Harbor seals find it difficult to be heard over noise of cruise ships

April 8 2020, by Bob Yirka

Credit: CC0 Public Domain

A small team of researchers from Syracuse University, Cornell

University and the Humpback Whale Monitoring Program in Glacier Bay National Park reports evidence of harbor seals having difficulty being heard over the noise from cruise ships during mating season. In their paper published in the journal *Biology Letters*, the group describes studying noise off the coast of Alaska's Glacier Bay National Park and what they learned about it.

Prior research has shown that male harbor seals emit a roar-like sound on occasion—it has been found that they do so to mark their territory and as a way to attract a mate—males grow to nearly 2 meters in length and weigh on average 160 kg. They have been observed fighting over mates both in the water and on land. Mating for harbor seals happens just once a year—both courtship and mating occur underwater—and females gestate for approximately nine months. In this new effort, the researchers have found evidence that suggests noise from cruise ships might be interrupting the courtship of harbor seals.

Prior research has shown that some of the noise emitted from the engines of cruise ships is very low frequency, and coincidently, is the same frequency as the roar of harbor seals. To find out if the noise from the ships might be causing problems for the harbor seals, the researchers lowered microphones into the waters of Glacier Bay and recorded underwater sounds there from May to October in 2015—a time period that overlapped with the harbor seal mating season.

The microphones picked up 545 roars made by four harbor seals in addition to the noise generated by passing cruise ships. The researchers noted that the noise from the ships was one of the largest contributors of noise on their recordings. They also noted little difference in the seal roars during times when the cruise ships were making noise—in volume, frequency or duration. This, they note, could be a problem, because the noise from the cruise ships was louder than that made by the seals, which suggests the females would have difficulty hearing them. The

researchers suggest it is likely the seals were not able to increase their volume because they were already roaring as loud as they could.

More information: Leanna P. Matthews et al. Acoustically advertising male harbour seals in southeast Alaska do not make biologically relevant acoustic adjustments in the presence of vessel noise, *Biology Letters* (2020). DOI: 10.1098/rsbl.2019.0795