

# The Benefits of Artificial Reefs

Dr. Mario Saliba

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<b>The Aged in Gozo</b>	<b>Young People In Gozo</b>	<b>Ix-Xjenza u s- Socjeta</b>	<b>Profile: Joseph Sagona</b>	<b>Front Cover</b>	

Diving tourists contribute about 12% of all the income from the tourist industry. This *niche market* forms about 3% of the total market. On a rough estimation here in Gozo we receive between 10,000 and 13,000 diving tourists per year. This *niche* should be looked after and measures should be well underway to conserve the marine environment, bring in new ideas how to enhance the present dive sites and promote Gozo as a diving destination. The creation of artificial reefs is one way to improve our product and attract from tourists.

Artificial reefs, which are simply man made reefs, are nothing new. There are Japanese records dating back to 1700 of artificial reef construction to increase fish productivity. In modern times artificial reefs are created intentionally by dumping structures - which range from abandoned boats, planes, trains, oil rigs, and steel bars to obsolete military craft - to the bottom of the sea and then allow the dumped structure to become part of the sea ecosystem. Marine life has been quick to adapt to artificial reefs. In fact, barracuda have been known to stake out their territory on an artificial reef moments after a vessel has been scuttled. (*See Underwater Science and Educational Resources Artificial Reef Information, Indiana University web site*) Many scientists view these new ecosystems with ambivalence. Based on the natural shipwrecks on the ocean floor which have become nuclei of marine life, artificial reefs in tropical sites are placed either directly on a damaged reef, in the hopes of helping it to regain its biomass, or on a seabed in proximity to a natural reef. The wreck's structural material (usually metal) becomes a substrate for coral larvae to settle on, and the wreck eventually replicates a natural habitat, providing shelter, a source of food, and an area for mating and reproduction for a variety of creatures. Scientists fear that some of the materials used to create artificial reefs, such as discarded tyres and municipal solid waste ash from incinerators, may in fact decompose and contaminate the very reef community they are intended to support. More research is needed before these concerns can be supported or refuted. (*See Marine Conservation for the 21st Century by Hilary Vidars p. 150*) The dumping of objects into the sea is regulated by the Convention on the Protection of Marine Pollution by Dumping of Wastes and other Matter (*London Convention Protocol*) of which Malta is a contracting party and which is due for ratification next year. Through these conventions bans on the dumping of radioactive waste and industrial waste at sea have been implemented. So once the vessels to be scuttled are thoroughly cleaned from the remaining oil and made safe for divers by closing small portholes etc., they can be let down unto the seabed to serve as an artificial wreck. The use of sunken vessels as artificial reefs has increased in popularity, especially with SCUBA divers. These types of artificial reefs are also called artificial wrecks. Any non-diver may be forgiven for wondering what all the fuss is about. Indeed, the very idea of purchasing a vessel just to sink it for this purpose is always met with initial reaction of derision - and why not! The aim of an artificial reef programme is to attract thousands of divers to these sites, thus relieving human pressures on the natural reef ecosystem. In short, many thousands of pounds worth of scrap metal are currently being purchased just to be sunk - and I understand how anyone can be found wondering what could possibly justify such behaviour. Some Governments of course have taken advice and have

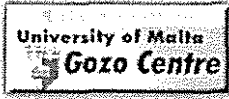
recognised the economical value and benefits of such projects.

Briefly, these are twofold. As far as the underwater environment is concerned coral cannot grow on sand because it needs something solid on which it can grip and then grow. Rock, dead coral, a ship or even an old car will provide such a base. Furthermore, it must be remembered that a given area of water can only support so many marine creatures and no creature can live in mid-water where there is neither shelter nor food. A wreck, due to the number of large cavities and crevices, which provide shelter and protection for a large variety of biota, including several fish and vertebrate species. Divers in a relatively small area (*See Creating an Artificial Reef - Environment Impact Statement, Ing. Michelle Grech, 1996*). Then there is the all-important human interest. Today, throughout the world, the sale of underwater cameras far exceeds the sale of spear guns and these photographers want something to photograph. An accessible wreck is far better than chasing the ever-diminishing tail of some distant Whale or Dolphin. Even without a camera there is always the added excitement of exploring a man-made object in the way that one cannot explore a reef - and, unlike any other attraction, the longer the wreck has been underwater the more interesting it becomes. Past, present and future study of these reefs may help to make the sea a more sustainable resource for marine animals and the ever-increasing demands of mankind. Little wonder, therefore that divers will travel great distances across the globe just to visit such wrecks and, in so doing, make a significant contribution to tourism which is always good news (and good business!) for the country concerned. Now that we have finally started to realise this potential we should persist to create more of these artificial wrecks and be more practical in their realisation. Those who dive wrecks all over the world have a good reason to return to these sites. Gozo needs wrecks very badly to boost its product in the diving world. The popular dive sites especially at Dwejra are being over dived and need a respite. Dwejra is a very important ecosystem and we should do whatever is needed to protect it as a National Marine Sanctuary. The creation of artificial reefs is the most natural way to protect the marine habitat. The scuttling of the ex-MV XLENDI at ix-Xatt l-Ahmar on Friday 12, November last year was a step in the right direction. Unfortunately the wreck didn't come to rest at the proposed sight due to rough sea and currents on the day of the event. It was reported by divers that the ship is lying on its side at a depth of ranging from 30 to 40 metres and to make matters worse it is sinking in the sand. This is by far from ideal and besides it may be hazardous to divers and if the situation is not rectified. At present the wreck should be dived by experienced divers only. I suggest that an exact plan of the wreck should be made so that those diving it would know its position and orientation so as to be able to plan their dive well and be able to take the necessary safety measures.

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*Dr. Mario Saliba MD, Diving Medical Officer for Gozo, was the first Chairman of the Gozo Dive Shops Association, which was founded in November 1994 with the prime aim to create artificial reefs in Gozo.*

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