

ARTIFICIAL REEFS – CURRENT SITUATION IN BRUNEI DARUSSALAM

by

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1. Intro

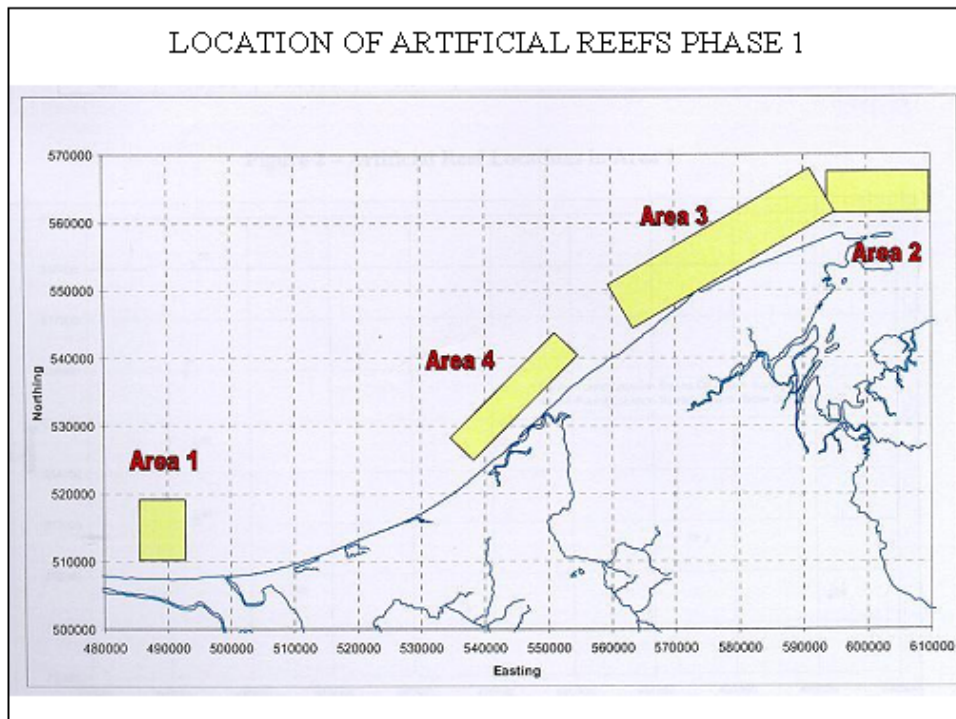
The Fisheries Department had been deploying Artificial Reefs (AR) since 1985. Various types have been deployed, including used tyres, decommissioned offshore oil structures, steel pipes, concrete piles and prefabricated structures. The present artificial reef project concentrated on the concrete prefabricated pyramidal structures.

2. Objectives of AR Project

- Provide protection to restricted / prohibited areas from encroachment by fishing trawlers;
- To enhance the productivity of the Coastal Waters;
- To provide alternative sites for the rapidly expanding eco-tourism industry.

3. The Reef Units

- Smaller tetrahedron measuring 2.5m x 2.5m for shallow areas;
- Larger triangular pyramid, 6m x 4m for deeper water;
- Made up of concrete;
- Cluster of 6 – 10 reef units per location;
- Area of deployment – from Kuala Belait in the west to Muara in the east;
- Phase I – 81 locations;
- Phase II – 85 locations;
- Phase III – to be decided, probably including deeper zones.



4. Findings (Grp 64, Area 1, 12m depth)

- Majority of the pyramids visited have fishing net ramnants caught on them !
- Dense marine growth of soft corals (*Acanthagorgia sp.*) algae, barnacles, bryozoans and small anemones. Stinging hydroids were also abundant;
- All the surfaces of the structures are covered;
- Lobsters, snappers, carangids, groupers, pinjalo, selar, mackerels, small tunas and sharks are present;
- On every pyramid visited (within 20 metres of each others), the distribution of species seemed similar;
- Only one genuine reef fish, the Banner fish, *Heniochus acuminatus*, present during that dive.

5. What need to be done

- Continuous monitoring which will include oceanographic and fisheries surveys;
- Fishing and socio-economic surveys;
- Proper management plan – to include AR areas as MPAs.

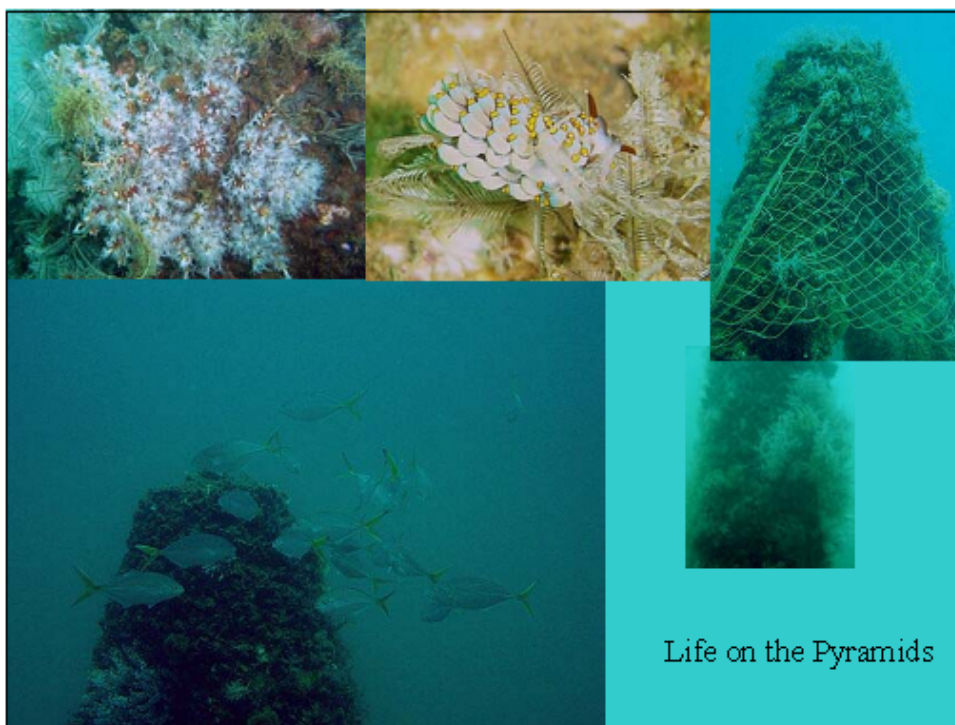
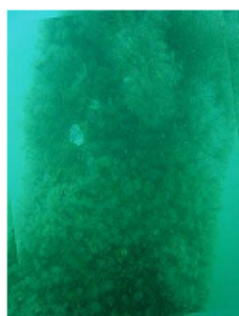
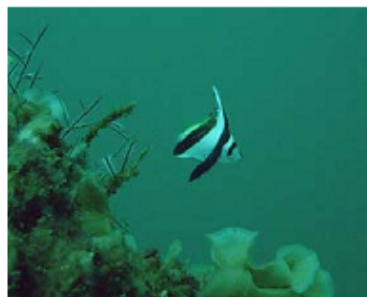


The Mould



The Pyramids

Life on the Pyramids



Life on the Pyramids

