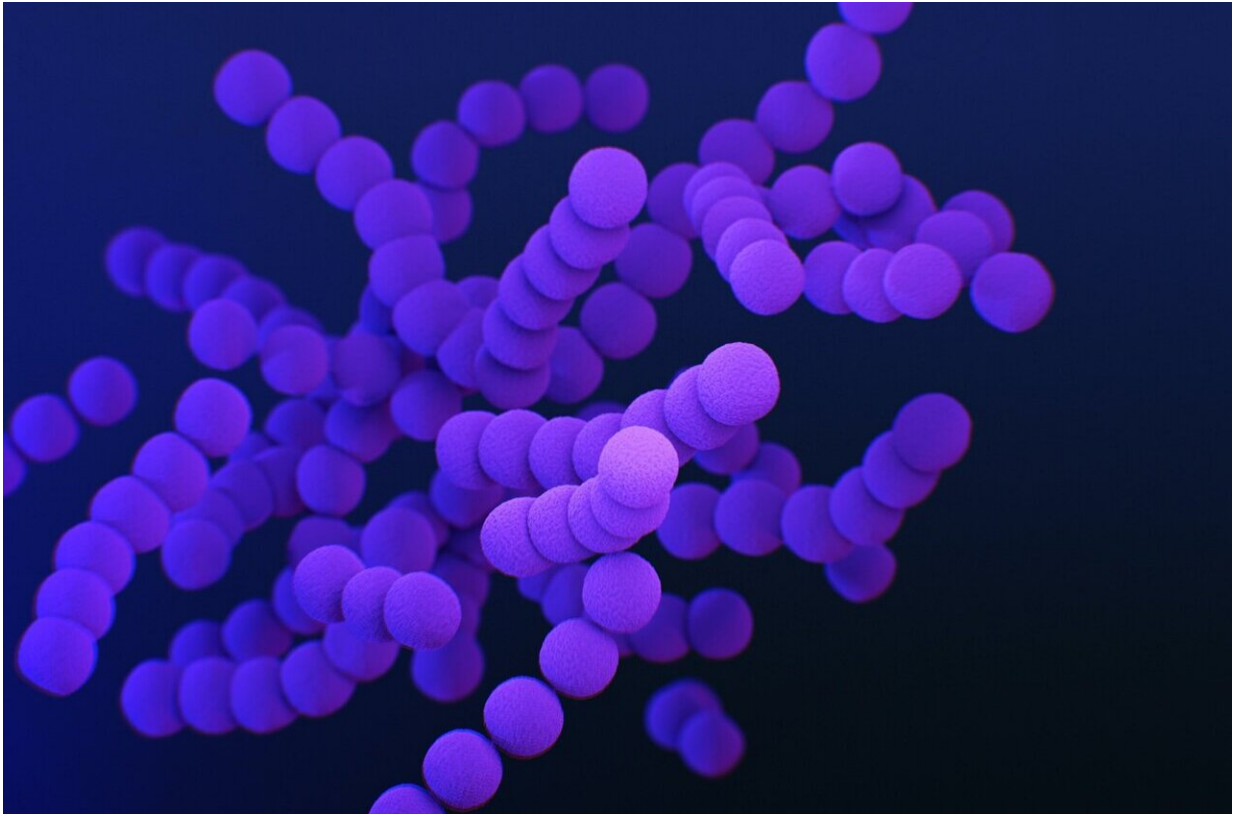


Oil-eating bacteria could help to tackle spills

March 30 2021, by Sarah McDaid



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A team of scientists from Heriot-Watt University has created an underwater observatory in the Faroe-Shetland Channel—and found its waters are teeming with oil-eating bacteria that could help deal with future oil spills.

It is the first observatory of its kind in the northeast Atlantic, an area with a high level of oil and gas and shipping activity.

It's still unknown if the abundance of the oil-degrading [bacteria](#) is evidence of chronic spillage, but indicates they are primed and ready to deal with blowouts or pollution from the [industrial activity](#) nearby, says Dr. Tony Gutierrez from Heriot-Watt University.

"Oil-degrading bacteria play a vital role in cleaning up [oil spills](#)—we found them strongly enriched during the Deepwater Horizon spill, for example. These types of microbes thrive on oil as a food source."

Gutierrez and his team monitored the Faroe-Shetland channel's water over two years, at different depths and locations, to establish a baseline for the microbes when there is no spill.

"Overall, we detected a higher than usual abundance of these bacteria. They comprised about 15-20% of the total community of microbes, when quite often you find them at less than 1% abundance.

"We're not sure why this is the case—it could be due to natural seepage of oil from the seafloor, or the release of produced waters from oil rigs.

"Establishing a baseline in these waters is critical so that we can monitor the impact of future spills and the success of any clean-up efforts, as well as other issues such as [ocean acidification](#) and ocean warming."

The team is planning to extend its monitoring in the Faroe-Shetland channel and hopes to better understand why these types of bacteria are in such atypically high abundance.

They also have other locations in mind for similar observatories.

"Creating microbial observatories in other ocean regions at potential risk of pollution and [climate change effects](#), like the Arctic, is one of our goals," said Gutierrez.

The research was funded by the Royal Society, the Society for Applied Microbiology and the Marine Alliance for Science and Technology for Scotland (MASTS).

The research was published in *mBio*, an American Society for Microbiology journal.

More information: Angelina G. Angelova et al. Inter- and Intra-Annual Bacterioplankton Community Patterns in a Deepwater Sub-Arctic Region: Persistent High Background Abundance of Putative Oil Degraders, *mBio* (2021). [DOI: 10.1128/mBio.03701-20](https://doi.org/10.1128/mBio.03701-20)

Provided by Heriot-Watt University

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