# Quasi-Property Rights & the Effectiveness of Atlantic Tuna Management

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## *Abstract*

It is well-known that highly migratory species cannot be "owned" by any one fisher or fishing entity—at least until they are caught. Nevertheless, fishing countries have developed a means of establishing quasi-property rights by controlling access to their markets. Members of regional fisheries organizations regularly establish catch limits and national quota distributions, and then enforce these measures by refusing to import fish from non-member countries. Because most of the countries that benefit from these RFMO clubs are also major importers of tunas and tuna-like species, such trade-based exclusion has been a relatively effective means of reducing non-member production. This chapter traces the evolution of quasi-property rights in the International Commission for the Conservation of Atlantic Tunas, the first RFMO to adopt such measures. Impediments to full implementation of quasi-property rights, such as increasing demands from developing countries and the ingenuity of non-member fleets, will also be covered. Finally, the future of quasi-property rights will be discussed, including the potential for international tradable quota schemes.

## *Introduction*

Management of highly migratory species like tunas and swordfish has long been thwarted by the vastness of the oceans and the territoriality of nation-states. In order to ensure long-term benefits from such an immense expanse, national governments must

cooperate with each other. No one government has the ability to police all the oceans, nor the power to control the millions of users that hail from all over the globe. At the same time, the current world system is based on the norm of sovereignty, which implicitly places national interests above global interests. While recognizing the need for collective action, national representatives have repeatedly conditioned their cooperation on the relative distribution of costs and benefits. The result has been a global tragedy of the commons.

One popular solution to this problem has been the enclosure of coastal waters, which culminated in the establishment of 200-mile Exclusive Economic Zones (EEZs) under the 1982 United Nations Convention on the Law of the Sea (UNCLOS III).[1] The terms of this agreement were negotiated over 2 decades, reflecting the difficulty of reconciling national interests in oceans resources. Functional international law covering high-seas resources was not codified until ten years later, with the UN Fish Stocks Agreement.[2] Like UNCLOS III, this treaty provided for the establishment and protection of national access rights within the management regime. However, because of the geographic scope of these fish stocks, allocation of access rights was based on national influence within the related RFMO rather than territorial claims.

Another similarity between UNCLOS III and the Straddling Stocks Agreement is that both codified existing practices. As Juda (1996) notes, governments claimed economic rights over 200-mile zones prior to their broad acceptance in the UNCLOS III regime. Likewise, RFMOs had established mechanisms for the allocation and

[1] UNCLOS III did not enter into force until 1994. However, the 200-mile EEZ became a de facto rule in the late 1970s (Peterson 1995).
[2] Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

enforcement of national access rights on the high seas several years before the adoption of the UN Straddling Stocks Agreement. While this agreement drew on practices from several RFMOs, the most groundbreaking combination of measures came directly from the International Commission for the Conservation of Atlantic Tunas (ICCAT). Developed for the highly valuable Atlantic bluefin tuna, this package of national allocation of access rights protected by international monitoring and enforcement mechanisms proved to be quite popular. It has since been adopted for several other important species and serves as a foundation for the Straddling Stocks Agreement.

Unlike the EEZ solution, which relies on well-defined areas of resource jurisdiction, this new multi-lateral management system creates quasi-property rights through the assignment of national quotas, which can be regularly renegotiated within the relevant RFMO. Similarly, whereas EEZs are generally policed by their respective governments, national quotas are protected through international trade-based monitoring and enforcement. Production at the national level is tracked through trade and—if countries fail to limit their fishers as per agreed quotas—punitive measures may be levied, including multilateral import prohibitions on the overfished species from the offending country. In this chapter, we'll explore the origins of this trade-based management combo at ICCAT and the broader implications of such quasi-property rights schemes for international fisheries management.

## *Origins of the Trade-based Combo*

Catch limits like quotas are a well-established management tool in many fisheries. Usually, quotas are assigned to individual fishers by some government organization, although agreement on national quota allocations has also been observed in bi-lateral or

tri-lateral agreements since the 1930s.[3] However, ICCAT was one of the first large-scale multilateral fisheries management bodies to adopt the practice. At the same time, ICCAT also pioneered the use of multilateral trade-based monitoring and enforcement for the protection of commercially targeted species.

Multilateral trade sanctions for the protection of various species became part of international law with the institution of the Convention for the International Trade in Endangered Species in 1973.[4] About two years later, the International Whaling Commission (IWC) began to limit commercial harvests of various whale populations to their maximum sustainable yields. By 1982, members of the IWC decided that such limits were not sufficient, so they agreed to an international moratorium on commercial whaling in 1982.[5] In these cases, complete prohibition of production or trade was viewed as the only means of ensuring compliance, given the difficulties of monitoring and enforcement.

While it was not officially a part of international law until 1995, the eco-labeling scheme that emerged from the tuna-dolphin conflict in the Eastern Pacific Ocean was a preliminary step towards protecting species without completely closing down commercial operations. However, these measures were developed to protect dolphins that were accidentally caught in purse seines targeting tuna. Thus, management was a matter of bycatch avoidance, which was facilitated by new technologies, rather than reducing harvests of the targeted species.[6]

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[3] Mostly US-Canada management of North Pacific fur seal, halibut, and salmon (Peterson 1995, 268).
[4] CITES did not enter into force until 1975. http://www.cites.org/eng/disc/what.shtml
[5] Prior to 1975 IWC (or ICRW) quotas were neither stock specific (they used "blue-whale-units" nor sufficient to halt the decline of several important whale species (Christy and Scott 1992, 151-152). Also, there are still several countries which do not support the whaling moratorium.
[6] De Sombre (1999).

Bycatch is certainly an issue in many other large RFMOs, but depletion of targeted species has also raised the need for reduction in directed harvests. Unlike whales, seals, and other marine mammals, there has not been sufficient political will to completely prohibit commercial exploitation of highly migratory species like tunas and swordfish.[7] Instead, RFMOs searched for ways to limit takes without closing the fisheries. Initially, minimum size limits and seasonal closures were the methods of choice, but the former has been virtually impossible to implement and the latter requires rapid reporting that is not viable in most RFMOs.

Furthermore, lack of capacity or willingness to consistently monitor and report national fishing activities has undermined participants' faith in the "honor system" encoded in most RFMO agreements. That is, most national representatives are skeptical of data such as reported landings that are provided by other RFMO members. Combined with an upsurge in non-member fishing activities, otherwise known as illegal, unregulated, and unreported (IUU) fishing, this distrust created a demand for alternative monitoring and enforcement mechanisms that could be applied at the international level.

Thus, by the early 1990s, the elements of a new management paradigm were readily available and in demand. The catalyst that amalgamated these preexisting concepts into the ICCAT trade-based combo was the 1991 nomination of western bluefin tuna for a CITES listing. The Atlantic Tuna Commission had been attempting to manage this stock via a tri-lateral quota arrangement between the major producers (Canada, Japan, and the US) since the early 1980s. Though reported landings were generally reduced to the level set by the Commission, unreported landings, high levels of mixing

[7] Webster (2006).

between the eastern and western stock, and politicization of scientific advice had resulted in further declines in the stock.

By 1991, ICCAT's Standing Committee on Research and Statistics (SCRS) reported that the population of small and medium size western bluefin had been stabilized but that the population of adult, spawning bluefin had a 50% chance of being lower in 1993, *even if* the total catch were cut in half. In fact, it was expected that spawning fish would remain below 1992 levels until 1995, and could stay depressed even longer.[8] Similar circumspect advice had been meted out in previous years, with little response from members of the Commission.

However, in 1991 international conservation organizations like the National Audubon Society and the World Wildlife Fund worked with Sweden in an attempt to list Atlantic bluefin tuna under the Convention for International Trade in Endangered Species of Fauna and Flora (CITES).[9] Because such a listing would result in prohibition of trade in western Atlantic bluefin this maneuver certainly got the attention of ICCAT contracting parties. With little discussion, Commission members targeting western bluefin tuna agreed to a four-year plan that would gradually reduce allowable landings of the stock from 2,660 t to 1,729 t.[10]

Another major shift in 1991 was a pronounced and concerted movement by historically dominant fishing countries—including Canada, Japan, the US, France and Spain—to exclude non-members from exploiting both stocks of Atlantic bluefin tuna. At

[8] At half the current harvest, the 1994 stock of large bluefin had a 74% chance of being below the 1992 levels. Odds were split in 1995, with a 47% chance of the stock increasing above the 1992 level and a 27% chance that it would still be lower, depending on the recruitment of the 1987 year class (ICCAT 1992, 121-122).
[9] Audubon started out at the national level, but it has since developed chapters in many nations around the world.
[10] ICCAT (2007b, rec. 91-1).

their behest, the Commission took its first steps toward more effective monitoring and enforcement measures by setting up a working group to look into the technical aspects of trade documentation and the legal implications of sanctions.[11] Such measures had been discussed in the past, but there was never enough political will to generate action.

Between the CITES threat and evidence of increasing harvests by fleets from non-member countries, incentives to exclude were much higher in the 1990s than they had been in the past. By 1992 the Commission adopted a statistical document program for bluefin tuna, so that they could track trade in the species.[12] This was closely followed by the 1994 Bluefin Action Plan, which provided for multilateral trade measures, and the first enforcement via sanctions, levied in 1996 against Belize, Honduras, and Panama.[13]

Once this system was established, it was quickly applied to other ICCAT stocks. In 1994, quota sharing was adopted for the heavily depleted northern stock of swordfish, with the stipulation that trade-based enforcement mechanisms should follow. This was accomplished in the 1995 Swordfish Action Plan, which was a close copy of the Bluefin Action Plan and also applied to both stocks of Atlantic swordfish. Preexisting international enforcement mechanisms facilitated the adoption of sharing arrangements for southern swordfish in 1997. It is one of the few ICCAT stocks to be placed under management while thought to be at or near full exploitation (rather than overexploited).

International monitoring and enforcement were adopted for bigeye tuna in the 1998 *Resolution by ICCAT concerning the unreported and unregulated catches of tunas*

[11] ICCAT (2007b, res. 91-2).
[12] ICCAT (2007b, rec. 92-1).
[13] ICCAT (2007b, res. 94-3, rec. 96-11, & rec. 96-12).

*by large-scale longline vessels in the Convention area* (IUU Resolution). [14] This resolution is more general in regards to the species covered, but is quite specific in terms of vessel size. It only applies to large scale longliners (>24 m) targeting Atlantic tunas, which has so far only resulted in sanctions on non-member countries with fleets targeting bigeye tuna. Interestingly, this measure was adopted prior to the establishment of quota sharing by the Atlantic Commission, and was aimed almost exclusively at preventing incursions by non-member fleets. Prior to the adoption of this measure, the stock had been declining for years, but conflicts over relative gains had stymied Japanese proposals for quota sharing. The best that could be achieved was a limit on landings by Taiwan's vociferous and highly mobile fleet.[15]

## *Composition of the Trade-based Combo*

All three international enforcement measures consist of similar mechanisms. First, there is a two-track monitoring system that combines lists of "legal" and "illegal" vessels with trade-documentation schemes. ICCAT members report all vessels registered by their governments to target the species in question in the Atlantic. These names are compiled into a positive or white list of "legal" vessels. Then, through their national representatives, fishers and enforcement agents can report "illegal" vessels that are not on the white list for a particular stock but are targeting it. These vessels are then placed on a negative (they don't like to call it black) list. Too many vessels on the negative list can get a country into trouble.

Alternately, statistical document programs have been established for each of the three stocks currently managed using the trade-based combo. These documents are forms

[14] Coined in the late 1990s, the Commission generally uses the term to IUU to refer to any fishing activity that takes place in contravention of ICCAT recommendations, or is misreported to the Secretariat.
[15] ICCAT (2007a, Res. 97-15)

that must be filled out and validated upon landing of a fish and then reviewed and passed on at each point of trade. They let importing countries track the fish by country and area of origin so that they can identify product produced in contravention of ICCAT management measures. Trade documents can also be compared to the composition of catches at market to double-check for violations. As a virtual monopsonist in the market for sushi-quality bluefin and bigeye tuna, Japan has been a strong leader in tracking statistical documents and reporting overharvests for bigeye and bluefin tuna.

Within ICCAT, there are 2 subcommittees that are responsible for reviewing this information, along with the national landings reported by various governments. The first one, established in 1992, is the Permanent Working Group for the Improvement of ICCAT Statistics and Conservation Measures (PWG). It is responsible for all breaches by countries that are not members of the Atlantic Commission. Oversight of commission members is the responsibility of the ICCAT Conservation and Management Measures Compliance Committee, which was created in 1995.[16]

This dual-track compliance system arose in part because membership has its privileges; namely the ability to either officially object—which exempts the member and its fleets from the offending management measure—or to block consensus on measures, including sanctions. This also gives members a stronger voice when it comes to disputes over evidence of non-compliance. In addition, members can be penalized less stringently through reductions in quota, while most non-members do not receive specific quota allocations.[17]

[16] ICCAT (2007a, res. 92-2); ICCAT (2007a, oth. 95-15).
[17] As a cooperating contracting party, Taiwan has been allotted quotas, as have a few other non-members.

It's also interesting to note that the majority of the countries that have been sanctioned by ICCAT are non-members. These countries, and the Action Plans under which they were cited, are listed in Table 1. Note that only Equatorial Guinea was a member when trade-based measures were put in place. Moreover, they did not send a delegation to any of ICCAT's annual meetings from 1999-2001, and therefore was not able to object to the sanctions that were levied against its bluefin and bigeye exports. When they did begin sending a delegation to the Commission, trade measures were quickly lifted. A similar pattern is evident for Panama and Honduras, which joined the Commission after sanctions were put into place and then saw those sanctions lifted.

Table 1: Sanctions Applied by ICCAT under the Three Action Plans

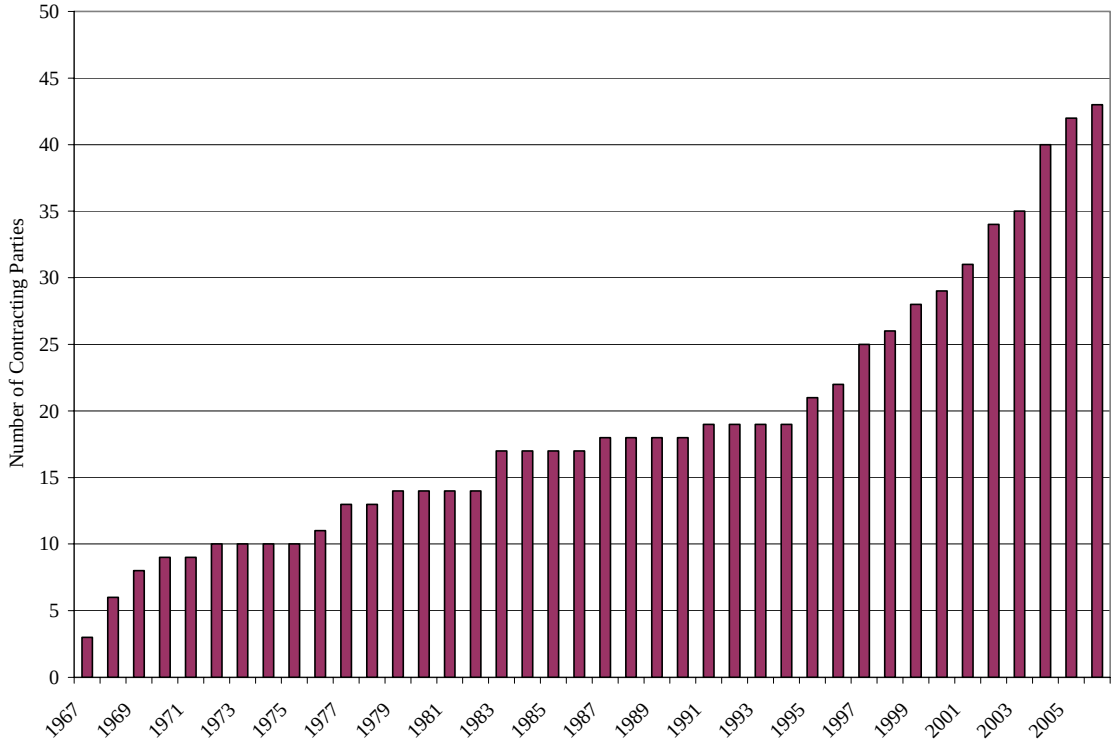
| | Bluefin Action Plan | | Swordfish Action Plan | | IUU Action Plan (Bigeye) | |
|---|---|---|---|---|---|---|
| | Applied | *Removed* | Applied | *Removed* | Applied | *Removed* |
| 1996 | Belize<br>Honduras<br>Panama | | | | | |
| 1999 | Equatorial Guinea** | *Panama** | Belize<br>Honduras | | | |
| 2000 | | | | | Belize<br>Cambodia<br>Honduras<br>St. Vincent & Grenadines<br>Equatorial Guinea | |
| 2001 | | *Honduras** | | *Honduras** | | |
| 2002 | Sierra Leone | | Sierra Leone | | Bolivia<br>Sierra Leone | *Honduras** |
| 2003 | | | | | Georgia | |
| 2004 | | *Equatorial Guinea**<br>*Sierra Leone*<br>*Belize* | | *Sierra Leone*<br>*Belize* | | *Equatorial Guinea**<br>*Sierra Leone*<br>*Cambodia*<br>*Belize*<br>*St. Vincent & Grenadines* |

* Commission member in given year

** Commission member without delegation in given year

ICCAT members certainly learned from their experiences with Honduras and Panama. Requirements for the lifting of sanctions have become more stringent over the years and a clean slate is now considered to be a prerequisite for membership. Since 2001, several countries have struggled to overcome IUU status in order to get the sanctions lifted; these include Belize, Sierra Leone, and St. Vincent and the Grenadines.[18] In fact, membership in the Commission substantially increased throughout the 1990s, as shown in Figure 1. Most of the new members in this period were developing coastal states, although several distant water fishing countries like China and the Philippines have recently joined as well.

**Figure 1: Annual ICCAT Membership**




Bringing new members into the Commission should improve its effectiveness because more countries are engaged in the effort of cooperative international

[18] Belize joined the Commission in 2005. St. Vincent & the Grenadines joined in 2006. Sierra Leone has not yet joined.

management. However, wider membership also means more demands for access to already depleted stocks. This in turn increases the pressure to set total allowable catches above scientifically recommended levels, which has already undermined management of several important stocks. These and other aspects of the variegated success of the ICCAT trade-based combo will be discussed in the next section.

## *Effectiveness of the Trade-based Combo*

The effectiveness of an international regime is a notoriously difficult concept to pin down. The same can be said of some part of a regime, such as the rules and norms associated with ICCAT's trade-based combo of management measures. Yet this is one of the most important elements in the analysis of regimes and so we muddle on with imperfect definitions.

Here, I intend to examine three interlocking aspects of effectiveness: efficacy, appropriateness, and legitimacy.[19] Efficacy asks whether or not a system of measures works as applied. Appropriateness measures the usefulness of the applied measures relative to broader goals and alternative approaches. Following Odell (1982), Haas (1990), and Peterson (2000) among others, legitimacy refers to participants' acceptance of both management measures, such as the trade-based combo, and the institutions which produced them. It is an important contributor to both efficacy and appropriateness.

As shown in Figure 2 (optional), there are several overlapping shortcomings in the effectiveness of the ICCAT trade-based combo. First, two issues arise when looking at the efficacy of the measures as adopted. One must ask, when ICCAT sets a total

[19] Loosely based on ideas from Young (1999).

allowable catch (TAC) level are they really able to keep fishing mortality at that amount? And then, does that reduction cause the intended change in stock biomass?

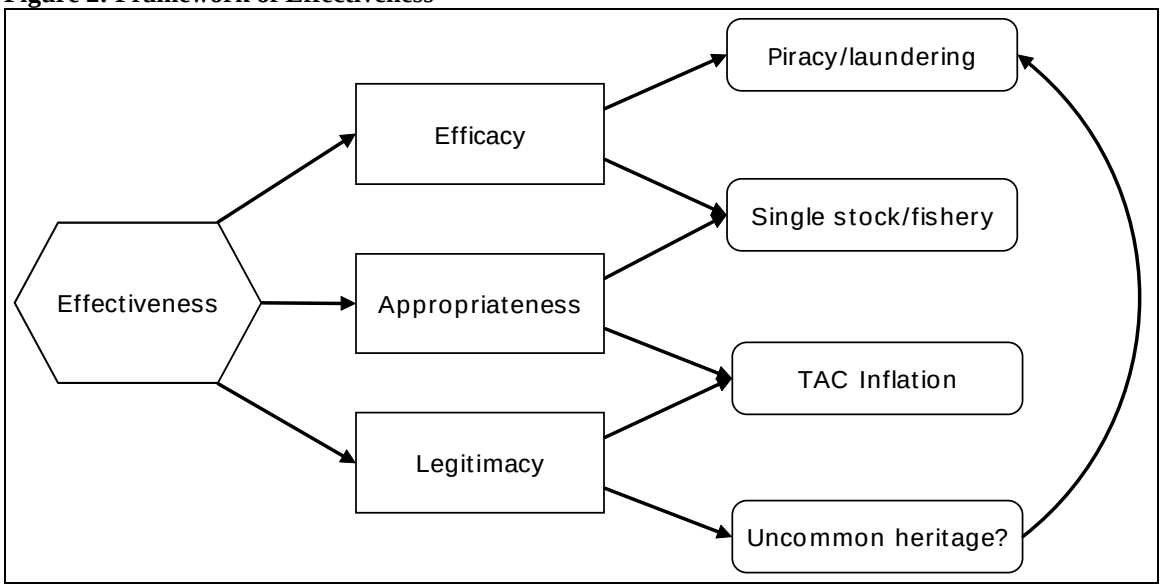
Unfortunately, the evidence is mixed. On paper, compliance seems to have improved but there is still considerable evidence that fishers misreport landings, engage in smuggling activities, and even "launder" fish by faking trade-documents. Moreover, trade-documents do not capture domestic consumption of the species concerned, and therefore many fish, particularly those below the minimum size limit agreed by ICCAT are still caught and sold. In an extreme case, recent estimates by ICCAT's Standing Committee on Research and Statistics (SCRS) suggest that catches of eastern bluefin tuna are about 18,000 t greater than reported.[20] Even for fisheries where such misreporting is not so large, the potential for unrelated shifts in fishing effort—i.e. movement of part of the Spanish swordfish fleet from the northern to the southern Atlantic—generate questions regarding the true impact of ICCAT management measures.[21]

As for the response of the stocks themselves to these measures, scientific analysis shows that two stocks that are managed under the trade-based combo—northern swordfish and bigeye tuna—have rebounded to levels of biomass that are near MSY. The SCRS attributes some part of the increase for northern swordfish to the trade-based combo, but also notes concomitant improvements in environmental conditions for swordfish reproduction.[22] Similar conclusions were drawn from the most recent bigeye assessment.[23] Ironically, the bluefin tuna stocks, for which the combo was first designed, are still severely overfished. In spite of considerable reductions in the total allowable

[20] ICCAT (2007b, 2: 59).
[21] ibid, 84.
[22] ibid.
[23] ICCAT (2007c, 13-14).

catch, Western bluefin is still at very low levels of biomass (about 40% of the level that would support MSY). On the other hand, blatant overfishing in recent years has reduced the eastern bluefin to about 50% of the level that would support MSY and current harvests are thought to be unsustainable.[24]

**Figure 2: Framework of Effectiveness**




Piracy and fish laundering are not the only reasons for these dismal numbers. There are also problems of efficacy and appropriateness associated with the single-stock and single-fishery application of the trade-based combo. Bycatch of managed species, or incidental harvesting in non-target fisheries, can also undermine the efficacy of these measures by raising fishing mortality above the TAC level. The Commission has recognized this problem and attempted to deal with it in several ways. Minimum size limits were adopted for all three species, though landings of small fish remain extremely high, particularly for the tunas. Usually unreported, dead discards of small fish create an even bigger problem because they can skew scientific assessments. Recently, various

[24] ICCAT (2007b, 2: 53 & 61).

time-area closures have also been adopted but these have not had as strong an effect as desired.[25]

In fact, the only bycatch remediation measures that have shown any efficacy are regulations put in place by individual countries, rather than ICCAT as a whole. These include minimum size limits at landing set and strongly enforced by the US and Canada as well as a moratorium on retaining swordfish that the Japanese instituted for their fleets targeting bigeye tuna.[26] Ideally, all countries would be willing and able to take such actions to prevent bycatch, but many, like the EC would be forced to severely reduce its targeted harvests in order to reduce bycatch. This is because EC purse seine fleets target large, mixed schools of small tunas, including juvenile bigeye, and there is no way to easily remove this bycatch while retaining the rest of the harvest.

The mixed nature of such fishing operations and the non-selective character of other gears like the longlines used to target swordfish and adult bigeye tuna suggest that single stock management may not be the most appropriate way to deal with these fisheries. Indeed, it is virtually impossible to use the trade-based combo on the fishery for small tunas without substantially increasing the level of direct monitoring (through observers), as is used by the AIDCP in the Eastern Pacific. Furthermore, these fish are not sold individually, but in huge mixed lots, so modification of the statistical document tracking system would also be required. Lastly, mixing between stocks of the same species, such as eastern and western bluefin tuna, increases the scope of relative gains, allowing countries targeting each stock to compare their conservation efforts. This can delay management as recriminations take the place of constructive negotiations.

[25] ICCAT (2007c, 14-15) and ICCAT (2007b, 2: 52 & 60).
[26] ICCAT (2007b, 2: 86).

Some analysts and advocates might go further, suggesting that the single-fishery/single-stock approach of the trade-based combo is inappropriate because it ignores the complexity of the oceans ecosystem and bycatches of many other species. For instance, Atlantic blue marlin and white marlin have been heavily depleted in large part because these relatively small stocks are bycatch for longlines targeting tunas and swordfish. ICCAT has taken some actions to reduce these incidental harvests, but, as in other bycatch cases, these numbers cannot be trusted because fishers can simply discard the unwanted catches at sea rather than attempting to avoid them. Since there is minimal international trade in these species, there is also no source for independent monitoring of fishing mortality.

On the other side of the equation, scientists have been finding explosion in populations that once were either competition or lunch for commercially targeted species like the tunas and swordfish. Perhaps the most disturbing is the northward movement of the humbolt squid (*Dosidicus gigas*). Also a top predator, expanding populations of humbolts will consume resources once dominated by tunas and tuna-like species. Such imbalances could lead to sudden and permanent changes in the life histories of various species, including those targeted by ICCAT members. If smaller populations of tunas are forced to compete with larger populations of squid, the tide may turn for these top predators, reducing their ability to survive even farther. [27]

While several alternatives to the single-stock approach have been proposed, it is not likely that this element in the trade-based combo will change anytime soon. It is too heavily imbedded in both the science and the management of highly migratory species. That said, one can also question the appropriateness of the trade-based combo within this

[27] Zeidberg and Robinson (2007).

rubric because of the incidence of TAC inflation. This can occur in one of two ways. First, in several instances the TAC for a particular stock has been set above the level prescribed by the SCRS in order to accommodate all demands by ICCAT members. In the southern swordfish case, this entailed setting a TAC that was actually above fishing capacity. At the same time, political TAC inflation has been a major contributor to the decline of eastern and possibly western bluefin tuna. The eastern case is more obvious because ICCAT members showed blatant disregard for scientific advice. For the western stock, members choose to pursue the most optimistic scenario among several models, rather than maintain more stringent post-CITES limits on their catches.

The western bluefin case is related to another form of TAC inflation: the politicization of scientific advice. Sudden shifts in SCRS advice are often observed after the initial adoption of a trade-based combo or other management measures. In all cases, scientific assessments became more optimistic—and therefore recommendations became less restrictive—after the adoption of management measures. Furthermore, in several cases it is clear that new findings by scientists from countries who resisted stringent management measures were most responsible for these shifts. For example, Japanese scientists introduced more positive assessments after the 1991 revolution in the management of western bluefin, which then lead to a quick return to higher catch levels.

Both types of TAC inflation can lead one to question the legitimacy of the trade-based combo as an exercise in international environmental management. Accusations fly in all directions during negotiations, calling into question the scientific foundation of *every* substantive proposal on the table. Countries that prefer lower TACs accuse others of watering down scientific advice while those who prefer higher TACs or alternative

measures claim that pessimistic science is only being used to placate domestic conservation interests. In 1995, the UN Food and Agriculture Organization included the concept of a precautionary approach in its Code of Conduct for Responsible Fishing Practices, ostensibly to eliminate such deleterious conflicts over scientific interpretation. Nevertheless, ICCAT has not operationalized the idea due to strong resistance from most members.

Another problem of legitimacy that is directly related to the implementation of the trade-based combo has to do with the apportioning of a global resource. Historically dominant fishing states clearly view this system as a means of ensuring long-term access for their fleets via multilaterally approved quota measures. However, many developing countries have demanded their share of access to these beleaguered fisheries as well. This contestation over norms of allocation—historical access versus development needs—lead developing coastal states to organize in the late 1990's, creating the so-called "Group of 18".[28] By holding up quota sharing arrangements on stocks like bigeye tuna and southern swordfish, the Group successfully negotiated for the establishment of an official ICCAT allocation criteria in 2001. Both historical and developing interests are represented in the document, but implementation of the new criteria has favored more powerful historical fishing countries as the desire for particular national quotas has eroded the joint resolve of the Group.

Beyond the internal conflicts over access, there are those who would contest the legitimacy of transforming a global public good like the oceans into a club-good, even if the club is multilateral. This contestation appears in several ways. First, high levels of

[28] The terms "developing" and "state" are problematic in this context. However, members of this group self-identify using this terminology, so I feel that it is appropriate.

non-compliance by IUU fleets and the states that harbor them suggest that these actors do not respect the legitimacy of distribution through ICCAT. Second, high levels of non-reporting or misreporting by ICCAT member states shows that even those countries that participate in the Commission may not respect its legitimacy except as a forum to advance their cause. As noted before, the norm of national interests first is prevalent at ICCAT and the other regional fisheries management bodies. This undermines the legitimacy of the institution itself as countries and fishing fleets may feel that they are entitled to circumvent ICCAT management if it will benefit national interests.

Lastly, conservation organizations such as Greenpeace and the World Wildlife Fund question the legitimacy of treating the ocean purely as a commercial resource to be divvied up among countries. They point out the value of biodiversity and ecosystem services provided by many highly migratory species, including bycatch like blue marlin and white marlin. These interest groups have been most critical of the trade-based combo and are most pessimistic about the long-term success of the Commission itself. While interventions by such conservation-oriented interests are increasing at the national level, their voices remain relatively muted within most national delegations.

## *Conclusion*

While there are many problems with the ICCAT trade-based combo, it is likely that these innovative measures have at least inhibited fishing effort targeting key commercial species. By slowing exploitation, quasi-property rights schemes can reverse the decline of some species while postponing the collapse of others. So far, concerns regarding effectiveness have not been strong enough to threaten the Commission or inhibit the adoption of similar trade-based schemes in other multilateral fisheries

organizations.[29] Future threats do remain, including the potential collapse of bluefin fisheries and the possible extinction of bycatch species like white marlin. Hopefully such crises will be seen as opportunities for improving management rather than abandoning it all together. If enough public interest is generated, it might even be possible to move away from measures based on national interests, like the trade-based combo, to more holistic approaches such as marine protected areas.

## *Sources Cited:*


Barkin, Samuel, and George Shambaugh. 1999a. Anarchy and the Environment. Albany, NY: SUNY Press.

Christy, Francis T., Jr., and Anthony Scott. 1965. The Common Wealth in Ocean Fisheries. 2nd ed., Baltimore: The Johns Hopkins Press.

De Sombre, Elizabeth R. 1999. Tuna Fishing and Common Pool Resources. In Barkin and Shambaugh 1999a, 51-69.

—. 2005. Fishing under Flags of Convenience: Using Market Power to Increase Participation in International Regulation. Global Environmental Politics, 5 (4): 73-94.

Haas, Ernst B. 1990. *When Knowledge is Power: Three Models of Change in International Organizations*. Berkeley, CA: University of California Press.

Haas, Peter M., Robert O. Keohane, and Marc A. Levy, eds. 1995. Institutions for the Earth. Cambridge, MA: The MIT Press.

ICCAT. See International Commission for the Conservation of Atlantic Tunas.

ICCAT. 1992. Annual Report. Madrid: International Commission for the Conservation of Atlantic Tunas.

—. 2007a. Compendium of Management Recommendations Resolutions Adopted by ICCAT for the Conservation of Atlantic Tunas and Tuna-like Species. Madrid: International Commission for the Conservation of Atlantic Tunas, http://www.iccat.es/RecsRegs.asp (accessed September 22, 2007).


[29] De Sombre (2005).

—. 2007b, Vol. 2. Annual Report of the Standing Committe on Research and Statistics. Madrid: International Commission for the Conservation of Atlantic Tunas (Publication occurs the year after each meeting is held; Prior to 1995 the proceedings of the Standing Committe on Research and Statistics were published in combination with the proceedings of the Commission).

—. 2007c. Report of the 2007 Bigeye Tuna Stock Assessment Session. Madrid, Spain - June 5 to 12, 2007. http://www.iccat.es/Documents/Meetings/Docs/BET%20STOCK%20ASSESS%20REP_ENG_AUG%201%2007.pdf (accessed September 22, 2007).

—. 2007d. List of Contracting Parties. Madrid: ICCAT, http://www.iccat.es/contracting.htm (accessed September 22, 2007).

Juda, Lawrence. 1996. International Law and Ocean Use Management: The Evolution of Ocean Governance. New York: Routledge.

Odell, John S. 1982. *U.S. International Monetary Policy: Markets, Power, and Ideas as Sources of Change*. Princeton: Princeton University Press.

Peterson, M.J. 1995. International Fisheries Management. In Haas, Keohane, and Levy, eds. 1995, 249-305.

—. 2000. International Organizations and the Implementation of Environmental Regimes. In Young, ed. 2000, 115-151.

Webster, D.G. 2006. The Marlin Conundrums: Turning the Tide for By-catch Species. Bulletin of Marine Science 79 (3): 561-575.

Young, Oran R. 1999. The Effectiveness of International Environmental Regimes. Cambridge, MA: The MIT Press.

—, ed. 2000. *Global Governance: Drawing Insights from the Environmental Experience*. Cambridge, MA: The MIT Press.

Zeidberg, Louis D., and Bruce H. Robison. 2007. Invasive range expansion by the Humboldt squid, Dosidicus gigas, in the eastern North Pacific. Proceedings of the National Academy of Sciences of the United States 104(31) : 12948-12951.