

Cultured Pearl Industry in the Cook Islands 2000



Two species of pearl oyster are found in the Cook Islands

- The small pearl oyster or *pipi* (*Pinctada maculata*) is widespread throughout the Cook Islands. On Penrhyn the oyster is harvested for its natural golden *pipi* pearl.
- The black-lipped pearl oyster or *parau* (*Pinctada margaritifera*) is abundant in the Manihiki and Penrhyn lagoons. In the wild they are found attached to coral reefs in depths of 5 to 60 metres. In the past, divers collected the pearl oysters, and the shell (mother-of-pearl) were exported to be made into products such as buttons. However, these days, black-lipped oysters are more valuable if kept alive and cultured for their black pearls.

Farming pearl oysters requires drilling the oysters and hanging them on ropes set in the lagoon. The cultured black pearl actually begins as a small bead inserted or 'seeded' into the oyster. It takes about two years before the bead is coated as a black pearl. Many factors affect the success rate, but of 100 oysters seeded, typically only five will produce a high-quality round pearl.

Presently, there are about 110 pearl farms on Manihiki and 1.5 million adult oysters being cultured. On Penrhyn there are about 100 pearl farms and about 200,000 cultured oysters.

Official statistics report that annual production is currently valued at NZ\$ 5 million. However, the true figures may be much higher and the Ministry of Marine Resources estimates that it is probably more than NZ\$ 10 million. Black pearls account for about 85 per cent of the export industry and the economic value of this industry is second only to tourism. Pearl shell (mother-of-pearl) is also exported (see table).



There are important environmental factors to consider when pearl farming. Because pearl oysters filter up to 20 litres of water per hour, they must be kept well spaced apart to ensure there is an adequate supply of food in the water. If not, the oysters become starved and growth is poor, which may cause oyster disease. In countries elsewhere, disease outbreaks have caused whole industries to collapse.

In fact, it takes a healthy oyster to produce a good pearl, so it is in the interest of farmers to maintain good environmental conditions.

The lagoon areas that can be used for pearl farming are restricted to those with depths that SCUBA divers can safely operate at; that is a maximum of about 30 metres. On Manihiki, the area that can be occupied by pearl farms is about 30 square kilometres. Presently, about one third of this area is being utilised. On Penrhyn, it is estimated that 110 square kilometres can be farmed. Presently, only about one per cent of this area is being used for pearl farming.

Values of pearl and mother-of-pearl exports from the Cook Islands (official statistics).

Year	Pearl exports (NZ\$ Millions)	Mother-of-pearl exports (NZ\$ Millions)
1994	4.2	0.10
1995	3.8	0.02
1996	1.5	0.41
1997	3.0	0.23
1998	5.0	0.02

N.B. Mother-of-pearl includes trochus shell.



Supply of young oysters (spat)

An important factor in the expansion of pearl farming is the supply of young oysters (spat). On Manihiki, bunches of plastic or rope are hung in the water and the spat settle naturally on and attach themselves to these. As more adults are being farmed, more spat is produced and the success of this technique has improved. However, on Penrhyn spat collection using this method is not yet successful and most farmed oysters are still collected from the wild by free divers.

The Island Council of each island is responsible for issuing farming permits to those who wish to set up a pearl farm. These are only available to individuals who are descendants of the island. The permits are subject to renewal and the Island Council collects a small fee (and in some cases a royalty) from farmers.

The Ministry of Marine Resources has various roles in the pearl industry, the most important being the technical input it provides to the national government and Island Councils. It also conducts environmental monitoring of the Manihiki and Penrhyn lagoons, which consists of water quality testing, oyster health and growth trials, disease surveys, and pearl farm mapping and census. The Ministry also operates a pearl oyster hatchery on Penrhyn that, in its first year of operation, provided more than 50,000 juvenile oysters to pearl farmers. The Ministry of Marine Resources is encouraging the spread of pearl farming to Palmerston, Aitutaki and Pukapuka.

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