Ship noise impairs feeding and heightens predation risk for crabs

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Less effective feeding in noisy environments means more time must be spent foraging to avoid starvation, during which crabs are exposed to their natural predators. Credit: Brent Wilson

A study published in the journal *Animal Behaviour* found that the noise of passing ships disrupts feeding for the common shore crab. Perhaps worse, the team from the Universities of Exeter and Bristol also found

that when threatened, crabs took longer to retreat to shelter and lost their natural 'play dead' behaviour.

In coastal seas around the world noise caused by humans is a dominant feature, with construction and transportation fundamentally modifying ocean soundscapes.

Working with the same common shore crabs that children delight in catching on crablines in UK harbours, the team found ecologically-critical effects of ship noise-playback on behaviour.

Matt Wale from the University of Bristol said: "Crabs feeding on mussels were often distracted when ship noise was playing compared to quiet harbour recordings. Furthermore, crabs took longer to retreat to shelter after simulated attacks in noisy treatments, and if turned upside-down they flipped back far quicker in noisy conditions rather than turning slowly to avoid attracting attention of potential predators."

Dr Steve Simpson from the University of Exeter said: "We have already found that ship noise raises the metabolic rate and energetic needs of crabs. If coupled with reduced foraging and worsened responses to predators, this cocktail of impacts may negatively affect growth, fitness, survival and, ultimately, harvested populations and whole ecosystems."

In the real world these findings present a double-edged sword. Less effective feeding in noisy environments means more time must be spent foraging to avoid starvation, during which crabs are exposed to their natural predators. But if crabs also perform less well when attacked, this elevated predation risk starts to threaten their very survival.

Dr Andy Radford from the University of Bristol said: "Ship noise is known to affect whale behaviour, and there is evidence that fish can also be affected by vessel noise. As a result behavioural studies of impact

have focused on communication and movement patterns, while implications for marine invertebrates are relatively unknown."

More information: www.sciencedirect.com/science/ … ii/S0003347213001991

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