



Using lighted nets reduced bycatch without reducing the market value of the target fish caught | Photo source [NOAA Fisheries](#)

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## ILLUMINATED FISHING NETS BENEFIT FISH AND FISHERIES



### Researchers now have evidence that using lighted fishing nets can reduce both unintended by-catch and fishers' workload

**Spotted:** Commercial fishing doesn't just net food fish. All too often gillnets also scoop up and kill dolphins, sharks, sea turtles, juvenile fish, and even sea birds – decimating those populations and damaging marine ecosystems. However, until now, there have been few technical solutions for this problem. Now, researchers from the Wildlife Conservation Society (WCS), National Oceanic and Atmospheric Administration (NOAA) and Arizona State University have published research demonstrating that using lighted fishing nets can greatly reduce accidental bycatch.

The use of LEDs to illuminate gillnets had previously been shown to be effective in reducing bycatch of endangered sea turtles in coastal fisheries. The researchers have now demonstrated that this technique can work with other vulnerable species as well. In their study, the researchers attached green LED lights every 10 metres on gillnets along the Pacific coast of Baja California Sur, Mexico. They found that the lights almost eliminated bycatch of sharks, skates, and rays, without reducing the targeted catch.

In addition, the research showed that the illuminated nets also reduced the time it took fishers to retrieve and disentangle the nets by 57 per cent. This could make the lighted nets even more attractive for fishers, who could increase both the quality of their catch, and their efficiency as a result of removing fewer entangled animals from nets.

Lead author of the study, Jesse Senko of Arizona State University, pointed out that, "These results demonstrate that the potential benefits of illuminated nets extend well beyond sea turtles." Co-author John Wang, a Fisheries Ecologist at NOAA, added, "Making life easier for fishers by reducing the amount of time untangling bycatch is equally essential as reducing the bycatch biomass in nets.

It is important for fishers to know that there are tangible benefits for them. This is critical for the adoption of such technologies by the fishing industry.”

Fishing is an important area of innovation with a number of researchers are working on solutions to improve the industry’s sustainability. These include the use of **smart fishing nets** as well as **drones, AI and IoT** technology to tackle illegal fishing.

Written By: Lisa Magloff

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Website: [wcs.org](https://www.wcs.org)

Contact: [newsroom.wcs.org/Contacts](https://www.wcs.org/Contacts)

## **Takeaway:**

The researchers published their findings in the journal *Current Biology*, detailing how the lighted gillnets reduced total fisheries bycatch by 63 per cent, including a 95 per cent reduction in sharks, skates, and rays, an 81 per cent reduction in Humboldt squid, and a 48 per cent reduction in unwanted finfish. At the same time, the research demonstrated that using the lighted nets did not lead to any decrease in the catch rates and market value of the target fish. The evidence that lighted nets make a real difference for both fisheries and fishers is vital to convincing fishers to take up the technology. According to WCS, “This work provides a possible means of safeguarding threatened megafauna in their final strongholds around the world, and will be explored further as part of WCS’s global marine conservation efforts.”