



## Integration of broodstock replenishment with community-based management to restore trochus fisheries: Seeding and enhancement work in the Australian node

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The Australian node of the ACIAR-funded trochus reseeding project is situated on nearshore reefs surrounding One Arm Point and Cunningham Point, approximately 200 km north of Broome in Western Australia. These sites have a long history with trochus research and development, having attracted various types of activity almost continuously since 1970. The current ACIAR-funded enhancement project in the Kimberley has two main objectives:

1. community consultation and the establishment of community-based marine protect areas; and
2. reef seeding and enhancement research.

The second component of the project activities is contracted to the Department of Fisheries, Western Australia and is the focus of this paper.

In August 2002, the trochus team visited some reefs that, through consultation with the local traditional owners, were identified as suitable for either enhancement activities or as control reefs. From a brief survey of the different habitat types on each reef, areas that were suitable for broodstock enclosures and for surveying adult and juvenile numbers on a regular basis were identified.

While one part of the team was surveying the enhancement and control reefs for their pre-enhancement trochus numbers, the rest of the team travelled long distances to collect broodstock for the project. The animals were kindly stored at the One Arm Point (OAP) Trochus Hatchery (thanks to the Manager, Barry Sharpe) where they were all individually measured and tagged. Afterwards, 400 broodstock were placed into wire mesh enclosures on four enhancement reefs. A number of the shells spawned as they were put into the enclosures, rewarding the team for all their hard work.

Three post-enhancement surveys were completed in January, July and October 2003. In Western Australia, no trochus has ever been found to be less than 22 mm (basal shell width) — the size of a one-year-old trochus. So, although the broodstock trochus have been on the reefs for more than 12 months and have spawned, no recruitment has been observed thus far. It is expected that juvenile trochus will begin to be seen in the survey sites, if indeed recruitment has been enhanced during 2004.

In addition to surveying the ACIAR-project reefs, the Department of Fisheries has been proactive in erecting signage to inform local trochus fishers and the general public about the project. The signs and posters have been erected around the One Arm Point community; at the local shop, in the council office, at the trochus hatchery and at boat ramps. We have been encouraged by the fact that there have been no reports of fishers taking shells from the closed project reefs. No signage was necessary at Cunningham Point because the site is relatively isolated from all other trochus fishing grounds.

Like the international components of the ACIAR project, the surveys will continue until July 2005, at which stage it is envisaged that permanent marine protected areas will be established to preserve trochus broodstock that supply the local reefs with juveniles. Ongoing consultation with local communities and trochus fishers by the Kimberly Aquaculture Aboriginal Corporation and the Department of Fisheries will assist in establishing a sustainable trochus fishery in the Kimberley.



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