Dolphins filmed fishing in trawler nets: Modifications needed to reduce bycatch

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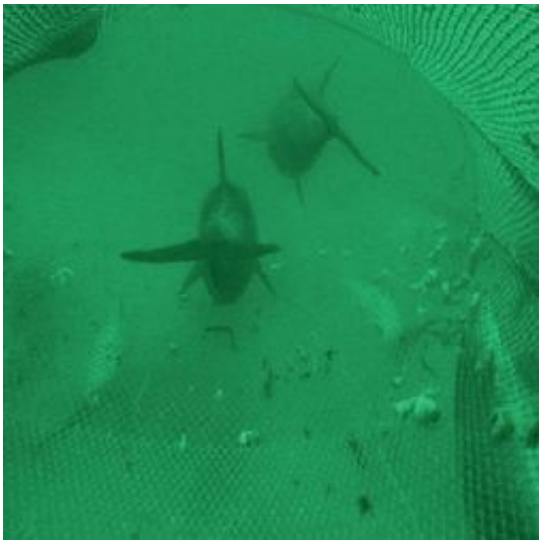

(Phys.org)—Murdoch University researchers have caught bottlenose dolphins on camera repeatedly raiding trawler fishing nets for food in northern Western Australia.

The recording of this behaviour could help with the modification of trawler fishing nets so that fewer dolphins are killed as bycatch say researchers Vanessa Jaiteh, Simon Allen and Professor Neil Loneragan of the Murdoch University Cetacean Research Unit and Professor Jessica Meeuwig of the University of Western Australia.

They placed video cameras inside the nets of Pilbara Fish Trawl Fishery trawlers and later analysed 85 hours of footage from 36 entire trawls. Of the 29 dolphins they could identify inside the nets, seven returned repeatedly to hunt inside the nets.

Since many more dolphins are seen following the trawlers, this led the scientists to conclude that it is only a subset of the dolphin population in the area that enters trawl nets.

"Dolphin communities all over the world have learnt to exploit fisheries as an energy efficient food source," said Ms Jaiteh, the primary author of the study published in Marine Mammal Science.

"Many studies have focused on the surface behaviour of dolphins feeding on discarded bycatch from the trawlers at the water's surface, but not their subsurface behaviour.

"Although this dolphin behaviour has previously been recorded by scientists, our study is the first to use video systems with the resolution to allow individual dolphins to be identified and therefore repeat visits noted. This is also the first time the entire duration of the trawls was recorded, so the true extent of the dolphin raids could be accurately documented."

Mr Allen, co-author of the paper, said the reported annual bycatch of dolphins in the Pilbara Trawl Fishery ranged from 17 to 50 dolphins depending on whether the information recorded in skippers' logbooks or by observers was used, but that the actual numbers could be much higher because some dolphins die in the nets and fall out – their bodies not being observed or retrieved.

"Once a trawler moves to a new area, dolphins quickly gather around the stern of the vessel and are associated with it for much of the time it is in

the area. It is most likely that all individuals incidentally caught inside trawl nets in this fishery have deliberately entered the nets for the beneficial, yet risky foraging opportunities this presents," he said.

"From our observations, we believe it is the younger, more inexperienced dolphins which are less familiar with the nets' dimensions and trawling operations, which have a higher likelihood of being caught in them."

Mr Allen said nets have recently been modified to include a top-opening escape hatch so that dolphin bycatch might be reduced. "It is our understanding that the Department of Fisheries Western Australia commenced trials with new net designs a few months ago," said Mr Allen.

He added that the threat posed to the resident dolphin population off the Pilbara by trawler bycatch could not be fully quantified until genetic data and population abundance estimates became available. "We should not assume that the current rate of human-caused dolphin deaths is sustainable," he cautioned.

More information: www.marinemammalscience.org/in … cle&id=65&Itemid=116

Provided by Murdoch University

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