

# Exploitation and predation rates determine the viability of fisheries affected by predation

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## Description

Fisheries have been a cornerstone of human sustenance and economic activity for millennia. While they provide numerous benefits, there is an increasing awareness of the drawbacks associated with global fishing practices. The rapid expansion of industrial fishing, coupled with unsustainable practices, has led to severe consequences for marine ecosystems, biodiversity, and coastal communities. This article aims to shed light on the complex and multifaceted drawbacks of fisheries, ranging from overfishing and bycatch to habitat destruction and social implications. Understanding these challenges is vital to promoting sustainable fishing practices and safeguarding marine resources for future generations. Perhaps the most pressing drawback of fisheries is overfishing, which occurs when fish stocks are harvested at a rate faster than they can replenish. Overfishing depletes fish populations, disrupts marine food webs, and compromises the health of entire ecosystems. Many once-thriving fisheries have collapsed due to this unsustainable practice, leading to economic losses, food insecurity, and social unrest in affected communities. Overfishing is exacerbated by advancements in fishing technology and the industrialization of fishing practices. Modern fishing vessels equipped with sophisticated gear can target fish more efficiently and at greater depths, leaving little respite for fish populations to recover. Urgent action is needed to implement fishing quotas, size limits, and seasonal closures to allow fish stocks to regenerate and restore the ecological balance of marine ecosystems. Bycatch, the incidental capture of non-target species during fishing operations, is another significant drawback of fisheries. This phenomenon poses a severe threat to marine biodiversity, as many of the bycaught species are often endangered, threatened, or ecologically important. Bycatch includes marine mammals, sea turtles, seabirds, and juvenile fish, among other non-target species. The indiscriminate nature of fishing gear, such as gillnets and

longlines, contributes to the high mortality rates of bycatch species. In addition to ecological consequences, bycatch can also result in economic losses for fishermen due to the discarding of unwanted catch and potential gear damage. Reducing bycatch requires the adoption of selective fishing gear and the implementation of regulations that prioritize minimizing the incidental capture of non-target species. Fisheries, particularly those that utilize bottom trawling, can cause significant damage to marine habitats. Bottom trawling involves dragging heavy nets along the seabed, destroying sensitive ecosystems like coral reefs, seagrass beds, and deep-sea habitats. This destruction not only harms the organisms directly impacted by fishing gear but also leads to cascading effects on other marine species that rely on these habitats for shelter, breeding grounds, and food sources. Beyond bottom trawling, other fishing practices, such as dynamite fishing and blast fishing, cause additional harm to marine habitats and biodiversity. Dynamite and blast fishing involve using explosives to stun or kill fish, leading to habitat degradation, increased mortality of non-target species, and long-term ecological damage. Fisheries are also affected by the consequences of climate change.

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## Conflict of Interest

The author declares there is no conflict of interest in publishing this article.

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