

# NIWA for aquaculture developments in ...

# M u s s e l



**NIWA is able to assist marine farmers in all aspects of production.**

**Services include:**

**Setup Services**

- Preparing feasibility studies
- Advising on site and species selection
- Providing environmental impact assessment reports
- Supplying environmental measuring and monitoring systems
- Designing hatchery and seawater systems
- Sourcing research and development funding

**Ongoing Services**

- Environmental monitoring and water-quality testing
- Identifying and controlling parasites, diseases, and pests
- Continuing research and development
- Overseeing in-house research and development programmes
- Training in specialist aquaculture programmes
- Providing the latest aquaculture information and news

[www.niwa.co.nz](http://www.niwa.co.nz)

See *life cycle of a Mussel* overleaf

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# Life cycle of a Mussel

Mussels are the largest component of the aquaculture industry in New Zealand and contributes about 60% of the total aquaculture revenue. The industry is currently experiencing rapid growth, and currently contributes over \$170 million in exports to the New Zealand economy.

NIWA has reared the greenshell™ mussel (*Perna canaliculus*) through to settlement. NIWA is working closely with the mussel industry in a number of key projects, such as:

- sustainability and carrying capacity of mussel farms around New Zealand
- ecological surveys of new farm sites
- mussel settlement, and retention technology
- mussel hatchery technology
- collection of wild spat (newly settled mussels on the algae)

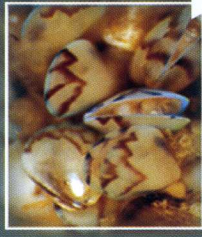
NIWA staff have been working with the mussel industry since its inception and continue to work closely with the industry around New Zealand.



The late-stage larva, which has developed from a fertilised egg, Larvae free-swim for about 30 days before settling on the sea floor.



At settlement, the larva attaches to seaweed and transforms (metamorphoses) into a juvenile mussel.



The newly settled mussels are now quite mobile and can move off the seaweed.



Settled juvenile mussels at 2-3 months, attached to a mussel farm dropper (rope).



Mussels ready for harvesting at about 18-24 months. Farmed mussels hang from a dropper, connected to a backbone rope and mussel buoy.

Adult mussels release their eggs and sperm into the water, where external fertilisation takes place. The sex of the adults is identified by their colour: females are orange and males are white.

