



Ministry of Marine Resources
TU'ANGA O TE PAE MOANA
COOK ISLANDS

Giant clams of the Cook Islands

Let's restore a national treasure!

The harvesting of giant clams, or *pā'ua*, is part of our Cook Islands culture. But harvesting needs to be done sustainably in order for us to continue to enjoy this delicacy.



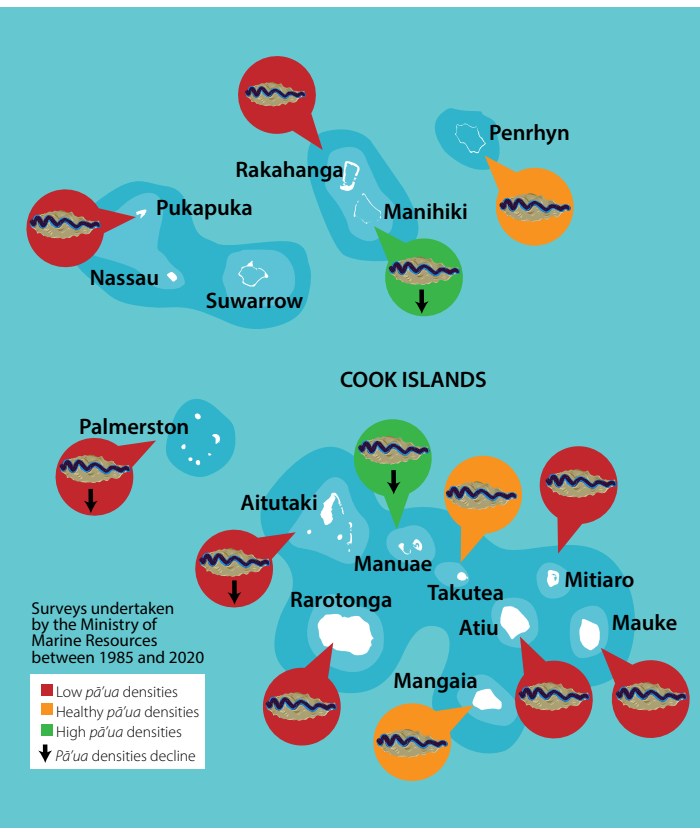


Pā'ua populations are depleted in the Cook Islands

Due to overharvesting and warming seawater temperatures, *pā'ua* populations have been severely depleted. If this continues, it is likely that *pā'ua* densities may decrease to a point where the clams can no longer successfully reproduce.

The only remaining places where *pā'ua* can still be found in high densities are:

- the uninhabited island of Manuae; and
- the island of Manihiki where the island council has banned the export of *pā'ua*.



Protect the giant clam from extinction

In order for us to continue harvesting *pā'ua*, *pā'ua* stocks need to be properly managed. The most effective way to increase the number of clams in the lagoons is to manage existing stocks and their habitat, and allow them to repopulate the lagoon naturally.

How can you help?



Respect *rā'ui* and marine reserves where giant clams are protected.



Take only what you need to eat.



Respect, and make sure you are familiar with, other islands' specific rules and regulations on harvesting *pā'ua*, such as harvest quotas or size limits.



Respect island-specific and international export restrictions.

No more international exports

The Ministry of Marine Resources believes that the continued export of *pā'ua* and/or *pā'ua* products from the wild is detrimental to their survival within the Cook Islands.

All *pā'ua* species are listed in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The export of *pā'ua* to CITES-listed countries such as New Zealand, Australia and the United States requires the Cook Islands government to undertake a non-detriment finding (NDF) report, which states that the harvest will not cause further harm to wild populations.

As a result of *pā'ua* population declines in the Cook Islands, the government is no longer able to certify the international export of wild-harvested clams as being sustainable.



Giant clams thrive in shallow tropical reefs

Like other bivalves (clams and other shellfish with two shells), *pā'ua* feed by filtering plankton (small drifting plants and animals) from the seawater. Some giant clams can also obtain energy through a process called photosynthesis through the microalgae that live within their flesh. Because the microalgae require sunlight, most giant clams usually live and grow in water that is clean, clear and shallow.

Giant clams need each other to survive

Giant clams take a long time to mature and produce offspring

Pā'ua are very slow growing. It can take 8-10 years for an elongate giant clam just to reach a size of 14 cm when it is considered sexually mature and can reproduce. *Pā'ua* first mature as males, after

which they act as both males and females, meaning that they are able to produce both eggs and sperm. About 30 minutes after releasing sperm, an individual clam releases its own eggs, thereby preventing the eggs from being fertilised by its own sperm.

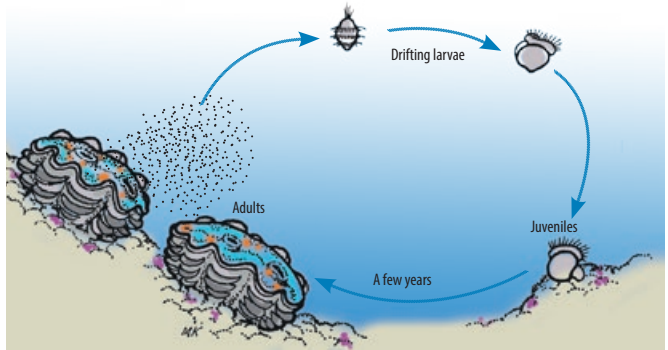
Giant clams need high densities to reproduce, meaning lots of them in a small area

Pā'ua are “broadcast spawners”, meaning that they release eggs and sperm that will meet in the sea. As they cannot move, if there aren't many giant clams around, this fertilisation is less likely to occur. Very few larvae will survive to the juvenile stage and only a few juveniles will become adults.

An important role in the ecosystem

Pā'ua play important roles in reef ecosystems.

- When there are many *pā'ua*, the shells contribute to the reef structure and can help build up a *motu* or islet.
- Their flesh represents a source of food for several predators, such as large fish, turtles, rays and humans.
- *Pā'ua* shells and mantles are home to unique organisms like sponges, shrimps and crabs.
- When they spawn, *pā'ua* eggs, sperm and larvae become food for other marine life.





Pā'ua species in the Cook Islands

Three native species of *pā'ua* are found in the Cook Islands:

- The most common species is the **elongate giant clam** (*Tridacna maxima*). The greatest densities are often found in shallow, rocky reef areas.
- The largest species is the **fluted giant clam** (*Tridacna squamosa*), which can grow up to 40 cm in width. The fluted giant clam is often found on forereefs.
- The recently identified **Noah's giant clam** (*Tridacna noae*) is similar in shape and size to the elongate giant clam but its mantle (the colourful fleshy part of the clam) has teardrop-shaped spots along the edge. This clam is found on both reef flats and forereefs.



A Elongate giant clam

Tridacna maxima

B Fluted giant clam




Tridacna squamosa

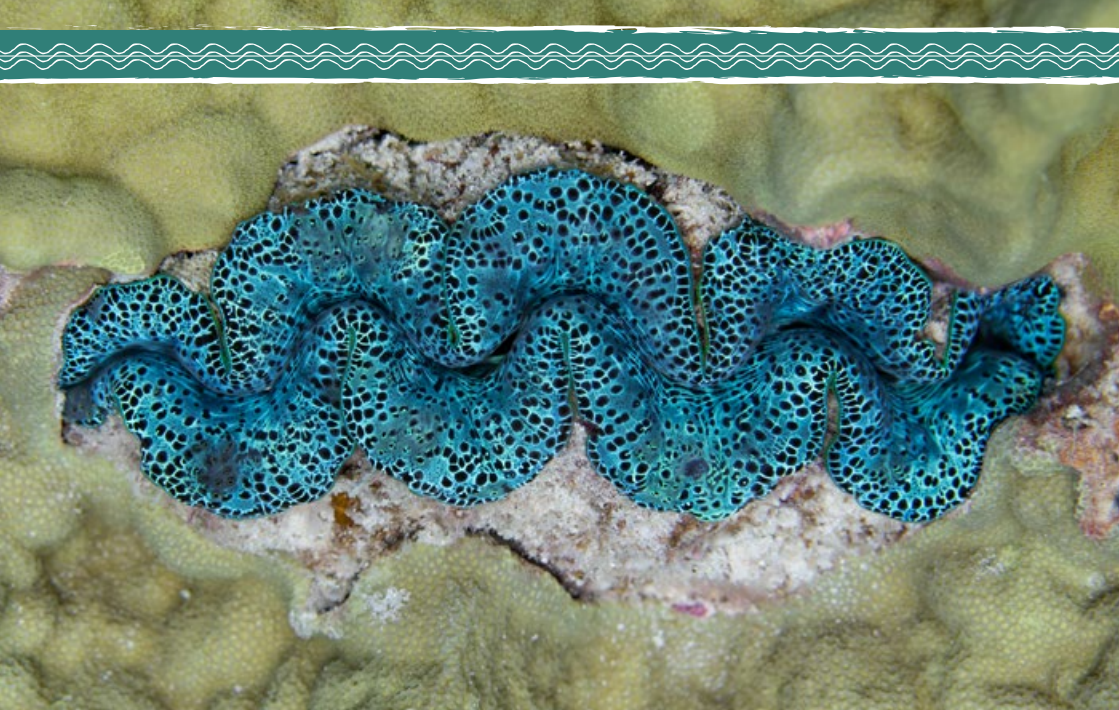
C Noah's giant clam

Tridacna noae

Three non-native species of *pā'ua* have been introduced to the Cook Islands to relieve the harvesting pressure on native *pā'ua*. These species, though, are not successfully reproducing in Cook Islands' waters.

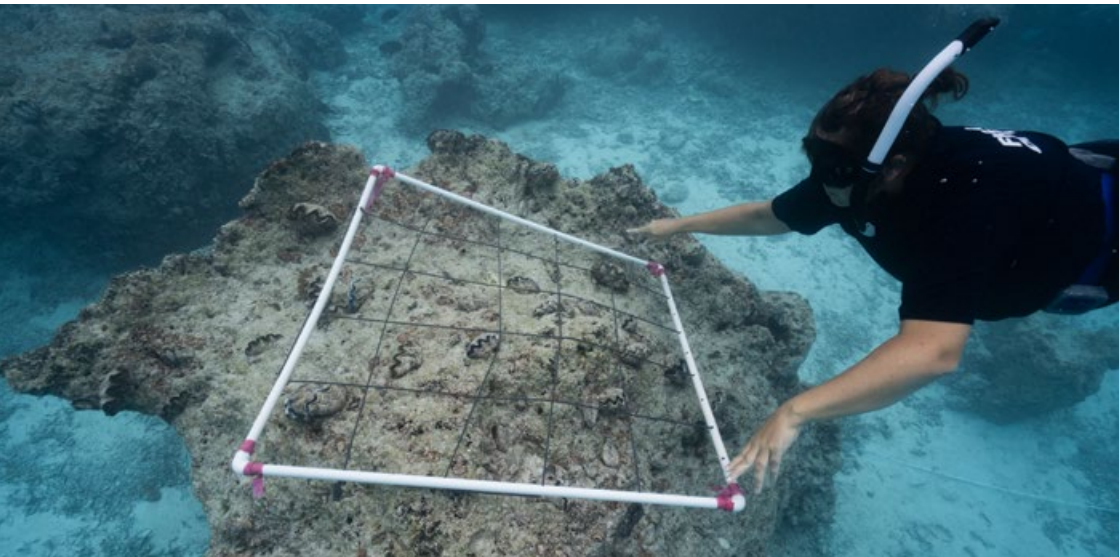


-  Elongate giant clam
-  Noah's giant clam
-  Fluted giant clam



Cook Islands *pā'ua* need our help.

The health of lagoons, reefs and our fishing culture all depend on our ability to make wise decisions. The future of *pā'ua* depends on us!



Ministry of Marine Resources

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