

4. PAPUA NEW GUINEA EXPORTS (SOURCE: BARRY D. KARE, SENIOR FISHERIES BIOLOGIST, NATIONAL FISHERIES AUTHORITY)

New trends have emerged from the renewed interest in exploitation of beche-de-mer in PNG. As species of higher commercial value have been over-harvested, fishermen have resorted to targeting less valuable species, such as deep-water redfish (*Actinopyga echinites*). Localised over-exploitation of beche-de-mer has been experienced in several locations, for example in the Western Province.

This fishery (Western Province) was closed in September 1993 for a year. Biological research was conducted during this period by an officer of National Fisheries Authority (NFA), currently studying for his Masters Degree at James Cook University. His initial findings were that the fishery was recovering at a very slow rate. Based on his

findings, a comprehensive Management Plan has been put in place and this will be implemented when the fishery opens sometime this year. Among other measures, the plan includes total allowable catch, time closures, licencing of exporters/buyers etc. Management plans for other fisheries are yet to be completed, for example Tigak fishery in the New Ireland province.

Export statistics are detailed below for the past three years and the first six months of 1995. Unfortunately, the records kept by our Export Branch are not kept species by species, so the data is a combination of species exploited in PNG. These species include, *Holothuria scabra*, *H. nobilis*, *H. fuscogilva*, *Thelenota ananas*, *Actinopyga miliaris*, *A. echinites* and *H. fuscopunctata*.

Month	Quantity (kg)	Value (Kina)
1992	419,452.30	3,409,738.71
1993	499,849.46	3,044,843.85
1994	207,111.23	1,845,061.29
1995*	122,788.51	1,199,649.23

For currency comparisons, K1 is approx. equal to A\$ 0.9663; this is after the devaluation of Kina in June/July 1995. The value of Kina to Australian Dollars before the devaluation was approx. A\$1.40.

Beche-de-mer fishery in Baja California

by German Perez-Plascecia

An artisanal sea cucumber fishery started work only recently in Baja California (Mexico) thus there is a great lack of adequate biological information and statistics of the captures about the only two species known to be harvested (see figure on page 14).

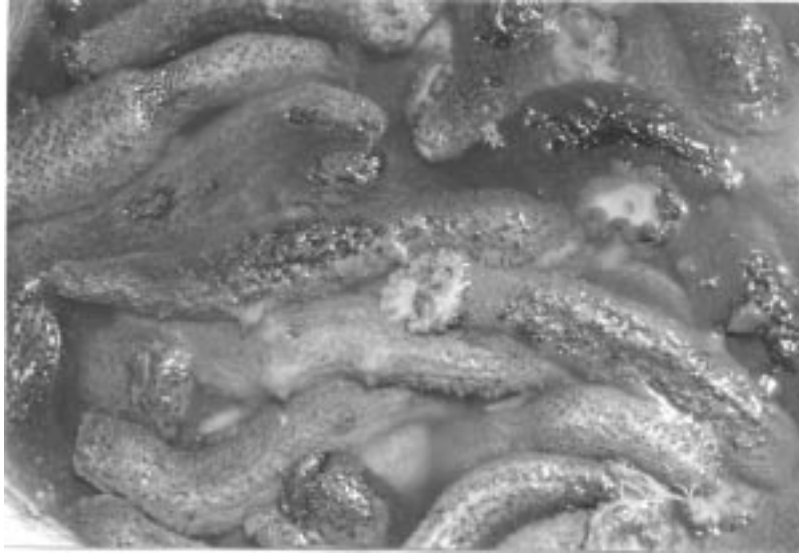
A small fishery started around 1988 in the Baja California State, first in the Gulf of California region with *Isostichopus fuscus*, and in 1989 there were already landings reported for the Pacific littoral, where *Parastichopus parvimensis* was the species harvested.

The table shows the annual landings for the North-east Pacific region in Baja California, expressed as total wet weight (tonnes) of the organisms, but it is highly probable that not all the captures were reported.

The price for the unprocessed sea cucumber (fresh wet weight) is US\$0.80/kg, which is not very at-

Year	Production (tonnes)
1989	52.0
1990	189.2
1991	662.0
1992	729.4
1993	367.0
1994	563.1

tractive for fishermen compared to the sea-urchin gonad that reaches up to US\$38.00/kg. The sea-cucumber fishery serves then as an alternative when the sea-urchin season is closed. All of the sea-cucumber production in Baja California is processed (body wall, muscular bands or whole clean body) for the Japanese market, but like its closer relative *P. californicus*, the market for *P. parvimensis* is not well developed and is unstable.



Close-up of *Parastichopus parvimensis* [Photo: G. Perez]

The fishermen dive using air-compressors and there are no records of capture and fishing effort (number of sea cucumbers collected per diver, number of divers, total diving time, number of landing boats, zones of capture, etc.). That is the reason why no estimation of the CPUE has been made, but it is clear that the volume of capture decreased after 1992 (see table).

The fishery of *I. fuscus* and *P. parvimensis* controlled by the Department of Fisheries (Departamento de Pesca (PESCA) in the State of Baja California, but no area restrictions or harvesting seasons exist at the moment. Estimations of the exploited stocks have also not been made yet.

The Facultad de Ciencias Marinas at the Universidad Autonoma de Baja California has studied the biology of *Parastichopus parvimensis* regarding its biometry, reproduction and growth, as well as aspects related to its pharmacological properties. This constitutes the first formal research on this species in the region.



Processing plant in Ensenada, Mexico [Photo: G. Perez]