

Scientists discover noise pollution effects on shellfish

4 October 2013



(Phys.org) —Man-made noise in the oceans may have significant damaging effects on shellfish populations, according to a new international study published today.

A team of researchers from the Scottish Oceans Institute at the University of St Andrews, Scotland, the University of La Laguna, Canary Islands and the University of Auckland, New Zealand, found that [marine invertebrates](#), such as shellfish, suffered significant body malformations after being exposed to noise.

The team conducted a sound playback experiment on New Zealand scallop larvae, comparing their development to a control group kept in quiet conditions. The results show that the exposed scallops suffered significant development delays, with 46% of them developing body abnormalities, while no malformations were found in the controlled larvae.

The strong impacts observed in the experiment

suggest that abnormalities and growth delays could also occur at lower [noise levels](#) in the wild, suggesting routine underwater sounds from oil exploration and construction could affect the survival of wild scallops.

Team leader, Dr Aguilar de Soto, from the University of St Andrews and the University of La Laguna said:

"Nobody knew that noise exposure could affect the growth of animals so dramatically so it was a real surprise to discover [malformations](#) in these microscopic larvae. What is actually going wrong inside the cells is still a mystery that we need to investigate. Shellfish larvae go through radical body changes as they grow and noise seems to disrupt this natural process.

"Fishermen worldwide complain about reductions in captures follow seismic surveys used for oil explorations. Our results suggest that noise could be one factor explaining delayed effects on stocks"

MASTS (Marine Alliance for Science and Technology for Scotland) senior research fellow Dr Mark Johnson of St Andrews said:

"Between shipping, construction and oil explorations, we are making more and more noise in the oceans. There is already concern about the possible effects of this on whales and dolphins. Our results show that even small animals could be affected by noise. It is important to find out what [noise](#) levels are safe for [shellfish](#) to help reduce our impact on these key links in the food chain"

The full report is published today in the Nature Publishing Group journal, *Scientific Reports*.

More information:

www.nature.com/srep/2013/13100.../full/srep02831.html

Provided by University of St Andrews

APA citation: Scientists discover noise pollution effects on shellfish (2013, October 4) retrieved 12 May 2021 from <https://phys.org/news/2013-10-scientists-noise-pollution-effects-shellfish.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.