

HOW BYCATCH ALONG INDIAN COAST IS POSING A SIGNIFICANT THREAT TO ENIGMATIC MARINE MEGAFUNA

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A recent drone shot of a whale shark snagged by a fishing net along the Visakhapatnam coast has brought the spotlight on the issue of bycatch (the incidental capture of non-target species such as dolphins, marine turtles and rays) and its threat to marine megafauna. The video was taken by Sanjay Kothapalli, a member of Visakhapatnam-based organisation Wildlife Conservation Through Research and Education (WCTRE). The recent Netflix documentary *Seaspiracy* highlights the unfathomable levels of bycatch happening across the world and made a strong criticism for bottom trawling and “death nets”.

According to researchers, bycatch poses a significant threat to marine megafauna such as elasmobranchs comprising sharks, rays, skates and sawfish. Recent research suggests that with fishing effort increasing worldwide, there is a need to evaluate strategies intended to reduce marine megafauna bycatch.

About 9,000 to 10,000 aquatic mammals are killed by gillnets every year along the Indian coast, as highlighted by the Union Environment Ministry in the Marine Mega Fauna Stranding Management Guidelines released earlier this year. Research data indicates that India has one of the highest elasmobranch landings (catches of marine fish) globally.

The absence of regulations with respect to bycatch has made the issue more complex. Marine life researcher Meghana Binraj says she has never seen a live manta and mobula ray during the three years of her research in the East coast of India. “I have seen hundreds of dead rays in this region in the past one and half years,” she says and adds that the situation is similar in the Indian West coast as well. Elasmobranchs are particularly vulnerable to exploitation due to their slow growth and are one of the most threatened marine animal groups across the world.

Meghana, who is currently researching on the mobula rays, says that these have low reproductive rates. “It takes five years for the mobula to attain maturity and a biennial cycle of reproduction, with one pup produced every two to four years,” she says. The life expectancy of a mobula is estimated to be between 15 and 20 years. A pressure on its population due to targeted or non-targeted fishing can potentially lead to further depletion of this species.

While traditionally fishing for these cartilaginous animals was avoided, researchers say that fishermen and the seafood markets across the world have turned from the occasional artisanal consumption of elasmobranchs for food, to commercial fisheries for their flesh and to sell their gill plates as “an increasingly sought after ingredient in some Asian medicines”.

However, these species pose a complex conservation challenge in India today; while most of their catch is through bycatch, they also support - in some ways - the livelihood of fishers and in some cases are a food source as well.

Efficient modern fishing gear exacerbates the extent of bycatch as the net often covers an extensive area which is highly unselective. While modifying fishing gear so that fewer non-target species are caught can be one of the ways of mitigating the issue of bycatch, researchers point out that for a long-term solution it is imperative to study the socio-economic aspects of bycatch.

“The issue of bycatch is multi-layered. Bycatch reduction efforts should aim to apply a multi-disciplinary approach with strong collaboration with fishing communities,” says Vardhan Patankar, Marine Programme Head, Wildlife Conservation Society. Lack of extensive research on bycatch in India, unreported data on bycatch and absence of scientific information on the ecology of elasmobranchs have been a major hindrance in formulating meaningful conservation strategies.

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