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Conserving Marine Wildlife Through World Trade Law

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CONSERVING MARINE WILDLIFE THROUGH WORLD TRADE LAW

*Eric A. Bilsky**

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Fishing is a global industry. While many populations, or stocks, of fish lie wholly within the jurisdiction of one nation, many other fish populations either straddle national boundaries or migrate freely from the jurisdictional waters of one nation to the international high seas to the jurisdictional waters of another nation. The trade in fish is similarly unrestricted by national boundaries. A fish market in the United States might sell swordfish and tuna caught on the Atlantic or Pacific high seas by an Asian or European vessel, Patagonian toothfish (sold as Chilean seabass) caught in the Antarctic high seas by vessels from Spain, grouper caught in Southeast Asia, or orange roughy, a deep-sea fish caught in New Zealand. In fact, over eighty percent of the seafood sold in the United States is imported.¹ The top countries exporting to the United States include China, Thailand, Canada, Chile, Ecuador, Indonesia, and Vietnam.² Thirty-seven percent of global fish production is traded internationally, comprising up to thirteen percent of global agricultural trade.³

Governments, international organizations, Oceana,⁴ and other non-governmental organizations have long realized that this global food supply is in peril. Because both the resource, and the trade in the resource, extends beyond national boundaries, sustaining the world's fisheries will not be possible without effective international regulation. Unfortunately both national and international regulatory schemes are predicated on a model of fishery management that fails to address the

1. National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Fish Watch—US Seafood Facts, http://www.nmfs.noaa.gov/fishwatch/trade_and_aquaculture.htm (last visited June 14, 2009).

2. National Marine Fisheries Service, Top Exporters the US Imports From, 2007, Volume, http://www.nmfs.noaa.gov/fishwatch/images/import_exporters_2007_exp.gif (last visited June 14, 2009).

3. INT'L BANK FOR RECONSTRUCTION AND DEV., THE WORLD BANK, THE SUNKEN BILLIONS: THE ECONOMIC JUSTIFICATION FOR FISHERIES REFORM 5 (2008) [hereinafter SUNKEN BILLIONS].

4. Oceana is the world's leading international nonprofit organization dedicated to protecting and restoring the world's oceans. Oceana's teams of marine scientists, economists, lawyers, and advocates win specific and concrete policy changes to reduce pollution and to prevent the irreversible collapse of fish populations, marine mammals, and other sea life. For more information, see <http://www.oceana.org> (last visited June 14, 2009).

practical realities of controlling human impacts on complex ecosystems and the perverse economic incentives that lead to overfishing. Furthermore, international fisheries treaties are not strongly enforceable. Part I of this Essay marshals the evidence that fisheries around the world are in peril from destructive fishing practices. Part II argues that most fisheries management regimes are ineffective at counteracting the political pressures and economic incentives that lead to unsustainable fishing. Part III makes the case that government subsidies are major enablers of overfishing. The fourth and final Part discusses the continuing efforts to use international trade regulation to eliminate overfishing subsidies and halt the collapse of the world's marine fish populations.

I. FISHERIES AROUND THE WORLD ARE IN PERIL FROM DESTRUCTIVE FISHING PRACTICES

The oceans constitute approximately ninety-nine percent of Earth's livable environment.⁵ While carbon dioxide and other emissions threaten future catastrophic damage to the oceans through global climate change and ocean acidification, overfishing alone is causing devastating injury right now. The extent of the injury is considerable. Looking only at the economic loss from the decline of commercial fish populations and overinvestment in poorly regulated fisheries, the global fishing industry loses \$50 billion in economic benefits each year and has lost \$2 trillion in economic benefits over the previous three decades.⁶

Lay people and experts alike used to think that marine fisheries were inexhaustible. Thus, in as late as 1855, the Canadian Ministry of Agriculture pronounced that "[u]nless the order of nature is overthrown, for centuries to come our fisheries will continue to be fertile."⁷ This Canadian quote is a favorite in the literature, given the famous collapse of the Newfoundland cod fishery in the twentieth century. In fact, although some scientists were already realizing the danger of overexploitation, the impression that the ocean's resources were without limit had a strong grip on even the foremost experts for a long time. As late as 1883, the great biologist T.H. Huxley thought that, although salmon rivers and

5. National Aeronautics and Space Administration, NASA Oceanography, Living Ocean, <http://nasascience.nasa.gov/earth-science/oceanography/living-ocean/?searchterm=the%20living%20ocean> (last visited June 14, 2009) (stating that oceans cover about 70% of the Earth's surface and constitute 99% of the habitable space on the planet).

6. *SUNKEN BILLIONS*, *supra* note 3, at ix.

7. MARK KURLANSKY, *COD: A BIOGRAPHY OF THE FISH THAT CHANGED THE WORLD* 32 (1997).

oyster beds could be exhausted, there were so many fish like cod out in the sea that we could never make a dent in their numbers.⁸

A closer look at the archaeological and historical record suggests, however, that this impression of limitless oceans immune to injury may be a product of ignorance of historical declines in the abundance of marine resources, ignorance among the general public concerning the current state of marine resources, and ignorance concerning the ever-increasing impact that people are having on the oceans.

The archaeological record suggests that people were fishing intensively as much as 90,000 years ago.⁹ Even in pre-industrial times technology was advanced enough to significantly deplete resources over long periods of time. This depletion can be seen in the decreasing sizes of individual fish caught and in the decreasing amount of total catch.¹⁰ Evidence from sites in the former Soviet Union shows a significant decline in both the size of individual fish and the size of fish populations over a 5000-year period.¹¹ Evidence from other parts of Europe and the Caribbean shows similar declines.¹²

There are two well-known, mutually consistent hypotheses that may explain why this trend of depletion and collapse of fisheries has not resulted in a widespread recognition of the vulnerability of marine resources. The first hypothesis is summed up in the concept of "shifting baselines," that is, the fact that each new generation takes as its baseline for comparison the abundance of marine wildlife its members experience when they first observe the sea.¹³ Thus, members of the current generation do not understand how much larger and how much more abundant

8. David W. Sims & Alan J. Southward, Correspondence, *Dwindling Fish Numbers Abroad of Concern in 1883*, 439 NATURE 660 (2006). Similar views persisted as recently as 1919. See *id.*

9. John E. Yellen et al., *A Middle Stone Age Worked Bone Industry From Katanda, Upper Semliki Valley, Zaire*, 268 SCI. 553, 553 (1995).

10. Daniel Pauly et al., *Toward Sustainability in World Fisheries*, 418 NATURE 689, 689 (2002).

11. Tony J. Pitcher, *Fisheries Managed to Rebuild Ecosystems? Reconstructing the Past to Salvage the Future*, 11 ECOLOGICAL APPLICATIONS 601, 603 (2001) (citing R.W. CASTEEL, FISH REMAINS IN ARCHEOLOGY AND PALEO-ENVIRONMENTAL STUDIES (1976)).

12. *Id.* (citation omitted); Arturo Morales et al., *Cueva de Nerja (prov. Malaga): A Close Look at a Twelve Thousand Year Ichthyofaunal Sequence From Southern Spain*, in FISH EXPLOITATION IN THE PAST: PROCEEDINGS OF THE 7TH MEETING OF THE ICAZ FISH REMAINS WORKING GROUP 253 (Wim van Neer ed., 1994) (discussing the historical variance of fish levels in Cueva de Nerja, Spain); Willemina Z. Wendrich & Wim van Neer, *Preliminary Notes on Fishing Gear and Fish at the Late Roan Fort at Abu Sha'ar (Egyptian Red Sea Coast)*, in FISH EXPLOITATION IN THE PAST, *supra*, at 183; Elizabeth S. Wing, *Patterns of Prehistoric Fishing in the West Indies*, 3 ARCHAEOFAUNA 99 (1994).

13. Daniel Pauly, Postscript, *Anecdotes and the Shifting Baseline Syndrome of Fisheries*, 10 TRENDS ECOLOGY & EVOLUTION 430, 430 (1995); Mark Schrope, *The Real Sea Change*, 443 NATURE 622, 622 (2006).

marine wildlife used to be in their grandparents' time, let alone during the lifetimes of their great-great-grandparents.¹⁴ The second hypothesis is that population collapse is actually the normal result of fishing, but that historically when fishermen overfished a particular stock, they simply moved on and fished for a new species or in a new location.¹⁵ Archaeological evidence indeed shows shifts in catch species as initial target species were depleted and fishermen moved on to others.¹⁶ Under this hypothesis, as long as fishermen were able to shift to another species or location, fishing enterprises could continue to operate and communities could continue to consume seafood.

Modern technology, however, has dramatically increased the power and the range of fishing enterprises. The nineteenth century brought steam-powered vessels hauling in large trawl nets with power winches.¹⁷ The twentieth century brought diesel engines, refrigeration technology, radar, and fish-finding sonar.¹⁸ From the 1950s onward, industrial-scale fishing has spread around the globe, leaving fish nowhere to hide.¹⁹ Not only do these industrial fishing gears catch enormous quantities of the fish that are landed and brought to market, they also catch tremendous quantities of non-marketable fish that are thrown back in the water, often dead and dying.²⁰ Some of these destructive industrial fishing gears, such as bottom otter trawls, also plow across the seafloor destroying everything in their path.²¹ These gears wipe out coral and sponge ecosystems, replacing richly structured habitats with marine deserts.²²

Over the last decade, marine scientists have conducted a number of studies to try to put into perspective the damage that industrial fishing practices are inflicting on the marine environment. One famous study authored by the late Ransom Myers looked at population trends of large, highly valued, and highly migratory fish such as tuna and swordfish over

14. Pauly, *supra* note 13, at 430.

15. Pauly et al., *supra* note 10, at 689.

16. *Id.* (citing Elizabeth S. Wing, *The Sustainability of Resources Used by Native Americans on Four Caribbean Islands*, 11 INT'L J. OSTEOARCHAEOLOGY 112 (2001)).

17. Pauly et al., *supra* note 10, at 689.

18. *Id.*

19. *Id.*; see also F. Berkes et al., *Globalization, Roving Bandits, and Marine Resources*, 311 SCI. 1557 (2006).

20. Jennie M. Harrington et al., *Wasted Fishery Resources: Discarded By-Catch in the USA*, 6 FISH & FISHERIES 350, 351 (2005). They also incidentally catch and kill protected marine mammals, such as dolphins, sea turtles, and sea birds. See Rebecca L. Lewison et al., Review, *Understanding Impacts of Bycatch on Marine Megafauna*, 19 TRENDS ECOLOGY & EVOLUTION 598, 598 (2004).

21. Eric A. Bilsky, *Conserving Marine Habitats*, 7 SUSTAINABLE DEV. L. & POL'Y 67, 67 (2006).

22. See, e.g., Eric A. Bilsky, *International Cold-Water Coral Conservation: A Review*, 3 A.B.A. INT'L ENVTL. L. COMMITTEE NEWSL. 8, 9-10 (2007) (discussing the destruction of the oculina coral reef).

the past one hundred years.²³ It showed that the population abundance of these species had declined by ninety percent.²⁴ Intense consumer demand fed by industrial fishing has dramatically changed the marine ecosystem, substantially removing these large predators from the food chain. A second study looked at historical trends and projected them forward.²⁵ The study found that, over time, fisheries tended to decline.²⁶ Regardless of their location, the wealth of their host State, or the nature of the State's regulatory system, fisheries tended to run until fish stock were so depleted that fishing was no longer commercially viable. The study then looked at the rate of fisheries collapse and projected it into the future. The study found that *if current trends continued* all existing commercial fisheries would collapse by 2050.²⁷ In other words, as projected, by 2050 there will be no recognizable wild-caught seafood in any market anywhere in the world.

II. THE PREVAILING SINGLE-SPECIES-BASED BIOLOGICAL APPROACH TO FISHERIES MANAGEMENT DOES NOT WORK IN PRACTICE AND DOES NOT COUNTERACT THE BASIC ECONOMIC INCENTIVES TO OVERFISH

I argue below that conventional fisheries management is premised on a single-species-based biological approach that does not work in practice. Over the years, the wealthiest, most developed countries in the world have created regulatory systems intended to prevent the collapse of fisheries and to allow for sustainable fishing within their jurisdictions. But as a communication to World Trade Organization ("WTO") members from Australia, New Zealand, and the United States observed, "[w]hile management is a necessary element for sustainability, the record is painfully clear: even sophisticated management systems in developed countries have failed in many cases to preserve stock sustain-

23. Ransom A. Myers & Boris Worm, Letter, *Rapid Worldwide Depletion of Predatory Fish Communities*, 423 NATURE 280 (2003).

24. *Id.* at 282.

25. Boris Worm et al., Research Article, *Impacts of Biodiversity Loss on Ocean Ecosystem Services*, 314 SCI. 787 (2006).

26. *Id.* at 788 ("Overall, historical trends led to the present depletion . . . of 91[%] . . . of species, on average . . ."); see also Ahmed S. Khan et al., *The Nature and Magnitude of Global Non-Fuel Fisheries Subsidies* [hereinafter *Non-Fuel Subsidies*], in 14 FISHERIES CENTRE RESEARCH REPORTS, CATCHING MORE BAIT: A BOTTOM-UP RE-ESTIMATION OF GLOBAL FISHERIES SUBSIDIES 5, 5–6 (Ussif Rashid Sumaila & Daniel Pauly eds., 2006) [hereinafter CATCHING MORE BAIT] ("[C]ompared to the 1950s, when most of the catches were taken from undeveloped fisheries[]; the 1990s showed that most of the catches (about 75%) were from fully exploited or overfished fisheries and over 10% from collapsed fisheries.") (figure omitted).

27. Worm et al., *supra* note 25, at 790.

ability, and management does not address the market- and trade-distorting effects of subsidies.”²⁸

These management systems typically work as follows: Government regulators rely on a biological single-species-based mathematical model, which is unsuited for the need of conserving the entire marine ecosystem and which requires more, and more accurate, data, than government regulators are willing or are able to collect. Government regulators use the model, together with the inadequate data fed into it, to set a quota. But, they invariably ignore the seemingly correct policy choice of maximum economic yield in favor of the inappropriate biology-based maximum sustainable yield.

Described in abstraction from the ecological and economic context in which actual fisheries operate, biology-based single-species fisheries management should work beautifully. The story starts with expert technocratic fishery managers systematically collecting information that allows them to model fish populations and determine the biological maximum rate of fishing that can be sustained each year.²⁹ They then translate that rate into a level of fishing to set an annual catch limit.³⁰ The fishing rate describes the intensity of the fishing effort, while the level describes how many fish are caught. For example, if there are one hundred fish in the water at the beginning of the year, and fishing enterprises catch twenty of them, the average fishing rate during the year was 0.2. The annual fishing level or yield was twenty fish. Thus, having determined the maximum sustainable fishing rate, the experts advise their government of the level of fishing, or yield, which corresponds to that rate. The government then issues regulations ensuring that no more fish are caught than the maximum sustainable level.

The single-species biological approach, however, fails to take into account important considerations of conserving ecosystems and economic benefit. It also neglects to account for the difficulties of implementing a data-intensive management system in an environment where data are hard to obtain. Central to the argument of this Essay, the biological approach fails to take into account the economic incentives that lead to overcapacity and overfishing. The failures to work in practice and to address the economic incentives are present at the international as well as the national level.

28. Communication from Australia, New Zealand and the United States, *Fisheries Subsidies*, TN/RL/W/235 ¶ 11 (July 18, 2008).

29. See, e.g., Donald Ludwig et al., *Uncertainty, Resource Exploitation, and Conservation: Lessons From History*, 260 *Sci.* 17, 17 (1993); Pauly et al., *supra* note 10, at 690 box 1.

30. See, e.g., *Natural Res. Def. Council v. Daley*, 209 F.3d 747, 750 (D.C. Cir. 2000).

*A. Single-Species-Based Biological Fisheries Management
Fails to Take into Account Important Considerations of
Conserving Ecosystems and Economic Benefit*

There are some significant mismatches between the abstract picture underlying conventional fisheries management and reality. First, the single-species approach to fisheries management fails to capture many important environmental impacts. This Essay focuses on single-species overfishing because existing fisheries management systems overwhelmingly employ single-species models. Scientists and regulators are aware that they should develop techniques for ecosystem management and apply them, but the awareness has not yet translated into action. Nonetheless, it is worth noting briefly what issues might be addressed by ecosystem-based management that are passed over by the single species approach.

The single-species focus does not address the impact of fishing on fish habitat and the indirect impact that destruction of fish habitat has on the sustainable level of fishing.³¹ The single-species focus also fails to address the impact that incidental catch, or bycatch, has on species such as sea turtles and sea birds that are not the target of the fishery.³² Neither does this approach address the effects on other components of the ecosystem, which are affected by the removal of large numbers of fish that non-human predators otherwise would eat.³³

Second, the biological approach tries to maximize the amount of fish it is biologically possible to catch sustainably, without adequately considering economic factors. The more fish that fishing vessels catch, the more depleted the fish stock, and the more costly it is to catch the next fish.³⁴ For the typical fishery, the maximum sustainable economic benefit, or maximum economic yield, is not at a yearly fish catch that is equal to maximum sustainable (biological) yield, but at a lower catch where less investment is needed to catch the last fish.³⁵ Nevertheless, biology-

31. Cf. Pauly et al., *supra* note 10, at 690–91.

32. Cf. Harrington et al., *supra* note 20, at 357 (“[D]iscarding and bycatch is still a major problem, likely to have considerable impacts on several marine ecosystems around the country.”).

33. See, e.g., Pauly et al., *supra* note 10, at 691.

34. *But see Non-Fuel Subsidies*, *supra* note 26, at 20 (“[I]n open access fisheries, in which fishing cost is assumed to be proportional to fishing effort, effort will continue to increase even though revenues per unit of effort are declining.”).

35. *Id.*; see also *SUNKEN BILLIONS*, *supra* note 3, at 27–28; R.Q. Grafton et al., *Economics of Overexploitation Revisited*, 318 *Sci.* 1601, 1601 (2007) (“[I]n practice BMEY > BMSY.”). In expressions such as “BMEY” and “BMSY,” the “B” denotes biomass, the total mass of fish in the population. Biomass is a common way of measuring the size of a fish population. “BMEY” denotes the biomass that would allow the taking of the maximum (sustainable) economic yield, while “BMSY” denotes the biomass that would allow the taking of the maximum sustainable (biological) yield.

oriented regulators typically do not try to identify the maximum economic yield and do not try to attain it. Instead, they focus on the less economically beneficial maximum sustainable (biological) yield.³⁶

B. The Biological Approach Also Fails to Take into Account the Difficulties of Implementing a Data-Intensive Management System in an Environment Where Data Are Hard to Obtain

The biological approach to management also falls short because the data necessary for applying the approach are frequently not collected and the results of modeling can fluctuate dramatically from year to year.

Collecting data on fish populations is expensive and difficult. For example, even though wealthy countries like the United States have extensive data on certain commercially fished species, in 2007, out of the 528 stocks and stock complexes caught in U.S. fisheries, fishery managers failed to collect sufficient data for 338 stocks and stock complexes to determine whether they were overfished.³⁷ Thus even in a wealthy and relatively well-functioning system, there were insufficient data for sixty-four percent of the stocks and stock complexes.

In addition, the modeling process is not as simple and straightforward as the abstract picture would have it. In 2001, for example, the National Marine Fisheries Service assessed the health of darkblotched rockfish, one of the species in the commercial Pacific groundfish fishery, at a depleted twenty-two percent of its unfished biomass.³⁸ The very next year the agency's assessment said the situation was twice as bad and that darkblotched rockfish were actually at only twelve percent of the unfished population level, a very, very low population level. In contrast, the population level typically associated with maximum sustainable yield is about forty percent of unfished biomass.³⁹

In a similar example of an estimate fluctuating wildly in a short period of time, in 2008 the Fisheries Service re-estimated the stock size consistent with maximum sustainable yield for Georges Bank stock of cod, one of the most heavily studied fish populations on the planet, reducing it from the 2002 estimate of 217,000 metric tons to 148,084

36. Ludwig et al., *supra* note 29, at 17; Pauly et al., *supra* note 10, at 689.

37. NAT'L MARINE FISHERIES SERVICE, 2007 REPORT TO CONGRESS: THE STATUS OF U.S. FISHERIES 4 (2008).

38. National Res. Def. Council, Inc. v. Nat'l Marine Fisheries Serv., 421 F.3d 872, 876 (9th Cir. 2005).

39. *Id.*

metric tons.⁴⁰ This meant that if the current estimate were correct, the old estimate was too high by a factor of one and a half.

C. The Biological Approach Fails to Counteract the Economic Incentives that Lead to Unsustainable Fishing

Central to the argument of this Essay, the biological approach to fisheries management does not counteract the perverse economic incentives that arise from the tragedy of the commons. These incentives lead to pressure for overfishing, which results in managers setting inappropriate quotas and/or failing to enforce the quotas that they set.

1. The Biological Approach Does Not Counteract the Perverse Economic Incentives that Arise from the Tragedy of the Commons

The biological approach does not address the perverse economic incentives created by allowing fishing enterprises to exploit a public resource. In the typical fishery, the fishing enterprises do not own rights to the resource. So, for any given fishing year, the fishing enterprises compete without regard to their expectation for the following year because they have no property right to future catches. These economic incentives tend to create overcapacity even in what are traditionally regarded as well-managed fisheries and even without the additional perverse incentive supplied by overfishing subsidies.

The simplest case is the "open-access" fishery in which all fishing enterprises have the right to attempt to catch fish, but no fishing enterprise has a right to a specific share of the catch in the current or future years. This open-access case is an example of the Tragedy of the Commons, in which a shared resource is overexploited to the collective detriment of all the resource users.⁴¹ More and more fishing enterprises will catch fish, until fish become so scarce and costly to catch that any further catch would cause economic losses.⁴² In the typical fishery, the resulting long-term average yield would be significantly lower than the maximum sustainable (biological) yield, with a fish population size significantly smaller than that necessary to support either maximum sustainable or maximum economic yields.⁴³ Thus, economic theory tells us that an open-access fishery results in additional fishing enterprises entering the fishery to capture the benefits until the fishery reaches an

40. NORTHEAST FISHERIES SCI. CTR., ASSESSMENT OF 19 NORTHEAST GROUND FISH STOCK THROUGH 2007: REPORT OF THE 3RD GROUND FISH ASSESSMENT REVIEW MEETING 2-5, 2-13 (2008) [hereinafter NORTHEAST GROUND FISH STOCK].

41. SUNKEN BILLIONS, *supra* note 3, at 28.

42. *Non-Fuel Subsidies*, *supra* note 26, at 14 (citing H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124 (1954)).

43. *Id.*

equilibrium, known as the bionomic equilibrium, in which no fishing enterprise derives any economic rent.⁴⁴ The tragedy of the commons leads to overcapacity which leads to overfishing.

Typically, government regulators try to ensure that the fishery is sustainable and that yields are higher by imposing a quota (or “total allowable catch”) set at maximum sustainable yield.⁴⁵ “[A]s long as the limit is set to achieve a sustainable yield, and regulations are perfectly enforced,” this system will stop single species overfishing.⁴⁶ “However, if the catch controls are not perfectly enforced, then the effects will tend to be similar to those of an unrestricted (or open access) system.”⁴⁷ The level of effort required to catch the maximum sustainable yield is generally less than the level of effort that fishermen would normally expend in an unregulated open access fishery as they compete to catch fish. But since there are no property rights in the resource, the quota applies to the entire fleet, and it is up to the fishing enterprises to compete against each other to determine who will catch what share of that quota.⁴⁸ Fishing enterprises in this system have an incentive to invest in more powerful vessels and equipment to outcompete each other for catch under the quota.⁴⁹ Therefore, as with the completely unregulated case, the open access fishery with quotas creates overcapacity. The oversized fleet creates tremendous political pressure for regulators to increase quota levels in order to accommodate fishing interests.⁵⁰ Thus, simply imposing a fleet-wide quota fails to counteract fully the economic incentives to overfish and overinvest.

Another typical regulatory technique is to restrict access to a limited number of fishing enterprises that are given permits. If these permits are restricted to enterprises currently participating in the fishery, limiting access will combat overcapacity caused by new entrants. Nonetheless, if the quota remains fleet-wide, the fishing enterprises with permits will still have an incentive to invest in more powerful vessels and equipment

44. *Id.* at 14; see also J.M. Ward et al., *Measuring and Assessing Capacity in Fisheries*, at 25–29, app. A (Food & Agric. Org. of the U.N., Fisheries Technical Paper No. 433/1, 2004) (discussing capacity management programs).

45. See J.R. Beddington et al., *Current Problems in the Management of Marine Fisheries*, 316 *Sci.* 1713, 1713–14 (2007).

46. See Org. for Econ. Co-operation and Dev., *Subsidies: A Way Towards Sustainable Fisheries?*, POL’Y BRIEF, Dec. 2005, at 1, 3 [hereinafter OECD].

47. *Id.*

48. See, e.g., Christopher Costello et al., *Can Catch Shares Prevent Fisheries Collapse?*, 321 *Sci.* 1678, 1679 (2008).

49. See, e.g., Ray Hilborn, *Managing Fisheries Is Managing People: What Has Been Learned?*, 8 *FISH & FISHERIES* 285, 288 (2007) (“[T]he largest and fastest boats caught the most fish.”).

50. See *id.* (describing the overexpansion of the U.S. and Canadian fleets in the 1980s).

and the regulatory regime will still lead to excess capacity that will cause overfishing.

One well-known solution to changing the economic pressures on sustainability is to give or sell fishing enterprises property rights in the resource.⁵¹ The theory is that such property rights will prevent the overinvestment in fishing equipment needed to outcompete other fishing enterprises for a share of the global quota, because each fishing enterprise will have its own share guaranteed and "the catch cannot be increased by increasing catching power."⁵² Furthermore, because fishing enterprises will have property interests in the present and future years' catches, their self-interest will lead them to maximize the long-term income stream by fishing sustainably.⁵³ While such individual fishing quotas or catch shares hold the promise of solving many fishing regulation problems, they are not perfect. For example, catch shares do not eliminate the incentive to overfish caused by the government subsidies that are the focus of this Essay.

So without rights in the resource and/or other similarly effective efforts to constrain fishing, we end up with fewer fish in the water, fewer fish in the market, and greater costs involved in catching those fish we do land.⁵⁴ The flip side of this situation is that a reduction in fishing effort can rapidly increase productivity, profitability, and net economic benefits from a fishery. Stock rebuilding will increase sustainable yields and lower fishing costs, providing significant economic gains.⁵⁵

2. Perverse Economic Incentives Lead to Inappropriate Quotas and Lack of Enforcement

The economic incentives created by lack of ownership in the resource and overinvestment in capacity push fishing enterprises to seek both covert and overt political relief from the constraint of the maximum sustainable yield quota. The economic incentives drive fishing enterprises to seek the ability to fish at the full level that they would if there were no quota at all.⁵⁶ Two pressure relief valves enable fishing enterprises to catch more fish than the regulatory system should allow: quota setting and quota enforcement.

51. Costello et al., *supra* note 48, at 1679.

52. Hilborn, *supra* note 49, at 289.

53. Costello et al., *supra* note 48, at 1680 (asserting that conversion to a catch shares regulatory system stops the decline of a fishery); Beddington, *supra* note 45, at 1714.

54. *SUNKEN BILLIONS*, *supra* note 3, at 39 ("[I]n general, the more clearly defined and enforceable the rights, the less the benefit loss." (citation omitted)).

55. *Id.* at xv.

56. *Cf.* Ludwig et al., *supra* note 29, at 17 ("Wealth or the prospect of wealth generates political and social power that is used to promote unlimited exploitation of resources.").

An example from the U.S. portion of the Gulf of Mexico shows what can happen to quota-setting under political pressure. Fisheries Service scientists recommended that the quota for overfished king mackerel be set at five million pounds for the 1992–93 fishing season, and in no event higher than 6.1 million pounds.⁵⁷ Accordingly, the Gulf of Mexico Fishery Management Council’s Mackerel Management Committee took the high end of the recommendation and advised the full Council to adopt a 6.1 million pound quota.⁵⁸ It was politically infeasible for the Council to implement the quota, because doing so would have required reducing the bag limit (the number of fish per person per trip) for politically powerful recreational fishers from three to one.⁵⁹ Recognizing this political problem, the Council adopted a quota that was over a million pounds higher than the scientists recommended, ensuring recreational fishers a two-bag limit.⁶⁰ The quota allocated 5.3 million pounds of catch to the recreational fishers and an additional 2.5 million pounds to commercial fishing enterprises.⁶¹ But the management system was not even effective at holding fishermen to that quota, because the regulation relied on an indirect management measure for recreational fishers. This consisted of a bag limit on the number of fish that could be retained per trip, rather than an absolute limit that would require closure of the fishery once the limit was reached. The catch for the recreational fishermen alone ended up at 6.2 million pounds.⁶²

The king mackerel story is not an isolated event. In fact, federal fisheries regulators in the United States are frequently pressured to increase quotas over the level recommended by scientists. Starting in 1976, the law governing federal fisheries, now known as the Magnuson-Stevens Fishery Conservation and Management Act, required that fishing levels not exceed maximum sustainable yield except in special circumstances⁶³ and that fisheries managers develop regulations based on the best available science.⁶⁴ The special circumstances exception was notoriously

57. JOSH EAGLE ET AL., TAKING STOCK OF THE REGIONAL FISHERY MANAGEMENT COUNCILS 22 box 7 (2003).

58. *Id.* at 22.

59. *Id.*

60. *Id.* at 22 box 7.

61. *Id.*

62. *Id.*

63. Fishery Conservation and Management Act of 1976, Pub. L. No. 94-265, §§ 3(18), 301(a)(1), 90 Stat. 331, 335, 346 (1976) (codified as amended in 16 U.S.C. §§ 1801-1882 (2004)) (defining “optimum” and requiring fisheries to achieve optimum yield).

64. *Id.* § 301(a)(2).

abused, leading to chronic overfishing and the collapse of the New England cod and haddock fisheries.⁶⁵

In response, Congress removed the special circumstances exception in 1996, seemingly requiring that maximum sustainable yield never be exceeded.⁶⁶ Shortly thereafter, however, in the famous fisheries case *National Resources Defense Council v. Daley*,⁶⁷ the government adopted a suite of regulatory measures it claimed complied with the maximum sustainable yield requirement because it had an eighteen percent likelihood of limiting the fishing rate to the rate that scientists recommended.⁶⁸ The U.S. District Court for the District of Columbia accepted the government's position, but the Court of Appeals for the District of Columbia overturned the District Court, finding that "[o]nly in Superman Comics' Bizarro world, where reality is turned upside down, could the Service reasonably conclude that a measure that is at least four times as likely to fail as to succeed" complies with the requirement not to exceed maximum sustainable yield.⁶⁹ Nevertheless, the government has advanced, and some courts have accepted, a tortured statutory interpretation that allows fishing at a rate higher than that consistent with maximum sustainable yield even when the fish population has declined to the point that it is governed by special rules designed to rebuild it to healthy levels.⁷⁰

Fisheries managers also frequently use lax enforcement as a safety valve to reduce the pressure of fishing enterprises seeking higher rates of fishing than would be permitted by the maximum sustainable yield sys-

65. See, e.g., 142 CONG. REC. 23,934, 23,935 (1996) (statement of Sen. Chafee) ("A look at some of the consequences of fisheries mismanagement in New England is staggering . . .").

66. See Sustainable Fisheries Act, Pub. L. No. 104-297, § 102, 110 Stat. 3559, 3562 (1996) (altering definition of "optimum" to replace ability to "modify" yield from maximum sustainable yield with ability only to "reduce" yield); 142 CONG. REC. 23,681, 23,707 (1996) (statement of Sen. Hollings) ("The bill . . . caps fishery harvests at the maximum sustainable levels . . .").

67. *Natural Res. Def. Council v. Daley*, 209 F.3d 747, 749 (D.C. Cir. 2000).

68. *Id.*

69. *Id.* at 754.

70. On its face, the Magnuson-Stevens Act appears to prohibit overfishing across the board. 16 U.S.C. §§ 1801-1884, § 1851(a)(1) (2006) ("Conservation and management measure shall prevent overfishing . . ."). However, the government seized on language from another provision of the statute concerning what to do when a population of fish is depleted and must be rebuilt to a healthy level. *Id.* § 1854(e). This rebuilding provision allows the government to set forth a plan to increase the population size over a period of years. *Id.* § 1854(e)(2). The government has argued, and some courts have agreed, that this remedial provision of the statute aimed at recovering the most unhealthy fish populations actually allows for fishing at unsustainable levels, notwithstanding the Act's general prohibition on overfishing, so long as the plan provides that the population will be rebuilt by the plan's end date. *Oceana, Inc. v. Evans*, No. 04-0811, 2005 U.S. Dist. LEXIS 3959, at *15, *54 (D.D.C. Mar. 9, 2005) ("[O]verfishing need not be immediately terminated.").

tem. For example, following the 1995 collapse of a number of New England groundfish fisheries, Congress passed amendments to the Magnuson-Stevens Act requiring that fisheries managers rebuild collapsed fisheries and imposing significantly lower catch quotas.⁷¹ New England fishery managers relieved the resulting pressure on the industry by calling the quotas “target[s],” and by failing to enforce them.⁷² Over a period of years, fishing enterprises exceeded the quotas regularly and substantially, frequently by a factor of two or higher.⁷³ This practice created a self-reinforcing process in which fish populations continued at depressed levels, resulting in economically difficult quotas and substantial quota exceedances, which continued to depress fish populations.⁷⁴ Conservation groups challenged the non-enforcement of quotas but, notwithstanding evidence presented of exceedances over a period of several years, the court deferred to the Fisheries Service’s contention that its current fishery management proposals were different from the failed proposals of prior years.⁷⁵

The situation, especially in New England, became so frustrating for conservation groups and legislators that, in 2006, Congress amended the Magnuson-Stevens Act, restating explicitly and in other words what the statute appeared to say already: that by using the best available science, Congress meant that the government should follow scientists’ recommendations in setting limits on fishing,⁷⁶ that overfishing should be prevented by setting annual catch limits,⁷⁷ and that annual catch limits should actually be enforced by measures that “ensure accountability.”⁷⁸

71. See, e.g., *Conservation Law Found. v. Evans*, 209 F. Supp. 2d 1, 7–8 (D.D.C. 2001) (contesting initial refusal of agency to implement the required lower quotas).

72. Catharine A. Latanich, *Hard Catch Limits in the Northeast Multispecies Fishery: Balancing Accountability and Opportunity in a Multispecies Complex 3* (May 2007) (unpublished M.E.M. project, Duke University), available at http://dukespace.lib.duke.edu/dspace/bitstream/10161/292/1/MP_cal7_a_052007.pdf (last visited June 14, 2009).

73. SARAH CLARK STUART, *SHELL GAME: HOW THE FEDERAL GOVERNMENT IS HIDING THE MISMANAGEMENT OF OUR NATION’S FISHERIES* 17 fig.11 (2006).

74. *Id.* at 17–18.

75. *Oceana, Inc. v. Evans*, No. 04-0811, 2005 U.S. Dist. LEXIS 3959, at **60–62. Notwithstanding the court’s deference to the agency, the agency’s most recent stock assessment, taken in 2007, reports that thirteen of the nineteen groundfish stocks were overfished. *NORTHEAST GROUND FISH STOCK*, *supra* note 40, at xiv (finding that the fishing rate exceeded FMSY).

76. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. 109-479, §§ 103, 302(h), 120 Stat. 3575, 3581 (2007) (amending 16 U.S.C. § 1852(h) to require regional councils to follow scientific recommendations).

77. *Id.* § 104(a) (adding new sections 16 U.S.C. § 1852(a)(15), 120 Stat. 3584).

78. *Id.*

D. *International Fisheries Regulation Suffers from the Same Defects as National Regulation*

International fisheries regulation is based on the same single-species based biological approach that is used within most national jurisdictions. Accordingly, the problems that plague national fisheries are also prevalent at the international level.

The United Nations Convention on the Law of the Sea ("Law of the Sea") gives each coastal State jurisdiction over fishery resources within an exclusive economic zone ("EEZ"), which in most cases extends 200 miles from the State's shore.⁷⁹ In the past, approximately ninety percent of commercial fishing took place within EEZs; however, as near-shore fisheries become more and more depleted, fishing is pushing further out and expanding into the high seas.⁸⁰ The Law of the Sea formulates general conservation duties that are quite similar to the duties in U.S. law: fish populations must be maintained at a level consistent with maximum sustainable yield, taking into account various other factors, and coastal States must establish permissible catch levels for each fish species' stock.⁸¹ As explained above, while these general conservation requirements look good on paper, they are inadequate to constrain fishing to sustainable levels.⁸²

The Law of the Sea also covers fishing on what are known as "straddling stocks," those whose range crosses one or more EEZs, as well as stocks of highly migratory species such as tuna and swordfish that range across the high seas. The Law of the Sea is applied in this area through the later-negotiated Agreement for the Implementation of the Provisions of the Convention Relating to Straddling Fish Stocks and Highly Migratory Species ("Straddling Stocks Agreement").⁸³ The Agreement is implemented for straddling stocks whose range crosses EEZs through agreements among neighboring coastal States, usually through bilateral treaties, commissions, or regional fishery management organizations.⁸⁴ On the high seas, the Straddling Stocks Agreement is implemented through existing or newly created regional fishery management organi-

79. United Nations Convention on the Law of the Sea arts. 55, 56(1), 57, Dec. 10, 1982, 1833 U.N.T.S. 397.

80. ROBIN ROLF CHURCHILL & ALAN VAUGHAN LOWE, *THE LAW OF THE SEA* 288 (3d ed. 1999).

81. See United Nations Convention on the Law of the Sea, *supra* note 79, art. 61.

82. See *supra* Part I.

83. United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, July 24-Aug. 4, 1995, *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, U.N. Doc A/CONF.164/37 (Sept. 8, 1995) [hereinafter *Straddling Stocks Agreement*].

84. CHURCHILL & LOWE, *supra* note 80, at 294-96.

zations.⁸⁵ A regional fishery management organization is simply an organization set up by international agreement among a group of States that establishes absolute fishing levels for straddling stocks and allocates catch under those levels to the Member States.

The Straddling Stocks Agreement represents a significant advance because it requires a State wishing to fish on the high seas to comply with the regulations of the regional fishery management organization in charge of the targeted fish stock.⁸⁶ It also requires States to set up new regional fishery management organizations where no such organizations already exist.⁸⁷ The Straddling Stocks Agreement also marks an important advance in international fisheries law, in that it sets out for the first time, and in great detail, standards requiring that States use a precautionary approach in order to conserve marine resources and ensure their long-term sustainability.⁸⁸ The Agreement has been widely accepted; currently there are seventy-one parties to it.⁸⁹ There are thirty regional fishery management organizations in the world today. Two of them were established explicitly to implement the Straddling Stocks Agreement in areas where no regional fishery management organization had previously existed.⁹⁰

Nevertheless, the Straddling Stocks Agreement is still committed to the basic single-species biological approach that has traditionally failed.⁹¹ The reluctance of fishing enterprises to constrain their catch levels and fishing capacities at the national level is simply duplicated in the regional fishery management organizations. For example, in 1998, the regional fishery management organization governing the catch of west Atlantic bluefin tuna, one of the most heavily-studied fish populations, was faced with the unpleasant news that the population was far below its target size, and that a quota of zero was necessary to rebuild to the target size within twenty years.⁹² Rather than face up to this problem, the

85. *Id.* at 309.

86. *Id.*

87. *Id.*

88. *Id.*; Straddling Stocks Agreement, *supra* note 83, art 6.

89. United Nations, Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreements as at 04 May 2009 [sic], http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm#Agreement%20relating%20to%20the%20implementation%20of%20Part%20XI%20of%20the%20Convention (last visited June 14, 2009).

90. Food and Agriculture Organization of the United Nations, Fisheries and Aquaculture Department, Strengthening Regional Fisheries Governance, <http://www.fao.org/fishery/topic/14908/en>.

91. Straddling Stocks Agreement, *supra* note 83, art. 5(b) (stating maximum sustainable yield goal).

92. Carl Safina & Dane H. Klinger, *Collapse of Bluefin Tuna in the Western Atlantic*, 22 CONSERVATION BIOLOGY 243, 243 (2008).

fishing industry supplied a scientist who developed a new model that actually allowed the quota to be increased.⁹³ The fishery managers accepted the results of this model and increased the quota.⁹⁴ As the example illustrates, just as with domestic single-species biology-based management systems, the international system has not succeeded in establishing sustainable fisheries.

III. GOVERNMENT SUBSIDIES ARE A MAJOR ENABLER OF OVERFISHING

I have argued that typical regulatory systems are inadequate to conserve resources and maximize economic benefits, and that economic incentives undermine the regulatory process. Government subsidies for fishing enterprises make the creation of excess fishing capacity and the resultant overfishing even more likely.

The Agreement on Subsidies and Countervailing Measures (“SCM”), the currently effective international agreement generally regulating government subsidies, defines “subsidy” to mean a financial contribution in which a government (1) directly provides funds, goods, or services, foregoes income due (except monies for general infrastructure),⁹⁵ or indirectly provides such a contribution by channeling it

93. *Id.* at 243–44. The new model assumed that the dramatic decline in recent years of the west Atlantic bluefin tuna population was caused not by overfishing, but by some unidentified change in the environment. *Id.* Accordingly, the model declined to consider data gathered in the 1970s and before, when the population was higher. *Id.* The perverse result was that the model concluded that the size of the current population relative to the biomass consistent with maximum sustainable yield was much larger than the relative size found by the old model that considered all the data. *Id.* Because the new model assessed the population as relatively healthier, it allowed relatively higher rates of fishing. Litigation in which I participated challenged the use of the new model, but was not successful. *See Nat’l Audubon Soc’y v. Evans*, No. 99-1707, 2003 U.S. Dist. LEXIS 23675 (D.D.C. July 3, 2003). The most recent stock assessment found that fishing levels based on this new model, which was supposed to gradually increase the size of the population, have instead resulted in a further seven percent decline. Victor R. Restrepo, Int’l Comm’n for the Conservation Atlantic Tunas [ICCAT], *On the Possible Current Status of the Western Atlantic Bluefin Tuna Stock Had the Main Fisheries Caught Their 2003–2007 Quota*, at 1, ICCAT Rep. SCRS/2008/175 (2008). A study accompanying the stock assessment found that, had countries been able to catch their full quotas, something they had not been able to do because of the scarcity of the tuna, the population would have fallen thirty-one percent from the 1999 level. *Id.* at 2.

94. Safina & Klinger, *supra* note 92, at 244.

95. Marrakesh Agreement Establishing the World Trade Organization Annex 1A, Agreement on Subsidies and Countervailing Measures art. 1.1, Apr. 15, 1994, *as reprinted in THE LEGAL TEXTS: THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS* 231, 231 (Cambridge Univ. Press 1999) (1994) [hereinafter SCM Agreement]. The “general infrastructure exception,” *id.* art. 1.1(a)(1)(iii), removes from the definition many government goods and services that benefit fishing enterprises, such as the judicial system, law enforcement, coast guard, roads, and so forth. Some or all of these general infrastructure

through a private body; and, (2) the government thereby confers a benefit.⁹⁶ This broad definition includes many things that confer benefits on fishing enterprises, including direct financial contributions for new vessels, new equipment, and operating expenses (such as costs of fuel, ice, and bait). This definition of “subsidies” also includes the transfer from the government to private fishing enterprises of rights that the government has purchased to fish in foreign waters. Finally, subsidies might also include granting fishing enterprises access to fishery resources without an appropriate charge.⁹⁷

Such government financial contributions can have a serious impact on the sustainability of fisheries. As explained above, in an open-access fishery, the fishery reaches an equilibrium in which all economic rent is dissipated.⁹⁸ At this equilibrium, there is a long-term average yield lower than the maximum sustainable (biological) yield and the stock size is lower than the stock size consistent with maximum sustainable yield. Government subsidies counter the economic incentive to stop fishing even at this equilibrium. The subsidies lower the costs faced by the fishing enterprises, allowing them to fish beyond the bionomic equilibrium, making the level of overfishing even more severe and the size of fish stocks even smaller. Government subsidies will also tend to undermine more sophisticated regulatory systems. Even where regulators set quotas or limit access, there is an incentive to increase capacity beyond sustainable levels because the quota applies to an entire fleet, so that individual enterprises continue to have an incentive to invest in outcompeting each other. By reducing the cost of fishing, subsidies create greater pressure to increase capacity. Even in an individual fishing quota system, government subsidies decrease fishing costs and therefore increase the profits of individual fishing enterprises from the same stock size. Thus subsidies reduce the incentive to increase stock sizes to the maximum sustainable or the maximum economic yield level.

Governments administer subsidies to fishing enterprises around the world at an astonishing rate. The most comprehensive recent study of

subsidies are justified because these services create “positive externalities and public goods which are not internalized in market prices.” See MITSUO MATSUSHITA ET AL., *THE WORLD TRADE ORGANIZATION: LAW, PRACTICE, AND POLICY* 334 (2d ed. 2006).

96. SCM Agreement, *supra* note 95, art. 1.1; MATSUSHITA ET AL., *supra* note 95, at 336.

97. See MATSUSHITA ET AL., *supra* note 95, at 339–40 (discussing Panel Report, *United-States—Preliminary Determinations With Respect to Certain Softwood Lumber From Canada*, §§ 7.14, 7.23, 7.28–30, WT/DS236/R (Sept. 27, 2002) (“Canadian provincial stumpage programmes involve the provision by the government of standing timber, and, as such, the provision of a good in the sense of Article 1.1(a)(1)(iii) SCM Agreement.”)) (citation omitted); cf. Marc Benitah, *Five Suggestions for Clarifying the Draft Text on Fisheries Subsidies*, 12 BRIDGES 21 (Feb. 2008), available at <http://ictsd.net/downloads/2009/03/bridges12-1.pdf>.

98. See *supra* note 44 and accompanying text.

these subsidies concluded that from 1995 through 2005, governments worldwide dispersed between \$30 billion and \$34 billion in subsidies to the fishing industry.⁹⁹ Of these, non-fuel subsidies accounted for \$26 billion and fuel subsidies accounted for between \$4 billion and \$8 billion.¹⁰⁰ Approximately \$6.6 billion of these non-fuel subsidies went to areas like research and fisheries regulation, which arguably have benefited the environment and the economy. Another \$3.4 billion went to subsidies such as fisher assistance programs, which might not have had an adverse environmental impact, if implemented correctly.¹⁰¹ The remaining \$20 to \$24 billion, however, directly funded new equipment purchases, boat building expenses, and lowered fuel costs,¹⁰² all of which either reduced fishery operating costs or increased their revenues. As a result, there has been even more fishing effort and even greater depletion of marine resources.¹⁰³ In fact, in large part because of these subsidies, global fishing fleets possess more than twice the capacity to catch fish than the oceans can sustainably support.¹⁰⁴

The high seas bottom-trawling fishery provides a good example of the effect of these subsidies. High seas bottom trawlers steam long distances into deep international waters and drop their nets onto the tops and slopes of underwater mountains, or seamounts, that host especially rich underwater ecosystems.¹⁰⁵ The huge nets destroy the rich coral and sponge structures that provide a physical habitat for species at the base of the ecosystem and they sweep up deep-sea fish species at rates far too high to be sustainable.¹⁰⁶ As fishing in deep water and far from port should be very expensive, it is fair to wonder how fishing enterprises can make it profitable. It turns out that the profit from the high seas bottom-trawling fleet accounts for no more than ten percent of the landed value of the fish.¹⁰⁷ Yet, the fleet receives subsidies equivalent to twenty-five

99. Daniel Pauly, *Director's Foreword* to CATCHING MORE BAIT, *supra* note 26, at 1, 1.

100. Ussif Rashid Sumaila & Daniel Pauly, *Executive Summary* to CATCHING MORE BAIT, *supra* note 26, at 2, 2 [hereinafter *Executive Summary*].

101. *Non-Fuel Subsidies*, *supra* note 26, at 22, 25.

102. *Id.* at 23; Ussif Rashid Sumaila et al., *Fuel Subsidies to Global Fisheries: Magnitude and Impacts on Resource Sustainability*, in CATCHING MORE BAIT, *supra* note 26, at 38, 46 [hereinafter *Fuel Subsidies to Global Fisheries*].

103. *Executive Summary*, *supra* note 100, at 2.

104. *Non-Fuel Subsidies*, *supra* note 26, at 8; *see also* SUNKEN BILLIONS, *supra* note 3, at xviii ("This study and previous studies indicate that the current marine catch could be achieved with approximately half of the current global fishing effort.")

105. *See, e.g.*, J. A. Koslow et al., *Seamount Benthic Macrofauna off Southern Tasmania: Community Structure and Impacts of Trawling*, 213 MARINE ECOLOGY PROGRESS SERIES 111, 112 (2001).

106. *Id.* at 122–23.

107. Ussif Rashid Sumaila et al., *Subsidies to High Seas Bottom Trawl Fleets and the Sustainability of Deep Sea Benthic Stocks*, in CATCHING MORE BAIT, *supra* note 26, at 49, 51.

percent of the landed value of the fish.¹⁰⁸ Consequently, this environmentally disastrous form of fishing is solely a creation of government subsidies and, in many cases, would cease to exist if the subsidies were withdrawn.¹⁰⁹

Perhaps the most significant and damaging subsidies are fuel subsidies. Fuel subsidies go directly to reducing fishery operating costs, which directly results in an inappropriate increase in fishing activity. Even before prices started to rise, fuel accounted for between ten and twenty-five percent (on average)¹¹⁰ and up to sixty percent (in some cases) of some fisheries' costs.¹¹¹ Fuel prices and fuel subsidies are particularly important to some of the most environmentally damaging fisheries. For example, aided by reduced fuel prices, longline fishing vessels are able to travel long distances across the high seas in search of valuable migratory species like swordfish and tuna.¹¹² As a result, many of these species have been significantly depleted.¹¹³ Moreover, these longline vessels catch and kill large numbers of non-target species, including sharks, sea turtles, and marine mammals,¹¹⁴ causing many of these species to be significantly depleted.¹¹⁵ But, longline fishing is such an economically marginal enterprise¹¹⁶ that longline vessels might not be able to continue such extensive high sea fishing if they were required to bear their own costs rather than benefiting from government subsidies.

Government subsidies further allow developed countries to overexploit and deplete the resources of undeveloped countries.¹¹⁷ As European countries, in particular, depleted the fishery resources near to their coasts, they executed agreements with West African countries to access African fishery resources.¹¹⁸ This access was bolstered by government subsidies in the form of transferred access rights from the African nations to European fishing enterprises, as well as by existing subsidies for

108. *Id.*

109. *Id.* at 49.

110. SUNKEN BILLIONS, *supra* note 3, at 15.

111. *Fuel Subsidies to Global Fisheries*, *supra* note 102, at 38.

112. *See, e.g.*, LARRY B. CROWDER & RANSOM A. MYERS, FIRST ANNUAL REPORT TO PEW CHARITABLE TRUSTS: A COMPREHENSIVE STUDY OF THE ECOLOGICAL IMPACTS OF THE WORLDWIDE PELAGIC LONGLINE INDUSTRY 2 (2001); Myers & Worm, *supra* note 23, at 280, 282.

113. CROWDER & MYERS, *supra* note 112, at 29, 34; Myers & Worm, *supra* note 23, at 282.

114. CROWDER & MYERS, *supra* note 112, at 2.

115. *Id.* at 40, 73, 78.

116. *See, e.g., id.* at 14 (“[M]any longline firms are under financial stress and are currently operating at the margin.”).

117. *Non-Fuel Subsidies*, *supra* note 26, at 24.

118. Jacqueline Alder & Ussif Rashid Sumaila, *Western Africa: A Fish Basket of Europe Past and Present*, 13 J. ENV'T & DEV. 156, 172 (2004); Justin S. Brashares et al., *Bushmeat Hunting, Wildlife Declines, and Fish Supply in West Africa*, 306 SCI. 1180, 1182 (2004).

fuel, fishing vessels, and/or the equipment.¹¹⁹ These access agreements have resulted in unsustainable fishing that has depleted fishing resources that the inhabitants of coastal African countries rely on for subsistence or for their own commercial fishing needs.¹²⁰ This disruption, in turn, has led to other ecological and economic dislocation, including increased reliance on bush meat for food, depletion of the terrestrial wild animal populations, and emigration from countries whose environment can no longer support economically viable communities.¹²¹

Subsidies can also have inappropriate distributional effects. While in developing countries, small-scale fishing enterprises can sometimes fish more efficiently and sustainably than large, industrial enterprises,¹²² frequently large, inefficient, and unsustainable fishing enterprises have the ear of the government and therefore receive a disproportionate share of subsidies.¹²³ As a result, these inefficient and unsustainable enterprises can outcompete smaller enterprises whose success would be more beneficial to the nation and the environment.¹²⁴

Overfishing subsidies also may reduce the flexibility and resilience of communities.¹²⁵ Subsidies create the expectation of and reliance on government support.¹²⁶ If there were no subsidies, when fuel prices rose, fishing enterprises would seek more fuel-efficient ways of catching fish and/or their participants would seek out more profitable businesses. Similarly, without subsidies, when fish became so scarce through overfishing that it was no longer profitable to catch them, fishery participants would look for other kinds of seafood to catch and/or opportunities in other businesses. But the availability of subsidies through the exertion of political pressure allows fishery participants to stay locked into environmentally harmful and economically senseless business practices. In some cases, the availability of subsidies may prevent a transition to a more rational local economy, leaving a community clinging on in poverty to a moribund fishery supported by meager subsidies. Such may be the case in Newfoundland, whose cod fishery collapsed in the late 1980s, but

119. Brashares et al., *supra* note 118, at 1182; *Fuel Subsidies to Global Fisheries*, *supra* note 102, at 45, 47; *Non-Fuel Subsidies*, *supra* note 26, at 23–24.

120. Alder & Sumaila, *supra* note 118, at 168–69; Brashares et al., *supra* note 118, at 1182.

121. Brashares et al., *supra* note 118, at 1182; Sharon LaFraniere, *Europe Takes Africa's Fish, and Boatloads of Migrants Follow*, N.Y. TIMES, Jan. 14, 2008, at A1.

122. Jennifer Jacquet & Daniel Pauly, *Funding Priorities: Big Barriers to Small-Scale Fisheries*, 22 CONSERVATION BIOLOGY 832, 832 (2008).

123. *See id.* at 833.

124. *Id.*

125. OECD, *supra* note 46, at 4.

126. *Id.*

whose fishermen to this day receive subsidies that may allow them to stay in an economically dead fishing industry.¹²⁷

IV. GOVERNMENTS AND CONSERVATION ADVOCATES SEEK TO USE INTERNATIONAL TRADE REGULATION TO PROHIBIT OVERFISHING SUBSIDIES AND PROMOTE ENVIRONMENTAL SUSTAINABILITY

Global transboundary problems demand global transboundary answers. While some major developed countries such as the United States have reduced capacity-building subsidies after it became clear that these countries had excess fishing capacity, other developed and developing countries have not shown such restraint. Subsidies in one country harm people and enterprises in other countries in several ways. Such subsidies lead to unsustainable fishing practices that harm the environment both in the subsidizing country's jurisdiction and in the international waters that the country's fleet fishes.¹²⁸ The subsidies also deplete shared fish populations, whose habitat range crosses borders, and harm highly migratory fish species, which are targeted by fishing fleets from many nations.

Like subsidies for agriculture or manufacturing, subsidies for fishing may also have adverse consequences for trade. Recall that eighty percent of the seafood sold in the United States comes from foreign countries. International competition from subsidized sources helps foreign enterprises outcompete non-subsidized domestic enterprises for domestic sales. It is equally true that foreign subsidies put enterprises trying to export into the subsidizing market at a disadvantage. Finally, even economically inefficient subsidized enterprises may be able, with the benefit of a subsidy, to outcompete and displace economically more efficient and sustainable enterprises. For all of these reasons, while it is important for major countries to show leadership in renouncing overfishing subsidies, international agreement is essential to limiting subsidies and helping to reverse the global trend of collapsing fisheries.

Consequently, the WTO is a natural forum in which to attempt to solve the fisheries subsidies problem. The WTO carries out multiple functions, such as providing forums for dispute resolution and negotiation of future agreements.¹²⁹ Thus the WTO offers a ready-made negotiating process through which to address the issue of overfishing

127. Cf. Lawrence C. Hamilton & Melissa J. Butler, *Outport Adaptations: Social Indicators Through Newfoundland's Cod Crisis*, 8 HUM. ECOLOGY REV. 1, 7 (2001) ("[Unemployment insurance] has been part of the fabric of modern outport life, with many people seeking work for the minimal 11-week periods required to qualify for benefits.").

128. See *supra* Part II.

129. MATSUSHITA ET AL., *supra* note 95, at 9.

subsidies. Moreover, because most nations are WTO members¹³⁰ (and the only major fishing power that is not, Russia, is seeking membership),¹³¹ a WTO agreement would have the global reach that is necessary to address the problem. The WTO has a continuing mission to remove barriers to trade, and in keeping with that mission, its members engage in successive rounds of negotiations to take the next step forward. The WTO offers an elaborate negotiating framework and support system, which lends itself to addressing the difficult issues presented when nations ask each other to give up the benefits of trade barriers in return for receiving the benefits of better access to foreign markets. Furthermore, the culture of the WTO involves negotiating complex agreements covering multiple issues. In the context of such a package deal, countries that perceive themselves as disadvantaged by provisions concerning fisheries subsidies may be able to agree to such provisions because of other benefits they would obtain if a final agreement were reached.

The WTO is famous, or notorious, for its dispute settlement system, which is unique in international law. Unlike other international tribunals, for which nations must assent to jurisdiction, which may offer advisory rather than binding decisions, and which may impose no sanctions, the WTO has compulsory jurisdiction over its members, its decisions are binding on the parties to the dispute, and the prevailing party may be authorized to impose sanctions upon the losing party if the decision is not observed.¹³² This powerful dispute settlement system has obvious advantages for any international agreement. If an international agreement to eliminate or minimize overfishing subsidies can be concluded within the WTO framework, the WTO's strong enforcement tools will make it much more likely that the agreement will actually be implemented than if it were concluded outside the WTO framework.

The crucial questions for advocates of an agreement to reduce overfishing subsidies include (1) whether the WTO negotiating system is up to the task of creating another package deal, or "single undertaking," reflecting a major new international trade agreement and, if so, (2) whether the political will exists to include effective and new disciplines on fisheries subsidies in such a deal.

In discussing the efforts of the international community to address fisheries subsidies at the WTO, this Part first discusses the historical lack of restrictions on fishing subsidies in international trade law. Second, it discusses the recent efforts to reach a new international agreement to

130. Understanding the WTO: The Organization, Members and Observers, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (last visited June 14, 2009).

131. E.g., Andrew E. Kramer, *Russians and U.S. Push Hard on Trade*, N.Y. TIMES, July 12, 2006, at C1.

132. MATSUSHITA ET AL., *supra* note 95, at 104.

restrict overfishing subsidies. Third, it considers how well the negotiating text under consideration at the WTO would achieve the goal of prohibiting overfishing subsidies. Finally, it briefly considers what may come next in this long process.

*A. International Trade Law Has Historically Applied Only
Very Limited Restrictions to Fisheries Subsidies*

The current world trade regulatory regime is the descendant of an organization and treaty developed after World War II to develop and coordinate international trade.¹³³ The original treaty and organization, the General Agreement on Tariffs and Trade (“GATT”), hosted rounds of negotiations aimed at establishing international agreements to reduce tariffs, since tariffs are barriers to international trade.¹³⁴ The GATT prohibited export subsidies, except for those imposed upon primary products such as products from fisheries.¹³⁵ If a member country believed that a non-prohibited subsidy caused it “serious prejudice,” it could unilaterally levy a countervailing duty under its domestic trade law.¹³⁶ In order to levy such a countervailing duty, the complaining country had to prove injury to the interests of a domestic industry.¹³⁷

While the United States in particular was successful in establishing countervailing duties in some cases,¹³⁸ it became clear that the current law did not successfully control fisheries subsidies. Instead, a 1992 United Nations Food and Agriculture Organization (“FAO”) study estimated global fisheries subsidies at \$54 billion and argued that subsidies were a major cause of overfishing.¹³⁹ The study was released in the context of the Uruguay Round negotiations establishing the WTO, which were concluded in December 1993.¹⁴⁰ While the FAO study sparked a

133. *Id.* at 1–9.

134. *Id.* at 5–6.

135. RONALD P. STEENBLIK, PREVIOUS MULTILATERAL EFFORTS TO DISCIPLINE SUBSIDIES TO NATURAL RESOURCE BASED INDUSTRIES 6 (1999).

136. *Id.*

137. *Id.* (explaining history of the injury requirement and that it was not imposed on the United States until 1979).

138. See Christopher D. Stone, *Too Many Fishing Boats, Too Few Fish: Can Trade Laws Trim Subsidies and Restore the Balance in Global Fisheries?*, 24 *ECOLOGY* L.Q. 505, 522 (1997) (discussing cases concerning Canadian groundfish and Norwegian salmon).

139. RONALD P. STEENBLIK & GORDON R. MUNRO, INTERNATIONAL WORK ON FISHING SUBSIDIES—AN UPDATE 4 (1999); Matteo Milazzo, *Subsidies in World Fisheries: A Reexamination*, at 4 (World Bank, Technical Paper No. 406, 1998); *Non-Fuel Subsidies*, *supra* note 26, at 9.

140. The Marrakesh Agreement establishing the WTO was signed on April 15, 1994 with an effective date of January 1, 1995; see Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, 33 I.L.M. 1125 (1994), available at http://www.wto.org/english/docs_e/legal_e/03-fa.pdf (last visited June 14, 2009).

wave of interest in addressing the subsidies problem, by 1992 the negotiations were already well underway. The resulting package failed to explicitly address fishing subsidies.¹⁴¹ And though trade in fish and fish products could have been included in the WTO agriculture agreement, it was not.¹⁴² Accordingly, regulation of fisheries subsidies was left to the general provisions of the SCM, the new subsidies agreement established by the Uruguay round.

The SCM established a broad definition of subsidy.¹⁴³ Unlike the GATT, the SCM has no exception for primary products such as fisheries products.¹⁴⁴ But like the regime under the GATT, fisheries subsidies are not prohibited.¹⁴⁵ Instead, fisheries subsidies are subject to enforcement action only if they are “specific,”¹⁴⁶ and cause “adverse effects.”¹⁴⁷ To be “specific” a subsidy must be explicitly limited to certain enterprises, including subsidies operating within a designated geographical region.¹⁴⁸ To cause “adverse effects,” a subsidy must cause injury to a domestic industry, nullify benefits otherwise accruing to a member country under the GATT 1994,¹⁴⁹ or cause “serious prejudice.”¹⁵⁰ “Serious prejudice” in turn, exists if the subsidy displaces or impedes imports of a like product into the market of the subsidizing country, or into the market of a third country; causes significant lost sales, price suppression, price depression, or price undercutting (as compared with the price of a like product in the same market); or increases the world market share of the subsidizing country in a particular product.¹⁵¹ Thus, like the previous regime under the GATT, the SCM requires a country complaining about a subsidy not only to prove that the subsidy exists, but that the subsidy causes identifiable damage to the interests of a domestic industry or to trade in a like product. Accordingly, the SCM did not make it appreciably more likely that fisheries subsidies that cause overfishing would be controlled.

141. Milazzo, *supra* note 139, at 9.

142. *Id.*

143. See *supra* notes 94–95 and accompanying text.

144. Milazzo, *supra* note 139, at 9–10.

145. SCM Agreement, *supra* note 95, art. 3.

146. *Id.* art. 1.2.

147. *Id.* art. 5.

148. *Id.* art. 2.1.

149. The GATT 1994 is the new version of the tariff treaty adopted under the WTO Agreement.

150. SCM Agreement, *supra* note 95, art. 5.

151. *Id.* art. 6.3.

B. WTO Members Are Attempting to Revise the Agreement on Subsidies and Countervailing Measures

While the Uruguay round of negotiations did not result in an explicit agreement as to fisheries subsidies, it did sow the seed for future action. The Agreement Establishing the WTO officially acknowledged the “objective of sustainable development” and that the parties to the agreement sought to “protect and preserve the environment.”¹⁵² Concurrent with the WTO Agreement, the member nations established a Committee on Trade and the Environment within the WTO to provide a forum for further dialogue on trade and the environment.¹⁵³ The 1996 Singapore ministerial meeting approved the work of the Committee on Trade and the Environment and directed it to continue.¹⁵⁴

In May 1997, both New Zealand and the United States submitted papers to the Committee pointing out the growing consensus that the world’s fisheries were declining, that overcapacity was a major cause of this problem, and that fishing subsidies were a major cause of the overcapacity.¹⁵⁵ The U.S. paper further suggested that fishing subsidies be eliminated.¹⁵⁶ In response, the WTO Secretariat drafted a paper to serve as a basis for discussion of fisheries subsidies and subsidies in five other sectors.¹⁵⁷ The Secretariat followed up in March 1998 with a second paper examining current WTO rules related to fisheries subsidies and reviewing those fisheries subsidies of which the WTO had been notified.¹⁵⁸ Also in 1998, the “Friends of Fish” countries, an informal coalition of States that strongly supported eliminating overfishing

152. Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations pmbL, Apr. 15, 1994, 33 I.L.M. 1125 (1994).

153. Ministerial Decision on Trade and Environment of 15 April 1994, MTN/TNC/45(MIN) (Apr. 15, 1994).

154. Ministerial Declaration of 18 December 1996, ¶ 16, WT/MIN(96)/DEC (Dec. 18, 1996).

155. Submission of New Zealand to the Committee on Trade and the Environment, *Item 6: The Fisheries Sector*, WT/CTE/W/52 (May 21, 1997); Submission of the United States to the Committee on Trade and the Environment, *Environmental and Trade Benefits of Removing Subsidies in the Fisheries Sector*, WT/CTE/W/51 (May 19, 1997).

156. Submission of the United States to the Committee on Trade and the Environment, *Environmental and Trade Benefits of Removing Subsidies in the Fisheries Sector*, ¶ 20, WT/CTE/W/51 (May 19, 1997).

157. WTO Secretariat, *Note by the Secretariat, Environmental Benefits of Removing Trade Restrictions and Distortions*, WT/CTE/W/67 (Nov. 7, 1997); STEENBLIK & MUNRO, *supra* note 139, at 9.

158. WTO Secretariat, *Note by the Secretariat: GATT/WTO Rules on Subsidies and Aids Granted in the Fishing Industry*, WT/CTE/W/80 (Mar. 9, 1998); STEENBLIK & MUNRO, *supra* note 139, at 9.

subsidies through WTO agreement, came together.¹⁵⁹ At various times, the coalition has included Argentina, Australia, Chile, Ecuador, Iceland, New Zealand, Norway, the Philippines, Peru, the United States, and other countries.¹⁶⁰

However, during the 1990s, the WTO and advocates of free trade were gaining a reputation for hostility to the natural environment. There are many reasons for this reputation, including the adverse environmental impact of uncontrolled economic development, the relative lack of environmental content in the WTO agreement, and a number of WTO dispute decisions striking down environmental protections as impermissible barriers to trade.¹⁶¹ In addition, labor and environmental advocates saw the WTO as a non-transparent specialized body dominated by narrow corporate interests rather than a body reflective of the full range of policy concerns that should be considered when making important decisions about the course of international trade.¹⁶²

Notwithstanding the hostility of some labor and environmental groups to the WTO, many non-governmental and inter-governmental organizations saw the WTO as an important forum for fisheries conservation. The Organisation for Economic Co-operation and Development rededicated itself to its policy work on fisheries subsidies in 1997.¹⁶³ In June 1997, the U.N. General Assembly passed a resolution concerning the implementation of Agenda 21 for sustainable development, in which it called for, among other things, consideration of the impact of subsidies and appropriate action.¹⁶⁴ Also in June 1997, the United Nations Environment Programme (“UNEP”), together with World Wildlife Fund, hosted a workshop on fisheries subsidies and trade.¹⁶⁵ This workshop marked the beginning of the substantial and continuous involvement of both of those organizations with this issue. In November 1997, the Asia-

159. UNITED NATIONS ENV'T PROGRAMME, FISHERIES SUBSIDIES: A CRITICAL ISSUE FOR TRADE AND SUSTAINABLE DEVELOPMENT AT THE WTO, AN INTRODUCTORY GUIDE 3 (2008) [hereinafter UNEP].

160. *Id.* at 3 n.4.

161. *See, e.g.*, David Hunter & Brennan Van Dyke, *Trade and the Environment*, 1 FOREIGN POL'Y FOCUS 1, 1 (1996) (“Mexico’s trade challenge to a U.S. law aimed at reducing the number of dolphins killed in tuna fishing nets . . .”); World Trade Organization, *India etc. Versus U.S.: ‘Shrimp-Turtle’*, ENV’T: DISPUTES Apr. 2, 2007, at 8, http://www.wto.org/english/tratop_e/envir_e/edis08_e.htm; World Trade Organization, *Mexico etc. Versus U.S.: ‘Tuna-Dolphin’*, ENV’T: DISPUTES Apr. 2, 2007, at 4, http://www.wto.org/english/tratop_e/envir_e/edis04_e.htm.

162. *See* Hunter & Van Dyke, *supra* note 161, at 1; Greenpeace International, *Why Is the WTO a Problem?*, <http://www.greenpeace.org/international/campaigns/trade-and-the-environment/>

why-is-the-wto-a-problem (last visited June 14, 2009).

163. STEENBLIK & MUNRO, *supra* note 139, at 3.

164. *Id.* at 7; G.A. Res. S/19-2, ¶ 36(f), U.N. Doc. A/RES/S-19/2 (Sept. 19, 1997).

165. STEENBLIK & MUNRO, *supra* note 139, at 7.

Pacific Economic Co-operation forum resolved that its members should progressively eliminate fishing subsidies, although the resolution was not binding.¹⁶⁶ In April 1998, the World Bank launched its involvement with this issue through a report on subsidies in the world's fisheries.¹⁶⁷ In March 1999, as the culmination of a two-year project, the FAO approved an International Plan of Action for the Management of Fishing Capacity.¹⁶⁸ The Plan called for the nations of the world to eliminate, over time, subsidies that contributed to overcapacity.¹⁶⁹ Also in March 1999, the WTO sponsored a symposium on trade and the environment attended by government officials and representatives of civil society, including non-governmental organizations.¹⁷⁰ Australia, Iceland, New Zealand, the Philippines, and the United States called for fisheries subsidies to be addressed during the next round of WTO negotiations scheduled to commence with the 1999 Seattle Ministerial meeting.¹⁷¹ The International Union for Conservation of Nature and the International Centre for Trade and Sustainable Development started their engagement with fisheries subsidies issues by 1999.¹⁷²

In the 1990s the hostility to the WTO and other international economic institutions from environmental advocates joined with an even more intense and broad-based hostility from labor advocates to create an anti-globalization movement. That movement's protests came to a dramatic head at the Seattle Ministerial in 1999. Indeed, the massive protests, coupled with poor responses by the WTO and local police, created a public relations disaster for the WTO.¹⁷³ The disaster was worsened by the collapse of the ministerial talks amid deep disagreements among the parties.¹⁷⁴ But this disaster was also an opportunity. The WTO became keenly aware that the credibility of the institution would significantly benefit from showing that it did care about the environment.

166. *Id.* at 7–8.

167. *Id.* at 10; see Milazzo, *supra* note 139 (giving a reexamination of subsidies in world fisheries as of 1998).

168. STEENBLIK & MUNRO, *supra* note 139, at 5–6; Dominique Gréboval, *International Plan of Action for the Management of Fishing Capacity*, in CURRENT FISHERIES ISSUES AND THE FOOD AND AGRICULTURE ORGANIZATIONS OF THE UNITED STATES (Myron H. Nordquist & John Norton Moore eds., 1999).

169. Gréboval, *supra* note 168, para. 26.

170. STEENBLIK & MUNRO, *supra* note 139, at 9–10;

171. *Id.* at 10.

172. *Id.*

173. See, e.g., Elizabeth Olson, *World Trade Group Picking Up the Pieces From Seattle*, N.Y. TIMES, Dec. 13, 1999, at C2.

174. See, e.g., Walden Bello, *Debacle in Seattle: A Blow-by-Blow Account*, BUS. WORLD, Dec. 6, 1999, as reprinted at http://www.tni.org/detail_page.phtml?page=archives_bello_debacle (last visited June 14, 2009).

The fisheries subsidies issue has become a primary vehicle for the WTO's attempt to rehabilitate its image.

The WTO took advantage of the opportunity to brand itself as pro-environment when it (finally) began the new round of negotiations at Doha in 2001. The WTO, optimistically in retrospect, planned for the Doha Round to stretch across two additional Ministerial Meetings and to be completed by January 1, 2005.¹⁷⁵ The Doha Declaration made a significant change for fisheries by transferring the overfishing subsidies topic from the Committee on Trade and the Environment to the "Rules" Negotiating Group. The Committee on Trade and the Environment, useful as it may have been, was a discussion group, not a negotiating group tasked with reaching a new binding agreement.¹⁷⁶ The Doha Declaration reaffirmed the commitment of the WTO to sustainable development and to protecting the environment, and it specifically assigned the task of clarifying and improving "WTO disciplines on fisheries subsidies" to the "Rules" negotiating group,¹⁷⁷ a group charged with, *inter alia*, negotiating amendments to the SCM.¹⁷⁸

Taking advantage of this new negotiating forum, in April 2002, the Friends of Fish countries (which at that time included Australia, Chile, Ecuador, Iceland, New Zealand, Peru, Philippines, and the United States) submitted a paper to the first negotiating session laying out the case that fisheries subsidies were a serious problem and that the disciplines already contained in the SCM were inadequate to address them.¹⁷⁹ Specifically, the paper argued that the SCM primarily addressed market distortions arising from subsidies, but did "not adequately address other negative trade, environment, and development impacts of fisheries subsidies," including the adverse effects on trade caused by depletion of a renewable resource that would ultimately deprive other member countries of access to a shared resource.¹⁸⁰ The paper also argued that the "heterogeneous nature of fisheries products, and the diffuse nature of support to the sector" made it difficult to prove a market distortion case under the SCM.¹⁸¹

In August 2002, the Johannesburg World Summit on Sustainable Development ("WSSD") convened to mark the tenth anniversary of

175. Ministerial Declaration of 14 November 2001, ¶ 45, WT/MIN(01)/DEC/1, 41 I.L.M. 746 (2002) [hereinafter Doha Declaration].

176. World Trade Organization, Trade and Environment, http://www.wto.org/english/tratop_e/envir_e/envir_e.htm (last visited June 14, 2009).

177. Doha Declaration, *supra* note 175, ¶¶ 28, 31.

178. *Id.* ¶ 28.

179. Submission of Australia et al. to the Negotiating Group on Rules, *The Doha Mandate to Address Fisheries Subsidies: Issues*, TN/RL/W/3 (Apr. 24, 2002).

180. *Id.* at 1, 3-4.

181. *Id.* at 1, 4.

Agenda 21.¹⁸² The WSSD issued its Plan of Implementation which called for the elimination of subsidies that contributed to fishing overcapacity and the completion of the WTO's work clarifying disciplines on fisheries subsidies.¹⁸³ As negotiations continued in early 2003, both the Friends of Fish coalition and the United States, writing separately, submitted papers aimed at beginning the discussion of solutions to the subsidies problem.¹⁸⁴

The 2003 September Ministerial in Cancun collapsed, with the members unable to reach agreement on concrete objectives for the negotiating round.¹⁸⁵ This collapse highlighted a major difficulty facing a fisheries subsidy agreement: while the WTO's single undertaking philosophy held the promise of including a fisheries agreement within a more comprehensive package deal, the fact remained that there were many issues at stake in the Round which were more important to the Members than fisheries and that there was very strong disagreement on these non-fisheries issues.

After a hiatus, the Doha Round was revived in 2004.¹⁸⁶ In 2005, Oceana started its Cut the Bait campaign to educate the public about the importance of eliminating overfishing subsidies and to support (and pressure) governments in reaching a successful WTO agreement.¹⁸⁷ The Hong Kong Ministerial in December 2005 was meant to set a final outline of the parties' commitments (known as "modalities") so that agreement could be reached by the end of 2006.¹⁸⁸ While Hong Kong did not achieve an agreement on modalities, the meeting did make major

182. World Summit on Sustainable Development, Aug. 26–Sept. 4, 2002, *Plan of Implementation of the World Summit on Sustainable Development*, ¶ 1, U.N. Doc. A/CONF.199/20 (Sept. 4, 2002).

183. *Id.* ¶ 31(f).

184. Communication of the United States to the Negotiating Group on Rules, *Possible Approaches to Improved Disciplines on Fisheries Subsidies*, TN/RL/W/77 (Mar. 19, 2003); Submission of Argentina et al. to the Negotiating Group on Rules, *Subsidies in the Fisheries Sector: Possible Categorizations*, TN/RL/W/58 (Feb. 10, 2003); Int'l Ctr. For Trade & Sustainable Dev., *Fisheries Subsidies: Deep Divisions Persist in WTO*, 3 BRIDGES TRADE BIORES 5 (2003); Int'l Ctr. for Trade & Sustainable Dev., *'Friends of Fish' Press for Negotiations on Fisheries Subsidies at WTO*, 3 BRIDGES TRADE BIORES 3 (2003).

185. World Trade Organization, Day 5: Conference Ends Without Consensus, http://www.wto.org/english/thewto_e/minist_e/min03_e/min03_14sept_e.htm (last visited June 14, 2009).

186. World Trade Organization, Round-the-Clock Meetings Produce 'Historic' Breakthrough, http://www.wto.org/english/news_e/news04_e/dda_package_sum_31july04_e.htm (last visited June 14, 2009).

187. See, e.g., Communication of Australia et al. to the Negotiating Group on Rules, *Fisheries Subsidies*, ¶ 4, TN/RL/W/235 (July 21, 2008) [hereinafter *Fisheries Subsidies*] ("Environmental organizations such as Oceana have also worked tirelessly to raise the international visibility of the negotiations.").

188. World Trade Organization, Ministerial Declaration of 18 December 2005, WT/MIN(05)/DEC (Dec. 22, 2005) [hereinafter Hong Kong Declaration].

progress toward resolving some of the disagreements among the Member States. The Hong Kong Declaration strongly affirmed the place of fisheries subsidies in the negotiations and set forth the goal of those negotiations at a new level of detail. Annex D of the Declaration, devoted to the Negotiating Group on Rules, stated as follows:

[The Ministers] *recall* our commitment at Doha to enhancing the mutual supportiveness of trade and environment, *note* that there is broad agreement that the Group should strengthen disciplines on subsidies in the fisheries sector, including through the prohibition of certain forms of fisheries subsidies that contribute to overcapacity and over-fishing, and *call on* Participants promptly to undertake further detailed work to, *inter alia*, establish the nature and extent of those disciplines, including transparency and enforceability. Appropriate and effective special and differential treatment for developing and least-developed Members should be an integral part of the fisheries subsidies negotiations, taking into account the importance of this sector to development priorities, poverty reduction, and livelihood and food security concerns.¹⁸⁹

After Hong Kong, negotiations on all fronts, including on fisheries subsidies, proceeded slowly.

Nevertheless, the WTO Director-General made one last, forceful push aimed at making substantial progress on all fronts.¹⁹⁰ As part of this effort, in November 2007, the Chair of the Rules Negotiating Group issued, for the first time in the negotiations, a negotiating text of a new agreement, which included text amending the Agreement on Subsidies and Countervailing Measures to establish new disciplines on fisheries subsidies.¹⁹¹ The Chair's text established specific prohibitions on subsidies; set forth specific exceptions to these prohibitions that were intended to allow subsidies for beneficial purposes such as research, capacity reduction, and lessening the environmental impact of fisheries; included provisions to allow the use of otherwise prohibited subsidies in developing countries, subject to certain conditions; and established general disciplines on all subsidies.¹⁹² The Chair's text also set forth

189. *Id.* Annex D ¶ 9.

190. World Trade Organization, Lamy Urges Further Acceleration of Negotiations, http://www.wto.org/english/news_e/news07_e/tnc_chair_report_oct07_e.htm (last visited June 14, 2009).

191. Negotiating Group on Rules, *Draft Consolidated Chair Texts of the AD and SCM Agreements*, TN/RL/W/213 (Nov. 3, 2007) [hereinafter *Chair's Text*].

192. *Id.* arts. i–iv. See generally *Fisheries Subsidies*, *supra* note 187, ¶ 6 (summarizing key points of Chair's text).

provisions concerning fisheries management and various technical issues.¹⁹³ The Friends of Fish viewed the Chair's text on fisheries as making a substantial commitment to strong disciplines.¹⁹⁴ Other developed and developing Member States concurred with the need for disciplines but sought more limited prohibitions on subsidies.¹⁹⁵ After further discussions, the Chair issued an annotated text in May 2008 reflecting the continued divergence in views, in an effort to move the process forward.¹⁹⁶

As part of the last intensive push to reach agreement, the WTO convened a ministerial meeting in Geneva in July 2008 to reach agreement on modalities in the key areas of agriculture and industrial goods.¹⁹⁷ The negotiators failed to reach agreement yet again.¹⁹⁸ There has been a great deal of effort since July 2008 to break the deadlock in talks, but at the time of writing it is unclear whether the disagreements among the parties that have caused the slow progress in negotiations can be bridged.¹⁹⁹

C. *The Chair's Negotiating Text Made Significant Progress Toward Eliminating Overfishing Subsidies*

Notwithstanding all the negotiating setbacks discussed above, it remains vital to the health of the marine environment that the international community pursue an agreement. This section discusses the general prohibitions and exceptions in the Chair's text, its treatment of developing countries, and its general disciplines on subsidies in relation to the overarching goal of prohibiting overfishing subsidies.

193. *Chair's Text*, *supra* note 191, arts. V–VIII.

194. *See, e.g.*, Communication of Argentina et al. to the Negotiating Group on Rules, *Statement on the Negotiation on Fisheries Subsidies*, TN/RL/W/234 (July 17, 2008); *Fisheries Subsidies*, *supra* note 187, ¶ 6 (“The Chair’s draft text of a new fisheries subsidies agreement represents a substantial advance in the negotiations and a landmark in the efforts of the world community to get global fisheries back on a sustainable path. The text addresses all the key issues in innovative and thoughtful ways, drawing on virtually all contributions made by Members.”).

195. *See, e.g.*, Submission of India & Indonesia to the Negotiating Group on Rules, *Need for Effective Special & Differential Treatment for Developing Country Members in the Proposed Fisheries Subsidies Text*, at 1, TN/RL/GEN/155 (Apr. 22, 2008) (“[W]e make a strong case for effective and unconditional S&D provisions in the Chair’s text.” (emphasis added)).

196. Negotiating Group on Rules, *Working Document from the Chairman*, TN/RL/W/232 (May 28, 2008) [hereinafter *Working Document*].

197. Press Release, World Trade Org., Director-General’s Letter to Journalists (July 17, 2008), available at http://www.wto.org/english/tratop_e/dda_e/meet08_brief09_e.htm (last visited June 14, 2009).

198. Press Release, World Trade Org., Day 9: Talks Collapse Despite Progress on a List of Issues (July 30, 2008), available at http://www.wto.org/english/news_e/news08_e/meet08_summary_29july_e.htm (last visited June 14, 2009).

199. *See, e.g.*, Alan Beattie, *Doha Round: The Saga That Became a Never-Ending Story*, FIN. TIMES, Oct. 9, 2008, at 6, available at <http://www.ft.com/cms/s/0/d3ecfb0a-94ca-11dd-953e-000077b07658.html> (last visited June 14, 2009).

1. General Prohibitions and Exceptions on Fishing Subsidies in the Chair's Text

There is a good general case to be made that all subsidies to fisheries within the meaning of the SCM, whether specific or not, tend to increase capacity and lead to excess capacity and overfishing. Accordingly, the conservation advocate should try to get an enforceable prohibition on all, or as many of such subsidies as is possible. Within the context of the SCM, the enforcement problems associated with the "adverse effects" section of the SCM could be addressed through an existing technique: imposition of a "prohibited" subsidy (as discussed in SCM Article 3). Since all Article 3 subsidies are deemed to be specific, amending Article 3 to prohibit subsidies to fishing enterprises would be an effective solution to the problem.

The give and take of negotiation at the WTO, however, is unlikely to allow such a broad agreement. While the idea that all fisheries subsidies should be deemed specific certainly has been raised during negotiations, it has not generated significant support.²⁰⁰ The unwillingness to deem all fisheries subsidies specific may lead to some troubling evasions. For example, this Essay discussed earlier the damaging environmental impacts caused by subsidizing fuel for fishing vessels. Many nations have reason to and currently do subsidize other uses of fuel, which could be classified together with use in fishing vessels to create an arguably non-specific subsidy. For example, a government could subsidize all non-road uses of diesel, perhaps by exempting such uses from taxation.²⁰¹ Such a non-specific subsidy could significantly decrease the operating costs of fishing enterprises while remaining beyond the reach of the agreement.

Furthermore, even within the realm of specific fisheries subsidies, negotiators contended that there were certain subsidies that should be allowed. This debate gave rise to discussion as to whether the fisheries subsidies agreement should be "top down," or "bottom-up," by which the negotiators meant whether an agreement should contain a broad prohibition on subsidies from which exceptions were carved out, or, on the other hand, whether an agreement should contain a list of specific subsi-

200. See UNITED NATIONS ENV'T PROGRAMME ET AL., WTO DISCIPLINES ON FISHERIES SUBSIDIES: ELEMENTS OF THE CHAIR'S DRAFT para. 11 (2008) [hereinafter WTO DISCIPLINES]. *But see Working Document, supra* note 196, Annex C at 1 (stating that no delegations expressed concern about maintaining the specificity requirement).

201. Australia, for example, has a fuel tax credit that applies to fisheries and many other activities. Australian Taxation Office, Fuel Tax Credits: Get Money Back for Your Business, <http://www.ato.gov.au/businesses/content.asp?doc=/content/00093913.htm> (last visited June 14, 2009).

dies that were prohibited.²⁰² The concern of the United States and other backers of the “top-down” approach was that it would be easy to inadvertently fail to specify a subsidy, which should be prohibited by the bottom-up approach.

The Chair’s text synthesized these two approaches by, on one hand, listing prohibited subsidies but, on the other hand, making the prohibitions broad and coupling them with general conditions on all subsidies. The Chair’s text would prohibit specific subsidies for (1) new or renovated vessels, (2) the transfer of fishing vessels to other countries, (3) operating costs, (4) port infrastructure exclusively or predominantly for activities related to marine fishing, (5) income support, (6) price support, and (7) the transfer of foreign access rights to domestic fishing enterprises.²⁰³

The text included a second article detailing exceptions for subsidies that are not supposed to lead to harmful excess capacity. Under Article II, all countries, including developed countries, would be able to administer subsidies for (1) natural disaster relief, (2) improving vessel or crew safety subject to certain conditions, (3) the adoption of more selective fishing gear, (4) the adoption of other techniques to reduce the environmental impacts of fishing, (5) improved compliance with fisheries management regimes, (6) re-education, re-training, or re-deployment of fishers, (7) early retirement or cessation of employment of fishers, (8) vessel decommissioning, and (9) user-specific allocations to groups under limited access privileges and other exclusive quota programs.²⁰⁴ Furthermore, to address developing countries’ concerns over the possible loss of foreign income from the sale of access rights, the transfer of access rights from the purchasing government to its fleet is not prohibited so long as the fishing is to take place in the EEZ of a developing country and certain other conditions are met.²⁰⁵

It can be debated to what extent the additional subsidies allowed by Article II detract from the goal of eliminating harmful overfishing subsidies. Some of the Article II exceptions fall within the category of “good” subsidies that are aimed at improving sustainability, and others that could be either “good” or “bad” are subject to conditions that push them in the good direction. For example, the Article II(a) exception for improving vessel safety does not apply to a subsidy involving new vessel construction.²⁰⁶ Thus, while it might be desirable to make these

202. See, e.g., *Working Document*, *supra* note 196, annex C at 2 (third column).

203. *Chair’s Text*, *supra* note 191, art. I.1.

204. *Id.* art. II.

205. *Id.* art. III.3.

206. *Id.* art. II(a).

exceptions subject to some sort of general sustainability provision, they do not represent an unreasonable compromise.

2. The Treatment of Developing Countries in the Chair's Text

In addition to the limitations on a general prohibition on subsidies noted above, the WTO negotiations through the Doha Round also carry with them the requirement for special and differential treatment of developing countries.²⁰⁷ The important concern for the conservationist is that valid considerations of economic development should not be allowed to override needs for sustainability. Accordingly, subsidies that contribute to overfishing must be opposed in the context of developing as well as in the context of developed countries.

The Doha Declaration set forth as its principal goal promoting the economic development of developing countries and alleviating poverty through international trade.²⁰⁸ The Declaration noted that “[i]n this context, . . . well targeted, sustainably financed technical assistance and capacity-building program[s] have important roles to play.”²⁰⁹ The Work Programme further stated that the “participants shall also aim to clarify and improve WTO disciplines on fisheries subsidies, *taking into account the importance of this sector to developing countries.*”²¹⁰ In the Hong Kong Declaration, the WTO ministers repeated their commitment to development, stating, “[w]e emphasize the *central importance of the development dimension* in every aspect of the Doha Work Programme and recommit ourselves to making it a meaningful reality.”²¹¹ In the context of fisheries subsidies, the developing countries have worked strenuously to implement these commitments by insisting on the need for subsidies to assist in economic development.

There are valid economic arguments for administering development subsidies. With respect to fisheries, subsidies allow governments in developing countries to offset economic conditions that prevent their infant industries from expanding.²¹² Such conditions might include the lack of a developed distribution network that would enable fishing enterprises to get their goods to the market, lack of refrigeration and other infrastructure to preserve the catch, and lack of capital because of ill-formed capital markets. Subsidies, if appropriately administered, can assist developing countries to displace foreign fleets in favor of their own, thus

207. Doha Declaration, *supra* note 175, ¶ 44.

208. *Id.* ¶ 2.

209. *Id.*

210. *Id.* ¶ 28 (emphasis added).

211. Hong Kong Declaration, *supra* note 188, ¶ 2 (emphasis added).

212. William E. Schrank, *Introducing Fisheries Subsidies*, at 6 (Food & Agric. Org. of the UN, Fisheries Technical Paper No. 437, 2003).

enhancing their food security and transferring the welfare generated by fishing enterprises from developed country fleets to developing country fleets. In addition, by improving distribution networks and infrastructure these subsidies can make higher quality fish available to consumers and make fish available to consumers who previously could not purchase them.

Because subsidies will increase fishing capacity, these valid economic arguments do not support subsidies to fishing enterprises unless the enterprises are fishing on underexploited fish populations. Furthermore, these subsidies must be capped so that they do not increase capacity to the point where it is so great that fishing will no longer be sustainable. While there may be some fish populations in some corners of the world that remain underexploited, for the most part fish populations are fully or overexploited.²¹³ Accordingly, these subsidies should not be allowed under a fisheries subsidies agreement except where it is well-documented that there is room for growth in fishing capacity.

Further, operating cost subsidies would never be appropriate, as these subsidies do not address infrastructure and distribution network deficiencies that developing countries and infant industries face.²¹⁴ Indeed, subsidies for operating costs are very inefficient, creating significant economic losses. A fisherman may do no more than break even financially even with subsidized input costs. But the subsidy amount could have been used for other purposes such as tax breaks for the poor or for other government expenditures such as infrastructure that have higher social returns. As UNEP recently observed, social policy goals “can be achieved more effectively through alternative mechanisms involving direct welfare payments or investment in social services, since the economic efficiency losses and environmental effects are less marked [than through energy subsidies].”²¹⁵

The Chair’s text responds to the demand for special and differential treatment, allowing somewhat more liberal subsidies than are desirable from the point of view of sustainability, but nevertheless including provisions that limit the sustainability impact. The text allows those States officially classified as “least-developed” to administer any subsidies they desire.²¹⁶ In addition, the Chair’s text allows other developing countries to administer subsidies for infrastructure, income support, and price

213. B. FREITAS ET AL., *TOO FEW FISH: A REGIONAL ASSESSMENT OF THE WORLD’S FISHERIES 1* (2008) (“[O]nly 17% of the world’s fisheries should be considered capable of any growth in catch at all.”).

214. Cf. WTO DISCIPLINES, *supra* note 200, para. 27.

215. UNITED NATIONS ENV’T PROGRAMME, *REFORMING ENERGY SUBSIDIES: OPPORTUNITIES TO CONTRIBUTE TO THE CLIMATE CHANGE AGENDA 24* (2008).

216. *Chair’s Text*, *supra* note 191, art. III.1.

support.²¹⁷ It also includes a complicated attempt to classify fisheries in such developing countries according to how industrial they are, establishing three tiers.²¹⁸ In the most technologically primitive tier, any subsidy is allowed, while in the highest tier, capital subsidies, such as for building new vessels are allowed, subject to certain conditions such as stock assessment.²¹⁹

3. The General Disciplines on Subsidies in the Chair's Text

The Chair's text contains some general safety net provisions on the subsidies that it allows, such as the requirement that a fishery management system must be in place, that fish stocks must be assessed, or that a transfer agreement is transparent.²²⁰ None of these conditions are strong enough to ensure that the subsidy will only affect an underexploited population of fish. There are, however, general, across-the-board disciplines that apply to all the subsidies except the Article II exceptions. Subsidies must satisfy three general conditions. First, they cannot be administered on an "unequivocally overfished" stock.²²¹ Second, they cannot cause harm or depletion or create overcapacity with respect to a straddling fish stock whose range includes the EEZ of another member country. Finally, they cannot cause harm or depletion or create overcapacity with respect to a fish stock in which another member country has identifiable fishing interests.²²²

The most general sustainability condition of the three is the Article I.2 prohibition on subsidies affecting an "unequivocally overfished" stock.²²³ The phrase "unequivocally overfished," however, would seem to pose great difficulty for a dispute resolution panel.²²⁴ While the panel would attempt to give the phrase meaning, it would probably result in a very, very high standard of proof. Such a high standard of proof is the opposite of the best conservation policy which follows a precautionary approach. Under a precautionary approach, in the case of uncertainty, a decision maker should err on the side of conserving the resource, not on the side of allowing a possibly harmful activity. Accordingly, it would be a very constructive step if further negotiations could give a more definite meaning to the "overfished" criterion of Article I.2 that would allow for a more precautionary application.

217. *Id.* art. III.2(b)(1).

218. *Id.* art. III.

219. *Id.*

220. *Id.* arts. V-VI.

221. The least developed countries are not subject to this discipline. *See id.* art. III.1.

222. *Id.* arts. I.2, IV.

223. *Id.* art. I.2.

224. *Cf.* WTO DISCIPLINES, *supra* note 200, para. 13.

The Article IV disciplines on subsidies harming straddling fish stocks and stocks in which another member has an interest address the important case of shared resources. In effect, this discipline attempts to limit any adverse effects caused by the special and differential treatment given to developing countries to those countries' solely-owned resources. Article IV has a lower standard of proof than Article I.2: the evidence need not be unequivocal. Article IV could also be interpreted to be broader than Article I.2. Although the terms are not defined in the Chair's text, it seems plausible that a dispute resolution body could find that a situation of "depletion," "harm," or "over-capacity" existed with respect to a stock of fish, even if the stock was not yet overfished, so long as the stock size was trending downwards and/or yields were, or were about to be, at higher than sustainable levels. It is not clear from the text, however, in what way this general discipline would be enforced.

The Chair's text also addresses important technical concerns regarding transparency, review of compliance, enforcement, and sanctions. A successful agreement must require that countries notify the WTO, with sufficient data, of the existence of fisheries subsidies, so that their potentially harmful impact on the environment can be discovered. The Chair's text contains provisions which attempt to address this need.²²⁵ Furthermore, the Chair's text provides that enforcement against prohibited overfishing subsidies should not be disproportionate and allows for, in addition to other sanctions available under the WTO, proportionate sanctions such as suspending access of fishing vessels to port facilities.²²⁶

D. Options for Moving Forward

As of this writing, the WTO member countries continue to explore ways to move forward the Doha Round negotiations. Notwithstanding the compromises from the ideal conservation position contained within the Chair's text, some Member States have criticized the text as too ambitious, and there is a strong possibility that if WTO talks continue, the Chair's text will be further compromised. How much compromise is too much? This is both a fair question and a question that an advocate still hoping to be engaged in the process cannot be expected to answer. An advocate for fish conservation must consider the expected cost and benefit of taking any particular negotiating stance. It seems clear that the Chair's text represents such a significant improvement over current policies that its compromises are worth the bargain. It also seems clear that if it were politically necessary to make certain further limited

225. See, e.g., *Chair's Text*, *supra* note 191, art. VI.

226. *Working Document*, *supra* note 196, Annex C at 2 (revising SCM Agreement, *supra* note 95, § 3.1).

compromises to reach an agreement, the agreement would still be worth the effort. On the other hand, any agreement that would allow substantial subsidization to continue in developed countries or would allow developing countries to subsidize activities that would threaten straddling stocks or common resources on the high seas would seem to offer too little progress to be deemed a success.

Conventional wisdom holds that domestic politics in several countries may make it difficult for the Doha Round to vigorously resume negotiations for some time. Conventional wisdom also holds that until and unless the Doha Round is officially declared to be over, it will be difficult to get the Member States to consider establishing any form of fishing conservation agreement—including an agreement to ban overfishing subsidies—outside of the WTO forum. So it may be that the best course, over the mid-term, is to continue pushing the WTO and its member countries to resume and successfully finish the Doha Round. Should the Doha negotiations finally and completely collapse, there are a number of options. The best option may be to attempt to continue to take advantage of the WTO forum by seeking to persuade all or some of the countries to enter into a trade agreement limited to fisheries only. The agreement might be restricted to subsidies, or it might take into account other aspects of fisheries trade.

If the WTO does not appear to be a viable forum, or if it does not appear possible to get general agreement on fisheries subsidies outside the context of a comprehensive trade agreement covering multiple subject areas, nations interested in conserving the world's marine resources may have to adopt an incremental approach. One way to do so would be to attempt to introduce fisheries subsidies agreements into regional free trade agreements as they move forward. Regional trade agreements such as the North American Free Trade Agreement ("NAFTA") have become increasingly popular over the last few years²²⁷ and would likely become even more popular if the main WTO negotiations stalled. One advantage of seeking to introduce fisheries subsidies controls into regional trade agreements is that such agreements already include strong dispute resolution and enforcement provisions.²²⁸

Another way forward would be to attempt to forge general fisheries agreements among smaller groups of countries, and then to attempt to

227. World Trade Organization, *Regional Trade Agreements: Facts and Figures: How Many Regional Trade Agreements Have Been Notified to the WTO?*, http://www.wto.org/english/tratop_e/region_e/regfac_e.htm (last visited June 14, 2009).

228. See, e.g., JOHN KIRTON, *NAFTA DISPUTE RESOLUTION MECHANISMS: AN OVERVIEW* (2004), available at <http://www.envireform.utoronto.ca/publications/john-kirton/may27-2004.pdf> (last visited June 14, 2009) (describing the North American Free Trade Agreement's dispute settlement mechanisms).

expand these agreements at a later date. It is conceivable that the Friends of Fish nations would be willing to enter into an agreement to ban overfishing subsidies, either as a stand-alone agreement or as a sub-agreement to the United Nations Convention on the Law of the Sea.

The troubling aspect of such partial agreements, of course, is that the collapse of fisheries resources is a global problem. It seems plausible that the worst offenders—States that would be likely to subsidize so as to injure both common resources on the high seas and their own domestic resources—would be unwilling to enter such partial agreements. But international trade law provides a method to influence such countries, as was illustrated by the WTO Appellate Body decision in *United States—Import Prohibition of Certain Shrimp and Shrimp Products*.²²⁹ The *Shrimp/Turtle* case concerned the United States' attempt to require other countries to use turtle excluder devices in their shrimp trawls to protect sea turtles. The Appellate Body Report established that a State (there, the United States) may impose a unilateral trade sanction against another State if it establishes pursuant to the World Trade Agreement's GATT Article XX(g) (1) that the measure is "relating to the conservation of exhaustible natural resources"²³⁰ and is in conjunction with domestic restrictions²³¹ and (2) that under the introductory paragraph of Article XX, known as the chapeau, the measure as applied does not constitute arbitrary or unjustifiable discrimination.²³²

In the *Shrimp/Turtle* case, the Appellate Body found that Article XX(g) applies to regulations meant to protect living marine resources.²³³ While it ultimately found that the application of the U.S. measures under challenge constituted unjustifiable discrimination,²³⁴ the Report provided guidance on how to appropriately apply such measures in the future. Specifically, the country seeking to impose sanctions (1) cannot impose sanctions if the other country has comparable environmental protections, even if those protections are not exactly the same;²³⁵ and (2) prior to imposing sanctions, the sanctioning country must engage in serious negotiations to attempt to reach a multilateral or bilateral agreement to address the issue.²³⁶

The power to use trade sanctions to conserve fisheries is already established in U.S. fisheries law. Subsequent to the initial *Shrimp-Turtle*

229. Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (Oct. 12, 1998).

230. *Id.* ¶¶ 135–142.

231. *Id.* ¶¶ 143–45.

232. *Id.* ¶ 160.

233. *Id.* ¶¶ 134, 142.

234. *Id.* ¶ 184.

235. *Id.* ¶ 163.

236. *Id.* ¶ 166.

decision, the United States revised its turtle excluder device certification regulations and the WTO upheld the new system.²³⁷ In 2006, Congress expanded this power, enacting into law a requirement that the government identify and sanction countries that have not adopted programs comparable to those in the United States to end or reduce marine bycatch and to conserve “protected living marine resources.”²³⁸ The United States and other nations could use a similar strategy to try to eliminate fisheries subsidies by negotiating bilateral and multilateral subsidies agreements and by threatening to impose unilateral trade sanctions against the countries that refused to participate in such agreements.

CONCLUSION

As with the other great, and much better known, environmental crisis of our times, global climate change, it is clear that international agreement is necessary to conserve fisheries, that time is short, and that irreversible damage may well be inflicted by 2050 or earlier if action is not timely taken. The trend toward the collapse of commercial fisheries by 2050 is global. It affects not only resources in individual State’s jurisdiction, but also shared straddling stocks and common resources on the high seas. There is abundant evidence that one of the most significant causes of the decline of commercial fisheries is government subsidies administered by many nations around the world. The WTO as a negotiating and dispute resolution forum is uniquely well-suited to the challenge of reaching and enforcing an agreement across international boundaries to control these subsidies.

Just as with global climate change, while there are opportunities to make progress, there is no certainty that the nations of the world will be able to overcome their narrower interests in such a way so as to ensure the protection of their larger mutual interest in a sustainable environment. But we have already made significant progress. Never before has the WTO considered restricting subsidies to control their impact on the environment, as opposed to disciplining subsidies to control their effect on trade. The WTO negotiations already constitute a signal advance in the international community’s acknowledgement of the need to address the unintended effects of trade policy on the Earth’s ecosystems.

237. Report of the Appellate Body, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 135, WT/DS58/AB/RW (Oct. 22, 2001).

238. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, § 403, 109 Pub. L. No. 479, 121 Stat. 3575, 3630–32 (2006) (codified at 16 U.S.C. § 1826(k)).

In the current uncertain situation, we have little choice but to work assiduously for the best result possible, choosing the tools and the paths that seem to offer the best promise of success. If the WTO negotiations can be brought to a successful conclusion, we must work hard to ensure that the new agreement contains the most effective disciplines on fisheries subsidies that can be obtained. If the WTO negotiations remain stalled, the nations of the world must seek to control subsidies through regional trade agreements, multi- and bi-lateral fisheries agreements, and, if necessary, the appropriate threat of unilateral sanctions.