

The Palm Jumeirah: The Creation of an Artificial Reef

In the creation of the island, a primary goal was to ensure that construction not only had the smallest possible negative impact on the environment in which it was being created, but that it actually enhanced the environment above the original, pre-development status.

Two independent oceanographic experts from California, Professor Joseph Valencic and Jim Miller, spent several years documenting the sea life around the location of The Palm Jumeirah, before, during and after reclamation. Their work on monitoring the temperature and salinity of the water, as well as the bottom conditions and the health of the marine animals, involved numerous dives in and around the site to establish base-line parameters and verify how the reclamation work has affected them.

Before reclamation commenced, the area was almost barren with virtually no signs of marine life; in studies conducted, 95% of the area was bare sand or mud. The impact of the project has been simply to create a foundation for a variety of landscapes and seascapes, which give way to the existence of marine life.

The importance of using natural material in the creation of the island was key to encouraging the development of marine life in the area. In creating the breakwater only natural rock was used, despite it being difficult to find in the region, expensive and requiring a higher level of engineering to place. Using natural rock has meant the creation of a 550 hectare reef on which corals and a biodiversified eco-system has grown, resulting in a dramatic increase of fish in the area.



As soon as the placement of rocks began, algae started to grow, offering some hard substrate for colonization. Urchins, barnacles, sponges, clams, crabs and fish soon followed. As the island was reclaimed, the fine sediments that were created by the reclamation eventually paved the way for a biologically and organically fertile soil on the sea bed, on which turtles and a variety of fish are living. This will lead to a highly oxygenated water, with excellent visibility for divers and snorkelers.

In fact, it is not only the natural reef on the breakwater that will attract divers – and fish. Two passenger aircraft – an Airbus A 340 and an Illushyn 76 (a huge Russian cargo plane) have been salvaged, environmentally sanitized and sunk into the nearby shallow waters. Entirely environmentally friendly, the same process of colonization that happened on the breakwater, has happened on the planes. This will provide a visually fascinating dive site just off the breakwater of The Palm Jumeirah.