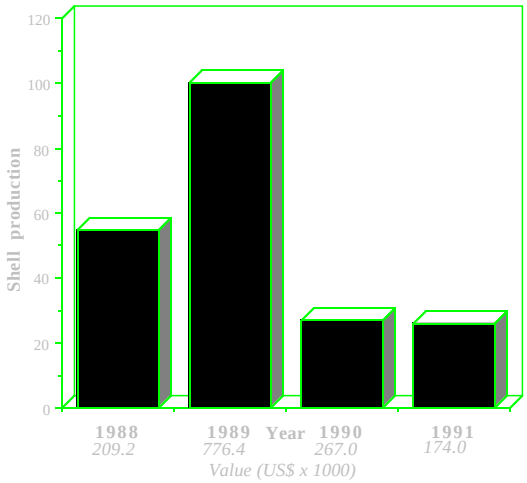


Trochus shell production (in tonnes) in South Sulawesi Province, Indonesia

The high price of shell per tonne in 1989 was certainly an incentive for increased fishing pressure here in South Sulawesi, and presumably also in Maluku.

However, the sharp decrease in total shell weight from 1989 to 1990 does indicate a serious reduction of stocks, especially considering that the value per tonne increased during this period.

This indication of serious reduction in stocks is reinforced by the ban on collection of trochus shell from 1992 onwards, by government regulation U.U. no. 5 / 1990. This ban includes other molluscs such as giant clams.

Recent trochus-related work by the SPC Coastal Fisheries Programme

by Dr Tim Adams,
Resource Assessment Section,
SPC, New Caledonia

Commonwealth of the Northern Marianas

The final fieldwork of the Inshore Fisheries Research Project took place in May 1994. A rapid reconaissance of the trochus resources of Saipan, Tinian and Rota was carried out by a team of marine resources staff from several countries, and options for future management of the resource were recommended to the Department of Natural Resources, Division of Fish and Wildlife.

Saipan was seeded with trochus in 1938, and trochus were probably transferred to Tinian and Rota in the early 1950s by local fishermen, alongside the transfer to Guam. No commercial harvesting of trochus has been allowed in the Northern Marianas since a period of particularly heavy exploitation at the end of the 1970s, and one of the aims of the survey was to see if a return to commercial harvesting was advisable.

The team, consisting of Tim Adams (SPC Fisheries Resource Adviser), Virgil Alfred (Marshall Islands), Ian Bertram (Cook Islands), Asap Bukurrou (Palau) and Tom Flores (Guam), together with a varying number of CNMI Fisheries Officers, ably led by Richard Seman, spent four weeks surveying the three islands and completing the recommendations.

Most of the work consisted of rapid area surveys using timed swims and transects, but a small mark-recapture experiment was performed on one small patch-reef to demonstrate the use of this method for estimating abundance.

Tinian and Rota, with their narrow fringing reefs, proved to be poor habitats for developing dense populations of trochus, and most of the shells were found on the Saipan barrier reef. At the time of the survey many of the adult trochus on the Saipan reef-top demonstrated gonadal ripeness by oozing green eggs when picked up, and there were considerable numbers of approximately one-year-old juveniles in shallow water, particularly on areas of the reef remote from shore.

Formally, as with all IFRP country surveys, the report and its recommendations are confidential to the commissioning Government until we are given the all-clear, but SPC can correspond on methodological or scientific aspects of the survey. At this stage, any requests for the text of the draft report itself should be addressed to the Chief of the Division of Fish and Wildlife (fax (670) 322 3386).

Other trochus seeding news

A trochus survey was carried out on the island of Lifou, New Caledonia, recently under the auspices of the Université française du Pacifique and ORSTOM. Although the main island of New Caledonia is a prolific trochus-producer, *Trochus niloticus* appears to be completely absent from the offshore Loyalty Islands, and Lifou was seeded with trochus in 1989.

This particular seeding is interesting because it involved the transfer of juvenile shells resulting from aquaculture onto a reef where trochus was not already present – something that has apparently not been attempted anywhere else (the experimen-

tal seedings of aquacultured trochus in Palau and Vanuatu have been carried out in environments where trochus is already endemic).

Unfortunately, the survey did not find any *T. niloticus* on the island and, although it is too early to say that the seeding has not been successful (the original seedstock would have to grow to sexual maturity before they could start proliferating, and would thus lag 2–3 years behind the seedings of adult shells that have taken place elsewhere), the experiment at this stage does not lend support to the concept of aquaculture as a management tool for natural trochus stocks.

Trochus production notes

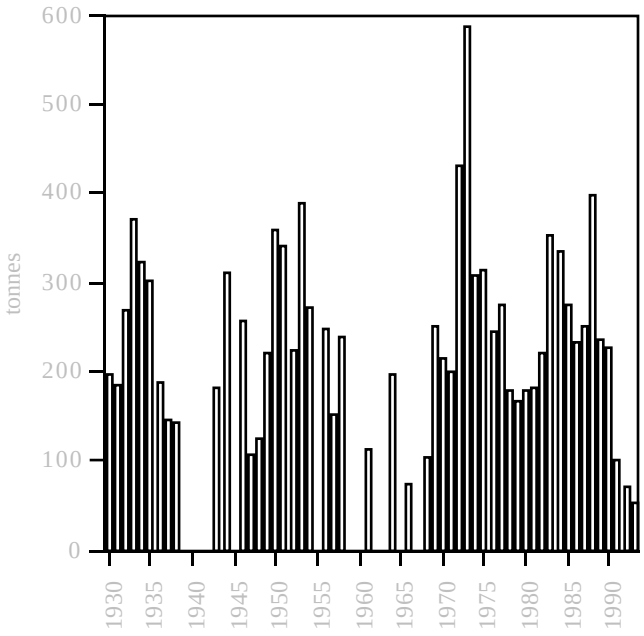
by Dr Tim Adams,
Resource Assessment Section,
SPC, New Caledonia

Little information is available at present (and we would be very grateful on updates from Trochus Special Interest Group participants), but few Pacific Islands appear to have exported trochus shell in 1993.

We hear that the 1993 export from *Palau* was only 7t or so, and this is apparently because the local price offered by private-sector buyers was the same as the 1992 price (Asap Bukurrou, pers. comm.). The fishing community had been expecting a substantial increase in the buying price for 1993 and Palauans were reportedly so disappointed with the US$1.50 per lb on offer that very few people actually went out harvesting in 1993. Palau supplied over 200t of trochus shell to Japan in 1992.

In *Fiji*, legal restrictions on the export of trochus shell have now been gazetted as part of a package of measures to try and protect local investment in button factories. Exports of raw trochus shell from Fiji dropped off again in 1993 (see histogram below), down to 52t from 71t in 1992 (Parmanand Singh, pers. comm.), and can now be expected to dry up altogether. The Customs-declared FOB export price per kilogram of trochus shell from Fiji in 1993 was F$11.84 (around US$8.30 per kg), up from F$9.94 (US$6.95) in 1992. The *Fiji Times* reports that the current local buying price for trochus shell at the factory gate is as high as F$13 per kg.

In the *Federated States of Micronesia*, there has been no trochus harvest in Yap State for the past three years (1991–93); the last harvest, in 1990, exported 40t. FSM State Marine Resources Divisions normally perform trochus stock assessments yearly and decide on a harvest season and quota on the basis of these surveys. Trochus is not native to the other states, but has been introduced at various locations over the years. Pohnpei has had the highest average yearly production (71t) of the states since the 1970s.



Trochus Exports from Fiji (raw trochus shell)