

Fishing for a Solution to the Population Problem

When Candilario Piloton heard that the government was establishing a Marine Protected Area off the coast of his home on Bohol Island in the Philippines, he was outraged. A fisher who relied on the water to provide for his family, he worried that the restrictions would hurt fish outputs and keep him from being able to feed his children.

Then a new program arrived, emphasizing that conservation measures also had to address the large families of fishers and the growing coastal population. Population pressures were forcing locals to overfish, depleting stocks and hurting future yields. Now Mr. Piloton is Vice-Chairperson of the Marine Sanctuary Management Team and a proponent of family planning, recognizing that conservation of ecological resources and smaller family size can together keep his community prosperous and self-sustaining.

In a small Mexican lobster town called

Punta Allen, on the Yucatan Peninsula, residents have a strong understanding of how family size impacts their livelihoods. Even the less successful fishers here have salaries well above the national average. The fertility rate is at or even below replacement level. According to medical records at the community health center, use of modern family planning is universal, something that even most developed countries cannot claim.

Residents' financial success and small families are anything but coincidence, according to local fishers. "Having fewer [children] means giving them more," they say, noting that the harvest from their area can either barely support a large population or enable a smaller population to thrive.

When birth control options expanded, the fishers also began stringent monitoring of when lobsters could be caught and which ones—particularly those with eggs—had to be left in the sea. Their suc-

cessful regulation of catches and of family size has made them the highest yielding cooperative along the Yucatan coast. Their experience reveals the most critical lesson of environmentally sound fishing: sustaining a healthy population of ocean life also requires sustaining a healthy population of humans.

Coastal Dependence

Oceans cover 71 percent of the earth's surface, and 20 percent of our protein comes from the fish within them. Growing numbers of fishers and consumers demanding seafood, however, threaten the availability of fish and the health of ocean ecosystems. Direct action to prevent overfishing will allow ocean life to recover and humanity to build a sustainable relationship with the sea.

Although coastal areas make up only 20 percent of the earth's landmass, 39 percent of the global population lives by the sea. As the human population has skyrocketed from 1 billion in the early 1800s to 6.8 billion in 2009, the number of people living near and depending on the ocean for food and livelihoods has also jumped. Fishers increased in number from 12.5 million in 1970 to 29 million in 1990, more than doubling in only 20 years. Meanwhile, the growth of world population means that every year more people are buying fish and putting pressure on fishers to increase their yields in oceans with decreasing stocks.

In countries with rising affluence, like China and India, more people are able to afford protein-rich food, including fish. The new worldwide popularity of sushi caused harvests of bluefin tuna in 2004 to surge to more than ten times the catch in 1950. The bluefin and other popular species of fish are now paying the price for our insatiable demand.



Fishermen in the Philippines prepare their nets for another day at sea. Photo: Marian Starkey

Beyond the Limits

More fishers means that each must take extreme measures to maintain his or her yield. As a result, humanity is driving many fish species to extinction. Unless we reverse our habits, experts predict that we may lose 90 percent of the ocean's edible fish and shellfish species by 2048. Already, we have fished 75 percent of fish stocks to or beyond their sustainable limits.

Greenpeace found that the biomass of bluefin tuna shrank to between 14 and 17 percent of its original quantity from 1975 to 1997. Worldwide, fisheries are teetering on the brink of collapse. Although global fisheries more than tripled their output from 1950 to 1988, catches since the 1980s have stagnated and begun to fall. From a high of 80 to 85 million tons, total catch is now falling by about 500,000 tons each year. This trend will only worsen unless we stop harvesting fish faster than they are able to replace themselves.

The ocean is a source of life on which all of us depend. Phytoplankton produce oxygen for us to breathe; fish and other animals feed us; and biotechnology companies are developing medical treatments from life on the seabed. Yet due to overfishing, as marine conservation biologist Callum Roberts warns, "the seas are undergoing ecological meltdown." When ocean ecosystems fall into disarray, the consequences can be vast.

Saving Ocean Ecosystems

Although forecasts are dire, we still have a chance to reverse our irresponsible harvesting of the ocean and allow species to recover. Some organizations are already taking action. For example, the International Commission for the Conservation of Atlantic Tunas set quotas for the amount of bluefin tuna that different countries may harvest each year. Still, the total quantity specified is above what some scientists recommend for sustainability, and underreporting or pirated fishing ensures that people still catch more bluefin than regulations specify. While conservation efforts such as this are a laudable step, only more rigid enforcement will guarantee that fishers stay within the target levels.

Other policymakers are embracing marine conservation areas, large swaths of the sea where fishers are not allowed

and where ocean life can thrive. President Bush created the world's largest marine conservation area in 2006, encompassing nearly 140,000 square miles off the coast of Hawaii. Such measures help preserve coral reefs and other hotbeds of biodiversity, preventing species loss and ecosystem disruption.



A former fisher in the Philippines now collects seaweed instead, for sale as an ingredient in many food and beauty products. Overfishing in his region pushed him to change careers. Photo: Marian Starkey

At the individual level, consumers can make responsible choices about the seafood they eat to decrease the market pressure that leads to overfishing. Monterey Bay Aquarium's Seafood Watch is one of the best-known groups promoting sustainable choices. It offers a guide to which species consumers should buy and which ones are the product of environmentally harmful practices and should be avoided. As more consumers make ecological demands of this sort, restaurants will follow suit and individual fishers and managers of fish farms will be pressured to use more sustainable practices.

Ultimately, though, demand for seafood will keep increasing as long as the earth's population continues to grow. Programs like the one in the Philippines that offer contraception and family planning education to coastal residents demonstrate the possibility of attaining ecological salvation and family wellbeing simultaneously.

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Population Connection is America's largest grassroots group advocating for progressive action to stabilize world population at a level that can be sustained by the Earth's resources.