

Article Id
AL04222

GHOST FISHING - A GLOBAL PROBLEM

Email

mohanfishco1@gmail.com

Maloth Mohan

College of Fishery Science – Pebbair, PVNR Telangana Veterinary
University
Wanaparthy, Telangana – 509 104, India

Ghost nets are fishing nets that have been dumped or lost in the ocean by individual fishermen or fishing fleets. They can be left tangled on a rocky reef or drift in the open sea. If it were only a few nets it wouldn't be big deal. However, each year around



640,000 tonnes of fishing gear set adrift globally. Often almost invisible underwater, the ghost nets drift through the oceans and can continue fishing for many years. They move with the currents and tides and can travel incredibly long distances, and can be extremely long, with some nets measuring more than 6km in length. Ghost fishing gear” is abandoned, lost, or discarded fishing gear such as nets, long lines, fish traps, or any human-made contraptions designed to catch fishes or other marine creatures. As it drifts, this ghost fishing gear takes on a life of its own, trapping fish, entangling all kinds of animals from seabirds and turtles to dolphins and whales, and snagging or smothering coral reefs. Sea creatures who are caught in this gear die and in turn attract scavengers who will get caught in that same net, thus creating a vicious cycle.

Ghost gear is the greatest killers in our ocean, and not only because of their numbers. Literally hundreds of miles nets and lines get “lost” every year, and due to the nature of the materials used to produce these types of gear, they can and will keep catching and killing animals for multiple decades, possibly even for several centuries.

Different Types of Gear Causing Ghost Fishing

Gillnet

Gillnet is a passive gear mostly made of monofilament and operated at different water depths. The lost net keeps on fishing even after the net falls apart in the ocean.

Pot and Traps

It is one of the most dangerous ghost gear. It operated by using bait to trap fishes. The use of biodegradable materials for making traps and gear marking can be the best way to reduce fishery impacts.

Hooks and Line

Hooks & line are widely used to catch the big sized targeted species, but if they lost can have detrimental impacts on the ecosystem since they keep catching sea turtle, mammals.

Trawl Nets

Trawl nets get lost when they operated in the rocky substrate and coral reef areas. This gear cannot catch more fishes like other gear, but it can still entangle octopus, crabs.

Purse Seine

It mostly lost accidentally while operating. This heavy gear sink at the sea bottom. Since it does not have a large mesh size, it catches small animals and can affect others' biodiversity

Potential Threats of Ghost Gear

Ghost gear may have an impact on the aquatic environment in several ways, including;

- Continued catching of target and non-target fish and shellfish species.
- Entanglement of marine mammals, sea birds, and sea turtles.
- Physical impact on the benthic environment.

- Ghost gear becomes a navigation hazard and threatening the life security of mariners.
- Ghost gear may spoil the natural beauty of aquatic habitat and affect the tourism industry.
- Ghost gear affects the sensitive habitat, including seagrass beds, coral reefs, macroalgae, and mangroves that play a vital role as a nursery ground for numerous commercially essential species
- It can interfere with fishing operation, damage fishing boats, contaminate beaches and commercial harbors
- Disturb the benthic habitat of sessile animals, builds up sediment, damages vegetation.
- Causes to Lead pollution from sink lines used in gillnets.



Causes of Fishing Gear Loss

Direct Causes

- Accidental loss of gear due to extreme environmental conditions such as low ground and extreme weather
- Deliberate disposal at sea due to spatial pressure (Misplaced gear, Gear conflict, and damage gear)

- Deliberate gear due to operational/ economic pressure (too much gear for space and time)
- Non -retrieval of gear due to enforcement pressure (IUU fishing)

Indirect causes

- Lack of gear/waste disposal facilities
- Inaccessible onshore gear/waste disposal facilities
- Expensive onshore gear/waste disposal facilities

Different Methods to Trace Ghost Gear

Scientists and fisheries authorities worldwide use the following methods to detect and remove ghost gear from the world ocean, includes

- Sonar survey
- Underwater visual survey
- Dragging or grappling survey
- Surface visual survey
- Local knowledge.

How Does Ghost Fishing Impact Marine Life?

As they drift, ghost nets capture anything in their path. This includes fish, sharks, dolphins, seals, marine turtles and seabirds. They have also been known to kill crocodiles, dugongs and other invertebrates. But it is marine turtles that are most at risk. During a recent cleanup of ghost nets on beaches in Australia's Gulf of Carpentaria, over 80% of the animals found in nets were marine turtles.

Plastic Pollution

Plastics pollution has a direct and deadly effect on wildlife. Thousands of seabirds and sea turtles, seals, and other marine mammals are killed each year after ingesting plastic or getting entangled in it.

Management and mitigation of Ghost gear

- Design and manufacture of traceable and recyclable fishing gear.

- Design and manufacture of gear with biodegradable materials that are not harmful if lost.
- Report of lost fishing gear to the respective fisheries department/ authorities.
- Retrieval of lost fishing gear, Fishers should carry well- trained crew members and retrieval equipment on board for safe retrieval.
- To avoid fishing gear loss and create awareness about ghost gear's environmental impacts to new fishers.
- Engage with government representatives to acquire more information about the ghost gear and learn the methodologies to mitigate it.
- Interact with fishing gear manufacturing industries and users to demonstrate the problem related to ghost gear

Conclusion

Ghost gear harms the marine environment and threatening marine biodiversity. We need to find the root causes of gear loss through a personal interview to develop effective strategies to prevent gear loss. Regional fisheries management organizations (RFMO) and global policies can play a crucial role in preventing and mitigating ghost gear through binding policies and voluntary measures to combat ghost fishing. Need to adopt preventive and mitigation measures, including binding measures, use of biodegradable materials, creating awareness at local, regional, and international levels. Apart from that, we need to create an International treaty with clear responsibilities and ambitions to prevent and reduce ghost gear. However, perhaps the most crucial measure to prevent ghost gear's impact would be implementing a strict code of conduct to reduce gear loss from gear interaction and theft.

References

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