

# Relocating Underwater Sites with Acoustic Beacons



Attempting to relocate underwater objects in a low-visibility environment can be a difficult and time-consuming task. Acoustic pingers and transponders solve this problem. These devices used to be expensive pieces of equipment used primarily by the military, oil and gas industries and oceanographic institutions. Today these underwater locating beacons are being employed by a wide range of users including commercial diving companies, public safety dive teams, universities, environmentalists and companies in the energy industry.

One organisation employing these acoustic locators is EGS Asia in the Philippines. They started in the near-shore environment doing port projects, reclamation work, and pipeline laying. Today EGS offers a broad range of technical services to the Oil, Gas,

Telecommunications, Energy, and Marine Infrastructure markets. As part of a recent project EGS Asia had to deploy an Acoustic Doppler Current Profiler (ADCP). To ensure it could be recovered when it was time to retrieve the stored data, a JW Fishers MFT-1 transponder was attached. The transponder stays dormant saving battery power, until activated by a gun-like device called an Interrogator which causes it to begin transmitting an acoustic signal. The interrogator can be carried by a diver or deployed from a boat. Once the transponder begins sending a signal, the interrogator detects it and displays direction and distance to the target. A MFT-1 was attached to the tripod holding the ADCP before deployed in 15 to 35 metre water depth. Using the interrogator the device can quickly be relocated and recovered.

## Oceanographic Equipment

Ireland's seabed territory is ten times larger than its land mass. The Ocean Science and Information Services Marine Institute was established to undertake and assist in marine research, to promote economic development, create employment opportunities, and protect the ocean environment. The institute provides scientific and technical information that helps the country's legislators make sound policy decisions to support and sustain Ireland's valuable marine resource. Routine monitoring and measuring of the ocean environment is essential to gather the data needed to provide the best advice. To ensure oceanographic monitoring instruments can easily be recovered, the institute is using JW Fishers MFT-1 transponders and DHI-1 interrogator.

## Retrieving Lost Pigs

Helping to relocate underwater sites and oceanographic equipment is one of the uses of these acoustic devices. Propipe (UK) is designer and manufacturer of pipeline pigs for the oil and gas industry. These 'pigs' perform maintenance operations inside the pipe, and 'pigging' is generally done without stopping the flow of material through the pipe. This is accomplished by inserting the pig into a 'launching station', an oversized section of the pipe that then narrows to the normal diameter. The pig is moved along by the pressure of the product moving through the pipeline, and is then removed at a receiving station, the 'pig catcher'. To ensure the pig's movement can be tracked, and its exact location determined should it become stuck, an acoustic pinger is attached. Propipe has acquired several of JW Fishers PR-1 pinger receivers so they can track their pigs and be sure they are safely recovered.

*Image: Diver with JW Fishers PR-1 acoustic receiver. Inset: Fishers acoustic pinger and transponder. Image courtesy: Steve Barsky.*