

Stress from noise can be short-lived

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A European eel (*Anguilla anguilla*)

Underwater noise can negatively impact anti-predator behaviour in endangered eels and increase stress in both eels and European seabass, a new study published in *Royal Society Open Science* confirms.

However, there is also some more positive news. The researchers, from the University of Exeter, the University of Bristol and HR Wallingford found that directly following two-minute exposures to [noise](#), both fish species quickly recovered in behaviour and physiology, suggesting rapid

recovery. This indicates that once short bursts of loud man-made noises are terminated, some impacts may be short-lived.

Dr Rick Bruintjes explains: "These findings suggest that stopping or lessening noisy human activities can quickly reduce the impacts of man-made underwater noise seen in some [fish species](#)." This is quite different from many other man-made pollutants such as global warming or ocean acidification, where the legacy of impacts could last decades or centuries.

The key to this study was not just confirming that eels and seabass are negatively affected by underwater noise, but whether these effects could last beyond the period of exposure. Dr Andy Radford describes how this was done: "We carried out controlled laboratory experiments to first confirm that eels and seabass are negatively affected by underwater noise. Following two minute exposures to playback of marine noise, we added an extra observational period immediately afterwards to test for carry over of effects or for signs of recovery."

This doesn't necessarily mean that impacts from [underwater noise](#) pollution are all short-lived. Dr Steve Simpson explains: "Our results demonstrate that noise can negatively affect both [eels](#) and seabass but, perhaps more importantly, that the impacts of single short-term noise exposures on ventilation rate and anti-predator behaviour can dissipate once conditions go quiet. Of course if the fish suffers predation there is no second chance, and if prolonged noise exposure leads to starvation, disease or relocation, the impact could again be irreversible, but if the noise simply causes stress, then the fish seem able to recover quickly."

These findings suggest that with careful management of [ocean noise](#), by choosing when, where and for how long we make noise through activities such as shipping, pile driving and resource extraction, we could help to give fishes one less pollutant to worry about.

More information: 'Condition-dependent physiological and behavioural responses to anthropogenic noise' by Julia Purser, Rick Bruintjes, Stephen D. Simpson and Andrew N. Radford in *Royal Society Open Science*, [DOI: 10.1016/j.physbeh.2015.12.010](https://doi.org/10.1016/j.physbeh.2015.12.010)

Provided by University of Bristol

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