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## Dolphins 'strangled' by fish nets

Matt Walker Editor, Earth News Bottlenose dolphins in the Adriatic Sea are being strangled to death by fishing

The netting wraps itself around each dolphin's larynx stopping it breathing.

nets, vets have discovered.

At least 12 dolphins are known to have died this way, the first

confirmed records of any cetacean being killed by strangulation by fishing gear.



A healthy bottlenose swimming free (NOAA).

Earth News reports the development in the first of a series of articles highlighting the dangers fishing nets pose to marine animals.

Whales, dolphins and porpoises can often become incidentally entrapped and entangled in fishing nets, and often drown when they do as the nets prevent them swimming to the surface to breathe.

But a study of dolphin deaths by vets and animal physiologists in Croatia suggests the animals are learning to feed directly from fishing nets, greatly increasing their risks of drowning. What's more, the animals do not die quickly, but often much later.

In 1990, veterinarian Martina Gomercic and colleagues at the University of Zargreb, Croatia began conducting autopsies on bottlenose dolphins found stranded along the Croatian coast. Over 18 years they examined 120 dead dolphins. In a small number, they found bits of fishing net hanging from the dolphins' mouths.

Further investigation revealed that 12 animals, compromising 10% of all those which stranded, had died due to strangulation, caused by fishing net wrapping around the larynx, which in dolphins connects the breathing tube to the breathing hole.

When this happens, a dolphin is not likely to die quickly, Gomercic's team reports in the journal Marine Mammal Science.

Instead, the cord of the netting probably cuts progressively deeper into the larynx until the injury eventually becomes lethal.

"We measured the mesh size and examined the type of nets," says Gomercic. "These gillnets are definitely from small commercial and private fisheries, which is the most spread fishery along the Croatian coast and operates all year round."

Her team believes that the dolphins try to feed on fish already caught in the nets, and when they do they accidently tear off part of the net, swallowing it.



Killed by part of a gill net (D. Gomercic).

Some stranded dolphins were found with netting in their stomachs, suggesting they sometimes swallow it completely.

However, on other occasions, a piece of netting, which can be 1m long, may be only partially swallowed and hangs from the mouth. As the dolphin tries to regurgitate it, or through the course of normal swimming, it then becomes increasingly wound around the creature's larynx.

As Earth News will describe in forthcoming reports, entanglement with fishing gear is a major threat to many marine mammals. To mitigate the problem, countries are trying to limit the use of fishing gear that traps non-target species.

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Gomercic believes that bottlenose dolphins in the area are becoming increasingly attracted to fishing nets, seeing them as an easy source of food. Adults are then passing on this behaviour down the generations.

Gomercic's team did not record any instance of strangulation for nine years. "The first cases in 1999, 2000 and 2001 were



Netting tightens around a dolphin's breathing tube (M. Gomercic).

recorded as individual cases," says Gomercic. "Then we observed two cases in 2002, two in 2003, two in 2005 and two in 2007," she says, with the other case occurring in 2006.

"This increase shows that these highly sociable animals are transmitting their knowledge of how to find prey that is easier to catch than free swimming fish."

So not only might the nets be killing cetaceans in previously unrecorded ways they might also be changing the foraging behaviour of the dolphins, encouraging them to plunder their food rather than hunt for it.

Because dolphins are top predators, "such a change in predator behaviour can influence the whole ecosystem," says Gomercic.

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