

Could the High Seas Be Closed to Fishing?

by Alastair Bland Aug. 15, 2018

Bluefin tuna. Patrick Aventurier/Gamma-Rapho via Getty Images

As the United Nations prepares to begin negotiations next month on a high seas biodiversity treaty, some scientists and advocates say a spate of recent research supports banning commercial fishing in international waters to protect remote ecosystems.

MOMENTUM IS GROWING for a radical yet potentially realistic proposal to close international waters to commercial fishing. The idea first began to snowball in 2014, and since then more and more scientists and conservationists have joined the call to transform the high seas – the ocean beyond the national jurisdiction – into an enormous marine reserve.

Fishing interests are likely to fight the proposal, but according to a rapidly growing body of research, science supports such a move.

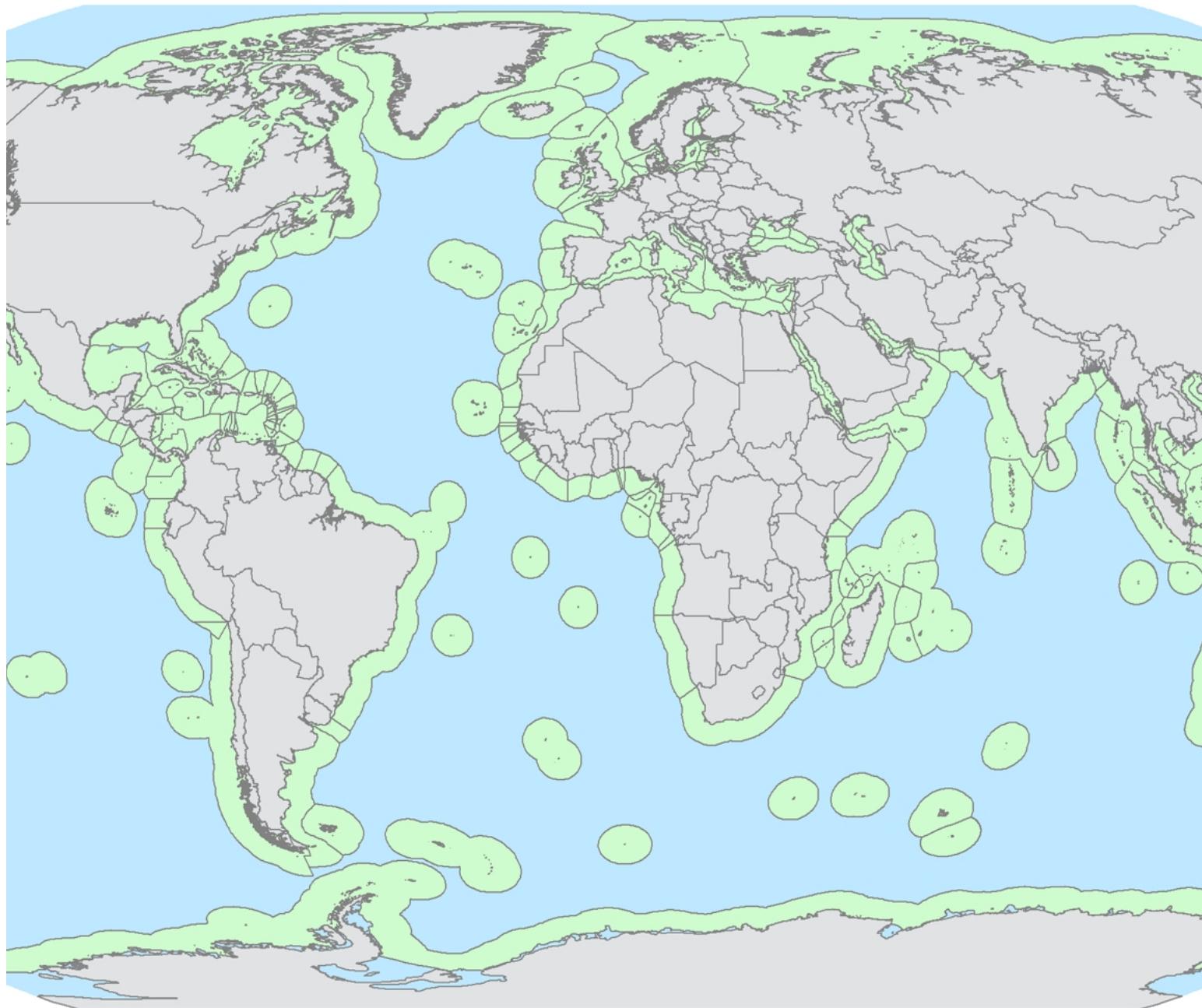
“Fishing the high seas just doesn’t make much sense,” said Enric Sala, a marine ecologist, National Geographic explorer-in-residence and one of the leading proponents of a high seas fishing ban. “It’s just a few countries monopolizing the global commons.”

New research shows that not only are those nations – China, Taiwan, South Korea, Spain and Japan – taking what under international law belongs to all fishing countries, they are doing so without providing the world with a significant amount of seafood. In fact, according to a

recent analysis, fishing the high seas wouldn't even be commercially feasible without large government subsidies, mainly to pay for fuel so that vessels can make long journeys to remote regions of the ocean.

Though high seas catches may be small, the conservation gains potentially to be had from banning high seas fishing could be huge. A study published in 2014 in the journal PLOS Biology concluded that prohibiting fishing on the high seas would eventually boost fish stock biomass by more than 150 percent. Sala said part of this benefit would come from the elimination of deep-sea trawling, which produces large amounts of discarded bycatch of nontargeted species.

The push for a fishing ban comes as the United Nations convenes next month in New York City to begin two years of negotiations to draft a high seas biodiversity treaty. Among other things, negotiations will focus on protocols to establish marine protected areas on the high seas.



Global map of exclusive economic zones (green) and high seas (blue) oceanic areas. (Courtesy of PLOS Biology)

A Rome-based fisheries expert with the United Nations' Food and Agriculture Organization did not respond to an interview request.

Casson Trenor, a fisheries sustainability analyst who once worked with Greenpeace, said he favors tightened high seas fishing restrictions. He noted that the mere fact that a high seas fishing ban is being discussed marks an important step forward in global fisheries management.

"It indicates a significant change in the way we think about the commons, that being the high seas," Trenor said. "It also indicates a growing awareness of the world's overfishing crisis."

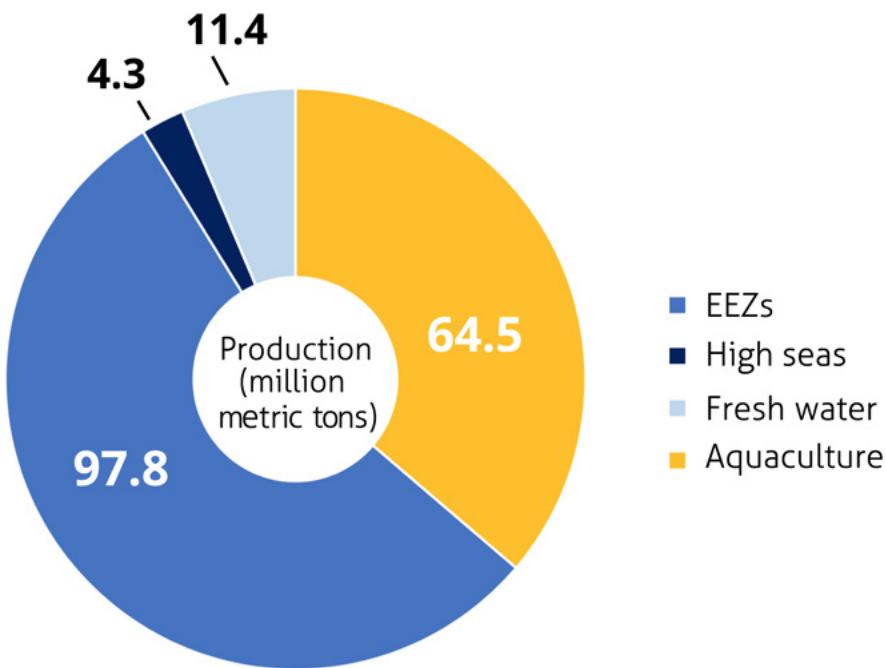
He questions, though, how such a ban would work.

"Who would enforce it, because whose law would be getting violated when someone decides to fish the high seas?" said Trenor, who is the author of the book "Sustainable Sushi." He noted that hunting whales is banned but that Japan still commercially targets the animals with impunity.

A paper published August 1 in the journal Science Advances determined that fishing boats are now catching only one-third the fish they caught in 1950 per kilometer traveled. Dirk Zeller, a University of Western Australia researcher and a coauthor on that study, said the findings applied across the ocean and demonstrate how closing the high seas to fishing could benefit global fisheries. When a fish stock is depleted, the fish contract their geographical range, he explained. This causes the species' abundance to decline in outlying areas. For wide-ranging species such as tuna, this pattern tends to be seen in nearshore waters.

"The periphery of the range thins out first, so the first countries to suffer are the nations where their stocks thin out," Zeller said.

Banning fishing in the high seas would, in theory, allow stocks to rebound and spread outward again, spilling into nations' exclusive economic zones (EEZs), which extend 320km (200 miles) from shore. According to the 2014 PLOS Biology paper, halting high seas fishing would eventually increase yields for fisheries in coastal waters by more than 30 percent and double these fisheries' profits since vessels would not have to travel as far.



Average contribution (million metric tons) of seafood-producing sectors, 2009–14.

The high seas catch represents 2.4 percent of total global production. (Data: FAO 2016 and Sea Around Us.) (Courtesy of Science Advances)

Sala said monitoring studies have shown that closing a marine area to fishing results, on average, in a sixfold increase in biomass over a decade. He envisions similar gains from a high seas fishing closure.

“We know that marine reserves work,” he said. “The world has shown itself incapable of sustainably managing industrial fishing globally, except for a few fisheries, so let’s add some insurance – let’s protect some areas, create a refuge that helps to replenish the rest of the ocean.”

The Inter-American Tropical Tuna Commission (IATTC) manages the tuna fisheries of the eastern Pacific. According to Jean Francois Pulvenis de Séligny, the commission’s senior policy advisor, this regional fishery management organization takes no position on a potential high seas fishing closure, partly because the idea is so relatively new and because it has not been formally proposed.

“What is important here is the adoption of good policies and measures for the conservation and management of the resources,” he wrote in an email.

The high seas comprise about 58 percent of the ocean. Governed by no individual nation or international treaty, high seas waters are loosely managed by regional fishery management organizations, like the IATTC, that oversee the huge trawlers, long liners and purse seiners that work these remote regions. However, fishing these waters isn’t especially profitable. Sala said more than half of high seas fishing activity would come to a stop if it wasn’t subsidized.

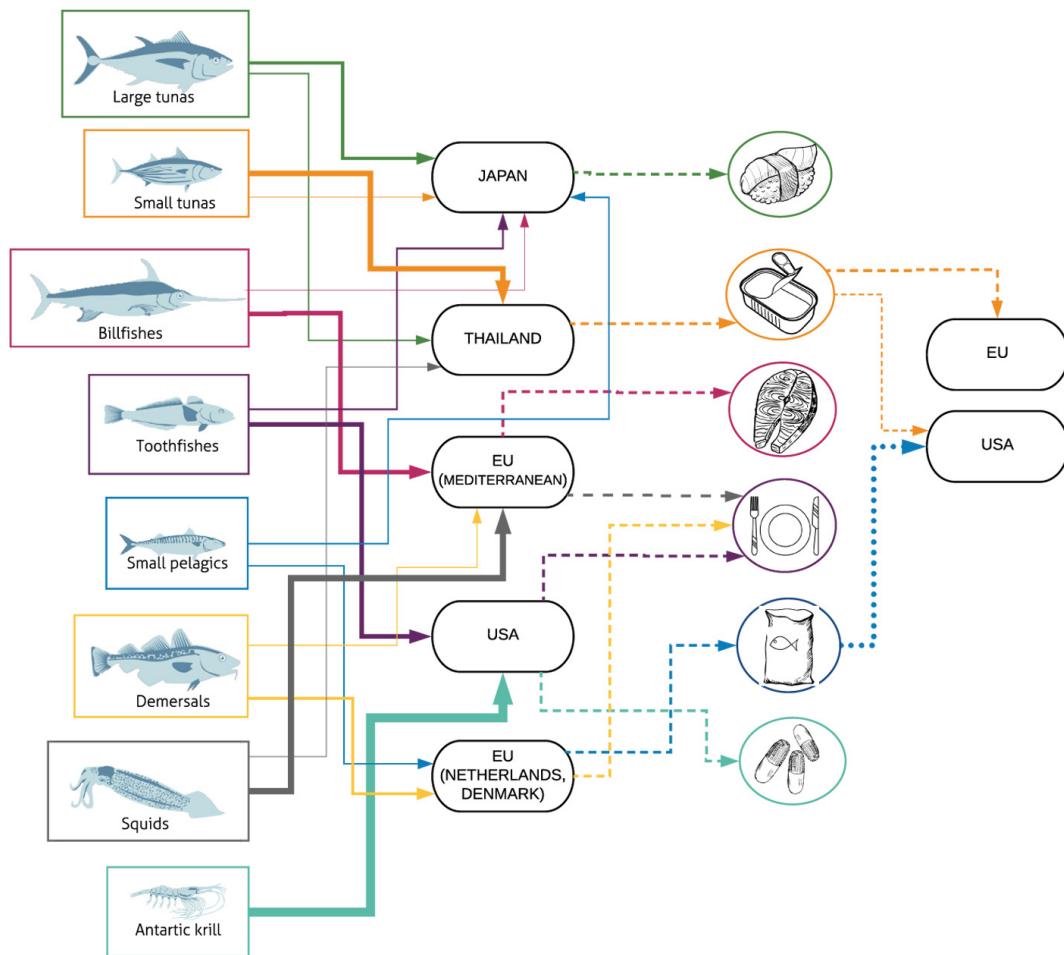
High seas fishing also produces an insignificant fraction of the world’s seafood – estimated to be less than 5 percent of the global fish catch, according to a paper coauthored by Sala and published August 8 in the journal *Science Advances*.

“Aside from the high seas catch contributing little to total global food supplies, most of the

catch from the high seas is sold as upscale food items to food-secure countries, so it doesn't really help us address the global food security issues," Sala said, noting that high seas fisheries produce large amounts of such delicacies as tuna sashimi, shark fin soup and exorbitantly expensive Antarctic toothfish, marketed as Chilean sea bass.

"I don't think the world would collapse if we stopped eating the Antarctic toothfish," Sala said.

Prohibiting high seas fishing would mean enforcing this ban. Some argue that doesn't present insurmountable obstacles, given recent technological advances.



Each solid arrow's width is proportional to the destination's share of total global imports for each species group (fresh, frozen, unprocessed form), with the dashed arrows indicating the likely form of consumption in the primary importing country or, if applicable, the processed product produced. The primary and secondary importers of processed products are indicated by weighted dashed lines based on the market share of imports (taken from information in the literature). (Data: FishStat) (Courtesy of Science Advances)

"A pragmatic reason for banning high seas fishing would be that it makes surveillance so much easier," said David Tickler, a scientist with the University of Western Australia and a coauthor with Zeller on the recent fishery viability analysis. In other words, any suspicious boat movements, such as slowing, stopping and circling in international waters and visible via satellite surveillance, would indicate illegal fishing.

In fact, new technology and social media have made it possible to closely watch boat activity across the entire ocean. Global Fishing Watch is a public platform that displays a vast inventory of tracking data from satellite-based fishing boat surveillance, which has already

resulted in high-profile poaching busts far from shore.

Zeller described a frequent form of fishing fraud that a high seas fishing ban would effectively eliminate. Often, he said, boats from one country will fish without permission inside another country's waters but claim to have been fishing just beyond the international boundary to avoid paying access fees to the coastal nation's government. This happens frequently in the waters off Papua New Guinea and the Solomon Islands, he said. A high seas fishing ban would render this fraudulent tactic powerless.

"They would have to pay coastal nations for the right to fish," Zeller said.

Trenor said the ecological benefits of a high seas moratorium need further scientific investigation. He noted that Atlantic bluefin tuna travel around much of the North Atlantic Ocean. However, a major spawning area of the highly depleted species is the Gulf of Mexico – virtually all of which lies in the territorial waters of the United States, Mexico and Caribbean nations.

"A ban would protect the fish while in transit across the Atlantic, but it wouldn't protect them when they're doing the things that make them vulnerable," he said.

Trenor said he is all for a high seas fishing closure but would be concerned that fishing interests would exploit the fact of such a ban to oppose the creation of additional, possibly more effective, marine reserves.

A fishing ban on the high seas is likely many years away, and Zeller and Tickler think the way forward might begin with the establishment of large marine protected areas on the high seas that, hopefully, would grow bigger over time. Zeller added a word of caution: Banning high seas fishing could displace a large number of boats, which might then begin fishing coastal waters, potentially overfishing stocks that were intended to benefit from the ban.

"That's always the argument people use who are against marine reserves – that they will cause overfishing in other areas," he said. "So you can't just impose a high seas fishing ban, or ban the fisheries subsidies, and walk away. These efforts would have to go hand in hand with a reduction in fishing effort, because that's the underlying problem – the world has far too many fishing boats."
