



Notes on trochus in Pohnpei

R.D. Gillett¹ and J.P. Gaudechoux²

Trochus does not occur naturally in Pohnpei. As in many other parts of Micronesia, trochus was transplanted by the Japanese to these areas between the two World Wars. Table 1 shows the transplants to Pohnpei as recorded from available documentation. Table 2 shows that Pohnpei Island has also been the source of trochus for transplants to other islands in Pohnpei State.

The management regime for trochus in Pohnpei has usually consisted of closed seasons and minimum size restrictions. Historically, the trochus harvesting season has been during the month of August. This is for two reasons: this is a period of

calm seas and the money earned from the August harvest is convenient for use during Liberation Day festivities in September.

According to the Chief of Marine Resources Development, the peak period of trochus harvesting was in the mid-1960s, with more than 300 tonnes harvested in a single year.

In 2001, the only trochus harvested was at the small Sapwvatik (Ngatik) Island, 100 miles south of Pohnpei. It was planned to harvest 20 tonnes, but only 6 tonnes were collected in the six-hour open season. Trochus were sold unprocessed

Table 1. Trochus introductions to Pohnpei

Year of translocation	Origin	Details	Source
Before 1927	Palau	Unsuccessful attempt	McGowan 1957
1930	Palau and Yap	Japanese Govt. and private companies transferred shells to many islands including Sapwafik, Kapingamarangi and Nukuoro	McGowan 1957
1939	Truk	Skipjack vessel transported shells	Asano & Inenami 1939
1939	Palau	6745 shells transferred	McGowan 1957

Table 2. Trochus transplants from Pohnpei to other islands in the Federated States of Micronesia

Year of translocation	Destination	Details	Source
1959	Kosrae	500 live trochus released at 13 locations	Gawel 1982
1989	Nukuoro and Kapingamarangi	500 shells transferred to each island	Gawel pers comm Curren pers comm
1990 (?)	Pingalap	125 one-inch trochus transplanted	Gawel pers comm

1. PO Box 3344, Lami, Fiji

2. SPC Information Section, B.P. D5, 98848 Noumea Cedex, New Caledonia

(USD 1.05/pound) to one Japanese exporter (Mr Nakata, NOMAD Corp.). The meat was extracted and both shells and meat were sent to Okinawa for further processing. The Japanese exporter indicated a desire to harvest the remaining 14 tonnes of the quota.

No harvest took place in 2000. In 1999, 121 tonnes were harvested in Pohnpei Island in eight hours. There was reportedly only one buyer. In 1994 and 1992, 129 tonnes (in 9 hours) and 40 tonnes (in 6 hours) were harvested respectively. All of these harvests took place on Pohnpei Island.

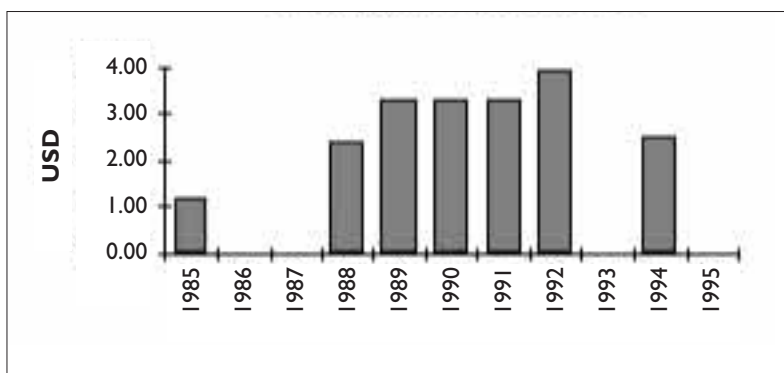


Figure 1. Average Pohnpei trochus prices

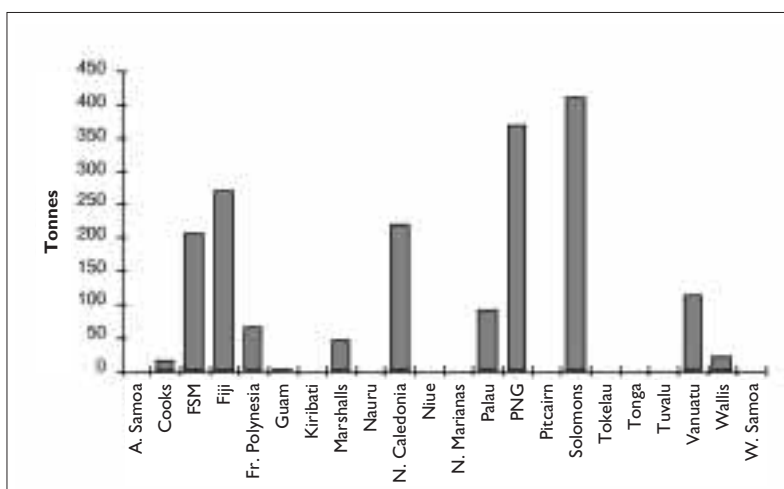


Figure 2. Average annual trochus harvest in the Pacific Island region [extracted from: World Bank (1997) Aspects of the industry, trade and marketing of Pacific Island trochus. Discussion Paper Series No. 2. The World Bank, Washington, D.C.]

As in many Pacific Islands countries, there have been attempts to process trochus into button blanks. Discussions with Pohnpei government officials and a former processor indicate there have been three operations in Pohnpei as shown in Table 3.

Discussions with knowledgeable individuals indicate that they feel that the non-feasibility of the trochus factories in Pohnpei were due to two factors: 1) the high cost of trochus, and 2) long periods without trochus supplies

Trochus prices during the period of operations of the factories are shown in Figure 1. When these prices are compared with that of other Pacific Island locations, it becomes apparent (contrary to the expressed opinions of Pohnpei trochus processors) that Pohnpei had one of the lowest buying prices in the region (World Bank 1997). It is interesting to note that the price in Pohnpei was highest at a period when the price in the other countries was low. The presence of several off-island buyers that year (R. Croft pers comm) is the most probable reason and highlights the importance of domestic buying competition.

Table 3. Trochus factories in Pohnpei

Company name	Started	Closed	Comment
AHPW Inc.	1985	1995	Based in Pohnpei, 6 blanking machines; recently 13 to 14 workers; produced finished buttons except during 1995; last processed in April 1995; some years did not operate
M.L. Cho Co.	1989	1990	Based in Pohnpei; 10 blanking machines
unknown			Based in Pohnpei; Korean ownership; purchased 12 blanking machines in early 1990s; machines never used

The other cited reason for the demise of the trochus processing operations is long periods without trochus supplies. Factory records (B. Arthur pers comm) show a local processor, AHPW Inc., was completely without trochus for 80 months during its 10-year life, despite the fact that the average harvest from the island was 73 tonnes annually.

In Pohnpei there has been a long tradition of attempts at increasing trochus abundance by reseeded reefs. Because of the substantial amounts of public funds involved, it may be useful to point out the results of two studies on the subject of trochus enhancement:

Ianelli and Clarke (1995) state:

In Micronesia, the stock replenishment through the release of hatchery reared juvenile trochus has been of questionable effectiveness. Hatcheries in general are mitigation measures for poor management practices or habitat degradation. In many cases the number of juveniles released has had an indeterminate or unrelated effect on subsequent fishable stock levels. Thus with the technical effectiveness still unproven, the economic effectiveness cannot be addressed. Experience especially in Palau and to a lesser extent in Pohnpei and Kosrae, suggests that the overtaxed capital and human management resources of typically small marine resource divisions are best allocated to alternative methods of trochus management, as opposed to being spent on a trochus hatchery for re-seeding purposes. There is an intrinsic appeal in artificial rearing, in that it is demonstrative proof that "something is being done".

World Bank (1997) states:

Re-seeding should be considered experimental at this time and not a proven method for increasing trochus abundance. Although the

on-going testing in this area should be encouraged, it is important to note that there has yet to be documented evidence that re-seeding increases fishery production. It is therefore premature to suggest that re-seeding is effective. Nevertheless, there are numerous examples in the Pacific Islands where this technique is being implemented as though it is a proven management tool.¹

References

- Asano, N. and Y. Inenami. 1939. Trochus transplantation to Ponape and Jaluit. South Seas Fisheries News, volume 3, no.5, [in Japanese]. English translation by M. Izumi (1987). Summary translations of trochus research from South Seas Fisheries News, 1937–1939. FAO/UNDP Regional Fishery Support Programme, Document 87/2, Suva.
- Gawel, M. 1982. Marine resources development planning for tropical Pacific Islands. University of Hawaii, Urban and Regional Planning Programme, Unpublished Thesis.
- Ianelli, J. and R. Clarke. 1995. Current paradigms in trochus management and opportunities to broaden perspectives. Background Paper 15A, Workshop on Management of South Pacific Inshore Fisheries, South Pacific Commission, Noumea.
- McGowan, J. 1957. Trochus studies in U.S. Trust Territory. SPC Quarterly Bulletin, April 1957. South Pacific Commission, Noumea, New Caledonia.
- World Bank. 1997. Aspects of the industry, trade, and marketing of Pacific Island trochus. Discussion Paper Series No. 2. The World Bank, Washington, D.C.



1. Editor's note:

Readers should be mindful of the following issues:

- reseeded efforts with trochus juveniles in countries involved with such research are based on very small-scale trials using hundreds and, at most, a few thousand animals at any one trial. Only Australia has carried out larger-scale release of hatchery produced juveniles e.g. between 12,000 to 20,000 juveniles per site and the latest study in Australia using 12,000/site has indicated significant percentage enhancement although the overall numbers are still low (a summary of some of the results will be published in the next *Trochus Information Bulletin*);
- no commercial-scale release of juvenile trochus has been attempted by any countries. I am therefore of the view that the enhancement of the trochus fishery through very large-scale release of hatchery juveniles (on the order of 100,000 or multiples of 1000,000) is still untested and its effectiveness is still under investigation;
- stock enhancement is not limited to the use of hatchery-produced juveniles only. Broodstock reseeded through translocation has been spectacularly successful in some Pacific countries, and results indicate that reseeded, where successful, takes time for the process to take effect. It is a long-term process that cannot be achieved within a couple of years. Fisheries staff involved in stock enhancement work need to ensure that this message is given to the communities involved to avoid unrealistic and short-term expectations.