



aquaculture news

beche-de-mer

News from ICLARM Coastal Aquaculture Centre in the Solomon Islands

Prepared by Stephen Battaglione

As I reported in the last *Beche-de-Mer Bulletin*, ICLARM has, with much regret, had to close the Coastal Aquaculture Centre (CAC) near Honiara in the Solomon Islands due to ethnic tension. That decision is now final and the station has been handed back to Solomon Islands government. ICLARM will continue its presence in Solomon Islands and the field station at Nusa Tupe in the Western Province remains open and will be expanded over the next few years. Projects investigating the collection of larval reef fish, the grow-out and restocking of giant clams and sea cucumbers, and investigations to determine the affect of logging on coral reefs continue. Research on the mass production of sea cucumbers has been curtailed over the past six months, although a very successful restocking of sandfish occurred early this year. The details of this release can be found in the accompanying article. ICLARM is exploring the possibility of new partnerships in New Caledonia, Vietnam and Indonesia, all having expressed an interest in restocking programmes for tropical sea cucumbers. The research effort in Solomon Islands is being

co-ordinated by Susan Dance who can be contacted by email on nusatupe@iclarm.org.sb.

Anyone interested in ICLARM's plans to develop sea cucumber programmes in Southeast Asia could contact Johann Bell on j.bell@cgiar.org or Rayner Pitt on r.pitt@cgiar.org for further details.

The team of researchers who worked at the CAC on sea cucumbers continues to be productive. Chris Ramofafia is making excellent progress towards his PhD at the University of Sydney and has been busy publishing a description of egg and larval development in *Holothuria scabra* and a paper on reproduction in *Actinopyga mauritiana*. Drs Annie Mercier and Jean-Francois Hamel's CIDA-funded project on the ecology of sandfish will end in June 2000. Their research provides a sound biological basis to the release of sandfish. On a personal note I will be scaling down my involvement in sea cucumber research and have been busy writing the remaining scientific papers on spawning induction and larval rearing.

ICLARM restocks sandfish in Western Province

Saturday 29 April 2000, 2,600 juvenile sandfish bred by ICLARM were released into the Vona Vona Lagoon near the village of Boe Boe, in the Western Province.

The sea cucumbers were raised from eggs by Rayner Pitt, Joe Olisia, Maxwell Sau and Susan Dance, a graduate in aquaculture from the University of Stirling in Scotland who has been working as a volunteer scientist with ICLARM.

The methods for rearing sandfish were developed by ICLARM during a 5-year project funded by the Australian Centre for International Agricultural Research (ACIAR). The methods involve collecting mature sandfish, stimulating them to release eggs and sperm, incubating the fertilised eggs, rearing the developing larvae through various stages and then growing the young sea cucumbers in tanks until they were large enough for release. The work was complicated at first, but is now fairly

routine. 'The juvenile sandfish can be produced within 3–4 months at relatively low cost because they do not need expensive food like prawns', said Susan Dance. 'They actually grow well by eating only the algae and bacteria that grows on surfaces of the tanks used to raise them', she said.

The release of the juvenile sandfish at Boe Boe is the first time that ICLARM has put back large numbers of this species in the wild. ICLARM paid special attention to returning the juveniles to the place where the adults used for spawning were collected. Dr Johann Bell, the Officer-in-Charge of ICLARM's operations in Solomon Islands, explained that this was a precaution to maintain the genetic diversity of stocks within Solomon Islands. 'At this stage, we do not know whether there are different stocks of sandfish in Solomon Islands and so it is best not to mix sandfish from different areas until we find out', he said.

ICLARM will use the results of the release at Boe Boe to help design a new project on sandfish. The new project is also funded by ACIAR and aims to develop the best methods for releasing cultured juveniles into the wild in the Pacific region. 'Now that we know how to produce the juveniles in hatcheries, we need to learn how, where and when to let them go into lagoons so that they survive in large numbers', said Dr Bell.

Ms Michelle Lam from the Fisheries Division in Honiara and Lionel Laka who is the Provisional Fisheries Officer for the Western Province assisted with the release of the young sandfish at Boe Boe. Fisheries Division has given their full support to ICLARM during the project on the breeding of sandfish. When the ICLARM staff was having difficulty finding enough sandfish to breed, Fisheries

Division realised that stocks of this important species had been over-harvested. In 1997, Fisheries Division amended the Fisheries legislation to put a total ban on the export of sandfish. The regulation makes catching, retaining, selling, buying or exporting of sandfish a criminal offence.

The ban on exports will be in place until stocks throughout Solomon Islands have been restored to levels where they can support good levels of harvest each year. Michelle said that the problem with the sandfish at the moment was the low numbers of breeding animals. 'There simply are not enough adult sandfish to provide sufficient juveniles to support a good fishery. We need to allow the total number of animals to build up to the point where the offspring they produce each year provide us with a good harvest', she said. Lionel added 'The great thing about the ICLARM project is that it should help stocks in Vona Vona Lagoon to recover even faster because the released animals should spawn within a couple of years. Their babies will then grow-up and spawn and, eventually, sandfish would be plentiful again. The Government could then consider reopening the fishery'.

The Fisheries Division would be making regular checks on the exporters of marine products to ensure that they did not buy, store or ship sandfish and remind them that anyone caught breaking the law will be liable for severe penalties, including imprisonment for three months. Michelle added 'We want the people of Solomon Islands to realise that a lot of money and effort is being spent to restore the stocks of sandfish so that coastal dwellers will have a source of income in the years ahead. We want people to understand and respect the process and to see the ban as an investment in the future, not a penalty'.

New Zealand collaborates with Japan on sea cucumber farming

Andrew Morgan¹

In January this year, Kunihiro Masaki, chief researcher of the Saga Sea Farming Center in Japan visited the Leigh Marine Laboratory and offered some valuable insights into the farming of sea cucumbers. A meeting with Andrew Morgan, Kunihiro Masaki, Dr. Russ Babcock (scientist in charge) and John Croft, research director for McFarlane Laboratories, a pharmaceutical company (now Healtheries).

The purpose of this meeting was to discuss ways of developing a sustainable industry and a viable commercial venture for the sea cucumber *Stichopus mollis* in New Zealand. The production of seed to alleviate the pressure such a venture may have on wild stocks; the sustainable and renewable harvesting of the gut for export to Japan; and the development of food supplements from pharmacologically active compounds known to exist in this animal, were discussed.

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