

Ship noise makes crabs get crabby

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A study published today in *Biology Letters* found that ship noise affects crab metabolism, with largest crabs faring worst, and found little evidence that crabs acclimatise to noise over time.

The team from the Universities of Bristol and Exeter found that crabs exposed to recordings of ship noise showed an increase in metabolic rate, indicating elevated stress. In the real world this could have implications for growth and, if the metabolic cost of noise causes crabs to spend more time foraging to compensate, could also increase the risk of predation.

Researcher Matt Wale from Bristol's School of [Biological Sciences](#) describes the study: "We used controlled experiments to consider how shore crabs of different sizes respond to both single and repeated exposure to playback of ship noise. Ship noise is the most common source of noise in the [aquatic environment](#)."

Explains Dr Andy Radford, Reader in Behavioural Ecology at Bristol: "We found that the [metabolic rate](#) of crabs exposed to ship noise was higher than those experiencing ambient harbour noise, and that larger individuals were affected most strongly. This is the first indication that there might be different responses to noise depending on the size of an individual."

If commercially important crabs and [lobsters](#) are affected by noise, these findings have implications for [fisheries](#) in busy shipping areas where large individuals may be losing out. Conversely, if reducing noise

reduces metabolic costs, then quietening aquaculture facilities may lead to higher yields.

Dr Steve Simpson from the University of Exeter warned: "Since larger crabs are affected more strongly by noise this could have implications for fisheries in noisy areas. Also, many crustacean species, particularly [prawns](#), are grown in aquaculture, so if acoustic disturbance has a metabolic cost then operational noise in farms may impact on growth, and quieter farms may be more profitable."

More information: "Size-dependent physiological responses of shore crabs to single and repeated playback of ship noise" is published by Matt Wale, Steve Simpson and Andy Radford in the Royal Society journal *Biology Letters*.

Provided by University of Bristol

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