bution of pools at low tide, amount and size of rubble and sand, and density of predators. This suggests that to seed Trochus it is probably better to release juveniles over a large area than to concentrate the release in a small one.

Laboratory and field experiments at Orpheus Is. to examine the effect of juvenile size on survival suggest that juveniles larger than 24mm shell diameter survive better, mainly because at this size vulnerability to predation by Portunid crabs and stomatopods is minimal. At Orpheus Is. wild juveniles smaller than 20mm than shell diameter have a flatter base and more pronounced knobs than cultured juveniles obtained from adults on the same reef (L. Castell, personal observation). This may provide some protection against predation in wild juveniles.

Field work is continuing and we expect to produce more detailed information about our results by 1995.

A study of the Enewetak trochus resource

A Project of the Pacific Island Network, University of Hawaii and Enewetak Ujelang Local Government Council, Republic of the Marshall Islands

Report summary and recommendations

Trochus (Trochus niloticus) resources on Enewetak Atoll, Republic of the Marshall Islands (RMI), were surveyed in July and August 1992. Trochus numbers appeared to be fewer than previously reported (Wright & Gillett 1989).

Samples of shells rejected by buyers were measured and potential reasons for their rejection were noted. Samples of live shells were also measured and inspected.

An opinion survey was presented to atoll residents concerning forms of trochus resource management. Shell and meat samples from three locations were sent for radionuclide testing to the Nationwide Radiological Survey in Majuro, RMI. A list (not exhaustive) of potential trochus-shell buyers was compiled using firms noted by Pacific Island governments. Two potential trochus meat-buyers were identified, although no buyers for trochus opercula were located.

The following recommendations were suggested for management and utilisation of trochus resources of Enewetak Atoll:

1. A trochus sanctuary should be established to encourage natural re-seeding of the reefs, and steps taken to protect trochus in those places before trochus season and until trochus shells are sold.

2. Some method should be found to establish trochus harvest quotas, limiting the total amount of trochus taken each season. This limit should be appropriate for the current trochus resources of the island. The quota recommended by Wright and Gillett (1989), 100 tons/year, is an appropriate level of harvest for the trochus stocks as measured by this study.

3. Accurate trochus harvest records should be kept on the actual amount of trochus shell sold each season. Knowing the size of trochus harvests is very important in order to adjust future harvest sizes. The harvest size can then be changed depending on the abundance of trochus on the reefs.

4. Small and large shell-size limits should be set for live harvested trochus. The recommended size limits are 10.6 cm (3 in.) for the smallest size of trochus taken, and 14.2 cm (4 in) for the largest size of trochus taken.

5. Paid workers should be hired to work prior to and during each trochus season to implement trochus management. These workers would perform the following tasks:

a. Monitor the trochus resource with line transects at fixed locations and possibly conduct some tag/recapture efforts prior to and during trochus seasons;

b. Patrol trochus sanctuaries to discourage poaching;

c. Inspect live trochus for undersized and oversized shells and confiscate undersized and oversized trochus animals and return them to the reef;
d. Inspect trochus for undersized and oversized shells before sales, and confiscate undersized and oversized shells; and

e. Monitor sales of shells to buyers in order to determine total size of harvest.

6. A larger number of trochus buyers should be encouraged, to foster competition between buyers and thus promote higher prices to fishermen.

7. Export marketing of trochus meat should not be promoted until a proper analysis of meat handling costs, shipping costs and costs of adequate ice-making and freezing facilities are taken into consideration.