

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Seventy-fourth meeting of the Standing Committee
Lyon (France), 7 - 11 March 2022

Species specific matters

Sharks and rays (*Elasmobranchii* spp.)

REPORT OF THE SECRETARIAT

1. This document has been prepared by the Secretariat.
2. At its 18th meeting, (CoP18, Geneva, 2019), the Conference of the Parties adopted Decisions 18.218 to 18.225 on *Sharks and rays (Elasmobranchii spp.)*. They are presented in Annex 1 to the present document.
3. Parties also adopted proposals to include 18 additional species of *Elasmobranchii* spp. in Appendix II at CoP18. The species included were: Mako sharks (*Isurus oxyrinchus* and *I. paucus*), guitarfishes (*Glaucostegus* spp. – six species), and wedgefishes (*Rhinidae* spp. – 10 species). These new listings entered into force on 26 November 2019.
4. This document reports on the implementation of Decisions 18.220, 18.221 and 18.222 directed to the Secretariat. The document should be read in conjunction with the report of the Standing Committee's working group on sharks and rays (addressing Decision 18.224) in document SC74 Doc. 67.1 and the Animals Committee's contribution to the implementation of Decision 18.225 in document SC74 Doc. 67.3.
5. The Secretariat also takes this opportunity to report on the implementation of Decision 18.219 on the provision of capacity-building assistance for implementing Appendix-II shark and ray listings. The Secretariat estimated that the budget for the implementation of Decision 18.219 would be USD 1,600,000, of which USD 120,000 have been secured, as indicated in [Notification to the Parties No. 2021/049](#). The Secretariat is grateful to the European Union for this support. The EU funds are to be allocated towards supporting Parties on legal and regulatory challenges, data collection and making of non-detriment findings (NDF), and traceability challenges with a focus on the Central America and Caribbean region.
6. The Secretariat notes that one of the activities envisioned under the scope of Decision 18.219 include the making of NDFs, which will be considered under the implementation of Decision 18.132 to 18.134 on *Non-detriment findings*.
7. Since CoP18, the Secretariat provided capacity-building assistance through online facilitation and participation in workshops. The Secretariat participated in one workshop focused on the identification of marine species and one focused on strengthening the application of the Convention in the region of Central America, which included issues such as national legislation to comply with the Convention, legal acquisition findings, and introductions from the sea. Both workshops were hosted by the United States Department of the Interior's International Technical Assistance Program (DOI ITAP).

Implementation of Decision 18.220

8. In accordance with Decision 18.220, paragraph a), the Secretariat issued [Notification to the Parties No. 2020/16](#) on 28 February 2020 inviting Parties to submit concise summaries of any new information on shark and ray conservation and management activities, as well as highlight any questions, concerns or

difficulties they are having in writing or submitting documentation on authorized trade for the CITES trade database. The following 21 Parties responded to the Notification: Cambodia, Canada, Colombia, Costa Rica, Croatia, European Union, Indonesia, Israel, Italy, Japan, Mexico, Monaco, Netherlands, New Zealand, Papua New Guinea, Peru, Samoa, Senegal, Solomon Islands, Thailand and the United States of America. The responses were published in Annex 2 to document AC31 Doc. 25 in the language and format in which they were received. A synthesis and summary of the responses was made available in information document [AC31 Inf. 9](#).

9. The eight NDFs that were received as part of the responses (from Costa Rica, New Zealand, and the United States of America) and three NDFs (from Mexico and Guatemala) received as separate submissions are published on the CITES sharks and NDF webpages.
10. Concerning paragraph b) of Decision 18.220, information from the CITES Trade Database on commercial trade in CITES-listed sharks and rays since 2000, sorted by species and by product, is provided in Annex 2 to the present document. This overview gives an update of the analysis that the Secretariat presented in the addendum to AC31 Doc. 25 and uses a dataset downloaded from the CITES Trade Database on 29 December 2021.
11. The dataset included CITES trade records from 2000 to 2020 (as well as some 2021 records) and included data on shark species listed at CoP19 (i.e. *Isurus oxyrinchus*, *I. paucus*, *Glaucostegus* spp., and Rhinidae spp.), which went into effect in 2019. The overview analyzed the trade data by number of records and by volume for species and products. It also includes an overview of introduction from the sea (IFS) records in the CITES Trade Database.
12. Implementation of paragraph c) of Decision 18.220 on the dissemination of guidance on the control and monitoring of stockpiles of shark parts is dependent on the development of such guidance under Decision 18.224 paragraph b) which is addressed in document SC74 Doc. 67.1.

Implementation of Decision 18.221

13. In 2021, the Secretariat was made aware that TRAFFIC was undertaking a study on trade in sharks that could make a valuable contribution to the implementation of Decision 18.221. The Secretariat has worked closely with TRAFFIC to collate relevant key findings from their study which are presented in Annex 3 to the present document. The Secretariat will provide further information on the implementation of Decisions 18.221 as an information document.

Implementation of Decision 18.222

14. As indicated in [Notification to the Parties No. 2021/049](#), the Secretariat estimated that implementation of Decision 18.222 would cost USD 90,000, of which USD 30,000 has been secured thanks to the generous support by the European Union.
15. With regard to Decision 18.222 paragraph b), FAO developed and refined iSharkFin software and released version 1.4 in April 2021. The software, entitled "Performance of iSharkFin in the identification of wet dorsal fins from priority shark species"¹, was published in December 2021 and is available upon request from the authors. The latest software is capable of analyzing 13 shark species and one ray species currently listed in the CITES Appendices.

Actions required of the Standing Committee

16. Concerning the joint report of the Animals Committee and the Standing Committee to CoP19 required under Decision 18.225, the Animals Committee has made available its views in document SC74 Doc. 67.3. The Secretariat notes that the joint report to be prepared by the Animals and Standing Committees with support of the Secretariat, envisaged under Decision 18.225 will have to be produced after the 74th meeting of the Standing Committee and prior to the deadline for the submission of document to CoP19. The Standing Committee may wish to agree that the Chair of the Standing Committee and the Chair of the Animals Committee work with the Animal Committee's lead on the agenda item to merge the draft decisions on sharks and finalize a single joint report to be submitted to CoP19.

¹ <https://doi.org/10.1016/j.ecoinf.2021.101514>

17. Implementation of Decision 18.224 directed to the Standing Committee is addressed in document SC74 Doc 67.1.

Recommendations

18. The Standing Committee is invited to:

- a) take note of the Secretariat's report on the implementation of Decisions 18.220, 18.221 and 18.222 in the present document;
- b) comment on the overview of reported trade in specimens of CITES-listed shark and rays in Annex 2 to the present document and the key findings of the TRAFFIC study on shark trade presented in Annex 3 to the present document;
- c) consider the contribution of the Animals Committee to the joint report to CoP19 requested under Decision 18.225; and
- d) consider the Secretariat's suggestion for a way forward regarding this joint report in paragraph 16 of the present document.

DECISIONS ON *SHARKS AND RAYS (ELASMOBRANCHII SPP.)*
ADOPTED BY THE 18TH MEETING OF THE CITES CONFERENCE OF THE PARTIES

18.218 Directed to the Parties

Parties are encouraged to:

- a) provide information to the Secretariat in support of the study called for in Decision 18.221 paragraph a), in particular on any national management measures that prohibit commercial take or trade, and in response to the Notification called for in Decision 18.220;
- b) in accordance with their national legislation, provide a report to the Secretariat about the assessment of stockpiles of shark parts and derivatives for CITES-listed species stored and obtained before the entry into force of the inclusion in CITES in order to control and monitor their trade, if applicable;
- c) inspect, to the extent possible under their national legislation, shipments of shark parts and derivatives in transit or being transhipped, to verify presence of CITES-listed species and verify the presence of a valid CITES permit or certificate as required under the Convention or to obtain satisfactory proof of its existence; and
- d) continue to support the implementation of the Convention for sharks, including by providing funding for the implementation of Decisions 18.219, 18.221 and 18.222, and considering seconding staff members with expertise in fisheries and the sustainable management of aquatic resources to the Secretariat.

18.219 Directed to the Secretariat

Subject to external funding, the Secretariat shall continue to provide capacity-building assistance for implementing Appendix-II shark and ray listings to Parties upon request.

18.220 Directed to the Secretariat

The Secretariat shall:

- a) issue a Notification to the Parties, inviting Parties to:
 - i) provide concise summaries of new information on their shark and ray conservation and management activities, in particular:
 - A. the making of non-detriment findings;
 - B. the making of legal acquisition findings;
 - C. the identification of CITES-listed shark-products in trade; and
 - D. recording stockpiles of commercial and/or pre-Convention shark parts and derivatives for CITES Appendix-II elasmobranch species and controlling the entry of these stocks into trade; and
 - ii) highlight any questions, concerns or difficulties Parties are having in writing or submitting documentation on authorized trade for the CITES Trade Database;
- b) provide information from the CITES Trade Database on commercial trade in CITES-listed sharks and rays since 2000, sorted by species and, if possible, by product;

- c) disseminate existing guidance identified, or newly developed, guidance on the control and monitoring of stockpiles of shark parts and derivatives pursuant to Decision 18.224, paragraph b) by the Standing Committee; and
- d) collate this information for the consideration of the Animals Committee and the Standing Committee.

18.221 Directed to the Secretariat

The Secretariat shall, subject to external funding, and in collaboration with relevant organizations and experts:

- a) conduct a study to investigate the apparent mismatch between the trade in products of CITES-listed sharks recorded in the CITES Trade Database and what would be expected against the information available on catches of listed species; and
- b) bring the results of the study in paragraph a) to the attention of the Animals Committee or Standing Committee, as appropriate.

18.222 Directed to the Secretariat

The Secretariat, subject to external funding, is requested to collaborate closely with the Food and Agriculture Organization of the United Nations (FAO) to:

- a) verify that information about Parties' shark management measures are correctly reflected in the shark measures database developed by FAO (<http://www.fao.org/ipoa-sharks/database-of-measures/en/>) and, if not, support FAO in correcting the information;
- b) compile clear imagery of wet and dried unprocessed shark fins (particularly, but not exclusively, those from CITES-listed species) along with related species level taxonomic information to facilitate refinement of iSharkFin software developed by FAO;
- c) conduct a study analysing the trade in non-fin shark products of CITES-listed species, including the level of species mixing in trade products and recommendations on how to address any implementation challenges arising from the mixing that may be identified; and
- d) bring the results of activities in paragraphs a) to c) to the attention of the Animals Committee or Standing Committee, as appropriate.

18.223 Directed to the Animals Committee

The Animals Committee, in collaboration with relevant organisations and experts, shall:

- a) continue to develop guidance to support the making of non-detriment findings (NDFs), in particular in data-poor, multi-species, small-scale/artisanal, and non-target (bycatch) situations, for CITES-listed shark species; and
- b) report the outcomes of its work under Decision 18.223, paragraph a) to the 19th meeting of the Conference of the Parties.

18.224 Directed to the Standing Committee

The Standing Committee shall:

- a) develop guidance on the making of legal acquisition findings, and related assessments for introductions from the sea for CITES-listed shark species in the context of the implementation of Resolution Conf. 18.7 on *Legal acquisition findings*;
- b) develop new guidance or identify existing guidance on the control and monitoring of stockpiles of shark parts and derivatives, in particular for specimens caught prior to the inclusion of the species in Appendix II; and

- c) report its findings under Decision 18.224, paragraphs a) and b) to the 19th meeting of the Conference of the Parties.

18.225 *Directed to the Standing Committee and Animals Committee*

The Animals Committee and Standing Committee shall analyse and review the results of any of the activities under Decisions 18.221 and 18.222 brought to their attention by the Secretariat, and with the support of the Secretariat prepare a joint report for the 19th meeting of the Conference of the Parties on the implementation of these Decisions.

OVERVIEW OF THE CITES TRADE DATA ON CITES-LISTED SHARK AND RAY SPECIES

For this overview, aggregate CITES trade records for Elasmobranchii spp. were downloaded for the period 2000-2021 from the CITES Trade Database on 29 December 2021. The database contained 2,444 aggregate trade records involving sharks and rays. Of these, 107 records are of Appendix I, 1,382 are of Appendix II, and 955 are of Appendix III species.

The CITES trade data were filtered in the same manner as for previous overviews in document [AC30 Doc. 20](#), [AC31 Doc. 25](#) and [AC31 Doc. 25 Addendum](#) for ease of comparison. In brief, only Appendix-II species traded for commercial purposes (purpose code T), excluding source code I and O, were used for the analysis. When exporter and importer reported different quantities for the same transaction, the higher quantity was used.

The Secretariat notes that when interpreting the available CITES trade data, the Committee should take into account the increase in the number of species listed on the Appendices over time², as well as lower levels of completeness of the data for the most recent years due to delay in reporting (see Annual reports on the CITES website).

Considering only Appendix-II species, 576 records are reported as being traded for commercial purposes (purpose code T) and the number of records for each source code is shown in Table 1. When confiscated (source code I) and pre-Convention (source code O) specimens are excluded, a total of 440 commercial trade records remain. Both exports and re-export transactions are retained and therefore include some redundancies in the transactions.

Table 1. Number of trade records for each source code for commercially traded (purpose code T) Appendix II species.

Source code	Number of records (App II; commercial trade)
C	6
I	28
O	108
U	9
W	406
X	19

² History of listings in effect of Elasmobranchii spp. on CITES Appendices and corresponding number of species included in the Appendices from 2000-2019. The numbers in brackets indicate the number of species (Arabic numbers) listed by Appendices (Roman numbers) in each year.

- 2000 (III: 1): *Cetorhinus maximus* -> Appendix III (United Kingdom of Great Britain and Northern Ireland)
- 2001 (III: 2): *Carcharodon carcharias* (Appendix III, Australia)
- 2003 (II: 2, III: 1): *Cetorhinus maximus*, *Rhincodon typus* -> Appendix II
- 2005 (II: 3, III: 0): *Carcharodon carcharias* -> Appendix II
- 2007 (I: 5, II: 4, III: 0): *Pristidae spp.* -> Appendix I, except *Pristis microdon* -> Appendix II
- 2012 (I: 5, II: 4, III: 2): *Lamna nasus* -> Appendix III (Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland); *Sphyrna lewini* -> Appendix III (Costa Rica)
- 2013 (I: 6, II: 3, III: 2): *Pristis microdon* -> Appendix I
- 2014 (I: 6, II: 10, III: 0): *Sphyrna lewini*, *S. mokarran*, *S. zygaena*, *Lamna nasus* -> Appendix II; *Carcharhinus longimanus* -> Appendix II; *Manta spp.* -> Appendix II
- 2017 (I: 6, II: 23, III: 24): *Alopias spp.*, *Carcharhinus falciformis*, *Mobula spp.* -> Appendix II; *Potamotrygon spp.* -> Appendix III (Brazil); *Paratrygon aiereba*, *Potamotrygon constellata*, *P. magdalenae*, *P. motoro*, *P. orbigny*, *P. schroederi*, *P. scobina*, *P. yepezi* -> Appendix III (Colombia)
- 2019 (I: 6, II: 41, III: 24): *Isurus oxyrinchus*, *I. paucus*, *Glaucostegus spp.*, *Rhinidae spp.* -> Appendix II

Trade based on number of records

Based on the number of trade transactions, the species in the genus *Sphyrna* (*S. lewini* [75 records]; *S. Zygaena* [37 records]; and *S. mokarran* [29 records]) make up the largest portion of commercial trade in CITES-listed shark species, noting that they were only listed in 2014. *Carcharhinus falciformis* (listed in 2017) is the second highest record trade transactions with 62 records followed by *Isurus oxyrinchus* (listed in 2019) with 58 records. *I. oxyrinchus* had the highest number of records in a single year with 50 records in 2020. The makeup of species in trade is shown in Figure 1.

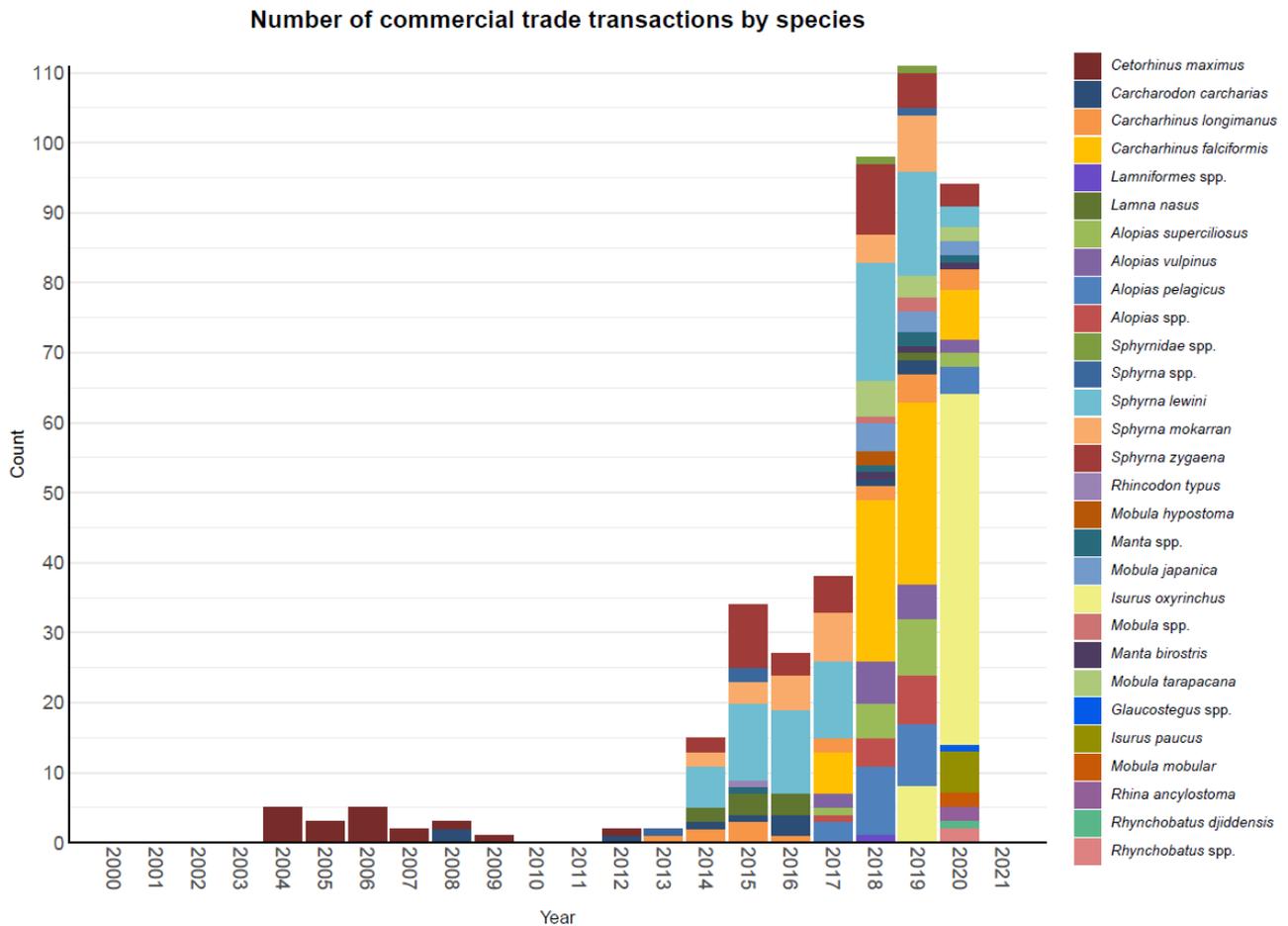


Figure 1. Number of recorded commercial trade transactions (including re-exports) in species of sharks and rays listed in CITES Appendix II by year.

When considering terms in trade, fins are recorded most often with 286 records followed by bodies (42 records), live (25 records), gill plates (24 records); and meat (19 records). The majority of trade records consists of trade in fins, which have increase since 2014, and in bodies, which were recorded 29 times in 2020 (Figure 2).

Number of commercial trade transactions by product

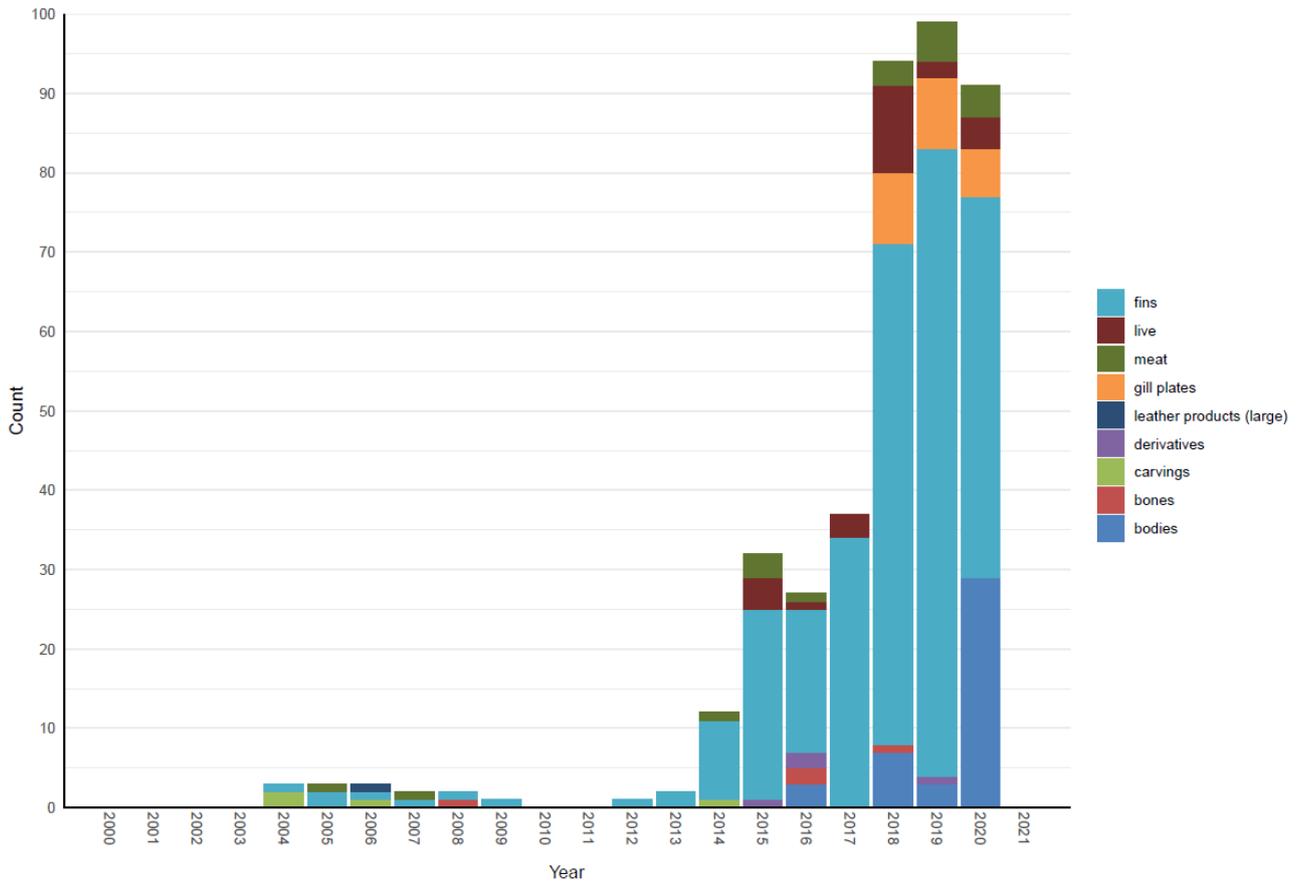


Figure 2. Number of recorded commercial trade transactions (including re-exports) in products of shark and ray species listed in CITES Appendix II.

The topmost traded species for fins are *Sphyrna* spp. (*S. lewini* [51 records]; *S. zygaena* [36 records]; and *S. mokarran* [29 records]) and *C. falciformis* (45 records). The majority of records of bodies were of *I. oxyrinchus* (60%; 25 records) followed by *C. falciformis* (12%; 5 records) and *I. paucus* (10%; 4 records). For live trades, *S. lewini* made up more than half of the trade (56%; 14 records) with other species making but 1-2 records. As expected, all gill plate records were of *Manta* and *Mobula* species. The most traded species for meat was *I. oxyrinchus* (37%; 7 records) and *Lamna nasus* (26%; 5 records). The number of commercial trade transactions over time by species and product is shown in Figure 3.

Number of commercial trade transactions by species and product



Figure 3. Number of recorded commercial trade transactions (including re-exports) in species of sharks and rays listed in CITES Appendix II by species. Bars are coloured by the product in trade and the vertical red line shows the year of listing in Appendix II.

Trade based on records reported in weight

The greatest volume of trade recorded in kilograms was in specimens of *I. oxyrinchus*, which was listed in Appendix II in 2019 (Figure 4). In 2019, a total of 226,350 kg of trade was recorded, followed by 4,514,669 kg in 2020. The second and third largest volume of trade recorded in kilogram was for *Carcharhinus falciformis* (1,123,490 kg) between 2017-2020 and *Alopias pelagicus* (360,270 kg) between 2017-2020 (Figure 4).

Volume of trade by species, where reported in kg

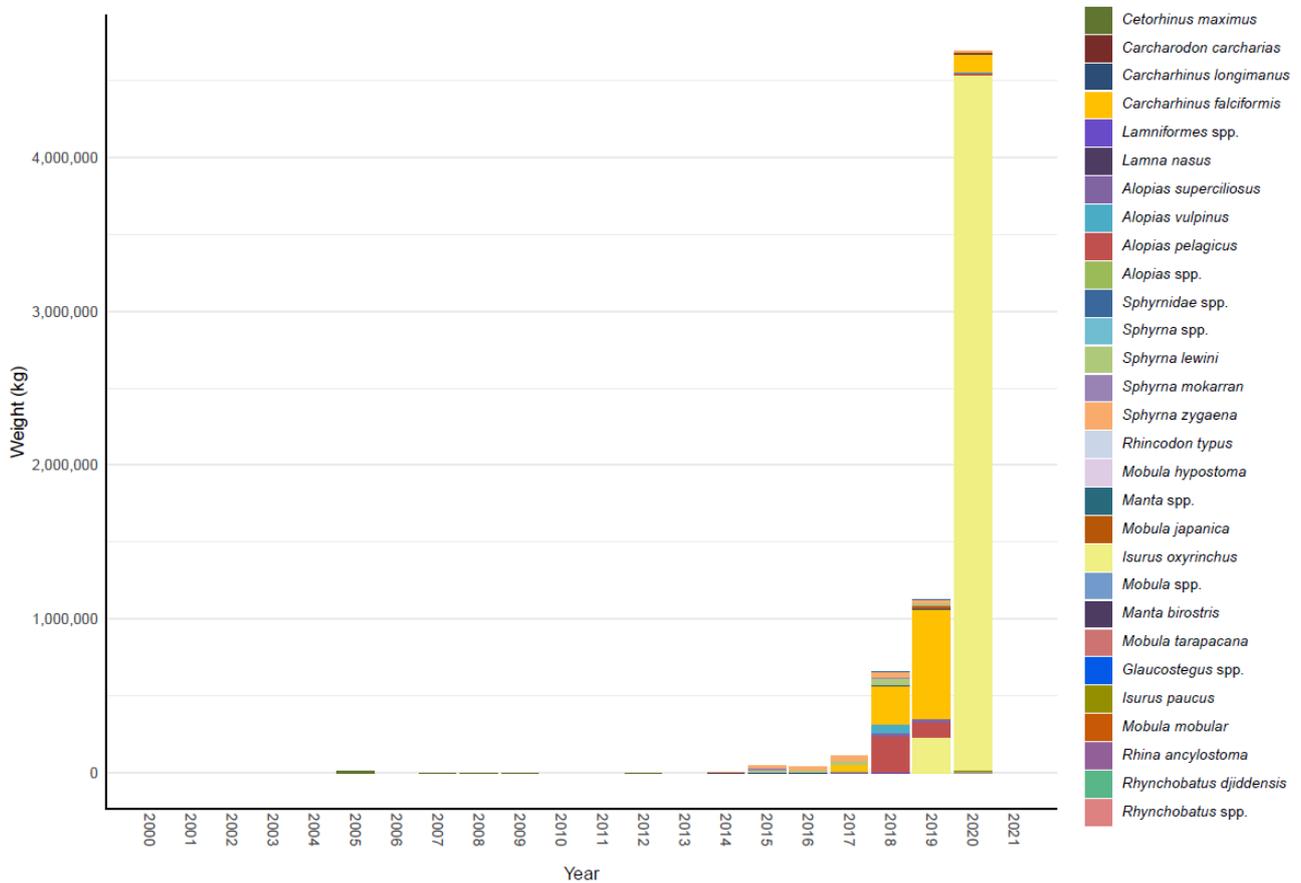


Figure 4. Volume of commercial trade transactions that was recorded in kg (including re-exports) in species of sharks and rays listed in CITES Appendix II.

The total volume of trade reported in kilograms increased from over 1 million in 2019 to over 4.5 million in 2020. The majority of this trade is in *I. oxyrinchus* and is made up of trade in bodies, fins and meat. Trade in bodies have increased from 176,067 kg in 2018, 460,415 kg in 2019 and 3,674,119 kg in 2020 (figure 5). Trade in fins have stayed high at 456,182 kg in 2018, 380,910 kg in 2019 and 562,057 kg in 2020.

Volume of trade by product, where reported in kg

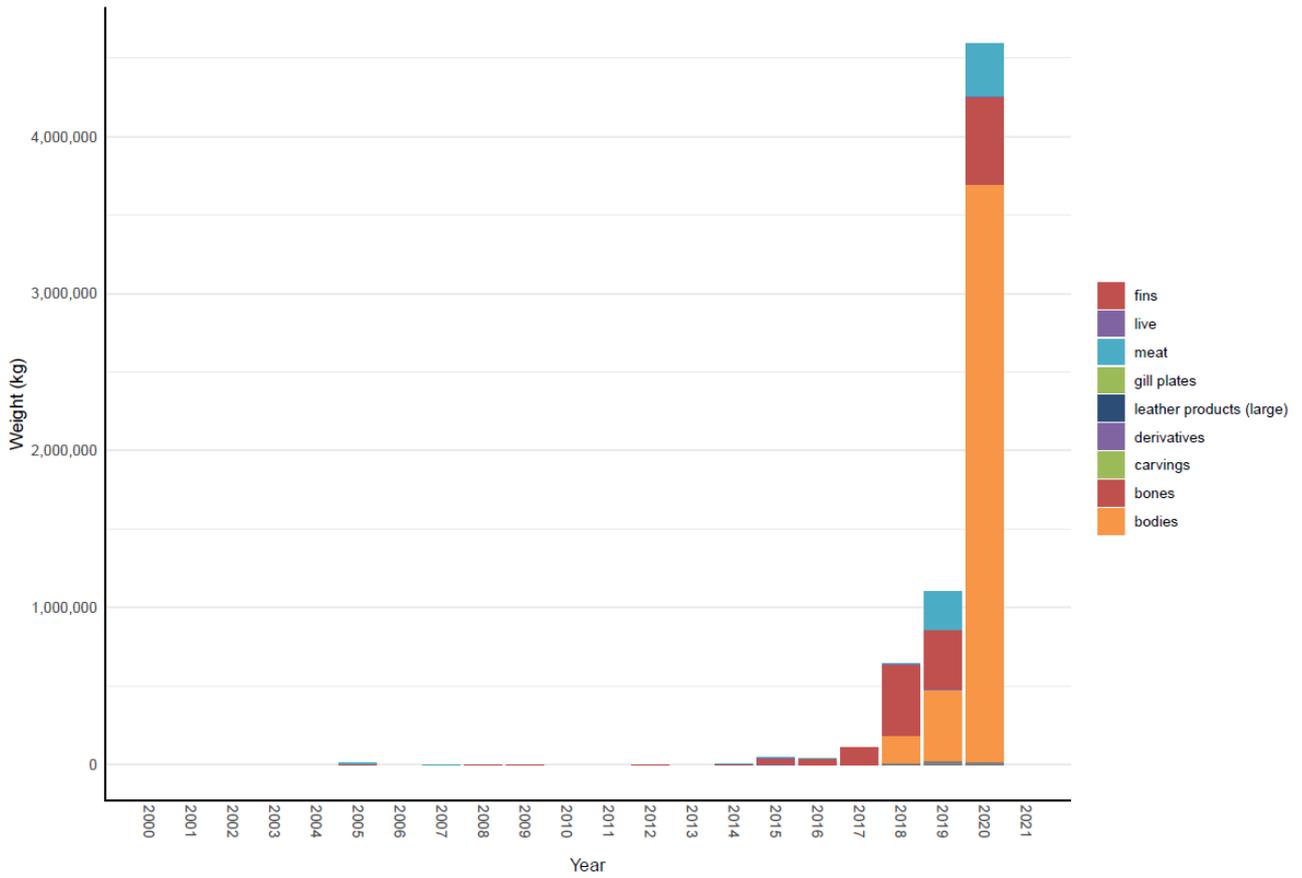


Figure 5. Volume of commercial trade transactions that was recorded in kg (including re-exports) in products of shark and ray species listed in CITES Appendix II.

The volume of trade reported in weight by species is shown in Figure 6, which shows that trade in bodies of *I. oxyrinchus* is the largest recorded trade in weight.

Volume of trade by species, where reported in kg

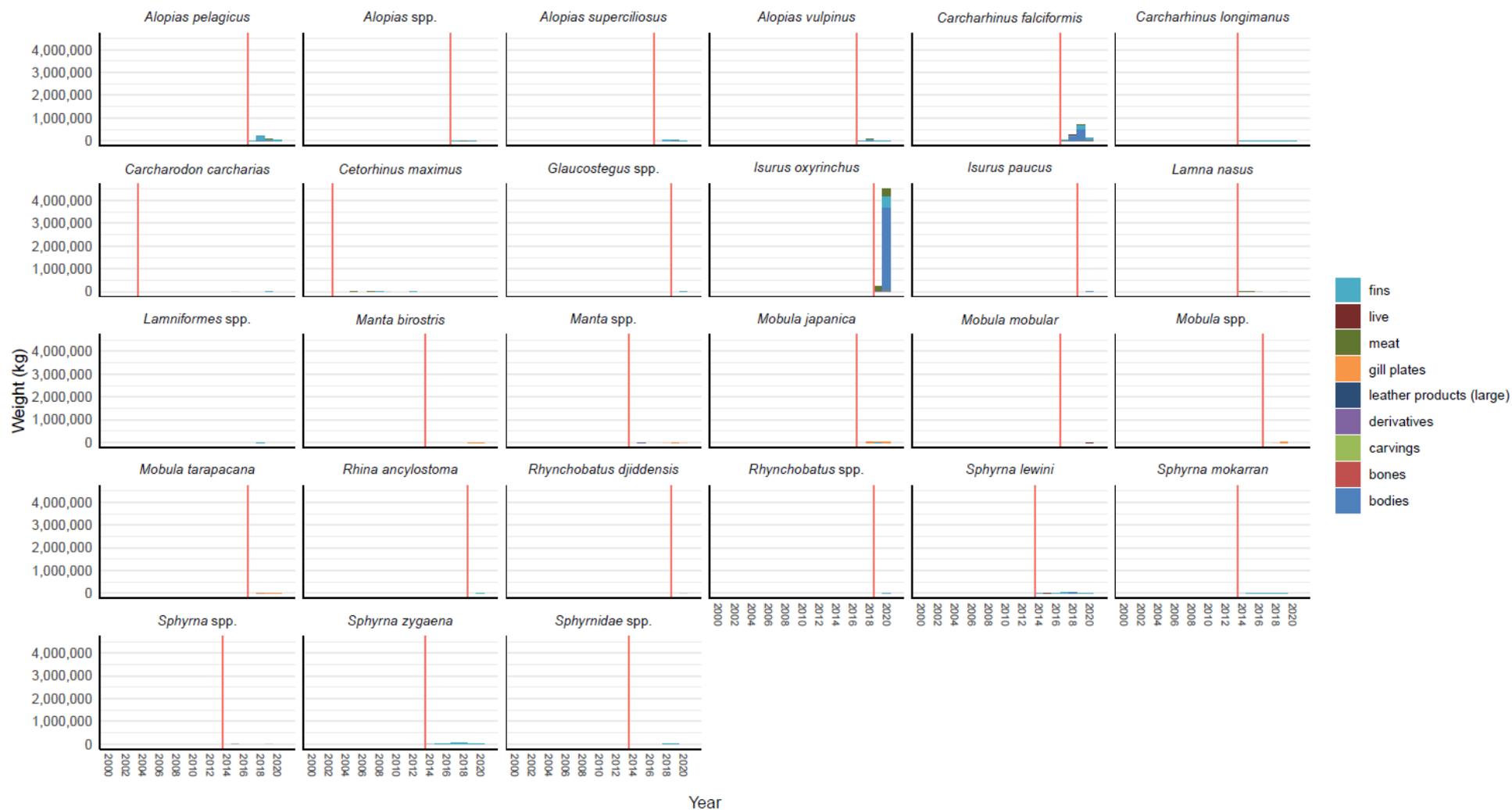


Figure 6. Volume of commercial trade transactions that was recorded in kg (including re-exports) in species of sharks and rays listed in CITES Appendix II by species. Bars are coloured by the product in trade and the vertical red line shows the year of listing in Appendix II.

Introduction from the sea

Trade records for introduction from the sea between the years 2000 to 2021 were examined to update the findings in the study conducted by TRAFFIC. The study summarized in Annex 3 used CITES trade data up to 2019 and this section provides any new records of IFS that have been reported since 2019. The database was filtered for records with source code X to indicate 'Specimens taken in the marine environment not under the jurisdiction of any State' or export/origin from HS to indicate 'high seas' to retain as many potential IFS records as possible.

This resulted 44 records and, selecting for commercial trade and excluding source code O transactions, 24 records were retained. Of the 24, 11 records presumed to be two-state transactions by the exporter/importer information were excluded to retain IFS records.

The remaining IFS records were reported by Spain (3 records), the Republic of Korea (4 records) and Portugal (6 records) as importers. These records were from 2018 (4 records) and 2020 (9 records) and consisted only of bodies records. Eight records were reported in kg and the species composition and reported weights are shown in Table 2. Two records by Portugal, 4,545 and 21, were reported as number of specimens and three records, 20,373 by Spain and 13,765 and 83 by Portugal were reported with no units.

Table 2. Number of records and total weight of introduction from the sea records in the CITES Trade Database between 2000 and 2020.

Taxon	Number of records reported in kg	Total weight (kg)
<i>Alopias pelagicus</i>	1 (KR)	870
<i>Alopias vulpinus</i>	1 (KR)	685
<i>Carcharhinus falciformis</i>	1 (KR)	2261
<i>Isurus oxyrinchus</i>	2 (ES, PT)	2,445,720
<i>Isurus paucus</i>	2 (ES, PT)	8593
<i>Sphyrna lewini</i>	1 (KR)	14,301

MAIN FINDINGS OF *MISSING SHARKS: A COUNTRY REVIEW OF
CATCH, TRADE AND MANAGEMENT RECOMMENDATIONS
FOR CITES-LISTED SHARK SPECIES.*

Nicola Okes and Glenn Sant - TRAFFIC³

Since 2013, the number of shark species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), whose mandate it is to regulate their international trade, has grown. CITES Parties have raised concerns that trade data reported by Parties does not match expert expectations and that international trade in CITES-listed sharks may be going undetected and unreported.

CITES CoP18 therefore (in Decision 18.211) requested an investigation of this presumed mismatch. This review provides a qualitative review of country shark catches (FAO landings data), and trade and management measures, to understand the disconnect between known catches of CITES-listed shark species and reported international trade. Evidence was collated per country comparing historical records of catches and trade in all shark species listed on CITES Appendix II, the international trade reported to CITES, and any evidence of changes in management measures adopted post-CITES listing. Where information was sufficient to conclude that a country had historical catches, but no trade reported under CITES or a change in management measures to account for a lack of trade records, these were highlighted. Where historical or current (up to and just prior to listings) catches were or are likely destined for domestic consumption, these countries were also highlighted to provide a broader understanding of reasons for potential mismatches in catch and trade. Because CITES' definition of international trade includes "Introduction From the Sea"⁴ (IFS), countries where there was evidence of fisheries associated with targeted or incidental catch of sharks on the high seas but no corresponding records of IFS and no evidence of a change in management measures, these instances were also highlighted. Some countries catching more than one species of CITES-listed shark could fall into more than one category depending on the species under review. Based on available information, countries were grouped into the following categories:

1. Evidence of catch and trade prior to listing, no CITES trade data, but no evidence of changed management arrangements or negative NDF.
2. Evidence of fisheries associated with targeted or incidental catch of sharks on the high seas, no CITES related IFS documents and no evidence of management arrangements.

Note that some of the countries identified may require more information to confirm their listing as one of these categories and will be included within the final published review.

We acknowledge that there are several limitations in the data used to review catch and trade for each country. The review is preliminary and based on publicly available information. It highlights areas where more information is needed to assess potential non-compliance or lack of infrastructure to ensure appropriate implementation of CITES requirements. Where there is likely to be poor reporting of catch and trade by artisanal fisheries, we note that this may be an area for more detailed research. We draw attention to several concerns relating to a lack of catch and trade reporting, ambiguity around compliance with Regional Fisheries Management Organizations (RFMO) retention bans, and the general scarcity of IFS-related records available in the CITES database (a concern also highlighted by the CITES Secretariat at CoP18).

The study focused on providing a review of historical catch and trade information at a country level for those shark species listed at CITES CoP16 and CoP17, namely:

- Porbeagle shark *Lamna nasus*,
- Oceanic whitetip shark *Carcharinus longimanus*,
- Scalloped hammerhead *Sphyrna lewini*,

³ This is a summary of findings from Okes, N. and Sant, G. (in press). *Missing Sharks: A country review of catch, trade and management recommendations for CITES-listed shark species*. TRAFFIC. The full published review will be provided as an information document to CITES SC 74. The authors thank the Shark Conservation Fund for contributing funds that made this review possible.

⁴ IFS is defined in Article 1 of the Convention as transportation into a State of specimens of any species which were taken in the marine environment not under the jurisdiction of any State ([Conf. 14.6 \(Rev. CoP16\)](#)).

- Smooth hammerhead *Sphyrna zygaena*,
- Great hammerhead shark *Sphyrna mokarran*,
- *Manta* and *Mobula*⁵ spp.
- Thresher sharks *Alopias* spp. and
- Silky shark *Carcharhinus falciformis*.

Of the 246 countries and territories listed in the CITES trade database Users Guide (of which 183 are a Party to CITES), a total of 74 were identified as having either reported catches of one or more of the relevant CITES-listed species or having fisheries associated with targeted or incidental catch of CITES-listed sharks with evidence provided in the literature (including CoP proposals and country annual RFMO reports). Of these, 51 had no records of relevant CITES-listed shark and ray species in the CITES trade database between 2001 - 2019 for commercial purposes from any source (excluding confiscations and pre-convention specimens), whether as an exporter or origin country (CITES trade database, accessed June 2020). The majority of catching countries were members or cooperating non-members of at least one RFMO that had shark related conservation and management measures (67), but a few were not (7).

Limitations of the data

There are several limitations in the data used to review catch and trade by country, and it is important to note that this review is preliminary based on the information available. The report highlights areas where more information is needed to clarify country trade and regulations. Some of the main limitations of the data are outlined here.

This analysis looked at evidence of the presence of historical catches and trade and not at mismatches in the volumes of catch and trade. Uncertainties around the consistency of species-specific data reporting of CITES listed species through standardized channels undermines the potential approach of quantitatively comparing catch and trade. Catch data is reported to FAO and while some countries report all shark catches at the species level, others do not, potentially resulting in catches of CITES-listed species being captured in FAO production statistics under generic shark and ray categories.. Catch or landings data is potentially not available at all in the case of artisanal fisheries, or countries that lack the required monitoring and reporting infrastructure. There may also be instances where there are discrepancies between trade records noted on a national level and those recorded in the CITES trade database. This makes it challenging to have a consistent record of catch and trade for all shark catching countries.

During the review, each country's shark catches were examined in detail as far as data was publicly available through FAO data, followed by individual country's RFMO annual reports and followed by anecdotal evidence in the literature. Although information on general shark catch and trade was noted, emphasis was placed on evidence of catches of CITES-listed shark species. Where there was evidence of countries fishing for shark on the high seas, RFMO annual reports were reviewed to determine whether these included CITES-listed species.

It is important to note that the FAO Database contains the volume of fish catches as capture production which is meant to be live weight by country or territory of capture, by species or a higher taxonomic level. It should account for all retained catches as a live weight (Garibaldi 2012). It does not account for catch that is discarded at sea, and will therefore usually be an underestimate of the total catch and true mortality of sharks. There is also a general lack of clarity around what actual data is provided to FAO by countries, any conversion rates used by countries to convert processed products to live weight and in fact whether some data being provided as live weight is processed weight (landed processed weight). Furthermore, often for some countries, catches of prohibited species will be listed and detailed in FAO data, but on further investigation into the relevant RFMO country reports, these will be shown to have been discarded (dead or alive) at sea. Some RFMOs, such as CCSBT, have data recording requirements of catch and discards for sharks. Also many countries and fisheries bodies use observers to verify catch and discards. Given it appears some countries are reporting to FAO not just retained catch but retained plus discarded catch as "Capture Production", it makes it difficult to interpret catch data for the purposes of considering whether countries are abiding by any retention bans for species or have been or continue to catch CITES listed species. . In addition, there is a substantial problem for many countries where there is simply no recording of catch, landing or trade in sharks (including CITES listed species) and so will be completely missing from FAO reported catch data.

⁵ Following genetic studies in 2018, mantas have been taxonomically reclassified into the genus *Mobula*. *Manta* and *Devil* rays are searched for separately in the CITES trade database, using the genus name *Manta* for *Manta* rays and *Mobula* for *Devil* rays.

The timeline of CITES implementation may also be a limiting factor. Firstly, for sharks where the CITES listing came into effect in 2017 (4 October 2017), there may not have been sufficient time to assess whether trade is being recorded in the CITES database considering the timeline of submissions of annual reports to CITES, and some countries taking additional time to implement the listings, e.g. where regulations or legislation require updating. Secondly, while annual trade reports are due on 31 October for the preceding year, Parties can fail to submit annual reports for three consecutive years without risking compliance measures ([Resolution Conf.11.17 \(Rev. CoP18\)](#)).

Discussion and Conclusion

The study demonstrates the lack of transparency that surrounds understanding the level at which CITES Parties⁶ are meeting their obligations for listed shark and ray species when they have a demonstrated or inferred history of catching the species prior to the listings coming into force. It is reasonable to expect that it should be publicly available information to understand where a Party's government or fishing community meet its obligations or have changed fishing behaviour or trade once a species is listed within the appendices of CITES. This is so that an absence of reporting of trade does not lead to CITES Parties and Committees raising concerns, as has prompted this study to be conducted, but can feel confident and see clearly the changes that have occurred since a listing has occurred that would lead to a reasonable assumption that that the species are not being traded internationally without adequate adherence to CITES requirements.

⁶ Note that CITES also includes requirements for Non-CITES Parties if trading with Parties in listed species.