

Fish exposed to noise pollution likely to die early: study

September 16 2020



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Fish stressed by noise are less able to fight off disease and prolonged exposure can lead to an early death, according to research on the consequences of man-made clamour on the natural world.

Human noise pervades the environment, from the roar of engines to the

clatter of industry.

Being underwater is no escape, with the whir of ship propellers thought to interfere with whale sonar.

Researchers at Cardiff University in Britain said noise pollution has been shown to lead to "stress, hearing loss, behavioural changes and impacted immunity".

But they said the ways in which noise affects resistance to disease had remained "neglected".

In their paper, published in the journal *Royal Society Open Science* on Tuesday, researchers tested the impact of random blasts of white noise played into fish tanks on the susceptibility of guppy fish to parasitic infection.

One group of fish was exposed to "acute" noise played for 24 hours, another group had the noise played for seven days.

All fish were anaesthetised and infected with a parasite, either after the noise exposure in the case of the acute group, or during it for the chronic group.

A third control group of fish were infected but left in a silent tank.

The authors found that while the fish exposed to acute noise had the highest disease burden over a 17-day monitoring period, those in the chronic group were more likely to die earlier—at day 12, compared with day 14 for both other groups of fish.

Co-author Numair Masud said further experiments would be needed to show the exact effect on immune response.

But he said the findings could have implications for conservation efforts as well as for fish farms, where the species being reared are highly susceptible to parasites.

"Freshwater fish in particular are facing unprecedented levels of species loss," he told AFP.

"Ultimately, our study highlights the need to keep sound pollution to a minimum to prevent increased disease susceptibility and mortality levels."

There is an increasing understanding of the health burden associated with the cacophony created by human industry and transportation.

In a meta-analysis of individual studies published in November, scientists at Queen's University Belfast found that noise affects amphibians, arthropods, birds, fish, mammals, molluscs and reptilians.

So widespread is the problem, they called for man-made noise to be treated as a "major global pollutant".

More information: Noise pollution: acute noise exposure increases susceptibility to disease and chronic exposure reduces host survival, *Royal Society Open Science* (2020).

royalsocietypublishing.org/doi/10.1098/rsos.200172

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Citation: Fish exposed to noise pollution likely to die early: study (2020, September 16) retrieved 6 June 2023 from <https://phys.org/news/2020-09-fish-exposed-noise-pollution-die.html>

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