

# THE TIME

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## **New building settlement at the sea-bottom**

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Artificial reefs are to animate destroyed underwater worlds. Flora and fauna accept them gratefully. Selfappointed environmentalists tilt even cars, tanks and oil platforms into the oceans

*by Gabriele Lebs*

The Hafenmauer in Schilksee with Kiel looks like a completely usual Natursteinmauer. Grow a few plants in the joints, and obendrauf sea gulls and oyster Fischer stolzieren. Nothing reminded to it that these stones were once because of the reason of the Baltic Sea, from algae and Seegetier it bewachsen. In and the sixties fifties the stone fishery was a lucrative source of income. Ton way enormous Findlinge were fished used by the bottom of the sea and carried ashore - as cheap building material for bank stabilization, for walls and ways. Which at that time nobody considered: On this rock sea animals, which cannot begin anything, live each quantity and whose habitat substantial was reduced with soft sandy soil.

Kieler biologists want to re-establish lost biotope with Reef so mentioned of ball piece by piece. "We sink hollow, perforated concrete hemispheres", explain Stefan ruffle, project manager of the company MariLim. Their large surface offers, their internal Unterschlupf to animals and plants settlement surface. Originally Reef of ball in the USA were developed to the repair by corral reefs. They already found employment in addition, in moderate widths: World-wide already more than 200,000 Reef of ball were sunk in the sea.

In order to demonstrate, the sea biologists in the past summer platziert twelve hollow balls at the institute for seaside resort Holtenau with Kiel on the sea-bottom and document the positive effect on the underwater community of the Baltic Sea since that time their settlement. "A pilot project" unique in Germany, says MariLim boss Thomas Meyer. With the handmade Findlingen - each particular is about a half meter high and has a surface area of a square meter - an artificial reef was created, a rock landscape under water.

The idea, with artificial objects sea animals a home to rooms, had to do originally little with nature protection and therefore by specialists is critically beäugt. "Since 1830 one builds artificial reefs" in the USA, says Meyer. Even cars were sunk to hundreds. Much to the joy Fischer the wrecks were already populated after shortest time by fish. Numerous artificial reefs were designed since then as *fish attractive DEVICES*, in order to facilitate primarily for the Fischern the life. Also in the course of the Korallensterbens the idea of artificial reefs developed in the meantime to a doubtful fashion: With artificial objects one of the species-richest partnerships of our earth is to be saved. Not least for the dipping tourism - money brings in. How highly the value of corral reefs straight in Florida is numbered, an accident of the Navy shows before a few years. The nuclear-powered submarine *U.S.S. Memphis* cracked into a 3000 years old corral reef before Florida. When it tried to free itself, the propellers tore two deep ditches into the reef. The Navy had to pay 750,000 dollar to payment of damages, which was used for the repair of the reef.

The strangest idea for artificial reefs comes from the USA, and just from the group, which developed

also the Reef of ball. With Memorial so mentioned Reefs tries the Reef ball development Group sponsors for the artificial hard substrate to find: Who wants to do at least after its dying some more property for the dying Korallen, itself the association can in a special urn as part of an artificial reef on the sea-bottom bestatten to leave, recruits. Korallenlarven settle then on the urn.

Whether such natural cosmetic can however actually help the corral reefs, is disputed. More than are already damaged 50 per cent of the Korallen, due to the climatic change, due to poison and dynamite fishery and also by divers. The building of artificial reefs diverts from the actual causes of this environmental degradation and is besides ineffectively, because reefs need several hundred years development time. Even EcoReef, a company, which develops artificial reefs for hotel plants, says: "Most artificial reefs are not only to be installed expensively and aufwändig, them transform with the time even frequently to a proper Unterwasserschandfleck of remarkable durability."

### *Illegal refuse disposal*

In place of an environmental improvement, ecologists complain, a cheap disposal possibility for airplanes, ships, cars and tanks were created. For those particularly disputed form of an artificial reef recruits an association in Kalifornien, which wants to sink old oil platforms.

In Germany the building of artificial reefs from such materials is in the meantime forbidden. "We come there completely fast into the range of the illegal refuse disposal", warn Joachim Voss, sea specialist with the national office for nature and environment in Schleswig-Holstein. Again and again it gave beginnings also with us to sink car wrecks or tires on the bottom of the sea. Often it was argued that mussels, which need hard substrate for the settlement could even clean the water due to their enormous filter achievement. Fact is however that tires and wrecks are often loaded with pollutants or even toxic. With the time oil remainders from cars or tanks, the artificial settlement surface seep begin to rust, the tires in ruins. Thus the mussel bank loses its base of life, dies and delivers the accumulated pollutants again in the water. The first positive effect of a settlement turns in the opposite.

With motor-car tire and oil platform Recyclern the sea biologists von MariLim want to have to do therefore nothing. "We use excluding concrete with a pH value, which corresponds, stresses to that of the sea water" Stefan ruffle. Therefore the Reef of ball is not a foreign body in the sea. "We made, say as it were the bed for the animals already" the 27-Jährige, because the surface is particularly rapidly settled.

The past results give the biologists Recht: After few months over 40 animal and plant types on the offered surfaces had established themselves. One week, after the concrete hemispheres under water were, Grünalgen had already settled, then the first animals came: Beach snails, worms and flea cancers, which live partially on the algae. Mussel and sea-smallpox larvae discovered the stone, and two further weeks later already the common sea-star the Reef of ball in large number had settled. In the caves the beach crab looks for protection. Also fish and cancers tummeln in the Gewölben, and even Manteltierchen in-rented themselves. "We are surprised, as fast

went", schwärmt Thomas Meyer. Even robbers, who like soft soils, like Grundeln or sea-stars, found at the balls favours. "You find booty" easier at the Reef of ball, explain to ruffle the phenomenon of the Wohnungstausches. And again different Getier looks for protection from current or enemies. "I can imagine that soon Jungdor and herrings can be looked", hope ruffle.

Would the Baltic Sea be thus better, if thousands of Reef of ball were gekegelt in the sea? "Artificial reefs are not a universal remedy", warn the sea biologist Haje Rumohr of the Kieler Institut for oceanography before euphoria. Because a large kind abundance anyway never accommodated the Baltic Sea. Due to the small Salzgehaltes and strong oxygen fluctuations survive here fewer kinds than in other seas. MariLim coworker ruffle would consider it therefore useless, the Baltic Sea in areas with Reef of ball zuzupflastern, in which there were anyway never stones. But is quite meaningful with Reef of ball habitat to create again there and there, which destroyed by humans and rare became. Its newest plan: an underwater experience path from Reef of ball, which shows dipping tourist rare sea inhabitants.