

Science Sunday
Sunday, October 18, 2020, 1:30 - 2:30 PM PDT

**“Hidden in the Ice:
Uncovering the Secret Lives of Antarctic Minke Whales”**

During the Science Sunday presentation on Sunday, October 18, 2020, we recorded all the questions we were unable to answer during the 10-minute moderated Q&A.

- 1. It was mentioned that minke whales travel to the tropics. Are there any minke whale research programs or tagging efforts in the tropics? If so, is the data collected (behavior, movement, etc.) different or similar to that seen in Antarctica?**

There are a few! Oceania is an NGO in Moorea that has been doing photo ID and surveys and has found mother/calf minke whale pairs which is amazing. There has been no tagging work or dedicated similar work likely due to logistics and funding but also because they are quite hard to find (the whales that is).

- 2. How do minke whales locate their prey? Is it by sight, sound, “touch”, or something different?**

Great question and something that many scientists are thinking about. It likely depends on the situation and they likely use multiple senses. For example, they may use vision to see patches from below that are counter-shaded near the surface, they may use sound to listen for noises that their prey make, and they may use touch if they are searching at depths where there is no light.

- 3. Have you also been able to see how they might be able to use the blazes of white on their pecs to herd prey?**

We have not, but that certainly could be a use for that color pattern.

4. How do you measure the prey density data at night? From a bigger boat?

Precisely, we use our larger ‘live-aboard’ science platform that has similar echo sounders.

5. Have you noticed bioluminescent plankton while in Antarctica? Is it common? Do minke whales prey on bioluminescent plankton?

Antarctic krill do appear to have some bioluminescent abilities but we don’t know if and how they use them or if the whales are able to see that at depth.

6. Are minke whales found off North-Eastern Australia (Great Barrier Reef)? Either the dwarf minke whale or the Antarctic minke whale?

The best-studied population of dwarf minke whales is in fact found off the GBR in Australia, there is a long-term program there. Occasionally, an Antarctic minke whale will strand or be sighted in other areas around Australia.

7. What is the minke whale’s main predator?

Killer whales!

8. How serious a threat are orcas to minke whales? Do the bays actually “protect” minke whales that well?

From what we have observed and what has been published, killer whales hunt minke whales by chasing them for long periods of time and wearing them down until they can drown them. The ecotype of killer whales that feed on minke whales typically stay in open water and do not go into the bays. Our thought is that the ice provides some cover and makes it harder for the killer whales to chase the minkes.

9. Do you hear more vocalizations from minke whales at night compared to other parts of the day? And does frequency change from day to night?

Good question! We are finishing up this paper right now and there are some that are associated with feeding that are more common during the night when more foraging occurs and there are a couple of calls that are not associated with foraging that we hear more during the day.

10. What is commercially-caught krill used for?

Two things mainly: meal for pet food (protein) and for krill oil supplements. The benefits of the latter to people have not really been shown to be all that big from my understanding. But krill are not fished primarily for food for people.

11. Is the cruise ship industry receptive to requests to slow down or limit traffic? (Alarming overlap with ship paths in minke whale's habitat!)

Yes, they are. In fact, they initiated a voluntary speed reduction program this past year in certain places and it is great that they are receptive and willing to work with new information.

12. Do you collect samples to understand the impact on whales from man-made chemicals?

We do. We have a project that is actually supported by one of the tour companies (Hurtigruten) to test for endocrine disruptors in whale blubber that would indicate exposure to plastics. We think of the Antarctic as being an ecosystem with less plastic than other parts of the world and hope to compare our samples with those from other regions, including Monterey Bay.