

Any shells considered by the technician to be not worthy of a second operation are set aside for the production of "mabe", or half pearls. These are produced by gluing plastic nuclei onto the insides of both halves of the shell.

The shells are then returned to the water and require minimum care until they are harvested between eight

and twelve months later. In that time, a layer of nacre is laid down over the nuclei in a response similar to that described earlier. The shells are killed during the harvest of half pearls and the half pearls are removed using a hole saw. Around seven half pearls can be harvested from each pair of shells. Popular shapes include half round, tear drops and heart shapes.

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### Gold-lip (*Pinctada maxima*) In Torres Strait And Northern Territory, Australia

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The Fisheries Research Branch of the Bureau of Rural Resources has been involved in the pearling industry in Australia since 1986. The role of the branch has been to provide scientific advice to the managers of the pearl fishery, the Australian Fisheries Service. The Branch has also been involved with collecting biological information on gold-lip pearl oyster, *Pinctada maxima*. Two pearl bed surveys have been undertaken in 1989 in Torres Strait and the Northern Territory. A technical paper is being prepared on this species.

**Torres Strait:** At present there are 5 pearl farms operating in Torres Strait. Since the early seventies, the amount of shell being collected in Torres Strait has declined dramatically, and this has been of great concern. Between March and June of this year a survey was undertaken in Torres Strait targetting areas where shell had been found in the past. The survey was based on a stratified random sampling technique, and at each site the following information was collected:

- A video camera was used to photograph the sea bed during each 30 minute drift
- At the same time, 2 divers accompanied the camera. 1 diver recorded the benthic fauna, sediment type, and depth every 5 minutes. The second diver collected shell.

- A benthic dredge was used to sample the bottom fauna. These samples were later sorted and identified in the laboratory.

- A sediment sample was also collected at each dive site for grain size analysis.

The aim of the project is to develop a model for the occurrence of shell using visible markers of habitat type. These data have not been analysed yet.

**Northern Territory:** *P. maxima* was collected in the Northern Territory up until the late 1960's. There is one farm operating in this area, but shell for this farm is collected in Western Australia. In 1986 a decision was made to develop the pearl culture industry in the Northern Territory and 6 research and development licenses were issued. In order to collect base-line information on this fishery, a survey will be undertaken between October and December, 1989. The techniques used will be the same as for the Torres Strait survey.

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### Shark Bay Management Review

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The Fisheries Department of Western Australia has published a Fisheries Management paper (No. 27) by Dr Don Hancock, entitled "A review of the Shark Bay pearling industry". The culture of pearls in Shark Bay is only a recent development, and only two permits had been issued. With the imposition of limited entry in the Broome culture industry for gold-lip (*Pinctada maxima*), however, increased interest has been focussed on the culture of the Shark Bay pearl oyster (*P. albina albina*).

This review addresses the issues associated with managing an expanding culture industry. As a whole, it provides a comprehensive overview of management issues and possible solutions. The perspectives it carries are not always applicable to

the Pacific Island situation (eg. how appropriate, at the developmental stages, are ceilings on the number of farm licenses where traditional tenure is at least implicit?), but some worthy points are made. The issues of conflict between pearl culture and other maritime user-groups are highlighted. The establishment of a self-regulatory association of pearl producers is also recommended. Copies are available from the Department of Fisheries, P.O. Box 20, North Beach, W.A., 6020, AUSTRALIA

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