

SIO FISH is found on ocean floor

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A \$50,000 electronic seafloor-mapping instrument lost on the ocean floor in nearly two miles of water when its towing cable broke in November, 1967, has been located and recovered, and is now back in service with Scripps Institution of Oceanography, University of California, San Diego.

The instrument, called FISH by scientists and technicians of Scripps' Marine Physical Laboratory (MPL), who developed it, is about four feet long and weighs about 1,500 pounds. It carries five different sonar systems plus photographic equipment and magnetometer all designed to provide information about the fine scale nature of the deep sea floor.

Dr. Fred N. Spiess, associate director of Scripps and director of MPL, was aboard the Thomas Washington Nov. 19, 1967, when the vessel was towing FISH during seafloor mapping operations some 30 miles south of the tip of Baja California. About 13,000 feet of coaxial cable weighing some 10,000 pounds was attached to the instrument as it sank to the ocean floor.

Dr. Spiess said the exact acoustic navigational data being obtained when the cable broke and the information recorded aboard ship from the sonars and magnetometer together with a duplicate FISH - helped him and his colleagues locate the lost instrument when they returned to the area recently aboard the Washington for additional bottom studies.

"We know of very few instances in which a piece of oceanographic gear has been lost at the bottom of the ocean and later recovered," said Dr. Spiess.

"But thanks to the mapping done by the lost FISH and the scanning of its sister, previously built as a spare, we again have both of the instruments available."

Another Scripps-developed piece of equipment was used to bring the lost FISH to the Washington's deck. It was a device pulled across the ocean floor that grasps a cable between two plates held together by powerful springs. This was lowered and towed across the area where the map indicated the FISH and its cable must be.

On the third crossing of the mapped region, the scientists noted an abrupt increase in the output of the cable strain gauge, indicating that they had hooked on to the submerged cable.

Finally, after nine long hours of careful effort by the crew in maneuvering the ship and operating the winch that was lifting the FISH and the cable attached to it, the instrument was raised to the deck and, alongside the new FISH, returned to San Diego.

Except for two non-anodized aluminum plates that had badly corroded, the lost FISH was in near-perfect condition, even after six months on the ocean floor. The FISH was covered by a special epoxy paint that had been applied by the Navy Electronics Laboratory Center in San Diego.

"We looked over the instrument, saw it to be in remarkably good shape, and are ready to use it on our next deep-tow ocean runs on the East Pacific Rise next January," Dr. Spiess said.