



Can drones be used to assess body condition in free-living whales?

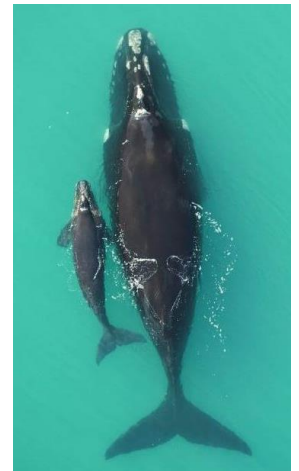
Dr Fredrik Christiansen

Cetacean Research Unit

School of veterinary and life sciences

Murdoch University, Australia

An animal's body condition can provide valuable information about bioenergetics, energy storage and costs of reproduction. Baleen whales undertake annual migrations between high latitude feeding grounds in summer and low latitude breeding grounds in winter. Traditionally, seasonal variation in body condition has been investigated from scientific whaling records. Here I present a non-invasive method to measure body condition in baleen whales using Unmanned Aerial Vehicles (UAVs) and photogrammetry techniques. During the austral winters of 2015 and 2016 we recorded aerial photographs of humpback whales (*Megaptera novaeangliae*) and Southern right whales (*Eubalaena australis*) on their breeding grounds off the coast of Australia. From the photos obtained, we measured the length-width ratio of the whales, which we used as a proxy for body condition. Using this proxy, we investigated seasonal changes in body condition of whales throughout the breeding season. We also looked at the relationship between female body condition and their calves, to better understand the costs of reproduction. Our findings show strong support for the use of UAVs to non-invasively assess body condition in baleen whales.



Friday, January 6th at 10.15

Seminar room (Room 127 building 1131)