



## ews from Samoa

# Introduction of the Green snail *Turbo marmoratus* to Samoa

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## Introduction

The Green snail *Turbo marmoratus* was introduced into Samoa to enhance the depleted inshore resources. A feasibility study for the introduction of the Green snail into Samoa was carried out by a consultant from Vanuatu, funded by the South Pacific Aquaculture Development Project (SPADP) in 1996. As a result of this study the first shipment of 300 three-year-old green snails was imported from Tonga (again funded by SPADP) on 28 April 1999.

## General background

It was suggested by Amos (1996) that potential habitats for the Green snail should have the following characteristics:

- Reef areas exposed to regular heavy wave action and strong tidal currents;
- Reef areas with the following topographical features:
  - spur and groove system in shallow areas,
  - smooth rocky surfaces covered with red coralline algae, macroscopic algae and/or any other microscopic algae rather than live coral, and
  - extensive areas without complicated microstructure in deeper water down to about 20 metres;
- Reef areas do not necessarily have to be well-developed reefs;
- Nutrient supply from island(s) adjacent to habitat;
- Reef without extreme dilution by freshwater run-off or pollution;
- Microhabitats for juveniles on the reef crest;
- Gentle reef slopes and terraces less than 20 m depths, providing a wide area for adult habitat.

The *T. marmoratus* stocks were quarantined in the Fisheries Division raceway ponds and then introduced into the following sites:

- Papa-I-Palauli, Savaii (100 shells) 18 May 1999
- Namua Is. (170 shells) 27 May 1999
- Saoluaifata (30 shells) 10 June 1999

These sites were selected because:

- they were suitable areas according to the criteria suggested by Amos (1996),
- they were recommended by the AusAID Aquaculture Adviser, and
- they belonged to villages having an active village management committee in the Community-based Fisheries Management Programme.

The overall average aperture length for all specimens measured was 36.01 mm. On the day following introduction into Papa-I-Palauli, the villagers and Fisheries Extension staff recovered one dead shell. This mortality may have been due to transportation stress, harsh handling, shock of being in a new environment and possibly predators. On 2 June 1999, one snail marked PT1 was recovered on the windward side of Namua Island.

*T. marmoratus* are estimated to be sexually mature at 3–4 years of age and grow 2–3 cm in shell diameter per year (Yamaguchi, 1993). It is planned that all sites will be assessed within six months of introduction to monitor the survival and growth of the Green snails.

## References

- AMOS, M. J. (1996). Feasibility Study of Green Snail (*Turbo marmoratus*) and Trochus (*Trochus niloticus*) Transplantation to Western Samoa. FAO, Suva.
- YAMAGUCHI, M. (1993). Green Snail. In: Nearshore Marine Resources of the South Pacific. Eds.: A. Wright & L. Hill. IPS/FFA/ICOD, Suva/Honiara/Canada. 497–511.



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