

# Diving in for science

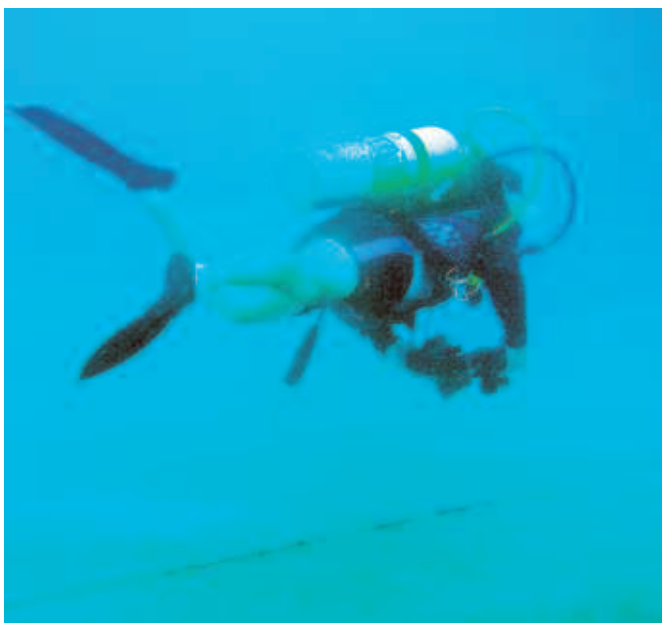
Martin Sayer tells us about NERC's Facility for Scientific Diving.

Each year, NERC-funded researchers carry out over 1000 scientific dives. Divers position experimental equipment, collect samples, or carry out surveys. The reasons and situations are extremely varied. For example, at the Proudman Oceanography Laboratory, the diving team maintains a series of tide gauges around the UK that make up the Tide Gauge Network ([www.pol.ac.uk/ntslf/tgi](http://www.pol.ac.uk/ntslf/tgi)). In the Antarctic, researchers dive to assess how iceberg impacts affect life on the seabed. At the Scottish Association for Marine Science (SAMS), divers spent a total of almost eleven and a half days submerged in 2004, doing various research, and I estimate I've spent nearly eighty 24-hour days underwater since starting my scientific diving career.

Many of our scientific divers receive training from NERC's Facility for Scientific Diving (NFSD), which is based at SAMS near Oban. We started out as a Centre for Diving in 1993. In 2001 the Facility got its current name, and in 2003 it formally became one of the NERC services and facilities. We offer advanced training in many scientific diving techniques, maintain an equipment pool, and advise on planning and managing scientific diving projects.

Despite improving technology, such as Remotely Operated Vehicles, towed video and drop-down cameras, much underwater research still needs people. For example, time-lapse infra-red underwater television cameras can record the behaviour and activity of animals. Sometimes the cameras must be very accurately placed – and this can only be done using divers. Collecting delicate samples, either living plants and animals

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or easily-disturbed sediment cores, is also often best done by hand. Unlike a trawl or grab, a diver takes only what's needed.

But sometimes divers are needed simply to get to awkward places. The easiest way to check the effects floating fish farms have on the sea bottom is to get underneath and look.

Of course there are limitations to diving. Because of the physics of water and the physiology of humans, divers are restricted in the depths that they dive to and the times spent at those depths. Much of scientific diving is like recreational diving, but when you're working in UK territorial waters you're governed by exacting health and safety standards. You have to conform to the 1997 Diving at Work Regulations. Scientific Diving is one of five formal Diving Industry sectors and it has a specific Approved Code of Practice that outlines how UK scientific diving operations should be carried out in a safe and proper way. A lot of NERC-funded scientific diving occurs outside of UK waters, but NERC considers the 1997 Regulations and the associated Code of Practice to set the minimum acceptable standard.

Although there are days when getting into the water has little attraction, I know I have a very special job. I'm always aware that this could be the dive when I see something amazing. And I always see something interesting.

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