

ジュゴンの位置を声で確認する —水中音響工学の可能性—

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Abstract

Acoustic observation is well-known to be an effective method to detect calls of marine mammals. We applied this method to observe calls of dugong, *Dugong dugon*, which has become highly endangered in the world. In this study, we described the technique to detect the arrival direction and the acoustical characteristics of dugong calls. These aspects are needed in designing the observational equipments. In addition, specifications for an innovative observational device were described. A number of dugong calls were recorded around Libong Island, Trang province in Thailand, using two sets of dual channel stereo hydrophones on two research vessels. The center frequency of dugong calls ranged between about 3 and 8 kHz, and the duration of the calls was classified roughly in two: 100-500ms and over 1000ms. Vocalization interval was classified in two patterns: 0-5s and 20- s between each call. We applied the phase difference analysis to dugong calls in order to calculate the arrival direction at the research vessels. These preliminary results suggested that the acoustical analyses on the dugong calls are a powerful method to locate the vocalizing dugongs without any impact on them at all.