

provide access to a range of sheltered reef habitats. The final selection of the five areas will be based on site inspections (November 1993) and historical levels of blacklip harvests.

Blacklip spat collected at each site will be grown out to market size in lantern cages in nearby coastal villages. This is an important part of the project: one of ICLARM's goals is to develop ways of increasing income from coral reef habitats to benefit coastal villagers in developing countries. The hope is that the sampling programme will identify areas where villagers can reliably catch and grow enough spat to attract an overseas pearl farming company. The villages would then sell their live mature shells to the industry.

The ACIAR funds will also be used to provide an estimate of the distribution and abundance of wild

adult goldlip oysters in Solomon Islands. There are also plans to collaborate with Professor John Lucas and his team from James Cook University in Townsville, Australia, to investigate low-cost methods of rearing blacklip or goldlip oysters in hatcheries.

In addition to the part-time involvement of Johann Bell and Mark Gervis, the following staff will be employed on the project full time: a Research Associate (Mr Kim Friedman), two full-time technical aides (to be appointed), an officer from Solomon Islands Fisheries Division (Mr Gideon Tiroba), and Mr Robert Jimmy, a recent graduate from the University of Tasmania in Australia. Robert, who is from Vanuatu, has volunteered to work on the project during the first year, with a view to assessing the feasibility of a similar development in his country.

First successful larval rearing of Marshall Islands blacklip pearl oysters

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Black Pearls, Inc. operates a blacklip pearl oyster hatchery and experimental growout facility in Kailua-Kona, Hawaii. In September 1993, the company was awarded a U.S. National Marine Fisheries Service grant to develop black pearl farming in the Marshall Islands. The initial phase of the project will focus on the lagoon of Namdrik atoll, and will last 18 months.

Pearl oysters are naturally scarce in the Marshall Islands, as in many of the other island groups in the South Pacific. This scarcity is due to either earlier overfishing, heavy predation by fish and octopii, or a natural flushing of the larvae out of the lagoons. In most cases, there are not enough oysters to develop commercial pearl farms, even though the oysters may grow well and may be capable of producing excellent pearls.

Black Pearls, Inc., in conjunction with the Marshall Islands Marine Resources Authority, is building on earlier work carried out by the South Pacific Commission and Forum Fisheries Agency. A pilot pearl farm is being developed in the Namdrik lagoon, with about 3,000 wild-collected adult oysters currently hung on longlines. Some of these will be seeded for pearls in the next few months. Artificial spat collectors and remote quarantine hatchery technology will also be evaluated as sources of supply of further oysters for farming. Several thousand spat collectors are currently deployed throughout the lagoon, and more will be set over the next year.

Hatchery production of spat is an integral aspect of this project. In October, 30 broodstock were transported to Hawaii and held in the Government-approved quarantine facility at the Natural Energy Laboratory of Hawaii in Kona. This hatchery has the unique capacity of using fossil seawater drawn from over 700 metres deep. This water has its origins in the Antarctic, and is essentially sterile. By using this water to hold broodstock and rear the larvae, the facility ensures that the Marshall Islands oysters never come into contact with the Hawaiian surface water. In addition, all effluent from the hatchery is disposed into an approved deep injection well. This prevents any possibility of disease transfer or genetic exchange between the Hawaiian and the Marshall Islands stocks. The spat can therefore be safely transferred back to the Marshall Islands once they have been reared to a suitable size.

All the broodstock shipped in October survived the trip and two successful spawns have been induced since their arrival. Spat from the first larval cycle are settling now, while the second cycle is currently in progress. Over the next year spat of various ages will be sent back to Namdrik for further grow-out.

This remote quarantine hatchery technology has exciting potential for many of the other island groups throughout the South Pacific.