

Mongabay Series: [Oceans](#)

Feed a fishery, starve a seabird

by [Mongabay.com](#) on 12 December 2018



- *Industrial fisheries increased their share of fish taken by 10 percent, while seabirds' take dropped by nearly 20 percent, between 1970-1989 and 1990-2010, new research has found.*
- *The study mapped out 40 years of data comparing the takes of seabirds and fisheries during that timeframe.*
- *Scientists say that seabirds, which also face threats from pollution, plastic garbage and possible entanglements, could also face starvation as a result of the competition with large-scale fisheries for the same resource.*

Competition for fish stocks with fisheries to feed humans could be forcing seabirds to go hungry, according to new research.

The study, published Dec. 6 in the journal [Current Biology](#), reveals that seabirds' share of fish has dropped by nearly 20 percent over a span of 40 years. Expanding large-scale fisheries, meanwhile, have increased their haul by 10 percent in the same period.

What makes those facts doubly concerning is that seabird communities have dwindled, said David Grémillet, the study's lead author. [Research](#) published in 2015 found a 69 percent slide in their numbers since 1950.



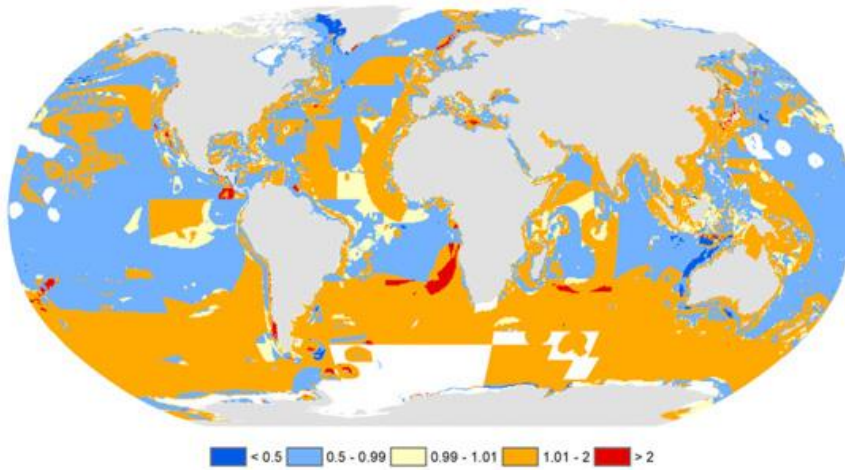
African penguins (*Spheniscus demersus*), such as the one pictured here, are facing extinction. Research has found that penguin numbers dropped by a quarter since 1950. Image by David Grémillet/CNRS.

In a [statement](#) from the University of British Columbia, Grémillet, a biological oceanographer at [CNRS](#), the French National Center for Scientific Research, likened fisheries' impact on seabirds to "a boa tightening its grip on prey."

The research overlaid maps of the feeding areas of 276 species of seabirds with the take zones of human fisheries and compared them over two periods, the 1970s and 1980s, and the 1990s and the 2000s. The team tallied up the amount eaten by seabirds around the world, as well as how much fish humans are thought to have pulled from the oceans, during those stretches.

Seabirds had an average of around 70 million metric tons (77 million tons) available to them each year between 1970 and 1989. That figure dropped to 57 million metric tons (63 million tons) between 1990 and 2010. Fisheries' annual share increased from 59 million to 65 million metric tons (65 million to 72 million tons) in that period.

Seabird-fishery competition between 1970-1989 and 1990-2010



Distribution (0.5° cells) of the ratio of resource overlap indexes (seabird-fishery competition) between 1970-1989 (era1) and 1990-2010 (era2). Areas in orange and red denote marine regions in which seabird-fishery competition has increased.

Source: David Grémillet, Aurore Ponchon, Michelle Paleczny, Maria-Lourdes D. Palomares, Vasiliki Karpouzi and Daniel Pauly, "Persisting worldwide seabird-fishery competition despite seabird community decline." *Current Biology* (2018).

A map shows seabird-fishery competition across the world. Image courtesy of the University of British Columbia.

Birds that go after krill, squid and smaller fish such as herring and sardines face the toughest struggle to avoid starvation, Deng Palomares, one of the study's co-authors and a scientist and project manager with the [Sea Around Us](#) project based at the University of British Columbia, said in the statement.

The Sea Around Us has collected decades of data on both seabird distribution and human fisheries, and this study was the first to look at the overlap on a global scale.

Palomares said that possible starvation as their food source was fished out was just one of the challenges that seabirds faced. Pollution, plastic trash and entanglement in fishing gear are also threatening to cut into the global number of seabirds, she said.



Scientists say that competition with fisheries is accelerating the decline of a Cape gannet (*Morus capensis*) population that lives near the Benguela upwelling off the coast of southern Africa. Image by David Grémillet/CNRS.

“If we don’t do anything, seabird populations are going to collapse,” Palomares said.

Grémillet said penguin numbers were down by 25 percent, and frigate bird and tern populations had dipped by almost 50 percent in the past few decades.

“You have more and more fishing effort for less and less potential seabird prey, consumed by fewer birds,” Grémillet said.

“The noose is tightening around seabirds,” he added. “I find this terrifying.”



A northern fulmar (*Fulmarus glacialis*) cruises the Barents Sea under the midnight sun. Image by David Grémillet/CNRS.

As a scientist, Grémillet is concerned about the ecological impact of the loss of species. But he also said we should consider the cultural void that extinction could create.

“[When] we lose seabirds we lose an irreplaceable heritage — creatures which have inspired every single maritime society since the dawn of humanity, by bridging the mysterious gap between us and the sea,” Grémillet said in a [statement](#) from CNRS.

Banner image of Cape gannets by David Grémillet/CNRS.

Citations

Grémillet, D., Ponchon, A., Paleczny, M., Palomares, M. L. D., Karpouzi, V., & Pauly, D. (2018). Persisting Worldwide Seabird-Fishery Competition Despite Seabird Community Decline. *Current Biology*.

Paleczny, M., Hammill, E., Karpouzi, V., & Pauly, D. (2015). Population trend of the world's monitored seabirds, 1950-2010. *PLOS One*, *10*(6), e0129342.

Link: <https://news.mongabay.com/2018/12/feed-a-fishery-starve-a-seabird/>