

To Trawl or Not to Trawl

by Rod Fujita
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Hidden beneath the surface of the ocean lie massive mountains, immense canyons, long rocky ridges, huge boulder fields and vast plains of sand and mud. Life is everywhere in these habitats – tiny, long-lived clams in the deep freeze of the abyssal plains; giant tube worms living near geysers hot enough to melt the metal probes of submarines; colorful Garibaldi swimming in lush kelp forests; spectacular coral gardens and intricate sponge colonies. These habitats are just as important to sea life as terrestrial forests, canyons, meadows and wetlands are to animals and plants that are more familiar to us. And, of course, human life and well-being also depend on the health of ocean and land ecosystems.

We often lose sight of the interdependence of all life on earth in the pursuit of more immediate needs and desires. Ecologists are trained to see (and often to also feel intensely) this intertwining of life. But when it comes to environmental devastation, ecologists themselves can lose sight of the interdependence of all things, and instead, we break the world apart into categories and simple dichotomies. It's easier for us to blame the destruction of the environment on mindless greed or evil than to understand the real and often complex motives of others. Conversely, people who mine the land, cut the forests, or fish the oceans often pigeonhole environmentalists as simple-minded idealists who thoughtlessly promote policies that destroy communities and families. A deeper understanding of human interests and motivations will be necessary if we are to find solutions that address the fundamental causes of environmental problems.

Which brings us to the issue of bottom trawling. The practice of dragging heavy nets across the seafloor in order to maximize a catch of fish kills many organisms and damages habitats. Boulders, encrusted with living organisms that in turn provide habitat for smaller, more delicate species, are often overturned or buried. Mud bottoms are plowed up, disturbing the incredible variety of filter-feeding and burrowing creatures that inhabit them. One study shows that bottom trawling reduces biodiversity by 50 percent. Some of the impact is short-lived, but much of it, such as damage to slow-growing cold-water corals, may last for decades.

Why use trawls? To an ecologist or environmentalist, the use of trawl gear to catch fish may appear to be irrational or a case of simple greed. A deeper analysis reveals that trawling is actually a logical response to strong incentives created by flawed fishery management. Because fishery managers, working on behalf of the public, do not tell most fishermen what their

individual share of the catch is, fishermen naturally strive to maximize their share. Conservation actions, such as leaving fish in the water or using less-efficient gear, are not rewarded under this system because others simply catch the fish that were conserved. Therefore, the use of large and efficient gear that catches masses of fish makes perfect sense. Think of money being dropped onto a crowded plaza from a helicopter – would this result in a rational and equitable sharing of resources? More likely, it would induce a mad scramble to gather as much money as possible, using whatever implements – shovels, garbage bags, bulldozers – to maximize one’s take, with little regard for the well-being of other people or the local environment. If we analyze the use of trawl gear this way, we realize that instead of punishing fishermen, we need to reform fish management and alleviate the economic conditions that result in trawling.

What to Do?

In 2005, several factors came together to create an opportunity to protect our nation’s underwater territory from trawling. A successful lawsuit by Oceana, the Ocean Conservancy and the Natural Resources Defense Council resulted in much better information for decision-making. Oceana and trawlers up and down the West Coast drew up competing proposals for setting aside various areas along the coastline as no-trawl zones. They resolved their differences in a dramatic, late-night, last-minute negotiating session. The resulting no-trawl zones total over 200,000 square miles off the coasts of California, Oregon and Washington.

At the same time, the spectacular central coast of California – from Point Sur to Point Conception – was a focus of controversy. Fishermen, environmentalists, the tourism industry and many other sectors struggled to protect their disparate interests while trying to implement California’s Marine Life Protection Act, the California Marine Life Management Act and various federal mandates. The Nature Conservancy and Environmental Defense took an innovative approach. First, we identified underwater areas off this coast with high conservation values, including Arguello and Sur underwater canyons, the Davidson and Rodriguez seamounts and the central coast’s only offshore bank – the Santa Lucia Banks. After consulting with the Morro Bay Fishermen’s Organization and other stakeholders, we proposed to purchase trawl vessels and permits from willing sellers operating in this area and retire them, in return for the establishment of large no-trawl zones.

With the government’s approval, we implemented our plan. The result was a consensus map of no-trawl zones comprising 3.8 million acres – about the size of Connecticut. These areas include productive canyon heads, underwater mountains teeming with life, rocky ridges and other valuable habitat. Because the fishing towns and ports in the area were suffering from declining

fish catches, low fish prices and increasing property values, we worked with harbormasters and fishermen to create a vision and hope for these communities. This vision is of sustainable fisheries using gear (such as hooks, traps and innovative trawl nets) that doesn't damage habitat as much as conventional trawls do. These alternative kinds of gear can also produce higher-quality fish (fish caught in trawls tend to become damaged) which can in turn bring in more revenue for coastal communities by commanding much higher prices from seafood buyers. The difference between trawl-caught fish and higher-quality fish is akin to the difference between industrialized food and local, fresh and sustainably grown food. Our hope is that these changes will keep the rich fishing heritage of California, and the ecosystems that support it, alive and healthy.

In addition, some environmental groups are working with trawl fishermen and federal officials to craft a fishery management system that will replace incentives to exploit with incentives to conserve all along the West Coast. Drawing on examples of fisheries that have been successfully reformed (ranging from North Pacific halibut to British Columbian groundfish and Icelandic cod fisheries), they believe that allocating percentage shares of the catch to cooperatives, communities or individual fishermen, and holding these entities accountable to stringent conservation standards, will result in much higher economic returns and better conservation performance in many fisheries. Holders of a share of the catch have a direct financial interest in the health of fish stocks and of the habitats that support them.

For example, the British Columbia groundfish fishery was closed in 1995 because of overfishing, high bycatch rates and habitat damage. After catch-shares were allocated to fishermen in 1997, they began not only to comply with conservation measures, but also to voluntarily leave fish in the water for conservation. The trawlers have also successfully promoted the creation of no-trawl zones, though conservation groups believe that other habitats such as coral gardens are in need of additional protection. Moreover, catch shareholders can plan their fishing businesses around their share of the catch, reducing expenses (e.g., extra vessels, large amounts of gear) incurred during what was once a race for fish. Because they no longer have to compete to maximize their share of the catch, they can get rid of extra fishing vessels and trawls, which improves their bottom line. Shareholders also have much more flexibility to slow down, fish more carefully, and land higher-quality fish that can command better prices. These changes can improve profitability, reduce pressure on fish stocks, and change opponents of conservation into stewards of the environment.

The end of this story remains to be written. The transition from racing for fish to sharing the fish will be complex and difficult. But what we have already witnessed is historic: Vast areas of the

Pacific Ocean off California, Oregon and Washington have been protected before being trawled. Along the central California coast, the forces of the marketplace are being re-directed away from large volumes of low-value fish toward lower volumes of high-value fish, caught in ways that protect the environment and promote a vibrant local community. And former adversaries have put aside distrust and misunderstanding in favor of compassion and common interest.

ABOUT THE AUTHOR

Rod Fujita is a marine ecologist with Environmental Defense who had a hand in creating the Florida Keys National Marine Sanctuary, the Channel Islands Marine Protected Areas Network, the Marine Life Management Act and the Marine Life Protection Act. He is a Pew Fellow in Marine Conservation and author of the book, *Heal the Ocean: Solutions for Saving the Seas*.