

# Call for public support on Passive Acoustic Monitoring of whales and dolphins in Plettenberg Bay.

By Kuhle Hlati & Alejandra Vargas

The Department of Environmental Affairs together with Nelson Mandela Metropolitan University have initiated a Passive Acoustic Monitoring (PAM) project on the cetaceans (i.e. whales and dolphins) in Plettenberg Bay. A listening station has been established 1 km off the Robberg 5 beach. The project aims to understand the acoustic characteristics of different species of whales and dolphins in the area as well as to assess if hydrophones can be reliably used to monitor cetacean populations over time.

Marine mammals have developed vocal production mechanisms used for echolocation and communication. Vocal communication plays an important role in the social interactions in many species such as the bottlenose dolphin which has individually distinctive signature whistles that are highly stereotyped and function as contact calls. Classic cetacean surveys have used traditional visual methods to detect the animals, however there is a growing recognition that, for some animals, it is easier to hear them than to see them for the obvious reason that they spend most of their time below the sea surface.

As a result of technological progress, there is now increasing awareness about the usefulness of Passive Acoustic Monitoring for surveying and studying cetaceans in their natural environment. PAM entails deployment of hydrophone instruments. These instruments are designed to detect and register sounds transmitted underwater at different frequencies.

Acoustic monitoring can be conducted all day and night as well as during unfavourable weather conditions that would limit or prevent effective visual surveys. PAM is regarded as a cost-effective and non-intrusive method for monitoring dolphins and whales and acoustic surveys also require fewer personnel. However, the hydrophone does require servicing at regular intervals and last week was the third retrieval and redeployment of these instruments in Plettenberg Bay (pictured).

It has been shown that dolphin detection rates using acoustic methods can be substantially higher than for visual surveys. However, the ideal option is an integrated survey design that builds on the strengths of both acoustic and visual surveys. Moreover, to be able to relate species (or populations) to distinctive sounds requires both acoustic data with visual observations. We have begun with land-based visual surveys and are planning to install a land-based video recording system that synchronises with the sea-based hydrophone. In this regard, we would welcome your assistance (Robberg residents, interested and affected parties) in reporting sightings of whales and dolphins within the vicinity of Robberg.

Report your sightings and help this research via **SMS to 078 550 1742**. The most likely species to be sighted in the vicinity of Robberg are Indo-Pacific Bottlenose dolphin, Indo-Pacific Humpback dolphin, Common dolphin, Humpback whale, Southern Right whale and the Bryde's whale. Please include the following information in your SMS:

- Number of dolphins or whales
- Location of the animal(s)
- Date and time of the sighting

A sample of sounds recorded by the hydrophone so far are available on [www.conserbio.org](http://www.conserbio.org)

Special thanks last week to CapeNature, DenRon, Enrico's Fishing Charters, Waterbouyz Marine, the commercial divers who kindly volunteered their time for the deployment and to the citizens who have been reporting their sightings. Other ongoing project collaborators can be found at [www.conserbio.org](http://www.conserbio.org)

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Commercial divers getting ready to service the hydrophone (photo by A. Vargas)



Commercial divers servicing the hydrophone (photo by Timmo Godfrey)