

Seafood Traceability:

Aligning RFMO catch documentation schemes to combat IUU fishing

December 2021



EU IUU FISHING COALITION



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The Environmental Justice Foundation (EJF), Oceana, The Nature Conservancy, The Pew Charitable Trusts and WWF are working together to promote EU leadership in improving global fisheries transparency and governance to end illegal, unreported and unregulated (IUU) fishing.

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Contents

Introduction..... 4

 The importance of multilateral CDS 5

I. Evaluating existing RFMO catch documentation schemes 7

 Assessing CDS worldwide: ICCAT, CCAMLR and CCSBT 8

 CDS vs Statistical Document Programmes in IOTC 13

 The ongoing development of CDS 14

II. The role of multilateral CDS to improve seafood traceability 16

 Strengths of multilateral over unilateral schemes 16

 Threats to robust CDS 16

 Opportunities to align CDS for the benefit of all 20

III. Proposed minimum standards for a global and harmonised CDS..... 23

Final recommendations 27

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Introduction

Accurately tracing fisheries products is essential to guarantee their legality through all stages of the value chain — from capture, landing, first sale and through trade among various professional intermediaries. Seafood traceability not only ensures compliance with relevant national and regional legal obligations, it helps combat illegal, unreported and unregulated (IUU) fishing, one of the largest threats to the sustainable management of fish stocks across the globe. It is also a prerequisite for greater transparency in fisheries, which is also vital in the fight against IUU fishing.

For nutrition and health purposes, traceability is defined as the “*ability to follow the movement of a food through specified stage(s) of production, processing and distribution*”.¹ Applied to fishery products, traceability is important for ensuring sanitary quality during fishing operations, onboard processing and the subsequent stages of packaging, transport and storage before reaching the end consumer. Moreover, seafood traceability offers further essential dimensions to seafood sustainability: monitoring, verification and certification of products that are caught, processed and marketed to guarantee conformity with nationally and regionally agreed legal obligations, such as fishing quotas.

Regional fisheries management organisations (RFMOs) play a central role as fora for cooperation between countries responsible for the long-term viability and sustainable management of many of the world’s most valuable fish stocks in vast oceanic areas.² Within this mandate, contracting parties (CPs) and cooperating non-contracting parties (collectively referred to hereafter as “CPCs”) of RFMOs are uniquely positioned to adopt conservation and management measures (CMMs), including on traceability, to improve transparency and combat IUU fishing.

Multilateral catch documentation schemes (CDS), designed and agreed upon by the RFMO CPCs, and which require critical information on a consignment to be recorded and transferred throughout the supply chain, are proven effective tools for improving traceability and contribute to the fight against IUU fishing.³ However, experience shows that global progress to trace seafood along supply chains has been slow in RFMOs due to various reasons including low prioritisation by CPCs, its technical nature and, perhaps to a degree, of the broader inability of RFMOs to implement enough overall reforms in a timely manner, such as those highlighted in the United Nations RFMOs’ performance review processes.⁴ The implementation of a CDS is a long process requiring numerous resources from countries, which is especially challenging for developing States. This difficulty is further intensified when States must comply with different standards, whether established multilaterally by RFMOs with the aim of managing a resource or unilaterally by importing countries in order to prevent illegally caught fish from entering their market.

This report investigates existing multilateral CDS systems that are operated by the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), as well as the Statistical Document Programme (SDP) of the Indian Ocean Tuna Commission (IOTC). Although not strictly a CDS, the IOTC’s SDP aims to become one, which is not yet the case for other SDPs (e.g. ICCAT). The analysis of the IOTC’s SDP in this report aims to broaden the discussion by anticipating the arrival of a CDS from this tuna-focused RFMO.

In order to improve and broaden the scope and effectiveness of CDS, this analysis proposes a series of recommendations including a baseline for how to align and expand CDS coverage globally in order to close the remaining traceability loopholes using a generic CDS model. Informed by the main key data elements (KDEs) recommended in recent years by the seafood industry,⁵ civil society⁶ and in FAO publications,⁷ this study

1 FAO, WHO. 2019. Codex Alimentarius Commission Procedural Manual. Rome. <http://www.fao.org/publications/card/en/c/CA2329EN/>

2 The United Nations Fish Stocks Agreement (UNFSA). 1995. <https://sustainabledevelopment.un.org/topics/oceans/unfishstock>

3 HOSCH, G., BLAHA, F. 2017. Seafood Traceability for Fisheries Compliance: Country-Level Support for Catch Documentation Schemes. FAO Fisheries & Aquaculture Technical Paper no. 619. Rome, FAO. <http://www.fao.org/3/a-i8183e.pdf>

4 United Nations. 2016. Review Conference on 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. Report of the Resumed Review Conference, A/CONF.210/2016/5 (1 August 2016), <http://undocs.org/A/CONF.210/2016/5>; The Pew Charitable Trusts. 2019. International Fisheries Managers’ Response to Performance Reviews Insufficient <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/05/international-fisheries-managers-response-to-performance-reviews-insufficient>

5 Global Dialogue on Seafood Traceability (GDST). <https://traceability-dialogue.org>

6 EU IUU fishing Coalition. 2020. A comparative study of key data elements in import control schemes aimed at tackling illegal, unreported and unregulated fishing in the top three seafood markets: the European Union, the United States and Japan <http://www.iuuwatch.eu/wp-content/uploads/2020/11/CDS-2020-report-EN-WEB-Nov-2020.pdf>

7 FAO. 2017. Voluntary Guidelines for Catch Documentation Schemes. Rome. <http://www.fao.org/iuu-fishing/resources/detail/en/c/1132200/>

further proposes minimum standards applicable not to just mono-specific fisheries, to which current CDS mainly apply, but also to multi-specific, small-scale and recreational fisheries which are increasingly involved in the implementation of the catch documentation schemes. Ultimately, it is important to point out that the notion of CDS alignment is part of a gradual process that differs from the harmonisation of existing CDS. While harmonisation should be considered as the ultimate objective, the diversity and complexity of existing CDS requires that RFMOs first implement processes for mutual recognition and interoperability of their systems. This step should promote the adoption of the minimum alignment standards presented in this study (see Chapter III) as this will facilitate harmonisation, i.e. establishing a single, global CDS which would reflect a combination of all existing ones.



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The importance of multilateral CDS

Port State measures, which aim to prevent vessels engaged in IUU fishing from using ports and landing their catches,⁸ must be applied effectively not only by port States, but also by flag, coastal and market States to allow CDS regimes to be truly effective. Indeed, ports play an essential role since it is during landing operations that the accuracy of the data indicated on the CDS can be confirmed, both by the authority validating the CDS (flag State with the possible help of coastal State) and by the authority controlling the landing of catches (port State), thus ensuring the legality of catches as soon as they enter the market (market State). This requires States to be sufficiently well-structured institutionally, legislatively and operationally, which might not currently be the case everywhere. To date, many capacity-building initiatives are being carried out across the globe to enable States to assume their responsibilities in the area of port State measures. One such initiative is the Food and Agriculture Organization of the United Nations' (FAO) global capacity development programme, which assisted 43 countries between 2017 and July 2021. This programme will soon be active in more countries, indicating that many countries still need to improve their legal framework as well as their operational procedures in order to effectively apply port State measures and other international instruments aimed at fighting IUU fishing.⁹

8 Lövin, Isabella. "If we don't protect the ocean, humanitarian disaster awaits," World Economic Forum, June 8, 2018, <https://www.weforum.org/agenda/2018/06/if-we-dont-protect-ocean-humanitarian-disaster-world-oceans-day/>

9 FAO. Agreement on Port State Measures (PSMA), ongoing capacity building efforts website: <http://www.fao.org/port-state-measures/capacity-development/ongoing-capacity-building-efforts/en/>

Worldwide, multilateral CDS are the preferred seafood traceability system, as they allow wide engagement and cooperation across countries.¹⁰ When implemented by RFMOs, the full potential of the schemes is often not realised, resulting in an incomplete picture for product traceability, particularly because of their high level of specialisation in terms of species, area or fisheries covered. This limits the possibilities for a given CDS to overlap with other systems to provide a full picture across supply chains such as unilateral import schemes which are meant to deny illegally caught batches of fish to enter their markets.

Meanwhile, the global proliferation of CDS regimes may lead to a patchwork of systems lacking interoperability and harmonisation, and creating a burden for States that must master and operate many different models of CDS to monitor their imports or when they intend to export their fisheries products. Further, the information on how fish has been harvested, when and by which vessels, and how this data is delivered differ from one RFMO to another, including among organisations that manage the same families of species, such as tuna RFMOs. This lack of consistency creates a confusing landscape of different regulatory frameworks, muddying the waters of sustainable fisheries management and seafood traceability. While this can be justified to a degree by the specificities of different fisheries, it can also hinder the work of control authorities as it increases the number of control procedures and can raise the cost of compliance for businesses due to the administrative burden these different systems impose.

It is important to note that multilateral CDS only cover a limited number of species. At the time of this research in July 2021, these are Bluefin Tuna (*Thunnus thynnus* - BFT), Southern bluefin tuna (*Thunnus maccoyii* - SBT), Antarctic Toothfish (*Dissostichus mawsoni* - TOA) and Patagonian Toothfish (*Dissostichus eleginoides* - TOP), which represent a very small proportion of total global wild fish catches (0.071%, see Table 1) while, simultaneously, some of the most commercially valuable (global sales of tuna reached \$39.3 billion and toothfish \$231.7million in 2020).¹¹

Table 1 | Relative proportion of catches covered by multilateral catch documentation schemes to global catches of wild marine fish

Year 2018	Tons	
Global wild seafood catches	84,412,380	
Bluefin tuna (BFT)	29,514	0.071 %
Southern bluefin tuna (SBT)	15,026	
Antarctic toothfish (TOA)	4,197	
Patagonian toothfish (TOP)	11,026	

Source: FAO. 2020. FAO Yearbook. Fishery and Aquaculture Statistics 2018. Rome. <https://doi.org/10.4060/cb1213t>

In addition to multilateral CDS, there are also a limited number of unilateral import schemes in place, such as the Catch Certification Scheme of the European Union (EU) which was established by its IUU fishing Regulation and the Seafood Import Monitoring Program of the United States of America (USA).¹² With fish products being the most traded food commodities worldwide, combined with increasing pressure on fish stocks and rising demand,¹³ multilateral traceability schemes allow a particular species and the products resulting from its transformation to be fully tracked through the entire supply chain, rather than assessing a portion of a catch or product as it enters a specific market. Given the importance of such schemes to support sustainable fisheries and global seafood trade, this analysis focuses on multilateral traceability schemes through RFMO CDS and their ongoing development to cover more catch areas and species. It should be noted, however, that the complementary links with the unilateral approach of the EU and the USA are taken into consideration with regard to the objectives of global consistency and interoperability of traceability systems.

¹⁰ FAO. 2017. Voluntary Guidelines for Catch Documentation Schemes. Rome. <http://www.fao.org/iuu-fishing/resources/detail/en/c/1132200/>

¹¹ Tridge market, Overview of Global Toothfish Market. consulted in August 2021, <https://www.fortunebusinessinsights.com/industry-reports/tuna-fish-market-100744>; <https://www.tridge.com/intelligences/toothfish>

¹² EU IUU fishing Coalition, 2020: A comparative study of key data elements in import control schemes aimed at tackling illegal, unreported and unregulated fishing in the top three seafood markets: the European Union, the United States and Japan <http://www.iuuwatch.eu/wp-content/uploads/2020/11/CDS-2020-report-EN-WEB-Nov-2020.pdf>

¹³ FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome. <https://doi.org/10.4060/ca9229en>

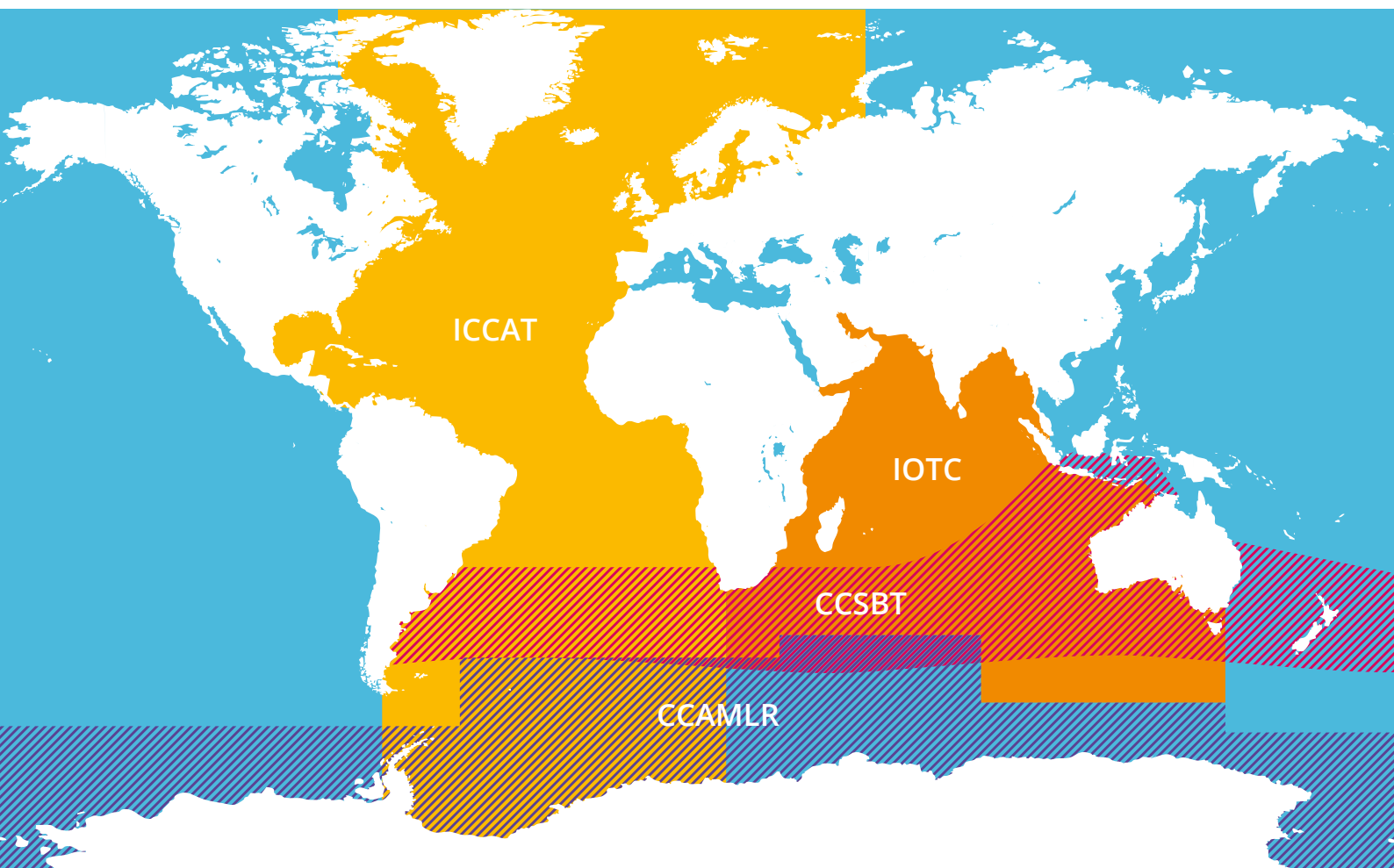
I. Evaluating existing RFMO catch documentation schemes

The differences between various RFMO CDS are mainly due to the circumstances in which they were first created and of the fisheries they intend to regulate.

Over the course of updates and extensions of their use, CDS, when well-designed and robustly implemented, have attempted to address and eliminate most of the common cases of IUU fishing practices, i.e. fishing without a licence, misreporting or under-reporting catches, default of compliance with regulations in force.

For this study, a comparative analysis of the three-existing multilateral CDS in ICCAT, CCSBT and CCAMLR is undertaken. After a brief description of their scope, strengths and weaknesses, they are compared to each other to highlight their compatibility with current import schemes, and to determine their performance. IOTC's Statistical Document Programme (SDP) is also described. Although not strictly a CDS, this SDP aims to evolve or be used as the model for one, which is not yet the case for other SDPs, such as ICCAT's. SDPs can, indeed, be a baseline for future CDS, as seems to be the case for IOTC in the current discussions.¹⁴ However, it does not come within the scope of comparison since it is not, strictly speaking, a CDS.

As the global landscape of CDS is diverse and with a variety of new schemes being discussed in other RFMOs and regional fora worldwide, this report calls on all stakeholders to work together to align and, eventually, harmonise these systems. This will not only alleviate administrative burden of adhering to different requirements, but proactively facilitate keeping global value chains transparent and free of products linked to IUU fishing.



¹⁴ IOTC. 2016. Report of the 2nd IOTC Performance Review. Seychelles 2–6 February & 14–18 December 2015 https://www.iotc.org/sites/default/files/documents/2016/04/IOTC-2016-PRIOC02-RE_-_FINAL_0.pdf

Assessing CDS worldwide: ICCAT, CCAMLR and CCSBT

Table 2 presents the frameworks of the three existing multilateral CDS. It describes the tools and mechanisms currently implemented to ensure traceability, concluding with an assessment of the strengths and weaknesses of each model. However, in order to fully understand these models, it is necessary to keep in mind that they were conceived for very specific fisheries and not for the monitoring of the globalised fisheries value chain.

The CCAMLR scheme, for example, could be considered the most robust and simple, and it probably is. It is well-designed and perfectly suited to toothfish fishing which is practiced by a relatively small number of industrial fishing vessels which are operated by very structured companies that are active in a small yet lucrative market compared to those of other species. Arguably, it was therefore easier to implement a system which would suit fewer operators.

Conversely, Bluefin tuna fishing and related operations in the Mediterranean Sea or the Atlantic Ocean, as overseen by ICCAT, are practised by thousands of vessels of different sizes, using many different fishing gear or techniques, with some practising recreational fishing and others commercial fishing. In these circumstances, it is more complicated to build an effective traceability system that can suit such a diverse range of stakeholders in both multi-species and mono-specific fisheries, and which integrates very different profiles of fishers in terms of the socio-economic nature of their activities and the area in which they exploit fish resources. The ICCAT system suffers from multiple exemptions, particularly with regard to the recording of catches made by small-scale fishing, which contributes to this CDS potentially being perceived as complicated. However, this model has proven to be well suited and robust for a complex fishery when, for instance, ICCAT is the only RFMO which considers recreational fisheries.

The prospects for aligning CDS must take into account each scheme's capacity to adapt to very diverse fishery profiles. Each CDS also presents variable and cumulative levels of complexity depending on its major characteristics: single-species or multi-species, single gear or multi-gear, large-scale or small-scale fleets, or even recreational fisheries. This range complicates how to integrate a generic traceability mechanism into a flexible and adaptive alignment process. Finally, it is crucial to bear in mind that a CDS remains a declarative component of traceability which must be supplemented by strong strategic inspection systems at the various stages of the catching activity and post-catch operations.



Table 2 | Scope and performance of ICCAT, CCAMLR and CCSBT catch documentation schemes

		CCAMLR	CCSBT	ICCAT
Scope of CDS	Species managed	All toothfish species (<i>Dissostichus</i> spp. - TOT): Antarctic toothfish (TOA) and Patagonian toothfish (TOP); it is the only Regional Fishery Body (RFB) CDS to cover non-tuna species.	Southern Bluefin Tuna (SBT).	Bluefin tuna (BFT) with a Statistical Documentation Programme (SDP) for two additional species: Bigeye Tuna (BET) and Swordfish (SWO) ongoing.
	Area of competence	Applies to CCAMLR area of competence and to toothfish caught outside the Convention Area if they are landed at, imported to, or exported or re-exported from CPCs.	CCSBT covers all SBT and does not have a convention area with the exception of recreational fisheries.	All waters of the Atlantic Ocean and the adjacent seas, including the Mediterranean.
	Electronic system	Fully electronic; CCAMLR was the first organisation to introduce a mandatory electronic CDS (e-CDS) in 2010.	CCSBT's CDS is a paper-based system while discussions are ongoing to transition to an electronic one. The scheme came into effect in 2010 and replaced the Statistical Document Programme. The CCSBT Executive Secretary is responsible for compiling the data from CDS documents into an electronic database. However, as strict rules of confidentiality apply, this data can only be released to the State that validated it.	A fully electronic system is in place for industrial fisheries and partially implemented for small-scale fisheries (SSF). It is called the eBCD for electronic BFT CDS and called the BCD when paper based. It is paper based only for SSF when eBCD is not available. It entered into force in 2007, with eBCD in 2012.
	Required forms	<ul style="list-style-type: none"> • <i>Dissostichus</i> Catch Document (DCD) contains information relating to the harvest and landing of all toothfish species. • <i>Dissostichus</i> Export Document (DED) contains information relating to the export of all toothfish species. • <i>Dissostichus</i> Re-Export Document (DRED) contains information relating to the re-export of all toothfish species. 	<p>All catch operations, transshipments, landings, imports, exports or re-exports of SBT must be accompanied by the appropriate CCSBT CDS documents.</p> <p>All SBT products must also carry a uniquely numbered tag and all tag numbers must be recorded on a Catch Tagging Form. CCSBT CDS include several forms:</p> <ul style="list-style-type: none"> • Catch Monitoring Form (CMF), • Farm Stocking Form (FSF), • Farm Transfer Form (FTF), • Re-Export/Export after landing of Domestic product Form (REEF), • Catch Tagging Form. 	An all-in-one form (eBCD) which covers all steps, from harvest to export.

		CCAMLR	CCSBT	ICCAT
Scope of CDS (continued)	Products covered	The CDS covers all species from the toothfish genus, of which there are two: Antarctic toothfish (TOA) and Patagonian toothfish (TOP).	The CDS cover all product flows from the point of catch to the point of first sale on domestic or export markets.	<p>The CDS applies to fish caught normally (whole or processed) or caught alive (for ranching purposes) and covers over 15 different catching techniques identified in ICCAT nomenclature.</p> <p>According to the latter, this can be specific fishing techniques (e.g. harpoon, longline) or identified with the nature of the vessel used (e.g. purse seine, mid-water trawl) or the fixed catching installation (e.g. traps).</p> <p>The type of fishing operation must also be specified, i.e. whether it is an individual catch from a directed fishery, directed catch in a joint fishing operation (with previous authorisation) or bycatch.</p>
	Other reported and documented activities	Origin of toothfish landed in, imported into, exported or re-exported from its territories.	N/A	<ul style="list-style-type: none"> • Live trade for farming and subsequent trade. • Transfer of live fish between tugs after live trade. • Transshipment in port of dead fish. • Caging. • Movement between cages; • Harvesting. • Trade for selling/exporting of dead fish for later consumption. • Bluefin tuna re-export certificate (BFTRC) for export of a previously imported product.
Performance	Strengths	<ul style="list-style-type: none"> • Fully digital system, served by a robust and well-designed database allowing real-time verifications. • As toothfish fishing is practiced by a relatively small fleet of industrial fishing vessels in comparison to other fisheries, CDS implementation is easier. The number of operators (fishing companies, masters, exporters, importers and market States) is limited, making training on the use of the software easier and faster. • Covers all species from the toothfish genus — other RFMO CDS only cover one species. • The e-CDS can be accessed by any authorised authority intending to cross-check data, thus improving the ability to detect a consignment of illegally-caught toothfish. 	<ul style="list-style-type: none"> • All CCSBT CDS documents have a unique document number, helping to deter forgery. • Every legally caught SBT has a unique tag attached. • Covers targeted fishing and also accidental catches. 	<ul style="list-style-type: none"> • Fully digital. • Served by a functional web-based interface that could be easily upgraded. • Covers targeted and accidental catches. • Unlicensed fishers who occasionally catch bluefin tuna must register on the ICCAT system and report their catches in order to sell BFT on the market. • The CDS is supplemented by an obligation to physically mark tuna using tags issued by State authorities, thus making the link between the electronic declaration and the traceability of the product along the full value chain, from various stakeholders to the final consumer.

		CCAMLR	CCSBT	ICCAT
Performance (continued)	Weaknesses	<ul style="list-style-type: none"> Reporting of live weight and fishing methods are not required. 	<ul style="list-style-type: none"> Paper-based system, serving only as a database for archiving and reporting purposes. Database is not designed to issue any catch documents and does not allow for real-time cross-checking of CDS documents, meaning an inspector cannot query the database to verify the authenticity of a paper-based CCSBT form. 	<ul style="list-style-type: none"> The rules of procedure and use of software remain arguably too complex and cumbersome for SSF and occasional fishers (especially for accidental bycatch). All the requested operations (radio catch declaration at sea, use of a designated port that can be far from the fishing vessel's operating area, having to wait for authorisation to land, having to mark the catch with a specific tag and electronic declaration of the catch) are process-heavy and carry uncertainty for coastal SSF; these requested operations are rarely done in practice. There is a general risk that the reinforcement of the reporting constraints imposed on professionals and their dematerialised verification (electronic validation) can lead to a reduction in controls and physical inspections during fishing, landing and first sale operations (visual verification).

The existing multilateral CDS have been created separately, and with different objectives and formats. In order to assess their reliability to secure seafood traceability and transparent supply chains, it is necessary to define criteria with which to compare each scheme. The review framework developed by the consultancy firm MRAG in its 2010 best practice study¹⁵ remains a critical point of reference for CDS assessment and has formed the basis of the analysis presented in the table below. Traceability is essential at each step of monitoring, control and surveillance (MCS) to guarantee:

- **Inclusivity:** The extent to which the scheme is designed to provide documentation for all legally caught fish for the fishery covered.
- **Impermeability:** The extent to which the scheme is designed to exclude illegal catches from entering the legal market.
- **Verifiability:** The extent to which the programme is audited by persons or organisations other than those in charge of ensuring its operation (filling and validation of forms).

¹⁵ MRAG. 2010. Best practice Study of Fish Catch Documentation Schemes. Available at: <https://www.m2cms.com.au/uploaded/5/Final%20CDS%20Report%20-August%202023.pdf>

Table 3 | Evaluating the reliability of ICCAT, CCAMLR and CCSBT catch documentation schemes

	CCAMLR	CCSBT	ICCAT
Inclusivity	<ul style="list-style-type: none"> Covers all toothfish fisheries (including those made outside the CCAMLR catch area) Requires CDS to be certified by flag State 	<ul style="list-style-type: none"> Covers all fisheries except recreational Includes tuna harvested from farms Requires CDS to be validated by flag State Requires tagging of every whole southern bluefin tuna (SBT) 	<ul style="list-style-type: none"> Covers all fisheries except recreational (only tagging) Includes tuna harvested from farms Requires CDS to be validated Tags are not used for all catches of Atlantic bluefin tuna (BFT)
Impermeability	<ul style="list-style-type: none"> Electronic CDS Each split catch has its own electronic document Allows many automated processes for checking the validity of data (automated cross-checking) and for real-time monitoring of the consumption of catch quotas and prevents overruns (built-in alerts to detect over-catches) 	<ul style="list-style-type: none"> Paper-based CDS; feasibility studies to switch to electronic CDS have already been conducted Each split catch must be accompanied by its own original catch document Requires many manual processes for data reconciliation and discrepancy checking 	<ul style="list-style-type: none"> Electronic CDS, with some paper-based documents still occurring No requirement for recording the division of fish batches after the first sale Allows many automated processes for checking the validity of data (automated cross-checking) and for monitoring the catch allocation (built-in alerts to detect over-catches)
Verifiability	<ul style="list-style-type: none"> Flag States must certify each catch Secretariat cross-checks data 	<ul style="list-style-type: none"> Exporting and importing members provide documents Secretariat cross-checks both sets of records and produces reconciliation reports 	<ul style="list-style-type: none"> Flag States must certify each catch Only exporting members provide documents Secretariat monitors the automated cross-checks

Following the MRAG framework, this analysis shows that these three CDS regimes are robust and well suited to the species they cover, as well as to the markets where their products are traded albeit with some shortcomings — this is shown in Table 2. However, each of these regimes applies to fisheries that are so specific that they are not replicable as part of an alignment process to other fisheries, in particular to multispecies fisheries. Finally, the tables above show how these three CDS regimes are different while remaining effective and reliable. These different paths to securing reliable seafood traceability make it possible to understand why harmonisation is a complex objective to achieve. A first step in this direction would be to work on a common data structure based on a comprehensive and homogeneous list of KDEs. An alignment process that allows adaptability to multi-species and multi-segment fisheries should also be advocated. This will make it possible to go beyond the current limits of specialised CDS, which cannot guarantee transposition of mono-specific CDS data into multi-specific declarative models.

As specialised and industrial fisheries apply to a generally limited number of vessels, the extension of a CDS to a larger number of fisheries and user pool must consider the very significant increase in the number of vessels for which it is necessary to ensure the traceability of catches. This has major consequences in terms of logistics and database constitution prior to recording catches in a CDS. For example, ICCAT recently adopted a definition of small-scale fisheries vessels for the capture of BFT which requires the recording of several thousands of vessels in the fleet files, in particular the declaration of bycatch for small-scale vessels that do not hold catch authorisations. This creates significant constraints for the CPCs such as updating vessel registers and declarative monitoring, as well as for vessel owners and captains with the creation of an ICCAT electronic account and the need to train in electronic catch reporting.

CDS vs Statistical Document Programmes in IOTC

In addition to CDS, SDPs are also in place in a handful of RFMOs. ICCAT, for example, currently has two ongoing programmes for additional species: Bigeye tuna (*Thunnus obesus* – BET) and Swordfish (*Xiphias gladius* – SWO). The Indian Ocean Tuna Commission (IOTC) has an SDP (BET) which, due to its many gaps, cannot and should not be regarded as a CDS. The main difference between a CDS and an SDP is mostly legal, with a CDS applying many more requirements for compliance in reporting data or ensuring traceability and thus more potential sanctions than an SDP. SDPs can, however, be a baseline for future CDS, as seems to be the case for IOTC in the current discussions.¹⁶

IOTC Resolution 01/06 on the SDP for BET was adopted in 2001 and was originally intended to reduce uncertainty about BET catches through the collection of market data. Indeed, the declarative data of catches seemed, at the time, to be underestimated. Under the SDP, CPCs which import BET must report all SDP data collected, compiled and submitted to the IOTC Secretariat twice per year. However, there are many exemptions, such as for BET destined for canneries within the IOTC area of competence. This separate programme covers only a single species and a limited range of products (Frozen BET only, not fresh). In the first Performance Review of the IOTC in 2009 (PRIOTC01), the narrow scope of the programme was identified as a large gap in the SDP's effectiveness for product traceability.

In 2021, at the time of writing, IOTC did not have a CDS scheme, but the work to design and acquire such a system had started through the CDS working group. Following the conclusion of the second Performance Review in 2015 (PRIOTC02),¹⁷ an in-depth study for the development of an electronic-CDS (e-CDS) for IOTC was undertaken during the fourth quarter of 2018 and presented during the third meeting of the CDS working group in February 2020. Its main recommendation concerns the design of an IOTC CDS which should replace the current

...a global round of negotiations should be launched in order to create an e-CDS for tuna, or t-CDS, which could be used by all tuna-focused RFMOs.

SDP. The future CDS should, according to the study, be designed in consultation with other tuna RFMOs. It further advises that a global round of negotiations should be launched in order to create an e-CDS for tuna, or t-CDS, which could be used by all tuna-focused RFMOs — notably ICCAT, the Inter-American Tropical Tuna Commission (IATTC), IOTC and the Western and Central Pacific Fisheries Commission (WCPFC). Even if this process was longer and more complex than

creating a stand-alone CDS system for IOTC, it would reduce the loopholes and gaps that are created when individual RFMOs adopt individual CDS in isolation in order to manage fishing activities of the same species but in different geographic areas. Harmonising the CDS of RFMOs would also simplify the work of control authorities by minimising the administrative burden, and help to achieve sustainable fisheries management and international seafood traceability.

In the event that this proposal does not materialise, it will remain necessary for the IOTC's stand-alone CDS scheme to be compatible with the alignment process of existing tuna CDS or else risk becoming obsolete very quickly. It will therefore be necessary for the future IOTC CDS to conform to best practices, in particular by requiring the use of a fully digital system in accordance with the relevant FAO guidelines and recommended best practices.¹⁸

The other important conclusion from this in-depth study for the development of an electronic-CDS (e-CDS) for IOTC is that the future CDS scheme should cover most of the high-value species managed by IOTC, that is, at least the following eight species: Yellowfin tuna (*Thunnus albacares* – YFT), Skipjack tuna (*Katsuwonus pelamis* – SKJ), BET, Albacore tuna (*Thunnus alalunga* – ALB), Atlantic Blue Marlin (*Makaira nigricans* – BUM), Black Marlin (*Makaira indica* – BLM), Striped Marlin (*Tetrapturus audax* – MLS) and SWO.

The recommendations of the working group which followed the study and mandated by the CPCs to lead the design process of the future IOTC CDS were more nuanced and slightly less ambitious than the ones proposed by the in-depth study's authors. Regarding the design of the IOTC CDS, both options should be explored,

¹⁶ IOTC. 2016. Report of the 2nd IOTC Performance Review. Seychelles 2–6 February & 14–18 December 2015 https://www.iotc.org/sites/default/files/documents/2016/04/IOTC-2016-PRIOTC02-RE_-FINAL_0.pdf

¹⁷ Ibid.

¹⁸ See tables 3, 4 and 5 in this study.

i.e. the stand-alone IOTC CDS and the Global tuna CDS. Furthermore, the IOTC CDS should be initially set up as an electronic tool, while allowing paper-based documents in small-scale fishery activity reporting. Regarding the species, the CDS working group recommended to start only with the three tropical tuna species (Bigeye, Yellowfin and Skipjack) and gradually extend this coverage to other tuna species whilst taking risks of IUU fishing, changing stock status and international trade levels into account.

The ongoing development of CDS

Many CDS projects are being developed within RFMOs and other regional organisations. For example, the Association of Southeast Asian Nations (ASEAN) created and implemented an ASEAN Catch Documentation Scheme and its own electronic tenant (eACDS).¹⁹ This CDS is being rolled out in the Southeast Asian Fisheries Development Center's member countries.²⁰ This example is particularly significant because while the eACDS covers all fish species, its regime ultimately exploits only seven KDEs for fishing vessels and six for carrier vessels,²¹ barely half of the KDEs described in the FAO Voluntary Guidelines for CDS²² and significantly less than the 17 recommended by the EU IUU fishing Coalition²³ or the 35 KDEs proposed by the seafood sector companies gathered within the Global Dialogue on Seafood Traceability.²⁴ This shows that even the most recent systems do not incorporate enough KDEs to guarantee optimal traceability. The WCPFC, on the other hand, began working on the creation of a stand-alone CDS in 2014 for BET.²⁵ At the time of writing, WCPFC still does not have an operational system and must still adopt CMM to achieve this. This shows the difficulty to reach a consensus on a standalone CDS.

Many RFMOs in charge of deep-sea fisheries are currently considering their interest in setting up CDS to improve sustainability and traceability.²⁶ Only the North East Atlantic Fisheries Commission (NEAFC) seems to be opposed to it in principle,²⁷ on the grounds that the introduction of such programmes is not necessary given the effectiveness of the existing MCS programme (e.g. in the NEAFC Regulatory Area) in the fight against IUU fishing.

These ongoing discussions on the development of further CDS are additional indications of the interest surrounding such schemes and the general view by field experts and stakeholders that they are considered to be effective tools for improving traceability and combating IUU fishing. That said, it is clear that the multitude of separate regimes, without coordination or harmonisation, likely leads to counter-productive outcomes, as is further explored in this report.



19 SEAFDEC Training Department. 2020. eACDS application: offline technology for catch reporting at sea, supported by Japanese Trust Fund. http://www.seafdec.or.th/home/phocadownload/FisheryKnowledge/IUU/20200430_eACDS-Mobile_CatchReport.pdf; ASEAN. 2017. Catch Documentation Scheme for Marine Capture Fisheries <https://asean.org/wp-content/uploads/2012/05/16-ASEAN-Catch-Documentation-Scheme.pdf>

20 Southeast Asian Fisheries Development Center Member Countries: Brunei Darussalam, Cambodia, Indonesia, Japan, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

21 In the eACDS, KDEs for fishing vessels are: (1) fishing operation number; (2) Fishing operation date; (3) Fishing zone; (4) Start position for fishing operation; (5) End position for fishing operation, (6) Species; (7) Estimated weight. In addition, KDEs for carrier vessels are: (1) reference unique number from fishing vessel; (2) transshipment date; (3) carrier unique number & name; (4) transshipment position; (5) species; (6) estimated weight.

22 FAO. 2017. Voluntary Guidelines for Catch Documentation Schemes. Rome <http://www.fao.org/iuu-fishing/resources/detail/en/c/1132200/>

23 EU IUU fishing Coalition. 2020. A comparative study of key data elements in import control schemes aimed at tackling illegal, unreported and unregulated fishing in the top three seafood markets: The European Union, the United States and Japan. <http://www.iuuwatch.eu/wp-content/uploads/2020/11/CDS-2020-report-EN-WEB-Nov-2020.pdf>

24 GDST. 2020. GDST 1.0 Standards and Materials. <https://traceability-dialogue.org/gdst-1-0-materials/>

25 WCPFC. 2015. CDS-IWG Workplan: <https://www.wcpfc.int/doc/wcpfc11-2014-summary-report-att-o-2015-cds-iwg-workplan>

26 FAO. 2018. Catch documentation schemes for deep-sea fisheries in the ABNJ - Their value, and options for implementation. Technical paper °629 (p 52 and following). <http://www.fao.org/documents/card/es/c/CA2401EN/>

27 Cochrane K., Murawski S., Tahindro A. 2014. NEAFC Report of the Performance Review Panel. https://nammo.no/wp-content/uploads/2018/01/neafr_pr-2015.pdf



II. The role of multilateral CDS to improve seafood traceability

Strengths of multilateral over unilateral schemes

The key strength of multilateral CDS for RFMOs is that they cover the fisheries of a particular species entirely,²⁸ while unilateral import schemes like the USA's Seafood Import Monitoring Program (SIMP) or the EU's catch certification scheme under the IUU Regulation only focus on the portion of fish that enters into their respective markets. Multilateral CDS address this shortcoming as they represent a global management tool for the species that they cover. The result is that the species as a whole, whatever the fishery or the stock considered, falls under the catch certificate.

The second strength of multilateral CDS is that they allow for the traceability of catches and the products resulting from their transformation throughout the whole supply chain. For each transaction, as soon as the product is to enter the international market, a certification document must be issued and accompany the product throughout the supply chain. In comparison, for unilateral regimes, this certification only applies upon entry into the market of the State which manages it and thereby, at least theoretically, it leaves the door open for fraud during the stages leading up to market entry. The protections offered by RFMO multilateral CDS regimes, when fully and robustly implemented, are relatively stronger as they apply from the start of the supply chain and not only at the time of importation.

Threats to robust CDS

Multilateral and unilateral CDS introduce catch certification documents, which allow for extensive traceability via in-depth checks that aim to guarantee that the fish and the products produced from their processing are not the result of IUU fishing. However, with the proliferation of CDS schemes, numerous threats to their success have been identified.

The limited scope of geographic coverage

One of the most stark weaknesses of multilateral regimes is that they only apply to a given geographic area, generally the convention area (CA) of the RFMO in question. The CDS regimes of these organisations may, therefore, have limits when stocks of the same species extend beyond the limits of that RFMO or when they are present in the convention area of other RFMOs. This limitation is, however, reduced by the fact that the CPCs to the RFMO must not authorise disembarkation or transshipment in their ports if the CDS documents are not present, nor without taking into account the origin of the catch documents, thereby requiring that catches made outside the convention area also have certification documents. This is particularly the case with CCAMLR, which requires Dissostichus Catch Documents (DCDs) to be issued for catches harvested in areas under the Southern Indian Ocean Fisheries Agreement (SIOFA) or the South Pacific Regional Fisheries Management Organisation (SPRFMO) if the catches are to be imported into the territory of a CPC to CCAMLR, or if they must be exported (or re-exported) from this same territory.

Additional administrative burden

Far from guaranteeing a more effective fight against IUU fishing, a proliferation of CDS regimes risks exacerbating the problem, as too many different CDS formats targeting too few species risk saturating the systems put in place and thus jeopardising their proper functioning. Firstly, the administrative burden for fishing operators may lead to the temptation to use the system incorrectly or even to abandon it altogether. Secondly, these proliferations create a prohibitive workload for the bodies responsible for the control of seafood imports if the regimes are not harmonised. This puts control services at risk of being overwhelmed with too many different procedures to be implemented according to whether a batch of fish has to be controlled according to the principles of a particular CDS. Consequently, authorities may lack the capacity to prevent illegal catches from entering the market.

28 FAO. 2018. Catch documentation schemes for deep-sea fisheries in the ABNJ - Their value, and options for implementation. Technical paper °629 (p 52 and following). <http://www.fao.org/documents/card/es/c/CA2401EN/>

Despite the emergence of digitised systems, agents will still be needed on both the fisheries and on the customs side to ensure control of catches and exports. As these human resources are not infinite (neither in terms of quantity nor in terms of qualification), if different models of catch certificate forms or CDS documents multiply, there will be a significant risk of fatigue or even collapse in the quality of the checks carried out to validate them. It is therefore essential that future and, to the degree possible, present CDS initiatives respect a number of principles aimed at harmonisation or convergence to ensure that a level of interoperability between systems is achieved.



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Lack of capacity and expertise

The States responsible for controlling a vessel's activity – generally the flag State and sometimes the coastal State, when operations occur inside a State's respective exclusive economic zone (EEZ) – must implement an effective MCS framework. This should allow the controls and verifications necessary to attest that catches were made in accordance with regulations and, in particular, the relevant RFMO CMMs. Effective national MCS authorities lend credibility to the certificates they issue. However, in many countries, especially developing ones, MCS frameworks often require significant improvement as attested, for example, by the 29 formal warnings the EU has issued to 27 States under its IUU Regulation since 2012.²⁹ In other cases, they are established but not properly implemented due to lack of resources, skills or political will. Thus, even if certain States ensure compliance with the CDS requirements and the standards imposed by the management and conservation regimes of RFMOs, it is not uncommon to see national authorities responsible for controls dedicating considerable time to validating the certificates themselves, rather than first verifying the information they contain. This bias cannot be avoided without solid and ongoing training in verification procedures and sufficient means to manage the workload represented by the quantity of catch certificates. Without these capabilities, it is difficult to imagine that a State would be able to process the certificates received in such a way as to determine whether the data is not just complete, but contains true information demonstrating that no illegal activity has been committed.

This finding is greatly aggravated by two additional factors. On the one hand, the number of catch certificates issued to be validated or verified: some importing countries can receive between 40,000 and 60,000 certificates

29 European Commission website, "Illegal fishing" page, Overview of IUU procedures. Consulted in September 2021. https://ec.europa.eu/oceans-and-fisheries/fisheries/rules/illegal-fishing_en

each year, i.e. between 110 and 165 per day.³⁰ The same applies to exporting countries, which may have to validate several dozen certificates every day. The volume of these certificates, together with the perishable nature of these goods which need to move quickly through the supply chain, often obliges authorities to validate a large number of certificates without much verification of compliance, except for technical cross-checks to ensure that there is no inconsistency in the various forms, such as transshipment, chartering, lots when they are divided, etc.

On the other hand, the administrative weight of this large volume of certificates is further exacerbated in certain areas by the multiple formats applicable. Indeed, the growing number of CDS in RFMOs has complicated the work of verification officers, both on the side of exporting and importing countries. The challenge is no longer to carry out rigorous traceability and risk assessment checks on the conditions under which catches were made; but rather to ensure that the cargo or shipment has compliant documentation which will enable it to pass each stage of the export and import process. This is particularly true if the fish is to be imported into a market State where a unilateral CDS regime applies, such as the EU or the US. The result is that inspectors, under the pressure of the quantity of certificates to be verified, focus only on the face-value of what is presented in the completed catch documents, as they lack capacity to fully investigate information on catches and the conditions under which they were made, augmenting the risk of validating batches of illegally caught fish.

Too many different rules

Countries which see catches arriving at their points of entry, generally the port and market States, must know enough about the rules in force within each CDS regime to be able to carry out the relevant controls required by these systems. These activities become complicated when one RFMO's CDS has rules that differ from another RFMO's, especially when one RFMO manages an area geographically far from the port where the catches are landed. This can pose significant challenges in countries or port authorities with limited capacities or where multiple jurisdictions are involved, as is often the case with incidences of IUU fishing.³¹

For these multilateral regimes to be effective, the traceability measures they promote must be coherent and sufficiently described so that the authorities in charge of their controls can fulfil the CDS requirements without

Traceability measures ... must be coherent and sufficiently described so that the authorities in charge of their controls can fulfil the CDS requirements without too much difficulty.

too much difficulty. In practice, there is a significant risk of controls being weakened when the measures to be implemented are too complex. In this case, the risk is that documents may be validated to proceed to the following stages of export, even though no effective data verification has been carried out beforehand.³² Perfectly compliant catch documents can therefore be produced, which

do not reflect the reality of the checks carried out. This opens the door to illegally caught fish entering the market due to the lack of training for control officers or because the rules to be applied are considered too complex.

As a general point, it is noteworthy that any export or import under a CDS regime entails a significant control burden, which is necessary to prepare shipments for export by the services in charge of assessing whether catches comply with conservation and management measures. These services must be able to reconstruct the full chain of fishing operations using the declarative data from the fishing vessel captain, vessel monitoring system (VMS) data and information collected during inspections in order to certify the conformity of the catches to the CDS requirements.

Conversely, when importing a shipment, the services in charge of customs and border protection must be able to provide a certain level of certainty when processing the import of products covered by a CDS:

- i. the CDS mechanism must be well known and understood by all agents, and all documents must be subject to official controls;

³⁰ EU IUU fishing Coalition. 2016. Risk assessment and verification of catch certificates under EU IUU Regulation. <http://www.iuuwatch.eu/wp-content/uploads/2016/07/Risk-Assessment-FINAL-DEC16.pdf>

³¹ Indicative of this situation are cases of alleged IUU fishing in relation to, for instance, CCAMLR-managed marine resources as reported by Sea Shepherd: <https://www.seashepherdglobal.org/latest-news/massive-victory-in-the-fight-illegal-fishing> as well as through Interpol website in the page "Fighting illegal, unreported and unregulated fishing", updated the 7 December 2020.

³² ClientEarth. 2017. The control and enforcement of fisheries in France. Druel E., Polti S., Brussels. <https://www.documents.clientearth.org/wp-content/uploads/library/2016-12-02-the-control-and-enforcement-of-fisheries-in-france-ce-en.pdf>

- ii. the monitoring mechanisms implemented must make it possible to detect the most fraudulent or suspicious transactions;
- iii. there must be a legal or administrative framework of dissuasive sanctions in place in the event a fraudulent transaction is detected, including the refusal of importation, the seizure of the fish batches, withdrawal of licences, or trade and administrative sanctions.

These checks are carried out by customs authorities which, in this case, work to prevent unwanted and illegal goods from entering a country's market. However, customs agencies do not usually specialise in fishery products, as opposed to the agencies in charge of fisheries compliance which are responsible for the application of port States measures under the jurisdiction of the State. It is therefore necessary to improve information sharing and synergies between services in charge of CDS control (customs) and services in charge of applying port State measures (fisheries) to improve the quality of controls and strengthen the fight against IUU fishing.



Opportunities to align CDS for the benefit of all

Consistency between unilateral and multilateral CDS

As each CDS regime has different origins and objectives, their catch certificates do not require the same elements. To date, no harmonisation process has been carried out to align existing schemes. The EU IUU fishing Coalition's 2020 study on KDEs highlights the requirements of different CDS regimes.³³

When it comes to KDEs, the lack of harmonisation can quickly become a headache for the agents in charge of fisheries controls. Some CDS regimes require net catch weight, others live weight, while none require conversion factors. Likewise, data on catch areas are not very detailed and therefore do not accurately reflect the jurisdiction in which the fishery took place. Fishing authorisations are requested by some but not by others, as are the landing ports and the vessel's International Maritime Organization (IMO) number (Unique Vessel Identifier). It is easy to understand the difficulty for a field officer to verify a given cargo or even an export document when they would have to adapt to each form and complete additional systematic research to ensure that the documents accompanying a fish batch attest that no illegal activity has been committed. Similarly, a market actor with international supply chains would encounter a complicated patchwork of different regulations that they need to be aware of, comply with and budget for. The great disparity between the RFMO CDS regimes also complicates their compatibility with import schemes like the European catch certificate scheme and the US SIMP.

Table 4 shows the lack of harmonisation between the CDS regimes across RFMOs, as well as their lack of compatibility with two of the main import regimes (US SIMP and EU unilateral CDS). It also highlights the weakness of the requirements of the FAO voluntary guidelines for CDS. Indeed, if one can recognise the steps achieved by the adoption of these voluntary guidelines, one can only regret their lack of ambition to impose higher KDE standards. It is therefore not surprising that a recent regional CDS like the eACDS adopted by ASEAN is so unambitious when it comes to KDEs.

Key data elements

Based on the opportunities and threats presented above, the following table offers a synthetic and comparative analysis of the different KDEs required with regard to the international reference arrangements and the different types of existing CDS, building on the EU IUU Coalition 2020 study.³⁴

This comparative table shows that the KDEs proposed by the EU IUU fishing coalition reflects the most complete and most balanced list of requirements for CDS completion. Indeed, its list of 17 KDEs is relevant and useful for all actors of the value chain, whether they are fisheries or customs officers, producers, or import or export operators. This list contains concrete elements that are easy to collect and to verify, which will not add an excessive burden to the operators and will provide all the necessary data for controllers to effectively carry out their duties. In comparison, the elements proposed in the FAO Voluntary Guidelines are a minimum standard, which should be welcomed as such. However, they are insufficiently comprehensive to achieve their main objective of fighting IUU fishing by improving and securing seafood traceability. While the standard promoted by the Global Dialogue on Seafood Traceability (GDST) is more complete, it is far too complex for many small operators to implement. Further, it lacks the inclusion of strategic data, such as information related to import or export operators, the processing location and a clear definition of the quantities caught, while making no distinction between live or processed weight. The table also identifies remaining gaps existing unilateral and multilateral CDS must urgently close to reach the level of accuracy and effectiveness described and promoted in the EU IUU fishing Coalition study (2020), and to move forward on the road to alignment and harmonisation of CDS regimes.

³³ EU IUU fishing Coalition. 2020. A comparative study of key data elements in import control schemes aimed at tackling illegal, unreported and unregulated fishing in the top three seafood markets: The European Union, the United States and Japan. <http://www.iuuwatch.eu/wp-content/uploads/2020/11/CDS-2020-report-EN-WEB-Nov-2020.pdf>

³⁴ Ibid.

Table 4 | CDS key data element requirements

Recommended or applied in practice		Optional or needs to be improved			Not recommended or required						
	Key Data Elements (KDEs)	Stakeholder recommendations for CDS			Current RFMO multilateral CDS practices				Current unilateral CDS practices		Current regional CDS practices
		EU IUU fishing Coalition	FAO Voluntary Guidelines	GDST 1.0 Standard	ICCAT	CCSBT	CCAMLR	IOTC ⁱ	European Union	United States of America	Association of Southeast Asian Nations
WHO	Vessel name		See article 1(b)								
	UVI (IMO number)		See article 1(b)								Only required for carrier vessels, not for fishing vessels
	Vessel flag		See article 1(b)								
	International Radio Call Sign (IRCS)		See article 1(b)								
	Information of exporter/re-exporter		See article 1(f)								
	Identity of import company		See article 1(g)								
WHAT	Product type (use of FAO Alpha code)		See article 1(d)								
	Species name embedded in the FAO/ASFIS 3-Alpha Code		See article 1(b)								
	Estimated live weight (kg)			Not specified between live or processed							
	Processed weight (kg)		See article 1(d)								
	Declaration and authorisation of transshipment at sea		See article 1(c)								
WHEN	Event date (Harvesting operation)		See article 1(b) ⁱⁱ								
WHERE	Catch area		See article 1(b)								
	Authorisation to fish		See article 1(e) ⁱⁱⁱ								
	Port of landing		See article 1(b)								
	Processing location										
HOW	Fishing methods										

ⁱ Refers to IOTC Statistical document for Bigeye tuna, which is not strictly speaking a CDS

ⁱⁱ Guidance is not clearly provided or vague; article 1(b) merely states: "Information on catch and landing (fishing vessel or vessel group [SSF], species, catch area, landing information, etc.)"

ⁱⁱⁱ Guidance is not clearly provided; article 1(e) merely states: "issuing Authority validating the catch certificate, including contact details"

Improved information sharing and data cross-checking

Aligning existing and future CDS around coherent KDEs like those proposed by the EU IUU fishing Coalition would facilitate the sharing of information between various actors along the value chain and, in particular, the agents in charge of controls such as customs or fisheries officers. This would make it possible to harmonise organisational and training efforts while optimising the efficiency of inspection services. It would also facilitate the development and dissemination of modern information technology tools intended to automatically process catch documents in order to detect inconsistencies or to propose risk assessments.

Reduced business costs and facilitating trade

Aligning CDS with a consistent list of criteria (e.g. KDEs) would harmonise the principles of traceability for straddling fish stocks harvested across different RFMO areas of competence and for highly migratory species that can be managed by multiple RFMOs. The reduction in the number of different standards to be met would reduce the administrative burden on the operator and reduce the associated costs of compliance. This would inevitably lead to an improved culture of compliance and facilitate trade by imposing a common catch documentation standard.



III. Proposed minimum standards for a global and harmonised CDS

Consistency between each existing CDS and the ones that will be created in the coming years in other RFMOs or for other species requires an effort of convergence or alignment to secure a progressive harmonisation of the different schemes. This harmonisation is necessary to ensure that the burden of implementing global traceability is not insurmountable for national authorities.

The proposed alignment process takes into account the main typologies of existing fisheries, including industrial mono-specific or multi-specific fisheries, artisanal and small-scale fisheries, fisheries operating in waters under national jurisdiction or in areas beyond national jurisdiction (ABNJ). This ideal vision of a specialised fishery targeting a single species using a single fishing gear is relatively rare, even exceptional. The establishment of traceability is part of a much more complex context in which several target and accessory species must be integrated, as well as very diverse profiles of units and fishing gear. All these interactions greatly complicate the conditions for filing and monitoring CDS, as well as for not increasing the global constraints of fisheries management imposed on stakeholders. Not aligning such schemes also poses a risk to efficiency of the collection of catch and marketing data, and to the reliability of this information. This study therefore proposes a breakdown of the conditions required for progressive alignment, taking an objective analysis of the risk in terms of impact on the implicated fish stocks and the development of IUU fishing activities into account — this is presented in the following table. The recommendations proposed are inspired by and include the main KDEs supported in recent years by industry,³⁵ civil society³⁶ and FAO publications³⁷ as they reflect the best practices for supporting the alignment process. The table also includes some additional proposals for completion of the original KDE's best practices (Table 4) to reinforce the scope, contents and clarify responsibilities based on field expertise, which are visible in red.



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³⁵ GDST. 2020. GDST 1.0 Standards and Materials. <https://traceability-dialogue.org/gdst-1-0-materials/>

³⁶ EU IUU fishing Coalition. 2020. A comparative study of key data elements in import control schemes aimed at tackling illegal, unreported and unregulated fishing in the top three seafood markets: The European Union, the United States and Japan. <http://www.iuuwatch.eu/wp-content/uploads/2020/11/CDS-2020-report-EN-WEB-Nov-2020.pdf>

³⁷ Hosch, G. & Blaha, F. 2017. Seafood traceability for fisheries compliance – Country-level support for catch documentation schemes. FAO Fisheries and Aquaculture Technical Paper No. 619. Rome, Italy - <http://www.fao.org/3/a-i8183e.pdf>

Table 5 | Technical proposals for a global CDS model

Binding

Recommended / Optional

Not required

In addition to the assessed KDEs and the identified examples of best practice, these further criteria would strengthen the proposed global CDS model.

Key Data Elements to be included	Industrial mono-specific fisheries	Industrial multi-specific fisheries	Artisanal / small-scale fisheries (SSF)	Bycatch fisheries (including discards)
CDS format	Electronic ⁱ with formal notification of validation (CDS certificate number for verification)	Electronic with formal notification of validation (CDS certificate number for verification)	Electronic (depending on State and stakeholders capacities, a paper with formal notification of validation (CDS certificate number for verification) as a transition period to electronic means could be considered	Electronic (depending on State and stakeholders capacities, a paper with formal notification of validation (CDS certificate number for verification) as a transition period to electronic means could be considered
Vessel name	<ul style="list-style-type: none"> Global Record of Fishing Vessels RFMOs fishing register 	Idem	Idem	<ul style="list-style-type: none"> Global Record of Fishing Vessels RFMO fishing register or individual registration for CDS establishment (made by vessel or representatives and validated by flag State)
Unique vessel identifier	IMO number	Idem	IMO number or if not applicable RFMO number or national registration number	IMO number or if not applicable RFMO number or national registration number
Vessel flag	State name	State name or code included in RFMO number	State identification code included in RFMO number	State name (ABNJ) or identification code included in RFMO number
International Radio Call Sign (IRCS) and other tools ⁱⁱ	IRCS	IRCS	IRCS or National requirements call sign	IRCS or National requirements call sign
Information (identity) of buyer / exporter ⁱⁱⁱ / re-exporter	Name, address, telephone, legal identification number, point of buying / export / re-export and transport details	Idem	Idem	Idem
Identity of Importing / re-selling company	Name, address, telephone, legal identification number, point of import/resale and transport details	Idem	Idem	Idem
Product type	<ul style="list-style-type: none"> FAO Code^{iv} Prioritise information on fresh, whole and unprocessed product^v 	<ul style="list-style-type: none"> Idem Idem 	<ul style="list-style-type: none"> Idem Idem 	<ul style="list-style-type: none"> Idem Idem
Species name	FAO/ASFIS 3-Alpha Code	Idem	Idem	Idem

Key Data Elements to be included	Industrial mono-specific fisheries	Industrial multi-specific fisheries	Artisanal / small-scale fisheries (SSF)	Bycatch fisheries (including discards)
Estimated live weight (kg)	<ul style="list-style-type: none"> • Rounded weight and dressed weight • Harmonisation or mutual recognition of conversion factors (States and RFMOs) • If required, indicate number of fish, individual weights (and medium) and number of marking tags 	<ul style="list-style-type: none"> • Idem • Idem • Idem 	<ul style="list-style-type: none"> • Idem • Idem • Idem 	<ul style="list-style-type: none"> • Idem • Idem • Distinguish between bycatch and accidental catch^{vi}
Processed weight (kg)	Specify / simplify definition of certain types of weight and complement with the applicable conversion factor according to product type ^{vii}	Idem	Idem	Idem
Declaration and authorisation of transshipment at sea	Authorisation number and minimal information (vessel's identity, date and area, transshipment, species, estimated weight transhipped, UVI, donor vessel)	Idem	If transshipment allowed, need to develop specific process	If transshipment allowed, need to develop specific process
Event date	Indicate the days / hours / year of catch and days / hours / year of landings	Idem	Idem	Idem
Catch area	EEZ country code + RFMO subdivision + FAO fishing area codes	Idem	Idem	Idem
Authorisation to Fish Transfer authorisation ^{viii}	Specific number of authorisations or generally-deduced number from the registration of the vessel in RFMO lists of authorised vessels ^{ix}	Idem	Idem	RFMO fishing register or individual registration for bycatch declaration (made by vessel or representatives and validated by flag State)
Port of landing	Provided	Provided	Provided. In addition: <ul style="list-style-type: none"> • Integrate the specific contexts and constraints of the SSF^x • Required for trade declarations to indicate the first sale point or export point. 	Provided <ul style="list-style-type: none"> • Idem • Idem
Processing Location	<ul style="list-style-type: none"> • State (processing, import, validation) • To link with commercial informations 	<ul style="list-style-type: none"> • Idem • Idem 	<ul style="list-style-type: none"> • Idem • Idem 	<ul style="list-style-type: none"> • Idem • Idem
Fishing gear or catching method	FAO code	Idem	Idem	Idem

Key Data Elements to be included	Industrial mono-specific fisheries	Industrial multi-specific fisheries	Artisanal / small-scale fisheries (SSF)	Bycatch fisheries (including discards)
Scope and operability				
Species covered (catch and trade control scheme)	All	Idem	Idem	Idem
Catch and trade data collection and transmission	Digital and real time	Idem	Digital in real time or provided a lack of capacities, transmission of data could be done within maximum 48 hours after the capture or landing ^{xi}	Digital in real time or provided a lack of capacities, transmission of data could be done within maximum 48 hours after the capture or landing ^{xi}
Authorities or stakeholders responsible for verification and validation	Flag State or port State	Idem	Idem	Idem
Risk assessment to target at-risk catch and trade operations	Catch operation, landing and first sale operation	Idem	Idem	Idem
Data exchange between States and RFMOs	Automatic	Idem	Idem	Idem
CDS cross-check and complementary inspection ^{xii}	Set up a minimum annual level of inspection to verify the catch declaration in order to achieve the control objectives of the CDS	Idem	Idem	Idem

i Individual log-on procedure to preserve confidentiality. Four user groups of e-CDS and customised interfaces for each (Hosch, 2018)

ii See FAO. 2017. The marking and identification of fishing vessels: <http://www.fao.org/3/a-i7783e.pdf>

iii The concepts of import / export are too restrictive and do not allow the integration of non-international buyers and resellers. The commercial traceability of fresh fishery products, especially artisanal, intended for the local and national markets must identify the corresponding stakeholders which do not enter into import / export activities. This could also result in the establishment of two types of commercial declaration due to the destination of the catches: internal (or national) trade declaration and external (international) trade declaration.

iv FAO and WHO. 2009. Codex Alimentarius. Code of practice for fish and fishery products. First edition: <http://www.fao.org/3/a1553e/a1553e00.pdf>

v Link traceability with the reality of the fishing operations and the applicable management/conservation rules, in particular the establishment of fishing opportunities (quota and MSY objective) and the implementation of the corresponding fishing and control plans established/updated/transmitted to RFMOs by the Member States every year.

vi Due to the minimum authorised weights that should be different (e.g. ICCAT)

vii Some type of processed weight are not always understandable by fishers and inspectors in the nomenclature (e.g. Dressed Weight) and especially in the way in which they must be reported/recorded during the declaration and verification in order to be deducted in accordance with individual and global quotas set in live weight (rounded weight).

viii In case of transfer of live fish before or after ranching and eventually in case sale of sale or replacement of a donor vessel to a recipient vessel, with change of name and transfer of authorisations between the two vessels

ix Sent and updated each year by the Member States.

x Especially in developing countries and the Mediterranean Sea where ports can be numerous, dispersed, isolated and sometimes without any presence of the control authorities (grounding site) but where the SSF vessels are forced to land and sell. CDS does not systematically indicate the landing port. It is a national regulatory measure, imposed on the vessel's master, notified to the RFMOs, but not necessarily entered in the CDS.

xi On SSF vessels, the precise final weight (rounded weight) is often measured during landing. Provide for the possibility of correcting the CDS after the previous notice of landing or port entry in the event of an error in the estimated weight measured at sea.

xii Allows to see if in addition to the validation/verification of the CDS (online), the flag or port authorities have carried out a physical control inspection of CDS conformity with fishing operations, catches and trade (first sale). The principle of setting up a minimum inspection rate can, if necessary, be envisaged, within the limits of the capacities and means of national capacities and contexts.

Final recommendations

While both RFMO catch documentation schemes and unilateral certification schemes in market States are very effective tools for improving traceability and combating IUU fishing, an increasingly disjointed landscape of separate schemes has emerged. In recent years, two market States and three RFMOs have developed and implemented various forms of CDS, and further developments are on the horizon. While this trend is certainly laudable, the current lack of mutual coordination or harmonisation among the existing systems is, in many cases, counterproductive for operators and authorities as it results in disproportionate costs and additional workload. Further, it jeopardises the effectiveness of such traceability systems for:

- i. tracing fisheries products throughout the supply chain among various professional intermediaries,
- ii. ensuring seafood legality and, ultimately,
- iii. combating IUU fishing.

Contracting and cooperating non-contracting parties of RFMOs are therefore urged to expand the coverage of CDS to additional species and geographical areas while ensuring alignment and following best practices for the coverage and design of new CDS. It is recommended that RFMOs should:

1. Develop CDS that cover all the species falling within their competence and have:
 - Clear rules for the production of CDS documents;
 - User-friendly tools or interfaces that are simple to use, intuitive and easy to model;
 - Reliable tools that are difficult to falsify in order to guarantee the integrity of CDS data; and
 - Tools that facilitate cross-checks without overloading those responsible for filling in or checking the data, i.e. fishers, operators, and fisheries and customs authorities.
2. Set up an electronic system allowing digital data entry, as well as data consultation and controls for verification and certification (e.g. QR code or link to an online verification page, linked to the database), and which facilitates electronic data exchange with external databases.
3. At minimum, integrate the requirements of the 17 KDEs laid out by the EU IUU fishing Coalition into e-CDS including, in particular, the systematic information of the live weight (rounded weight) and the net weight (processed weight), both for live (ranching) and dead fish. If necessary, provide additional information concerning the content of KDEs and their functionality.
4. Clearly identify the authorities and stakeholders responsible for completing the CDS, their validation and certification.
5. Establish robust procedures for cross-checking, risk assessment and targeting (e.g. minimum inspection rate).
6. Strengthen data-exchange mechanisms between market States (e.g. use of common data format; systems interoperability).
7. Develop a generically-aligned model of CDS for all tuna and tuna-like species common to all tuna-RFMOs.
8. Develop a generically-aligned model of CDS for non-tuna species common to all non-tuna RFMOs.
9. Promote the adoption of international standards in favour of an effective alignment of CDS, as well as their technical and legal conditions of implementation.

The development of CDS that are aligned to an agreed baseline could start with the launching of a Kobe-type round of negotiations — a process of cooperation and coordination among the five tuna RFMOs — as recommended by the IOTC Working Group for the development of a tuna super-CDS to cover all tuna fisheries and which would take precedence over all other schemes. However, even if successful, this method will remain limited in scope. It will inevitably be necessary to proceed to the adoption of a more conventional and global framework which would transform the FAO Voluntary Guidelines for CDS into a more binding, technically detailed and restrictive text that would serve as the basis for the development of any new CDS. In this context, where the

need for traceability and initiatives to create new CDS are increasing, it is urgent to start this work of alignment under the aegis of the FAO, starting with strong minimum KDE standards.

It is crucial that current and future CDS developments adhere to the best practice principles outlined in this report in order to initiate their gradual alignment and achieve a high degree of harmonisation. This will bring about increased efficiency for operators and authorities alike to curb IUU fishing and ensure that seafood on consumers' plates does not put the resilience of the ocean, its resources or the food security and livelihoods of people who depend on it at risk.





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