

Cameras aid in monitoring Fremantle dolphin movements

June 22 2015, by Lily Yeang



They put their hypothesis to the test by using video and still cameras to detect Indo-Pacific bottlenose dolphins (*Tursiops aduncus*). Credit: Aude Steiner

Cameras are more effective than field personnel at collecting long-term data on marine animals in the ocean, according to a WA study on dolphin movements.

The research, published on *Plos One*, analysed whether the benefits of

using cameras outweighed the implications of having personnel performing marine mammal detection in the field.

Curtin University researcher and lead author Estênio Guimarães Paiva says field researchers usually collect information on marine mammals from the top of a high platform such as a hill, with the aid of binoculars and a theodolite (an instrument for measuring angles).

"This particular research gave us the chance to present an alternative to having personnel conduct long hours of observation in the field, to improve long-term data collection of dolphins in the wild," Mr Paiva says.

They put their hypothesis to the test by using video and still cameras to detect Indo-Pacific bottlenose dolphins (*Tursiops aduncus*).

"Within the Fremantle Inner Harbour, using cameras was effective for long-term monitoring of occurrence and positions of dolphins," he says.

"In relevant applications [it] reduces the risk associated with having personnel in the field as well as costs of the monitoring program.

"The cameras were placed in a waterproof box and positioned on the top of a three-metre tower that was built for this purpose, facing an area where dolphins were known to occur.

"Videos were perused by eye for [dolphins](#), and still photos were used to calculate their position at the water's surface based on known positions of reference objects within the photos."

Camera monitoring allows for "rewind" and "pause"

Mr Paiva says cameras are cheaper to use and can still operate during

poor weather conditions.

"In addition, videos can be perused at faster speeds for quicker perusal and also paused and rewound if checking further details is necessary," he says.

They determined poor weather conditions resulted in fewer detections, and that the method was limited in terms of the [camera](#)'s relatively narrow field of view, which restricted the method's applicability to certain questions.

"However, this study showed that cameras could be effectively implemented onshore for research such as studying changes in habitat use in response to development and construction activities," Mr Paiva says.

"This is particularly relevant when assessing the impact of human activities such as vessel traffic, dredging, and pile driving on dolphin occurrence.

"Research programs conducted in areas of [poor weather](#) conditions could also benefit from using cameras."

More information: " An Assessment of the Effectiveness of High Definition Cameras as Remote Monitoring Tools for Dolphin Ecology Studies." *PLoS ONE* 10(5): e0126165. [DOI: 10.1371/journal.pone.0126165](#)

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