



## Pre-settlement fish capture and culture workshop, Solomon Islands

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As part of an ongoing program to develop sustainable artisanal fisheries in Pacific Island countries, the WorldFish Center (formerly ICLARM) regional office in Gizo, Solomon Islands, hosted a workshop from 14–18 June 2004. The training was aimed at rural coastal community members and focussed on operating a fishery based on the collection and grow-out of pre-settlement (or post-larval) reef fish and crustaceans.

The workshop disseminated the practical results of recent WorldFish Center research on “Development of new artisanal fisheries based on the capture and culture of postlarval coral reef fish”, a five-year study funded by the Australian Centre for International Agricultural Research (ACIAR) (see article by Hair and Doherty in issue 11 of this bulletin). It was carried out in collaboration with the Australian Institute of Marine Science and the Solomon Islands Department of Fisheries and Marine Resources. The project comprised four years of research and monitoring of pre-settler supply from 1999 to 2002 and a follow-up year (2003) of fine-tuning the methodology. The research showed that the harvest of pre-settlement coral reef species from shallow reef crests could sustain a profitable fishery. In particular, cleaner shrimp, lobster and a range of sought-after aquarium species received good farm-gate prices from the local exporter. Monthly sampling over a two-year period showed that there were sufficient catches of high-value species year-round to support an artisanal fishery. The fishery could provide an alternative livelihood for coastal communities and has potential to reduce the extent of destructive fishing.

ACIAR funded the workshop under a new project that commenced in early 2004. *Sustainable aquaculture development in Pacific Islands region and northern Australia* is administered by the Queensland Department of Primary Industries and Fisheries in partnership with WorldFish and the Secretariat of the Pacific Community.

Harvesting pre-settlement fish is a new activity for Solomon Islanders, although this resource has been exploited in other Pacific Island countries in recent years (e.g. New Caledonia and French Polynesia).

The fishery is based on collection and grow-out of pre-settlers, captured at the end of their oceanic dispersal phase when they return to settle on coral reefs. The high mortality associated with this phase of their life cycle provides an ideal opportunity to collect a portion of the returnees for culture and subsequent sale. Furthermore, the gear does not damage reefs and mortality of bycatch is low. Live pre-settlers are harvested using modified crest nets and lobster pueruli collectors developed by WorldFish. Most species are reared for one to three months before being sold to an aquarium fish exporter in the capital, Honiara. The techniques involve simple and low cost technology appropriate for village use, unlike similar fisheries elsewhere that are more capital intensive.

Regon Warren, Ambo Tewaki (WorldFish Center) and Wali Phillips (Gizo Provincial Fisheries) provided the technical expertise for the workshop. Four participants came from the communities of Rarumana and Mbabanga Island in Western Province. These villages are adjacent to suitable collecting areas and in close proximity to Gizo, which is important for follow-up extension activities. National and Provincial Fisheries Officers also took part in the training in order to assist communities in their home provinces should they wish to take up the technology.

Participants were trained in all aspects of the fishery, including how to catch pre-settlers on shallow reefs, grow them to a marketable size and then freight them to the exporter. Construction of collectors, holding nets and other equipment was demonstrated and practised. Attendees also learned how to recognize and handle valuable species, with emphasis on shrimp, lobster and attractive aquarium fish, such as angelfish and butterflyfish. Participants agreed that the training was very useful and were enthusiastic about the hands-on approach encouraged by the trainers. It provided an educational opportunity as well, with great interest shown in pre-settlement fish and how they changed in appearance following capture. A draft manual was used for training. Comments on the strengths and weaknesses of the manual were compiled during the workshop and

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these comments will be used to revise the text before a final version is produced.

With basic training completed, the next step is to establish demonstration village “farms” to test the methods in a rural situation. WorldFish will continue to support the two Western Province communities with the fledgling fishery. The final manual will be

produced in an easy-to-follow pictorial style sometime in early 2005. One of the aims of the current ACIAR project is to transfer the technology elsewhere in Solomon Islands and to other Pacific Island countries. Updates on the results of extension efforts will be reported in future issues of this bulletin.



**Figure 1.** Catch being retrieved from a crest net.



**Figure 2.** Workshop participants practice rearing shrimp in jars in a raceway.



## Seahorses take to the world stage

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The most charismatic of fish, seahorses, are now subject to regulations that affect their movement across national borders. The new rules have generated debate as aquarists ponder the implications of the listing of all 34 known species of the genus *Hippocampus* by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Though they present some challenges to the aquarist community, the mechanics of the treaty are relatively straightforward, and anyone interested in keeping and trading seahorses should become familiar with them. Aquarists are significant buyers of seahorses, and have a role to play in the global effort to ensure the survival of seahorses and their habitats.

CITES is an international agreement between more than 160 nations that aims to ensure the international trade in plants and animals does not threaten their survival in the wild. Some 30,000 species are covered by CITES, which lists them in

three Appendices. The first covers species threatened with extinction. Trade in these species is banned except under exceptional circumstances. Appendix II species may become threatened if trade is not regulated, and Appendix III lists species at the request of countries needing help protecting local populations.

CITES agreed in 2002 to place all seahorses in Appendix II. The decision was built on careful analyses of the trade and the conservation status of wild populations, along with growing support among fishers and dealers. More than 24 million seahorses are traded annually among almost 80 nations, making them one of the world's largest wildlife management issues. The listing also opens the door to what many hope will be a new era for CITES, as commercially important fully marine fish had never before been placed under binding international regulation. (See article by Sadovy in issue number 11 of this bulletin for more detail on

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