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Stop 'Bycatch' So Whales Can Catch Your Heart

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Staff Pieces

Imagine yourself rendered nearly immobile, and held submerged under water, entangled in a web of net. It is horrifying to imagine, and yet, hundreds of thousands of cetaceans meet their death this way. Whales might be among the largest species living on the earth today, but they are vulnerable just like us. Many species of cetaceans (whales, dolphins, and porpoises), are endangered. Most of these species are still recovering from the days of heavy whaling, and cannot make a comeback if their populations are continually threatened. Irresponsible fishing techniques can lead to bycatch, the accidental capture of whales and similar species. Bycatch puts species at incredible risk, and decimates their populations. Fortunately, there are other options for fishermen that present greatly reduced danger to critically endangered whales.

Fishing today utilizes many different types of gear and equipment. Unfortunately, much of this equipment is deadly to cetaceans. Cetaceans are mammals, which means that they breathe just like us, and can drown when deprived of air. Dolphins and porpoises are small enough to frequently become caught in trawl or purse seine nets. Trawls are nets that are dragged behind a boat, scooping fish into the nets as they go. Purse seine nets form a purse shape in the water, and are heaved up containing the fish (WDC). As a result, smaller cetaceans are often brought up with schools of fish. Because most dolphins and some whales travel in pods, it is possible that when an individual is trapped, other members will sacrifice themselves to stay by the victim's side.

The equipment that most affects large whales includes ghost gear and drift gill nets. Ghost gear is essentially lost equipment that has fallen to the bottom of the ocean, or has been snagged on a rock. This often results in the entanglement of whales when they embark on deep dives. The deadliest fishing equipment for large whales are drift gill nets. Often referred to as "curtains of death", these nets are laid over the ocean surface overnight, and drown many whales during that time (WDC). These nets are especially lethal because of their size, and how long they are left on the sea. Entanglement in equipment can cause many different injuries, and make death a horrifying experience for the animals captured.

No fisherman wants to accidentally capture a whale or dolphin in their equipment. The number of cetaceans caught each year was in the hundreds of thousands by 2006, and a

change must be made (WDC). Drowning is probably the most common way in which whales perish from being caught in nets, but the injuries resulting from escape can be just as detrimental. Whales become desperate to break free after they have become entangled in nets, and the evidence of their struggles to swim away can be seen in horrendous injuries on deceased whales. Injuries can be as extreme as complete or partial amputations of flukes and fins as the netting digs deeper into the whale's blubber (WDC). Besides being a horrible way to die, the lack of whales feeding causes problems for the ecosystem.

However, there are new ideas that can be pursued in the effort to prevent bycatch. Some logical alternatives to large drift gill nets could be the use of harpooning for large fish like tuna or marlin. Although, harpooning does not work for all types of fish, it is still a way to reduce the number of nets in the sea at a given time, and would help in decreasing ghost gear floating to the ocean floor. It is also a much more selective way to fish. When the fishermen are amply trained to identify the animals they are looking for, there is little danger of injuring or killing a cetacean by mistake when harpooning.

Whales and most dolphins are also much stronger than most small fish that are caught in large numbers. Specialized fishing lines could be created that are strong enough to withhold the thrashing of smaller fish, but break easily under the movement of a whale. Again, this is not a perfect solution by any means, but it would, theoretically, allow fishermen to continue making a living while potentially reducing the number of whales that die entangled in nets.

Most promising might be a development by Spanish engineering student named Alejandro Plasencia (Plasencia). His Remora system includes biodegradable nets with Radio Frequency Identification Tags (RFIDs) attached to them. An RFID reader and a smartphone app are then used to track lost fishing nets, so that they may be used again, or at least retrieved, instead of becoming ghost equipment, dangerous to whales. Finally, if they are not able to be retrieved, they will degrade in a safe way because of the biodegradable polymer that they are made of (Treacy). If this innovation would be supported, it could have tremendous potential for remedying the problem of ghost fishing gear.

These are the kinds of innovations that must be pursued to find better ways to fish. It is difficult to know how soon these ideas can be implemented, and to what extent, because of their expense. The fishing industry is truly a highly mismanaged system that really does not allow any of the involved parties to win. It is, of course, the way in which many people make a living and care for their families, and the fishermen must be taken care of. There will never be a perfect solution to the problem of 'bycatch' that completely

pleases everyone. Like most problems, a solution must be found that compromises between the needs of the animals that fall to victim to bycatch and the fishermen.

Little is known about whales compared to other animal species. Answers to questions like, 'Why do whales breach?' or 'Why do Humpback whales sing?' are still yet to be found. These questions will remain unanswered if humans continue to neglect the protection of these peaceful leviathans of the sea. With an effort to pioneer new ways to make modern fishing more accountable, a step can be taken to restoring whale populations to their rightful size. After examining the devastating injuries and fatalities that result from 'bycatch' and the possibilities for improvement, there are no excuses for idleness in initiating a mission to protect these stunning animals.

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