

Researchers find oil does not damage or clog whale baleen, but plastic does

May 22 2019, by Bob Yirka



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A trio of researchers with Hampden-Sydney College has found that exposure to oil does not damage or clog whale baleen. In their paper published in the journal *Royal Society Open Science*, Alexander Werth,

Shemar Blakeney and Adrian Cothren describe their study of baleen exposure to several types of oils and what they found.

Creatures living in the ocean are frequently exposed to material in the [water](#) that is not natural to their environment—human activities result in oil, [heavy metals](#), plastics and other materials entering the oceans, which can create problems for sea life. For some time, marine scientists have wondered about the impact of oil on [baleen whales](#)—prior studies have shown that ingesting too much can lead to a host of health problems, and external exposure can cause skin irritation and infections, but what about the [baleen](#)? That was what the researchers with this new effort sought to learn.

Baleen whales are some of the biggest creatures in the ocean. They survive by sifting huge amounts of water with their baleen and swallowing what it captures—mostly krill, plankton and small fish. The baleen is made of keratin, the fibrous protein in human hair and fingernails. To find out whether oil may create baleen problems, the researchers obtained samples of baleen from four different types of whales and exposed them to several different types of oils—most particularly, those that are most likely to be involved in oceanic oil spills.

The researchers report that none of the oils stuck to any of the baleen samples—it was repelled as easily as water. The oil was not absorbed by the baleen, either. Furthermore, all of the oil samples were easily flushed away by normal water movement. The study shows that oils in the water do not pose a hazard to the baleen in whales. But the researchers found something else that did—tiny bits of [plastic](#) adhered to the baleen and posed a possible clogging problem for the [whales](#).

More information: Alexander J. Werth et al. Oil adsorption does not structurally or functionally alter whale baleen, *Royal Society Open Science* (2019). [DOI: 10.1098/rsos.182194](https://doi.org/10.1098/rsos.182194)

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Citation: Researchers find oil does not damage or clog whale baleen, but plastic does (2019, May 22) retrieved 4 May 2024 from <https://phys.org/news/2019-05-oil-clog-whale-baleen-plastic.html>

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