

ARTIFICIAL REEF MANAGEMENT – SOME POTENTIALS OF USING GEOGRAPHICAL INFORMATION SYSTEM (GIS)

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The use and benefits of artificial reefs have been widely accepted with both ongoing research and national development programmes in place. In Malaysia, the national programmes have been in operation since 1983 when the Malaysian Fisheries Development Authorities (LKIM) took the initiatives to deploy the tyre reefs into the sea especially in the east coast of the Malaysian Peninsula. Now there are more than four hundred sites can be found just along the Trengganu coastal water and the coming years are likely to see a significant increase in the development and deployment of reefs in the state especially with the newly approved programme involving the Korean-made bio-ceramic reef.

With increasing number of sites and so much information related to a particular artificial reef (such as location, date of deployment, type and material of structure, depth from the sea surface, condition, etc.), a proper spatial database is seen to be necessary for the related authorities such as LKIM and Malaysian Fisheries Department. Having an updated database, valid, useful and helpful information can be extracted and hence used to effectively manage the reefs. Nowadays, Geographical Information System (GIS) is an appropriate choice for such an application as it provides beneficial and handy tools to store, manage, manipulate and output the spatial information related to the reefs. This paper presents some potentials of using such a system ranging from the information storage, retrieval and management to the spatial analysis involving the site selection of the artificial reefs as well as the application development for other economic and tourism activities (e.g. sport fishing).