The Ocean Tracking Network

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The Ocean Tracking Network (OTN) is a large-scale global initiative that comprehensively monitors ocean conditions and marine life response to these conditions.

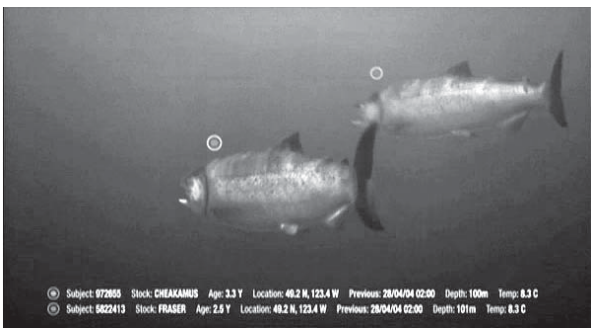
Scientists are tagging sea creatures, from salmon to whales, with tiny transmitters so that their movements can be tracked for over 20 years by receivers placed at one-kilometre intervals along the ocean floor. Pressure sensors added to these receivers allow real-time measurements of ocean depth, temperature and salinity, all of which provide significant information about climate change and the likelihood of natural disasters such as tsunamis.

On shore, scientists around the world can receive this information regularly and upload it to a central database, resulting in current and reliable international records.

THE POWER OF INFORMATION

To effectively protect and anticipate the future, we need to learn a thousand times more than we currently know about the ocean's biological and physical qualities, says OTN's project leader, Dr. Ron O'Dor of Dalhousie University.

The ocean makes up more than 70 per cent of the earth's surface, yet we know so little about what happens there. It feeds significant segments of the world's population. It controls our climate and fuels some of the deadliest natural disasters. It is the most vital component of our planet's infrastructure.



Original image from the Ocean Tracking Network digital film. With permission from the Faculty of Oceanography, Dalhousie University

By using a sea-bottom network of acoustic receivers to track fish movement and the ocean's physical changes, we can collect benchmark data for predicting future changes and improving sea-life conservation. The Ocean Tracking Network makes this possible, and is changing the way marine research is conducted.

INTERNATIONAL PARTNERSHIPS

The power and potential of this initiative come from the international partnerships that are required to ensure reliable and thorough data collection.

The Ocean Tracking Network's technology crosses all seven continents—North America, South America, Europe, Africa, Australia, Antarctica and Asia. It covers five oceans—the Atlantic, Pacific, Indian, Southern and Arctic.

The technology's global application is such that, while researchers are tracking Greenland shark migration patterns in the Canadian Arctic that may be affected by melting of the polar ice cap, other scientists will be tracking the movements of king penguins as they feed in Antarctic waters.

CANADIAN TECHNOLOGY AT ITS BEST

The Ocean Tracking Network provides the global research community with a powerful new Canadian tool for observing the state of our oceans. Its leading-edge "made in Canada" technology is tested and proven. These underwater observation systems have shown great success for two major tracking projects of the Census of Marine Life: Pacific Ocean Shelf Tracking (postcoml.org) and Tagging of Pacific Pelagics (toppcensus.org), based on North America's west coast. These projects are simultaneously monitoring marine life movements and ocean environments. OTN will apply this technology worldwide.

Article courtesy of Charles Crosby, Dalhousie University.