TECHNICAL AND COMPLIANCE COMMITTEE
Fourth Regular Session
2-7 October 2008
Pohnpei, Federated States of Micronesia

THE CASE FOR A CATCH DOCUMENTATION SCHEME FOR THE WESTERN AND CENTRAL PACIFIC

WCPFC-TCC4-2008/0P-01
29th August 2008

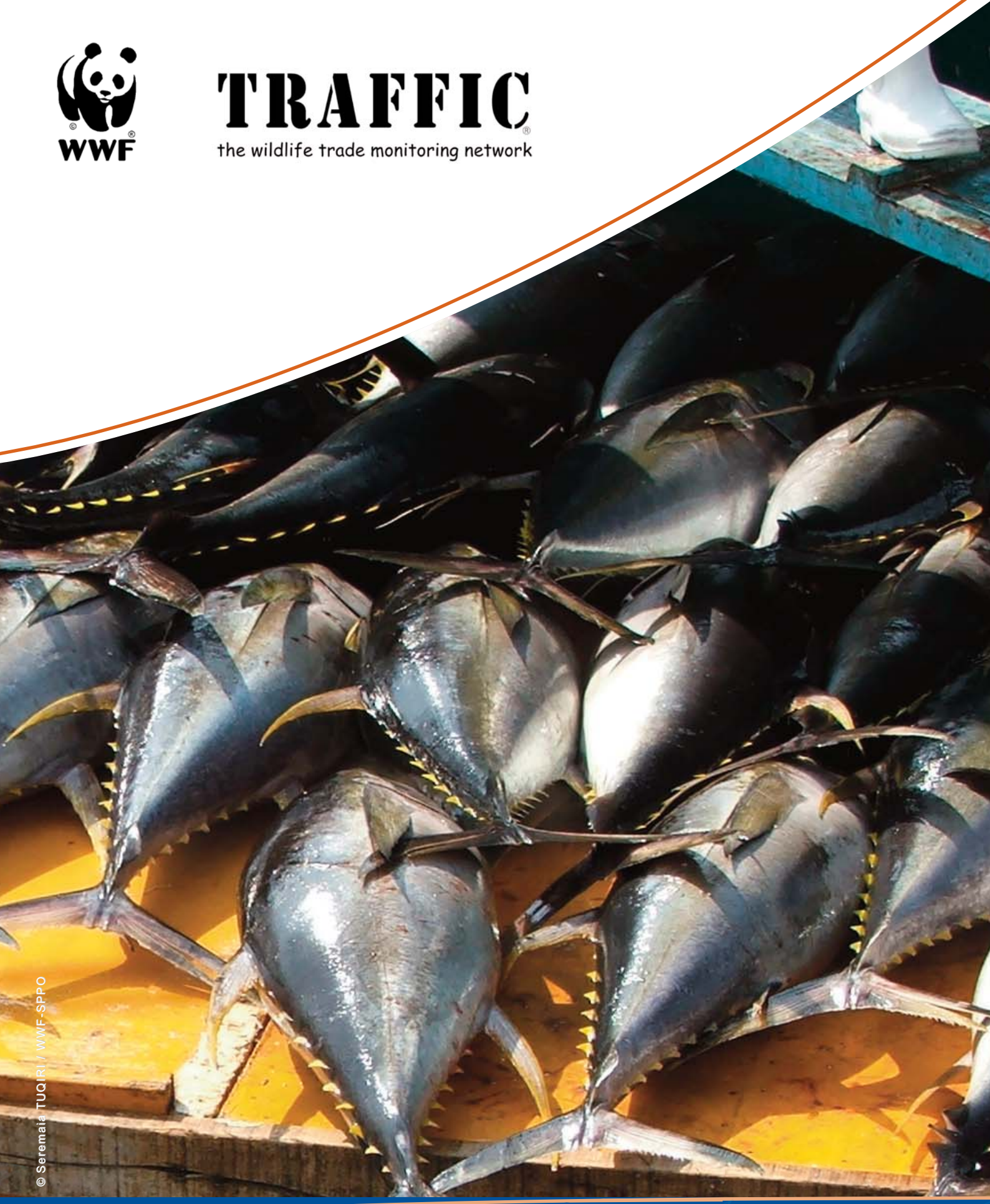
Paper submitted by

the WWF South Pacific Programme and TRAFFIC International

WWF

TRAFFIC

the wildlife trade monitoring network



© Seremaia TUQIRI / WWF-SPPO

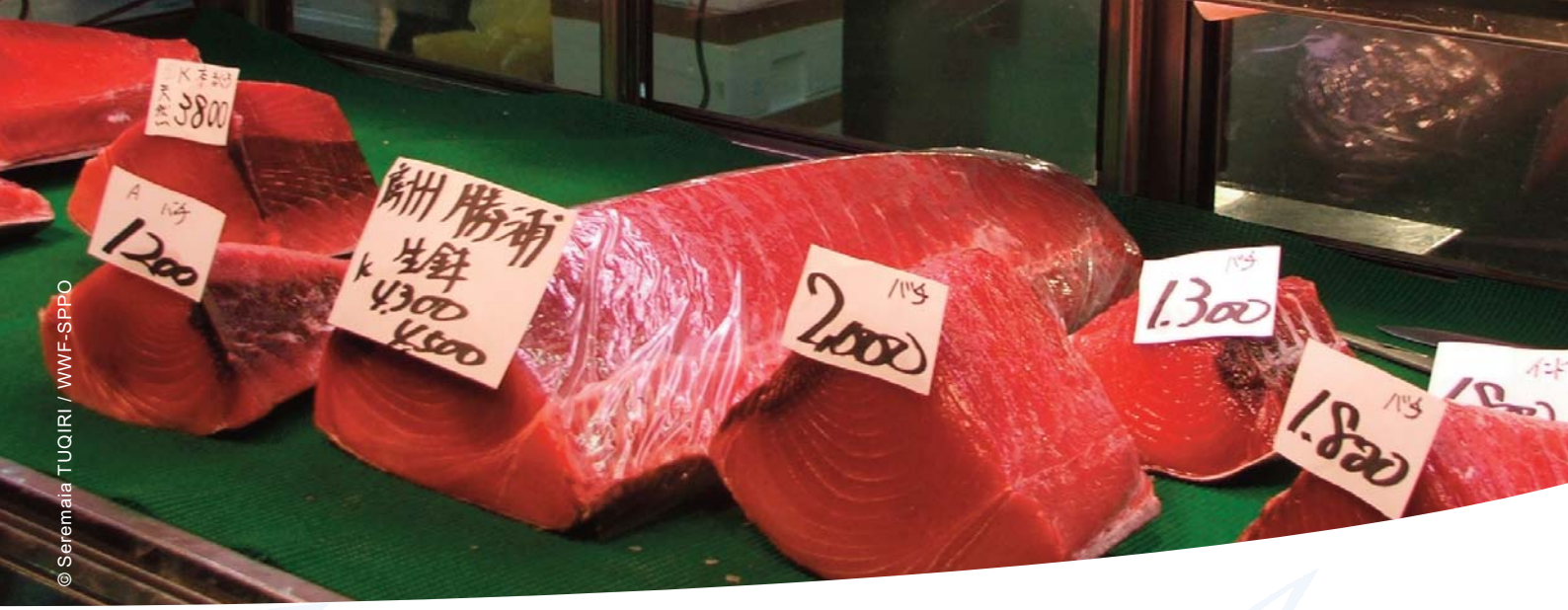
The Case for a Catch Documentation Scheme in the Western and Central Pacific

Mary Lack[1], September 2008

Published by WWF South Pacific Programme and TRAFFIC International.

Suggested citation: Lack, M. (2008). *The Case for a Catch Documentation Scheme in the Western and Central Pacific.* WWF South Pacific Programme and TRAFFIC International.

[1] Mary Lack is a consultant from Shellack Pty Ltd



© Seremaia TUQIRI / WWF-SPPO

Contents

ACKNOWLEDGEMENTS

The author acknowledges with much appreciation, the contribution of Glenn Sant (TRAFFIC International) and Seremaia Tuqiri (WWF South Pacific) to the preparation of this paper. The report also benefitted from the comments provided by reviewers Mark Stevens and Bill Fox from WWF USA.

Preparation of this report was made possible with funding support from the WWF South Pacific Programme and the David and Lucile Packard Foundation.

© Jorge SIERRA/ WWF-Canon

EXECUTIVE SUMMARY

The experience of a number of regional fisheries bodies over the last decade confirms that catch documentation schemes (CDS) are superior to trade documentation schemes (TDS). There is an emerging consensus in global fisheries fora, that:

- catch, rather than trade, documentation schemes are required in order to verify catch data, to monitor catch against catch limits where these are in place, and to minimize opportunities for the marketing of product caught by illegal, unreported and unregulated (IUU) fishing;
- CDS should relate to all catch of relevant stock regardless of method used to take the catch, the form of the product or the purpose for which it is traded;
- CDS should rely on electronic rather than paper-based, transmission of documentation;
- CDS should be integrated with a range of complementary monitoring, control and surveillance (MCS) measures including:
  - o observer programmes
  - o controls on transshipment
  - o centralized vessel monitoring systems;
  - o port State measures;
  - o trade-related measures; and
- CDS should be harmonized, particularly where they apply to the same species.

The Western and Central Pacific Fisheries Commission (WCPFC) has been discussing the introduction of a documentation scheme for Bigeye Tuna *Thunnus obesus* since 2005. Since then the views of members have polarized around whether the documentation scheme should apply to all fish caught and traded (a CDS) or only to traded product (a TDS).

The experience of regional fisheries bodies and the weight of international opinion in favour of CDS over TDS in achieving the objectives of RFMOs, provide clear direction for the WCPFC in its consideration of the appropriate form of documentation scheme for Bigeye Tuna in the WCPFC. It would be shortsighted, and would potentially compromise the status of stocks under its management, if the WCPFC were to ignore this direction. Given that there is a very high probability (>99%) that Bigeye Tuna is being overfished it is time for the WCPFC to take urgent action to address overfishing and to support and enforce that action by the introduction of a CDS for this species. In the longer term the WCPFC needs also to ensure that other stocks for which there is concern, for example, swordfish, are also subject to a CDS.

The introduction of a CDS will pose some challenges to the WCPFC in the context of the nature of the fisheries for Bigeye Tuna. However, the WCPFC must work to overcome these challenges rather than using them as an excuse to implement second-best solutions in the form of a TDS. The WCPFC must:

1. agree at its December 2008 meeting to introduce a CDS for Bigeye Tuna as a priority with a date of implementation of 1 January 2010;

2. implement a CDS that requires documentation to accompany all catch harvested, landed, transshipped, traded domestically, exported, imported and re-exported and relies on electronic documentation;

3. ensure that complementary measures are in place to maximize the effectiveness of the CDS by

   - bringing forward its implementation schedule for the Regional Observer Programme, ensuring that the scheme applies to all vessels that fish for tunas commercially and ensuring that the level of coverage is sufficient to meet the objectives of the programme and its role in supporting the CDS,
   - ensuring that the development of standards, specifications and procedures for the use of the

Commission vessel monitoring system (VMS) and the physical development of the system is completed in 2009,

- ensuring that transshipment at sea does not compromise the effectiveness of the CDS by either implementing measures to restrict/monitor such transshipment or prohibiting at-sea transshipment,
- adopting port State measures to take effect at the same time as the Bigeye Tuna CDS regardless of any delays in finalization of international initiatives to develop a binding port State instrument, and
- enhancing its use of the IUU vessel list and support for the CDS by adopting measures that provide for trade-restrictive measures to be taken against flag States of vessels on that list;

4. acknowledge the need to implement CDS for other tunas and billfish managed by the Commission and, in particular, commit to the introduction of a CDS for Swordfish *Xiphias gladius* by 1 January 2011;

5. commit to continuous improvement of the CDS by investigation for example, of the benefits and feasibility of verification systems such as tagging and the use of biotechnology;

6. establish a cost-sharing mechanism to provide for cross-subsidisation across wealthy and less-wealthy members to ensure the effective implementation and administration of the CDS; and

7. maximize public access to CDS data subject to meeting confidentiality requirements.

© Seremaia TUQIRI / WWF-SPPO

INTRODUCTION

Schemes known variously as statistical document schemes, catch documentation schemes or trade information schemes are used increasingly by regional fisheries management organizations (RFMOs). While the details of these schemes vary, their use is driven by the need to:

- validate catch data; and/or
- to minimize opportunities for product taken by illegal, unreported or unregulated (IUU) fishing to reach markets.

There are two main types of documentation schemes in operation:

1. trade documentation schemes (TDS) that relate only to product that enters international trade; and

2. catch documentation schemes (CDS) that relate to all catch and trade.

The Western and Central Pacific Fisheries Commission (WCPFC) has been discussing the introduction of a documentation scheme since 2005 when a proposal to introduce a TDS for Bigeye Tuna *Thunnus obesus* was first considered. At that time the Commission decided to develop a comprehensive scheme for Bigeye Tuna covering all catch, i.e. a CDS (WCPFC, 2005). However subsequent meetings of the Commission and its subsidiary bodies have highlighted the polarized views of WCPFC members around whether the documentation scheme should apply to all fish caught and traded or only to traded product.

This paper examines the experience in the application of TDS/CDS by other RFMOs and reviews current international thinking on the relative merits of the two types of schemes as a basis for making recommendations about the nature and scope of an effective documentation program for Bigeye Tuna in the WCPFC.

THE NEED FOR A DOCUMENTATION SCHEME IN THE WCPFC

The objective of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean is "to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 Convention[1] and the Agreement[2] ." The Convention requires the WCPFC to, among other things:

- compile and disseminate accurate and complete statistical data to ensure that the best scientific information is available, while maintaining confidentiality, where appropriate; and
- establish appropriate cooperative mechanisms for effective monitoring, control, surveillance (MCS) and enforcement, including a vessel monitoring system (VMS).

Currently, the status of at least two fish stocks under the management of the WCPFC is of concern. There is a very high probability (>99%) that Bigeye Tuna is being overfished (WCPFC Scientific Committee, 2006) and a relatively high probability (47%) that Yellowfin Tuna *Thunnus albacares* is being overfished (WCPFC Scientific Committee, 2007). In addition, there is some concern and considerable uncertainty about the status of Swordfish *Xiphias gladius* and Striped Marlin *Tetrapturus audax* stocks. The WCPFC Scientific Committee has advised the Commission that total biomass and spawning biomass of the Swordfish stock are probably above levels that would sustain maximum sustainable yield (MSY) and fishing mortality is probably below FMSY[3] , however there is a possibility that the stock may currently be in an overfished state and that overfishing may be occurring. The Scientific Committee has advised that

[1] The United Nations Convention on the Law of the Sea of 10 December 1982.
[2] Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.
[3] FMSY is the fishing mortality that if applied constantly would result in maximum sustainable yield.

current levels of fishing mortality of Striped Marlin may approximate or exceed the reference level FMSY and current spawning biomass levels may approximate or be below the biomass-based reference point BMSY[4] (WCPFC Scientific Committee, 2006).

At the same time, the Scientific Committee has expressed concern about the status of the information available to it to assess stocks. In 2007 the Committee recommended that:
"The Commission should note that data gaps (including late and/or absent data) are impacting on the ability to provide the best available scientific advice, particularly for the assessment of stocks;" (WCPFC Scientific Committee, 2007).

In addition, the Scientific Committee advised the Commission in 2005 that the level of IUU fishing in the Western and Central Pacific Ocean (WCPO) was a significant factor in preventing accurate estimates of catch and effort levels for regional tuna fisheries and for developing appropriate advice in respect of conservation and management measures (WCPFC, 2005). The Scientific Committee's concerns about IUU fishing are borne out by a recent report by Marine Resources Assessment Group (MRAG) and the University of British Columbia (UBC) which estimated the average annual IUU catch in the WCPO at between 786 000 t and 1 730 000 t valued at between USD707 m and USD1557 m over the 2000-2003 period (MRAG and UBC, 2008). The incentive for IUU fishing may be increased as the WCPFC moves to implement stronger controls on catch of species such as Bigeye and Yellowfin Tuna in response to concerns for the status of stocks of these species.

Under these circumstances, both of the drivers identified above for the use of a statistical document apply to species under the management of the WCPFC.

EXPERIENCE WITH DOCUMENTATION SCHEMES

Their application

To date, documentation schemes have been introduced by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the Indian Ocean Tuna Commission (IOTC), the Inter-American Tropical Tuna Commission (IATTC) and the International Commission for the Conservation of Atlantic Tunas (ICCAT). A summary of these schemes is provided in Table 1.

Currently only the CCAMLR CDS for *Dissostichus spp*. and the newly agreed ICCAT CDS for Atlantic Bluefin Tuna *Thunnus thynnus* apply to catch regardless of whether it enters international trade. The ICCAT scheme also includes special provisions reflecting the need to track product entering and leaving tuna farming enterprises. The CCSBT has agreed that its current Trade Information Scheme (a TDS) will be replaced by a CDS but is yet to agree on the details of the scheme. Like ICCAT, the CCSBT scheme will need to provide for tracking product movement into and out of tuna farms.

CCAMLR's CDS has undergone a number of enhancements since its introduction in 2000. Two of the most significant have been the introduction of centralized real-time information exchange systems and the application of an electronic, web-based system for submission of documentation.

Lessons learned to date

Lack (2007) analyzed the operation and outcomes of catch and trade documentation schemes and identified a range of lessons from experience to date (see Box 1). The overwhelming deficiency of TDS is that they identify only catch that enters international trade and fail to identify product that enters the domestic market of the flag State of the vessel catching the product. Further, most TDS in place apply only to subsets of the trade. For example, some apply only to frozen product, some apply only to product taken by certain methods, e.g. longline, and some do not apply to product delivered to canneries in the relevant RFMO area. These findings have been reinforced by recent developments and literature as described below.

[4] BMSY is the calculated long-term average biomass value expected if fishing at FMSY.

Table 1

Catch/Trade documentation schemes in place in regional fisheries bodies

Scheme/ Documents	Year introduced	Species covered	Stated objectives
CCAMLR			
Dissostichus Catch Document	2000	Patagonian Toothfish *Dissostichus eleginoides* Antarctic Toothfish *Dissostichus mawsoni*	• 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 • to gather catch data for the scientific evaluation of the stocks (CCAMLR, 2006)
CCSBT			
CCSBT Southern Bluefin Tuna Statistical Document	2000	Southern Bluefin Tuna *Thunnus Macoyii*	• to collect more accurate and comprehensive data on SBT fishing through monitoring trade • to deter IUU fishing by effectively denying access to markets for Southern Bluefin Tuna (SBT) (CCSBT, 2006a)
CCSBT Catch Documentation Scheme	Yet to be implemented	SBT	• to ensure that monitoring, control and surveillance measures apply to all sectors of the global SBT fishery • to improve the Commission's functioning by adoption of a comprehensive and effective CDS, tracking each catch of SBT from catch to the point of first sale (CCSBT, 2006b)
IOTC			
Bigeye Tuna Statistical Document	2002	Bigeye Tuna	• to assist in the elimination of IUU fishing operations • to address uncertainty in the data on catch of Bigeye Tuna
ICCAT			
Bluefin Tuna Statistical Document	1992	Atlantic Bluefin Tuna	• to improve the reliability of statistical information on catches of Atlantic Bluefin Tuna, Bigeye Tuna and Swordfish • to address IUU fishing (ICCAT, 1992, 2001a, b)
Swordfish Statistical Document	2001	Swordfish	
Bigeye Tuna Statistical Document	2001	Bigeye Tuna	
Bluefin Tuna Catch Documentation Scheme	2008	Atlantic Bluefin Tuna	• to identify the origin of any Atlantic Bluefin Tuna in order to support the implementation of conservation and management measures • to address IUU fishing (ICCAT, 2007)
IATTC			
IATTC Bigeye Tuna Statistical Document	2003	Bigeye Tuna	• to address uncertainty in the catch of Bigeye Tuna in the Eastern Pacific Ocean • to assist in the elimination of IUU fishing (IATTC, 2003)

Source: Lack (2007)

Box 1 Lessons learned from catch and trade 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 to 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, port State controls and restrictions on transshipment.
- Ongoing 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 cooperating 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


© Ezequiel NAVIO / WWF-Canon

Tuna RFMOs

The tuna RFMOs (IATTC, ICCAT, IOTC, CCSBT and WCPFC) held a joint Technical Working Group meeting to examine the application of documentation schemes in July 2007. At that time all documentation schemes in place in the tuna RFMOs were TDS. The Working Group agreed that TDS had major shortcomings and that movement to CDS, that covered product from catch to market, was needed. Particular deficiencies identified in the current tuna schemes included:

- the lack of coverage of domestically landed product;
- gaps in the coverage of fresh Bigeye Tuna and purse seine Bigeye Tuna catch;
- the slow pace at which improvements to statistical document programmes were being pursued;
- difficulties with current verification systems including difficulty in identifying the actual level of catches and the respective catch areas;
- difficulties with real-time data exchange between Parties regarding the verification of certain shipments;
- the production of fraudulent documents; and
- inefficiencies in the systems.

The meeting identified the need for electronic communication processes as a potential source of increased efficiency for verifying documentation and resolving disputes. In addition, the meeting noted that centralized data exchange was an important element in improving the current schemes, although this involved significant financial and human resources, and the need to connect trade and/or catch tracking programs with other MCS measures, including unique vessel identifiers.

A proposal to the Working Group, developed by Canada, the EU and the USA, sought the implementation of a trade tracking program "for all tuna and tuna-like species subject to conservation and management measures" noting that species for which there are concerns about stock recovery and/or IUU fishing, such as Bluefin Tuna, Bigeye Tuna and Swordfish would deserve special attention (WCPFC, 2007a). The proposal identified the objectives of such a scheme as being:

- compliance, ensuring that all aspects of existing management measures, including total allowable catches and quotas are fully adhered to;
- data, confirming harvest and trade data for use by scientific bodies in stock assessments and analysis; and
- IUU fishing, using trade tracking systems and data by compliance authorities to enforce monitoring and control measures in the aim of eliminating IUU fishing.

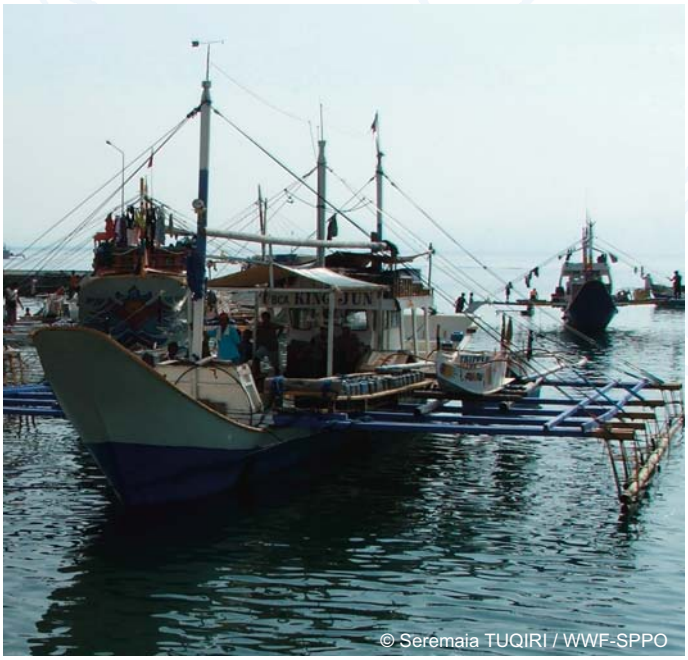
While the meeting agreed about the imperative of moving towards a CDS for bluefin tunas there were differing views about the other tuna species that needed to be covered by a CDS and how quickly the transition from a TDs to CDS should occur. Some participants favoured a focus on improving harmonization of existing schemes in the short term. Concerns about the resource implication of CDS for developing States were also expressed and the need for capacity building assistance was noted (Anon, 2007a).

The proposal also identified the following best practice elements of trade tracking programs:

- Traceability
- Catch documentation
- Verification
- Efficiency
- Communication and information sharing
- Fraud prevention
- Tagging systems
- Harmonization (Anon, 2007a).

In 2008 a meeting of the tuna RFMO chairs noted that:

- public pressure to supply products from sustainable sources is increasing;
- CDS are more comprehensive than the current statistical document programs, and therefore can improve the quality and quantity of data available which in turn can strengthen management;
- that tracking systems for the same species should be established and, where existing, be harmonized around the world, emphasizing the desirability to move toward use of CDS;
- given that CDS cover both domestically and internationally traded products, which was viewed by the participants as a more appropriate balance, products with accurate and completed CDS forms should be assured effective access to markets, particularly since the system is costly to implement;
- CDS have some practical problems as well as financial implications that will need to be overcome before implementation for all species or fisheries, and that cost/benefit analyses may be necessary on a case-by-case basis;
- particular concerns regarding implementation of CDS for fresh products and purse seine products;
- RFMOs should consider how to overcome those issues related to CDS and how to implement them;
- RFMOs should further develop electronic tracking programs and tagging programs; and
- a 2nd Technical Working Group meeting on technical problems associated with implementation of CDSs should be held in 2009 (Anon, 2008).


© Seremaia TUQIRI / WWF-SPPO

The ICCAT CDS for Atlantic Bluefin Tuna

In 2007, ICCAT agreed to introduce a CDS for Atlantic Bluefin Tuna to replace an earlier TDS for that species (ICCAT, 2007). The ICCAT Recommendation (07-10) establishing the CDS noted the following:

- the need for market-related measures to complement the rebuilding/recovery plans in place for stocks of the species;
- the impact of IUU fishing on the stocks in the Convention area;
- the previous TDS had not been designed to provide a direct control on fisheries for Atlantic Bluefin Tuna;
- the responsibilities of flag States to control the fishing activities of their vessels in line with ICCAT's conservation and management measures;
- the need for improved and strict control on all components of the Atlantic Bluefin Tuna fishery;
- the role of port and market States in promoting compliance with ICCAT's conservation and management measures; and
- that the CDS was being adopted to support the implementation of conservation and management measures as well as scientific research for Atlantic Bluefin Tuna.

In making these points ICCAT clearly highlighted the benefits of a CDS over a TDS. The TDS had proven an in effective means of supporting ICCAT's conservation and management measures or its rebuilding/recovery strategies. Nor had the TDS been effective in controlling IUU fishing, in supporting scientific research or in controlling all aspects of the fishery.

The CDS, which came into effect on 4 June 2008, attempts to address these shortcomings by prohibiting the landing, transfer, delivery, harvest, domestic trade, import, export or re-export of Atlantic Bluefin Tuna without documentation. The introduction of the CDS provides for a significant improvement in the monitoring of catch against catch limits, the collection of credible catch data and in the effectiveness of efforts to minimize opportunities for IUU catch to reach markets

Food and Agriculture Organization of the United Nations FAO

A recent FAO paper prepared for the Sub-committee on Fish Trade concluded that schemes that "document fish from point of capture to the final destination in the trade chain are becoming the norm in RFMOs. The shift from TDS to CDS schemes was motivated by the recognition that monitoring fish throughout the value chain will avoid some of the limitations observed in TDS schemes" (FAO, 2008).

Other initiatives.

The demand for processes that can confirm that fish products were taken in accordance with conservation and management measures is increasing. This is reflected by:

- recent initiatives by the EU (Council of the European Union, 2008) and the USA (US Government, 2007) to implement measures to preclude access of products which are taken by IUU fishing;
- the protocol for Barents Sea Cod *Gadus morhua* introduced by the European Fish Processors and Traders Association (AIPCE-CEP) in 2007; and
- strong support for eco-labelling schemes such as that of the Marine Stewardship Council.

Other literature and developments

Roheim and Sutinen (2006) and Roheim (2008) identified the need for catch and trade documentation and traceability schemes to:

- apply to all principal IUU species;
- cover all phases of production, trade and marketing;
- be harmonized and/or standardized; and
- adopt electronic rather than paper-based documentation processes.

In 2007, Lodge et al. identified the use of non-discriminatory trade- and market-related measures such as catch certification and trade documentation systems, particularly for high-value fisheries, as a 'best practice' component of RFMO compliance and enforcement measures. The report noted that such systems need to be designed to minimize the burden on enforcement officials and that their implementation by developing countries may require assistance.

WWF has identified the following as key contributors to the failure of RFMOs to manage tuna stocks sustainably and to address IUU fishing:

- the failure of some tuna RFMOs to apply any form of documentation scheme;
- the failure of TDS to track tuna destined for domestic markets;
- the lack of consistency between the applications of documentation schemes for the same species (e.g. Bigeye Tuna) across RFMOs;
- the lack of centrally managed systems to validate catch data of all sectors in a fishery; and
- the failure of RFMOs to apply electronic documentation schemes to address loopholes in paper-based schemes (WWF, 2007).

WWF has called for, among other things:

- the adoption of catch certification schemes for fish and fish products that reliably track fish and fish products from fishing vessels to retail markets;
- adoption of trade monitoring and reporting protocols that allow trade information to be promptly reconciled against catch information with a view to improving early detection and quantitative estimation of levels of IUU fishing; and
- adoption of MCS regimes including observers centralized VMS, electronic CDS and use of positive/negative vessel lists to support the use of CDS (WWF, 2007).

Summary

ICCAT's CDS for Atlantic Bluefin Tuna and CCAMLR's CDS for *Dissostichus spp.* are the most comprehensive of the documentation schemes in existence. However even these schemes could be tightened or complemented by other measures to maximize the chances of achieving the conservation and management objectives of these bodies. Additional measures that could be applied include mandated:

- measures related to tagging of individual fish to facilitate traceability
  - o no RFMOs currently require fish to be tagged, although the CCSBT is trialing various tagging schemes as part of its consideration of a CDS for SBT and ICCAT provides for fish to be tagged in lieu of validation of statistical documents under its new CDS;
- measures related to the monitoring of landings, input and outputs from farms, and transshipment
  - o there is a need for more accurate recording of catch at the point of harvest and for increased monitoring of landings and transshipments of products both at sea and in-port. In the absence of such measures the opportunity exists for non-reporting or underreporting of product and for product without documentation to be transferred to other vessels and/or mixed with legitimately-caught fish;
- electronic documentation schemes
  - o trials of such schemes are underway in both CCAMLR and ICCAT. While most members of CCAMLR are now using the electronic system it remains voluntary. There is no timeframe specified for completion of the ICCAT trial; and
- public access to CDS data to facilitate independent analysis of catch and trade
  - o the existing CDS or TDS provide limited or no public access to data collected. Access to the data is generally password restricted to nominated representatives of members.

The above discussion demonstrates an emerging consensus across the wider international community that:

- catch, rather than trade, documentation schemes are required in order to verify catch data, to monitor catch against catch limits where these are in place, and to minimize opportunities for the marketing of IUU-caught product;
- CDS should relate to all catch of relevant stock regardless of method used to take the catch, the form of the product or the purpose for which it is traded;
- CDS should rely on electronic rather than paper-based, transmission of documentation;
- CDS should be integrated with a range of complementary MCS measures including:
  - o observer programmes
  - o controls on transshipment
  - o centralized VMS
  - o port State measures;
  - o trade-related measures; and
- CDS should be harmonized, particularly where they apply to the same species.

CONSIDERATION OF DOCUMENTATION SCHEMES IN THE WCPFC

The history of the discussion of a documentation scheme for Bigeye Tuna by the WCPFC is summarized in Table 2. Despite the original decision by the Commission in 2005 that it would develop a "more comprehensive scheme covering all catch" there has been ongoing disagreement, over nearly a three year period, about whether the scheme should be a CDS or a TDS. In 2007, the extent of the disagreement about the practicality of introducing a CDS was such that it prevented even agreement on terms of reference for an intersessional working group (WCPFC, 2007b). While some members of the WCPFC believe that a comprehensive and effective CDS, to monitor catch, landings and trade of highly migratory species, particularly, Bigeye Tuna, would improve compliance with the conservation and management measures of the Commission, others have expressed concerns about the need for and the practicality of such a scheme.

The experience of RFMOs to date, and the weight of international opinion in favour of CDS over TDS in achieving the objectives of RFMOs, provide clear direction for the WCPFC in its consideration of the appropriate form of documentation scheme for Bigeye Tuna in the WCPFC. It would be shortsighted, and would potentially compromise the status of stocks under its management, if the WCPFC were to ignore the evidence in favour of CDS.

Further, there are a number of factors which are favourable to the success of a CDS for Bigeye Tuna in the WCPFC. First, there is a very high level of participation in or cooperation with the WCPFC by countries that catch Bigeye Tuna in the WCPO. Second most of the countries involved in the trade of Bigeye Tuna are also members or cooperating non-members of the WCPFC and the market remains dominated by members of the WCPFC. According to FAO trade data, members, cooperating non-members and participating territories of the WCPFC accounted for 90% of global imports of Bigeye Tuna[5] in 2006 (FAO, 2008). In addition, a number of the MCS measures that are integral to the success of a CDS are either in place or being developed in the WCPFC (see later section on Complementary Measures)

This is not to say, however, that there will not be challenges in implementing a CDS in the context of WCPFC fisheries. Some of these challenges are discussed below.

[5] These data refer to imports of Bigeye Tuna from all stocks, not just those in the WCPO.

Table 2
Consideration of Catch/Trade documentation schemes in the WCPFC

Meeting	Proponent	Papers	Outcome
WCPFC 2, 2005	Japan	*Proposal for the adoption and implementation of a statistical documentation scheme* (WCPFC/Comm2/DP03 Rev.1	Concerned members to work intersessionally with Japan to develop a more comprehensive scheme covering all catch for consideration at WCPFC3.
Technical and Compliance Committee 2, 2006	Japan	*Draft Bigeye Tuna statistical Document Program* (WCPFC-TCC2-2006/DP04) *Draft Decision on WCPFC Bigeye Tuna statistical Document Program* (WCPFC-TCC2-2006/DP05)	Several Commission members, Cooperating non-member and participating Territories (CCMs) supported Japan's proposal while others considered that the scheme should cover all catch entering domestic as well as international markets and that the proposal did not address the decision of WCPFC2 on this issue.
WCPFC3, 2006	FFA	*Conservation and Management Measure to Establish a Catch Documentation Scheme* (WCPFC3-2006/DP07 Rev.1)	No consensus among the CCMs for a CDS with some CCMs supporting a statistical information programme The latter cited the need for consistency with the statistical document programmes for Bigeye Tuna in other tuna RFMOs and the complexity of a CDS.
	EC	Document elaborating on the FFA proposal (WCPFC3-2006/DP33)	
	Japan	*Memorandums for Further Consideration Regarding Suitability and Applicability of Statistical Document/Catch document in the Context of WCPFC* (WCPFC3-2006-DP17)	Those supporting a CDS cited the need to ensure the recording of all fish caught and traded. Interested CCMs to continue their dialogue intersessionally for further discussion at WCPFC4.
TCC3, 2007	Japan	*Basic Questions on Catch Documentation Scheme in WCPFC* (WCPFC-TCC3-2007/DP06)	TCC3 noted the report of the Joint Tuna RFMO workshop on catch and trade documentation schemes held in July 2007 and endorsed the outcomes of the workshop noting the importance of harmonization among RFMOs, and the importance of trade and catch documentation schemes.
WCPFC 4, 2007	FFA	Proposal on harmonization and improvement of trade tracking programmes by Canada, the EU and the USA from the joint tuna RFMO technical working group on catch and trade documentation schemes (WCPFC4-2007/DP24)	The EU would lead an intersessional working group (operating electronically) to develop a proposal for an appropriate CDS for the region, focusing on the most critical species, for consideration and refinement as necessary by the TCC4 in 2008.
Intersessionally	EC	A draft proposal for a CDS was circulated on 8 April 2008 to all CCMs. Comments due 31 May 2008 (WCPFC, 2008).	At the time of finalizing[6] this paper, the proposal was not publicly available.

[6] 7 September 2008..

CHALLENGES FOR IMPLEMENTATION OF A CDS

As noted earlier in this report, the meeting of tuna RFMO chairs acknowledged that there are a number of challenges relating to implementation of CDS in some tuna fisheries. It is not surprising therefore that the implementation of a CDS for Bigeye Tuna in the WCPFC will pose some challenges. Many of these arise because of the nature of the fisheries for this species. Fisheries for Bigeye Tuna comprise distant water catch by industrial longline and purse seine fleets, catch by domestic, commercial fisheries within coastal State waters, catches by artisanal fisheries by a variety of methods in coastal States, particularly in Indonesia and the Philippines. Further Bigeye Tuna is taken as both a target catch of industrial longline fleets and as a bycatch to industrial purse seine fishing for Skipjack Tuna *Katsuwonus pelamis*. A summary of catch by country and method is provided in Table 3.

Artisanal fisheries

Unlike other fisheries where a CDS is in place or contemplated, a large proportion of the Bigeye Tuna catch in the WCPO is taken by artisanal fishers. These fisheries pose significant challenges for the effective implementation of a CDS. However those challenges are not, apparently, insurmountable. Chile, for example, has adopted electronic CDS for its entire artisanal Patagonian Toothfish fleet (CCAMLR, 2008). Further, countries with significant artisanal fisheries have a lot to gain by active participation in all conservation and management measures implemented by the WCPFC. While introduction of measures such as catch documentation schemes may be challenging in relation to artisanal fisheries, the long-term future of these fisheries as a source of employment, income and food security will depend in large part on the success of conservation and management measures put in place for the stocks that they rely on across the range of artisanal and industrial fisheries across these region.

Mixed catch

Table 3 demonstrates that just over 20% of the catch of Bigeye Tuna is taken by purse seine. Much of this catch is taken as bycatch to targeted fishing for Skipjack Tuna on fish aggregating devices. Most of the Bigeye Tuna taken by this method is juvenile fish which is not suitable for the premium Bigeye Tuna markets. It is therefore retained for use in canning along with the target Skipjack Tuna. Purse seine sets are therefore comprised of mixed catches of Skipjack and Bigeye Tuna that are not necessarily sorted.

The WCPFC has already identified purse seine bycatch of juvenile Bigeye Tuna as a serious threat to the status of Bigeye Stocks in the WCPO and is investigating measures to reduce the level of bycatch. The introduction of such measures would both improve the prospects for the stock and facilitate implementation of a CDS.

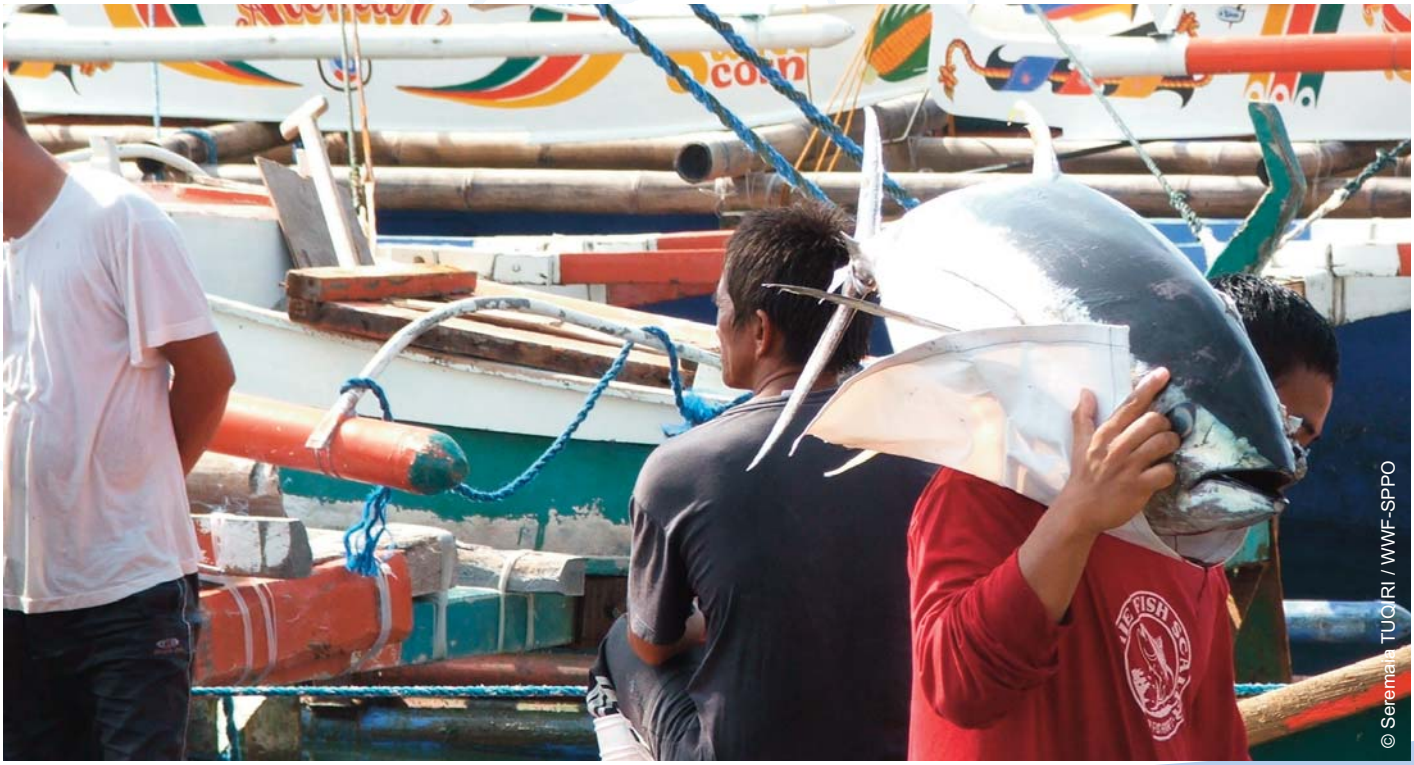


Table 3

Bigeye Tuna catch by catcher, by method, 2006

Catcher	Longline		Pole and line		Purse seine		Other		Total
	t	%	t	%	t	%	t	%	
Australia	563	0.79				0.00	8	0.06	571
China	2076	2.93			140	0.55			2216
Cook Islands	166	0.23							166
Federated States of Micronesia	172	0.24			42	0.17			214
Fiji	771	1.09							771
French Polynesia	498	0.70							498
Indonesia	7186	10.14	5056	79.27	2661	10.49	8013	55.38	22 916
Japan	2457	34.21	1322	20.73	4035	15.90	109	0.75	29 723
Kiribati					33				33
New Caledonia	35	0.05							35
New Zealand	177	0.25			428	1.69	1	0.01	606
Marshall Islands					112	0.44			112
Papua New Guinea	134	0.19			1435	5.65			1569
Philippines	729	1.03			5931	23.37	6116	42.27	12 776
Republic of Korea	1289	17.62			3521	13.88			16 010
Samoa	128	0.18							128
Solomon Islands	357	0.50			248	0.98			605
Spain	62	0.09			688	2.71			750
Taiwan	1475	20.13			987	3.89	1	0.01	15 263
Tonga	117	0.17							117
USA	4562	6.43			4114	16.21	222	1.53	8898
Vanuatu	2145	3.03			20	0.08			2165
Other					981	3.87			981
Total	**70 899**		**6378**		**25 376**		**14 470**		**117 123**

Source: Lawson (2007)

Both the Philippines and Indonesia have large artisanal fisheries which take significant quantities of Bigeye Tuna (see Table 3). Both of these countries are signatories of the Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region[7]. The Plan places the following obligation on its signatories:

In order to minimize unreported and illegal catches, countries should collaborate to implement regional market measures to identify and to track fish catches at all points in the marketing chain in a consistent way with existing international trade laws.

As a priority, countries in the region should standardize catch and landing documentation throughout the region and implement catch documentation or trade certification schemes for high value product.

Thus, both the Philippines and Indonesia have recognized the importance of documentation schemes and indicated their commitment to using market measures to address IUU fishing. It is noted that the WCPFC already makes some concessions for artisanal fisheries in conservation and management measures. For example, artisanal fisheries are exempt from the capacity limit provisions of the Conservation and Management Measure for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean (CMM 2006-01). This is not to say that such fisheries should be exempt from the provisions of a CDS, but rather to point to the Commission's acknowledgement of the need to recognize the special characteristics of these fisheries.

The challenge posed by the artisanal fishery catch of Bigeye Tuna should not be allowed to delay the introduction of a CDS. If special arrangements, such as an extended period for implementation in such fisheries are required, then a phased introduction across the various fleets could be considered.

Costs

Concerns have been expressed by some members of the WCPFC about the higher costs of a CDS relative to a TDS. In relation to

7 - The region being the South China Sea, Sulu-Sulawesi Seas (Celebes Sea) and the Arafura-Timor Seas.

the costs and administrative burden associated with completion and submission of documentation the important consideration is cost-effectiveness rather than cost per se. Even with regard to the single objective of deterring and detecting IUU fishing, TDS have been proven to be ineffective. The most compelling example of this is the Trade Information Scheme operated by the CCSBT which failed to detect significant over-catch of a member over a protracted period because the Scheme did not apply to the catch of that member which was consumed domestically and did not enter international trade. Under those circumstances the money invested in operating the Scheme was essentially wasted.

For flag, port and market States involved in the catch and international trade of the products to which the scheme applies there is relatively little difference between the two types of schemes in terms of administrative burden. However the administrative burden of a TDS is obviously much lower on those flag States who catch and land significant quantities that do not enter international trade.

The introduction of an electronic system may provide cost-efficiencies as well as improving effectiveness and facilitating harmonization across documentation schemes. An electronic system has also been shown, in CCAMLR, to reduce the burden imposed by a paper-based CDS in terms of both time and costs as well as providing a high level of confidentiality and security, allowing for real-time cross-checking of documents and to exclude the issue of fraudulent documents, therefore substantially limiting access to markets by IUU fishing operators (FAO, 2008). Despite potential avenues for improving cost-effectiveness the need of developing country participants for financial and capacity-building assistance in order to implement and administer a documentation scheme effectively is widely acknowledged. There is no doubt, that countries such as the Philippines and Indonesia, as well as a number of Pacific island countries, will require substantial assistance. Other members of the WCPFC must ensure that the necessary assistance is provided or risk compromising the success of the Commission's conservation and management measures.

COMPLEMENTARY MEASURES

As a data collection/verification and MCS measure, a catch documentation scheme is best seen as one element of a broader package of measures. The need for integration of CDS with other MCS components has already been recognized by some members of the WCPFC (WCPFC, 2007b). The proposal by Canada, the EU and the USA to the joint workshop of the tuna RFMOs in July 2007, and which was tabled at WCPFC4, highlighted the need for a trade tracking program to be linked to existing MCS measures, such as VMS, observer programs and port State controls.

The effectiveness of a CDS will depend on the quality and range of other measures in place, including:

- standardized reporting on catch and effort;
- requirements for mandatory submission of catch and effort data on a timely basis and sanctions for failure to meet those requirements;
- use of a centralized VMS;
- independent observer programmes;
- restrictions on transshipment;
- boarding and inspection procedures;
- port State measures; and
- the use of other trade-related measures such as white (authorized) and black (implicated in IUU fishing) lists of vessels and provisions for implementation of trade -restrictive measures on flag States not meeting their responsibilities.

The WCPFC has a number of these requirements in place and others under active consideration. The status of these measures is described below.

- The Commission VMS is operational in part of the Convention Area and WCPFC4 established a Technical Working Group to report to the fourth meeting of the Technical and Compliance Committee (TCC4) in 2008 on the establishment of standards, specifications and procedures for the VMS.
- The WCPFC agreed (CMM 2007-01) to establish a regional observer programme (ROP) comprising independent and impartial observers. The scheme took effect on 15 February 2008 and will rely initially on the use of existing regional, sub-regional and national observer programmes. CMM 2007-01 provides for the gradual development of the Programme through to 2012 (WCPFC, 2008b). The minimum size of vessels requiring an observer, as well as other operational aspects of the ROP, was deferred for consideration under the intersessional working group (IWG)-ROP.
- The WCPFC has discussed options for management of transshipment including the banning of transshipment at sea, the continuation of unrestricted transshipment operations and the continuation of transshipment operations subject to the use of observers and VMS. WCPFC4 established an intersessional working group to develop a transshipment verification scheme for consideration at TCC4 (2008).
- CMM 2006-08 specifies the WCPFC's boarding and inspection procedures.
- The WCPFC has not adopted any port State measures. The TCC has considered draft port State standards developed by the WCPFC Secretariat. However, Commission consideration of the standards was deferred pending the outcomes of the 2008 FAO consultation to develop a binding port State agreement.
- The WCPFC maintains and make publicly available lists

of vessels authorized to fish in the WCPFC Convention Area (CMM-2004-01), a temporary register of Fish Carriers and Bunkers (CMM-2004-01), and an IUU Vessel list (CMM 2007-03).
- CMM 2007-03 provides for members and cooperating non-members to take trade-restrictive measures against vessels listed on the IUU vessel list but does not provide for the taking of trade-restrictive measures against the flag State of those vessels.

CONCLUSIONS AND RECOMMENDATIONS

This report has demonstrated that the experience of a number of RFMOs over the last decade with the use of documentation schemes confirms that CDS are superior to TDS in validating catch, monitoring catch against limits and minimising IUU fishing. The introduction of a CDS will pose some challenges to the WCPFC, as will the introduction of similar schemes in other RFMOs. However, as the chairs of the tuna RFMOs have recognized, RFMOs must move toward s CDS and must work to overcome the challenges rather than using them as an excuse to retain or implement second-best solutions in the form of TDS.

Despite the discussion of documentation schemes in the WCPFC over the last three years there has not been a focused discussion of the objectives, or the implementation issues associated with, the use of a CDS or a TDS in either the Commission or the TCC. The concerns raised by some members have not been addressed or given the consideration they warrant by the Commission or its subsidiary bodies. It is imperative that this discussion is now had in a structured and informed way and that the outstanding issues are resolved.

It is recommended that the WCPFC:

1. agree at its December 2008 meeting to introduce a CDS for Bigeye Tuna as a priority with a date of implementation of 1 January 2010;

2. implement a CDS that requires documentation to accompany all catch harvested, landed, transshipped, traded domestically, exported, imported and re-exported and relies on electronic documentation;

3. ensure that complementary measures are in place to maximize the effectiveness of the CDS by

    - bringing forward its implementation schedule for the ROP, ensuring that the scheme applies to all vessels that fish for tunas commercially and ensuring that the level of coverage is sufficient to meet the objectives of the programme and its role in supporting the CDS,
    - ensuring that the development of standards, specifications and procedures for the use of the Commission VMS and the physical development of the system is completed in 2009,
    - ensuring that transshipment at sea does not compromise the effectiveness of the CDS by either implementing measures to restrict/monitor such transshipment or prohibiting at-sea transshipment,
    - adopting port State measures to take effect at the same time as the Bigeye Tuna CDS regardless of any delays in finalization of international initiatives to develop a binding port State instrument, and
    - enhancing its use of the IUU vessel list and support for the CDS by adopting measures that provide for trade-restrictive measures to be taken against flag States of vessels on that list;

4. acknowledge the need to implement CDS for other tunas and billfish managed by the Commission and, in particular, commit to the introduction of a CDS for Swordfish by 1 January 2011;

5. commit to continuous improvement of the CDS by investigation for example, of the benefits and feasibility of verification systems such as tagging and the use of biotechnology;

6. establish a cost-sharing mechanism to provide for cross-subsidisation across wealthy and less-wealthy members to ensure the effective implementation and administration of the CDS; and

7. maximize public access to CDS data subject to meeting confidentiality requirements.

REFERENCES

Anon. (2007a). *Report of the Joint Tuna RFMO Working Group on Trade and Catch Documentation Schemes*, Raleigh, North Carolina, USA, July 22 to 23, 2007).

Anon (2007b). *Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region.* Available at: www.apfic.org\modules\xfsections\download.php?fileideco150

Anon. (2008). *Report of the Joint Tuna RFMO Chairs' Meeting*, *5-6 February, 2008, San Francisco.* Available at: http://tuna-org.org/Documents/RFMO_CHAIRS_FEB%205-6_FRISCO_Phils.pdf. Viewed 14 August, 2008.

CCAMLR (2006). Explanatory Memorandum on the Introduction of a Catch Documentation Scheme (CDS) for Toothfish (*Dissostichus* Spp.) http://www.ccamlr.org/pu/E/cds/p2.htm. Viewed 14 November 2006.

CCAMLR (2008). *Report of the United States activities in the Convention Area in 2006/07*. Available at: http://www.ccamlr.org/pu/e/e_pubs/ma/drt.htm. Viewed 14 July 2008.

CCSBT (2006a). *Trade Management.* http://www.ccsbt.org/docs/management.html. Viewed 14 November 2006.

CCSBT (2006b). *Report of the Thirteenth Annual Meeting of the Commission, 10-13 October 2006.* Miyazaki, Japan http://www.ccsbt.org/docs/meeting_r.html. Viewed 7 July 2008.

Council of the European Union (2008). *Press Release 2881st Council meeting: Agriculture and Fisheries, Luxembourg, 23 and 24 June 2008.* 10590/08 (Presse 169).
Available at: http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/agricult/101422.pdf

FAO (2008). *Harmonization of Catch Documentation Schemes.* COFI:FT/XI/2008/5. Paper to Committee on Fisheries, Sub-committee on Fish Trade, Eleventh Session, Bremen, Germany, 2-6 June 2008. FAO, Rome.

FAO Fisheries and Aquaculture Information and Statistics Service (2008). *Capture production 1950-2006.* FISHSTAT Plus - Universal software for fishery statistical time series [online or CD-ROM]. Food and Agriculture Organization of the United Nations. Available at: http://www.fao.org/fi/statist/FISOFT/FISHPLUS.asp.

IATTC (2003). *Resolution on IATTC Bigeye Tuna Statistical Document Program.* Resolution C-03-01.

ICCAT (1992). *Recommendation: ICCAT Bluefin Tuna statistical Document Program: Frozen Bluefin Products.* ICCAT Recommendation 92-01.

ICCAT (2001a). *Recommendation: Establishing a Bigeye Statistical Program.* ICCAT Recommendation 01-21.

ICCAT (2001b). *Recommendation: Establishing a Swordfish Statistical Document Program.* ICCAT Recommendation 01-22.

ICCAT (2007). *Recommendation by ICCAT on ICCAT Bluefin Tuna Catch Documentation Program.* Available at: http://www.iccat.int/RecsRegsresults.asp?selectYear=2007&cajaKey=checkbox&cajaType=checkbox&cajaGroup=checkbox&cajaAct=checkbox&Submit=Search. Viewed 7 July 2008.

Lack, M. (2007). *Catching on? Trade-related measures as a fisheries management tool.* TRAFFIC International.

Lawson, T. (Ed.) (2007). *Western and Central Pacific Fishery Commission Tuna Fishery Yearbook 2006*. SPC, Noumea.

Lodge, M. Anderson, D., Lobach, T., Munro, G, Sainsbury, K. and Willock, A. (2007). *Recommended Best Practices for Regional Fisheries Management Organizations:* Report of an independent panel to develop a model for improved governance by regional fisheries management organizations. Chatham House, London.

MRAG and UBC (2008). *The Global Extent of Illegal Fishing.* Available at: http://www.illegal-fishing.info/uploads/MRAGExtentGlobalIllegalFishing.pdf. Viewed 7 July 2008

Roheim, C. (2008). *Seafood Supply Chain Management: Methods to Prevent Illegally-caught ProductEentry into the Market Place.* Paper prepared for IUCN World Conservation Union-US for the project PROFISH Law Enforcement, corruption and Fisheries Work.

Roheim, C. and Sutinen, J. (2006). *Trade and Marketplace measures to promote sustainable Fishing Practices,* ICTSD Natural Resources, International Trade and Sustainable Development Series Issue Paper No. 3, International Centre for Trade and Sustainable Development and the High Seas Task force, Geneva, Switzerland.

US Government (2007). *Certification of Nations whose Fishing Vessels are Engaged in Illegal, Unreported, or Unregulated fishing or Bycatch of Protected Living Marine Resources.* Federal Register, Vol. 72, No. 111, Monday June 11, 2007/Proposed Rules.

WCPFC (2005). Western and Central Pacific Fisheries Commission Second Session, 12-16 December, 2005.

WCPFC (2007a). *Appendix 9, Report of the Joint Tuna RFMO Technical Working Group on Trade and Catch Documentation Schemes,* Raleigh, USA 22-23 July 2007. WCPFC-2007/DP24.

WCPFC (2007b). Western and Central Pacific Fisheries Commission Fourth Session, 2-7 December, 2007.

WCPFC (2008a). *Provisional Annotated Agenda, Technical and Compliance Committee Fourth Regular Session*, 2-7 October 2008, Pohnpei, Federated States of Micronesia. (WCPFC-TCC4-2008/04) 2 July 2008.

WCPFC (2008b). *WCPFC Monitoring, Control and Surveillance (MCS) Scheme: Regional Observer Programme.* Available at: http://www.wcpfc.int/. Viewed 12 August 2008.

WCPFC Scientific Committee (2006). *Executive Summary, Second Regular Session, WCPFC Scientific Committee,* Manila, Philippines 7-18 August, 2006.

WCPFC Scientific Committee (2007). *Summary Report, Third Regular Session, WCPFC Scientific Committee,* Honolulu, 13-24 August, 2007.

WWF (2007). *Tuna in Trouble: Major Problems for the World's Tuna Fisheries.* WWF International

ACRONYMS

CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CDS	Catch documentation schemes
FAO	Food and Agriculture Organization of the United Nations
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
IUU	Illegal, unreported and unregulated (fishing)
MCS	Monitoring, control and surveillance
MRAG	Marine Resources Assessment Group Ltd
MSY	Maximum sustainable yield
RFMO	Regional Fisheries Management Organization
TDS	Trade documentation schemes
UBC	University of British Columbia
VMS	Vessel monitoring system
WCPFC	Western Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean

WWF is the world's largest and most experienced independent conservation organisation, with close to five million supporters and a global network active more than 100 countries.

Our mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity;
- ensuring that the use of renewable natural resources is sustainable; and
- promoting the reduction of pollution and wasteful consumption.

TRAFFIC has an enviable reputation as a reliable and impartial organization, a leader in the field of conservation as it relates to wildlife trade. TRAFFIC was established in 1976 and has developed into a global network, research-driven and action-oriented, committed to delivering innovative and practical conservation solutions based on the latest information.

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.

Fisheries Policy Officer
WWF South Pacific Programme

Address: 4 Ma'afu Street, Suva, Fiji. **Postal Address:** Private Mail Bag, GPO, Suva, Fiji. **Tel:** (679) 3315 533 **Fax:** (679) 3315 410
email: stuqiri@wwfpacific.org.fj **website:** www.wwfpacific.org.fj

for a living planet

Mr Glenn SANT
Global Marine Programme Leader

Address:TRAFFIC International, PO BOX U115 University of Wollongong, NSW 2522, Australia.

Mobile: +61 418416030 **Tel:** 61-2-4221 3221
Fax: 61-2-4221 3346 **Email:** gsant@traffico.org