

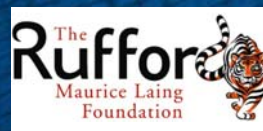
**CATCHING ON?
TRADE-RELATED
MEASURES AS A FISHERIES
MANAGEMENT TOOL**

M. LACK

A TRAFFIC REPORT

TRAFFIC
the wildlife trade monitoring network

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Front cover photograph: Atlantic Bluefin
Tuna *Thunnus thynnus*

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CATCHING ON?

TRADE-RELATED MEASURES AS A FISHERIES MANAGEMENT TOOL

by M. Lack

[□] M. Lack is a consultant from Shellack Pty Ltd.



Credit: WWF South Pacific

A catch of Yellowfin Tuna *Thunnus albacares* is unloaded in Papua New Guinea

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EXECUTIVE SUMMARY

This report examines the experience of regional fisheries management organizations (RFMOs) with the use of trade-related measures. Three types of trade-related measures are examined:

- schemes that require documentation to accompany product in order to authenticate its legitimacy;
- schemes that rely on vessel lists that identify authorized vessels ('white lists') and/or vessels considered to have been fishing in breach of RFMO regulations ('black lists') as a basis for imposing restrictions on the access of these latter vessels to ports and port services; and
- trade bans on particular States/entities considered to have failed to co-operate in the implementation of the RFMO's conservation and management measures.

There has been a marked increase in the use of trade-related measures by RFMOs over the last decade. This has been driven by: the deteriorating status of many fish stocks; uncertainty as to the actual levels of fishing mortality on these stocks; and the undermining of conservation and management measures by illegal, unreported and unregulated (IUU) fishing.

The experience with the use of trade-related measures outlined in this report provides guidance for those considering the enhancement, or the introduction, of such measures (see **Box 1**). In addition, this experience allows a number of broader conclusions to be drawn about the use of trade-related measures by RFMOs, the factors influencing their effectiveness and the role of these measures in RFMOs.

Increased reliance on port and market States

The use of trade-related measures has involved a shift away from almost sole reliance on flag State control of vessels and enforcement of conservation and management measures to a broader perspective involving port and market States. This shift has consequences for the breadth and nature of membership of the RFMOs and has called into question the traditional interpretation of membership based on a 'real interest in the fishery'. The need for co-operation of a range of port and market States that are non-members of the RFMOs has also highlighted the problems associated with the relatively low levels of participation in key, binding legal instruments.

The effectiveness of trade-related measures will be determined largely by the level of co-operation of port and market States and the nature of the port State measures implemented. The existing measures established by RFMOs fall well short of the standards set by the Model Scheme on Port State Measures to Combat IUU Fishing (the Model Scheme) of the Food and Agriculture Organization of the United Nations (FAO) and RFMOs must upgrade their schemes to reflect these standards in order to minimize opportunities for landing, transshipment and marketing of IUU product. The development of a legally binding instrument on minimum standards for port State measures, reflecting the provisions of existing voluntary instruments and lessons learned to date, should be pursued.

Co-operation and harmonization

Experience suggests that long-term, global reductions in IUU catch require that consistent measures be applied across RFMOs, particularly where responsibility for management of a species is shared. While inconsistent and ineffective management and monitoring, control and surveillance (MCS) measures persist, efforts by individual RFMOs to address IUU fishing are likely to achieve only a refocusing, rather than a global reduction, of IUU fishing.

An integrated approach, within and across RFMOs, and including coastal, port and market States, and States whose nationals are involved, is necessary if IUU fishing is to be controlled. Co-operation and collaboration will be facilitated by harmonization of measures across RFMOs and broadening RFMO membership to accommodate all relevant flag and coastal States. Co-operating non-member status should be seen as an interim step towards full membership for such States. RFMOs should also ensure that there is no technical obstacle to full membership by port and market States. However, co-operating non-member status may need to be offered as a long-term option for these States. Harmonization of schemes across RFMOs will facilitate the co-operation of port and market States and their cost-effective implementation of the requirements of these schemes.

Estimating fishing mortality

The use of measures such as catch documentation schemes (CDS) can contribute to better estimates of legitimate landings of the relevant species. However, separate, independent processes, such as observer programmes, are required in order to estimate discards. The estimation of the level of IUU catch is, inevitably, difficult. Most estimates are based on one-off studies rather than long-term systematic analyses. International trade analyses have a contribution to make to estimation of IUU catch by comparing reported catch with levels of catch reaching the market. However, countries have been slow to introduce species-specific and product-specific trade codes and the consequent lack of trade data compromises the ability of trade analyses to provide sound estimates of IUU catch.

Effectiveness of trade-related measures

Given the range of factors affecting estimates of IUU fishing and the lack of reliable trend data it is difficult to be definitive about the impact of trade-related measures on IUU fishing. However, there is some evidence that, where such measures have been used systematically, and in conjunction with other MCS measures, such as centralized vessel monitoring systems (VMS), observer programmes and controls on transshipment, there has been a reduction in estimated IUU catch.

Individual members of RFMOs have successfully sought to minimize the impact of conservation and management measures, including trade-related measures, on their own fleets by quarantining the application of the measures to specific fishing methods, vessel sizes or product types. Many RFMO members also fail to provide verified catch data and resisted the

introduction of measures to ensure independent verification of data and independent enforcement of MCS measures. This has reduced the comprehensiveness and enforcement of trade-related measures and hence their effectiveness. Factors including the decision-making system in place, the willingness of RFMO members to use available voting procedures and the capacity of members to influence the voting of others need to be addressed if this situation is to be addressed.

Developing country members and co-operating non-members face particular challenges in effectively implementing trade-related measures. RFMOs must recognize, and ameliorate where possible, the constraint this poses to the effectiveness of trade-related measures.

The role of trade-related measures

Experience has shown that trade-related measures have a role to play in improving catch estimates and addressing IUU fishing. However, the hard management decisions about appropriate settings of catch and effort limits, allocation of participatory rights, the use of independent observers and the development of effective and centralized MCS measures must not be neglected in the pursuit of trade-related measures to address IUU fishing. RFMOs must ensure that their efforts to minimize the impact of IUU fishing on legal operations are balanced with their other management responsibilities.



Credit: AFMA

A fishing vessel in the area overseen by CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources).

Lessons learned from RFMO experience with trade-related measures

Documentation schemes

- Significant improvements in estimates of fishing mortality can only be achieved through the use of schemes that apply at the point of harvest, i.e. CDS.
- Meaningful estimates of total fishing mortality require the introduction of measures to supplement a CDS in order to provide a reliable and timely record of catches, discards and other incidental mortality from commercial operations and, where relevant, mortality from recreational fishing.
- Documentation schemes must apply to all sectors of the fleet (regardless of size or gear), all forms of product (live, fresh, frozen, traded, for domestic consumption) and all stages of the catching, landing, transport, processing, trading and marketing chain.
- Trade documentation schemes have failed to prevent IUU fishing or provide significant improvements in catch data since they monitor only subsets of the catch and of the supply chain.
- Where a documentation scheme is introduced by an RFMO, the benefits will be enhanced by the adoption of consistent, and if possible standardized, schemes by other RFMOs managing relevant species (for example, across the tuna RFMOs).
- The effectiveness of documentation schemes will be enhanced by the adoption of complementary MCS measures, particularly standardized, centralized, highly specified VMS, electronic documentation, port State controls and restrictions on transshipment.
- Continual monitoring of the patterns of trade is necessary to ensure that emerging gaps in the implementation of documentation schemes are addressed. This may require that members and co-operating non-members are required to implement species-specific and product-specific trade codes and are required to report all trade data to the RFMO annually.
- Documentation schemes should provide for the verification of the species caught, weight of the catch, when the catch was taken and the area in which the catch was taken.
- Documentation should include information on the precise dates of fishing trips when the catch was made, ideally by submission of VMS records, in order to provide information on the activity patterns of the vessels concerned.
- Conversion factors (liveweight/product weight) for all forms of product should be developed and applied where documentation schemes are used. Preferably these factors should be standardized across RFMOs monitoring the same species, for example, the tuna RFMOs.
- Electronic documentation can reduce the potential for abuse of documentation systems, improve the speed at which information can be exchanged and reduce the compliance burden on legitimate operators and regulatory authorities.
- All available formal and informal mechanisms should be pursued to maximize the participation of flag, coastal, market, processing and port States and of States with nationals involved, in the implementation of documentation schemes. In particular, efforts to encourage membership of key international instruments and to facilitate implementation of the requirements of those instruments must be continued. RFMO membership of relevant flag and coastal States should be pursued vigorously, provision should be made for membership of the evolving range of port and market States and their co-operation as members or co-operating non-members should be encouraged.

Vessel lists

- Vessel lists have a role to play in the fight against IUU fishing. In the context of trade-related measures they must be accompanied by an agreed plan of action that seeks to maximize disruption to the landing and marketing of fish from vessels on the list.
- The value of vessel lists will be maximized where both white and black lists are developed and made publicly available.
- Vessel lists published on websites should include direct links to the lists of other RFMOs and relevant coastal States to ensure that the latest information is available.
- Procedures used to identify IUU vessels should include the provision of independent verification in order to maintain the integrity of the schemes.
- There remains a need to review the decision-making processes of RFMOs to ensure that black-listing of vessels flagged to RFMO members and, ultimately, sanctions against those vessels and or against trade with such members, cannot be blocked by the need for consensus on such decisions.
- The adoption of a global register of fishing and support vessels incorporating the use of a unique vessel identifier would overcome many of the problems associated with the compilation and proliferation of vessel lists by individual RFMOs.

Sanctions against vessels

- Trade-related measures rely heavily on action by port and market States.
- The port State measures currently in place are flawed and there remains considerable scope for the strengthening of these measures, including through the adoption of complementary measures to prevent IUU fishing.
- Few RFMOs have yet agreed on the need for members to implement port State measures that reflect the guidance provided by the FAO Model Scheme and the Technical Guidelines for the Implementation of the International Plan of Action-IUU Fishing.
- Few members or non-members of RFMOs have implemented port State measures voluntarily.
- The lack of consistency of such measures across RFMOs allows IUU fishers to exploit the weakest link in MCS regimes.

Sanctions against States

- There is some evidence that trade sanctions have provided incentives for some countries to join RFMOs and/or to co-operate in the implementation of the conservation and management measures of RFMOs.
- It remains unclear whether such measures have reduced the overall level of IUU fishing or whether IUU fishers have simply used the flags and ports of other States or found ways to circumvent MCS measures, including trade-related measures.
- The processes in place for determining the circumstances under which sanctions should be imposed must be clearly specified and transparent in order to ensure that sanctions are applied consistently and that discrimination is avoided.
- There remains some uncertainty about the non-discriminatory nature of trade sanctions, particularly where the sanctions apply only to non-members.

INTRODUCTION

There has been a marked increase in the use of trade-related measures by regional fisheries management organizations (RFMOs) over the last decade. The increased reliance on such measures has been driven by the global problems associated with: the deteriorating status of fish stocks; uncertainty as to the actual levels of fishing mortality on these stocks; and the undermining of conservation and management measures by illegal, unreported and unregulated (IUU) fishing. Increasingly, governments, including through RFMOs, are using a package of trade-related measures to address IUU fishing and to improve their estimates of fishing mortality.

This report examines the experience of RFMOs with the development and application of trade-related measures. The report begins with a discussion of the nature and objectives of these measures. An overview of the application of trade-related measures by RFMOs is then presented, followed by an analysis of the lessons learned from the experience of RFMOs with trade-related measures to date. Conclusions are then drawn on the role and effectiveness of trade-related measures.

TRADE-RELATED MEASURES

What are they?

Trade-related measures are designed to achieve one or both of the following objectives:

1. To reduce the opportunities and incentives for IUU fishing by:
 - precluding or impeding access to markets for IUU product, thereby reducing profitability and, ultimately, the economic incentive for IUU fishing;
 - tracing the movements of fish products in order to identify those involved in catching, transshipping and marketing illegally caught product as a basis for imposing sanctions on those participants;
 - monitoring changes in the pattern of trade to identify flag, port and market States that can contribute to the effective implementation of conservation and management measures; and/or
2. To improve information on fishing mortality by verifying landings of members within and outside the area of competence of the RFMO and by detecting IUU-caught product.

The trade-related measures used to achieve these objectives include:

- schemes that require documentation to accompany product in order to authenticate its legitimacy (catch and/or trade documentation schemes);
- schemes that rely on vessel lists that identify authorized vessels ('white lists') and/or vessels considered or determined to have been fishing in breach of RFMO measures

(‘black lists’) as a basis for imposing restrictions on the access of these latter vessels to ports through the introduction of port State measures;

- trade bans on particular States/entities considered to have failed to co-operate in the implementation of an RFMO’s conservation and management measures.



Australian fisheries inspectors on duty ashore and on the bridge of a fishing vessel

Over time, these measures have come to be used as a package of measures and, increasingly, they are supported by a range of complementary measures such as vessel monitoring systems (VMS), observer programmes and controls on transshipment.

Le Gallic (2004) has identified additional trade measures which may reduce IUU fishing. These include measures designed to increase the capital costs of IUU vessels, such as restricting outward investment rules on IUU vessel capital and restricting banking laws to exclude the use of IUU vessel capital as collateral. Eco-labelling schemes that confirm to consumers that traded fish products are taken in accordance with conservation and management measures are also a form of trade-related measure. However, measures of this kind have not been used widely by RFMOs¹ and are not considered further in this report.

Why are they needed?

The United Nations Convention on the Law of the Sea (UNCLOS) requires flag States to take responsibility for the operations of their fishing vessels. Accordingly, fisheries management relies on flag State control of vessels both within Exclusive Economic Zones (EEZs) and on the high seas. Regional fisheries agreements have generally relied on their flag State members to ensure that their vessels comply with, or do not undermine, regional conservation and management measures. However, many flag States fail to meet their obligations to ensure the responsible operation of their vessels on the high seas and, in some cases, within their EEZs. This may be a deliberate decision taken by a flag State that is not prepared to accept the economic and social impacts on fishing and processing operations that may result from proper enforcement of regional measures. Alternatively, a flag State may seek to benefit financially from the operation of an ‘open registry’, effectively offering its flag to any vessel

owner/operator but taking no action to exercise effective control of those vessels (a 'flag of convenience' State). In other cases, a State may be well intentioned but lack the capacity to control the operations of its vessels either within or outside its EEZ.

The 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 (the UNFSA) provides for the development of regional, co-operative enforcement schemes that may involve boarding and inspection by non-flag State inspectors. However, despite the repeated failure of flag States to meet their legal obligations as signatories to UNCLOS, and the resultant detrimental impacts on fish stocks, many RFMO members continue to resist the adoption of centralized monitoring, control and surveillance (MCS) measures that give RFMO secretariats the responsibility to administer such measures in parallel with, or instead of, flag State members. In particular, few RFMOs have established regional boarding and inspection schemes, largely owing to the reluctance of many flag States to cede jurisdiction over their vessels to the RFMO or to other member States.

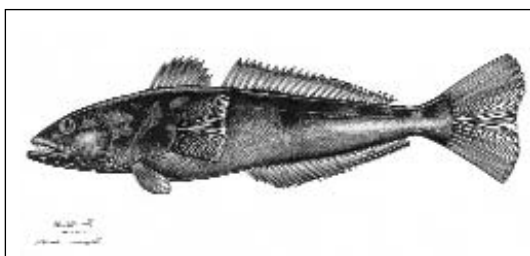
As a result, many vessels operating on the high seas are effectively unregulated, conservation and management measures of RFMOs are routinely flouted by members and non-members, who have little fear of detection and less of prosecution, and IUU fishing has proliferated.

IUU fishing, by non-members and/or members of RFMOs, is a problem faced to varying degrees by all RFMOs. For example, the Marine Resources Assessment Group (MRAG) cited the following estimates of IUU catch (MRAG, 2005):

- in 2004, unreported high-seas catch of tunas in the Indian Ocean of 130 000 t (OECD, 2005);
- in 2002, unreported catch of tunas on the high seas and in the EEZs of countries in the Western and Central Pacific Ocean of between 100 000 and 300 000 t (Greenpeace, 2004 and Richards, 2004);
- in 2002, unreported and illegal catch of Bigeye Tuna *Thunnus obesus* in the International Commission for the Conservation of Atlantic Tunas (ICCAT) area of competence of 7580 t (Restrepo, 2004);
- in 2004, unreported high seas catch of redfish *Sebastes* spp. in the North East Atlantic Fisheries Commission (NEAFC) area of competence of 15 000 t (OECD, 2005).



Credit: WWF-Canon/Quentin Bates



Credit: Bruce Mahalski/TRAFFIC

Deep-sea redfish *Sebastes* sp.; several thousand tonnes of *Sebastes* spp. are landed illegally

Patagonian Toothfish *Dissostichus eleginoides*

While the overall trend in the IUU catch of toothfish *Dissostichus* spp. in the Convention Area of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is downwards, IUU catch in 2005/06 was estimated at 3080 t and is increasing in some parts of the Area (CCAMLR, 2006a).

IUU fishing has two main impacts. Firstly, it compromises the accuracy of the data used by scientists to undertake stock assessments and formulate management advice and generally leads to an underestimate of fishing mortality. Where catches are under-reported or not reported at all, the scientific advice is unlikely to reflect sustainable levels of catch or effort unless it is discounted to reflect such uncertainty. Given that scientific advice is often resisted, the fact that it may be unduly optimistic as a result of IUU fishing increases the likelihood that management measures will not reflect the true status of the stock. Even where IUU fishing is known to occur it is extremely difficult to estimate the level of the total catch and to factor this into stock assessments. CCAMLR, for example, has developed and continues to refine methodology for the estimation of IUU catch. Secondly, where conservation and management measures are in place, for example in the form of controls on the level of legal catch, IUU fishing undermines the effectiveness of those measures.

Importantly, IUU fishing not only affects target stocks. IUU operations ignore other conservation and mitigation measures such as those designed to mitigate by-catch of seabirds, turtles, sharks, etc. Failure to comply with such measures can make fishing operations cheaper relative to that of legal operations and allows IUU-caught product to accept a lower market price. This undercuts legitimate operators and places increased economic pressure on them, providing an incentive to fish illegally and/or to place more pressure on managers to resist tightening of management restrictions.

In recent years, combating IUU fishing, particularly unregulated fishing by non-members, has become the focus of many RFMOs. In the light of the poor performance by flag States in exercising effective control over their vessels and the reluctance of member States to develop strong regional MCS measures, RFMOs have attempted to broaden their scope beyond reliance on flag State control by adopting a range of trade-related measures that take advantage of the sovereign rights of port and market States. This shift in emphasis creates pressure to broaden the traditional eligibility criteria for membership of RFMOs. In the past, eligibility for membership, based on having a 'real interest' in the fishery, was interpreted as being a coastal State in respect of the relevant species or having vessels that fished for those species on the high seas. The need to engage port and market States to support the implementation of trade-related measures has seen an increasing number of such States become co-operating non-members to RFMOs and agreeing to implement such measures. However the membership criteria of many RFMOs preclude full membership of these States. As a result, there remain key countries that are largely outside the 'club'. Thailand, for example, has been the biggest importer of fresh and frozen tuna over the past decade but is a member of only one of the tuna RFMOs, the Indian Ocean Tuna Commission (IOTC). However, apart from the altruistic objective of being 'good international citizens' and/or meeting their legal obligations, there is little direct incentive for such States to become members of, or co-operate with, an RFMO. In comparison to the benefits available to fishing and coastal States, they are not, for example, eligible for an allocation of participatory rights, such as an allocation of catch, from the RFMO.

IUU fishing has contributed to overfishing of high seas fish stocks. However, the failure of RFMOs to agree on the introduction of sufficiently precautionary management measures in the face of unsustainable legal and illegal catch, and on the allocation of rights to the available resources, continues as the major underlying cause of overfishing of high seas fish stocks. The failure and/or the inability of many members of RFMOs to provide verified catch data and the reluctance to support the introduction of measures, such as observer programmes, to verify mortality independently means that many RFMOs face significant uncertainty in estimating total mortality of target stocks. Analysis of trade data can provide some insights into discrepancies between actual and reported catch (see, for example, Lack and Sant, 2001). However, the continuing lack of species-specific and product-specific trade codes for fish products compromises the contribution of such analyses. Further, the lack of transparency of catch and trade data from countries such as China, which play an increasingly important role in the catch, processing and trade of fish products, constrain the reliability of formal trade data. Trade-related measures, if applied to all components of the stock and effectively and comprehensively implemented, can provide an effective, alternative mechanism for the verification of at least the landed component² of the catch.

The basis for their use

The use of trade-related measures by RFMOs is supported, implicitly or explicitly, by UNCLOS, the UNFSA, the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (the Compliance Agreement), other international fisheries instruments and protocols and by some RFMO convention texts. Broader conservation instruments, such as the Convention on Biological Diversity, also require the support by their parties of conservation and management measures adopted by RFMOs, supporting the co-operation of port and market States in the implementation of trade-related measures. A summary of the relevant provisions of these instruments is provided in **Appendix 1**.

A number of the recommendations of the 2006 UNFSA Review Conference supported the strengthening of trade-related measures and associated MCS measures, particularly in relation to addressing IUU fishing. In particular, the Conference recommended that States, individually and through RFMOs:

- adopt, strengthen and implement compliance and enforcement schemes in all RFMOs and enhance or develop mechanisms to co-ordinate MCS measures, including those directed at non-members, between RFMOs and with relevant market States and ensure the fullest possible exchange of MCS information related to IUU fishing activities
- adopt stringent measures to regulate transshipment, in particular at-sea transshipment
- adopt all necessary port State measures, consistent with article 23 of the UNFSA and particularly those envisioned in the Model Scheme on Port State Measures to Combat IUU Fishing (the Model Scheme) of the Food and Agriculture Organization of the United Nations (FAO).
- take necessary measures, consistent with international law, to ensure that only fish that have been taken in accordance with applicable conservation and management measures reach

their markets, and take steps consistent with national and international law to require those involved in fish trade to co-operate fully to this end

- develop measures to prohibit supply and refuelling of vessels flying their flag from engaging in operations with IUU vessels
- ensure that all vessels fishing on the high seas carry VMS as soon as practicable (UNGA, 2006a).

While there is no doubt that international fisheries laws and instruments support the use of trade-related measures, the compatibility of such measures with the provisions of the World Trade Organization (WTO) remains open to debate. Tarasofsky (2003) noted that the interaction between trade measures adopted by RFMOs and WTO rules contains ‘possibilities for both conflict and compatibility’ and the Ministerially-led Task Force on IUU Fishing on the High Seas (HSTF) noted in relation to WTO requirements that ‘the general principle is that measures addressing transboundary or global environmental problems should, as far as possible, be based on international consensus (HSTF, 2006a). There is a potential conflict, therefore, when multilateral environmental agreements require countries that are parties to the agreements to apply more restrictive trade provisions against non-parties than to fellow signatories and thus violate the WTO principle of non-discrimination’.

The available assessment of the WTO in relation to the schemes of ICCAT and CCAMLR is that they are examples of ‘appropriate and WTO-consistent (i.e. non-discriminatory) use of trade measures in multilateral environmental agreements’ (WTO, 2000). However, this view has not yet been considered by the WTO’s Committee on Trade and Environment and one issue of particular concern is whether the application of such trade measures may breach the non-discriminatory provisions of the General Agreement on Tariffs and Trade in respect of developing countries³. Until the use of such measures is challenged in the WTO it remains an open question as to whether the impact of trade-related measures on developing countries and the restriction of access to markets by countries that are not members of RFMOs are non-discriminatory.

Their application

A summary of the trade-related measures currently in place across the major RFMOs is provided in **Table 1**. These measures have been introduced largely in an attempt to address IUU fishing. However, in describing the rationale for their introduction, most RFMOs also claim that measures such as documentation schemes are aimed at delivering better estimates of catch.

Theoretically, the use of trade-related measures for the purposes of addressing IUU fishing is a step-wise process:

- Step 1** Identify the vessels that have engaged in IUU fishing
- Step 2** Identify the flag State of vessels repeatedly engaged in IUU fishing
- Step 3** Implement trade-related measures to prevent the catch of those vessels from being traded or imported into the territories of members or co-operating non-members.

Table I

Trade-related measures in place in major RFMOs

Catch documentation scheme	Trade documentation scheme	Black List	White List	Sanctions on IUU vessels	Sanctions on trade with States
Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)					
Yes	Yes	Yes	No	Yes	No ¹
Commission for the Conservation of Southern Bluefin Tuna (CCSBT)					
No ²	Yes	No	Yes	Yes	Yes
General Fisheries Commission for the Mediterranean (GFCM)					
No	No	Yes	Yes	Yes	No
Inter-American Tropical Tuna Commission (IATTC)					
No	Yes	Yes	Yes	No	No
International Commission for the Conservation of Atlantic Tunas (ICCAT)					
No	Yes	Yes	Yes	Yes	Yes
Indian Ocean Tuna Commission (IOTC)					
No	Yes	Yes	Yes	Yes	No
Northwest Atlantic Fisheries Organization (NAFO)					
No	No	Yes	Yes	Yes	No
North East Atlantic Fisheries Commission (NEAFC)					
No	No	Yes	Yes)	Yes	Yes
South East Atlantic Fisheries Organisation (SEAFO)					
No	No	Yes		Yes	No
Western and Central Pacific Fisheries Commission (WCPFC)					
No ³	No	No	Yes	No	No

1. CCAMLR considered a proposal for trade sanctions at its 2006 meeting and agreed to develop draft measures inter-sessionally for reconsideration in 2007.

2. The CCSBT considered a proposal for a catch documentation scheme at its October 2006 meeting. The Commission agreed to further development of this proposal (CCSBT, 2006a).

3. The WCPFC will consider proposals for development of a catch/trade documentation scheme for Bigeye Tuna at its December 2007 meeting.

In order to take Step 1 and/or 2, States must be able to determine whether catch has been taken in conformity with RFMO rules. The use of documentation schemes can assist in this regard by requiring that legally caught fish taken by a member of an RFMO be accompanied by documents that indicate when, where and by whom the fish were taken. Once an IUU vessel is identified, port States that are members and co-operating non-members of the relevant RFMO

can, to the extent provided for in their national laws, take action to prevent the entry to their ports and/or access to services by such vessels. In addition, the flag State of the vessel can be requested to address the actions of the vessel. Failure to do so may then result in the introduction of sanctions against the flag State by an RFMO by requiring that its market State members and co-operating non-members prohibit imports of the species in question from the flag State of the IUU vessel.

Trade-related measures have come to be used as a package of measures. In some cases (for example, in ICCAT and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)) the primary purpose is to gather information on the source of catch and then to use that information to take direct trade-related action against vessels or States/entities. In others, for example, CCAMLR, the measures are used to verify the legitimacy of the catch against conservation and management measures before the catch enters international trade. CCAMLR's approach is primarily preventative whereas the approach of ICCAT, IOTC and CCSBT is primarily punitive.



An officer of the Australian Fisheries Management Authority on inspection duty and (inset) frozen toothfish *Dissostichus* spp. aboard a vessel fishing in the Southern Ocean in 2006

EXPERIENCE TO DATE⁴

Documentation schemes

The use, by RFMOs, of documentation to accompany catch and/or trade in particular species of fish has become increasingly common over the last 15 years. These schemes are known variously as catch documentation schemes (CDS), catch certification schemes, trade information schemes and statistical document schemes. The most significant distinction arising from these schemes is that a CDS seeks to monitor 'landed catch' while others, trade documentation schemes (TDS), monitor only that portion of the catch that enters international trade.

A CDS seeks to provide independent verification of retained catches of members, to estimate total legal catch and to deter the entry of IUU caught product into ports and onto the market. A CDS requires that the documentation is issued at the point of harvest. To date, CCAMLR's

CDS⁵ is the only example of such a scheme. However, CCAMLR's scheme also incorporates the elements of a TDS and as a result it covers all fish landed, transshipped, exported and imported.

A TDS focuses on tracking product entering international trade. A TDS requires that documentation is attached to all products being exported. Domestic consumption of product is not covered and therefore such schemes are unable to provide independent verification of catch or reliable estimates of total catch since they cover only a subset of the total catch of the relevant species. The failure of a TDS to cover transshipped products is also a major deficiency since this is a commonly used mechanism for IUU fishers to place their product on the market while avoiding direct entry into international trade and hence circumventing documentation requirements (Upton and Vitalis, 2003). Further, such schemes are sometimes applied to only sub-sections of the product that enters international trade. For example, a TDS may apply only to frozen product, rather than both fresh and frozen, and/or only to catch taken by a particular method. This further reduces the value of the statistical document as a means of estimating catch. It also creates two classes of product of the same species on the market - some requiring documentation and others not. This increases the potential for laundering of product.

RFMO estimates of IUU fishing are by their nature open to considerable uncertainty. Similarly, the level of authorized fishing for target species managed by RFMOs is uncertain owing largely to the unwillingness or lack of capacity of some RFMO members to submit verified catch data on a timely basis. In addition, the absence of credible observer programmes means that reliable estimates of discards and other forms of incidental mortality are generally lacking. Overall,

most RFMOs are therefore uncertain about the total level of fishing mortality of the target stocks they manage. Under these circumstances the maximum value from documentation schemes will be achieved where these schemes monitor all catch and trade of each target species. However, recognizing the costs and administrative burden that accompany such schemes it is likely that they will be cost-effective only when these species are known to be subject to significant levels of IUU fishing. IUU fishing is most



Credit: WWF-Canon/Mike R. Jackson

Seabirds in the wake of a deep-sea trawler in the North Atlantic feed on discarded fish which have been kicked overboard

prevalent where the high value of the species justifies the costs of fishing and the risks associated with being apprehended. As a result, CDS are likely to be applied only to high-value species.

As outlined in **Table 1**, CDS or TDS are in use for one or more species in CCAMLR, CCSBT, ICCAT, the Inter-American Tropical Tuna Commission (IATTC) and IOTC. An overview of each of the schemes in place is provided in **Table 2**. CCAMLR is the only RFMO to implement a

Table 2

Catch/Trade documentation schemes in place in RFMOs

Scheme/Documents	Date introduced	Species covered	Stated objectives
CCAMLR Catch Documentation Scheme			
<i>Dissostichus</i> Catch Document	2000	Patagonian Toothfish <i>Dissostichus eleginoides</i> Antarctic Toothfish <i>Dissostichus mawsoni</i>	• to monitor the international trade in toothfish; • to identify the origins of toothfish imported into or exported from the territories of CCAMLR Contracting Parties; • to determine whether toothfish catches in the CCAMLR area are conducted in a manner consistent with CCAMLR Conservation Measures; and • to gather catch data for the scientific evaluation of the stocks (CCAMLR, 2006b).
CCSBT Trade Information Scheme (TIS)			
CCSBT Southern Bluefin Tuna Statistical Document	2000	Southern Bluefin Tuna (SBT) <i>Thunnus maccoyii</i>	• to collect more accurate and comprehensive data on SBT fishing through monitoring trade; • to deter IUU fishing by effectively denying access to markets for SBT (CCSBT, 2006b).
ICCAT Bluefin Tuna/Swordfish/Bigeye Tuna/ Statistical Document Program			
Bluefin Tuna Statistical Document	1992	Atlantic Bluefin Tuna <i>Thunnus thynnus</i>	• to improve the reliability of statistical information on catches of Atlantic Bluefin Tuna, Bigeye Tuna and Swordfish
Swordfish Statistical Document	2001	Swordfish <i>Xiphias gladius</i>	
Bigeye Tuna Statistical Document	2001	Bigeye Tuna <i>Thunnus obesus</i>	• to address IUU fishing (ICCAT, 1992, 2001a, b)
IATTC Bigeye Tuna Statistical Document Program			
IATTC Bigeye Tuna Statistical Document	2003	Bigeye Tuna	• to address uncertainty on the catch of Bigeye Tuna in the Eastern Pacific Ocean • to assist in the elimination of IUU fishing (IATTC, 2003).
IOTC Bigeye Tuna Statistical Document Programme			
IOTC Bigeye Tuna Statistical Document	2002	Bigeye Tuna	• assist in the elimination of IUU fishing operations • address uncertainty in the data on catch of Bigeye Tuna

CDS. CCSBT agreed in principle in 2006 to move from a TDS to a CDS and ICCAT has work under way to develop a CDS for Atlantic Bluefin Tuna *Thunnus thynnus*. The Western Central Pacific Fisheries Commission (WCPFC) will consider proposals for introduction of a documentation scheme at its annual meeting in 2007.

The following factors influencing the effectiveness of a documentation scheme are discussed below:

- the **comprehensiveness of its application** by flag, port and market States
- the **rigour of its application** by flag, port and market States
- the comprehensiveness of its **application to the species**
- the nature and extent of the information collected and the **ease with which documentation can be completed**, exchanged and made public
- the opportunities available for **abuse of the scheme**.

Comprehensiveness of application

A high level of co-operation from States catching, transshipping, landing, exporting, processing and importing products is central to the success of documentation schemes. The RFMO must make every effort to identify the States involved in each link of the supply chain and to encourage them to become members of, or co-operate with the RFMO or otherwise agree to implement the requirements of the scheme. Failure to do so provides potential opportunities for IUU fishers and traders to move their product on to the market through third parties who are not co-operating with an RFMO's management arrangements. The mobility of fleets, and incentives to keep one step ahead of the management measures, means that IUU fishers change their patterns of catch, transshipment and landing depending on which flag, port and market States are, or more importantly are not, implementing the provisions of the documentation schemes. This, together with the natural evolution of markets and an increasing number of flag States involved in high-seas fishing, means that RFMOs are faced with an evolving catching and marketing chain and a growing number of participants whose support needs to be engaged in order to maintain the integrity of the schemes. This poses an continual challenge for RFMOs. For example:

- a number of importers of Patagonian and Antarctic Toothfish (Colombia, Mexico, Hong Kong and Philippines) and landing and transshipment ports (Thailand, Indonesia and Malaysia) are not implementing CCAMLR's CDS (ASOC, 2006a).
- In recent years, the CCSBT has expanded its membership from three (Australia, Japan, and New Zealand) to five (adding the Republic of Korea (South Korea) and Taiwan) and has accepted another three co-operating non-members (South Africa, the European Union (EU) and the Philippines) to reflect the number of countries catching Southern Bluefin Tuna. CCSBT has also identified a number of non-members, including Indonesia, the USA, Hong Kong, China, Spain and Fiji, whose activities with respect to catch or trade of Southern Bluefin Tuna are of interest to the Commission (CCSBT, 2003 and 2005).
- ICCAT has three co-operating non-members (Taiwan, Guyana and Netherlands Antilles), has sanctions in place against Bolivia and Georgia and has identified Colombia, Costa Rica,

Cuba, Ecuador, Egypt, Maldives, Singapore, Sri Lanka, Sierra Leone, St. Vincent and the Grenadines, and Togo as of interest to the Commission (ICCAT, 2006a).

The growing list of countries that are required to co-operate in order to ensure the effective implementation of trade-related measures poses significant challenges for RFMOs. The most common approach has been to enlist the support of these countries through the creation of co-operating non-member status. However, there is increasing pressure on countries afforded such status to become full contracting parties to the relevant RFMO, so that they have a legal obligation to comply with and enforce all relevant conservation and management measures. The potential surge in RFMO members that might arise could have significant implications for the operation of RFMOs, for logistical reasons if nothing else—but there is considerable resistance by many co-operating non-members to becoming members. This resistance is based on the costs associated with membership, their capacity or lack of capacity to commit formally to implementation of conservation and management measures and the lack of incentive to join. Unlike flag and coastal States, port and market States are unlikely to be eligible for an allocation of participatory rights in the form of catch or effort. To date, coastal and flag States have shown a resounding inability to agree on allocation of such rights between themselves, never mind across a number of additional port and market States.

While there may be limited incentives for port and market States to become members of RFMOs, it is important that there are no technical barriers to such membership. RFMOs should ensure that their membership criteria do not preclude membership by port and market States. However, realistically, it may also be prudent for RFMOs to continue to provide co-operating non-member status for port and market States, noting that for coastal and flag States such status should apply only as an interim step towards full membership. Trade-related measures could then be applied such that members of an RFMO used the ports of and traded with only those port and market States that were co-operating non-members and met their obligations to implement the provisions of relevant conservation measures. Failure to meet these obligations would result in the removal of the benefits associated with servicing and trading with RFMO members.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) does not require that countries wishing to trade in species listed, for example, in its Appendix II become members of the Convention. Rather, it requires that its existing members require that non-members wishing to trade with them in those species introduce equivalent measures to those required of members. Non-members wishing to trade are then provided with an incentive to introduce effective measures to confirm that the proposed trade is not detrimental to the survival of the species. The effectiveness of CITES in this respect lies largely in its very high membership (169 countries). This increases the likelihood that trade will in fact occur with a member country and, therefore, that the incentive for non-members to comply will be invoked. RFMOs could ensure a similar outcome by ensuring that all significant market States, as determined by the RFMO, are members. Such States would then be required to ensure that only product from States/entities complying with conservation measures was imported.

The FAO Model Scheme also provides for alternatives to membership of RFMOs by port States. It proposes the development of a Memorandum of Understanding (MOU) between the RFMO and relevant port States. Such an MOU would commit the port State to allowing landings and transshipments from vessels not flagged to a member of the relevant RFMO only when the vessel could verify that the conservation measures of the RFMO were not infringed.

It should also be noted that countries that have signed instruments such as UNCLOS, the UNFSA, the Compliance Agreement and/or the Convention on Biological Diversity are legally obliged to co-operate with the implementation of conservation and management measures of RFMOs, regardless of whether they are a member of the RFMO. For this reason, maximizing the number of States that are parties to the UNFSA and are signatories to other binding legal instruments is an important pre-requisite to achieving comprehensive implementation of trade-related measures. Currently there are only 157 signatories to UNCLOS, 59 to the UNFSA and 35 to the Compliance Agreement. Many existing members of RFMOs have failed to sign critical legal instruments such as the UNFSA and the Compliance Agreement. Similarly many of the countries identified as flag States of IUU fishing vessels or as important port and/or market States for products subject to trade-related measures of RFMOs are not signatories of such agreements. Concerted bilateral and multilateral efforts need to be made to encourage States to sign such agreements and to facilitate their capacity to ratify and implement their obligations under those agreements.

Rigour of application

As with most conservation and management measures introduced by RFMOs, a major determinant of the effectiveness of documentation schemes is the rigour with which members and other participants enforce the provisions. As noted by Upton and Vitalis (2003), the schemes are ‘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, transshipment and importing into the territories of Member countries’. Increasingly, such a commitment is also being sought from non-members.

Non-members of an RFMO are not legally bound to participate in the implementation of an RFMO’s conservation and management measures. However, the UNFSA (Article 17) requires that Parties to that Agreement, even where they are not members of an RFMO, co-operate in the conservation and management of stocks managed by RFMOs and, specifically, requires that they do not authorize their vessels to fish for stocks subject to the measures imposed by an RFMO. However some key flag, port and market States are not yet Parties to the UNFSA and it remains possible to circumvent the requirements of documentation schemes by, for example, registering vessels in such States.

Experience to date indicates that even within RFMOs some members are either unwilling, unable or have been slow to implement and enforce the requirements of documentation schemes effectively. For example, CCAMLR introduced its CDS in 2000, yet in 2002 the Commission ‘noted with concern that Canada, a Contracting Party to the Convention, is still not in a position

to implement the CDS despite a number of diplomatic demarches made by CCAMLR Members in the past three years' (CCAMLR, 2002). Canada did not implement the CDS until April 2004. Compliance by members of IOTC with the requirements of its Statistical Document Programme for Bigeye Tuna, introduced in 2001, has also been less than complete. In 2005 the Commission noted that '...only four CPCs [contracting and co-operating non-contracting parties] had reported information to the Secretariat on imports or re-exports of bigeye tuna since the implementation of this Resolution. Japan encouraged all CPCs that have not yet implemented Resolution 01/06 as import CPCs to do so with the shortest delay possible and report the information collected to the Secretariat according to the deadlines established' (IOTC, 2005). This behaviour on the part of members severely undermines the conservation and management measures of the RFMO and reduces the credibility of the RFMO and its members when seeking the co-operation of non-members. In practice, enforcement by members and co-operating non-members will depend on their commitment to the objectives of the scheme and to the conservation and management measures of the RFMO generally, and on their capacity to implement the scheme. Many members of RFMOs do little to discharge their obligations as members effectively and fail to implement the necessary domestic legislation to enforce conservation and management measures. In many cases, these measures already reflect the lowest common denominator position, this being the only position upon which agreement can be reached, and implementation of even this position is compromised further by lack of commitment and good governance.

Lack of commitment and political will to implement conservation and management measures, particularly in areas beyond national jurisdiction, is a persistent issue for most RFMOs and one that it is very difficult for an RFMO to address without the introduction of sanctions against its members for non-compliance. Even where the catching, port and market States are co-operating to implement the documentation scheme, scope exists for IUU-caught product to be laundered⁶. Ineffective, poorly resourced, poorly trained or possibly corrupt officials and a lack of State commitment to the objectives can severely undermine the effectiveness of such schemes.

Lack of capacity generally, but not exclusively, affects developing country members which, because of poverty, may also be more vulnerable to corruption. Documentation schemes and associated support measures such as VMS and observer programmes can impose a significant financial, administrative and compliance burden on RFMO members that many developing country members may simply not have the financial, technical or human capacity to bear. The UNFSA requires RFMOs to address this by providing assistance to develop the capacity required to implement conservation and management measures. There are examples of where individual member States have provided financial and in-kind support to developing countries which were regarded as critical to the effective implementation of conservation and management measures. For example, Australia provided assistance to Mauritius to train port personnel in the implementation of CCAMLR's CDS. While such assistance can help to overcome the lack of capacity, only overarching, long-term measures to improve governance and reduce poverty in such countries will reduce the propensity for corruption.

Species coverage

Each of the RFMOs that has implemented a documentation scheme appears to have done so for species where a significant IUU fishing problem has been identified. However, other RFMOs, such as NEAFC and the Northwest Atlantic Fisheries Organization (NAFO), that have an acknowledged IUU fishing problem for species such as redfish and other species of groundfish, have not implemented documentation schemes for these species.

The comprehensiveness of documentation schemes in place varies considerably. The only scheme that applies comprehensively to all aspects of the catch, transshipment, landing, processing and marketing phases is the CCAMLR CDS. All other schemes are TDS and apply only to exports, re-exports and imports.

Of the TDS in place there are a number of provisions which affect the comprehensiveness of their coverage of the relevant species:

- The ICCAT and IOTC schemes exempt 'Bigeye Tuna caught by purse seiners and pole and line (bait) vessels and destined principally for the canneries in the Convention area'. The rationale for the exemption is that it is very difficult to distinguish juvenile Bigeye Tuna from Yellowfin Tuna *Thunnus albacares* of similar size, which are caught by these fisheries. The IATTC scheme for Bigeye Tuna provides the same exemption and allows the exemption to apply to canneries regardless of whether they are in the Convention area.
- The IOTC and IATTC schemes are further limited in application to frozen Bigeye Tuna, application to fresh product being contingent upon development of guidelines to ensure procedures to handle fresh product at Customs. Japan advised the IOTC Compliance Committee in 2006 that it was not yet able to 'meet the requirements relating to fresh tuna at this stage' (IOTC, 2006).
- The ICCAT scheme for Atlantic Bluefin Tuna does not cover international transfers of live fish for farming purposes (FAO, 2005).



Credit: WWF-Canon/Jorge Bartolome

Tuna fishing off the coast of Spain

The coverage of the schemes has, however, improved over time. For example, ICCAT's original scheme for Atlantic Bluefin Tuna applied only to frozen product but has been extended to include fresh product. ICCAT's concerns about tracking the catch of live tuna for farming would be addressed if documentation were required at the point of harvest rather than export and ICCAT has work under way to establish a CDS for Atlantic Bluefin Tuna (ICCAT, 2006b).

The ICCAT and IOTC exemptions for purse seine-caught Bigeye Tuna destined for canneries in their respective convention areas pose enforcement difficulties and require that domestic regulation be

implemented to prevent the product reaching the fresh fish market and mixing with product requiring documentation. The problem initially created by product sent to canneries outside the convention area (and therefore requiring documentation) has been reduced with the introduction of the same provisions by IATTC. Frozen Bigeye Tuna from all oceans is now subject to the same requirements.

Another element of comprehensiveness relates to whether landed product, or only internationally traded product, is covered by the scheme. As noted, CCAMLR's CDS is the only scheme that covers landings and trade; all other schemes exclude that part of the catch taken by the vessels of a flag State that is consumed within that flag State.

The shortcomings of TDS have been demonstrated by the recent experience in CCSBT. The CCSBT Trade Information Scheme (TIS) does not record that portion of the catch of Southern Bluefin Tuna by members or co-operating non-members that is destined for their own domestic markets. Over time, domestic consumption of Southern Bluefin Tuna has increased in catching



Credit: WWF-Canon/Wil Luijff

Southern Bluefin Tuna *Thunnus maccoyii*, a victim of shortcomings in documentation schemes

countries such as the Philippines, South Korea and Taiwan (CCSBT, 2003). However, the most glaring omission has been the failure of the CCSBT TIS to account for the catch by Japanese flagged vessels that is landed and consumed in Japan. This failure enabled unreported catches of Southern Bluefin Tuna, in excess of Japan's quota allocation, to be sold onto the Japanese domestic market and compromised the rebuilding of the severely overfished Southern Bluefin Tuna stock. The Australian Minister for Fishery, Forestry and Conservation noted in 2006 that '...taking into account the findings of an independent review confirming a Japanese overcatch of up to 178 000 tonnes over the past 20 years, valued at AUD6–8 billion, the Commission has agreed to reduce some members' allocations to ensure that the level of catch remains within the levels recommended by the Scientific Committee' (Abetz, 2006).

The CCSBT experience has clearly demonstrated the obvious shortcoming of TDS, however, there remains considerable opposition to move from trade-based to catch-based documentation schemes in other RFMOs. Where RFMOs rely on consensus decision-making, this opposition can preclude the adoption of best practice measures. In CCSBT, for example, some Parties have persistently blocked attempts by other Parties to introduce a CDS to replace the TIS. Only in 2006, after the confirmation of the Japanese over-catch, was in-principle agreement gained to move to a CDS, but even now the details are yet to be developed and no timeframe has been established for implementation of such a scheme. In ICCAT, several Parties participating in a

working group voiced concerns regarding a complete shift to a CDS. These concerns appear to centre on the capacity that such a scheme provides for monitoring of quota by any body other than the flag State (ICCAT, 2006c). It is difficult to imagine what legitimate concerns a flag State member of an RFMO could have about such an outcome if it is committed to complying with the conservation and management measures of the Commission.

As noted earlier, documentation schemes can contribute to improving estimates of mortality, however, at best, they apply only to landings of a species. Given the proven inability of member States to provide credible and timely data, even on landings, to RFMOs, reliable estimates of discards and other forms of incidental fishing mortality must be based on data collected under independent RFMO programmes. It is imperative that, where documentation schemes are designed to improve estimates of fishing mortality, they are accompanied by these complementary measures.

Documentation

The form and the content of the documentation used in documentation schemes will influence the effectiveness of the schemes and the ease and speed with which the information can be exchanged between relevant parties. In addition, harmonization of documentation across all such schemes will reduce the compliance burden on those required to complete, check and authorize the documentation and will facilitate the provision of accurate information.

Content and form

Experience with the use of documentation schemes has seen considerable changes to the information collected in order to better support the conservation and management measures of RFMOs. For example:

- ICCAT has added data fields for vessel length, time of harvest and port of landing
- IATTC and IOTC now require a company name for the exporter's certification
- CCAMLR has added a section on transport details to its export and re-export documentation (including details such as container number, vessel name, flight number, bill of lading/date and place of issue, truck registration number)

To date, all of the documentation schemes are paper-based, however there is growing appreciation of the role that electronic documentation may play in eliminating problems related to paper-based systems and in minimizing administrative delays. CCAMLR has trialled an electronic system in order to minimize opportunities for fraudulent completion of the documentation, to facilitate exchange of real-time information and to minimize resources involved in keying in data from hand-written forms. The scheme has been trialled successfully and is voluntarily being used by a number of countries, however CCAMLR has not yet mandated its use. The Antarctic and Southern Ocean Coalition (ASOC) notes that the 'electronic system has streamlined the process of verifying that Toothfish has been caught legally and made it difficult to introduce IUU catch in the market through the use of forged DCDs [*Dissostichus* Catch

Documents]’ (ASOC, 2006a). Despite the reluctance of CCAMLR members to mandate the use of electronic documentation, from early 2007 the second-largest importer of toothfish, the USA, will unilaterally require that all toothfish imports be accompanied by electronic documentation. This should provide a strong incentive for all traders and processors to use electronic documents and demonstrates the positive role that market States can play in enforcing conservation and management measures.



Credit: AFMA.

An officer of the Australian Fisheries Management Authority logs details of a fishing vessel apprehended for illegal fishing in the Australian fishing zone

ICCAT has also supported the development of pilot projects to investigate the feasibility of electronic systems to improve its statistical document programmes, noting that electronic systems could improve the programmes through ‘expediting cargo handling, increasing the ability to detect fraud and deter IUU shipments, facilitating more efficient exchange of information between exporting and importing parties, and encouraging automated links between national catch reporting and Customs processing systems’ (ICCAT, 2006d).

Harmonization

The FAO (2002a) has noted that ‘multiple formats may create confusion and increase the paperwork burden placed on operators’ and that ‘harmonization of the schemes would create incentives towards compliance, would promote international trade in fish products and would reduce the possibility of fraud’. The most recent review of harmonization of trade documentation by the FAO Committee on Fisheries (COFI) Sub-committee on Fish Trade (FAO, 2006a) found that the six trade documents that had been implemented by the tuna regional bodies were broadly similar but could not, however, be regarded as ‘harmonized’. The documents vary in content (i.e. the nature of the data that is captured) and form (i.e. the section in which the data is captured).

It might be expected that the documentation for Bigeye Tuna used by ICCAT, IOTC and IATTC would be harmonized and that the forms for Southern and Atlantic Bluefin Tuna, given that the latter both deal with wild-caught and farmed product and that the relevant products predominantly access a single market, would be harmonized. This is not, however, the case. There remain significant differences in the documentation.

Abuse of the schemes

The ways in which documentation schemes can be misused or circumvented have been well analysed (see for example, National Environmental Trust, 2004). One of the factors driving the improvements identified above has been that, in practice, catch and trade documentation schemes have been found to be open to abuse. As HSTF (2006a) noted, documentation schemes ‘...are only as strong as the weakest link in the chain. The fact that documentation has been completed is by itself no guarantee of compliance. Much more effort needs to be made to harmonize documentation schemes and make them resistant to fraud. Such schemes also need to be more comprehensive in nature. There is also a need to ensure that catch and trade documentation schemes are applied to all IUU species and cover all phases of production, trade and marketing’. The majority of the current documentation schemes fall well short of these standards.

A Review of ICCAT’s documentation programmes was conducted in 2005/06. The recommendations of that review are indicative of the potential deficiencies of existing schemes and the avenues available for submission of forged and fraudulent statistical documents. The Review recommended that:

- product quantities be written in both numbers and letters
- blank spaces be crossed out
- modification of information declared by the exporter should be approved by the validating authority
- statistical documents must be retained for a minimum period of two years from validation
- development of a system of exchange of real-time information would be a key step to deal with fraudulent documents
- new fields for date of landing and port of landing be added to create a link between catch and trade
- a list of contact points in member countries and contracting parties be established and maintained by the Secretariat to facilitate communication.



Credit: WWF-Canon/Michèle Dépraz

Sale of Swordfish *Xiphias gladius* and tuna at market in Sicily

Implementation of these improvements would help to shore up the existing paper-based documentation, however many of them would be unnecessary if an electronic documentation scheme were introduced.

The accuracy of the data contained in the documentation will be determined largely by the rigour with which the scheme has been established and with which it is enforced by participating States. For example, some schemes do not use standardized conversion factors when reporting live product weight and processed weight and this inevitably results in inaccurate and inconsistent estimates of weight. In

ICCAT, for example, conversion factors for tuna and Swordfish *Xiphias gladius* prepared as steaks and blocks have not been established (ICCAT, 2006c).

Experience in the application of catch and trade documentation schemes has demonstrated that the effectiveness of these schemes can be enhanced by the use of complementary measures. The increasing recognition of the need for independent observers, centralized VMS, and for restrictions on transshipment reflects the need for verification of data contained in the documentation. However, these schemes must be specified carefully and must reflect the highest technical standards if they are to be useful adjuncts in the fight against IUU fishing and assist in attempts to improve data. Currently there are no common standards for the application of VMS, observer or transshipment programmes across RFMOs and often only lip service is paid to their implementation by members. The recent meeting of tuna RFMOs identified as a key challenge requiring urgent attention, the ‘establishment of integrated MCS (monitoring, control and surveillance) measures that could include VMS, observers, boarding and inspection schemes, port State controls, market State measures, stronger controls on transshipment and monitoring of bluefin tuna farming and the harmonization of those measures across the five tuna RFMOs where appropriate to avoid duplication and increase cost efficiency’ (Anon, 2007a). The meeting also agreed to harmonization of transshipment control measures.

The CCAMLR experience proved that a CDS could not by itself prevent IUU fishing (FAO, 2002a) and additional, complementary measures have been implemented. A centralized VMS has been introduced to deal specifically with instances of misreporting of the origins of catches, particularly reporting of catch as having been taken outside the Convention area. However, to date, the CCAMLR scheme continues to provide for mandatory reporting only to the flag State with simultaneous reporting to CCAMLR being voluntary. The experience of CCAMLR is, however, salutary. Despite continuous improvements to the CDS and the implementation of supporting measures, such as centralized VMS and electronic documentation, the most recent estimates of IUU catch show that, while the trend overall is downward, IUU catch is increasing in some parts of the Convention area.

A key aspect of misreporting on documentation schemes relates to the area in which the fish was taken. Considerations may include whether the catch was taken inside the relevant management area of the RFMO, whether it was taken inside or outside closed areas, or whether it was taken in a specific area to which a catch quota applies. The ability to verify area of catch by reference to VMS data is critical to addressing these issues and confirming whether the catch was taken in accordance with conservation and management measures of the RFMO. VMS is therefore a valuable adjunct to a documentation scheme. However, tampering with VMS data records to suggest that fishing has been conducted elsewhere can effectively exclude product from the requirements of a documentation scheme or make catches appear legitimate when they are not. Further, experience has shown that where VMS is monitored by individual flag States without at least simultaneous transmission to a central monitoring agency, the integrity of the scheme is compromised. RFMOs should therefore adopt a VMS that preferably reports first to a central hub administered by the RFMO or reports simultaneously to the flag State and the central hub. In the absence of a centralized VMS, flag State members must ensure that VMS is operated

according to requirements, that VMS data are not tampered with and must implement legislation that provides for prosecution and penalties if these requirements are not met. Recent initiatives across many RFMOs reflect the increasing recognition of the need for other tools to support trade-related measures. ICCAT, IATTC and IOTC each agreed in 2006 to establish programmes for control of transshipment including the requirement for at-sea transshipments in the convention areas to be subject to observer coverage. ICCAT and IATTC introduced VMS in 2005 and IOTC agreed in 2006 that its members and co-operating non-members should adopt VMS on all high-seas vessels by July 2007. As part of its in-principle agreement to adopt an integrated package of MCS measures, CCSBT has agreed to implement a VMS and a programme for transshipment including the use of regional observers on receiving carrier vessels. Other RFMOs, such as NEAFC and NAFO, have well-established VMS which require reporting to the RFMO via the flag State and entry and exit reports to the regulatory area.

However, to date, of those RFMOs that implement documentation schemes, only CCAMLR has one supported by a centralized, albeit voluntary to date, VMS. All others report only to the flag State rather than to the RFMO as well. In addition, many VMS apply only to vessels of certain lengths rather than to all vessels. To be effective support for documentation schemes, VMS need to be centralized, to apply to all vessels catching the relevant species and to minimize opportunities for tampering. However, the broadening of membership of RFMOs to include all States involved in trading products, or with nationals active in the fishery, in addition to the traditional membership of fishing and coastal States, may reduce the likelihood of achieving such goals, since many members may have limited capacity and/or commitment to adoption of effective packages of trade control measures.



Credit: WWF-Canon/Mike R. Jackson

Discarded fish are pushed overboard on a deep-sea trawler: records of this harvest would not have been captured by documentation schemes

Box 1: Lessons learned from the use of documentation schemes

Documentation schemes

- Significant improvements in estimates of fishing mortality can only be achieved through the use of schemes that apply at the point of harvest, i.e. CDS.
- Meaningful estimates of total fishing mortality require the introduction of measures to supplement a CDS in order to provide a reliable and timely record of catches, discards and other incidental mortality from commercial operations and, where relevant, mortality from recreational fishing.
- Documentation schemes must apply to all sectors of the fleet (regardless of size or gear), all forms of product (live, fresh, frozen, traded, for domestic consumption) and all stages of the catching, landing, transport, processing, trading and marketing chain.
- TDS have failed to prevent IUU fishing or provide significant improvements in catch data since they monitor only subsets of the catch and of the supply chain.
- Where a documentation scheme is introduced by an RFMO the benefits will be enhanced by the adoption of consistent, and if possible standardized, schemes by other RFMOs managing relevant species (for example, across the tuna RFMOs).
- The effectiveness of documentation schemes will be enhanced by the adoption of complementary MCS measures, particularly standardized, centralized, highly specified VMS, electronic documentation, port State controls and restrictions on transshipment.
- Continual monitoring of the patterns of trade is necessary to ensure that emerging gaps in the implementation of documentation schemes are addressed. This may require that members and co-operating non-members are required to implement species-specific and product-specific trade codes and are required to report all trade data to the RFMO annually.
- Documentation schemes should provide for the verification of the species caught, weight of the catch, when the catch was taken and the area in which the catch was taken
- Documentation should include information on the precise dates of fishing trips when the catch was made, ideally by submission of VMS records, in order to provide information on the activity patterns of the vessels concerned.
- Conversion factors (liveweight/product weight) for all forms of product should be developed and applied where documentation schemes are used. Preferably these factors should be standardized across RFMOs monitoring the same species, for example, the tuna RFMOs
- Electronic documentation can reduce the potential for abuse of documentation systems, improve the speed at which information can be exchanged and reduce the compliance burden on legitimate operators and regulatory authorities
- All available formal and informal mechanisms should be pursued to maximize the participation of flag, coastal, market, processing and port States and of States with nationals involved, in the implementation of documentation schemes. In particular, efforts to encourage membership of key international instruments and to facilitate implementation of the requirements of those instruments must be continued. RFMO membership of relevant flag and coastal States should be pursued vigorously, provision should be made for membership of the evolving range of port and market States and their co-operation as members or co-operating non-members should be encouraged.

Vessel lists

RFMOs have adopted ‘white’ (positive) and/or ‘black’ (negative) lists of vessels to provide guidance to flag, coastal, port and market States on vessels which are authorized to fish by the RFMOs and/or those that have been identified as operating in breach of RFMO conservation and management measures. Of the 10 RFMOs examined in this report, eight maintain both black and white lists, one maintains only a white list and one maintains only a black list. The criteria for adding a vessel to the black list and the source of information used to apply are summarized in **Table 3**.

White lists sometimes apply to sub-sections of the fleet. For example, white lists may be developed for vessels of a specified length or tonnage (e.g. in ICCAT, IOTC and NAFO) or vessels fishing on the high seas (e.g. in IOTC). This provides a loophole for exploitation by IUU fishers.



An officer of the Australian Fisheries Management Authority on patrol in the Southern Ocean

Black lists are also, in some cases, limited to vessels of certain lengths, allowing some IUU fishers to escape sanction. In IATTC, for example, only vessels greater than 24 m length overall are eligible for inclusion in the IUU vessel list. IATTC’s Joint Working Group on Fishing by Non-Parties recommended in 2006 that eligibility be determined on the basis of a length limit and a history of fishing in waters outside the jurisdiction of their flag State. The recommendation was not adopted.

Some black lists apply only to non-members, for example the lists of the General Fisheries Commission for the Mediterranean (GFCM), IOTC, NAFO and NEAFC (excluding Co-operating non-members). It is well recognized that vessels flagged to members of RFMOs have engaged in IUU fishing but, predictably, it is harder to get RFMO members to establish negative lists that would expose some of their vessels. To exclude members from the provisions of the black list deliberately reduces the impact of the scheme by applying it to only a subset of known and potential IUU fishers and discriminates against non-members in favour of members. ICCAT, however, extended the coverage of its list of IUU vessels to include contracting parties and co-operating non-members, entities or fishing entities in 2006. CCAMLR is considering complementing its negative lists of member and non-member vessels found to be engaged in IUU fishing by establishing negative lists of flag States deemed to be failing to exercise effective control over such vessels (A. Graham, Tasmanian Conservation Trust, *in litt.*, 2 February 2007).

However, even where IUU vessel lists apply in theory to both members and non-members, problems can arise. The recent experience of CCAMLR (ASOC, 2006b) highlighted the problems of adding a vessel of a contracting party to the IUU list in an environment of consensus decision-making. Under these circumstances the ‘accused’ flag State member of the RFMO can legitimately veto the addition of the vessel to the black list despite overwhelming evidence of its IUU activities.



Credit: AFMA

Officers of the Australian Fisheries Management Authority boarding a fishing vessel ship in December 2006 to undertake an inspection

HSTF identified a number of other deficiencies in the use of vessel lists by RFMOs:

- positive vessel lists rely, to a greater or lesser extent, ‘on the authenticity of the information provided by the flag State, while the negative lists usually rely on information provided by contracting parties about activities of all vessels’.
- In many cases the lists are subject to approval by RFMO members (giving scope for ‘sanitizing’)
- Few RFMOs go beyond the lists provided to them and independently verify or add to information provided to them by flag States
- Lists compiled are not necessarily available to other management regimes and are often held in incompatible data formats. This makes comparisons between vessels and establishing linkages between vessels moving between registers or regions difficult (HSTF, 2006a).

Given that black lists form the basis of sanctions against vessels, and ultimately against flag States, the process for listing needs to be rigorous, transparent and non-discriminatory. RFMOs that use black lists have implemented increasingly rigorous processes for adding and removing vessels from those lists. Many now take a staged approach to development of lists (e.g. draft, provisional and final lists) with each stage reflecting increasing certainty about IUU activity and the lack of corrective action by flag States. While the need for ‘proof’ of IUU fishing is understood, the increasing rigour required in order to list vessels may increase the risk that IUU vessels do not appear on the final lists.

RFMOs have also come to recognize the value of sharing information on IUU vessels. NEAFC and NAFO have recently agreed to collaborate to create a pan-Atlantic blacklist of IUU vessels (NEAFC, 2006). NAFO has also recently agreed to provide linkages to the IUU lists of other RFMOs in order to provide the most up-to-date information to its Parties. Four of the five tuna RFMOs now share their vessel lists on a joint internet site and a global list of authorized tuna fishing vessels has also been compiled and published on that site. However the site notes that:

‘The list is currently updated from the RFMO lists at regular time intervals. Any recent changes in the lists of each RFMO may not be incorporated. Individual RFMO lists should be consulted for their definitive lists. Some vessels may have duplicate entries in the list. Accordingly, the number of entries in the Global List is likely to exceed the actual number of authorized vessels. The Global Vessel list is a work in progress. Any references to it should specify the date on which it was accessed.’ (Tuna-org, 2007b).

These qualifying statements highlight some of the problems associated with the use of vessel lists. In particular, the problem of duplication and redundancy across lists derives from the failure of RFMOs to adopt a single unique identifier for vessels. In this regard, the meeting of tuna RFMOs in January 2007 agreed, among other things, to work towards:

‘The creation of a harmonized list of tuna fishing vessels that is as comprehensive as possible (positive list) including the use of a permanent unique identifier for each vessel such as an IMO [International Maritime Organization] number. The positive list should include support vessels. Creation of a global list of IUU vessels.’ (Anon, 2007a).

The development of a comprehensive record of fishing and support vessels and the use of a unique vessel identifier is gaining increasing support. This approach was suggested by the FAO Ministerial Meeting on Fisheries in 2005 (Anon., 2005), the United Nations General Assembly (UNGA) Resolution on Sustainable Fisheries in 2006 (UNGA, 2006b) and the HSTF (HSTF, 2006a). A recent feasibility study conducted by the FAO of the creation of a global record of fishing and support vessels found that it was technically feasible but that a ‘unique vessel identifier system would need to be introduced so any vessels could be identified permanently, irrespective of change of vessel name, ownership of flag’ (FAO, 2006b).

Box 2: Lessons learned from the use of vessel lists

- Vessel lists have a role to play in the fight against IUU fishing. In the context of trade-related measures they must be accompanied by an agreed plan of action that seeks to maximize disruption to the landing and marketing of fish from vessels on the list.
- The value of vessel lists will be maximized where both white and black lists are developed and made publicly available.
- Vessel lists published on websites should include direct links to the lists of other RFMOs and relevant coastal States to ensure that the latest information is available.
- Procedures used to identify IUU vessels should include the provision of independent verification in order to maintain the integrity of the schemes.
- There remains a need to review the decision-making processes of RFMOs to ensure that black-listing of vessels flagged to RFMO members and, ultimately, sanctions against those vessels and or against trade with such members, cannot be blocked by the need for consensus on such decisions.
- The adoption of a global register of fishing and support vessels incorporating the use of a unique vessel identifier would overcome many of the problems associated with the compilation and proliferation of vessel lists by individual RFMOs.

Table 3

Basis for black-listing of IUU vessels

	CCAMLR	GFCM	IATTC	ICCAT	IOTC	SEAFO	NEAFC	NAFO
Source of evidence								
Member	✓	✓	✓	✓	✓	✓	✓	✓
Co-operating non-member		✓	✓	✓	✓			
Information from reports on documentation schemes, relevant trade statistics, other verifiable statistics and suitably documented information from port States or fishing grounds	✓		*			#		
Nature of evidence								
Fishing for species managed by the RFMO in the Convention Area but not being authorized to do so	✓	✓	✓	✓	✓	✓	✓	✓
Fishing for species managed by the RFMO in the Convention Area under the flag of a State that does not have participatory rights under the conservation and management measures of the RFMO		✓		✓	✓	✓	✓	✓
Fail to record or report of falsely report their catch	✓	✓	✓	✓	✓	✓	✓	✓
Fail to abide by management measures relating to minimum size limits, temporal or spatial closures, restrictions on fishing gear	✓	✓	✓	✓	✓	✓	✓	✓
Transship with, resupply or refuel vessels on the IUU list	✓	✓	+	✓	✓	✓		
Non-member vessel engaged in transshipping							✓	
Fishing for species managed by the RFMO in waters under national jurisdiction in the Convention Area without authorization	✓	✓		✓	✓			✓
Vessels without nationality fishing for species managed by the RFMO in the Convention Area	✓	✓	✓	✓	✓	✓		
Fishing contrary to any other conservation and management measure							✓	✓
Are under the control of the owner of any vessel on the IUU vessel list			✓			✓		
Been denied port access, landing or transshipment in accordance with conservation measure	✓							
Failed to provide required catch/trade documentation in accordance with a conservation measure	✓							

Notes: * other relevant sources; # exc. documentation scheme; + applies only to transshipment

Prohibitions on landings and transshipment

Prohibitions on the landing and transshipment of product are linked to the establishment of white and/or black lists of vessels. Many RFMOs require that Parties will not permit landing or transshipment from a vessel considered to have been operating illegally until an inspection of the documents, gear and catch on board the vessel has been carried out. In addition, many RFMOs encourage their members and co-operating non-members to take every possible action, consistent with relevant laws to convince their importers, transporters and other relevant businesses to refrain from engaging in transactions with and transshipment of fish caught by vessels identified as having been engaged in IUU fishing activities. A summary of the provisions imposed by RFMOs on members and co-operating non-members with respect to IUU vessels is provided in **Table 4**.

Such measures increase the costs and reduce the competitiveness of IUU activities by forcing them to travel to ports which are not supporting the implementation of the schemes in order to access landing and transshipment facilities as well as other services such as fuel, insurance, communications and navigation services. For example, in relation to transshipment activities by a non-member vessel in the NEAFC Regulatory Area, attempts by the vessel to land fish were thwarted by the refusal of five Parties to allow it to do so in their ports (NAFO, 2006). **Table 4** shows that while the extent and nature of the sanctions required against vessels varies across RFMOs, most of these measures rely on the implementation of port State measures, emphasizing the importance of including port States in such arrangements. At the recent Kobe meeting of tuna RFMO members, both Thailand and Mauritius complained that a lack of such involvement was hampering their capacity to co-operate (A. Graham, Tasmanian Conservation Trust, *in litt.*, 2 February 2007).

Many RFMOs have adopted port State measures but few have yet implemented a comprehensive system of port State measures as called for by the Technical Guidelines on the implementation of the IPOA-IUU Fishing (FAO, 2002b) and by the recent UNFSA Review Conference. The Technical Guidelines state that such systems should include ‘requirements for inspection of vessels in port and exchange of information between port States and flag States in the event inspections indicate the possibility of IUU fishing. The RFMOs should at a minimum consider mandatory inspection in port of all non-member fishing vessels, with obligations to report the findings of such inspections to the RFMO, which can disseminate the report to other members’. These requirements are elaborated upon in the FAO Model Scheme (FAO, 2004).

Even where an RFMO agrees on a comprehensive system of port State measures there is no guarantee that its members will implement or enforce those measures effectively. Further, the successful operation of such schemes often requires participation by non-members and this can be challenging.

Table 4

Obligations with respect to IUU vessels

	CCAMLR	GFCM	IATTC	ICCAT	IOTC	SEAFO	NEAFC	NAFO
Obligations of members and co-operating non-members in respect of vessels on IUU list								
Prohibit issue of licences to fish in the convention area	✓							
Prohibit issue of licences to fish in the waters under their jurisdiction	✓						✓*	✓
Ensure that such vessels are not allowed to land, transship, refuel, re-supply, except for reasons of <i>force majeure</i> , or engage in fish processing operations or in any other activity in preparation for or related to fishing in their ports or waters under their jurisdiction							✓	✓
Prohibit vessels flying their flag to transship with, participate in joint fishing operations with, or support or re-supply such vessels	✓			✓	✓	✓	✓#	✓
Prohibit vessels flying their flag to transship with such vessels		✓	✓					
Deny access to ports unless for enforcement purposes or for reasons of <i>force majeure</i> or for rendering assistance	✓			✓			✓*	
Where such vessels are allowed entry they are inspected	✓							
Do not authorize entry to ports of such vessels for landing or transshipment or re-supply or for other services but where vessels enter ports conduct an inspection							✓#	
Ensure that such vessels that enter ports voluntarily are not authorized to land, transship, refuel or re-supply or engage in other commercial transactions					✓			
Ensure that such vessels that enter ports voluntarily are not authorized to land or transship		✓	✓					
Ensure that such vessels that enter ports voluntarily are not authorized to land, transship, refuel or re-supply but are inspected upon entry						✓		

Table 4 (continued)

Obligations with respect to IUU vessels

	CCAMLR	GFCM	IATTC	ICCAT	IOTC	SEAFO	NEAFC	NAFO
Obligations of members and co-operating non-members in respect of vessels on IUU list								
Prohibit the authorization to land, transship, refuel, re-supply or engage in other commercial transactions				✓				
Prohibit charter of such vessels	✓	✓	✓	✓	✓	✓	✓*	✓
Refuse the grant of their flag to such vessels	✓					✓	✓*	✓
Refuse the grant of their flag to such vessels except if the vessel has changed owner and the new owner can prove that the previous owner/operator has no legal, beneficial or financial interest in, or control of the vessel, or if the CP or NCP determines that granting the flag will not result in IUU fishing		✓	✓	✓	✓			
Prohibit the imports, or landing and/or transshipment from such vessels of species covered by the convention				✓	✓			
Prohibit the imports, landing and/or transshipment of any species from vessels included in the IUU list		✓						
Prohibit the import, export and re-exports of species subject to catch/trade documentation from these vessels	✓							
Do not certify the government authority validation in respect of catch/trade documentation	✓							
Prohibit the import of fish from such vessels							✓*	
Prohibit the imports, or landing and/or transshipment from such vessels of species covered by the convention				✓	✓•			
Prohibit commercial transactions, imports, landings and/or transshipments of species covered by the convention			✓			✓		
Encourage importers, transporters and other sectors to refrain from dealing with and from transshipping fish caught by such vessels	✓	✓	✓!	✓	✓•	✓!	✓*	✓

Table 4 (continued)

Obligations with respect to IUU vessels

	CCAMLR	GFCM	IATTC	ICCAT	IOTC	SEAFO	NEAFC	NAFO
Obligations of members and co-operating non-members in respect of vessels on IUU list Collect and submit to the RFMOs appropriate information which is suitably documented with the aim of detecting, controlling and preventing the importation or exportation of, and other trade-related activities relating to catches from such vessels Collect and exchange with other contracting parties, appropriate information with the aim of searching for, controlling and preventing false import/export certificates for species covered by the convention	✓							
			✓	✓	✓	✓	✓*	✓

Notes: * = B list; # = A list; • = in respect of tuna and tuna-like species; † = in respect of species covered by the convention; CP = flag contracting party; NCP = co-operating non-contracting party

HSTF (2006b) compared port State measures across 10 RFMOs and found significant differences in the approaches taken and that only one of the 10 met all the provisions of the FAO Model Scheme. HSTF found that while most RFMOs had some form of port State control, there were a number of shortcomings, including:

- None provided for or required punitive or corrective enforcement actions
- Many are voluntary (therefore even among RFMO members some ports may be more convenient than others to IUU fishers)
- Some apply only to vessels flying the flag of non-members (which may be discriminatory)
- Many are weak procedurally, leading to lack of uniformity and again making some ports more convenient than others to IUU fishers.

HSTF identified some specific measures that should be promoted within RFMOs:

- Demanding mandatory port State control
- Subjecting all fishing vessels, both national and foreign, to liability to in-port inspection
- Within each RFMO identifying so-called ports of convenience and ensuring that these port States co-operate with the RFMO's port State control regime (HSTF, 2006b).

In 2006, NEAFC agreed to new port State control measures which will enter into force from May 2007. These measures will 'effectively close European ports to landings of frozen fish, which have not been verified to be legal by the Flag State of the vessel. This will be controlled



Unloading tuna in Papua New Guinea

by direct inspection in designated ports all over Europe' (NEAFC, 2006). The measures provide for prior notification of landings of frozen fish by foreign fishing vessels, including a declaration by the master of the vessel of the catch on board. Before the landings can be authorized by the port State the flag State must verify the information in the declaration and confirm that the vessel held relevant quota, that the catch had been included in quota monitoring, that the vessel was authorized to fish and that the area of catch had been verified by VMS. The new measures

also include new obligations and standards for inspections to be carried out by the port State (NEAFC, 2006). The new measures do not, however, require independent verification of information provided by the master to the flag State or by the flag State to the port State and do not impose penalties for non-compliance.

The successful operation of port State controls requires that legitimate fishers are able to provide confirmation to port States that catch has been taken legally. CDS, supplemented by comprehensive MCS measures, including independent observer coverage, have an important role to play in this regard.

Box 3: Lessons learned from the use of sanctions against vessels

- Trade-related measures rely heavily on action by port and market States.
- The port State measures currently in place are flawed and there remains considerable scope for the strengthening of these measures, including through the adoption of complementary measures to prevent IUU fishing.
- Few RFMOs have yet agreed on the need for members to implement port State measures that reflect the guidance provided by the FAO Model Scheme and the Technical Guidelines for the Implementation of the IPOA-IUU Fishing.
- Few members or non-members of RFMOs have implemented port State measures voluntarily.
- The lack of consistency of such measures across RFMOs allows IUU fishers to exploit the weakest link in MCS regimes.

Trade-restrictive measures against States

Only ICCAT and CCSBT have required that their members and co-operating non-members impose sanctions against the flag States that have not taken action to control the operations of their vessels that are considered to be undermining the conservation and management measures of these RFMOs. Such action requires that members and co-operating non-members implement domestic regulations in support of the sanctions. The fact that an RFMO does not require its members to impose trade sanctions on States does not preclude member States from taking such actions unilaterally should they choose to do so. In fact many RFMOs acknowledge the rights of flag, port, market and coastal States to take proper action consistent with international law against IUU listed vessels or vessels suspected of involvement in IUU fishing.

ICCAT was the first of the RFMOs to require its members to prohibit the importation of a species from countries considered to be undermining ICCAT's conservation and management measures for that species. Action was first taken in respect of Atlantic Bluefin Tuna in 1996 and has since been taken against a range of countries involved in the catch of Swordfish and Bigeye Tuna. There is some evidence that the approach has been successful. For example, Panama and Honduras have become contracting parties to ICCAT and others countries have increased their co-operation with ICCAT's measures. It is considered that ICCAT's package of measures, including trade sanctions, to address IUU fishing have resulted in a reduction in IUU fishing (see, for example, MRAG, 2005).

Unlike the ICCAT scheme, which applies to both members and non-members, the CCSBT's Action Plan, implemented in 2000, applies only to non-members. The Action Plan provides for the identification by the Commission of 'non-Members whose vessels have been catching SBT [Southern Bluefin Tuna] in a manner which diminishes the effectiveness of the conservation and management measures based on the catch data compiled by the Commission, trade information and other relevant information obtained in ports and on fishing grounds'. Such non-members are then requested to co-operate with the Commission and failure to do so may result in the Commission deciding 'to impose trade-restrictive measures consistent with Members' international obligations on SBT products, in any form, from the non-Members identified' (CCSBT, 2000).

In accordance with the Action Plan CCSBT has identified countries including Cambodia, Honduras, Equatorial Guinea, Belize and Indonesia as not co-operating with the Commission and has to rectify this situation. However, CCSBT has not taken the next step of imposing trade restrictive measures on Belize, Cambodia, Equatorial Guinea and Honduras noting that:

'Some concerns were expressed regarding the appropriateness of taking measures at this stage against these countries, including: issues of WTO consistency; consistency of approach to other countries than these four countries; possible difficulty of taking action when no national quotas have been agreed by CCSBT; whether or not lack of response to communication represented an unwillingness to co-operate; and the discontinuation of SBT exports to members of the Extended Commission as reflected in the TIS data.' (CCSBT, 2002).

Indonesia continues to fail to co-operate with the CCSBT despite having indicated its intention to become a Co-operating non-Member of the Commission and to become a party to the UNFSA. While CCSBT has not implemented trade restrictive measures under the Action Plan it has agreed that the ‘impact of the CCSBT resolution on IUU fishing and the establishment of a CCSBT record of vessels has effectively imposed trade restriction measures on Indonesia’ (CCSBT, 2005).

Despite the efforts, and some success, of RFMOs, to bring flag of convenience States into line many IUU vessels simply re-register with other flag States offering the same lax administration of their international obligations to control the activities of vessels flying their flag. Gianni and Simpson (2005) noted that:

‘There have been a number of measures adopted over recent years by ICCAT, CCAMLR, IOTC and other regional fisheries management organizations, including, in some cases, trade measures and import bans directed specifically at all four countries [Honduras, Panama, Belize and St. Vincent and the Grenadines]. While these measures apparently have resulted in some deregistration of fishing vessels from the registries of one or more countries (e.g. Panama, Belize)..... they have not prevented any of these States from continuing to maintain large numbers of fishing vessels on their registries, based on the information from Lloyd’s. Nor have the measures adopted by the regional fisheries management organizations discouraged large numbers of fishing vessel owners interested in flying FOCs from continuing to register their ships to Panama, Belize, Honduras, and St Vincent and the Grenadines’.

Box 4: Lessons learned from the use of sanctions against States

- There is some evidence that trade sanctions have provided incentives for some countries to join RFMOs and/or to co-operate in the implementation of the conservation and management measures of RFMOs.
- It remains unclear whether such measures have reduced the overall level of IUU fishing or whether IUU fishers have simply used the flags and ports of other States or found ways to circumvent MCS measures, including trade-related measures.
- The processes in place for determining the circumstances under which sanctions should be imposed must be clearly specified and transparent in order to ensure that sanctions are applied consistently and that discrimination is avoided.
- There remains some uncertainty about the non-discriminatory nature of trade sanctions, particularly where the sanctions apply only to non-members.

CONCLUSIONS

Improving the certainty of the level of fishing mortality of target species and minimizing IUU fishing are common goals of RFMOs. The use of trade-related measures in pursuit of these goals, especially greater reliance on port State measures, continues to increase across RFMOs. Despite the increased use of trade-related measures and the associated shift to involve port and market States, these measures remain a complementary, rather than an alternative, management tool. RFMOs continue to rely primarily on input and output controls, spatial and temporal closures and gear restrictions on fishing vessels of flag States to manage fish stocks. Specific lessons from the experience with trade-related measures to date have been identified above. In addition, a number of broad conclusions about the use, effectiveness and role of these measures in achieving the objectives of RFMOs can be drawn. These are discussed below.

Increased reliance on port and market States

Experience with the use of trade-related measures suggests that documentation schemes, vessel lists and sanctions are best viewed as a package rather than as individual elements. The effective use of these measures is determined largely by the level of co-operation of port and market States and the nature of the port State measures implemented. The existing port control measures fall well short of the standards set by the FAO Model Scheme and it is imperative that RFMOs upgrade their schemes to reflect these standards and implement effective port State measures to minimize opportunities for catching, landing, transshipment and marketing of IUU product.

The need for a comprehensive and consistent approach to combating IUU fishing across States and RFMOs, and particularly to the application of port State measures is central to ensuring that IUU fishing is contained on a permanent basis globally. The UNFSA Review Conference recommended the development of a legally binding instrument on minimum standards for port State measures building on the FAO Model Scheme and the IPOA-IUU fishing. While the adoption of a binding instrument may facilitate co-operation with trade-related measures of RFMOs the challenge in its development will be to ensure that the provisions of the existing voluntary instruments are not diluted in order to reach agreement. Further, there are, as identified in this report alternative approaches to encouraging the co-operation of port and market States in the implementation of trade-related measures.

Co-operation and harmonization

Lack of consistency and harmonization across RFMOs, and piecemeal application of many of the current schemes means that, globally, gaps remain available for exploitation by IUU fishers. IUU fishing effort will move to wherever the management and enforcement measures, and hence the risk of detection are deemed to be the weakest. While inconsistent and ineffective conservation and management measures are in place globally, efforts by individual RFMOs to strengthen their conservation and management measures are likely to result in a refocusing rather than a global reduction of IUU fishing. An integrated approach, within and across

RFMOs, and including coastal, port and market States, and States whose nationals are involved, is necessary if IUU fishing is to be controlled. Co-operation and collaboration between RFMOs and RFMO members will be facilitated by harmonization of measures across RFMOs and broadening RFMO membership to accommodate all relevant flag and coastal States. Co-operating non-member status should be seen as an interim step towards full membership for such States. RFMOs should also ensure that there is no technical obstacle to full membership by port and market States. However, given the costs associated with membership and the potentially limited rewards on offer, there may be little take-up of these opportunities. As a result, co-operating non-member status may need to be offered as a long-term option for port and market States. RFMOs may then need to consider whether members should be restricted to using ports of, or trading with, only those port and market States that are co-operating non-members, or members. This would provide a strong incentive for all port and market States to co-operate with the RFMO.

Estimating fishing mortality

In most instances the three most significant sources of fishing mortality are landed catch by authorized and IUU operators and discards from each of these sources. There are generally high levels of uncertainty surrounding estimates of mortality from these sources. The use of measures such as CDS can contribute to better estimates of legitimate landings. However, separate independent processes such as observer programmes are required in order to estimate discards.

The estimation of the level of IUU catch is inevitably difficult. To date CCAMLR is the only RFMO that has developed a systematic approach to estimating the level and trends in IUU fishing. Most other estimates are based on point estimates from one-off studies. International trade analyses have a contribution to make in terms of comparing reported catch with levels of catch reaching the market. However such analyses continue to be compromised by the relative lack of species-specific and product-specific trade codes. Many RFMOs have encouraged their members to address this problem but progress is slow.

Effectiveness of trade-related measures

The experience with trade-related measures outlined in this report provides guidance for other RFMOs considering the introduction or upgrading of such measures. RFMOs such as ICCAT and CCSBT that are considering moving to a CDS could learn much from the experience of CCAMLR. Others, such as the WCPFC, which will consider options for documentation schemes in the near future, must consider their options carefully against the objectives being pursued. Experience suggests that TDS have not been effective in preventing IUU fishing and provide limited additional information in relation to fishing mortality. The cost-effectiveness of such schemes must therefore be weighed up carefully against the potential benefits available from a more comprehensive CDS approach.

There is some evidence that, where comprehensive trade-related measures have been used systematically, and in conjunction with other MCS measures, there has been a reduction in estimated IUU catch. However in 2005, CCAMLR noted the declines in estimates of IUU fishing over the previous three years but concluded that this decline ‘could be a consequence of the impact of improved monitoring, control and surveillance (MCS) and CDS measures on IUU activities, uncertain accuracy of the current IUU catch assessment methodology and reduction in Toothfish catches overall.’ (CCAMLR 2005). This confirms the difficulty in claiming definitively that trade-related measures have been effective in reducing IUU catch. Further, the fact that CCAMLR’s estimates of IUU catch in some fishing areas increased in 2005/06 points to the need for sustained vigilance and improvement in MCS measures in order to eliminate IUU fishing on high-value stocks in the longer term.

The adoption of a package of trade-related measures and complementary MCS measures such as VMS and transshipment restrictions come at a cost. RFMOs must recognize that limited capacity exists in many developing countries to implement these measures. Even in developed countries, revision of port access regulations, increased Customs resources and other similar enhancements may be required to enforce such measures and some States may not rate fisheries issues highly in relation to other priorities. Developing countries should be provided with assistance to meet the requirements of trade-related measures and systems should be designed to minimize the burden on enforcement and compliance officials and, to the extent possible, reduce the reliance on enforcement and compliance. Bilateral and multilateral programmes to improve governance and reduce poverty and hence vulnerability to corruption must underpin attempts by individual countries and RFMOs to improve fisheries management and enforcement capacity in these countries.

The effectiveness of trade-related measures, like that of most other conservation and management measures applied by RFMOs, is influenced by the structural and operational characteristics of the RFMOs. Factors such as consensus decision making, reluctance to apply voting procedures, the lack of independent verification of data and the virtual absence of independent enforcement of MCS measures must be addressed if those conservation and management measures that are adopted are to be effective. Further, the reality is that it is the commitment and capacity of members and co-operating non-members to implement the decisions of RFMOs that ultimately determine the effectiveness of those decisions.

The practice of individual member States of RFMOs seeking to minimize the impact of conservation and management measures on their own fleets by quarantining the application of the measures to specific fishing methods, vessel sizes or product types is common. Many well founded measures, including trade-related measures, have been rendered practically ineffective as a result. The success of member States, acting individually or in concert with others, to water down the application of conservation and management measures depends on a range of factors including the decision-making system in place, on the willingness of the RFMO to use available voting procedures and the capacity of members to influence the voting of others. These factors pose fundamental challenges to RFMOs and must be addressed if effective conservation measures are to be implemented.

Experience indicates that RFMO members cannot assume ‘good faith’ on the part of their fellow members, or their own nationals, let alone on the part of those non-members who, as parties to various international agreements, have a range of international obligations to co-operate with the RFMOs. In the face of unwillingness and/or the inability of flag State members to provide verified catch data and the reality that some members are involved in IUU fishing RFMO members have no option but to adopt and implement measures that obviate reliance on the goodwill of their members. Trade related measures together with independent MCS regimes, including centralized VMS of the highest technical standards and observer programmes, are central to improving data on fishing mortality and to improving the effectiveness of conservation and management measures through reducing IUU fishing. Where used, trade-related measures should apply equally to members and non-members in a non-discriminatory way. This is not only important from the point of view of achieving conservation and management objectives but, in relation to trade-related measures, of ensuring consistency with WTO rules.

The role of trade-related measures

The problem of deteriorating status of fish stocks facing most RFMOs is not just the result of IUU fishing but is also attributable to a lack of data and scant attention to precautionary decision-making in the face of the uncertainty arising from that and other factors. Experience has shown that trade-related measures have a role to play in addressing this problem. However, there is a risk that members of some RFMOs may become pre-occupied with the IUU activities of non-members at the expense of taking precautionary, but contentious, decisions on resource conservation and management or addressing non-compliance of their own members. The hard management decisions about appropriate settings of catch and effort limits, allocation of participatory rights, the use of independent observer schemes and the development of effective and centralized MCS measures must not be neglected in the pursuit of measures to address IUU fishing through trade-related measures. RFMOs must ensure that their efforts to minimize the impact of IUU fishing on legal operations are balanced with their other management responsibilities.

Flag State members of RFMOs have generally failed to provide sound, reliable and timely catch data. Accurate estimates of fishing mortality are critical to sustainable management. RFMOs must therefore improve estimates of mortality of target species. This includes legal landings and other mortalities incurred through legal fishing operations (e.g. discards) as well as IUU catches and landings where relevant. Precautionary management measures must then be implemented to reflect these mortality estimates and the uncertainty underlying them. The positive effects of such management can be undermined by IUU fishing and it is imperative that RFMOs act simultaneously to reduce the economic incentives for IUU fishing especially by preventing IUU product from reaching the market place. In this respect RFMO members must look to address any internal RFMO issues which may be contributing to IUU fishing. For example, disputes over, or failure to agree on allocations of participatory rights to members or to prospective new members provide strong incentives for fishers to engage in IUU operations. In addition, continuing efforts must be made to ensure that membership of RFMOs adequately reflects flag, port and market States.

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NOTES

- 1 The Northwest Atlantic Fisheries Organization (NAFO) requires that all processed fish harvested in the Regulatory Area must be labelled to identify the species and product category and to show that it was caught in the Regulatory Area of NAFO. The Inter-American Tropical Tuna Commission (IATTC) has introduced a 'Dolphin-Safe Tuna' label.
- 2 Catch monitoring schemes provide information only on landings and do not provide estimates of commercial discards, recreational fishing mortality or other incidental fishing mortality.
- 3 See Upton and Vitalis (2003) for a concise discussion of the issues.
- 4 The range of trade-related measures in place, and the way they are applied, continues to evolve rapidly. At the time of preparation of this report the official outcomes of the 2006 meetings of ICCAT, CCAMLR, NEAFC and the WCPFC had not been released. In order to provide the most up-to-date information this report has drawn on both official and, where available, non-official reports of the outcomes of these meetings.
- 5 In this report a CDS is used to refer to a scheme that covers both landings of fish and trade of fish products rather than simply being a mechanism to verify landings.
- 6 A discussion of the ways in which documentation schemes can be compromised is contained in National Environmental Trust (2004).

APPENDIX I: Provisions relevant to trade-related measures in conservation instruments

UNCLOS	Article 117 specifies that: All States have the duty to take, or to co-operate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.
UNFSA	Article 17.4 provides for the members of RFMOs to take measures consistent with the Agreement and international law to deter activities of vessels flying the flags of States of non-Members or participants in the arrangements and which undermine the effectiveness of the RFMO's conservation and management measures. Article 21 provides for the development of regional, co-operative enforcement schemes that may involve boarding and inspection by non-flag State inspectors. Article 23 provides for port States to act, in accordance with international law, to support regional and global conservation and management measures. The article identifies these measures to include, among other things, the inspection of documents, fishing gear and catch and the prohibition on landings and transshipments where it has been established that the catch has been taken in a manner which undermines regional or global conservation measures. Article 33(2) provides for States that are Parties to the Agreement to take measures consistent with international law to deter the activities of vessels flying the flag of non-Parties to that Agreement where those activities are undermining the effective implementation of the Agreement
Compliance Agreement	Article V (2) provides that: When a fishing vessel is voluntarily in the port of a Party other than its flag State, that Party, where it has reasonable grounds for believing that the fishing vessel has been used for an activity that undermines the effectiveness of international conservation and management measures, shall promptly notify the flag State accordingly. Parties may make arrangements regarding the undertaking by port States of such investigatory measures as may be considered necessary to establish whether the fishing vessel has indeed been used contrary to the provisions of this Agreement.

	Article VIII provides that: The Parties shall co-operate in a manner consistent with this Agreement and with international law to the end that fishing vessels entitled to fly the flags of non-Parties do not engage in activities that undermine the effectiveness of international conservation and management measures. The Parties shall exchange information amongst themselves, either directly or through FAO, with respect to activities of fishing vessels flying the flags of non-Parties that undermine the effectiveness of international conservation and management measures.
Convention on Biological Diversity	Article 5 provides that: Each Contracting Party shall, as far as possible and as appropriate, co-operate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.
Code of Conduct for Responsible Fisheries	The Code elaborates, among other things, on the responsibilities of flag States and port States in supporting regional conservation and management measures and sets out principles for responsible fisheries trade. In relation to trade issues, the Code states that its provisions should ‘be interpreted and applied in accordance with the principles, rights and obligations established in the World Trade Organization Agreement’, that ‘International trade in fish and fishery products should not compromise the sustainable development of fisheries and responsible utilization of living aquatic resources’ and that States should co-operate with each other and actively participate in relevant regional and multilateral fora, such as the World Trade Organization (WTO), in order to ensure equitable, non-discriminatory trade in fish and fishery products as well as wide adherence to multilaterally agreed fishery conservation measures’.
IPOA-IUU Fishing	The IPOA specifies that: 65. The measures in paragraphs 66 to 76 are to be implemented in a manner which recognizes the right of States to trade in fish and fishery products harvested in a sustainable manner and should be interpreted and applied in accordance with the principles, rights and obligations established in the World Trade Organization, and implemented in a fair, transparent and non-discriminatory manner.

IPOA-IUU Fishing (continued)	66. States should take all steps necessary, consistent with international law, to prevent fish caught by vessels identified by the relevant regional fisheries management organization to have been engaged in IUU fishing being traded or imported into their territories. The identification of the vessels by the regional fisheries management organization should be made through agreed procedures in a fair, transparent and non-discriminatory manner. Trade-related measures should be adopted and implemented in accordance with international law, including principles, rights and obligations established in WTO Agreements, and implemented in a fair, transparent and non-discriminatory manner. Trade-related measures should only be used in exceptional circumstances, where other measures have proven unsuccessful to prevent, deter and eliminate IUU fishing, and only after prior consultation with interested States. Unilateral trade-related measures should be avoided. 67. States should ensure that measures on international trade in fish and fishery products are transparent, based on scientific evidence, where applicable, and are in accordance with internationally agreed rules. 68. States should co-operate, including through relevant global and regional fisheries management organizations, to adopt appropriate multilaterally agreed trade-related measures, consistent with the WTO, that may be necessary to prevent, deter and eliminate IUU fishing for specific fish stocks or species. Multilateral trade-related measures envisaged in regional fisheries management organizations may be used to support co-operative efforts to ensure that trade in specific fish and fish products does not in any way encourage IUU fishing or otherwise undermine the effectiveness of conservation and management measures which are consistent with the 1982 UN Convention. 69. Trade-related measures to reduce or eliminate trade in fish and fish products derived from IUU fishing could include the adoption of multilateral catch documentation and certification requirements, as well as other appropriate multilaterally-agreed measures such as import and export controls or prohibitions. Such measures should be adopted in a fair, transparent and non-discriminatory manner. When such measures are adopted, States should support their consistent and effective implementation. 70. Stock or species-specific trade-related measures may be necessary to reduce or eliminate the economic incentive for vessels to engage in IUU fishing.
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IPOA-IUU Fishing (continued)	71. States should take steps to improve the transparency of their markets to allow the traceability of fish or fish products. 72. States, when requested by an interested State, should assist any State in deterring trade in fish and fish products illegally harvested in its jurisdiction. Assistance should be given in accordance with terms agreed by both States and fully respecting the jurisdiction of the State requesting assistance. 73. States should take measures to ensure that their importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers, other services suppliers and the public are aware of the detrimental effects of doing business with vessels identified as engaged in IUU fishing, whether by the State under whose jurisdiction the vessel is operating or by the relevant regional fisheries management organizations in accordance with its agreed procedures, and should consider measures to deter such business. Such measures could include, to the extent possible under national law, legislation that makes it a violation to conduct such business or to trade in fish or fish products derived from IUU fishing. All identifications of vessels engaged in IUU fishing should be made in a fair, transparent and non-discriminatory manner. 74. States should take measures to ensure that their fishers are aware of the detrimental effects of doing business with importers, transshippers, buyers, consumers, equipment suppliers, bankers, insurers and other services suppliers identified as doing business with vessels identified as engaged in IUU fishing, whether by the State under whose jurisdiction the vessel is operating or by the relevant regional fisheries management organization in accordance with its agreed procedures, and should consider measures to deter such business. Such measures could include, to the extent possible under national law, legislation that makes it a violation to conduct such business or to trade in fish or fish products derived from IUU fishing. All identifications of vessels engaged in IUU fishing should be made in a fair, transparent and non-discriminatory manner. 75. States should work towards using the Harmonized Commodity Description and Coding System for fish and fisheries products in order to help promote the implementation of the IPOA. 76. Certification and documentation requirements should be standardized to the extent feasible, and electronic schemes developed where possible, to ensure their effectiveness, reduce opportunities for fraud, and avoid unnecessary burdens on trade.
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Technical Guidelines for the Implementation of the IPOA-IUU Fishing	The Guidelines state that: • States should develop internationally agreed market-related measures to prevent, deter and eliminate IUU fishing. Such measures should be interpreted and applied in accordance with the principles, rights and obligations established by the WTO and implemented in a fair, transparent and non-discriminatory manner. • RFMOs should identify vessels that have engaged in IUU fishing. Where identified vessels repeatedly fly the flag of a particular State, the RFMO should also identify that flag State and urge it to bring the fishing activities of its vessels under control. • States should take all steps necessary, consistent with international law, to prevent fish caught by vessels identified by an RFMO to have been engaged in IUU fishing being traded or imported into their territories. • To assist States in implementing this commitment, RFMOs should adopt and/or strengthen catch certification and trade documentation schemes. • States should disseminate information on IUU fishing to individuals and companies in their territories whose activities are related to fishing and encourage them not to do business with others who are engaged in or support IUU fishing. • States should enact legislation that makes it a violation to conduct such business or to trade in fish or fish products derived from IUU fishing. • To help prevent, deter and eliminate IUU fishing, RFMOs should: - collect and disseminate information relating to IUU fishing; - identify vessels that are engaging in IUU fishing and co-ordinate measures against them; - identify States whose vessels are engaging in IUU fishing and urge those States to rectify such behaviour; - call on their members to take action against vessels without nationality that are fishing in the relevant region; - adopt rules to ensure that vessel chartering arrangements do not lead to IUU fishing; - adopt port inspection schemes, restrictions on transshipment at sea and schemes creating a presumption that fish harvested by non-member vessels in the relevant region should not be landed in ports of members; - adopt catch certification and/or trade documentation schemes; and - adopt other market-related measures to combat IUU fishing. • Members of RFMOs should ensure that the RFMOs have the resources necessary to carry out their functions. • RFMOs should encourage non-members with a real interest in the fishery or fisheries concerned to become members, or should at least
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Technical Guidelines for the Implementation of the IPOA-IUU Fishing (continued)	develop ways to facilitate co-operation by non-members in the work of RFMOs. • RFMOs should re-examine their decision-making procedures to ensure that decisions concerning IUU fishing can be made promptly and consistently. • RFMOs should limit or deny access to the fisheries resources under their purview to fishing vessels of members that do not comply with the measures adopted by the RFMOs, including any obligations to report fisheries data. • RFMOs should encourage their members to impose sufficient and consistent penalties on IUU fishers. • RFMOs should serve as hubs for improved collection and dissemination of information on vessels engaged in or supporting IUU fishing. For example, RFMOs can: - develop lists of vessels that are believed to have engaged in IUU fishing, as well as lists of all vessels fishing in areas under their purview; and - develop databases of information concerning fishing violations and prosecutions. • RFMOs should serve as fora to expand and harmonize differing VMS arrangements currently in use. Through RFMOs, States can: - develop common data formats, data sharing arrangements and standards for maintaining the technical integrity of VMS systems; and - create neutral recipients of VMS data to help preserve the confidentiality of proprietary information, while also facilitating the exchange of information necessary for effective MCS. • RFMOs should consider schemes for boarding and inspecting fishing vessels on the high seas, as envisioned in paragraph 80.8 of the IPOA-IUU. • Those RFMOs that have not already done so should consider the establishment of comprehensive systems for port State measures for fishing vessels
Model Scheme on Port State Measures to Combat IUU Fishing	The Model Scheme provides a framework, including a set of minimum requirements which States, RFMOs or others could use and consult when developing port State measures. The Scheme applies to fishing vessels, support ships and carrier vessels. One of the key developments of the Model Scheme is that it reverses the onus of proof for compliance with relevant conservation and management measures. The Scheme requires that, unless evidence of compliance with relevant conservation and management measures is provided, port States deny access to landing, transshipping or processing of fish taken by vessels flagged to non-members or non-co-operating parties to the relevant RFMO, or

RFMO conventions	where the vessel is sighted, or identified by an RFMO, as being engaged in or supporting IUU fishing activities in the area of an RFMO or in waters under national jurisdiction. The explicit acknowledgement of the use of trade-related measures in the conventions of RFMOs is relatively recent. The Convention for the establishment of the WCPFC, which came into effect in 2004, provides for such measures as a compliance and enforcement measure: The Commission, when necessary, shall develop procedures which allow for non-discriminatory trade measures to be taken, consistent with the international obligations of the members of the Commission, on any species regulated by the Commission, against any State or entity whose fishing vessels fish in a manner which undermines the effectiveness of the conservation and management measures adopted by the Commission. The conventions of the WCPFC and the SEAFO, which came into effect in 2003, both contain measures for port States.
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ACRONYMS

ASOC	Antarctic and Southern Ocean Coalition
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CDS	Catch documentation schemes
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COFI	FAO Committee on Fisheries
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GFCM	General Fisheries Commission for the Mediterranean
HSTF	High Seas Task Force
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action
IUU	Illegal, unreported and unregulated (fishing)
MCS	Monitoring, control and surveillance
MOU	Memorandum of Understanding
MRAG	Marine Resources Assessment Group Ltd
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North East Atlantic Fisheries Commission
NGO	Non-governmental organization
OECD	Organization for Economic Co-operation and Development
RFMO	Regional Fisheries Management Organization
SBT	Southern Bluefin Tuna
SEAFO	South East Atlantic Fisheries Organisation
TAC	Total allowable catch
TDS	Trade documentation schemes
TIS	Trade information scheme
UNCLOS	United Nations Convention on the Law of the Sea
UNFSA	United Nations Fish Stocks Agreement
UNGA	United Nations General Assembly
VMS	Vessel monitoring system
WCPFC	Western Central Pacific Fisheries Commission
WTO	World Trade Organization

TRAFFIC, the wildlife trade monitoring network, works to ensure that trade in wild plants and animals is not a threat to the conservation of nature. It has offices covering most parts of the world and works in close co-operation with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

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