

# Night fishing can cut seabird bycatch for West Coast longliners, research shows

Longline fishing is a technique that involves deploying a long line with baited hooks attached at intervals behind a boat.

It's a common technique used to catch many high-value species including halibut, tuna, and sablefish.

However, those fish are sometimes caught along with unintended targets – known as bycatch – including about 160,000 seabirds a year globally.

Along the West Coast, some of the accidentally caught birds are endangered species, such as the short-tailed albatross.

A new paper in the journal *Fisheries Research* from Washington Sea Grant marine fisheries scientist Ed Melvin and partners at Oregon Sea Grant, Oregon State University, and NOAA Fisheries suggests a new option to reduce the number of seabirds caught – setting longlines at night.

**Advent of streamer lines:** Melvin's work to reduce seabird bycatch from longlines began in 1999 in Alaska, which is home to the country's biggest fisheries.

He worked with fishermen to test and fine-tune a seabird avoidance technology called streamer lines (also known as bird-scaring lines), which are towed above the water behind the fishing vessel, creating a visual barrier that keeps seabirds away from the baited hooks below.

In Alaska, this technique has resulted in reducing bycatch rates of albatrosses by 90 percent.

Melvin and his colleagues embarked on the recently published

study with the intention of finding out whether the same held true for longline fisheries down the West Coast.

It did and it didn't.

For West Coast vessels that use fishing gear similar to what is used in Alaska, streamer lines were similarly effective. But the researchers discovered that some boats in the West Coast sablefish fleet use floats to keep their bait off the seafloor – a technique that ends up rendering streamer lines less effective.

"Encountering this unique gear led us in an unplanned direction," Melvin says.

Through workshops held in ports throughout the region, the researchers found that some fishermen vouched for fishing at night, when birds are generally less active, as a way to avoid seabird bycatch.

"The fishermen invited us onto their boats and provided us with a lot of insights," says co-author Amanda Gladics, a coastal fisheries specialist with Oregon Sea Grant.

**Lower bycatch, better target catch:** The researchers quantified the fishermen's anecdotal findings by sifting through 12 years of data collected by the NOAA Fisheries West Coast Groundfish Observer Program.

"Not only did we find that night fishing reduced bycatch – it did so dramatically," Melvin says.

Night fishing reduced albatross bycatch by 30 times compared

*Continued on Page 33*



**JOHN DEERE**

100 - 750 HP  
Booth #1311



**SCANIA**

250 - 900 MHP  
Booth #1431

**YANMAR**

14-440 MHP  
Booth #1439

[www.cascadeengine.com](http://www.cascadeengine.com)

ally just spawn off the Northwest in the summertime, and now they're spawning year-round," said Ric Brodeur, a NOAA Fisheries research scientist at the Northwest Fisheries Science Center's research station in Newport, Oregon, and coauthor of the paper. "Things are changing so much, it's hard to say what's normal these days."

**Highly unusual hake findings:** While Pacific hake usually spawn off California, surveys in February 2016 found hake larvae earlier in the year and at higher concentrations than they have ever observed in the Northern California Current before. Later summer surveys by Brodeur's group found very high abundances of juvenile hake off northern Oregon and southern Washington, which is highly unusual and suggests that many of the commercially important fish survived beyond the larval stage.

Scientists also found larvae of unusual species such as Pacific pompano, which normally spawns in the Southern California Current in the spring and summer. It was the first documented occurrence of pompano larvae off Oregon in at least 19 years.

The presence of fish such as anchovy and sardine earlier in the year may provide an additional food source for other species such as young salmon that have just migrated to the ocean, Brodeur said. At the same time, they may also have other impacts on the food web that have yet to be measured, including possibly competing with typical winter-spawning fishes for food.

"As is often the case with ecosystem change, some species may benefit from changes in distribution and timing of prey whereas others may not be able to adapt and subsequently decline," said Toby Auth, of the Pacific States Marine Fisheries Commission and lead author of the paper. "Only through continued, regular surveys will we be able to discern the signals of future anomalies and their relationship to global climate change." ↴

— Northwest Fisheries Science Center

**Night fishing** *continued from Page 30*

to setting lines during the day. What's more, it increased the target catch by 50 percent, meaning that fishermen would have to spend less time with their hooks in the water to take home the same amount of catch.

That's not to say that night fishing is a great fit for every fishery.

"Alaska's high-latitude fisheries for sablefish and halibut peak in the late spring to early fall, so there's not a lot of night to work with," Melvin says. Plus, he and his colleagues found that night fishing in Alaska increases the bycatch rate of northern fulmars, which are fewer farther south.

"A single 'one size fits all' solution won't work for all fishermen and all boats, so developing multiple seabird avoidance options

that are specific to the region is crucial," Gladics says.

Seabird bycatch has obvious environmental implications. Gladics points out that it has economic ones, too.

"Losing bait to birds can be costly, and serious economic harm can occur if excessive seabird bycatch triggers a fishery closure," she says.

The researchers' work could frame forthcoming policy. For example, the U.S. Fish and Wildlife Service incorporated these findings into a biological opinion that will soon trigger new federal regulations to protect the endangered short-tailed albatross in West Coast longline fisheries.

"We're delivering the science to the loading dock of policymakers, and they decide how to use it going forward," Melvin says. ↴

— Washington Sea Grant

# PUT YOUR BEST FLEET FORWARD

Foss Maritime's two full-service shipyards are equipped to take on any project from cost-effective repairs and maintenance to major conversions and new construction. With multiple dry docks and marine railways, cranes up to 90-tons, experienced teams of ABS- and DNV-certified engineers and highly skilled craftspeople, we keep your fleet moving forward.

**ALWAYS SAFE. ALWAYS READY.**

[www.foss.com/shipyards](http://www.foss.com/shipyards)  
800.426.2885