 2008

Where are scallops farmed:

British Columbia produces over 75% of Canada's farmed scallops. However this level of production is still low compared to production from clam and oyster farming.

Scallops are farmed in the Georgia Strait, and on the west coast of Vancouver Island. Scallops are also farmed on the Central/North Coast. They can be grown anywhere where there is a constant cool temperature of nutrient-rich water.



What do they look like:

The Japanese/weathervane scallop grow to 22 cm (9 inches) in diameter but are usually harvested in BC at a size of 8-10 cm (3 - 4 inches).

The top shell has flattened ribs, is purple-grey with the interior area dark purple. The bottom shell is rounded with white, thick-curved ribs.

What do scallops feed on:

Scallops are filter feeders. They feed on tiny plants called plankton, and other organic material, by drawing water in through an opening called a siphon.

Water and nutrients flow in through the incoming siphon. The gills then trap the food inside the shell, while allowing the scallop to filter out the water through a second outgoing siphon.

Scallops require a fresh, clean aquatic environment, and protection from predators. This includes protecting their equipment and netting from fouling by organisms and marine life that accumulate on the nets and trays, and compete for food.





How are scallops farmed:

Scallop farming begins with the production of scallop larvae. All scallop larvae in BC come from hatchery broodstock.

The larvae are reared in hatchery tanks of circulating seawater and are fed algae until they are ready to set.

In British Columbia setting is done at the Island Scallops hatchery in Qualicum. The setting larvae attaches to seed collectors - fine mesh bags (called spat bags) that are filled with a collecting material. The spat bags, filled with 1000 seed per bag, are then transferred to the growing site for nursery rearing.

At the nursery site the spat bags containing the scallop spat are fastened to downlines attached to a longline. Up to eight bags may be attached to each downline. The scallops continue to grow in the spat bags until mid-summer when they reach a size of 1.0 - 1.5 cm and detach from the collecting material.

Due to the scallops low tolerance for fluctuations in water temperature and salinity, juvenile scallops in the early post-set stage are most prone to mortality. It is important that the spat at the nursery site are placed deep enough to avoid any changes in temperature and salinity, yet still have access to adequate nutrients.

The scallops are graded and transferred to pearl nets (a plastic coated frame surrounded by plastic mesh) and are re-suspended to downlines.

Grow-out Phase:

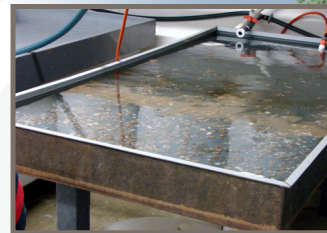
When the scallops reach 3 cm size (1.5 in.) they are removed from the pearl nets and are ready for grow out. The scallops are graded again. They are then either ear-hung directly on a downline, or are grown out on sunken longlines in suspended lantern nets - up to 12 tiers long, which can be a double set of nets.

Scallops grown in suspension systems take six months to three years to reach market size depending on the final product and growing conditions.

Harvesting scallops:

Mature scallops are harvested with crew-operated harvest vessels.

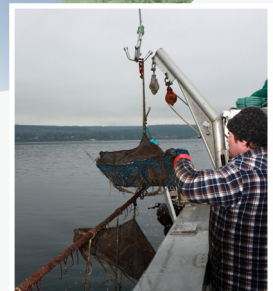
Crew hoisting a lantern net, used in the grow-out phase, out of the water.



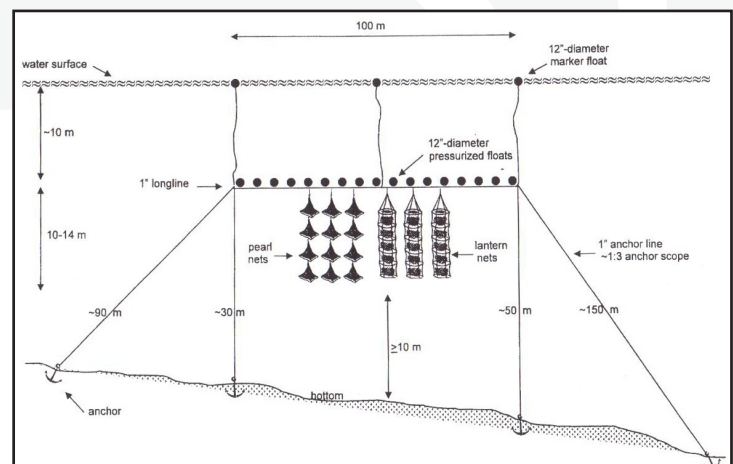
A hatchery facility with trays of scallops in circulating seawater

Longline System:

- A length of line anchored at both ends
- Flotation is attached and various types of culture systems are hung on the line.
 - Lantern net
 - Pearl net
 - Ear-hanging scallops



Pearl nets



Profile view of culture system showing submerged longline, floats, and anchoring systems

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