

FISHING FOR ANSWERS: Understanding Drivers and Environmental Impacts of China's Distant

In December 2012, two Chinese fishing vessels were caught inside Argentina's exclusive economic zone with multiple metric tons of presumably illegally obtained fish and squid aboard. This breach of international maritime law is not isolated; in recent years Chinese distant water fleets have been caught engaging in illegal fishing practices around East and Southeast Asia, and increasingly in more distant locations, such as South America. China has been the world's largest producer of fish since 1990, and its high level of fisheries exploitation within its domestic waters has exceeded biological replacement rates leading to a serious decline in fishery resources and degradation of its coastal marine

environment. Besides being the world's largest fish processing and exporting country with around half its seafood production being exported to developed countries, China is also the largest consumer of seafood. With depleted domestic fisheries, the Chinese fishing industry (and the government agencies that support them) has looked into aquaculture and distant water fisheries to satisfy domestic and export demand.



According to the United Nations Convention on the Law of the Sea (UNCLOS), which came into force in 1994, countries have jurisdiction over resources in the waters within 200 miles off their shores, an area known as the exclusive economic zone (EEZ). UNCLOS further stipulates that distant water fishing (DWF) fleets can harvest surplus fish in countries that do not have adequate capacity to exploit their fishery resources, in return for compensation to the host country. In theory this allows for more efficient fishing in developing countries that lack capacity and benefits those countries financially and technologically. China ratified this convention in 1996. Although UNCLOS addresses fishing within a state's EEZ, it largely fails to address the problem of high seas fishing.

The UN Food and Agricultural Organization (FAO) addressed the issue of illegal, unreported, and unregulated (IUU) fishing in both the high seas and within EEZs in the International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (IPOA) within the Code of Conduct for Responsible Fisheries (Code) framework. The Code is a voluntary agreement adopted in 1995 and sets up principles and standards applicable for conservation, development, and management of fisheries.¹ The FAO created IPOA in 2001, which is also a voluntary agreement.²

The UN created other global instruments such as the Agreement for the Implementation of the Provisions of UNCLOS Relating to Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas to address oversight of marine fisheries. The former outlines principles for conservation and management of certain fish stocks, stipulating the use of the precautionary principle and the best available information to form the basis for management of certain fish stocks. The latter was adopted in 1993 and puts responsibility on the flag state for upholding measures for international conservation and management.

Despite these international frameworks and agreements, China's involvement in IUU fishing remains significant. Within China's own EEZ, the University of British Columbia reports that 30 percent of fisheries have collapsed, and a further 20 percent are overexploited.³ The lack of fish in domestic water provides economic incentives to expand activities into international waters as well as into other countries' EEZs.



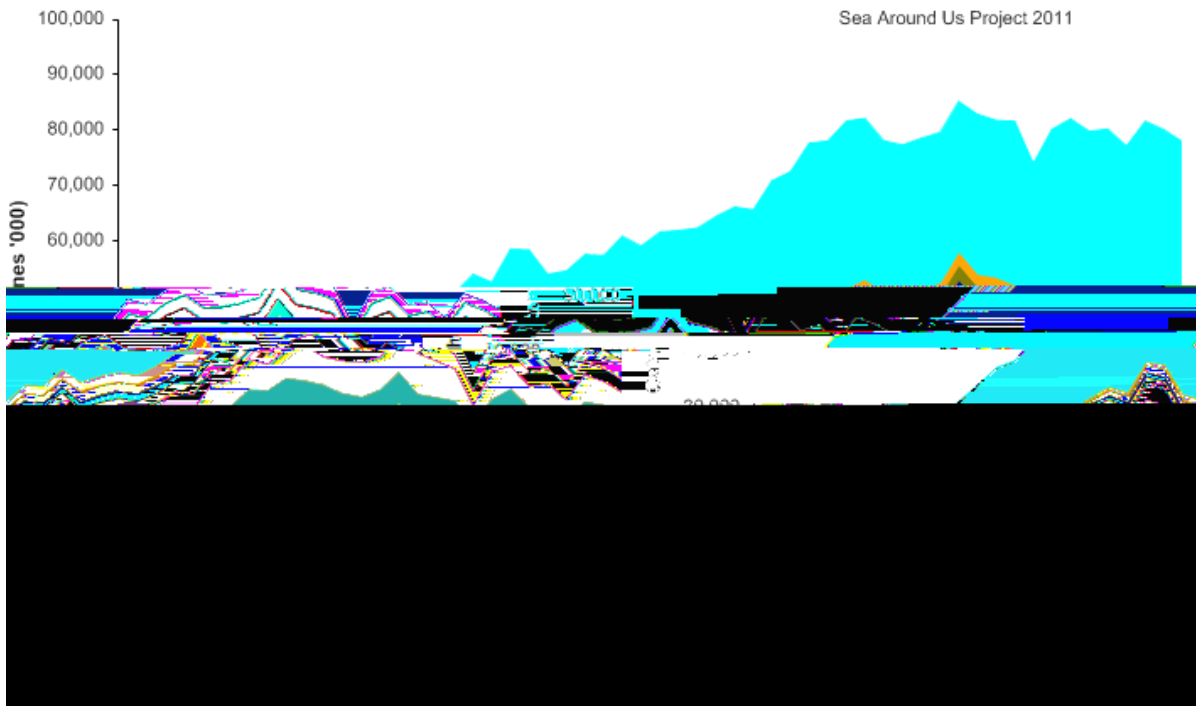
China's distant water fishing (DWF) fleet is comparatively young, but it is also the largest in the world. As fish extraction rates from China's coastal waters dropped dramatically in the 1980s, China created its DWF fleet in 1985 and since then Beijing's policy has encouraged its development over that of domestic fisheries through preferential tax policies and funding allocations.⁴ This fleet has grown tremendously—to over 2,000 vessels—and is likely to see continued expansion. The United States, in comparison, has around 200 ships in its DWF fleet.

over-reports its domestic catch numbers to the FAO because Chinese local government officials are rewarded with promotions for exceeding planned catch numbers.⁹ In contrast, China's distant water catch may be under-reported due to international pressure.¹⁰ Overall, Chinese vessels have been reported in 93 countries and Antarctica, though Chinese sources produce a much lower number; the coastal waters in which Chinese fishers have not been spotted are those of the EU, the United States, and the Caribbean.¹¹



One of the major reasons for the increased IUU fishing is increasing global demand, especially increasing domestic demand in China. As Chinese citizens are lifted out of poverty and the middle class continues to grow, demand for meat and fish, both of which are relatively expensive, grows as well. Increased consumption of meat is desirable not only because of its high protein content, but also because of its indication of higher social status. A Rabobank study of China's seafood industry indicates that as incomes rise the percentage of income spent on terrestrial protein decreases and the percentage spent on aquatic protein increases, because certain species of seafood are particular markers of status.¹² China's demand for seafood has tripled since 1990 in per capita terms.¹³ It is not just Chinese demand that is fueling IUU fishing, but demand from Japan and Western countries as well. Most of China's high-value species and about half the overall catch are exported to the EU, the United States, and Japan, and the other half is brought back to China and sold domestically.¹⁴

In addition to feeding global demand for fish, expansion of China's DWF industry is a component of the central government's goals of asserting the country as a rising power and expansion of its goals.



Source: Sea Around Us Project. <http://www.seaaroundus.org/global/1/4.aspx>

In the past two decades, China has significantly increased its fish production through the expansion of aquaculture. According to recent statistics, 65 percent of China's aquatic output came from aquaculture, and the remaining 35 percent from marine capture fisheries.



China. Although there have been improvements in Chinese traceability efforts in recent years, these changes have mostly been driven by concern for sanitation standards rather than fish extraction origins.



(CNFC),

China's largest fisheries enterprise, owns about one-third of China's distant water fishing fleet. But the industry has seen a gradual shift from state to private ownership, which Tabitha Mallory, a China fishery expert and now a Post-doctoral Fellow at Princeton-Harvard China and the World Program, cited at her January 2012 Testimony before the U.S.-China Economic and Security Review Commission as one factor that has contributed to less reliable extraction numbers being reported.²⁶ The main types of fish exploited by China's DWF are various species of squid in all three major oceans, tuna in the Indian Ocean and Oceania, and horse mackerel in the South Pacific.²⁷ CNFC in particular focuses on octopus, yellow croakers, sole, cuttlefish, and shrimp in the Atlantic and has eight overseas branches in West Africa, including processing facilities in Mauritania, Senegal, and Las Palmas that export to the EU and the U.S.²⁸ CNFC was the first Chinese company to expand into West Africa in the mid-1980s.



for food, but also for aquariums and exotic jewelry. High-end restaurants stock their aquariums with these fish so diners can choose which one they want to eat that night; their allure is often based on their color and rarity rather than their taste.³¹ For the leopard coral grouper, one species emblematic of many, demand far exceeds supply. With such high prices there is incentive for fishermen to continue fishing especially if there are no other employment options in the area. However, these short-term gains will likely drive this species to extinction. Some regions that are involved in this illegal fishing trade have come to realize that the only way to ensure sustained profits from these fishing sites is to keep fish populations high enough for replenishment - but this is the exception rather than the norm at this point.³²



The ocean off of West Africa is one of the planet's major upwelling sites. Significant amount of nutrients are available to support large fish populations. This area has become the "Wild West" of the sea, with foreign, technologically advanced trawlers harvesting so much that fish populations have become scarce for the locals. These practices often force local fishermen to travel greater distances to find sufficient fish sources. Furthermore, these actions have greatly reduced access to vital protein for many countries that already rely on UN food aid.³³

Even then these fishermen regularly surrender most of their catch to foreign markets, and return home to meals often devoid of protein. Fish carcasses, stripped of their filets that were sent for export, are sold in local markets. According to a *National Geographic* report, beyond the illegality and exploitation of local fishermen, the system is inefficient also because much of the bycatch (non-target fish that get caught in nets along with target species), composed of desirable and

edible species that could feed people in local communities, is thrown back into the ocean.³⁴

Foreign fishing fleets, like those from China and the EU venturing into West African waters, will often sign fisheries access agreements under UNCLOS, which are supposed to increase efficiency by allowing fish that would not otherwise have been exploited a chance to be harvested for financial compensation to the host country. However, because of little knowledge regarding fish stocks in West African waters, fish extraction rates in bilateral agreements are often set higher than what is sustainable.³⁵ Another significant information gap is that foreign fishing fleets are not familiar with local fisheries management and policy and thus often overfish the area, or neglect to report all the fish they catch, which can severely deplete fish stocks.

Most importantly, many of these African counties lack adequate enforcement capacity in their domestic waters.

Ultimately, fishing fleets follow money, and if customers in the West or Japan are willing to pay a higher price for fish, then fish will be exported rather than sold in the host country. The massive fish extraction has led to increased use of terrestrial resources and protein deficit in some West African countries—development deficiencies that are likely to continue for generations to come.³⁶

Vessels with European, South Korean, and Chinese flags target Senegal and its waters. Lack of resources for enforcement and rampant corruption make it very difficult for Senegal to monitor foreign intrusions into its water, allowing these massive vessels to take more fish in one day than most artisanal fishermen can catch in a year in their traditional wooden fishing boats.³⁷ Some vessels hide their flags or change their names to avoid regulation when fishing illegally. These unmarked vessels have been the cause of most IUU incidents off the West African coast in recent

point where people will willingly demand more expensive fish products because they are sustainably harvested, or forego the purchase of a particular species because it is endangered. Nonetheless, some notable initiatives, such as the 2012 ban on shark fins, have been pursued by the government. Yet despite these efforts, shark fins continue to be sold in the private sector.

Some environmental nongovernmental organizations



fishing capacity, the international community has yet to create any governance institutions for vast areas of the high seas.

The Chinese government and business sector has begun to pay attention to the ecological footprint of the country's investment overseas. China, for its part, could start conducting its own studies and initiate dialogues on the ecological footprint of DWF fleets. Sustainable fishing is ultimately a commitment to maintaining a long-term market. The Chinese fishing industry has already seen massive unemployment among fishers in the South China Sea as some major

stocks of fish have disappeared. It is vital that Chinese industry and policy circles come to see that unsustainable fishing practices in DWF could ultimately destroy this lucrative market, not only hurting the industry, but also undermining some of the country's food security goals. China in particular could add fishery governance to its aid and investment in West Africa. Ultimately, p1g(s-46govrsry)sr0-4

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- ¹ Australian Government: Department of Agriculture, Fisheries and Forestry. "Code of Conduct for Responsible Fishing." [Online]. Available: <http://www.daff.gov.au/fisheries/legal-arrangements/code-conduct>.
- ² UN FAO. (2013). "International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing." <http://www.fao.org/fishery/ipoa-iiu/about/en>
- ³ Blomeyer, Roland; Goulding, Ian; Pauly, Daniel; Sanz, Antonio; and Stobberup, Kim. (2012, June 22). "The Role of China in World Fisheries." European Parliament: Directorate General for Internal Policies.
- ⁴ Xue, Guifang. (2006). "China's Distant Water Fisheries and its Response to Flag State Responsibilities." *Marine Policy* 30: 651-658.
- ⁵ Blomeyer, Roland; Goulding, Ian; Pauly, Daniel; Sanz, Antonio; and Stobberup, Kim. (2012, June 22).
- ⁶ Blomeyer, Roland, et al. Ibid.
- ⁷ Pew Charitable Trusts. (April 2013). "China's Foreign Fishing is Largely Unreported." [Online]. Available: <http://www.pewenvironment.org/newsroom/fact-sheets/chinas-foreign-fishing-is-largely-unreported-85899465404>.
- ⁸ Blomeyer, Roland, et al. Ibid.
- ⁹ Reg Watson and Daniel Pauly. (2001). "Systemic distortion in world fisheries catch trends." *Nature* Vol. 414
- ¹⁰ Blomeyer, Roland, et al. Ibid.
- ¹¹ Pala, Christopher. (2013, April 2). "Detective work uncovers under-reported overfishing." *Nature*. [Online]. Available: <http://www.nature.com/news/detective-work>

³² Irvine, Dean. (2011); Michael Fabinyi. (2011). "Historical, Cultural, and Social Perspectives on Luxury Seafood Consumption in China." *Environmental Conservation*, Vol. 39, No. 1., pp. 83-92.

³³ Vidal, John. (2012, April 2). "Senegal's fishing community will act on foreign fleets if government doesn't" *The Guardian*. [Online]. Available:

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