West coast shipwrecks offer a haven for fragile deepwater corals

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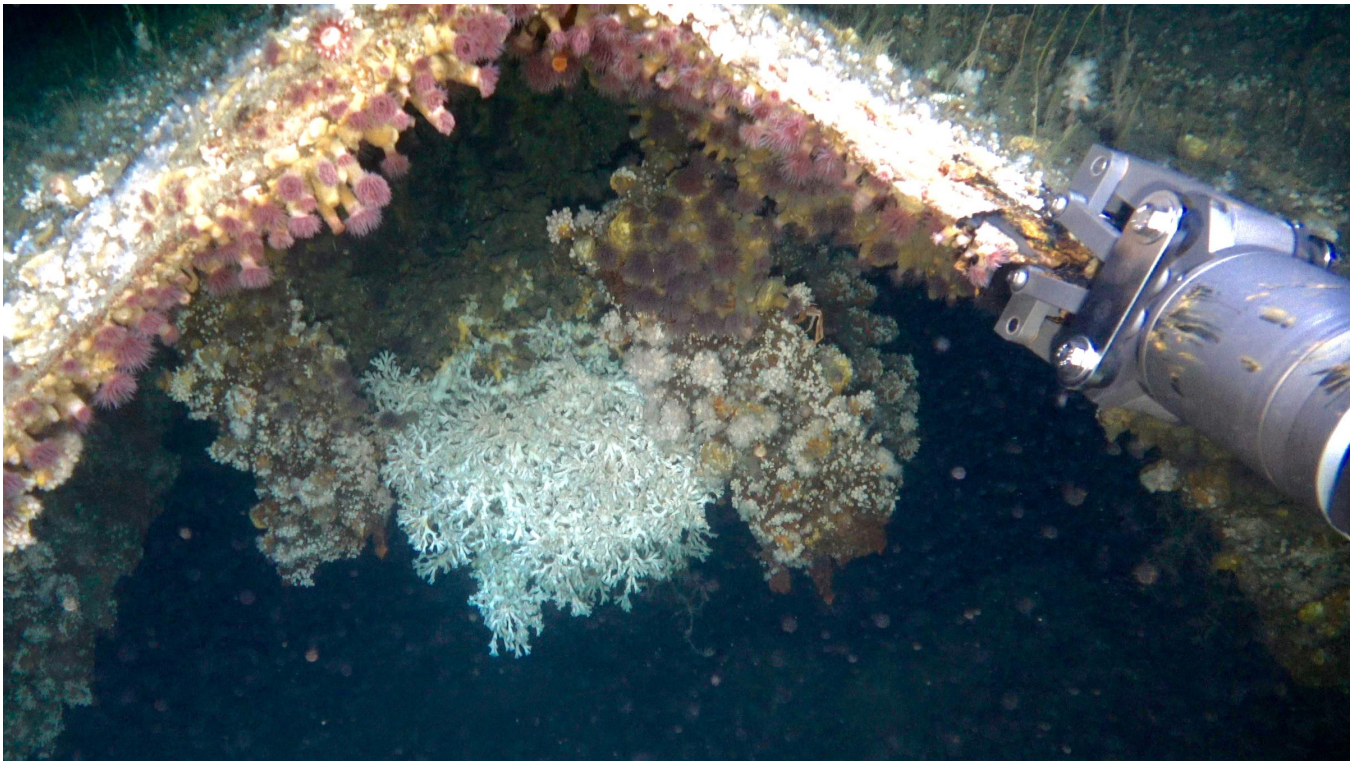

A remotely operated vehicle's image of coral on a sunken wreck off the Irish coast

Shipwrecks off the west coast are providing "sanctuaries" for fragile coral reefs normally found in deep water and canyons, ocean scientists have found.

Anthony Grehan, of the school of natural sciences at NUI Galway, discovered coral on a sunken cargo ship west of Kerry this month.

The wreck, which is 160m below the surface and dates back to the First World War, has been colonised by anemones, oysters and brachiopods. The "biggest surprise", Dr Grehan said, was *Lophelia pertusa*, right, a stony coral usually found below 500m.

Using a remotely operated vehicle nicknamed Étáin, developed at the University of Limerick, a team led by Gerard Dooly of the centre for robotics and intelligent systems carried out a survey to map several wrecks and a sunken U-boat west of Kerry.

The Limerick engineers invited scientists from NUI Galway and Ulster University Coleraine to join them during a spell of good weather this month. The team chose vessels from more than 4,000 located by Infomar, the state's seabed mapping programme, which is now available on the National Monuments Service "wreck viewer".

"Divers report that wrecks are often festooned with corals and other species," Dr Grehan said.

The discovery on the cargo ship confirmed that wrecks act as artificial reefs and "make an important contribution to maintaining coral and other species", he said. They also serve as "stepping stones for further colonisation or restoration of damaged habitats".

Dr Grehan has pioneered mapping of deep water *L. pertusa* reefs off the Atlantic seaboard. "By surveying these deeper wrecks we wanted to establish whether deeper reef-forming corals could survive in shallower water," he said.

The discovery also has implications for the design and management of marine protected areas and habitat restoration, he added, and recent scientific literature on "ocean sprawl" pointed to "some of the unexpected positive benefits of long-term structures found on the sea-floor".

Dr Dooly said that close-quarter inspection of wreck sites with an ROV was "technically challenging" and hazardous, because of abandoned fishing gear. Wrecks have long been known as prime spots for commercial fishing.

Unexploded shells and primers, as well as pots and pans scattered on the

seafloor near one of the wrecks, had reminded the team of the “human misfortune” in the sinkings, Dr Dooly added.

One of the other wrecks surveyed, the ocean liner SS *Canadian*, had a large debris field not visible on the original map, suggesting a “violent impact” with the seabed. This information was gathered by applying a new protocol on high-definition imaging of shipwrecks, developed by Ulster University Coleraine’s centre for maritime archaeology.

There are 18,000 records of potential wrecks in Irish waters and the Infomar programme run by the Geological Survey of Ireland and the Marine Institute has been steadily building up a detailed picture of their locations.

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