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Abstract

A rather small population, Dugong, its the most northern area of occupation has shared Okinawa's main island sea area with fisheries. Under this situation, the dugong protection project has been carried out by the Fisheries Agency from 2001 to 2007.

As a way of searching for dugong straying into fixed net, we found an effective way to judge whether it was a dugong or not by comparing properties of dugong with information of moving objects through a multi-beam sonar. For this searching, we used automatic detector software on the computer. To see how accurate the software is, we confirmed it with ROC analysis. The result was that a software that considers posture properties of moving objects is more right than others that do not. Also in 2007, we done empirical test at Kin bay in Okinawa. In the result, we proved a dugong alarm system holding the software could transmit information of moving objects to a land station. As a step toward the practical use of the detection software, we must look at the characteristics of fixed net in the sea area.

In addition, in order for the system architecture to coexist between the dugong and the fisheries, we believe that we should build a system that takes into consideration for the fishery operation. That is to say, a system without harmful effects on fisheries catches.