Say What?! Whales Shout over Noise Pollution

Just like a New Yorker shouting to be heard in a crowded deli, whales must shout to be heard in ever noisier ocean waters, a new study suggests.

North American right whales increase the volume of their calls as environmental noise increases, but at a certain point, it may become too costly, the study reveals.

"The impacts of increases in ocean noise from human activities are a concern for the conservation of marine animals like right whales," said acoustics researcher and study team member Susan Parks of Penn State University. "The ability to change vocalizations to compensate for environmental noise is critical for successful communication in an increasingly noisy..."
Right whales are large baleen whales that often approach close to shore. They are rich in blubber, slow-swimming and remain afloat after death. Consequently, whalers nearly hunted these whales to extinction until whaling was banned in the early 20th century. Right whales are now monitored to determine the health and size of the global population. The northern and southern right whales — named for the hemispheres in which they live — are on the endangered species list.

Whales produce sounds called upcalls, sometimes called contact calls, when they are alone or in the process of joining with other whales. An upcall begins low and rises in pitch, and is the most frequent call produced by right whales.

"Right whale upcalls are used extensively for passive acoustic monitoring in conservation efforts to protect this endangered species," Parks said.

Right whales increase the amplitude, or the energy in their calls, directly as background noise increases without changing the calls' frequency, the study suggests. This means that right whales should still be able to understand their friends' calls over the ocean noise.

Changing calling patterns can, however, incur costs. Louder calls take more energy, and the information in them could be garbled. The calls could also alert predators, the scientists said.

The study is detailed in the July 6 edition of the journal Biology Letters.

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