Dealing with a Resource Crisis: Regulatory Regimes for Managing the World's Marine Fisheries

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I. INTRODUCTION

The fate of marine fisheries is one of the most urgent resource problems facing the international community today. Around the world, countries have closed some of their historically most profita-

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ble commercial fisheries. Most notably, both Canada and the United States have declared a full moratorium on fishing in their respective jurisdictions of the great Northwest Atlantic cod fishery. Other fishing industries have been forced to accept severe cutbacks in their authorized harvest quotas and face additional reductions as fishing yields continue to stagnate or fall. For instance, the European Union countries now face a sixty percent or greater cut in harvest quotas, a compromise following a recommendation from European Union fishery agency scientists for cuts as high as eighty-five percent.[1] In the Pacific Northwest of the United States, the decline of salmon stocks is so severe that they qualify for protection under the Endangered Species Act. Federal protection of the salmon has enormous implications not only for river use and management, but also for the growth and zoning policies of urban and suburban centers in the area. In the Pacific Islands, dynamiting lagoons and coral reefs continues almost unabated, with destructive, irreversible effects on habitat and fish populations.[2]

The Food and Agriculture Organization (FAO) data on worldwide marine fisheries, the most authoritative statistical source on the subject, indicate that at least sixty percent of the world's top 200 commercial marine fish stocks are in fisheries classified, according to catch trends, as either "mature" or "senescent."[3] These categories indicate fisheries requiring "urgent management action to halt the increase in fishing effort or rehabilitate overfished resources."[4] Fisheries in these two categories are either at or beyond full utilization: Forty-four percent were classified as "fully to heavily exploited," and sixteen percent "overexploited."[5] Those beyond full utilization are either in grave danger of depletion, or already depleted beyond hope for commercial use in the near future.[6] In-

1. RTE Interactive News, *EU Fisheries Ministers Discuss Fish Quota Cuts*, Dec. 14, 2000, *at* http://www.rte.ie/news/2000/1214/fish.html (last visited Nov. 18, 2001).

2. *See, e.g.*, World Wildlife Fund, *Sulu Sulawesi Seas: Crown Jewel of the Western Pacific*, *at* http://www.wwfmalaysia.org/features/special/SuluSeas.htm (last visited Nov. 18, 2001).

3. RICHARD GRAINGER & S.M. GARCIA, CHRONICLES OF MARINE FISHERIES LANDINGS, 1950-1994: TREND ANALYSIS AND FISHERIES POTENTIAL, U.N. FOOD & AGRIC. ORG. FISHERIES TECHNICAL PAPER 359 (1996).

4. Richard Grainger, *Global Trends in Fisheries and Aquaculture*, *in* TRENDS AND FUTURE CHALLENGES FOR U.S. NATIONAL OCEAN AND COASTAL POLICY 23 (Biliana Cicin-Sain et al. eds., 1999).

5. *See id.*

6. U.N. FOOD & AGRIC. ORG., THE STATE OF THE WORLD FISHERIES AND AQUACULTURE 8-11 (1995). The 1998 FAO report, THE STATE OF THE WORLD FISHERIES, *available at* http://www.fao.org/docrep/w9900e/w9900e02.htm (Dec. 20, 2000), uses slightly different terms for these categories, but the data and percentages are essentially the same as in 1995. The

deed, if the data tracked biomass volume rather than species-specific information, the percentage of fisheries categorized as mature or endangered might well be much higher. Nor do the data account for fisheries that have already collapsed in the half-century following World War II, the most notorious example being the once-giant California sardine fishery.[7]

Many nations now recognize that overcapacity in their coastal and high seas fishing fleets has created an urgent problem and have devised domestic and international measures to address the crisis. The national fishery management programs apply to fleets operating in the offshore jurisdictional fishing zones, generally out to a marine boundary 200 miles from shore called the 200-mile Exclusive Economic Zone (EEZ). These national programs, however, have not succeeded in reversing the parlous trends and thereby have failed to restore the health of fisheries and their habitats. Such failure extends to international management programs as well.[8]

Consequently, the last quarter century has witnessed an acceleration of new initiatives in regard to both national and international fishery management. This development, treated in Part II of this study, represents a quest to reform the basic legal ordering of fishing activity on the high seas and impose new norms and obligations on the coastal states in their regulation of their offshore EEZs. The process of creating governing legal regimes can be seen as a "globalization" of fisheries management. The globalization process as it applies to marine fisheries management is an important attempt to define universally applicable conservation-oriented norms, formulating and implementing new rules for fishing operations based on scientific research and (in some measure) economic desiderata. The process further attempts to design and

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forty-four percent category is referred to as "fully to heavily exploited" in 1995 and as "fully exploited" in 1998; "overexploited" in the 1995 report is "overfished" in the 1998 report; and an additional six percent in the 1998 report is cited as "[appearing] to be depleted."

7. *See* Arthur McEvoy and Harry N. Scheiber, *Scientists, Entrepreneurs, and the Policy Process: A Study of the Post-1945 California Sardine Depletion*, 44 J. ECON. HIST. 393 (1984).

8. *See generally* JAMES R. MCGOODWIN, CRISIS IN THE WORLD'S FISHERIES: PEOPLE, PROBLEMS, AND POLICIES (1990); Christopher D. Stone, *Too Many Fishing Boats, Too Few Fish*, 24 ECOLOGY L.Q. 504, 506-44 (1997); Symposium, *Overfishing: Its Causes and Consequences*, 25 THE ECOLOGIST 80 (1995). *See also Marine Fisheries Management and the Law of the Sea: Summary of Discussion* (Harry N. Scheiber & M. Casey Jarman rapporteurs), *in* OCEAN GOVERNANCE STUDY GROUP, IMPLICATIONS OF ENTRY INTO FORCE OF THE LAW OF THE SEA 92 (Biliana Cicin-Sain & K. Leccesse eds., 1995) (on interrelationship of national regimes in the EEZs and regulation under international agreements).

mobilize new international institutions for more effective management.

Other more conventionally defined aspects of globalization, such as those generally concerned with such phenomena as deregulation and trade liberalization, also have a causal interrelationship with the current ocean fisheries crisis. In fact, multi-national enterprise, international trade in fish products, mobility of capital in the form of vessel re-flagging, and massive fleet movements have all impacted the structure of competition among fishing nations. These impacts are reflected in national and international political pressures that have weakened regulatory programs and worked, in effect, to produce an international "race to the bottom."[9] In one respect, it has been a literal race to the bottom as giant trawler vessels have been depleting the bottom-fish stocks in many areas of the world's oceans by scraping the sea bottom clean![10]

Privatization, one of the globalization movement's leading features, plays a role in efforts to deal with the fisheries crisis in both the national EEZs and the resource regimes of important international and regional organizations. For instance, the assignment of private property rights in fishery resources, especially as "individual transferable quotas" (ITQs), is a technique being widely adopted. ITQs and other privatization schemes have to be distinguished, however, from examples of privatization in the communications, transport, and other international industrial sectors. In the case of fisheries, ITQs and other property rights are assigned within the framework of scientifically managed regimes with quotas, seasonal regulations, gear restrictions and all other aspects of conventional management except the formerly universal feature of open access. Privatization is thus a dimension of fishery management reforms that is being adopted around the world to meet the resource crisis. Property-rights and privatization schemes do not, however, represent a universalization or globalization of standards. On the contrary, these schemes vary widely, from nation to nation, in their

9. Some of these aspects are treated *infra* Part III.

10. WILLIAM W. WARNER, DISTANT WATER: THE FATE OF THE NORTH ATLANTIC FISHERMAN (1983) provides a vivid historical picture of the depredations. Scientific research indicating extensive trawler damage to habitat and fisheries is summarized in *Will the Fish Return? How Gear and Greed Emptied Georges Bank*, AMER. MUS. OF NATURAL HIST. BIO-BULLETIN (1999), *at* http://sciencebulletins.amnh.org/biobulletin/biobulletin/story1249.html (last visited Nov. 5, 2001). For essays that contest the argument that trawling has devastated fish stocks and sea floor habitat, see CONSERVATION LAW FOUNDATION, EFFECTS OF FISHING GEAR ON THE SEA FLOOR OF NEW ENGLAND (E. Dorsey & J. Pederson eds., 1998), *at* http://www.clf.org/pubs/effects_of_fishing_gear.htm (last visited Nov. 5, 2001).

design and administration. We mention this aspect of fishery policy issues, therefore, as part of the larger context of globalization of standards, rather than as exemplary of efforts to impose uniformity.[11]

The purpose of this study is to analyze the various initiatives that seek to establish more effective global conservation norms, standards, regulations and institutions to govern the hunting of fish and cetacean stocks in ocean waters. The regulation of a natural resource—in this case, fish and cetacean stocks that were traditionally treated as common property under both national and international law—differs greatly from the regulation of trade, manufacturing, and service industries. Nonetheless, there are certain intriguing parallel and analogous issues. In addition, tensions from fishery conflicts have had major ramifications for trade policy and other legal and diplomatic issues in the global arena.[12] No less important are the ways in which emerging international norms for fisheries management reflect and interact with the dicta and specific provisions of other instruments in transnational environmental law.[13]

In Part II, we trace the development of the central principle of "sustainability"—the concept that fisheries should be exploited at a level that ensures a stable and continuous supply of fish for harvesting from one year to the next.[14] We will trace the origins of the

11. COMMITTEE TO REVIEW INDIVIDUAL FISHING QUOTAS, NAT'L RESEARCH COUNCIL, SHARING THE FISH: TOWARD A NATIONAL POLICY ON INDIVIDUAL FISHING QUOTAS (1999) and essays in U.N. FOOD & AGRIC. ORG., USE OF PROPERTY RIGHTS IN FISHERIES, U.N. FOOD & AGRIC. ORG. FISHERIES TECHNICAL PAPER 404/1 (R. Shotton ed., 2000) treat the policy issues and evaluate existing programs' performance records. For an influential private (NGO) study, see NATURAL RES. DEF. COUNCIL, HOOK, LINE, AND SINKING: THE CRISIS IN MARINE FISHERIES (1997). The history of the ITQ and other limited access approaches, in both national and international management, is treated in Harry N. Scheiber & Christopher J. Carr, *From Extended Jurisdiction to Privatization: International Law, Biology, and Economics in the Marine Fisheries Debates, 1937-76,* 16 BERKELEY J. INT. L. 10 (1998).

12. The most dramatic recent instances have been the tuna-dolphin issue in the diplomacy of bilateral fishery relations (and U.S. unilateral sanctions) and the subsequent decision of those issues by the ITO judicial body. *See infra* Part IV(A). On GATT decisions on tuna/dolphin as well as other marine resources, *see generally* Richard McLaughlin, *UNCLOS and the Demise of the United States' Use of Trade Sanctions to Protect Dolphins, Sea Turtles, Whales, and Other International Marine Living Resources,* 21 ECOLOGY L.Q. 1 (1994).

13. Some of these interrelations are treated *infra* Part IV. For one example, see Harry N. Scheiber, *Historical Memory, Cultural Claims, and Environmental Ethics in the Jurisprudence of Whaling Regulation,* 38 OCEAN & COASTAL MGMT. 5 (1998).

14. The sustainability principle has been challenged recently, especially by competing professional management standards based on notions of economic efficiency. These efficiency-based standards are advanced principally by professional resource economists who have won a sympathetic hearing in an intellectual and political environment heavily

sustainability standard in the post-World War II marine fisheries policy debates; its codification in the framework Law of the Sea conventions; and its general acceptance in multilateral fishery conservation agreements of the 1990s.

Part III explores why fishery management regimes have been almost uniformly unsuccessful in achieving their objective of achieving sustainability.[15] "Sustainability" of fish stock levels and of their marine habitats, or alternatively "sustainable development,"[16] has become the explicit normative goal of fishery management programs worldwide. The "development" goal, linked to resource conservation, remains highly salient for many national programs, and subsidies continue to play a major role in the operations of the world's fishery industries. But international and regional organizations' efforts to impose new norms have mainly emphasized conservation, and we give our attention here to that aspect of regulatory developments. Also in Part III, we assess the prospects for achieving harmonization and "race to the top" results using the new rules, policies, and institutions that are replacing the old order of "freedom of the seas."[17] We also inquire whether any important "race to the bottom" effects are internalized by existing regulatory regimes.

Part IV discusses recent efforts to implement global conservation standards for fisheries, including the use of unilateral trade sanctions; recent international "framework" agreements that are designed to strengthen conservation standards and to enhance compliance and enforcement; the movement toward multilateral trade measures to enforce conservation standards; and some uses of market forces as an enforcement mechanism through eco-labeling, boycotts, and other means.

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influenced by deregulatory and free market ideas. To a significant degree, the movement for efficiency standards, as a challenge to older sustainability norms, has been conflated with the movement for privatization of fishery rights. *See supra* text and citations accompanying note 11.

15. Our subject is the evolution of global *production* (i.e., harvesting) standards for marine capture fisheries. It does not consider *product* standards, but rather is concerned with how the resource itself is harvested. All such production standards for marine capture fisheries are centered around the principle of "sustainability."

16. "Sustainable development" is a concept that includes resource conservation as well as the maintenance of the fishing industry and its production.

17. Under "freedom of the seas," all vessels could fish beyond territorial limits without any restrictions on the types of gear or techniques they used, or on the species they caught.

II. GLOBAL STANDARDS FOR MARINE CAPTURE FISHERIES[18]

The effort to establish effective global, conservation-oriented management standards for marine fisheries is a relatively recent phenomenon. For centuries, the oceans were widely viewed as providing an inexhaustible supply of fish. In the 1950s, intensive industrial fishing began employing new surveying and harvesting technologies, and its scale and geographic range began growing rapidly. With this dramatic development, the international community began to more seriously consider the need for conservation standards to manage the fishing that took place on the high seas beyond areas of national jurisdiction. The 1958 United Nations Convention on Fishing and Conservation of the Living Resources of the High Seas ("1958 Convention")[19] was the first achievement of this movement for establishing global regulatory standards. But the 1958 Convention set out only very general conservation obligations aimed at achieving optimum sustainable yield from high seas fisheries.[20] The sustainability principle was carried forward in the 1982 United Nations Convention on the Law of the Sea (UNCLOS).[21] More recently, there has been an elaboration of international commitments bearing on marine resources generally and fisheries in particular. The most notable are the U.N. Fish Stocks Agreement,[22] signed in 1995, which specifically addresses the problem of high seas fishing areas outside national offshore boundaries, and the Convention on Biological Diversity,[23] which has major implications for the management of coastal area fisheries and fish

18. Marine capture fisheries are distinguished from aquacultural fisheries, which today constitute the source of a significant (and rising) proportion of commercial fish products.

19. Law of the Sea: Convention on Fishing and Conservation of the Living Resources of the High Seas, Apr. 29, 1958, 17 U.S.T. 138, 559 U.N.T.S. 285.

20. *See id.* art. 2.

21. United Nations Convention on the Law of the Sea, Dec. 10, 1982, arts. 61, 119, 21 I.L.M. 1261 [hereinafter UNCLOS].

22. Agreement of 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, Sept. 8, 1995, 34 I.L.M. 1542. [hereinafter U.N. Fish Stocks Agreement]. *See, e.g.*, Moritaka Hayashi, *The 1995 UN Fish Stocks Agreement and the Law of the Sea, in* ORDER FOR THE OCEANS AT THE TURN OF THE CENTURY 37 (Davor Vidas & Willy Østreng eds., 1999) [hereinafter ORDER FOR THE OCEANS].

23. Convention on Biological Diversity, *opened for signature* June 5, 1992, *entered into force* Dec. 29, 1993 (UNEP/Bio.Div/N7-INC.5/4), text reprinted in 31 I.L.M. 818. *See, e.g.*, Harry N. Scheiber, *The Biodiversity Convention and Access to Marine Genetic Materials in Ocean Law, in* ORDER FOR THE OCEANS, *supra* note 22, at 187.

habitats.[24]

From the early 1950s, many coastal states had asserted ownership and exclusive authority over fisheries located at various distances from their coasts, including, in some instances, fisheries located up to 200 miles away from shore.[25] Because the vast majority—some eighty to ninety percent—of fisheries for commercially valuable species are located in waters within 200 miles of the coast, these claims to extended jurisdiction were opposed by industrialized countries whose "distant-water" fishing fleets plied coastal waters off other nations' shores.[26] But the proliferation of claims to extended jurisdiction ultimately could not be resisted, and in 1982, UNCLOS completed the process of ocean enclosure, extending jurisdictional claims beyond the traditional three to nine mile limits offshore. By reducing fisheries to the exclusive jurisdiction of coastal states out to 200 miles (the current EEZ) and thereby eliminating the prisoner's dilemma pathologies of open access regimes, UNCLOS made it feasible for states to take effective conservation measures.

While UNCLOS formally imposed some conservation obligations on coastal states with respect to their EEZ resources it also permitted those states to continue to exercise great discretion in their adoption and enforcement of national conservation and management measures for EEZ fishery resources. Because of the special sensitivity of fisheries issues, under Article 297(3) a coastal state is not required to submit disputes relating to its management of EEZ fishery resources to binding dispute settlement.[27] Although UNCLOS does not provide for meaningful enforcement of the conservation obligations formally specified for EEZ fishery resources, high seas fishing activities are subject to compulsory, binding dispute settlement under the Convention.[28] The irony is that UNCLOS itself provides only the most general conservation

24. *See* BEN BOER, ROSS RAMSAY, AND DONALD R. ROTHWELL, INTERNATIONAL ENVIRONMENTAL LAW IN THE ASIA PACIFIC 108-112 (1998); Scheiber, *supra* note 23. *See also* sources cited *infra* note 116.

25. ANN L. HOLLICK, U.S. FOREIGN POLICY AND THE LAW OF THE SEA 67-95 (1981).

26. *See* Harry N. Scheiber, *Pacific Ocean Resources, Science, and Law of the Sea: Wilbert M. Chapman and the Pacific Fisheries, 1945-70,* 13 ECOLOGY L. Q. 510-11 (1986); ROBERT L. FRIEDHEIM, NEGOTIATING THE NEW OCEAN REGIME *passim* (1993); HOLLICK, *supra* note 25, *at* 62-96.

27. UNCLOS, *supra* note 21, art. 297(3).

28. *Id.* at art. 286. *See* Bernard Oxman, *The Rule of Law and the United Nations Convention on the Law of the Sea,* 7 EUR. J. INT'L L. 353, 367 (1996) (explaining the central importance of Article 286).

obligations even for high seas fisheries.[29]

Managing for sustainability has also been the mandate of numerous international regional fishery organizations. Two prominent examples are the International Commission for the Conservation of Atlantic Tunas (ICCAT), which is responsible for establishing conservation and management measures for tuna and swordfish in the Atlantic Ocean, and the Northwest Atlantic Fisheries Organization (NAFO), which is responsible for establishing conservation and management measures for ground fish, most prominently cod, in the Northwest Atlantic Ocean. Unfortunately, both organizations' records are marked by failures—bluefin tuna stocks, for example, are severely depressed, and the sorry story of the Atlantic cod fisheries is well known. Fisheries in areas under exclusive national jurisdictions have fared little better.[30] As noted earlier, the FAO has reported that the vast majority of commercial fisheries are fully utilized or overfished.[31] Hence, even where marine fisheries are entirely under a single nation's control, the same discouraging pattern of failure has resulted, and it has been a fairly uniform pattern globally.

This brief overview of national and international fishing agreements raises three questions. First, what accounts for this record of international and national failure? Second, what is being done to address the problem? Third, can the initiatives being taken in recent years be expected to succeed?

III. THE PROBLEMS

There are many impediments to effective conservation and management of fisheries within zones of national jurisdiction and in the high seas. These obstacles differ in certain respects because of the distinct legal regimes for EEZs and the high seas, but they are also quite similar in many ways. National laws and international conventions uniformly profess a commitment to the sustainability principle. However, overfishing has been the norm virtually everywhere. Management agencies within countries and their international counterparts regularly set catch quotas in excess of the

29. *See* UNCLOS, *supra* note 21, arts. 119, 192.

30. *See, e.g.*, MARK KURLANSKY, COD: A BIOGRAPHY OF THE FISH THAT CHANGED THE WORLD 177-233 (1997); SUZANNE LUDICELLO ET AL., FISH, MARKETS, AND FISHERMEN: THE ECONOMICS OF OVERFISHING 11-26 (1999); *Will the Fish Return?*, *supra* note 10. *See generally* TERRY GLAVIN, DEAD RECKONING: CONFRONTING THE CRISIS IN PACIFIC FISHERIES (1996).

31. *See supra* note 6.

maximum sustainable yield for decades. The main reasons for continuing overfishing and poor management are uncertainty of scientific methods and data, the institutional structure of the fishing industry, and enforcement difficulties.

A. *Scientific Uncertainty*

The difficulties of methodology, and data collection, in fisheries biology and analysis of fish population dynamics are endemic to fisheries management regimes. Fisheries science is plagued by uncertainties and population projections are notoriously faulty. The simple fact that fish cannot readily be observed and counted presents tremendous problems.[32] Even in this age of remote-sensing technology, biomass is impossible to assess with a high degree of accuracy. In addition, even where basic data can be obtained, interpretation is complicated by numerous other variables, such as ocean climate conditions. Moreover, population studies have gone through changes in conceptual foundation over cycles of 10-20 years; several briefly dominant approaches have been challenged and found wanting since 1900, and new approaches are never definitive. Thus the dominant conceptual foundation of fisheries science from the 1920s to the 1940s, which involved computations of "catch per unit of effort" (CPUE), proved wanting because it failed to take account of environmental variables that interacted with fishing effort; later, theories of population biodynamics were challenged on similar grounds, giving way to attempts at ecosystem analysis that incorporated meteorological, chemical, biological, and human factors as well as inter-species fish competition for food supplies and inter-species predation.[33]

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32. By contrast, an international management agreement protecting fur seals had a successful conservationist record in part because the seals hauled out on rocks and could be counted with a high degree of accuracy, permitting the scientists to assess the condition of the stocks and trends in their population. *See* LARRY LEONARD, INTERNATIONAL REGULATION OF FISHERIES 90-3 (1944) (discussing the Convention for the Preservation and Protection of Fur Seals, July 7, 1911).

33. *See* DAVID CUSHING, FISHERIES RESOURCES OF THE SEA AND THEIR MANAGEMENT (1975); Harry N. Scheiber, *From Science to Law to Politics: An Historical View of the Ecosystem Idea and Its Effect on Resource Management*, 24 ECOLOGY L.Q. 631 (1997). Fisheries management specialists and marine biologists have long been cognizant of basic problems in definition of priorities as well as in achieving objective assessment of the stocks. *See, e.g.*, the classic article by D. L. Alverson and G. J. Paulik, *Objectives and Problems of Managing Aquatic Living Resources*, 30 J. FISHERIES RES. BOARD CAN. 1936-47 (1973). Theoretical approaches based on ecosystem analysis are surveyed in COMMITTEE ON ECOSYSTEM MANAGEMENT FOR SUSTAINABLE MARINE FISHERIES, OCEAN STUDIES BOARD, COMMISSION ON GEOSCIENCES, ENVIRONMENT, AND RESOURCES, NATIONAL RESEARCH COUNCIL, SUSTAINING MARINE FISHERIES

The uncertainty inherent in fisheries science exacerbates the confrontations of divergent views that typically pit industry scientists against government scientists. This conflict is commonly found in both national and international fisheries policy decision-making. Commercial fishing interests frequently retain their own fisheries scientists to evaluate data, render opinions on the status of stocks, and make projections of stocks given specified fishing levels. Because scientific findings and information are used as the basis for setting a total allowable catch for a fishery, they are as critically important to regulators as they are to the industrial interests. Thus, for example, scientists for U.S. Atlantic tuna fishermen wrangle with U.S. government scientists from the National Marine Fisheries Service (NMFS) to arrive at a consensus U.S. analysis of stock conditions. The U.S. analysis is then put forward at the annual ICCAT meetings, where each country offers its own view of the condition of the stocks. Finally, these views are considered by the organization's own scientific committee in developing a position on the status of stocks.[34]

A similar process occurs for many national fisheries. In the United States, industry has its own scientists who participate in the deliberations of the regional fishery management councils. These industry scientists often challenge the data and conclusions of NMFS scientists, whose findings are used as the basis for setting catch limits for U.S. EEZ fisheries. These conflicting views often neutralize the role of science in domestic and international fisheries policy decision-making and thus enable other imperatives to control and dictate policy outcomes. Ironically, such outcomes often remain cloaked in the mantle of science.[35]

But even if "better" science were available, it would not mean

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103-121 (pre-publication edition, 1998). Recent scientific and social science writings on "chaos theory" in relation to fisheries exemplify the extent to which uncertainty is a paramount issue in scientific assessments of fish stocks and calculations of optimal harvesting levels. *See* J. M. Acheson, *Environmental Protection, Fisheries Management, and the Theory of Chaos,* NAT'L RES. COUNCIL, IMPROVING INTERACTIONS BETWEEN COASTAL SCIEN. AND POL'Y: PROC. GULF ME. SYMP. 155-60 (1995); J. A. Wilson et al., *Chaos, Complexity, and Community Management of Fisheries,* 18 MARINE POL'Y 291 (1994). *Contra* Michael J. Fogarty, *Rejoinder: Chaos, Complexity and Community Management of Fisheries: An Appraisal,* 19 MARINE POL'Y 437 (1995). *See also* GLOBAL TRENDS IN FISHERIES MANAGEMENT (E. Pikitch et al., eds.) AM. FISHERIES SOC'Y SYMP., No. 20.

34. For the complexity of decision-making in the contentious milieu of the bluefin tuna fishery, see Patrick A. Nickler, *A Tragedy of the Commons in Coastal Fisheries: Contending Prescriptions for Conservation, and the Case of the Atlantic Bluefin Tuna,* 26 B.C. ENVTL. AFF. L. REV. 549 (1999).

35. Thus a distinguished fisheries scientist has observed, with reference both to the

that a mechanistic decision-making process would produce agreement on fishing levels; in fishery management generally, biological imperatives have long been subordinated to economic imperatives. Fishing operators around the globe seize upon the slightest scientific uncertainty as a reason to push for relaxed fishing restrictions. (This is a variant of the age-old problem of fishermen who interpret any decline in productivity as evidence not of overfishing but rather that the fish have simple "migrated somewhere else.") A recent characterization of the joint Russian-Norwegian management program for the Barents Sea fisheries is applicable to most regimes around the globe: The regulations adopted may be best understood as "a compromise between what can be defended biologically, legitimized politically, and accepted on social and economic grounds."[36]

B. *The Structure of the Fishing Industry*

The greatest problem facing fisheries today, as most commentators will assert, is that there are simply too many vessels chasing too few fish. National governments have fostered this overcapitalization crisis by extensively subsidizing fishing vessel construction.[37] Most fishing vessel owners carry substantial debt on their vessels, and this debt can only be serviced by revenues from fishing operations. At the same time, fishing crews typically work for a "share" of the catch. So it should come as no surprise that owners and crew often feel compelled to argue for catch quotas that might exceed levels recommended by fisheries science.[38]

International Whaling Commission (on which he served) and to fisheries management agencies more generally, that

> [s]ince advice comes as a result of evaluation and consensus, it is . . . possible to cause delays by injecting and sustaining controversy in the evaluation stage. How often have we heard 'the scientists cannot agree . . . so we will consider the question again next year, and meanwhile continue behaving as before.' That way, the blue whale and the herring were brought towards extinction.

Sidney Holt, *Scientific Advice to International Organizations* (unpublished paper, 1972), *quoted in* Charles B. Heck, *Collective Arrangements for Managing Ocean Fisheries*, 29 INT'L ORG. 712, 737 (1975).

36. A.H. HODEL ET AL., USER-GROUP PARTICIPATION IN NORWEGIAN FISHERIES MANAGEMENT (1994), *quoted in* Geir Hønneland, *Compliance in the Barents Sea Fisheries*, 24 MARINE POL'Y 11, 12 (2000).

37. Addressing the subsidy issue thus has been one of the keystone policies on fisheries in the EC. *See* Aaron Hatcher, *Subsidies for European Fishing Fleets: The European Community's Structural Policy for Fisheries, 1971-99*, 24 MARINE POL'Y 129-40 (2000).

38. This aspect of fishing labor has been explored in the writings of the economist James Wilen. James E. Wilen and Keith Casey, *Impacts of ITQs on Labor: Employment and*

While government buyouts might be thought to be the answer to the over-capitalization problem, and are being used today in the Canadian Maritime Provinces, the Pacific Northwest, Alaska, and New England, they have not been widely implemented. Like the legendary family farmers who constitute the historic Jeffersonian yeomanry, there is a romanticism about the fishing industry that often serves to immunize it from reforms that would "destroy a way of life." Fishermen often profess to have no conception of alternative careers. Because so many view fishing as a way of life, and not simply a fungible job, fishermen and the coastal communities in which they live tend to focus their political energy solely on fisheries issues. In the United States, both at the national and state levels, fisheries issues have long been nonpartisan—or at least bipartisan—and have reflected local employment and industry concerns.[39] Fishermen in the United States today (as has often been true in the past) enjoy powerful political patrons. For example, Alaska Senator Ted Stevens is the ranking member of the Senate Appropriations Committee and is a devoted ally of fishermen's causes. In the House, Alaska Congressman Don Young is the vice-chair of the House Committee on Resources. Massachusetts Senators Edward Kennedy and John Kerry, Chairman of the Senate Subcommittee on Oceans and Fisheries, have been reliably attentive to the needs of New England's commercial fishermen.[40]

Remuneration Effects, in SOCIAL IMPLICATIONS OF QUOTA SYSTEMS IN FISHERIES 315-34 (Sisli Palsson & Gudrun Petursdottir eds., 1997).

39. *See, e.g.*, Scheiber, *supra* note 26 *passim* (on the focused pressures on the U.S. Congress and the State Department from salmon interests in the Pacific Northwest and from the tuna sector in Southern California).

40. This power is exemplified by the way in which Senator Stevens was successful in protecting Alaskan fishing interests and holding off administrative action under the Endangered Species Act for a full year, despite heavy pressure from the White House and many in Congress to support action that would have placed an immediate moratorium on fishing that was affecting the sea lion population. Senator Stevens accomplished this feat by threatening to delay congressional action on the final Clinton Administration budget and on the entire Congress' adjournment. Robert Pear, *Congress Adopts Spending Measure, Ending Its Work*, N. Y. TIMES, Dec. 16, 2000, at A1. The highly focused demands of special interests in fisheries have had great influence, historically and today, in both impelling and constraining U.S. diplomatic objectives in pursuing policies in the international arena as well. For example, the San Diego-based U.S. tuna interests, a distant-water fishing sector, long had an extraordinarily controlling influence on U.S. policy with regard to a critical issue (the Highly Migratory Species fisheries, mainly tuna) and their regulation in reference to national Exclusive Economic Zones. Similarly, the Pacific Northwest salmon interests had significant influence on negotiations with Canada and Japan as early as the 1953 International North Pacific Fisheries Convention. *See* Harry N. Scheiber, *Origins of the Abstention Doctrine in Ocean Law: Japanese-U.S. Relations and the Pacific Fisheries, 1937-1958*, 16 ECOLOGY L.Q. 23 (1989); Scheiber, *supra* note 26 *passim*.

In addition, the structure of the U.S. regional fishery management councils and many of the international management bodies is designed to give industry a direct or indirect hand in decision-making. Industry members serve on regional councils and enjoy full voting rights. They also serve on "advisory" committees that assist in formulating the U.S. positions for meetings of international management organizations, attend those meetings as members of the U.S. delegation, and often serve as U.S. commissioners to such organizations. This kind of direct interest representation in policy-making is not limited to the U.S. industry; there is a powerful "corporativist" cast to the structure and operations of many national and international fishery management bodies. The integral role of industry representatives in management structures only serves to reinforce the inherent difficulty of the "issue-linkage" technique for resolving policy conflicts that derives from the "tight compartmentalization" of the management bodies—each of them typically devoted to only one species or a single ocean region.[41]

Finally, commercial fishing interests comprise, in the language of public choice theory, a "concentrated minority," and, as a result, they have long enjoyed certain organizational and political advantages. In contrast, the national interest in fisheries conservation is shared by a "diffuse majority," which is less motivated to act.[42] It is only within the last decade that major environmental organizations have begun to devote attention to conservation of living marine resources other than "totemic" or "charismatic" marine species, such as dolphins and whales.[43] Even so, many organizations, responding to the concerns of their constituencies, focus their energies on human health-related problems, such as water and air pollution, rather than on the question of fisheries depletion and habitat destruction.

C. *Enforcement Difficulties*

Fisheries regulations are difficult to enforce for many reasons.

41. *See* M. J. Peterson, *International Fisheries Management, in* INSTITUTIONS FOR THE EARTH 249, 259-61 (Peter Haas et al. eds., 1993) (explaining how the fact that each management agency is focused on only one species or fishery makes it difficult to effect compromises by which the agencies and fisheries interests they each manage can make deals that can lead to simultaneous addressing two or more issues).

42. David A. Dana, *Overcoming the Political Tragedy of the Commons: Lessons Learned from the Reauthorization of the Magnuson Act,* 24 ECOLOGY L.Q. 833, 835-37 (1997).

43. *See* Arne Kalland, *Management by Totemization: Whale Symbolism and Anti-Whaling Campaign,* 46 ARCTIC 124 (1993).

On the high seas, under the traditional "flag state jurisdiction" regime, only the country in which a vessel is registered may take enforcement action against it. Effective enforcement is very costly because of the large expanses of open water that must be covered. Furthermore, reporting of fisheries catch data is readily susceptible to falsification. What John Gulland, one of the leading fisheries management scientists of the modern era, wrote 20 years ago is still entirely valid today in many of the world's fisheries:

> Fishermen are probably no greater law breakers than any other group of people. However, fishing does encourage the independent view and reluctance to accept, without proper explanation, rules and regulations, especially if they come from bureaucrats in a distant capital. Further, it is not easy for a government official to check on what the individual fisherman is doing, perhaps in a small boat in poor weather some way from land. Only in a perfect world, therefore, is it reasonable to assume that rules and regulations to manage fishing would, once adopted, be necessarily carried out correctly. In the real, but imperfect, world some types of regulation are extremely difficult to enforce.[44]

There is considerable optimism in some academic and management circles that "cooperative management," which relies more on the fishing operators' knowledge of the stock and the waters, as well as their objective interest in maintaining the health of the stocks, will produce greater respect for regulation and cooperation in enforcement (or a larger measure of self-regulation). Such systematic involvement of the fishers, it is contended, legitimates the regulatory regime and avoids the traditional problem of demonizing enforcement officers. At its heart, the theory goes, co-management also represents a way of avoiding the Hobbesian results predicted in the common-property model to which Hardin famously assigned the term "tragedy of the commons."[45] However, to other analysts who worry that this course may overestimate the potential for altruism in the minds and hearts of the typical fishing operator, the better hope lies in the electronic and communications gear that can track vessel movements and operations at sea.[46]

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44. John Gulland, *Managing Fisheries in an Imperfect World, in* GLOBAL FISHERIES: PERSPECTIVES FOR THE 1980's 189 (Brian J. Rothschild ed., 1980).

45. *See, e.g.*, Garrett Hardin, *Tragedy of the Commons*, 162 SCIENCE 1243 (1968); Bonnie McCay et al., *From the Bottom Up: Participatory Issues in Fisheries Management*, 9 SOC'Y & RESOURCES 237-50 (1996).

46. These monitoring innovations are discussed in Christopher J. Carr, *Vessel Monitoring Systems: A New Technology for the Transition to Sustainable Fisheries, in* OCEAN GOVERNANCE STUDY GROUP, EMERGING ISSUES IN NAT'L OCEAN AND COASTAL POLICY 31-34 (H. Scheiber ed., 1999) [hereinafter EMERGING ISSUES].

The problem of flag state jurisdiction is fundamental.[47] Under UNCLOS, vessels fishing on the high seas are subject to enforcement actions only by the state in which they are registered. This regime of exclusive flag state jurisdiction, in combination with the traditional high seas freedom of fishing, has severely undermined the effectiveness of regional organizations. These organizations have been powerless to act against vessels flying the flags of states not party to the organization, yet fishing on the high seas and undermining the conservation and management measures agreed to by the organization. Moreover, even where a vessel is registered in a state that is a party to the organization, that state must fulfill its responsibilities to take enforcement action against its own vessels, and often this does not happen. Where a state that is a member of such an organization does take strong enforcement action against its vessels, many vessels often "re-flag" to a country known to exercise lax regulatory authority; these vessels are then said to be flying "flags of convenience." Some regional organizations are faced with the phenomenon of "third generation" flags of convenience—vessels which change their registry from a traditional flag-of-convenience state to a state that is a member of the regional organization though not vigilant in regulating its vessels—in order to avoid being branded a flag-of-convenience vessel.[48]

This juridical fungibility is matched by the physical mobility of capital with respect to fishing vessels. Just as fishing vessels will move from one ocean area to another in seeking out better fishing opportunities, vessels will relocate and re-flag in order to avoid scrutiny and restrictions, sometimes traveling half way around the world to do so. Physical mobility is illustrated by an incident reported by the U.S. State Department in 1994: a vessel observed fishing outside of New Zealand's 200-mile zone was observed a short time later fishing outside of Norway's zone in the Barents Sea.[49] Entire fleets, or at least great numbers of vessels in a particular

47. *See generally* David A. Balton, *The Compliance Agreement, in* DEVELOPMENTS IN INTERNATIONAL FISHERIES LAW 31-53 (Ellen Hey ed., 1999); Carr, *supra* note 46.

48. For a vivid example of the manner in which an international fishing agreement for sustainable management can be undermined by non-member states that either permit a re-flagging of vessels or simply permit their own citizens to operate in vessels under their flag in a manner evasive of the agreement, see Jean-Pierre Plé, *Responding to Non-Member Fishing in the Atlantic: The ICCAT and NAFO Experiences,* in LAW OF THE SEA: THE COMMON HERITAGE AND EMERGING CHALLENGES 197 (Harry N. Scheiber, ed., 2000) [hereinafter LAW OF THE SEA].

49. David A. Colson, *Welcoming Remarks, in* REPORT OF THE GLOBAL FISHERIES ENFORCEMENT WORKSHOP 3 (1994).

fishery, have been known to relocate. An example of such mass relocation occurred when the operators from the San Diego tuna fleet fled the United States to escape increasingly stringent restrictions imposed on them to protect dolphins under the Marine Mammal Protection Act.[50] A large portion of the tuna fleet re-flagged in Costa Rica and other countries that did not require dolphin protection. Even before the re-flagging movement, many vessels formerly based in San Diego were moving to very distant Atlantic waters, unloading for processing in Puerto Rico, and rotating their crews by air flights to and from the West Coast.[51]

The size of the ocean areas to be patrolled also presents obvious problems, requiring high expenditures for effective enforcement. Even within EEZs, distances to be patrolled often pose an insuperable impediment to effective monitoring and surveillance. For instance, the longline tuna fishery around the Hawaiian Islands contains areas where fishing is altogether prohibited by regulation. These closed areas extend for a distance of some 1,500 nautical miles around the Hawaiian Islands. The Coast Guard has estimated that it would cost in excess of twenty million U.S. dollars annually to effectively patrol this area alone.[52] Moreover, many fisheries are not of sufficient value, and their regulation is not as pressing a political issue, to command the funding needed for effective monitoring, control, and surveillance—and to justify the political backlash that may occur if enforcement is too stringent.[53]

Incomplete reporting, evasion of monitoring authorities, and the outright falsification of catch data are all troublesome aspects

50. On the manifold structural changes in, and dynamics of, the tuna industry, see generally ALESSANDRO BONANNO & DOUGLAS CONSTANCE, CAUGHT IN THE NET: THE GLOBAL TUNA INDUSTRY, ENVIRONMENTALISM, AND THE STATE *passim* (1996).

51. Similarly, fifty years ago several large Japanese whaling factory ships that had earlier operated in the Antarctic were re-fitted for factory-style tuna fishing operations in the U.S. Trust Territories, and Japanese trawlers were shifted from the China Sea to carry other types of gear in the West Pacific. *See* Harry N. Scheiber, INTER-ALLIED CONFLICTS AND OCEAN LAW, 1945-53: THE OCCUPATION COMMAND'S REVIVAL OF JAPANESE WHALING AND MARINE FISHERIES 66, 168-69 (Academia Sinica Press, Taiwan, 2000). *See also* F. David Froman, *Note: The 200-Mile Exclusive Economic Zone: Death Knell for the American Tuna Industry*, 13 SAN DIEGO L. REV. 707 (1976) (discussing the dilemma of the tuna fleet in light of changing international law (in addition to MMPA in the mid-1970s); MICHAEL ORBACH, HUNTERS, SEAMEN, AND ENTREPRENEURS: THE TUNA SEINERMEN OF SAN DIEGO *passim* (1977).

52. Powerpoint presentation of Lt. Cdr. Jack Rutz on "Vessel Monitoring System: Leveraging Technology" to the Meeting of the Western Pacific Regional Fishery Management Council (Aug. 1996) (copy on file with authors).

53. *See generally* M. Harte, *Fisher Participation in Rights-Based Fisheries Management: The New Zealand Experience, in* U.N. FOOD & AGRIC. ORG., *supra* note 11, at 95, 99-100; J. R. McGoodwin, CRISIS IN THE WORLD'S FISHERIES: PEOPLE, PROBLEMS AND POLICIES (1990).

of enforcement in most if not all countries.[54] Traditionally, compliance with "closed area" restrictions has been monitored not only by at-sea patrols, but also by dockside analysis of fishing vessel logbooks that record when and where vessels fish. However, such logbooks are notoriously subject to falsification, and vessels have been known to carry one logbook for their own purposes to record favorable fishing grounds, and another logbook for review by enforcement officials. Although at-sea transshipment of catch is widely prohibited in order to aid enforcement of catch reporting requirements, it still takes place. Some of these difficulties of enforcement can be addressed by placement of neutral observers on fishing vessels to record fishing locations and catches. But observer coverage, like at-sea patrols, is prohibitively expensive. Finally, international organizations must rely on flag states to provide catch data for their vessels operating in fisheries subject to those organizations' conservation and management measures.[55]

IV. THE GLOBALIZATION OF CONSERVATION STANDARDS AND MECHANISMS TO ENSURE THEIR IMPLEMENTATION

Enforcement of conservation standards in both high seas fisheries and fisheries in zones of national jurisdiction has not been wholly lacking. A notable instance is the United States' use of unilateral trade sanctions, throughout the 1980s, to enforce international conservation standards for certain high seas and coastal fisheries, including whaling.[56] Spurred on in large part by the pro-conservation position of the United States, the international community began to negotiate framework agreements in the 1990s designed to strengthen conservation standards and provide mechanisms for their enforcement. Effective implementation of these framework agreements, however, remains subject to doubt

54. *See, e.g.*, ASTRID BERG, IMPLEMENTING AND ENFORCING EUROPEAN FISHERIES LAW (1999).

55. The accuracy of catch data varies from country to country, and even where data may be fairly accurate the flag state government may choose to report them inaccurately to the international management organizations, as has happened most notoriously in whaling regulation. *See* Carr, *supra* note 46, at 32-33; Gulland, *supra* note 44 and accompanying text; Scheiber, *supra* note 13, at 28 (describing intentional mis-reporting of whale catch data by the Soviet Union).

56. David D. Caron, *International Sanctions, Ocean Management, and the Law of the Sea: A Study of Denial of Access to Fisheries*, 166 ECOLOGY L.Q. 311 (1989); Steinar Andresen, *Effectiveness of the International Whaling Commission*, 46 ARCTIC 108, 113 (1993) (arguing that the deployment of U.S. power, especially in the imposition of sanctions, was the most important factor in the anti-whaling movement's effectiveness).

for the reasons discussed above. Because of impediments to effective government regulation, the United States is in the process of developing eco-labeling initiatives as an alternative mechanism to achieve the goals of the international agreements.[57]

A. *Unilateral Enforcement of Standards by the United States*

One of the most prominent examples of unilateral enforcement of conservation standards involves the tuna fishery of the Eastern Tropical Pacific Ocean, where for years tens of thousands of dolphins were killed annually through tuna purse seine operations. From the 1950s to the 1970s, the California-based U.S. fleet dominated this fishery. In 1972, Congress passed the Marine Mammal Protection Act (MMPA).[58] Amendments to the MMPA and regulations, issued over the next 15 years,[59] gradually ratcheted down the annual incidental take quota for dolphins for the U.S. tuna fleet, so that by 1987 many vessels had moved to new fishing grounds while others had re-flagged to different countries. As a result, foreign flag vessels came to dominate the fishery.[60]

The U.S. Congress quickly realized that the MMPA both failed to control foreign tuna fishing in the Eastern Tropical Pacific and competitively disadvantaged the remaining U.S. Pacific tuna vessels. It responded by amending the MMPA to require that foreign fleets' dolphin mortality rates be comparable to that of the U.S. fleet. Those that did not satisfy this requirement would face embargoes on their tuna products.[61] In 1990, the major American tuna processing companies announced they would no longer purchase tuna caught in association with dolphins and began using the

57. *See infra* Part IV(C).

58. Marine Mammal Protection Act, 16 U.S.C. §§ 1371-1407 (2001). *See generally* MICHAEL J. BEAN & MELANIE J. ROWLAND, THE EVOLUTION OF NATIONAL WILDLIFE LAW 116-36 (3d ed. 1997), whose text we have followed closely in discussing the tuna/dolphin conflict.

59. On this history, see Laura Lones, *The Marine Mammal Protection Act and International Protection of Cetaceans: A Unilateral Attempt to Effectuate Transnational Conservation*, 22 VAND. J. OF TRANSNAT'L L. 997, 1006 (1989).

60. The regulatory regime in the Eastern Tropical Pacific was elaborated by the Inter-American Tropical Tuna Commission. The Commission was first established in 1949 to conduct scientific assessments with a view toward imposing regulation when the condition of the stocks warranted it, as happened beginning in 1966 for yellowfin tuna. A full survey and analysis of the first 30 years of East Pacific tuna research and regulation is in JAMES JOSEPH & J.W. GREENOUGH, INTERNATIONAL MANAGEMENT OF TUNA, PORPOISE, AND BILLFISH: BIOLOGICAL, LEGAL, AND POLITICAL ASPECTS (1979).

61. MMPA Amendment of 1984, Pub. L. No. 98-364, 98 Stat. 440 (1984) (codified at 16 U.S.C.A. § 1371(a)(2) (2001)).

"dolphin safe" label on their canned tuna. That same year, Congress codified the "dolphin safe" standard and prohibited sale of any tuna with the label that did not meet the standard.[62]

By 1990, Mexico had become the dominant player in the tuna fishery. In that year, the United States imposed an embargo on Mexico's tuna products under the MMPA's comparability requirements.[63] But in 1991, a General Agreement on Tariffs and Trade (GATT) panel ruled the embargo impermissible.[64] In an effort to minimize damage to its relations with Mexico, and to "multilateralize" dolphin conservation measures, the United States sought agreement on a "global moratorium" on dolphin fishing.[65] No nation agreed to the proposed "global moratorium." Nonetheless, the tuna processors' policy of buying only "dolphin safe" tuna effectively closed the U.S. market to tuna caught without regard to minimizing the risk of dolphin mortality.

In 1994, another GATT panel ruled on the U.S. MMPA comparability embargo in a challenge brought by intermediary nations. The U.S. ban did not fit within the exception of Article XX(b) of GATT for measures "necessary to protect human, animal, or plant life or health," the panel held, because the United States could have negotiated multilateral agreements to achieve the same ends.[66]

The United States has continued to seek a multilateral solution to the tuna-dolphin problem. In 1995, it signed an agreement (the Declaration of Panama) with most other nations fishing in the Eastern Tropical Pacific that would allow the embargo against Mexico and other nations to be lifted once those nations had put in place a separate international agreement to carefully regulate dolphin mortalities.[67] To give effect to the Declaration of Panama, Con-

62. Fisheries Conservation Amendments of 1990, Pub. L. No. 101-627, § 901, 104 Stat. 4465 (1990) (codified at 16 U.S.C.A. § 1385 (2001)).

63. GATT Dispute Settlement Panel Report on United States Restrictions on Imports of Tuna, Aug. 16, 1991, 30 I.L.M. 1594 (1991).

64. *See id.* On historical developments and national rivalries on the tuna grounds before the 1990s, see THE DEVELOPMENT OF THE TUNA INDUSTRY IN THE PACIFIC ISLANDS REGION: AN ANALYSIS OF OPTIONS (David J. Doulman ed., 1987). Full legal analysis and the economic and regulatory history of the tuna/dolphin issue as of the mid-1990s is in McLaughlin, *supra* note 12.

65. *See* WILLIAM T. BURKE, THE NEW INTERNATIONAL LAW OF FISHERIES: UNCLOS 1982 AND BEYOND 232 (1994).

66. GATT Dispute Settlement Panel Report on United States Restrictions on Imports of Tuna, June 16, 1994, 33 I.L.M. 839 (1994).

67. Declaration of Panama, signed Oct. 4, 1995, *available at* http://www.greenpeace.de/GP_DOK_30/HINTERGR/C10HI19C.HTM (last visited Nov. 20, 2001).

gress again amended the MMPA in 1997 to provide for the lifting of embargoes if certain conditions were met, and to authorize the Secretary of Commerce to modify the requirements for the "dolphin safe" label.[68] The following year, the United States, Mexico, and a number of other nations whose vessels fish for tuna in the Eastern Tropical Pacific signed the Agreement on the International Dolphin Conservation Program called for by the Declaration of Panama.[69] The Agreement has been ratified by the number of nations required for it to take effect, and the U.S. government is currently working to lift the embargo on those nations.[70]

In early 2000, the Secretary of Commerce relaxed the "dolphin safe" standard, to allow fisheries that catch tuna in association with dolphins, but whose practices do not lead to any dolphin deaths or serious injury, to use the "dolphin safe" label.[71] The impact this change will have is unclear, as the major U.S. tuna companies have indicated that they will continue to adhere to the previous definition of "dolphin safe."[72] Furthermore, a U.S. District Court judge has blocked implementation of the more lenient standards on the ground that the NMFS failed to adequately assess the impact of the change on dolphins.[73]

The United States has also been very active in seeking to eliminate the use of driftnets on the high seas. The United States strongly supported the 1989 United Nations resolution calling for a moratorium on large-scale high seas driftnet fishing and introduced in 1991 the United Nations resolution that terminated high seas pelagic driftnet fishing. The United Nations eventually adopted the 1991 resolution, and, as a result, Japan, Korea and Taiwan ended their high seas driftnet fisheries. In 1992, Congress

68. International Dolphin Conservation Program Act, Pub. L. No. 105-42, § 5, 111 Stat. 1125 (1997) (codified at 16 U.S.C.A. § 1385 (2001)).

69. Agreement on the International Dolphin Conservation Program, May 15, 1998, 37 I.L.M. 1246 (1998) (entered into force Feb. 15, 1999). *See Hearing on H.R. 408 to Amend the Marine Mammal Protection Act of 1972 to Support the International Dolphin Conservation Program in the Eastern Tropical Pacific Ocean Before the Subcomm. On Fisheries, Wildlife and Oceans of the House Comm. on Resources,* 105th Cong. (1997) [hereinafter Statement of Mary Beth West] (statement of Mary Beth West, Deputy Assistant Secretary for Oceans).

70. Statement of Mary Beth West, *supra* note 69.

71. *See* Taking of Marine Mammals Incidental to Commercial Fishing Operations; Tuna Purse Seine Vessels in the Eastern Tropical Pacific Ocean, 65 Fed. Reg. 30 (Jan. 3, 2000).

72. *See* Mark J. Palmer, *Dolphin-Safe Label Gutted,* EARTH ISLAND J., Fall 1999, at 11.

73. Brower v. Daley, 93 F. Supp. 2d 1071 (N.D. Cal. Apr. 11, 2000), *aff'd* 257 F.3d 1058 (2001). Other aspects of unilateral sanctions by the United States before 1990 are discussed fully in Caron, *supra* note 56.

amended the Magnuson-Stevens Fishery Conservation and Management Act to prohibit imports of fish and fish products from states whose vessels conduct large-scale driftnet fishing beyond their EEZs.[74] The U.S. government has used this authority to encourage countries to reach agreement on measures to end large-scale high seas driftnet fishing. Such an agreement was reached with Italy in the summer of 1999.[75]

The United States has also used unilateral trade sanctions to address the incidental catch of sea turtles in shrimp trawl nets.[76] In the mid-1980s, the NMFS published regulations requiring U.S. shrimp trawl vessels to carry turtle excluder devices (TEDs) in their nets to prevent sea turtles from being drowned by shrimp trawl fishing. Believing the regulations placed them at a competitive disadvantage with the shrimp fishing fleets of other countries, U.S. shrimp fishermen teamed up with environmentalists to persuade Congress in 1989 to pass a law requiring the embargo of shrimp products from countries that did not also require their vessels to carry TEDs.

To avoid a replay of the tuna/dolphin controversy, the State Department delayed implementation of the law and tried to limit its application to the wider Caribbean/Western Atlantic region. Environmentalists and fishermen brought suit, prompting the Court of International Trade to rule in 1995 that the State Department had to apply the TEDs requirement to every country in the world.[77] The State Department only reluctantly certified countries for the embargo, under compulsion of court order. At the same time, the United States sought to "multilateralize" the issue by seeking agreement from Caribbean and Latin American countries on a

74. High Seas Driftnet Fisheries Enforcement Act, Pub. L. 102-582, §§ 101, 102, 104 (1992), 106 Stat. 4901 (codified at 16 U.S.C.A. §§ 1826a-c (2001)).

75. *See* Press Release, U.S. Department of State, Office of the Spokesman, U.S. Satisfied with Italy's Commitment to Stop Illegal Driftnet Fishing (July 15, 1999) (*available at* http://secretary.state.gov/www/briefings/statements/1999). Such sanctions are also provided for in multilateral fishery agreements. For example, parties to the Wellington Driftnet Convention of 1990 agreed that they might embargo imports of any fish or fish product caught with a driftnet within the ocean area covered by the Convention's management regime. *See* Ted L. McDorman, *Fisheries Conservation and Management and International Trade Law, in* DEVELOPMENTS IN INTERNATIONAL FISHERIES LAW, 501 (Ellen Hey ed., 1999).

76. For documentation of this aspect of sanctions and fishery relations, see Tim Eichenberg, *Sea Turtles and Trade, in* EMERGING ISSUES, *supra* note 46, at 19-24, and Richard J. McLaughlin, *The Recent W.T.O. Decision on Sea Turtles and Its Impact on International Environmental Law, in* EMERGING ISSUES, *supra* note 46, at 25-30.

77. Earth Island Inst. v. Christopher, 20 Ct. Int'l Trade 1389, 948 F. Supp. 1062 (1996).

convention to address incidental sea turtle mortality in shrimp fisheries, which concluded in 1996 as the Inter-American Convention for the Protection and Conservation of Sea Turtles.[78]

As in the case of the tuna/dolphin embargo, the U.S. unilateral trade sanction on shrimp caught by fleets not carrying TEDs was declared impermissible when tested before the international trade dispute settlement forum, the Appellate Body of the WTO. The Appellate Body ruled in 1998 that although the U.S. law was a reasonable conservation measure relating to the conservation of an exhaustible natural resource, the American sanctions had not been applied in the non-discriminatory manner required by Article XX(g) of the GATT.[79] As Professor McLaughlin has noted, however, "the tribunal provided no real guidance to the United States indicating how it can avoid so-called 'arbitrary and unjustified discrimination' in the future." Thus, only by negotiating agreements with the nations affected can the United States be certain to have complied with the GATT non-discrimination standard.[80]

The United States has also used unilateral trade sanctions to persuade nations to comply with the conservation and management measures of the International Whaling Commission (IWC). Between 1971 and 1979, the United States certified two nations as conducting fishing operations in a manner that diminished the effectiveness of the IWC, but in each instance the President declined to impose import restrictions on their fish products because the nations committed to future compliance with IWC quotas. The President's exercise of discretion and reluctance to impose sanctions prompted the enactment of the Packwood Amendment to the Magnuson Act in 1979.[81] Under the Packwood amendment, any nation certified under the Pelly Amendment for diminishing the effectiveness of the IWC must have its fishery allocation within the U.S. EEZ reduced by at least fifty percent.[82] Of course, with the

78. Inter-American Convention for the Protection and Conservation of Sea Turtles, *opened for signature* Dec. 1, 1996, 37 I.L.M. 1246.

79. WTO Appellate Body, United States – Import Prohibition of Certain Shrimp and Shrimp Products, Oct. 12, 1998 (WT/DS58/AB/R) 38 I.L.M. 118 (1999).

80. McLaughlin, *supra* note 76, at 28.

81. Packwood Amendment to the Magnuson Act, Pub. L. No. 96-61, 93 Stat. 407 (1979) (codified at 16 U.S.C.A. § 1821(e)(2) (2001)).

82. The Pelly Amendment, also know as section 8 of the Fisherman's Protective Act, 22 U.S 1978, authorizes the President to prohibit the importation of products from countries that allow fishing operations or engage in trade that diminish the effectiveness of an international fishery conservation program for endangered or threatened species. Under the Pelly Amendment, the Secretary of Commerce or the Secretary of the Interior are

complete phase-out of foreign fishing in the U.S. EEZ, this sanction is now an empty threat.[83]

In the mid-1980s, the United States certified the Soviet Union for exceeding the minke whale quota and threatened to impose sanctions against Japan and Norway if they did not agree to the IWC's moratorium on commercial whaling. In the late 1980s and 1990s, the United States also imposed Packwood Amendment certification and threatened to impose Pelly Amendment sanctions against Japan and Norway for their so-called "scientific whaling." The U.S. actions, along with the whaling nations' sentiment that the IWC has been converted from a whale conservation to a whale preservation organization, have prompted some of these nations to form a rival North Atlantic Marine Mammal Commission (NAMMCO).[84] This development will likely further inhibit the United States' use of unilateral sanctions to enforce compliance with IWC measures because nations can simply threaten to leave the IWC for the NAMMCO.[85]

B. *Framework Multilateral Agreements*

Two framework agreements concluded in the 1990s elaborate on the conservation standards contained in UNCLOS and provide mechanisms to improve enforcement. These are the Agreement for the Implementation of the Provisions of the United Nations Convention of 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. Fish Stocks Agreement"),[86] and the Food and Agriculture Organization Code of

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required to determine and certify to the President when nationals of foreign countries are conducting fishing operations that minimize the effectiveness of an international fishery conservation program.

83. *See* Caron, *supra* note 56 *passim.*

84. *See* Alf Hakon Hoel, *Regionalization of International Whale Management: The Case of the North Atlantic Marine Mammals Commission*, 46 ARCTIC 116 (1993) (stating an argument that reflects Norway's official position that NAMMCO itself is not a threat to the IWC – a position strongly disputed by the pro-moratorium nations).

85. *See* David D. Caron, *The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures*, 89 AM. J. INT'L L. 154, 163-68 (1995). For analyses contending that even in the present day "the legal, political, and economic pressures applied by the U.S." are the key reason for cessation of whaling by other nations, see Steinar Andresen, *The International Whaling Regime: Order at the Turn of the Century*, *in* ORDER FOR THE OCEANS, *supra* note 22, at 215, 224. *See generally* M. J. Peterson, *Whalers, Cetologists, Environmentalists, and the International Management of Whaling*, 46 INT'L ORG. 147, 172-74 (1992).

86. U.N. Fish Stocks Agreement, *supra* note 22.

Conduct for Responsible Fisheries ("Code of Conduct").[87] While the conservation standards and enforcement mechanisms contained in the U.N. Fish Stocks Agreement have more serious implications for high seas fisheries, they also, in more limited ways, impact EEZ fisheries. The Code of Conduct applies to both high seas and EEZ fisheries, but it is voluntary. Both agreements reflect an important, if tentative, step in the globalization of national standards for conservation and management of international and domestic fisheries.

The U.N. Fish Stocks Agreement, the better known of these framework agreements, provides for conservation and management of "straddling stocks" by regional and subregional fisheries management organizations. "Straddling stocks" are those fish stocks, such as cod, that "straddle" the line dividing EEZs from high seas, and highly migratory species, most prominently tuna and swordfish, which respect no jurisdictional boundaries delimiting the high seas and zones of national jurisdiction. Concluded in 1995, the U.N. Fish Stocks Agreement delineates general conservation principles applicable to high seas areas.[88] Signatory parties undertake the obligation to adopt measures to ensure long-term sustainability of stocks, to employ the best scientific evidence in management, to protect biodiversity, and to recognize the special needs of developing and small island states. The Agreement also mandates that the precautionary approach be applied to stocks both on the high seas and within EEZs.[89] Moreover, it requires co-

87. For a discussion of the Code of Conduct, see Gerald Moore, *The Code of Conduct for Responsible Fisheries, in* DEVELOPMENTS IN INTERNATIONAL FISHERIES LAW, *supra* note 47, at 85-105. The Code of Conduct is available at http://www.fao.org/fi/agreem/codecond/ficonde.asp.

88. This discussion of the U.N. Fish Stocks Agreement draws on two full interpretive studies: Hayashi, *supra* note 22, at 55, and William T. Burke, *Compatibility and Precaution in the 1995 Straddling Stock Agreement, in* LAW OF THE SEA, *supra* note 48, at 105.

89. Application of the "precautionary principle" in fisheries management involves shifting the burden of proof to the enterprise that seeks to exploit the resource when definitive scientific prediction of impact is not agreed upon. The greater the uncertainty as to impact, the greater the burden on the exploiting enterprise. *See* Jon Van Dyke, *Sharing Ocean Resources—In a Time of Scarcity and Selfishness, in* LAW OF THE SEA, *supra* note 48 at 3, 29-31. The 1992 Rio Declaration on the Environment and Development expresses what it terms the "precautionary approach" in the following terms: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." Rio Declaration on Environment and Development, *adopted* June 14, 1992, *reprinted in* 31 I.L.M. 874 (1992). On how the Fish Stocks Agreement addresses the application of the precautionary principle, see Van Dyke, *Sharing Ocean Resources—In a Time of Scarcity and Selfishness, in* LAW OF THE SEA, *supra* 48 at 12-13; and, for a very full discussion of the various definitions and

operation between coastal and fishing states to ensure that conservation and management measures for stocks in the high seas and EEZs are compatible.

In addition to strengthening the conservation standards applied by regional organizations, the Agreement breaks sharply from the traditional regimes of high seas freedom of fishing and exclusive flag state jurisdiction in its specification of mechanisms to ensure compliance with and enforcement of such standards. The Agreement departs from the traditional regimes of high seas freedom of fishing and exclusive flag state jurisdiction in numerous ways. First, it provides that only states that belong to a regional fisheries organization or comply with its conservation and management measures can fish for the resources to which those measures apply. This provision is buttressed by the requirement that a state that is not a member of the regional organization shall not authorize vessels flying its flag to fish for stocks subject to conservation and management measures established by the organization.[90]

The "authorization to fish" concept reflected in this second requirement had earlier been codified in the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas ("Compliance Agreement"), which aimed to bring high seas fishing under more meaningful control.[91] Concluded in 1993, the Compliance Agreement imposes on all states whose vessels fish on the high seas the obligation to ensure that their vessels do not fish in a manner that undermines a regional organization's conservation and management efforts. States party to the Compliance Agreement must implement a licensing program, or require some other form of authorization, for their vessels to fish on the high seas. In short, the Compliance Agreement tries to create some correlate duties to exclusive flag state jurisdiction and the "right" of freedom of fishing on the high seas.

The U.N. Fish Stocks Agreement does not rely upon flag state enforcement alone. It also authorizes non-flag state enforcement on the high seas, in further derogation of the high seas freedom of fishing and exclusive flag state jurisdiction regimes. Specifically,

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emphases in expressions of the principle in international agreements on ocean resources, *see* Stuart M. Kaye, INTERNATIONAL FISHERIES MANAGEMENT 163-265 (2001).

90. U.N. Fish Stocks Agreement, *supra* note 22, at arts. 8, 17.

91. Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, Nov. 24, 1993, 33 I.L.M. 968 (1994) [hereinafter Compliance Agreement]. *See, e.g.*, Balton, *supra* note 47.

the Agreement authorizes any party that is a member of a subregional or regional fisheries management organization to board and inspect any other fishing vessel flying the flag of a party to the Agreement in the high seas area covered by that organization, regardless of whether the flag state is a party to the particular fishery organization. In other words, by being a party to the Fish Stocks Agreement, a state consents to enforcement action against its vessels on the high seas.[92]

The U.S. government is now leading the efforts in international diplomacy to implement the principles of the U.N. Fish Stocks Agreement in existing regional and subregional fishery conservation and management organizations. For example, in meetings at both the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Northwest Atlantic Fisheries Organization (NAFO) the United States is encouraging the adoption of a strong precautionary approach to fisheries conservation and management and enhanced compliance and enforcement mechanisms of the sorts specified in the U.N. Fish Stocks Agreement.[93]

As well as delineating principles to be followed by existing fishery conservation and management organizations, the U.N. Fish Stocks Agreement called upon states to create regional organizations for conservation and management of straddling fish stocks and highly migratory species where such organizations did not already exist. During the past several years, the United States has participated in negotiations with South Pacific island countries for the creation of a new regional organization for managing the rich tuna resources that mostly occur within these countries' EEZs. The U.N. Fish Stocks Agreement has provided the blueprint for these negotiations.[94] In addition, formal international efforts to specify and elaborate guidelines for sustainable development in marine capture fisheries are ongoing. The guidelines build on previous work by the FAO and on the scientific management concepts respecting

92. For a different view, asserting that these provisions actually do not authorize such unilateral enforcement, however, *see* Burke, *supra* note 88, at 110.

93. *See "Implementation of the Key Provisions of the United Nations Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks By Regional Fisheries Management Organizations and Arrangements,"* prepared by the Government of the United States of America (Sept. 1996) (on file with authors).

94. These negotiations are part of a larger movement involving bilateral and multilateral agreements, all of which will in future years be impacted by the Biodiversity Convention and other instruments in this region. *See generally,* BEN BOER ET AL., INTERNATIONAL ENVIRONMENTAL LAW IN THE ASIA PACIFIC (1998).

"reference points" articulated in the U.N. Fish Stocks Agreement.[95]

In addition to attempting to reform high seas fisheries management through the Fish Stocks Agreement, the international community has also attempted to reform general fisheries management policy for national EEZ regimes through the U.N. Code of Conduct for Responsible Fisheries. Adopted by consensus of the FAO Conference in 1995, the Code of Conduct contains a set of principles and standards covering global fisheries conservation, management, and development.[96] The Code of Conduct's principles and standards aspire to universality: they are to be used for national programs, international agreements, and by all involved in fisheries. While the Code of Conduct is universal and transjurisdictional, it is also voluntary. However, the non-binding nature of this agreement allowed for articulation of more demanding and detailed conservation principles than would have been attainable in negotiations over a binding instrument.

Article 6 of the Code of Conduct enumerates general principles, including sustainable use, excess fishing capacity reduction, management based on best scientific evidence, the precautionary approach, by-catch reduction, and others. The Code of Conduct is more specific with respect to standards for fisheries management and fishing operations.[97] The Code of Conduct also provides, in Article 6, that policies of states relating to trade in fish and fishery products be consistent with the WTO Agreement. However, the political economy of fisheries make adoption, implementation, and enforcement of effective conservation standards very difficult, and thus the relationship between WTO requirements and trade measures promoting conservation standards will be extremely controversial in the future.

Given the generality of its key provisions and the voluntary adoption process, many question how the Code of Conduct will actually be implemented. Individual countries, and industries within countries, have begun to draw on the Code of Conduct to develop appropriate codes of conduct for their domestic fisheries. For example, the Canadian fishing industry and Canada's Department of Fisheries and Oceans are developing a Canadian Code of

95. For discussion of the most important of such recent efforts, an expert consultation involving Australian and FAO scientists, see S. M. Garcia et al., *The FAO Guidelines for the Development and Use of Indicators for Sustainable Development of Marine Capture Fisheries and an Australian Example of their Application*, 43 OCEAN & COASTAL MGM'T 537 (2000).

96. Moore, *supra* note 87, at 85-106.

97. *See* Code of Conduct, *supra* note 87, at arts.6, 7.

Conduct for responsible fishing operations. Once finalized, the Canadian Code of Conduct will be made binding by federal or provincial officials on all participants in a fishery where it has been voluntarily ratified by representative fishing organizations. The Canadian Code of Conduct will then become a part of the relevant Conservation Harvesting Plan for that fishery, and thereby adherence to the code will be an explicit requirement for fishing vessels.[98] In the United States, the NMFS has developed an "Implementation Plan for the Code of Conduct for Responsible Fisheries" that commits NMFS to implement Code of Conduct principles in U.S. domestic fisheries where they have not already been applied.[99] Within some countries, fishing industries have developed their own codes of conduct. The Australian Seafood Industry Council, for example, has developed a "Code of Conduct for a Responsible Seafood Industry," and in the United States, the National Fisheries Institute has developed its own set of "Principles for Responsible Fisheries."[100]

C. *Other Mechanisms for Implementation*

While not specified in the U.N. Fish Stocks Agreement, the use of multilateral trade sanctions as a compliance and enforcement mechanism is gaining currency in subregional and regional fishery organizations.[101] The United States has strongly supported these efforts in an attempt to refrain from using unilateral trade sanctions and, instead, to "multilateralize" the use of trade sanctions for enforcement of conservation standards. In 1994, ICCAT became the first international fisheries organization to authorize the use of such measures against non-members whose vessels compromise its conservation and management objectives.[102] A year later, ICCAT agreed on a mechanism to impose trade measures on member countries whose vessels fish in contravention of ICCAT conserva-

98. CANADA DEP'T OF FISHERIES AND OCEANS, SUMMARY REPORT: CANADIAN CODE OF CONDUCT FOR RESPONSIBLE FISHING OPERATIONS (1997).

99. U.S. NAT'L MARINE FISHERIES SERV., IMPLEMENTATION PLAN FOR THE CODE OF CONDUCT FOR RESPONSIBLE FISHERIES (1997).

100. AUSTRALIAN SEAFOOD INDUS. COUNCIL, A CODE OF CONDUCT FOR A RESPONSIBLE SEAFOOD INDUSTRY, *available at* http://www.seafoodsite.com.au/stats/code.htm (last visited Nov. 5, 2001); RESPONSIBLE FISHERIES SOC'Y, PRINCIPLES FOR RESPONSIBLE FISHERIES, *available at* http://www.nfi.org/organizations/rfs-prf.htm (last visited Nov. 5, 2001).

101. *See* reference to the Wellington Driftnet Convention's terms *supra* note 75. For analysis of the Convention, see Earthtrust, *International Law Concerning Driftnet Fishing on the High Seas, at* http://www.earthtrust.org/dnpaper/intllaw.html (last visited Nov. 18, 2001).

102. *See* Plé, *supra* note 48, at 197, 199-201.

tion and management requirements.[103] NAFO and other fishery organizations are also discussing the use of multilateral trade measures;[104] in fact, multilateral trade measures were considered in the negotiations for a conservation and management regime for tuna in the South Pacific.[105]

"Eco-labeling" is a different variant of enforcement strategy and has generated increasing interest in recent years. Given the structural and political impediments to effective implementation and enforcement of conservation standards, environmental organizations seem rightly concerned that state or international action alone will not ensure sustainable fisheries. As a supplement to government action, eco-labeling of fisheries products is emerging prominently in nations engaged in international fish products trade. The most extensive effort underway to date is that of the Marine Stewardship Council (MSC). The MSC was formed in 1996 by the World Wildlife Fund, an environmental organization, and Unilever, an Anglo-Dutch consumer goods company that is one of the world's largest buyers of ground fish which it sells through Birdseye, Gordons, and other frozen fish companies that it owns. Rather than certify products, MSC will certify specific fisheries for their conformance to standards set out in MSC's "Principles and Criteria for Sustainable Fishing." These standards are: (1) the fishery does not lead to overfishing or depletion and recovers those stocks that are overfished or depleted; (2) the fishery is conducted with attention to ecosystem imperatives; and (3) the fishery is subject to a management system that incorporates and enforces governing international, national, and local standards.[106] Certification

103. *See id.*

104. *See id.* at 197-207.

105. The Sixth session of the Multilateral High-Level Conference (MHLC) on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific was held in Honolulu, Hawaii, from April 11-19, 2000. *See* Transform Aqorau, *Tuna Fisheries Management in the Western and Central Pacific Ocean: A Critical Analysis of the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean and Its Implications for the Pacific Island States*, 16 INT'L J. MARINE & COASTAL L. 379-432 (2001); Philip T. Reeker, U.S. Dept. of State Deputy Spokesman, *Statement: Successful Conclusion of Western Pacific Fisheries Negotiations* (Sept. 6, 2000), *available at* http://usembassy.state.gov/tokyo/wwwh2897.html. An unofficial publication of the Final Act of the Multilateral High-Level Conference is available at http://www.macmeekin.com/Library/MHLC/Final%Act.htm. *See also* Treena Shapiro, *Tuna Delegates Face Daunting Challenges: 28 Pacific Nations Have Spent Years Working on a Treaty*, HONOLULU STAR-BULLETIN, Aug. 8, 2000, *available at* http://starbulletin.com/2000/08/31/newes/story9.html.

106. MARINE STEWARDSHIP COUNCIL, MSC PRINCIPLES AND CRITERIA FOR SUSTAINABLE FISHING, *available at* http://www.msc.org (last visited Dec. 3, 2001).

is not conducted by MSC itself, but rather by MSC-approved independent certification companies who are paid a fee by participants in the fishery. Products from certified fisheries may then carry the MSC label. As of late Fall 2001, MSC-approved certifiers had certified six fisheries and several more were in the process of certification.[107]

MSC seeks to tap into the purchasing power of "green" consumers in Northern Europe and North America. It notes that "[m]arket research tells us that there will be greatest consumer and industry demand for certified products in Northern Europe and North America."[108] In the preamble to its Principles and Criteria for Sustainable Fishing, MSC describes "the overarching philosophical basis for this initiative in stewardship of marine resources" as "the use of market forces to promote behaviour which helps achieve the goal of sustainable fisheries."[109] Fisheries producers involved with MSC also appreciate the MSC's market-based approach to achieving conservation. An Australian prawn exporter explained that he supported MSC because it would afford his products a "reduction in tariffs for Australian product[s] entering the EU [and] potential to increase market share."[110]

Not surprisingly, the MSC's efforts have been criticized and challenged. The National Fisheries Institute (NFI), which is the U.S. commercial fishing industry's primary trade association, recently developed its own organization, named the Responsible Fisheries Society (RFS). The RFS is charged with developing and implementing an alternative eco-labeling program. The RFS provides a set of "Principles for Responsible Fisheries" based on the Code of Conduct, and participating companies can subscribe to and implement these principles.[111] Certification of company implementation is provided by Ocean Trust, a conservation foundation that environmental groups charge is supported by the commercial fishing industry.[112] Critics claim that RFS certification is really self-certification by industry or trade groups, and is therefore not credi-

107. *Id.*

108. MARINE STEWARDSHIP COUNCIL ADVISORY BOARD NEWSLETTER 2 (1999).

109. MARINE STEWARDSHIP COUNCIL, STATEMENT OF PRINCIPLES AND CRITERIA FOR SUSTAINABLE FISHING, ARLIE HOUSE DRAFT 6 (1998).

110. *Id.*

111. *See* Moore, *supra* note 87.

112. The Earth Island organization, for example, terms Ocean Trust "a faux green group . . . run by a former NFI lobbyist." Earth Island, "Shrimp Industry Greenwashing," available at http://www.earthisland.org/eijournal/winter99/wn_winter99shrimp.html

ble.[113] In response to such allegations, the NFI asserts that the RFS certification scheme is a legitimate alternative to what it views as a costly certification program that will direct money from the industry to certifiers. In addition, NFI touts the funding of environmentally beneficial projects by the RFS, in contrast to the leaner operation by MSC. Finally, NFI claims that an impending "market war" over competing eco-labels might lead to more governmental regulation (which NFI opposes). NFI cites as precedent Congress' intervention to define "dolphin-safe" for tuna eco-labels.[114]

D. *Biodiversity Convention Concerns and Prospective Impact on Fisheries*

The Convention on Biological Diversity (CBD) reinforces the impact of these international agreements on fisheries management, both global and regional, whether through direct enforcement methods or through the specification of general norms and procedural standards. Along with Agenda 21, the CBD is a result of the Earth Summit meetings in Rio, conducted by the U.N. Commission on Sustainable Development.[115] Like the two new U.N. fisheries instruments, the CBD is a globally applicable framework convention providing for the universal application of norms and scientific procedures for the preservation of genetic materials, species, habitats, and ecosystems. The CBD also provides that industrial countries and multinational firms must transfer technology to less developed countries (LDCs) when they exploit the resources in those LDCs. The Convention reaffirms both national ownership and control of genetic resources. It also underscores the concept of the property rights defined in contractual agreements as the final controlling mechanism in the implementation of requirements as to technology transfer and sharing of profits when LDC resources are used. In that sense, it is a conservative instrument. In another respect, however, it is a bold affirmation of communal, or altruistic, norms as they apply to the common world heritage in natural resources. The U.N. Fish Stocks Agreement and other international instruments—as well as the programs for protection of biodiversity being formulated in individual countries—are address-

113. Jane Earley, Chief Executive, Marine Stewardship Council, Remarks at San Francisco Seafood Show Panel on Sustainable Fishing (Nov. 3, 1999).

114. *See* BONANNO & CONSTANCE, *supra* note 50, at 182-95 (on the "dolphin-safe" issues and relation to U.S. law).

115. *See generally* Symposium, *Earth Summit Implementation: Progress Achieved on Oceans and Coasts*, 29 OCEAN & COASTAL MGMT. (1995).

ing the obligation of signatory parties to the CBD to incorporate its norms and principles into their conservation and management regimes. Similarly, the general objectives stated in Agenda 21 are being adopted systematically, albeit in differing ways, in national regulatory programs for natural resources generally and for coastal and marine ecosystems in particular.[116] Just as the Endangered Species Act in the United States is now impinging, and in the Northwest region actually trumping, the established mechanisms and agencies for fisheries management, so too does the application of CBD and Agenda 21 principles have the potential for, at a minimum, forcing the reconsideration of basic regulatory programs in their premises and applications.

V. CONCLUSION

The globalization of norms and standards for fishery management in response to a crisis of international fisheries resources has inspired a wide range of responses. The efforts to address these issues since the 1970s have strengthened and reinforced the authority of the individual nation states, most notably in extending jurisdiction offshore to 200 miles in the EEZs. Despite the high hopes that this form of access limitation would lead to more effective conservation regimes, the trend toward overcapitalization, overfishing, and threatened depletion was nearly universal in the EEZs of both individual countries and the European Union; and only in recent years has there been a perceptible slowing of the trend, although the crisis has gone so far in many fisheries that the suspension or radical curtailment of harvesting effort has been the only possible effective response. Where depleted stocks can be restored, this restoration will likely take decades.[117]

116. *See, e.g.*, M. Haward & D. VanderZwaag, *Implementation of UNCED Agenda 21 Chapter 17 in Australia and Canada: A Comparative Analysis*, 29 OCEAN & COASTAL MGMT. 279 (1995) (commenting on the national program progress); Harry N. Scheiber, *The Biodiversity Conventon and Access to Marine Genetic Resources in Ocean Law*, *in* ORDER FOR THE OCEANS, *supra* note 22, at 187-202. The broad legal and institutional structures that bear on "interoperability" of the above instruments and also agreements on pollution, coastal protection, etc., are the subject of an insightful study by Rosemary Rayfuse, *The Interrelationship Between the Global Instruments of International Fisheries Law*, *in* DEVELOPMENTS IN INTERNATIONAL FISHERIES LAW, *supra* note 47, at 107. *See also* Olav Schramk Stokke, *Governance of High Seas Fisheries: The Role of Regime Linkages*, in ORDER FOR THE OCEANS, *supra* note 22, at 157-172; and Hans Corell, *Future Role of the United Nations in Oceans and Law of the Sea*, *in* OCEAN POLICY: NEW INSTITUTIONS, CHALLENGES AND OPPORTUNITIES (Myron Norquist & John Norton Moore eds., 1999).

117. There is exceptional consensus on the existence of the problem and the attribution of fisheries decline in substantial part to overcapitalization and its effects (interacting,

The underlying development in the effort to achieve a global and universal response to the fisheries crisis is an effort to define and establish conservation norms: the precautionary principle, biodiversity protection, and other features of reconceptualization that reflect substantive norms. Pursuing the objective of conservationist management that those norms address has also involved considerable reconsideration of basic premises in resource-management science itself—as embodied, for example, in the specification of "reference points" as an improvement on older maximum sustained yield and optimal yield concepts in determining the capacity of stocks to absorb harvesting exploitation.[118] Institutional aspects of the new innovative structures are reflected in the international agreements that seek to apply the new standards. Additionally, these agreements seek to overcome traditional impediments to effective management through such mechanisms as ITQs and co-management, as well as through improved technology in monitoring and enforcement. How individual nations will translate the obligations of states, including the now common "duty to cooperate," which are embodied in the new international agreements on fisheries, into actual policy is still a matter of speculation.[119] Compulsory dispute settlement in bodies such as the International Tribunal for the Law of the Sea remains less important than the World Trade Organization judicial mechanism, and also less important than the threat or reality of sanctions imposed under authority of multilateral agreements.[120] It seems likely, how-

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to be sure, with natural disasters, marine pollution, and other factors). There is, however, disagreement on the magnitude of the overcapitalization in terms of excess tonnage over what current fishing harvests would require. For a discussion of the debate, see U.N. FOOD & AGRIC. ORG., THE STATE OF WORLD FISHERIES AND AQUACULTURE (1998), *supra* note 6 (asserting a probable minimum figure of 30-percent overcapacity). For a summary overview and analysis, see YEAR OF THE OCEAN, DISCUSSION PAPER: ENSURING THE SUSTAINABILITY OF OCEAN LIVING RESOURCES C-2 TO C-34 (1998) (prepared by the U.S. Federal Agencies with Ocean-related Programs), *available at* http://www.yoto98.noaa.gov/.

118. Among especially useful recent scholarly efforts at overviews and analysis of the global situation are Van Dyke, *supra* note 89, at 3-36 (commenting on the "common heritage" ideal and recent international initiatives); and Ellen Hey, *Reconceptualization of the Issues Involved in International Fisheries Conservation and Management, in* DEVELOPMENTS IN INTERNATIONAL FISHERIES LAW, 577-88 (Ellen Hey ed., 1999).

119. Assessment of the actual efficacy of the various efforts to establish and implement global conservation standards canvassed here is an undertaking beyond this article's scope. Furthermore, because a number of the international instruments under consideration here were concluded quite recently, data as to their efficacy may not yet be available; the U.N. Fish Stocks Agreement, for example, has not yet come into force. *But see* Aqorau, *supra* note 105.

120. *See* Thomas A. Mensah, *The Role of Peaceful Dispute Settlement in Contemporary Ocean*

ever, that one can anticipate a heightened interest in—and perhaps actual accomplishment of—a strengthened role for dispute settlement in bodies that are principally concerned with enforcing the conservationist norms of ocean resource management. If such a strengthened role for conservation-oriented agencies is realized, it will mark an important shift from the present situation, in which ocean-resource disputes are being referred mainly to bodies such as the WTO, which are institutionally designed to give priority to free-trade norms.

Policy and Law, in ORDER FOR THE OCEANS, *supra* note 22, at 81-94. *See generally* Tullio Treves, *New Trends in the Settlement of Disputes and the Law of the Sea Convention, in* LAW OF THE SEA, *supra* note 48, at 61-86; DEVELOPMENTS IN INTERNATIONAL FISHERIES LAW (Ellen Hey ed., 1999) (chapters on implementation issues).