

Keeping up with the dolphins: Drones give snapshot of pod health

August 28 2024



Group of bottlenose dolphins about to break through the surface in Greece.
Credit: MMRP/IDP, Fabien Vivier

Using drones to successfully assess the age of critically endangered, free-ranging dolphins in Greece is the focus of new research at the University of Hawai'i at Mānoa Hawai'i Institute of Marine Biology (HIMB). This work, done in partnership with the Tethys Research Institute, informs researchers' understanding of population abundance and demographics,

which can improve management practices and help ensure their survival. The study is [published](#) in *Animal Conservation*.

Marine Mammal Research Program (MMRP) researchers are comparing the drone imagery results with long-term data and data from stable, non-endangered bottlenose dolphin populations in Shark Bay, Australia, and Sarasota Bay, Florida.

"In [our new] study, we highlight the speed and accuracy of UAS-photogrammetry ([drone](#) imagery) in assessing the age structure of free-ranging dolphin populations, and the implications towards management and conservation," said Fabien Vivier, MMRP researcher and lead author of the study.

"Our hope is that by using this method, we can quickly monitor the age-structure of free-ranging dolphin populations. This information can facilitate the detection of early signs of population changes, such as a decrease in the number of calves, and provide important insights for timely management decisions."

Healthy dolphin populations have a consistent proportion of calves, juveniles and adults; a deviation from this can suggest the population is unstable. Using drones, researchers were able to quickly quantify the age-structure of the critically endangered dolphin population in Greece in a few days.

Previous study classifies dolphin age

In a previous study, the MMRP team used specialized calibrated drones to successfully measure the length of free-swimming dolphins and classify them by age.

"When dolphins come to the surface to breathe, they expose their

blowhole and [dorsal fin](#)," said Vivier. "By measuring the distance between the two, we can estimate their total body length. Since total length is related to age, we can estimate the age-group of a single dolphin."

Aquatic mammals known as cetaceans, which include whales, dolphins and porpoises, face a slough of threats from [habitat degradation](#), [climate change](#), fisheries, and chemical and noise pollution. One quarter of the 92 known cetacean species are at risk of extinction, and there is a clear and urgent need to implement effective conservation strategies.

The project was done in collaboration with the Shark Bay Dolphin Research Project and the Sarasota Dolphin Research Program.

More information: F. Vivier et al, Inferring dolphin population status: using unoccupied aerial systems to quantify age-structure, *Animal Conservation* (2024). [DOI: 10.1111/acv.12978](https://doi.org/10.1111/acv.12978)

Provided by University of Hawaii at Manoa

Citation: Keeping up with the dolphins: Drones give snapshot of pod health (2024, August 28) retrieved 28 August 2024 from <https://phys.org/news/2024-08-dolphins-drones-snapshot-pod-health.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--