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Abstract

Passive acoustic biotelemetry for *Dugong dugon* enabled us to monitor the presence and the position of dugongs by receiving their calls using underwater sound techniques. The principle of the acoustic biotelemetry is to identify the sound source directions of their calls calculated from the time arrival differences between plural hydrophones. This method requires stereo automatic underwater sound monitoring systems. From 2003 to present, we have been developing the stereo underwater recording system, AUSOMS-D (Automatic Underwater Sound Monitoring System for Dugong). AUSOMS-D records underwater sound of frequency band between 20 Hz to 20 kHz by stereo (2ch) hydrophones at sampling frequency of 44.1 kHz with 16 bits resolution for many days. Progresses of AUSOMS-D have been made such as down sizing of the pressure resistant housing, longer recording time and additional scheduling functions. The latest AUSOMS-D is 7 kg in the air weight. It can record up to 15 days continuously with 16 alkaline D cells. AUSOMS-D was applied for the survey of dugong in Thailand's water many times. On the other hand, we have developed a stereo towed sonar. The system is called "Towed Aquafeeler". Towed Aquafeeler can receive underwater sound of frequency band between 100 Hz to 20 kHz by 2ch. Recommended tow speed of the sonar in listing mode is 6 knots or less. Towed Aquafeeler is 11 kg in the air and neutral buoyancy in the water. It was also used for the dugong surveys in Thailand water twice.