



Sustainable Development

ROUND TABLE ON SUSTAINABLE DEVELOPMENT

Stopping the High Seas Robbers: Coming to Grips with Illegal, Unreported and Unregulated Fisheries on the High Seas.

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This document is a background paper for the Round Table on Sustainable Development meeting which has as its theme "the sustainable development of global fisheries, with particular reference to enforcement [against illegal, unreported and unregulated fisheries] on the high seas." The meeting will take place at OECD Headquarters, 2 rue André Pascal, 75016 Paris on 6th June 2003, starting at 9.30.

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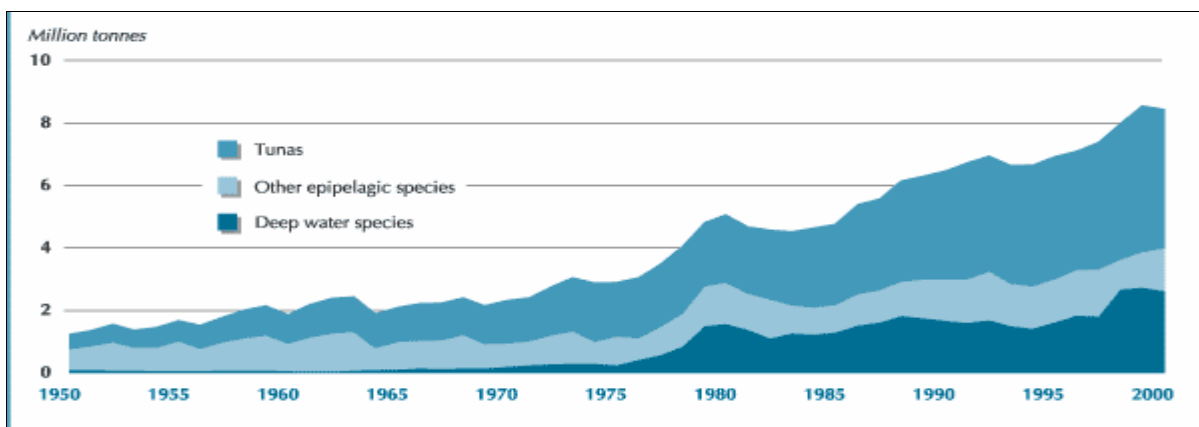
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Introduction¹

The problem of fishing activity that is regarded as illegal is scarcely new. Pirate fishing in Athenian waters by fleets based in the Asia Minor Greek cities in 260 BC, for instance, helped trigger a series of mini-conflicts between Athens and its former clients. But it is only the very recent codification of international law governing sovereign rights in respect of oceans and seas that has enabled a phrase such as *illegal, unreported and unregulated (IUU) fishing* to command a widely understood and agreed meaning. Fishing that can be described as illegal, unreported and unregulated, is fishing that is conducted in breach of conditions governing waters under the exclusive control of sovereign states, or fishing conducted on the high seas that is in breach of measures agreed between sovereign states – either at the global level (as in the United Nations Convention on the Law of the Sea) or at a regional level. This paper concerns IUU fishing on the high seas – that area of the maritime environment that is not under the exclusive control of a sovereign state.²

The prominence of IUU fishing in modern times coincides with the huge increases high seas fishery capture rates over the last fifty years (see Figure 1). As concerns have grown about the global sustainability of fisheries, IUU fishing has become a problem of global significance.

Figure 1: The Rise in High Seas Fishing³

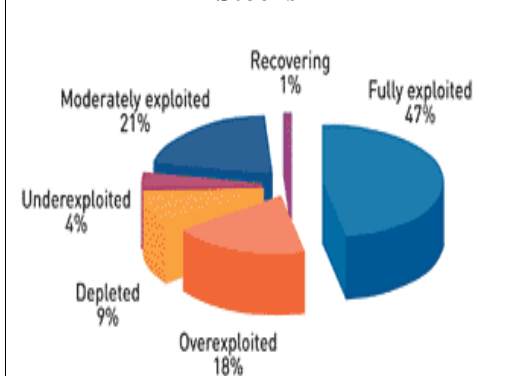


How big is the problem? The truth is that we don't know. This stems, in part, from the obvious fact that fishing that is unreported and in breach of regional and international conventions, doesn't yield official statistics. But neither is our understanding of overall fish stocks – and their dynamics - by any means complete. The IUU fish harvest is an unknown percentage of an ill-defined resource. But the information we have (a mixture of anecdote and data gathered by some regional fisheries organisations) suggests that it is significant – and therefore worrisome given current knowledge of the sustainability of fish stocks.

We do know that the sharp rise in high seas fishing over the past two decades, both legal and illegal, has placed considerable pressure on the overall state of global fish stocks. Over 27% are described by the FAO, for instance, as either over-exploited or depleted and more worryingly only 1% of the global fishery resource is on the road to recovery.⁴ Figure 2 below illustrates the extent of the problem. Tellingly, production levels from twelve of the FAO's sixteen world 'fishing regions,' including in areas of known IUU activity such as the Antarctic, Southeast Pacific and Northwest Atlantic, have fallen below their historical maximums which suggests declining stocks.⁵ These estimates are, however, only as good as the fishing data supplied by countries. Recent evidence suggests that statistical mis-reporting by some countries may mask even more serious declines in global fish stocks.⁶ Moreover, the very latest study by scientists in Canada reveals that commercial exploitation can cause a catastrophic and irreversible decline

in stocks. According to their research fish stocks collapse by about 80% within the first 10-15 years of commercial exploitation and then stabilise at around 8-10% of the original numbers. Crucially, this research also indicates that conservation of the current stocks based on recent data alone is flawed as it seriously underestimates the magnitude of the problem.⁷

Figure 2: State of the World's Fish Stocks⁸



It is against this background that attempts to describe the unmeasured dimensions of IUU fishing must be made. The most comprehensive data for high seas IUU fishing is that which relies on work undertaken by the main Regional Fisheries Management Organisations (RFMOs).⁹ Any attempt to produce a global number could thus only be an extrapolation. But an idea of the scale of the problem can be derived from material supplied by some of the leading regional organizations.

The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), estimates, for example, that IUU fishing within its vast boundaries accounted for some 39% of the total (IUU plus regulated) catch in 2000/01.¹⁰ But within parts of that area the IUU catch was much higher with

stocks, in some cases, having been reduced by as much as 90% in three years largely as a result of IUU activity.¹¹ The International Commission for the Conservation of Atlantic Tuna (ICCAT) was advised by Japan that some 25,000 tonnes or around 18% of all fishing activity for tuna over the 2001/2002 season could be attributed to IUU activity.¹² In a similar vein, the North East Atlantic Fisheries Commission (NEAFC) reported that up to 20% of the redfish traded internationally in 2001 had entered the market through the activities of IUU fishing vessels.¹³

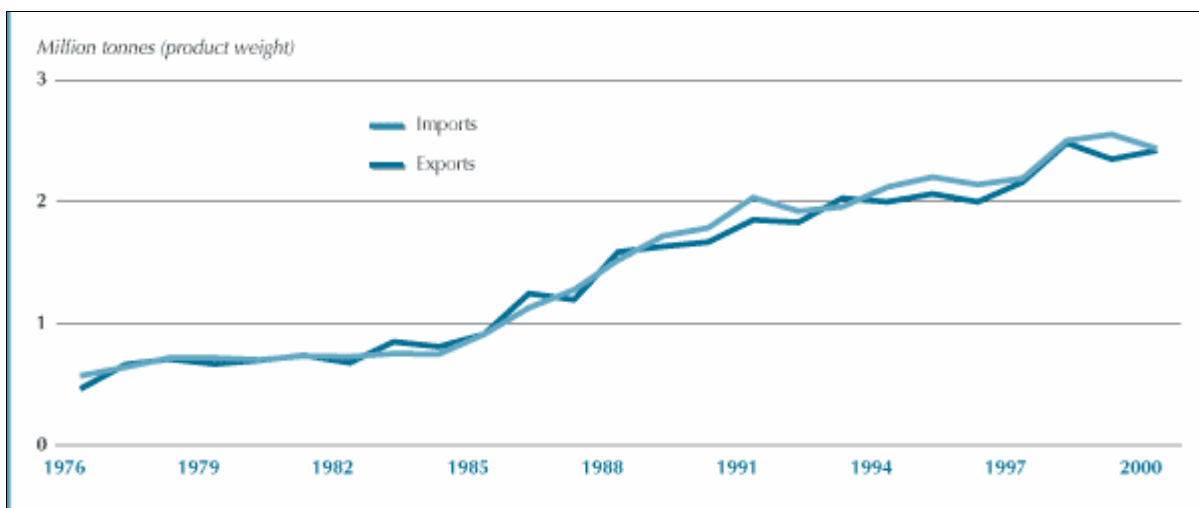
In addition to the data collated by RFMOs, it is possible to estimate the extent of IUU fishing by considering the difference between trade figures and recorded catch data. This is very difficult to do for some fisheries like toothfish due to the difference between live weights (capture data) and filleted weights (trade data). Nevertheless, done properly, such an approach can provide a dramatically different assessment to that outlined above. While CCAMLR's catch figures for instance suggest that the trend in IUU activity to capture toothfish is generally downwards, a comparison of these figures with international trade reveals a rather different story. According to some estimates, IUU activity has actually risen by as much as four hundred percent over the same period.¹⁴

All of this simply serves to underline the uncertainties that attach to any attempt to assess the scale of this problem – a disquieting prospect in view of international endorsement for a precautionary approach to fishing now enshrined in international treaties. To this must be added the fact that IUU fishing not only has an impact on the species it targets, but also has spill-over effects on the wider ocean eco-system. Statistics on fish landings over the past ten years, for instance, indicate that there has been a marked reduction in the numbers of larger predatory high-seas fish. This has increasingly shifted the balance of fishing activity down the food chain.

Scientists are only now beginning to understand these kinds of impacts.¹⁵ Moreover, most assessments of the status of high seas fisheries stocks do not currently include a stock-recruitment relationship assessment and are therefore unable to account for the effect of reductions in spawning stock biomass on future recruitment. Consequently, the negative effects of IUU fishing on population levels and thus on reductions in the stock may be further underestimated.¹⁶

Whatever its proportions, there are good reasons to believe the incentives that support IUU fishing are unlikely to abate. Fish and seafood products are among the most widely traded commodities in the world. To this must be added the significant over-capacity of the world fishing fleet, a result of government-subsidised vessel building in many countries. The woeful consequences for fish stocks under national jurisdictions were then visited on high seas stocks as under-utilised vessels looked for employment further afield. Not surprisingly therefore, the trend in the international trade of oceanic fish species - those most at risk from high seas IUU - is ever upwards (see Figure 3). In addition to rising demand for fish, must be added the low running costs of vessels that on account of their flag status, can avoid the costly insurance, safety and maintenance standards that responsible enterprises must meet. Moreover, IUU vessels do not need to purchase fishing licences, install VMS units, pay for on-board observers or underwrite the costs of administrative mechanisms to run catch documentation schemes. While the risk of detection is an ever present one and affects the incentive base,¹⁷ the probability of actually being apprehended and the low resulting fines¹⁸ means that the risks are marginal at best.¹⁹ In short, given current enforcement efforts, the operational economics of IUU fishing have the clear potential to further reduce global fish stocks.

Figure 3: The Rising World Trade in Oceanic Species²⁰



Trying to outlaw unsustainable fishing on the high seas

The persistence of IUU fishing is not a reflection of diplomatic lethargy. The last 10 years has seen an almost frenzied level of treaty-writing given initial impetus by the 1982 Convention on the Law of the Sea and then the UN Conference on Environment and Development ten years later in Rio. Few areas of multi-lateral activity have seen so many closely related and sometimes overlapping initiatives pursued in quick succession. Negotiators have not been sitting on their hands.

Notwithstanding that, the level of activity reflects fundamental shortcomings both in the strength of the legal norms that govern the global ocean commons and in the ability of multilateral processes to secure genuinely comprehensive sign-up. While a complex and evolving web of binding and non-binding international instruments has undoubtedly changed the nature and the location of grossly unsustainable high seas fishing, it has not stopped it. Each new intervention potentially moves the problem somewhere else. There is no globally enforceable regime at this point that can put an end to the practice. We have instead a patchwork quilt of measures with differing geographical and legal reach. The following discussion addresses four types of response in turn:

- (i) measures dealing with flag state responsibilities;
- (ii) measures dealing with the powers of port states;
- (iii) measures designed to curb the market in IUU fish;
- (iv) measures directed at citizens extra-territorially.

(i) Trying to Cope with Errant Flag States

For practical purposes, all legal arguments about the status of vessels on the high seas and the responsibility of governments to control them, start and stop with the United Nations Convention on the Law of the Sea 1982. UNCLOS asserts that the high seas are open to fishing by all states (Art. 87). Of course, it is not states but fishing boats that go fishing. UNCLOS asserts the right of all states to flag ships (Art. 90) and in doing so underwrites the primacy of flag states as the conduit through which the enforcement of shipping obligations must pass.

The extent to which the 1982 Convention itself elaborates the responsibilities of flag states is limited, and largely general in nature. For instance there is a general obligation “to protect and preserve the marine environment” (Art. 192). In tandem with that provision is a duty to co-operate globally and regionally to elaborate international rules and standards to protect the marine environment (Art. 197). Similarly, the nature of the relationship between states and those authorised to fly their flags is characterised in minimal terms: there must be “a genuine link” (Art. 91).

It might seem straightforward that if the law of the high seas is going to be based on flag states, then flag states should take responsibility for their ‘flags’. But the only comprehensive, treaty-based attempt to specify what a genuine link must involve failed to give practical support to that premise. The UN Convention on Conditions for Registration of Ships, negotiated in UNCTAD in 1986, was supposed to spell out flag state responsibilities for the registration and supervision of vessels flying their flags. Although directed at large trading vessels rather than fishing vessels, the Convention could have initiated formulation of flag state responsibilities. Instead, it was still-born. Effective lobbying by flag states with large tonnages in respect of which they did *not* wish to exercise greater control saw the insertion of entry-into-force provisions which meant their own failure to accede would effectively kill the treaty.

There seems to be no willingness to re-open this issue despite the age in which we live being more security and transparency conscious. A joint IMO-FAO ad hoc working group on IUU fishing swiftly ducked the issue in 2000 blandly agreeing- without any elaboration - that there was little benefit in attempting to define the concept of a ‘genuine link’ between a vessel and the State whose flag it flies.²¹

The 1982 Convention does contain a specific reference to the need for co-operation in respect of migrating fish stocks (Art. 64) but this is tacked on to a part of the Convention dealing with coastal states and their exclusive economic zones. Possibly the only provision which purports to direct flag states to take responsibility for their boats (and even then it is extremely general) is Article 117 which imposes a duty on all states to take “such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.”

Notwithstanding the generality of the few UNCLOS provisions that imply flag state responsibilities, there would not be a problem of IUU fishing if states observed them – either by forcing ‘their’ ships to comply or refusing to flag them. The reality is, however, that many States either cannot or will not take enforcement action against fishing boats flying their flags even when their activities are clearly damaging to the marine environment. Bluntly put, they are happy to claim the rights and benefits of sovereign states to confer flag status without accepting the correlative responsibilities. And it is this failure that has led to a frenzy of international negotiating activity that seeks with far greater specificity to do what UNCLOS at a

global, generic level fails to achieve. A survey of this activity can be usefully divided into so-called ‘hard’ and ‘soft’ law initiatives.

Hard law measures

The first round of ‘hard law’ treaty making was the 1993 FAO Compliance Agreement negotiated hard on the heels of the Rio Earth Summit. If a lack of specificity in the UNCLOS Convention was the only reason flag state responsibilities were not being prosecuted (at least with respect to fishing vessels), then the 1993 agreement should have fixed the problem. This is an ambitious treaty which provides explicitly that flag states should do whatever it takes to ensure that fishing vessels flying their flags do not undermine international conventions.

The provision spelling out the responsibilities of flag state with respect to high seas fishing, Article III is detailed and potentially onerous. It amounts to an admission that the terms of the 1982 Convention do not guarantee adequate control by flag states. Particularly noteworthy is the explicit link that is drawn between flagging and enforcement: states are not supposed to authorise fishing vessels to fly their flags “unless the Party is satisfied that it is able ... to exercise effectively its responsibilities under this Agreement in respect of [those vessels]” Article III.3)

There are significant requirements to collect and exchange information and, most ambitiously, parties are supposed to co-operate to ensure that vessels flagged by *non-parties* do not undermine the effectiveness of international conservation and management measures. Inevitably, that injunction is limited by the words “in a manner consistent with ... international law.” This focuses attention on the fundamental weakness of all attempts subsequent to the 1982 convention to build a more demanding compliance regime: it cannot bind non-signatories, and signatory states are bound to respect flag state rights under the 1982 convention no matter how disreputable their activities may be.

If the 1993 agreement is anything to go by, there is an inverse relationship between treaty requirements and the enthusiasm to accede. Whereas the 1982 Convention (admittedly a far more wide-reaching and significant source of sovereign advantage) has over two decades attracted 135 signatories, the Compliance Agreement has, in a decade, attracted only 24 – short of the 25 needed to come into force.²²

Notwithstanding the negotiation of the 1993 agreement, a further milestone treaty followed in 1995, the UN Fish Stocks Agreement which marked a new high-water mark in international ambitions. At the same time it is a more limited agreement: it is concerned only with straddling and highly migratory fish stocks; and it is an agreement under which pre-existing and future regional and sub-regional conservation and management agreements can be gathered. In this respect, the 1995 Agreement is an implied admission that while the high seas pose a global management challenge, effective management can only be done in more tightly prescribed zones and between the most interested parties. So for all its progressive qualities, the Agreement only extends as far as willing parties in respect of specific fisheries are prepared to bind themselves.

The effect of the Fish Stocks Agreement is to provide a specific context to the general injunction of inter-state co-operation spelt out in Article 118 of the 1982 Convention. Twelve ambitious principles are spelt out together with a formal adoption of the precautionary approach. RFMOs are endorsed as the principal means of implementation together with a specific injunction to strengthen the agreements establishing them that pre-date the Agreement.

With respect to flag states, the duties enshrined in the 1993 Agreement are augmented and extended so that vessels flying the flags of signatory states are required to comply with all regional and sub-regional measures *whether or not the flag state in question is a party to the* RFMO under which this applies. Most

radically, enforcement through boarding and inspection of vessels on the high seas by members of regional fisheries management arrangements is envisaged. This is as close as international law gets to curbing the otherwise sacrosanct rights of flag states and, at least in this respect, starts to place illegal fishing on a par with such obnoxious activities as slavery and piracy. The traditional formula of requiring that flag states are informed of serious violations is observed but if the flag state fails to respond or to take action, Article 21.8 permits the ‘inspecting’ state to remain on-board and divert the vessel to a port. Action taken against the vessel has to be proportionate with the seriousness of the violation.

This is a powerful provision. But it is explicitly without prejudice to the rights of flag states. More importantly, it cannot bind non-signatory flag states. The 1982 Convention is only modified to the extent that signatories allow themselves to be constrained. So technically speaking, a vessel flagged by a nation that has signed only the 1982 Convention cannot be apprehended or detained. Notwithstanding that, the 1995 Agreement has significantly widened the scope for national compliance. Unlike the 1993 Agreement, it has entered into force being currently acceded to by 34 countries.

That of course provides no leverage against some of the most egregiously offending flag states. But if building a thicket of regional organisations with perhaps more conviction and determination to act was the unsung aim of the 1995 Agreement, there are now in excess of 20 such agreements that to a greater or lesser extent raise the prospect of more concerted enforcement. While many have decision-making procedures that can lead to deadlock (and thus inaction) and few have far-reaching enforcement provisions, there are signs that the 1993 and 1995 Agreements are now starting to produce tougher rules.²³

Soft law measures

Almost as if to concede the limitations of negotiating treaties that cannot apply to non-co-operating states, governments have generated two non-binding instruments in the hope (one assumes) of attracting a higher level of sign-up. They are the 1995 *FAO Code of Conduct* and subsequently (under its auspices) *the FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)* of 2001. Adopted by FAO conferences rather than formal processes of ratification, these instruments repeat as recommended good practice, many of the standards required by the ‘hard law’ treaties. The *IPOA-IUU* is particularly detailed in its injunctions to flag states, spelling out detailed provisions in respect of such avoidance devices as chartering and flag-hopping, the registration of vessels, and the imposition of formal authorisations to fish which contain a large range of requirements relating to things like catch reporting systems and mechanisms to monitor compliance.

In short, the ‘soft-law’ instruments prescribe detailed regulatory blueprints that states are encouraged to adopt. Whether it makes sense to believe that pressure can be brought to bear through increasingly detailed requirements in non-binding documents is debateable. The hard question is whether anything has been added by the negotiation of texts which describe the world as regulators would like to see it rather than the regulatory minimum they have managed to negotiate. The optimistic view, in the words of one commentator, is that

“while one of the fundamental tenets of treaty law is that only the parties to a treaty can be bound by the legal obligations contained in that treaty, one of the consequences of the close linkages between the various international instruments is that there is much repetition of key concepts and provisions and States may well give implicit consent, on a voluntary basis, to certain ‘obligations’ which they would not otherwise commit themselves to in the context of a binding treaty.”²⁴

The pessimistic view is that while it may be encouraging to see some flag states moving to associate themselves with responsible conduct on the high seas, it is not states but boats that do the fishing. In the absence of effective enforcement by flag states – never an easy task even for well-resourced states who

have signed the binding legal instruments – good intentions will remain just that. Besides, the hard fact of international law remains that if a boat flies the flag of a state that has not signed any of the legally binding conventions, other states have no legal basis to interfere with that vessel under those conventions. All treaties subsequent to the 1982 Convention have been negotiated without prejudice to the rights contained therein.

The most that can be hoped for is that by encouraging flag states to endorse the soft-law instruments, those states will acquiesce in allowing states belonging to RFMOs to take enforcement action against vessels flying their flags should they be in breach. Beyond that possibility, there is no legal basis on which enforcement action can be taken against the vessels of non-signatories.

(ii) Trying to tackle errant fishing boats through port authorities

If flag states won't co-operate either in becoming a party to conservation and management measures or enforcing them, can port states take up the cudgels and do the job for them? The 1993 Compliance Agreement states the conservative position that if a boat suspected of fishing in breach of conservation measures enters a port, then the port state should inform the relevant flag state. But if the flag state is unwilling to act, that gesture is of no effect. How far then can a port state go? The answer is probably a long way although there is no comprehensive statement of the legal position laid down in one place.

There is no dispute that states in whose territory ports are located have full sovereign authority over them.²⁵ They are entitled to regulate the terms on which boats enter their internal waters and hence their ports. That extends both to denying them access to ports and to requiring compliance with domestic regulations should access be permitted. Domestic law can, for instance, make provisions for inspections and forbid the transshipment or landing of fish caught in contravention of agreed conservation measures. This position is formally endorsed by Article 23 of the 1995 UN Fish Stocks Agreement which specifically affirms the right of port states to inspect vessels and prohibit landings as a means of supporting the observance of global and regional conventions.

In terms of sanctions against IUU boats, the position is probably a little more contentious. For if a boat is flying the flag of a state that is not party to any of the treaties or regional fisheries management agreements, then it could be argued that to prosecute it for actions that have taken place outside the jurisdiction of the prosecuting state *and* in respect of treaties which the boat's flag state has not bound itself to observe, amounts to an attempt to make the provisions of a treaty binding on a non-signatory. Port states can of course counter by insisting that it is their right to pass domestic legislation making it illegal for any boat that is in breach of relevant international or regional measure as they relate to the high seas to be in their internal waters. Since fishing boats do not have a right to enter ports, if they are permitted to do so and do so of their own election, they accept the domestic provisions that apply. Whether such an approach could extend as far as the forfeiture of vessels is controversial but it is clear that the trend of both regional agreements and soft law like the IPOA - IUU, in as far as they refer to port states, is to envisage a more activist approach.

Of course, a single port state acting alone is going to do little more than re-direct errant boats in the direction of states whose ports are not governed by such restrictions. So the question has arisen as to whether a common memorandum of understanding should be negotiated between port states. The desirability of such an instrument has been the subject of comment by a joint FAO/IMO ad hoc working group that reported in 2000 and, more recently, in the FAO.²⁶ Because fishing vessels move from port to port and region to region, some sort of linked-up system is required if port states in different regions are to be in a position to intercept boats that are seeking to evade enforcement closer to the scene of their activities.

The fact remains, however, that port state measures run up against the same limitations as those directed at flag state responsibilities. As long as there are states that are not prepared to sign up to stringent port measures, then vessels will be able to get their products to the market place. Hence the need to consider interventions directly in the market place.

(iii) Trying to stop IUU catches reaching the market place

Given that IUU fishing is only worthwhile if there is a market for the product, then measures designed to affect the supply and demand for these goods in the market place should be a useful way to restrict, if not eliminate the activity altogether. That is easy to state but much harder to bring about in a world in which more than 150 countries are engaged in the export of some part of their fisheries production and nearly 180 import fish products. There are perhaps two main types of trade measures which could, and in some cases already do limit the entry of IUU product onto the world market: documentation schemes and private voluntary eco-labels.

Documentation Schemes

To date, documentation schemes have been implemented for three species: tuna, swordfish and toothfish. These address the supply side of the trade in these products. There are two types of documentation schemes. *Trade documentation schemes* require documentation to accompany particular fish and fish products when traded. Documentation is issued when the fish is landed and applies only to those fish which will be internationally traded. *Catch certification schemes*, on the other hand, use certificates at the point of 'harvesting' and apply to all fish which are caught, landed and/or trans-shipped.²⁷

ICCAT adopted the first trade documentation scheme as part of a bid to address the problems caused by IUU fishing for bluefin tuna.²⁸ Documentation containing information about the vessel which caught the tuna, where the fish was caught and the quantity landed must be certified by the national authorities of the Flag States of the vessel. The certified document must also accompany the fish when it is traded on the international market. A similar approach has been taken by the two other tuna commissions, the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) and the Indian Ocean Tuna Commission (IOTC).²⁹ Member countries are required to deny the landing in their ports of any tuna caught outside the zones or lacking appropriate documentation. According to the CCSBT and ICCAT Secretariats, IUU tuna fishing has been reduced. In part this has been a result of the full implementation of these measures. Nevertheless, problems remain including the difficulty in ensuring the complete closure of the Japanese market for IUU southern blue fin tuna.³⁰

Trade documentation schemes, however, are not without their problems. Most significantly perhaps they do not apply to fish at the point of harvesting or to transhipped product. The latter in particular is one of the primary mechanisms for IUU fishers to move their product to market. It was in the context of these perceived drawbacks that the CCAMLR Catch Documentation Scheme (CDS) was introduced in May 2000.³¹

The CDS operates in conjunction with a requirement that all vessels licensed to fish for toothfish *must* operate a satellite-linked vessel monitoring system (VMS). The scheme requires Flag States to certify the origin of toothfish catch before it is landed or transhipped. More generally, it tracks the landings and trade flows of toothfish caught in the CCAMLR area by requiring landings of toothfish at Members' ports or transshipments to Members' vessels to be accompanied by a Catch Document. In this way CCAMLR is able to identify the origin of toothfish entering the markets of all members of the scheme and also determine whether the fish were caught legally. CCAMLR provides participating countries with the

requisite authority to detain any shipment of toothfish which is not accompanied by a valid Catch Document.³²

It is probably too early to draw any definitive conclusions about the effectiveness of these documentation schemes. Their effectiveness is entirely dependent on members being prepared to enforce and monitor implementation, including installation of VMS units and regular and rigorous checks being made on landing, trans-shipment and importing into the territories of Member countries. Making such systems work is not easy. For instance, CCAMLR has encountered difficulties with the ‘laundering’ of IUU toothfish catches through CDS documentation, both forged and genuine.³³ The problem is compounded by the way in which IUU toothfish can be traded under different names, such as butterfish (Mauritius), Chilean Sea Bass (US and Canada) and Mero (Japan).

Trade-related documentation schemes are most effective when they are species focussed and are driven by Regional Fisheries Management Organisations acting cooperatively. Moreover, it certainly helps when the fish species being targeted can be relatively easily traced. In the case of bluefin tuna, for instance, this has been relatively straightforward because the fish are generally sold individually. Toothfish, on the other hand, are traded by volume posing challenges for effective tracking systems that have required harmonised customs codes and the use of DNA or protein ‘fingerprints.’

Eco-labels

Over the past decade consumers have become more interested in learning about the way in which their purchasing decisions may affect the environment. One of the responses to this ‘green consumerism’ has been a proliferation of private voluntary eco-labelling schemes. Private, voluntary eco-labels for fish products are another trade measure, but target the demand side of trade in fish. The following explores the potential use of eco labels recognising that so far these labels have not been used in an IUU-related way and that eco label programmes may be considered contentious in WTO terms.

In the fisheries sector, labelling is dominated by the Marine Stewardship Council (MSC), an independent, global, non-profit organization based in London. This programme, which does not yet address the issue of IUU fishing,³⁴ was originally established in 1997 by Unilever and the World Wildlife Fund to address over-fishing, and more specifically, “to safeguard the world’s seafood supply by promoting the best environmental choice.”³⁵ MSC seeks to achieve this by using a product label to reward environmentally responsible fishery management and practices.³⁶

Inevitably, the MSC programme is not without problems. Most of the fisheries initially certified under the MSC’s programme have been primarily of interest to European markets.³⁷ Penetration in the high value markets of Japan and the United States, however, has been limited. Moreover, with its emphasis on specific fishery certification, the MSC programme has had no impact on the incidence of IUU fishing on the high seas. Moreover, the high cost of certification, combined with the complexity of the MSC’s fisheries management requirements, and other infrastructure problems may preclude significant developing country participation in the short term.³⁸

Do trade measures run foul of WTO rules?

There is one significant potential difficulty with fisheries-related trade measures. This is their consistency with WTO rules. To be WTO-compatible any trade measure needs to be:

- non-discriminatory (particularly with respect to the application against non-parties);
- transparent; and
- directly linked to a policy of ‘conserving an exhaustible natural resource.’

In this regard, the report of the WTO Appellate Body on the Shrimp/Turtle³⁹ case offers a guide of what not to do when designing a trade measure. Of particular significance is the need to avoid a unilateral application of a trade measure and an imposition of such a measure without due consultation. It is also important to demonstrate a clear linkage with Article XX (g) of General Agreement on Trade and Tariffs (GATT), i.e. that the measure relates to the “conservation of exhaustible natural resources.”⁴⁰

The orthodox view of the trade measures applied through fisheries-related multilateral agreements is that they would meet the WTO test.⁴¹ They appear to be transparent, non-discriminatory and directly linked to a policy of conservation of a natural resource. As ever on WTO-related matters, however, things are not quite what they seem. At the Committee for Trade and Environment (CTE), developing countries in particular have raised general questions about trade measures applied through multilateral agreements on the environment (MEAS). They have argued that the way these may be used against non-Parties who are members of the WTO risks breaching the non-discrimination provisions of GATT. Moreover, some trade measures (including the prohibition of transshipment and import prohibition) used in MEAs are considered right at the edge of WTO permissiveness, particularly since questions about some of these were raised during the Chile/EU swordfish dispute as potentially breaching GATT.

That said, no case has been brought against any of the trade measures employed in favour of conserving global fishery resource. Furthermore, the WTO Secretariat has concluded that the trade measures used in CCAMLR and ICCAT may be “considered to provide examples of appropriate and WTO-consistent (i.e. non-discriminatory) use of trade measures in multilateral environmental agreements.”⁴² On the other hand, the CTE has yet to concur with the Secretariat’s assessment and discussion on fisheries-related trade measures continues.

Since WTO Agreements are government-to-government agreements, they should not apply to a private voluntary eco-labelling program like the MSC label.⁴³ That said, however, to the extent that private sector initiatives have been developed in consultation with governments (or even received financial assistance from them) they do raise the possibility of legal challenges under WTO rules.⁴⁴ There is a further complication. Under WTO rules, ‘like’ products must be treated alike.⁴⁵ In terms of labelling under the TBT, this means that products with similar characteristics should be treated in the same way. The MSC label, however, like most eco-labels seeks to inform consumers not just about what a product is like, but *how* it was produced, i.e. it delves ‘behind’ the product and make claims about how ‘responsible’ are the fishers that caught it, how well the fishery is managed and the impacts of the fishery on the environment. Potentially therefore, there are grounds for a conflict with WTO provisions.

Of course, WTO rules were not intended to prevent the imposition of different requirements (including those that relate to labels) on products that have different characteristics. But where the requirements relate to things which have no bearing on the commercial or indeed practical substitutability of the good but to the way in which the good is produced, discrimination is established and in theory may contravene WTO rules.⁴⁶

It is worth emphasising, however, that there are shades of gray here. It is argued, for instance, that the WTO Appellate Body ruling in the shrimp-turtle case removed the restriction on using process and production measures (PPMs) for the development of environmental regulations, as long as these were implemented in a manner that conforms to WTO rules.⁴⁷ The argument runs that if there is no WTO-related restriction on PPM-based environmental regulations, then there should not be a difficulty with eco-labels using a similar approach.

The relationship between fisheries-related trade measures and the WTO awaits further clarification. Ministers have only agreed to “negotiations, without prejudging their outcome, on... the relationship

between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs).” And on eco-labels, Ministers have simply encouraged further work noting that “...labelling requirements for environmental purposes...” should continue to be studied at the CTE.⁴⁸ In short, in the absence of a dispute settlement case on a specific trade measure it will be difficult to be categorical about WTO consistency and all one can say about this is that the WTO-related questions remain both controversial and complicated.

(iv) Extra-territorial application of domestic criminal and civil sanctions

For the sake of completeness, it should briefly be mentioned that a uniquely domestic (as against international) tool to promote compliance is the application of domestic sanctions to the citizens of individual countries wherever in the world those citizens may be, and whatever flag they may be working under. Different countries have different attitudes to the extra-territorial application of their laws to their citizens although the approach is becoming more widespread. (Its extension to certain types of sex tourism is a recent example).

Making the activities of citizens abroad liable to domestic sanctions may well be a powerful disincentive but liability and enforcement are two entirely different things. The key weakness in this approach stems from the fact that flags confer on a boat a sovereign status that effectively denies a state other than the flag-state the right to intervene. So if a state wishes to indict a citizen working on a boat flagged to another country, it must either persuade the flag state to allow it to intervene or (more realistically) wait until the citizen in question re-enters its territory.

Enforcement in the status quo – reconciling global and regional norms

This final section asks how we should interpret the current state of play. We have witnessed over a decade of intense negotiating activity at both global and regional levels. In practical terms, where regional fisheries management organisations exist, enforcement is as strong (or as weak) as the measures adopted by those organisations. Where they don't exist, the curtailment of grossly unsustainable practices is as strong (or weak) as the determination of flag states to exercise control over vessels flying their flags.

Clearly, RFMOs are the engine room of enforcement activity today on the high seas but their effectiveness varies widely. Assuming that countries take seriously their obligations under UNCLOS to co-operate in pursuing measures to conserve and manage living resources in the high seas, we can expect continued pressure to strengthen the range of measures provided in respect of regional trans-boundary fish stocks. The approach of the most sophisticated RFMOs is to tackle the enforcement issue simultaneously on several fronts by promoting flag and port state enforcement together with trade measures designed to limit the flow of IUU material reaching the world market.

CCAMLR represents one of the most forward-looking initiatives in one of the largest and most difficult to administer regions of the high seas. Unlike most RFMOs, CCAMLR's scope extends to *all* fish and other living resources thereby covering the entire eco-system. Its measures in relation to toothfish provide a snapshot – admittedly limited to two species – of what a comprehensive enforcement regime could look like.

Strict conservation measures for toothfish fishing apply to the boats of parties to the Convention (such as licensing, monitoring, inspections and bans on transshipment of catches to vessels of non-parties). But this is backed up by stringent inspection requirements of all boats entering the ports of contracting parties and a prohibition on the landing of illegal catches. Beyond this again, the parties have sought to extend the reach of their surveillance and control to non-contracting parties by a variety of measures, most notably a catch documentation scheme that tracks product from catch to market place. CCAMLR estimates that the

convention area covers 90% of all toothfish, and that more than 90% of the world's markets for toothfish only permit the importation of fish covered by the scheme.

Convention members have actively sought the co-operation of non-signatories on a non-discriminatory basis. But confronting the fact that not all flag states co-operate, CCAMLR in addition to taking port measures against such states, also maintains a register of IUU vessels and shares information with all parties and co-operating non-parties on the whereabouts of such vessels. In short, CCAMLR does everything other than advocate the high seas interdiction of vessels flying the flags of non-cooperating states whose activities undermine the aims of the Convention.⁴⁹

Which brings us back to the main tension at international law: regional measures to regulate fishing on the high seas taken under the aegis either of UNCLOS or the more specific provisions of the 1995 UN Fish Stocks Convention are all being pursued alongside vessels whose flags are those of states who (either explicitly or implicitly) exercise their right to authorise fishing on the high seas but choose not to enter into and be bound by conservation measures and/or enforce them.

There are two views on how serious a problem this presents. The optimistic one sees the effect of treaty-making over the last decade as having significantly reduced the room for manoeuvre by states that won't enforce their obligations. Specifically, the 1995 UN Fish Stocks Agreement can be read as an indispensable elaboration of the requirements imposed on states, in Articles 117 and 118 of the 1982 Convention, to co-operate both in respect of negotiating conservation measures and taking responsibility for the activities of their nationals. On this view, the only way to make sense of the duty to co-operate is to assert that the rights of flag states are subject to the detailed provisions of the 1995 Agreement. The pessimistic view, one much more in accord with orthodox canons of legal interpretation, is that the subsequent negotiation of the 1995 Agreement cannot bind a non-party whose only adherence is to the much more general (and unspecific) provisions of UNCLOS. On this basis, as long as states choose not to accede to the 1995 Agreement (or any regional agreements), their vessels can lawfully resist the enforcement efforts of signatory countries. Sign-up by flag states that have allowed IUU fishing is not in itself a solution if that fishing persists (even though it permits other states to intervene). The real goal must be active support for the suppression of IUU fishing by all signatories.

Resolving this issue is, however, scarcely the sole remaining subject for international action. In the first place, getting a much higher level of sign-up to the 1993 and 1995 agreements is needed. And then, existing RFMOs need to be strengthened to make maximum use of its provisions. The fact is that notwithstanding the robust provisions of some regional agreements (such as the Convention on the Conservation of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean and CCAMLR), many existing regional agreements do not go so far. They need to be able to reach decisions on a wide range of issues ranging from membership to empowering their members to take enforcement action.⁵⁰

In the absence of a high level of accession to the international treaties and regional agreements, we have only a very partial and patchy level of enforcement. Even with comprehensive accession to the relevant treaties and organisations, there remains a question of how a web of regional organisations – some covering specific species, some whole fisheries – can work together to bring pressure to bear on a problem that extends to the high seas as a whole. Each specific regional initiative to tackle IUU fishing risks displacing it to a less-well managed – or wholly unmanaged – zone. If RFMOs are going to assemble black lists of flags and/or vessels, should these not be shared with other RFMOs? Similarly, if labelling measures are to be developed to provide a means of distinguishing legal from IUU product in the market place, is there not a case for linking such schemes? For instance, does it make sense to have several global tuna commissions operating to different measures? Why not shift them all to the most exacting standard used so far?⁵¹

The search for points of leverage against IUU fishing proceeds against the reality that international law has underlined the status of the high seas as a *global* common to which individual sovereign states have been *universally* assigned access together with *national* responsibility for enforcement. At the same time, attempts to avert a 'tragedy' in that common (the rape of its fish stocks) have of necessity been conceived as *regional* co-operative initiatives between those who *choose* to join them. The challenge is to bring into some sensible relationship a top-down assertion of rights with a bottom-up attempt at management for the collective good before virtually all international fish stocks are depleted.

Some questions for discussion

This paper has sought to outline some of the range of legal and trade-related instruments that presently bear on IUU fishing. While the paper makes no claims to being comprehensive, there seems to be reasonably broad agreement that any improvement in the situation will require action on several well-described fronts. In other words, there are few mysteries here (although a better quantitative assessment of the problem would be welcome). Rather it is a question of the relative leverage that action on any particular front could bring to bear. What is now needed is a thorough-going appraisal of how a suite of initiatives at the global, regional and national levels could, taken in tandem, best bring pressure to bear on IUU high seas fishing. While that is clearly beyond the scope of this paper, any such appraisal should not avoid these hard questions:

1. Should UNCLOS be amended to make the sovereign right to flag fishing vessels dependent on flag states entering into relevant fisheries agreements?
2. Has the elaboration of 'soft law' agreements supported the adoption of binding fisheries agreements or have they served as a shield for inaction?
3. What more can be done to encourage universal participation in the 1995 UN Fish Stocks Agreement?
4. What needs to be done to link and harmonise the provisions of existing and future regional fisheries management organisations and ensure that they all meet the requirements of the 1995 Agreement?
5. Is it worth seeking to negotiate a memorandum defining the scope and form of port state measures designed to combat IUU fishing?
6. What relationship between trade measures in regional fisheries management organisations and WTO rules should the Committee on Trade and Environment endorse to put the legitimacy of this approach to enforcement beyond doubt?
7. What intergovernmental co-operation is needed to enhance the scientific basis on which the state of the high seas fishery is to be assessed?
8. What practical inter-governmental co-operation is needed to facilitate emerging surveillance and information sharing technologies designed to detect and expose IUU fishing?
9. What identifiable economic incentives for IUU fishing can be diminished or removed by concerted governmental action?

END NOTES

¹ The comments on this paper from Paul Nichols, Michael Lodge, Gene Proulx, Carl-Christian Schmidt, Anthony Cox and Anne Harrison are gratefully acknowledged. All errors and omissions are the responsibility of the authors alone.

² A useful recent summary of what is contained within the definition of IUU fishing is contained in D J Agnew and C T Barnes (2003) *The Economic and Social Effects of IUU/FOC Fishing*, A report for the OECD

³ Graph taken from FAO (2002a) *The State of the World Fisheries and Aquaculture*, Rome, FAO, 2002

⁴ Idem.

⁵ FAO (2002b) *Fishing Atlas CD ROM* appended to FAO (2002a).

⁶ See for instance, R Watson and D Pauly (2001) *Systematic Distortions In World Fisheries Catch Trends*, Nature, 414, 534 – 536.

⁷ R. Myers and B Worm (2003) *Rapid worldwide depletion of predatory fish communities*, Nature Vol 423, pp. 280-283

⁸ Food and Agriculture Organisation (2000) *The State of World Fisheries and Aquaculture*, FAO, Rome (see also: www.fao.org/DOCREP/003/X8002E/X8002E00.htm)

⁹ For a comprehensive overview of the inter-play between global and regional efforts to strengthen the basis for management of high seas fisheries see in particular O S Stokke (2000) *Managing Straddling Stocks: The Interplay of Global and Regional Regimes*, Ocean and Coastal Management, vol. 43, pp. 205-234. See also the overview provided by D Doulman (2002) *The Impact of Illegal, Unreported and Unregulated Fishing on Long Term Sustainable and Responsible Fisheries Management*, *Industrias Pesqueras*, August.

¹⁰ CCAMLR (2001) *Scientific Committee For The Conservation Of Antarctic Marine Living Resource*, Report Of The Twentieth Meeting Of The Scientific Committee (SC-CAMLR-XX), including in particular, Annex 5 (Report Of The Working Group On Fish Stock Assessment, Hobart, Australia, 8 to 19 October 2001) and www.ccamlr.org/pu/e/pubs/sr/01/i2.pdf

¹¹ Idem. See also A Willock (2002) *Unchartered Waters: Implementation Issues and Potential Benefits of Listing Toothfish in Appendix II of CITES*, TRAFFIC, Cambridge

¹² Japan (2002) *Submission by Japan*, Northwest Atlantic Fisheries Organisation Meeting, Santiago de Compostella, Spain.

¹³ Quoted in Agnew and Barnes (ibid). The NEAFC has also begun to list the names of IUU vessels (see for instance NEAFC (2002) AM 2002/15 and 34. References to IUU activity appear in the NEAFC annual reports, including most recently the 2002 report (NEAFC Annual Reports are available at the following site: <http://www.neafc.org/>)

¹⁴ See for instance, M Lack and G. Sant (2001) *Patagonian Toothfish: Are Conservation and Trade Measures Working?* TRAFFIC Bulletin vol No 1, TRAFFIC International, Also available at: <http://www.traffic.org/toothfish/>

¹⁵ FAO (2002b).

¹⁶ See for instance, CCAMLR (2000) *Statistical Bulletin*, Vol 12, CCAMLR, Hobart

¹⁷ On the impact of imperfectly enforced regulations and other regulatory options on the microeconomic behaviour of IUU activity see in particular A T Charles, RL Mazany and M L Cross (1999) *The Economics of Illegal Fishing: A Behavioural Model*, Marine Resource Economics, Volume 14, pp. 95-110

¹⁸ On the low deterrent impact of fines and other regulatory mechanisms see in particular K. Kuperan and J. G. Sutinen (1998) *Blue Water Crime: Deterrence, Legitimacy and Compliance in Fisheries*, Law and Society Review, Volume 32, Number 2, pp. 309-337.

¹⁹ IUU vessels also have to factor into their profit margins a 'risk' factor. This relates to arrest, fines and vessel confiscation. The probability of being caught at sea, however, remains so low that this 'risk component' is relatively insignificant. Indeed, even if a vessel is caught, its loss through confiscation and the imposition of fines appears to have had only a marginal inhibiting effect (Agnew and Barnes (ibid)).

²⁰ Graph taken from FAO (2002a)

²¹ FAO (2001) *Joint FAO/IMO Ad Hoc Working Group on Illegal, Unreported and Unregulated Fishing and Related Matters*, FAO Fisheries Report , 637

²² This is, in part, a problem of the Agreement's scope: it excludes vessels shorter than 24 metres. This was strongly promoted at the time of negotiation by the European Union and Japan in the face of opposition from small island

developing states for whom small vessels posed the most significant problem. As a result, these developing countries have lacked a rationale to ratify.

²³ See below, page 14 onwards

²⁴ M W Lodge (2002) *Review of Factors of Unsustainability in Fisheries*, Discussion Paper prepared for an FAO Workshop, Bangkok, Thailand, 4-8 February

²⁵ Or virtually no dispute. For a comprehensive review of the literature see L. de la Fayette (1996) *Access to Ports in International Law*, International Journal of Marine & Coastal Law, Vol. 11, No 1

²⁶ T Lobach (2003) *Port State Control of Foreign Fishing Vessels* FAO, Rome

²⁷ FAO (2002c) *The Report of the Expert Consultation of Regional Fisheries Bodies on the Harmonisation of Catch Certification*, Committee on Fisheries, Sub-Committee on Fish Trade, COFI:FT/VII/2002/Inf.13

²⁸ ICCAT (1993) *Recommendations Adopted by the Commission at its Eighth Meeting*, Report for Biennial Period 1992-3, Part I, Madrid, November

²⁹ P Miyake (2002) *Catch Certification and the Feasibility of Harmonising Certification among Regional Fisheries Management Bodies*, FAO Expert Consultation of the Regional Fisheries Management Bodies on the Harmonisation of Catch Certification, la Jolla, 9-11 January 2002, FI:HCC/2002/Info 2

³⁰ B MacDonald (2003) *Personal Communication*, CCSBT Secretariat, 4 May. Its worth noting, however, that for tuna more generally (i.e. non southern bluefin tuna), the problem remains, not least due to difficulties in enforcement between Taiwan and Japan.

³¹ CCAMLR (1997) *Report of the Sixteenth Meeting of the Commission (CCAMLR-XVI)*, CCAMLR, Hobart, Australia (also available through the CCAMLR website at: www.ccamlr.org)

³² The CCAMLR scheme has certain flaws which limit its effectiveness. Unlike the ICCAT (et al) programmes, the CDS is area-based, rather than species-focused. Under the ICCAT programme therefore any bluefin tuna not caught in conformity with ICCAT conservation measures can be prohibited from entering the international market. This is not the case for toothfish. There are, for instance, substantial toothfish fisheries north of the CCAMLR Convention Area. Thus, ICCAT can prohibit imports from any vessel flagged by a country which is not cooperating with the organisation, but CCAMLR may not. The reason for this is that catches by named Flag States may be taken legitimately outside the CCAMLR Area would not be undermining the CCAMLR management and conservation measures.

³³ CCAMLR (2002) *Schedule of Conservation Measures in Force 2001/2002*, CCAMLR, Hobart

³⁴ While the MSC label does not *currently* address the IUU issue, there is no reason why it could not do so in the future – the three principles and various criteria used by MSC, for instance, could be used to certify non-IUU product.

³⁵ More details about the MSC and its programme area available through its comprehensive home page www.msc.org

³⁶ This is in contrast to the aquaculture sector where several programmes already exist to inform consumers about a range of aquaculture goods. See in particular www.aquaculturecertification.org.

³⁷ More detail on the certification process is available at the MSC website (www.msc.org) and in the case study contained in OECD (2003) *Developing Country Access to Developed Country Markets Under Selected Ecolabelling Schemes*, OECD, Paris (COM/ENV/TD(2002)3

³⁸ This point is elaborated in more detail in OECD (2003).

³⁹ The Shrimp/Turtle case is of significance to the discussion on trade measures against IUU fishing, in particular because it is a form of harvesting (i.e. a process and production measure) and thus may be considered to contravene multilaterally agreed conservation/management objectives and therefore potentially subject to a trade measure.

⁴⁰ Articles I, III, XI and XX are the most relevant sections of GATT (1994). Nevertheless, several of the other WTO Agreements may be invoked, including the Agreement on Import Licensing Procedures; the Agreement on Subsidies and Countervailing Measures, the Agreement on Technical Barriers to Trade and the Agreement on Rules of Origin.

⁴¹ WTO (2000) *The Environmental Benefits of Removing Trade Restrictions and Distortions: The Fisheries Sector*, Note by the Secretariat, WTO, Geneva, WT/CTE/W/167, 16 October

⁴² *Idem*.

⁴³ While the TBT Agreement does not specifically apply to private programmes, Article 3.5 notes that Members are responsible for ensuring the observation of all provisions. Given that Article 3 is entitled “Preparation, Adoption and Application of Technical Regulations by Local Government Bodies and Non-Governmental Bodies” there does appear to be an expectation that Governments will seek to ensure that voluntary schemes meet WTO requirements.

⁴⁴ See in particular, the outline and analysis provided by W S Chang (1997) *GATTing a Green Trade Barrier*, Journal of World Trade, 31, pp. 137-159. See also Appleton (*ibid*), S. Charnowitz, *GATT and the Environment: Examining the Issues*, International Environmental Affairs, 1992 4 (3), pp. 203-33, and more recently, Charnowitz, S., *A Critical*

Guide to the WTO's Report on Trade and the Environment, Arizona Journal of International and Comparative Law, 14, 1997.

⁴⁵ GATT Article III refers. The WTO-consistency of eco-labelling schemes may be considered under the aegis of the concept of 'like products' incorporated in GATT Article I, the most favoured nation clause, and GATT Article III, the national treatment clause. Articles I and III together constitute the WTO's principle of non-discrimination. GATT (1994) which should be read along side GATT 1947 can be accessed at

http://www.wto.org/english/docs_e/legal_e/06-gatt.pdf A useful outline of the 'like products' issue is provided in D H Regan (2002) *Regulatory Purpose and "Like Products" in Article II: 4 of the GATT (With Additional Remarks on Article III:2)*, Journal of World Trade volume 36 (3), pp. 443-478

⁴⁶ See the useful description of PPMs and non-product related PPMs in UNEP/IISD (2000) *Environment and Trade: A Handbook*, UNEP/IISD, Geneva and Chang (ibid). While WTO rules do not prevent countries from discriminating on the basis of product-related PPMs, there are rules governing the process of discrimination.

⁴⁷ See, for instance, A Cosbey (2001) *The WTO and PPMs: Time to Drop a Taboo*, Bridges, Year 5 Number 1-3 (January-April), pp. 11-12; R Howse (2000) *The Product/Process Distinction – An Illusory Basis for Disciplining "Unilateralism" in Trade Policy*, European Journal of International Law, 11 No 2 and S Charnowitz (2002) *The Law of Environmental "PPMs" in the WTO: Debunking the Myth of Illegality*, Yale Journal of International Law, volume 27, pp. 59-110.

⁴⁸ Paragraph 31 and 32 of the Doha WTO Declaration refer. The full text of the Doha WTO Ministerial Declaration is available at: http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.pdf.

⁴⁹ For a detailed description of current CCAMLR measures see: E.N. Sabourenkov and D.G.M. Miller, "The Management of Transboundary Stocks of Toothfish, *Dissostichus* spp., under the Convention on the Conservation of Antarctic Marine Living Resources" in A.I.L Payne, C.M. O'Brien and S.I. Rogers (eds.), *Management of Shared Fish Stocks*. (Blackwell, Oxford, 2003) [In press].

⁵⁰ For a recent tabular, comparative analysis of the characteristics of twenty RFMOs see Lodge (ibid).

⁵¹ The potential role of the FAO in linking RFMOs together or pulling together approaches on eco-labels is likely to be significant and has been the subject of discussion at FAO Committee on Fisheries meetings.