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Governing the Commons?

The Bluefin Tuna Dispute and the Creation of an Endangered Species*

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Last year, Japan imported a total of 301,650 metric tons of tuna from around the world, of which about 18,880 metric tons were bluefin. This sold fresh for an average of 2,878 yen per kilogram, a figure slightly more than the average for the previous couple of years, but well below the 1990 average of 4,942 yen per kilogram⁽¹⁾. Since bluefin can weigh as much as 350 kilograms, this represents a lot of money, jobs and sushi.

At present, the bluefin fishery is still a lucrative one, but dire warnings have been given as to its future. For example, one report says that in the last twenty years the number of bluefin in the western Atlantic has decreased by more than eighty percent⁽²⁾. Some people interpret this to mean that bluefin is an endangered species; others claim that what is really endangered is the tuna industry, not the fish. This paper will examine some implications of this debate, with particular reference to governance. After looking briefly at the bluefin fishery in Japan, the paper will consider two examples of bluefin fisheries governance issues: efforts to incorporate bluefin into the Convention on the International Trade in Endangered Species of Fauna and Flora (CITES) regime and the dispute between Japan, Australia and New Zealand over southern bluefin tuna.

BLUEFIN TUNA AND JAPAN

There is no question that the bluefin fishery is an important one for Japan. In 1962, "Japanese fishermen set and re-set 12 million nautical miles of longline—enough to girdle the globe more than 500 times. Their 400 million baited hooks brought in 400,000 tons of tuna—almost half the world catch.... In 1980, the Japanese longline fleet...captured 4,000

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(1) 水産社 『水産年鑑 1999』 (Suisansha, *Fisheries Yearbook 1999*), pp. 34-36.

(2) Speer, Lisa., *Hook, Line and Sinking: The Crisis in Marine Fisheries*, New York: Natural Resources Defense Council, 1997.

tons of bluefin, 24 percent of that year's Atlantic catch⁽³⁾." As we enter the 21st century, Japan is not the only country with a bluefin fishery, but it is the primary market for the fish once they are caught.

The tuna fishery in Japan targets six of the thirteen species of tuna. Fishing techniques, gear and location vary according to the type of tuna and the intended final product. It is a highly capital intensive industry, and since both the level of technology and cost of gear are very high, conversion from one type of gear (or fishery) to another is virtually impossible. This means that once a decision is made to go with a particular type of fish and/or gear, it is very difficult to change over to another, even if stock capacity might indicate that a change is desirable.

Japan's overall tuna landings are dominated by skipjack (*Katsuwonus pelamis*; *katsuo*), using both pole and line and, more recently, purse seine. Yellowfin (*Thunnus albacares*; *kihada maguro*) and bigeye (*Thunnus obesus*; *mebachi maguro*) intended for the sashimi market are caught with longlines while those destined for other markets are harvested primarily by purse seine. Skipjack, yellowfin and bigeye are found in tropical and subtropical waters, primarily in the Pacific. North Atlantic bluefin (*Thunnus thynnus*; *kita maguro*) are found in the Atlantic while southern bluefin (*Thunnus maccoyii*; *minami maguro*) are found in the South Pacific and Indian Oceans. They are caught individually with pole and line, and great care must be taken to protect the fish from damage while being caught. Once landed, the temperature of the bluefin must be regulated in order to prevent the meat from changing colour because even small amounts of damage to the skin and variations in the colour of the meat have an adverse effect on the final selling price. In Japan, bluefin makes up a relatively small portion of the total tuna landings by weight, but is an important fishery in terms of value⁽⁴⁾.

As in many other countries, the preparation and consumption of food is an important as-

(3) Butler, Michael J. A. "Plight of the Bluefin Tuna." *National Geographic*, (August 1982) Vol. 162, No. 2. p. 227. Other pressure on the stock came from sport fishermen anxious to sell their tuna to Japan and from natural fluctuations in the stock. Italian, US and Spanish fleets in the Mediterranean were also responsible for taking large amounts of young fish. A 1979 report by the International Commission for the Conservation of Atlantic Tuna concluded that "...Atlantic bluefin abundance is decreasing; ...a continuing trend of decreasing year class success began in the early 1960's; ...the trend of decreasing abundance of age 2-5 (juveniles) that began in the mid 1960's is likely due in part to the increased exploitation of young fish; ...the stock size of age 6+ is decreasing Atlantic wide." (ICCAT. "An Analysis of Atlantic Bluefin Tuna Catches, 1960-1975," *Collective Volume of Scientific Papers*, Vol. VIII (SCRS-1978), No. 2, Madrid: March, 1979, p. 397

(4) 東京水産大学第7回公開講座編集委員会編『マグローその生産から消費まで』成山堂書店、1992年118-122ページ。(Tokyo Suisan Daigaku Dai 7 Kai Koukai Koza Henshuukai, ed. *Maguro: sono seisan kara shouhi made*, Seizandoushoten).

pect of Japanese culture, and it is hardly surprising that fish has a prominent role. Japan's historical involvement in the catching and consumption of fish is a recurring theme in popular culture and contributes to the general view that Japan is a fishing nation, although today most of the fish consumed in Japan is imported. Fish continues to comprise an important part of the Japanese diet, but overall consumption of fish relative to other sources of animal protein has declined in recent years. At the same time, consumption of expensive varieties of sashimi and other 'gourmet' fish has increased. Bluefin falls into this category.

Part of the romance of fishing is the risk and skill involved in the pursuit of big fish. Perhaps the best example of this is whaling, but giant bluefin are a close second. In this context it is interesting to note that the rhetoric and methodology once used by Japan to defend whaling are now being applied to bluefin. However, unlike whale meat which, at least before the moratorium on whaling drove the price up, was considered to be a commonplace food, bluefin is a luxury item⁽⁵⁾. Bluefin is eaten raw as *toro* and *ootoro*, and is considered to be the top of the line in raw tuna. It is expensive to catch, preserve and transport and is thus expensive to purchase. For most Japanese people, bluefin is a rare treat, not an everyday source of protein.

Japan uses two basic arguments. On the one hand, it avers that bluefin, like whalemeat, is an essential element of Japanese culture and therefore a ban on the sale of bluefin would represent an assault on Japanese culture and traditions. On the other hand, the Japanese government claims that without more research, the true nature of the stock decline cannot be assessed. This argument has been used to justify the catching of bluefin for 'scientific' purposes in the same way it has been used to justify whaling.

The scientific argument may have some merit, but it is hard to imagine that the disappearance of bluefin from exclusive restaurants would bring about the demise of Japanese culture, although it might change eating habits somewhat. It would certainly disappoint many coastal states eager to export their bluefin to Japan. This combined cultural/economic imperative is certainly strong enough to destroy what is left of the bluefin stocks. One would hope it were also strong enough to save them.

(5) Japanese government statistics show that since the 1970's, tuna has consistently ranked just below beef in terms of price. (食料・農業政策研究センター『食料白書 新たな漁業秩序への胎動』農産漁村文化教会 1999年, Shokuryou Nogyou Seisaku Kenkyu Centre, *Shokuryou Hakusho: Aratana Gyogyo Chitsujoheno Taidou*, Nousan Gyoson Bunka Kyokai), p. 64.

STOCK DECLINE?

Since 1970, northern Atlantic bluefin tuna (*Thunnus thynnus*) has declined by perhaps as much as 87% in the western Atlantic and to a lesser degree in the eastern Atlantic. Southern bluefin tuna (*Thunnus maccoyii*) may have declined by as much as 90%⁽⁶⁾. These declines are primarily due to overfishing, largely in response to the very high prices paid for bluefin in Japan. In addition to extensive exploitation of the stock by Japan, especially in the early years, the establishment of the 200-mile fisheries zones by the US, Canada and Australia and the increased commitment of those countries to the development of their own tuna fleets, as well as entry into the field by new players such as Taiwan and Korea and ships using flags of convenience has put increased pressure on decreasing stocks. According to the FAO, at present, all stocks of tuna, with the possible exception of skipjack, are mainly to fully exploited; species most desired for sashimi may be over-exploited and/or depleted⁽⁷⁾.

If fish were like forests and stood unmoving in places where they could be seen and counted, the fisheries debate might look a bit like that regarding the clear cutting of trees. Since we can neither see the bluefin nor count their numbers, the question of stock size becomes one of science and conjecture. We know that there tend to be large fluctuations in the size of the overall stock. We also know the general trend seems to be toward a significant decline in both the Atlantic and Pacific stocks. What we do not know for sure is what it all means.

When dealing with the uncertainties of the natural environment, it is becoming standard practice to apply the precautionary principle. This principle says simply that when the environmental stakes are high, international society should err on the side of caution. However, as we will see in the ensuing pages, there is little or no structural imperative to err on the side of caution in the field of fisheries management.

GOVERNANCE AND THE BLUEFIN FISHERY

The governance of bluefin involves such actors as the individual fishing companies in, and governments of, the fishing states, the companies and governments of the states in

(6) Seaweb, *Bluefin Tuna*, <http://www.seaweb.org/book/tuna.html>, (11 August 1999).

(7) UN Food and Agriculture Organization. *Global Overview of Straddling and Highly Migratory Fish Stocks*, FAO Circular, 1993, p. 38.

whose waters fishing takes place, the national and multinational companies involved in the sale of the fish, regional management schemes and international treaties and agreements. The overall legal and political framework for the governance of the oceans is the UN Convention on the Law of the Sea (UNCLOS). With regard to tunas, the UN Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement, 1995) provides the framework for global and/or regional management. Japan has ratified the former and is a signatory to the latter agreement. In the Atlantic, the International Convention for the Conservation of Atlantic Tuna (ICCAT) regime is responsible for the overall management of tuna stocks. It is comprised of roughly 20 Atlantic-rim countries plus Japan. Southern bluefin is managed through the tripartite Convention for the Conservation of Southern Bluefin Tuna (1994) involving Japan, Australia and New Zealand.

If all the actors were to adhere to, and cooperate with, joint management schemes, there might not be very much of a problem, in spite of the technological capacity to take far more fish than the limitations permit. Unfortunately, the potential monetary gain serves as a deterrent to cooperation and has led on the one hand, to a great deal of waste (disposal of by-catch and smaller, less profitable fish) and on the other, to a substantial black market in fish. Moreover, increasing regulations have led to higher costs for producers. The use of flags of convenience has increased as fishers attempt to circumvent these costs by going outside of the management regimes⁽⁸⁾.

The governance of the bluefin fishery must address environmental concerns with respect to both states and the global commons. This involves one of the most basic eco-political debates: the choice between conservation (i.e. limited, sustainable use) and preservation (protection through non-use). In other words, governance involves issues of management on the one hand and biodiversity on the other⁽⁹⁾. In the global fisheries context, this debate takes

(8) The regulation of purchasing tuna from ships bearing flags of convenience has been a major issue in Japan. Recently, the Mitsubishi Trading Company, a company responsible for about 1/3 of the tuna imported for use as *sashimi*, has announced it will no longer buy tuna from any of a list of 300 ships bearing flags of convenience issued by ICCAT. (*Asahi Shimbun*, 18 December 1999).

(9) The term *biodiversity* is used to refer to the "variety of life and its processes, including the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur." (US Fish and Wildlife Service, Endangered Species Glossary). The term includes such themes as loss rates, value to humans, economic value, conservation and ethical aspects. The importance to humans of preserving biodiversity involves such areas as ecosystem interactions, medicine, biotechnology, food, recreation, pets/domestic animals, as well as political, social and/or cultural implications. (Jeffries, Michael J. *Biodiversity and Conservation*. Routledge, 1997, pp. 3-16).

the form of management regimes, which serve to distribute property rights versus a total and complete ban, which denies property rights entirely

For the purposes of this paper, governance will be defined broadly as “the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken.”⁽¹⁰⁾ National governments are the primary actors in governance, but there are other actors as well. International governmental and non-governmental organizations, businesses and other organizations, as well as individuals all play important roles.

Systems for governance of ocean fisheries centering on international treaties are an example of international environmental regimes. These are defined as “social institutions consisting of agreed upon principles, norms, rules, procedures, and programs that govern the interactions of actors in specific issue areas.”⁽¹¹⁾ The primary focus of these fisheries governance regimes is resource management, i.e. the distribution of property rights. The bluefin fishery also includes areas of the high seas which are outside of the fisheries zones of coastal states and thus comprise part of the global commons. These include the “atmosphere, outer space, the oceans beyond national jurisdiction and the related environment and life-support systems that contribute to the support of human life.....Prudent and equitable management of the global commons, including the prevention of overuse of such resources as fish, is crucial to the future well-being and progress, perhaps even the survival, of humanity. The management of the commons, including development and use of their resources, as well as the articulation of the rights and responsibilities of states and other entities in respect of the commons, needs to be pursued through international cooperation.”⁽¹²⁾

With regard to the ocean, the most comprehensive governance regime is that of the UN Convention on the Law of the Sea (UNCLOS). This convention seeks to establish a “legal order for the seas which will promote...the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.”⁽¹³⁾ The emphasis lies on the prevention of the pollution

(10) Commission on Global Governance, *Our Global Neighbourhood*, Oxford University Press, 1995, p.2.

(11) Levy, Marc A., Oran R. Young and Michael Zurn, “The Study of International Regimes,” *European Journal of International Relations*, 1 (September) 1995, p.274.

(12) Op Cit., Commission, p. 251.

(13) United Nations Convention on the Law of the Sea, Dec. 10, 1982, UN Doc. A/Conf.62/122. UN Sales No. E.83.V.5 (1983).

of the marine environment and in spite of the requirement for conservation, no guidelines are provided for determining what living resources are in need of conservation nor for how that conservation ought to be conducted.

UNCLOS entitles states to claim 200-nautical-mile exclusive economic and/or fisheries zones and enjoins them to establish limits on the amount of fish which can be taken from each zone. In assigning management of stocks to coastal states, UNCLOS treats the question of fisheries as one of sustainability; fisheries resources are to be exploited but not decimated. Regional efforts such as those by the Forum Fisheries Agency enhance the effectiveness of the individual zones, but they are still insufficient when dealing with highly migratory species such as tuna⁽¹⁴⁾.

One of the main objectives in establishing the Law of the Sea treaty was to ensure that developing countries would get access to fisheries resources and would be able to build up their fishing capacity. It was believed that access should not be limited to the developed countries already engaged in fishing, even though increased access might put pressure on limited resources. Instead, restrictions should be placed on how much of the resource each of the competing actors is allowed to take. This thinking was based on the idea of the sea and its resources as common property. In this view, 'common property' is only 'common' to the extent that exploitation by individual parties must be preceded by some sort of equitable division. In other words, 'common property' is seen in this context as an aggregation of individual property rights which must be re-distributed to their various holders before exploitation can take place. Viewed in this way, it becomes clear that the primary governance issue is from the outset one of conservation rather than preservation. It involves the redistribution (i.e. exploitation) of these diminishing resources in such a way that all 'legitimate' stakeholders get a share, rather than the preservation (i.e. protection) of the stocks. In this context, we can see that the establishment of a species as 'endangered' removes that species from the status of being 'property' and denies property rights, private or common.

Property rights can be defined as the "relations among people concerning the use of things." Weimer distinguishes between property rights and property rights systems, "which

(14) Under the UN Law of the Sea Treaty, coastal states must set Total Allowable Catch (TAC) levels. These are calculated to be the maximum sustainable catch levels, and coastal states must either exploit them themselves or allow other states to do so. Leaving aside questions of whether it is really possible to determine the maximum sustainable catch level, these figures apply only to stocks within each EEZ or EFZ. For a discussion of regional efforts in the South Pacific see Forum Fisheries Agency. *The Forum Fisheries Agency: Achievements, Challenges and Prospects*. University of the South Pacific, 1990.

include the rights themselves and the formal and informal institutions that create them, structure economic transactions, including decisions concerning the exchange and accumulation of physical, human and intellectual capital, and the preservation of natural resources. The state, as maker and enforcer of formal rules, plays a fundamental role in shaping the property rights system.”⁽¹⁵⁾

Along with the state and other formal structures for property rights and their allocation, there are also less formal institutions which facilitate the manipulation of property rights. These can include everything from private businesses to local communities. Property rights systems are predicated on the expectation that the system will be respected. Thus, in order for these institutions to function, there must first be a certain amount of acceptance of the general principles upon which they are based.

Weimer outlines four characteristics of property rights systems which are especially relevant to economic behavior and which apply both to systems for private property rights as well as to those for common property rights. These are clarity of allocation, cost of alienation, security from trespass and credibility of persistence⁽¹⁶⁾. Of particular relevance here is the assertion that the governance structure of common property is what determines the allocation of rights to individual members of the collective, and that the greater the clarity in the allocation, the more likely the system will continue to function over time. In this sense, allocation also refers to mechanisms for conflict-resolution and the application of sanctions⁽¹⁷⁾. Thus, in order for a common property rights system to endure, not only must there be common recognition of the legitimacy of the system, but there must also be clear allocation of rights, duties and punishments within the scheme.

Regimes for fisheries management are examples of systems for institutionalizing property rights, and can thus be identified as property rights regimes. These regimes can take a variety of different forms. On one side, it is argued that strong, top-down systems with a strong, central authority are necessary to evoke the kind of cooperation needed to make the system work. In contrast, it is also claimed that rather than centrally organized regimes, fisheries should be managed through partial and/or complete privatization. With regard to fisheries, these differences are particularly apparent in the debate around catch quo-

(15) Weimer, David. *The Political Economy of Property Rights*, Cambridge University Press, 1997, p. 1.

(16) *ibid.*, p. 4.

(17) *ibid.*, p. 5.

tas. While some countries see strong fisheries regimes as being the only answer, others have begun experimenting with the idea of privatization of public fish resources through the introduction of a system of vessel quotas. The original proposals called for non-transferable quotas, but recently some countries have made these rights transferable. The assumption is that common users should establish their own, communal solutions has begun to gain credence⁽¹⁸⁾. Regardless of the methodology, however, these approaches are all grappling with the problem of the distribution of property rights, whether they be considered common or private. In this sense, the establishment of a fish species as 'endangered' puts it beyond the purview of fisheries management, and is therefore extremely challenging to the management regime.

With regard to fisheries, common property can be seen as first a question of definition, and then one of methodology. In other words, fish are only seen as 'common property' when scarcity begins to be a problem. "This is likely to happen only under the pressure of overuse of the resource...(which) is a function of trying to produce more from the resource than it can yield over the long term. The conditions for such overproduction are found when production is organized for exchange rather than for use, a phenomenon of stratified societies."⁽¹⁹⁾ Thus, the reason common property becomes a problem is not one of ownership, but rather of access and exploitation.

Coastal states, in exercising their responsibility for regulating fisheries in their zones, have established catch quotas for major fisheries. Assuming they are obeyed, catch quotas do limit the amount of fish taken within a given zone. At the same time, the stricter the regulations, the greater the imperative to take as many fish as quickly and efficiently as possible. As a result, quotas seeking to limit the number of fish taken have led to an increase in fishing capacity and in the number of fishers involved. "In an open-access, free-for-all fishery, competing fishermen try to catch all the fish available to them, regardless of the consequences. Unless they are checked, the usual consequence is a collapse of the fishery: that is, resource extinction in the commercial sense, repeating in the fishery context the 'tragedy of the commons'."⁽²⁰⁾

(18) O'Connor, R. and B. McNamara, "Individual Transferable Quotas and Property Rights," in Gray, Tim S., ed. *The Politics of Fishing*, St. Martin's Press, 1998, p. 83.

(19) Durrenberger and Palsson in Rogers, Ray. *The Oceans are Emptying: Fish Wars and Sustainability*, Black Rose Books, 1995, p.126.

(20) *Policy for Canada's Commercial Fisheries (1976:47)* in op. cit. Rogers, p. 66 (n. 18).

The 'tragedy of the commons' refers to Garrett Hardin's well-known story of overgrazing⁽²¹⁾, in which the rational pursuit of self-interest on the part of individual stakeholders inevitably results in the degradation and eventual destruction of the common resource. Here we are concerned with pressure to the commons not as a result of herders adding cows but of fishers subtracting fish. It is essentially a question of how individuals can be counted on to limit the number of fish they take, if the refusal to do so merely allows their competitors to be more successful. According to the Commission on Global Governance, this 'tragedy of the commons,' explained as the "overuse of common environmental assets because of the absence of a sufficiently strong system of cooperative management," is the most serious challenge to global environmental governance. They argue that this 'tragedy' stems from the fact that there are neither "secure property rights nor collective responsibilities to govern a shared resource."⁽²²⁾ In this view, the establishment of the resource as common property is seen to be a prerequisite for successful governance. However, we must seriously question whether, in a situation of free-access and competition, the idea of common property is sufficient to protect a dwindling resource such as bluefin. As Ray Rogers asks, "Why is there strife, conflict and no fish?"⁽²³⁾ The root of the problem lies not in ownership but rather in the system of open-access capitalism upon which the fisheries agreements are based.

ISSUES IN THE GOVERNANCE OF ATLANTIC BLUEFIN TUNA

While the life and habits of the bluefin have been the subject of a great deal of research, the truth of the matter is that relatively little is known about them. For example, it is currently held that two independent stocks of bluefin co-exist in the Atlantic, one eastern and the other western. Under the terms of the International Convention for the Conservation of Atlantic Tuna (ICCAT), governments must maintain the tuna stocks at a sustainable level⁽²⁴⁾. The Total Allowable Catch (TAC) is based on calculations of the size of the stock. As the eastern and western stocks are presumed to be different, the size of each is cal-

(21) Hardin, Garrett. "The Tragedy of the Commons." *Science*, 162, 13 December 1968, pp. 1243-8.

(22) op. cit. Commission, p. 215.

(23) op. cit. Rogers, p. 127.

(24) The ICCAT agreement establishes an International Commission for the Conservation of Atlantic Tuna. Among the responsibilities of the Commission are the study of populations of tuna (Article IV) and, based on scientific data from the studies, to "make recommendations designed to maintain the populations of tuna...that may be taken in the Convention area at levels which will permit the maximum sustainable catch." (Article VIII) (ICCAT, Rio de Janeiro, 14 May 1966).

culated and limits set independently.

The rate of decline for eastern Atlantic bluefin (primarily caught by the US and the Mediterranean countries) has been much lower than that for western Atlantic bluefin (primarily caught by Canada)⁽²⁵⁾. The assessment of the overall situation of Atlantic bluefin, the recognition of two independent stocks, and the ensuing conservation and management plans have become highly politicized, making the setting and negotiation of quotas something far more complicated than merely assessing the size of the stock and calculating the maximum sustainable yield (MSY). Moreover, a new tagging program is now bringing even this commonly held belief about the existence of two separate stocks into question⁽²⁶⁾.

ICCAT maintains a Scientific Committee which is responsible for compiling catch statistics and population trends. In the early 1980's, a US National Marine Fisheries Service report found the western Atlantic stock to be seriously declining and recommended that catches be reduced. Studies by ICCAT came up with similar results. Rather than banning fishing, ICCAT set a quota of 1,160 metric tons annually for scientific monitoring. In spite of continuing declines in the overall stock, this quota was increased annually.

At about this time, American environmental groups had begun to be concerned about the state of the bluefin stocks, and had begun to lobby the US government to essentially

(25) Due to declines in Atlantic bluefin, ICCAT introduced measures beginning in August 1975 which would cap the fishery at current catch levels and prohibit the landing of bluefin smaller than 6.4kg. In spite of the fact that these regulations were said to be routinely ignored in the eastern Atlantic, by 1981 the eastern stock was stable but the western continued to decline. Western managers and industry sought to separate the north Atlantic bluefin into two separate stocks. The western would be strictly regulated while the eastern would left alone. Genetic and tagging studies were used to support this two-stock hypothesis, as were data on the existence of two isolated spawning areas, one in the Gulf of Mexico and the other in the Mediterranean Sea. In 1981, ICCAT adopted the two-stock structure and initiated a stock recovery plan for the western Atlantic. This included provisions for prohibiting western fleets from transferring fishing effort to the eastern Atlantic. In fact, reductions in young bluefin have been increasing in the eastern Atlantic as well as the western, and the 1994 ICCAT meeting found incomplete reporting of statistics, excessive landings of under-sized fish and total landings exceeding the 1975 catch levels: 27,960 MT in 1993 as compared with 21,217 MT in 1975. In 1991, ICCAT recommended a biennial quota of 4,788 MT for the western Atlantic. (Buck, Eugene H. "Atlantic Bluefin Tuna: International Management of a Shared Resource," Congressional Research Service, March 8, 1995, pp. 1-23. Available to the public through the Committee for the National Institute for the Environment, cnie@cnie.org).

(26) Currently, 'smart' or archival tags are being used to track bluefin. These tags can be programmed to send signals at predetermined intervals. Using satellites, the information indicates the location and other data regarding the fish. Other new tags allow for continuous tracking. The first 20 of these tags were used in 1998. Although the expected result was that all of the fish would wind up in the Gulf of Mexico, in fact all 17 of the tuna which sent a signal at the appropriate time were in the Central Atlantic. This data belies the two-stock hypothesis and some western Atlantic fishermen are hopeful that it will help to increase their catch quotas. (Personal communication in an interview with Don Aldous, manager, Southwest Nova Scotia Tuna Association, June 11, 1999, Halifax). According to a report by the National Research Council, using current genetic methods of assessment, existing data are consistent with a single stock hypothesis. At the same time, as fish in the eastern and western Atlantic do not mix completely, they can be considered to be separate populations (as opposed to separate stocks). (Ibid., p.15).

read its own reports and act more responsibly. In 1991, the Scientific Committee announced that the western Atlantic stock had declined by 24% in the preceding 12 months. In the spring of the same year, the National Audubon Society began promoting a listing for western Atlantic bluefin under Appendix I of the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES Treaty) and the US National Marine Fisheries Service (an organization responsible for conducting scientific research and data analysis) and the US Fish and Wildlife Service expressed interest in a CITES Appendix II listing. An Appendix I listing would prohibit international trade, while an Appendix II listing would mandate international monitoring. These proposals were withdrawn and replaced by an official proposal the same year by Sweden with the endorsement of environmental and sport fishing groups for placing western Atlantic bluefin under Appendix I and eastern Atlantic bluefin under Appendix II. Intense lobbying by Japan, with support from the US, Canada and Morocco forced Sweden to withdraw its proposal to the 1992 CITES meeting in Kyoto, Japan. In 1994, Kenya proposed an Appendix II listing for all northern and southern bluefin. Lobbying by Japan again resulted in the withdrawal of the proposal⁽²⁷⁾.

Efforts to stop commercial tuna fisheries continued, and in 1996, the International Union for the Conservation of Nature and Natural Resources (IUCN) announced the incorporation of four species of tuna (southern bluefin, Atlantic bluefin, big eye and albacore) into its Red List of Threatened Animals⁽²⁸⁾. This announcement was greeted with anger in Japan, where officials of the Fisheries Agency objected to the classification of fish along the same lines as mammals⁽²⁹⁾. While the debate over the actual condition of the stock rages on, there is no indication that the commercial bluefin fishery in the Atlantic will be scaled down significantly any time soon.

(27) Ibid., pp. 12-13. Also see Safina, Carl. "Bluefin Tuna in the West Atlantic: Negligent Management and the Making of an Endangered Species." A Seaweb background article originally published in *Conservation Biology*, 1993. <http://www.seaweb.org/safina2/html>, 06/23/99.

(28) Southern bluefin, western central Atlantic bluefin and southern Atlantic albacore are Critically Endangered (a reduction of 80% over the last ten years or three generations), while eastern central Atlantic bluefin is Endangered (a 50% reduction over the same period). (World Conservation Monitoring Centre, *IUCN Red List of Threatened Animals*, 14 December 1999).

(29) In 1996, the Director of the Fisheries Agency's Distant Water Marine Products Institute was reported in the *Nihon Keizai Shimbun* to have said the following: "The areas inhabited by earthbound animals and tuna are different, as are other factors such as the number of young they bear at one time. The conditions in which they live are completely different so it does not make sense to compare them....Tuna are in no danger of extinction." (in Kawasaki, Ken. *Gyogyo Shigen-Naze Kanri Dekinainoka*, Seizandoushoten, 1999, p. 155). (水産庁遠洋水産研究所、宮部尚純研究室長、日本経済新聞、1996年10月7日付け、川崎健著『漁業資源—なぜ管理できないのか—』成山堂書店 1999年、155ページ。

THE SOUTHERN BLUEFIN DISPUTE

Southern bluefin is managed under the Convention for the Conservation of Southern Bluefin Tuna. On 30 July 1999, Australia and New Zealand filed a request with the Registrar of the International Tribunal for the Law of the Sea (ITLOS) seeking provisional measures (interim injunction) against Japan regarding its unilateral experimental fishing for southern bluefin⁽³⁰⁾. The move marked a climax in a continuing dispute over catch limits between Japan on the one hand and Australia and New Zealand on the other. A brief overview follows.

Japan began commercial fishing for southern bluefin on the high seas and in Australian waters in the 1950s. The Japanese catch peaked at 77,000 metric tons in 1961, and a rapid decline ensued. The Australian bluefin fishery peaked in 1982 at 21,000 metric tons. Stock declines in the 1980s forced Japan, Australia and New Zealand to initiate informal discussions about conservation. These led to the establishment of quotas in the mid-eighties and the formalization of the management arrangement in the form of the Convention for the Conservation of Southern Bluefin Tuna (CCSBT) in 1994. The Convention sets a long term objective of returning the parental biomass to the 1980 level by 2020, but scientists from the three member countries are unable to agree on stock and recovery projections. Meanwhile, the parental biomass has continued to decrease and is currently estimated at less than 10% of the 1960 level. In recent years, additional pressure has been placed on the stock by Taiwan, Indonesia and Korea, countries which are not parties to the CCSBT and therefore not subject to the catch restrictions⁽³¹⁾.

The body responsible for the implementation of the CCSBT is the Commission for the Conservation of Southern Bluefin Tuna. This Commission is responsible for setting the TAC and deciding on its distribution among the three countries. Since 1995, Japan has repeatedly asked for an increase in the TAC, but this request has been denied. In 1998, the

(30) Australia, New Zealand and Japan are all parties to the UNCLOS treaty, which calls for the peaceful settlement of disputes. States may choose the International Tribunal for the Law of the Sea, the International Court of Justice, an arbitral tribunal or a special arbitral tribunal as the forum for settling disputes. Provisional measures are a kind of order prohibiting certain behaviour pending a final decision on a case. Assuming that the Tribunal is found to have jurisdiction over the matter and deems that rapid action is necessary, it can prescribe provisional measures when it "considers appropriate under the circumstances to...prevent serious harm to the environment." (UNCLOS, Article 290).

(31) According to the WWF, estimates of annual catch taken by Taiwan, Indonesia and ROK are at 2,500-2,600 mt, including about 700 mt taken by Indonesia on the spawning grounds south of Java. However, since some catch is reported in processed rather than whole weight, the real total may be closer to 3,200 mt or more. (WWF, Endangered Seas Campaign, Press Release, 30 July 1997).

Commission again decided there would be no change in the TAC, at which point Japan began what it claims is 'experimental fishing' in order to determine the condition of the stock. Japan has refused to subtract the amount of fish caught in the 'experiment' from its total limit, and Australia and New Zealand claim this is an attempt to increase the limit by alternative means.

When Japan refused to cooperate, Australia and New Zealand requested the ITLOS to order Japan to cease its experimental fishing immediately and to subtract the amount of catch taken for that purpose from its total catch quota. In addition, they requested the strict adherence to the precautionary principle in fishing for Southern bluefin pending a final settlement of the dispute and that the parties take no action to further aggravate the situation or infringe on the rights of the parties pending final decision of the case⁽³²⁾.

Japan responded to the claim by saying that the Tribunal did not have jurisdiction over the case and that even if it did, the provisional measures were unnecessary. Japan claimed that since their 1999 experimental fishing was almost completed, there was no urgency or risk of irreparable damage to the bluefin stock as a result of those experiments. In addition, the cessation of the experiments before completion would mean the loss of important data. Japan also filed a counter request for provisional measures asking for the resumption of negotiations with Australia and New Zealand and the continuation of the experimental fishing programme on a joint basis. If no agreement were to be reached within six months, the issue should be submitted to independent scientists for a decision⁽³³⁾.

On 27 August 1999, the ITLOS issued an Order with respect to the Southern Bluefin Tuna Cases and prescribed several provisional measures pending a decision of the arbitral tribunal. The ITLOS called on the parties not to further aggravate the situation, and to ensure that "unless they agree otherwise, their annual catches do not exceed the annual national allocations at the levels last agreed by the parties of 5,265 tonnes (Australia), 6,065 tonnes (Japan) and 420 tonnes (NZ)." Further, it was ordered that the experimental catch be subtracted from the total for 1999, and that any additional experimental programmes be counted against the annual national allocation."⁽³⁴⁾ The three countries are to refrain from

(32) International Tribunal for the Law of the Sea press release No. 24, 30 July 1999.

(33) ITLOS Press Release 25, 9 August 1999.

(34) International Tribunal for the Law of the Sea, *Southern Bluefin Tuna Cases* (New Zealand v. Japan; Australia v. Japan) Requests for provisional measures: Order. <http://www.un.org/Depts/los/ITLOS/Order-tuna34.htm>. (12/08/99).

conducting experimental fishing programmes and resume negotiations with a view to reaching agreement on measures for conservation and management of southern bluefin. In addition, they are to seek agreement with other countries engaged in fishing for southern bluefin. Each country is required to file an initial report on the steps it has taken and await a final decision.

CONCLUSION

We have seen that governance of the bluefin fishery is conducted through property rights regimes, and that three aspects of the fishery are of particular significance. The first is that since these fish travel huge distances through the jurisdictions of many states, any management regime must be implemented jointly with the cooperation of all concerned parties if it is to be effective. Unfortunately, at present not only is there a lack of cooperation among the parties to management regimes but there is also extensive exploitation of the stock occurring by states which are not part of those regimes. The second aspect is that these fish have tremendous commercial value in Japan, assuming they are brought to market in good condition. The potential profit poses a threat to joint management schemes because it may be deemed worthwhile to pursue bluefin, regardless of the risk involved in breaking whatever rules and quotas may be in place. The third aspect is that there has been an undeniable decline in the bluefin stock, although as we have seen, the extent to which this decline is a serious problem is the subject of debate.

These three factors are not separate issues. Rather, it is precisely their complicated interrelationships which make the management of tuna stocks so difficult. The overriding factor, however, is the perceived value of the fish. The high prices paid in Japan for bluefin provide strong motivation for governments and individuals to get involved in the fishery, leading to an increase in the number of both potential and actual actors competing for a limited resource. We know that if all those who wanted to fish for tuna were to be given free license to take as much fish from wherever they desired, the fishery would soon collapse. We also know that even with the constraints of cost, technology and ability, there is far more capacity for exploitation of bluefin resources than there is bluefin to be exploited. What we do not know is how much pressure the stock can take before total collapse occurs.

Frederick Bell has identified three policy areas in which failures of global and/or

regional governance threaten the future of the world's fisheries. These are overcapitalization of the fishing fleets and overexploitation of the fisheries, environmental deterioration, especially degradation and destruction of coastal habitats where breeding and feeding take place and the increasing use of fishery resources for recreational purposes⁽³⁵⁾. We have seen that in particular, the first of these areas is applicable to the bluefin fishery and the failure can in part be attributed to the adoption of a common property approach without concomitant limits on access, capacity and market value. Without these additional limitations, at least in the case of high-value commodities such as bluefin, there is little chance that governance regimes will be able prevent the 'tragedy of the commons' from happening, although perhaps they will be able to delay it somewhat. As long as the market value for bluefin remains high, there will always be more incentive to catch the last fish today rather than to save the stock for tomorrow.

The question of the governance of bluefin fisheries is interesting because it underscores the difficulties inherent in the governance of the commons, even when there is strong will to do so. It is also interesting because two completely different approaches have been taken in response to stock declines: management on the one hand and a ban on fishing on the other. In particular, this example has demonstrated the intrinsically political nature of the threat posed to a property rights regime by the demarcation as 'endangered.'

Scientific uncertainty is the rule in fisheries management, and it is perhaps more of a rule with regard to highly migratory fish stocks than to more stationary ones. As the disputes outlined above demonstrate, there is really no way to design a sustainable bluefin fishery without considerably more knowledge of the current condition of the stock. The application of the precautionary principle in this case would result in the impossibility of proceeding with fisheries activities. In other words, it would mean the creation of an endangered species.

In this sense too, the designation of the bluefin as an endangered species is a political and perhaps artificial assessment. It involves not only the question of the condition of the stock, but perhaps more significantly, the question of who is allowed to exploit that stock. There is a certain element of nationalism and racism involved; Japan asserts it has a special claim over the fish and other countries are not only unwilling to accept that claim but also are trying to make claims of their own. It is clearly a no-win situation for everyone in-

(35) Bell in Caldwell, Lynton Keith. *International Environmental Policy*, Duke University Press, 1996, pp. 226-7.

volved and there can be only two solutions: closing of the fishery or significantly lowering the price so that the fishery is no longer profitable. Neither of these are acceptable solutions to the states and corporations involved in the governance regime, and so the fishery remains open. As a result, there seem to be only two choices for consumers and others interested in the fate of the bluefin: either to eat as much bluefin as possible while it is still around or else to instigate a global consumer boycott of the fishery. Both hinge on the responses of individuals to a governance policy issue. Perhaps this is indicative of a need to involve consumers in governance of the global commons from the outset. This is an area which has not yet been explored with relation to fisheries and is certainly worthy of consideration in the future.

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