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

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Twenty-seventh meeting of the Animals Committee
Veracruz (Mexico), 28 April – 3 May 2014

Interpretation and implementation of the Convention

Species trade and conservation

Conservation and management of sharks

STATE OF THE GLOBAL MARKET FOR SHARK COMMODITIES
SUMMARY OF THE DRAFT FAO TECHNICAL PAPER

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Summary of the draft FAO technical paper:

State of the Global Market for Shark Commodities

By

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For the purpose of presentation at the twenty-seventh meeting of the CITES Animals Committee

Summary of findings and recommendations

The findings and recommendations of the report are summarized as follows:

Findings:

- Chondrichthyan capture production and the trade in shark fins both peaked in 2003-2004 and have subsequently levelled out at quantities 17-18% lower (2008-2011).
- Trade in shark meat shows a different pattern of steady growth at 4.5% per year (2000-2011), but it is not clear whether this was due to more species-specific coding or a real increase in the quantities traded.
- The shark fin trade appears limited by capture production whereas the shark meat trade is likely to continue to expand.
- Trade in shark fins through Hong Kong, which has served as an indicator for many years, rose by 10% in 2011 but fell by 22% in 2012.
- A number of factors including new Mainland China regulations on government officials' expenditures, consumer backlash against artificial shark fin products, increased regulation of finning, other trade bans and curbs, and a growing conservation awareness may have contributed to the downturn.
- At the same time, new figures suggest the shark fin markets in Thailand, Malaysia and Japan, though focused on small, low-value fins, may be among the world's largest.
- Hong Kong's co-mingling of frozen shark fins and meat since 2012 complicates year-on-year tracking of standardized fin quantities as an indicator of global trade trends.
- Other major trading countries have since 2012 combined dry and wet fins into a single category severely compromising standardized trade tracking.
- As of 2012, several countries took the useful step of reporting trade in ray and skate meat separately from shark meat.
- New markets for shark meat such as Brazil, which has increased imports eight-fold since 2000, may be driving the observed global rise in the shark meat trade.
- Stability in trade statistics does not necessarily indicate stability in the resource: shifts in species composition may be masked as less resilient species are replaced by more prolific ones.
- Domestic consumption of chondrichthyans is very difficult to estimate given the uncertainties in existing data.
- Trade in skate and ray meat is poorly understood, but Korea is the world's second-largest importer of chondrichthyan meat and 85% of those imports are skates and rays.
- The trade in ray fins and rostra, frequently from highly threatened species, is also poorly understood and often overlooked.
- Trade in shark cartilage, shark livers and liver oil, and manta or mobula gill rakers was observed in wide variety of countries for both local and export use but could not be quantified.

Recommendations:

- Separate commodity codes should be implemented for unprocessed dried, processed dried, unprocessed wet and processed wet shark fins as a matter of urgency in order to continue meaningful trade monitoring.

- National authorities should consider amending their national commodity coding systems to include these categories as a gesture of support for shark conservation and management while advocating for a WCO directive.

- National authorities should ensure that there are appropriate, taxonomically-specific data recording systems for both fisheries and trade concerning species pertinent to both CITES and fisheries management authorities.

- National authorities should ensure that such taxonomically-specific data are shared between relevant national systems, and use National Plans of Action-Sharks to consider further opportunities for trade monitoring to contribute to improved management.

- Intergovernmental organizations such as CITES, CMS and regional fisheries management organizations should consider establishing formal liaison and data-sharing protocols on species of shared interest.

- National authorities should maintain integrated trade and fishery datasets for chondrichthyan products to allow prompt and efficient participation in enforcement actions against IUU fishing.

- Fishers, traders, distributors and retailers interested in offering certified-sustainable chondrichthyan products should actively participate in constructing trade monitoring systems which support traceability and effective management.

Note: for readability purposes, the term 'shark' will be used to refer to all chondrichthyan fishes throughout this report, unless specifically stated otherwise. This includes all elasmobranchii (sharks, skates and rays) and holocephali (chimaeras or ghost sharks).

Introduction (statement)

The recent growth of global trade in shark meat has pushed the total declared value of traded shark commodities (including shark fins) to USD 818.4 million in 2011 - a figure which, according to the findings of this report, is likely to be substantially below the true value. Despite the size of the market for shark-derived products, information regarding its key characteristics is difficult to obtain. Supply chains are not well understood, and in many cases the roles that individual countries play in the production, trading, processing and consumption of shark products have not been described in any detail. At the consumer end, the extent of consumption of shark-derived products that are not traded (i.e. that are domestically consumed) is another area where research is required. Reliable price data, particularly for shark fins, is extremely difficult to come by. Specific features of the market such as the names under which shark commodities are marketed, where they are sold and the demographic makeup of the consumer base are largely unknown. Also, and perhaps most importantly, current and future trends in demand and supply have not been analysed in any detail.

The bulk of this report on the State of the Global Market for Shark Commodities consists of an attempt to address some, but not all, of these gaps in our knowledge of the global market for shark products. For the purposes of the report, the world shark trade is most efficiently described in terms of the two most traded commodities, shark fins and shark meat, and the report is divided into two parts focusing separately on meat and fins. Each individual country section includes a summary of the role and importance of the relevant country in the global market and its major trading partners, together with an analysis of the apparent trends reflected in trade statistics. This is complemented by an analysis of domestic trade and markets within the relevant country, which addresses as many of the following aspects as the available data allows: characteristics, extent of consumption, current trends, features of supply chains, product forms sold, consumer demographics and demand factors. However, as no in-depth field studies were conducted to gather data specifically for this report, its focus is necessarily on the existing trade records of the world's major traders of shark products and, in the case of the domestic trade and market sections, on primarily qualitative information from a variety of sources, compiled with the assistance of the IUCN Shark Specialist Group.

It should be recognized from the outset that assessing the global trade in shark fish products through an examination of trade records is a complex and challenging task. The limitations in terms of the information available mean that a trade-based analysis cannot provide a definitive assessment of the degree to which sharks, skates, rays and chimaeras are utilized. A trade analysis can however provide critical complementary information for population assessments when catch information is limited, as is often the case for these species. Trade analysis can also provide important insights into society's demand for these products and thus help to predict market forces acting on these species in the future. This kind of information is important not only for those directly involved in the production, processing, trading, sale or consumption of shark commodities – many of these activities take place in developing countries – but also for those who are interested in the current and future state of shark populations worldwide.

Ultimately we aim to gain an understanding of the status of these populations through biology, oceanography, fishing operations and trade, with each aspect contributing some of the pieces necessary to construct a management system to ensure sustainable use.

Specific problems with trade records are outlined in more detail below, but in general these problems are considered to be more widespread and pertinent in the case of shark fins. The issues in question include missing data, miscoded or aggregated products, and the difficulty of identifying what proportion of traded quantities, or changes in these quantities over time, is the result of double-counting or modification by processing. This state of affairs itself represents an area where more analysis and research is needed in order to assess the appropriateness and effectiveness of current trade recording mechanisms, both for the purpose of describing and analyzing the world market for shark-derived products and also for the purpose of facilitating the monitoring of trade in CITES-listed species. As such, this report includes, in addition to its market analysis component, a country-by-country evaluation of the trade recording systems for shark fins currently in place in major shark markets and producing countries. Where it is judged necessary, this is combined with an assessment of the likely reliability of the associated data.

Note on other products and data limitations

While other products such as shark liver oil and shark skin are also traded, these quantities are minimal in comparison with meat and fins, and the widespread tendency to record trade in these products under aggregated seafood commodity categories means the only available data are extremely limited. A lack of qualitative information and data also meant that issues relating to domestic utilization of these products, and trade and utilization of other products, in particular meat from skates and rays, were only partially addressed in this report (see Appendix III). It should be noted that this is potentially more than just a minor omission, as skates and rays are suspected to constitute a sizeable proportion of the shark meat trade, while the presence of rays in the fin trade is often overlooked. In summarizing the information available from existing sources, the remaining data gaps for these products are highlighted in the report.

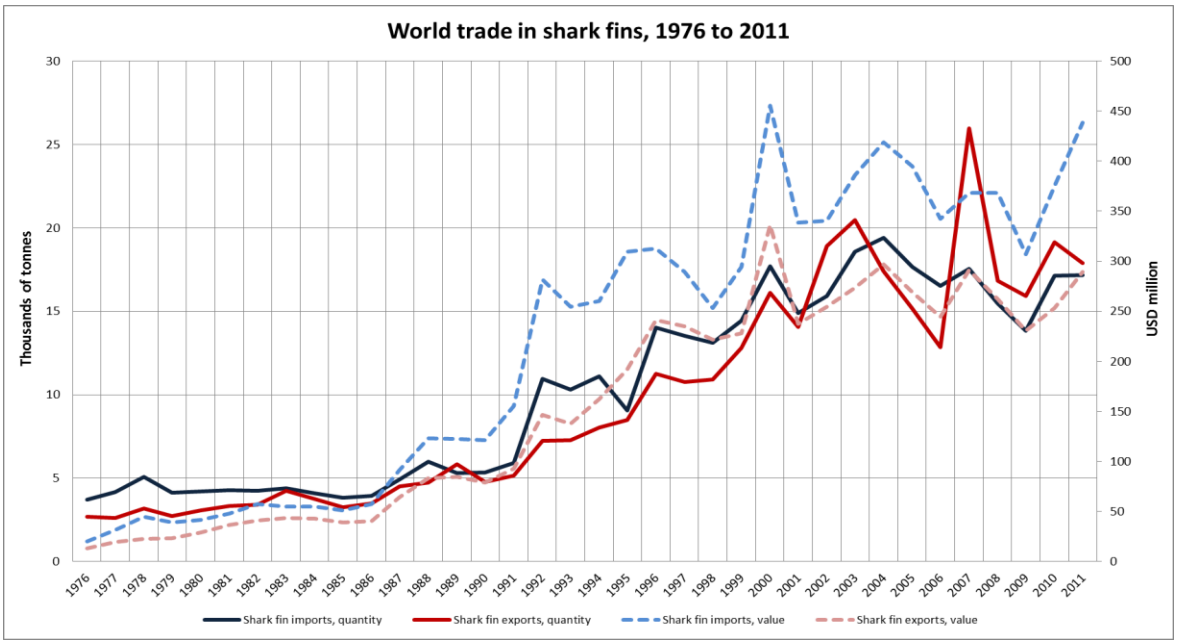
Description of global market and trends

Overview

The markets for meat and fins are largely distinct from one another; the world's major shark producers generally export both commodity types, but there is much less overlap between importers. According to FAO statistics, the top five shark producing countries from 2000 to 2011, in descending order, were Indonesia, India, Spain, Taiwan PC and Argentina. The first four of these countries export substantial quantities of both shark meat and shark fins, while Argentina is a major producer and exporter of skate and ray meat. The vast majority of shark fins are destined for consumption in a relatively small selection of countries in East and Southeast Asia such as China, Hong Kong Special Administrative Region (SAR), Taiwan Province of China (PC), Singapore, Malaysia and Viet Nam, whereas the world's largest consumers of shark meat are found in South America and Europe, with the most important importers being Italy, Brazil, Uruguay and Spain, and the Republic of Korea for skate and ray meat. Reference to 'exporters', mainly in the case of shark fins but also to lesser extent in the case of shark meat, will include both primary producers such as Indonesia and Spain, whose vessels actually catch the sharks, and re-exporters. This

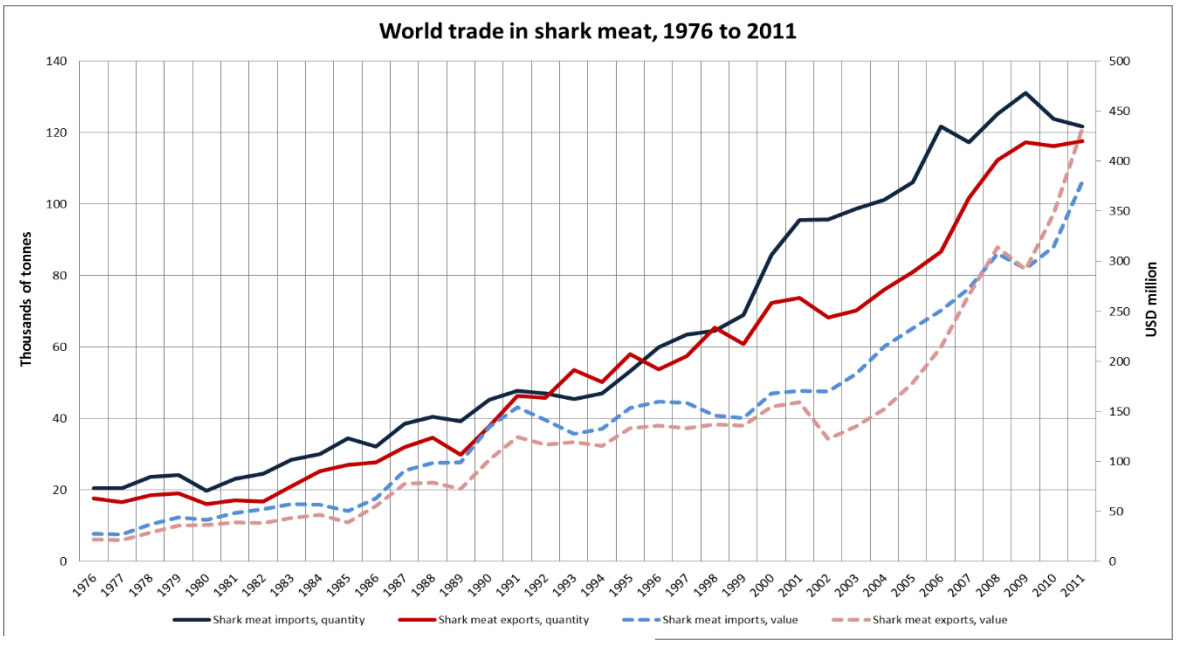
latter role may be further divided into pure traders, such as the United Arab Emirates, and processing traders like China or Uruguay. These classifications are helpful but not perfect, however, and most countries are involved, if only to a minor extent, in all three activities.

Figure 1. World trade in shark fins from 1976 to 2011



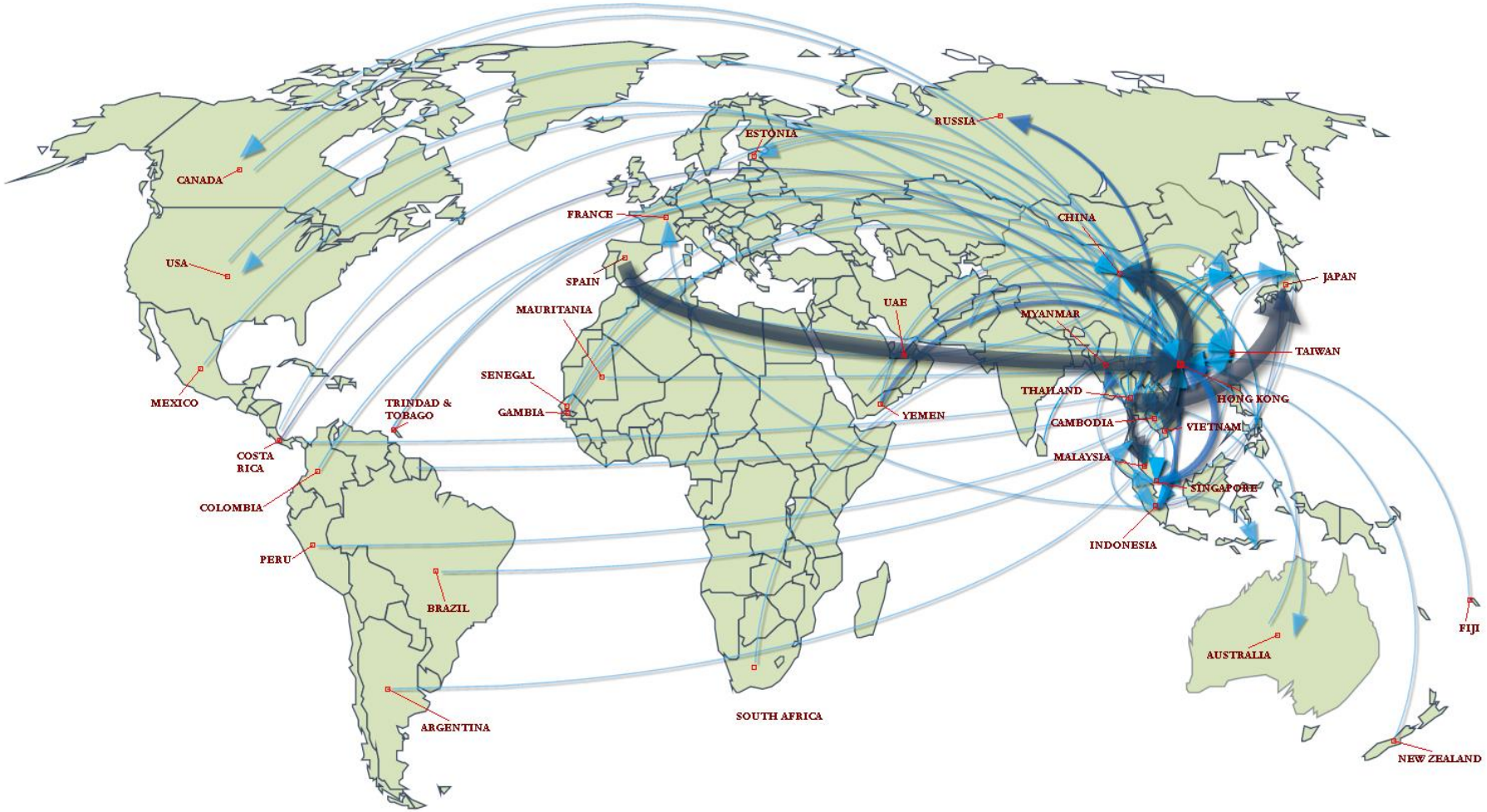
Source: FAO

Figure 2. World trade in shark meat from 1976 to 2011



Source: FAO

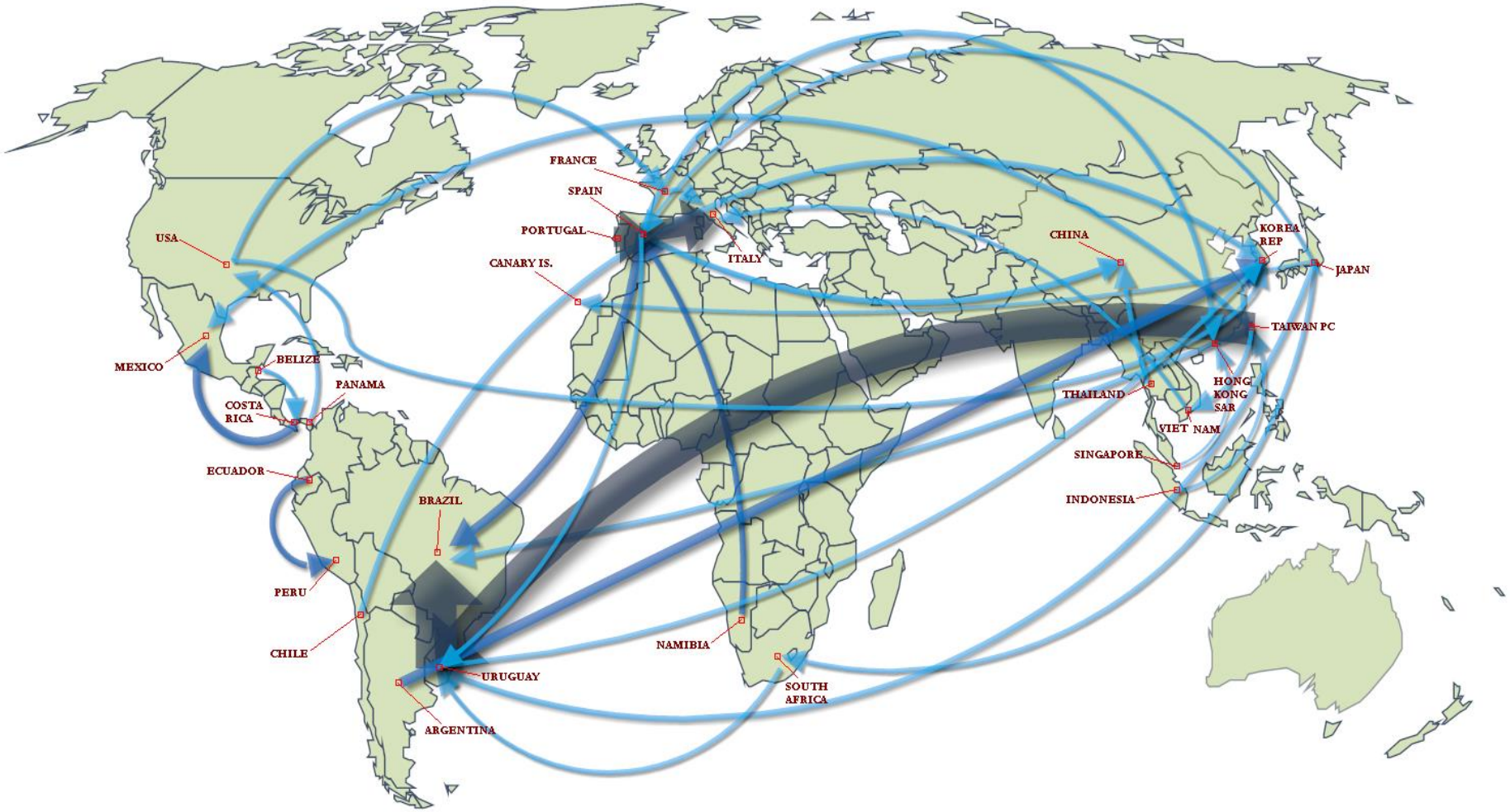
Figure 3. World trade in shark fins, trade flow map, average annual quantity, 2008 to 2011 inclusive (thicker/darker lines indicate higher volume, excludes flows < 50 tonnes annually)



Source: National statistics/customs records of

Canada, China, Hong Kong SAR, India, Indonesia, Thailand, Malaysia, Singapore, Taiwan PC and the USA

Figure 4. World trade in shark meat, trade flow map, average annual quantity, 2008 to 2011 inclusive (thicker/darker lines indicate higher volume, excludes flows < 1000 tonnes annually)



Source: National statistics/customs records of

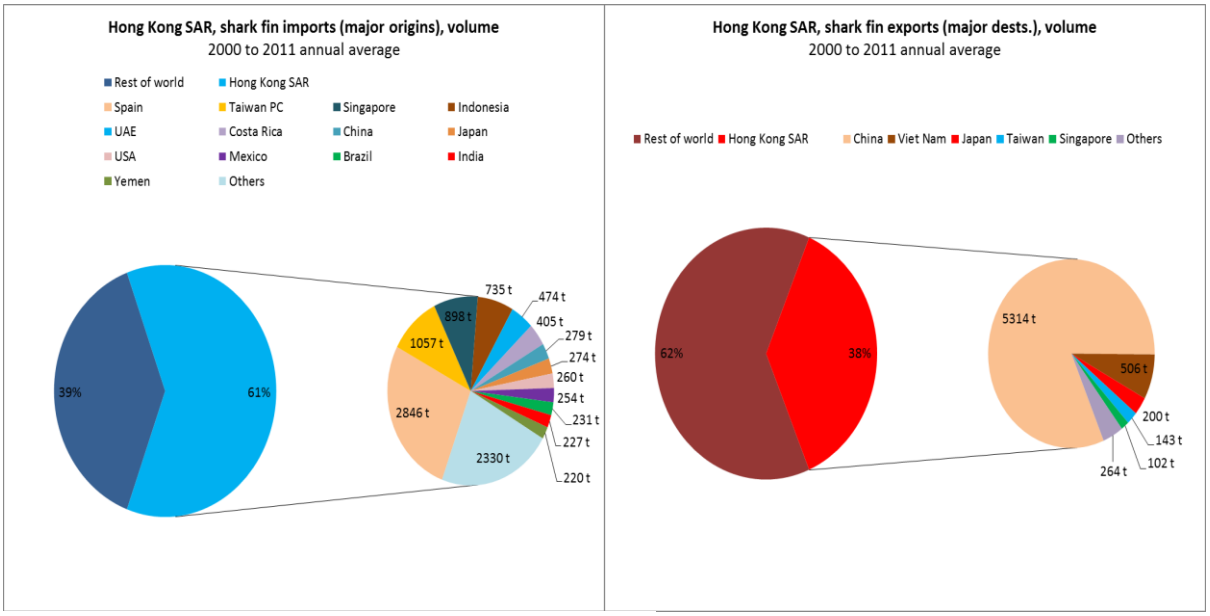
Taiwan PC, Spain, Uruguay, Argentina, Ecuador, USA, Japan, Costa Rica, Republic of Korea, Italy, Brazil, Mexico, China

Shark fins

As well as being one of the largest consumer markets for shark fins, Hong Kong SAR has historically been the most important trader of shark fins in the world, accounting for the majority of recorded import volume and value since data first became available, and also establishing itself as the world's largest exporter from the late 80s onwards. It posts only minimal domestic production volumes. Hong Kong SAR is also notable for being the only customs territory that has consistently distinguished between four different types of shark fin in its trade database, maintaining separate commodity codes for frozen, dried, processed and unprocessed shark fins.

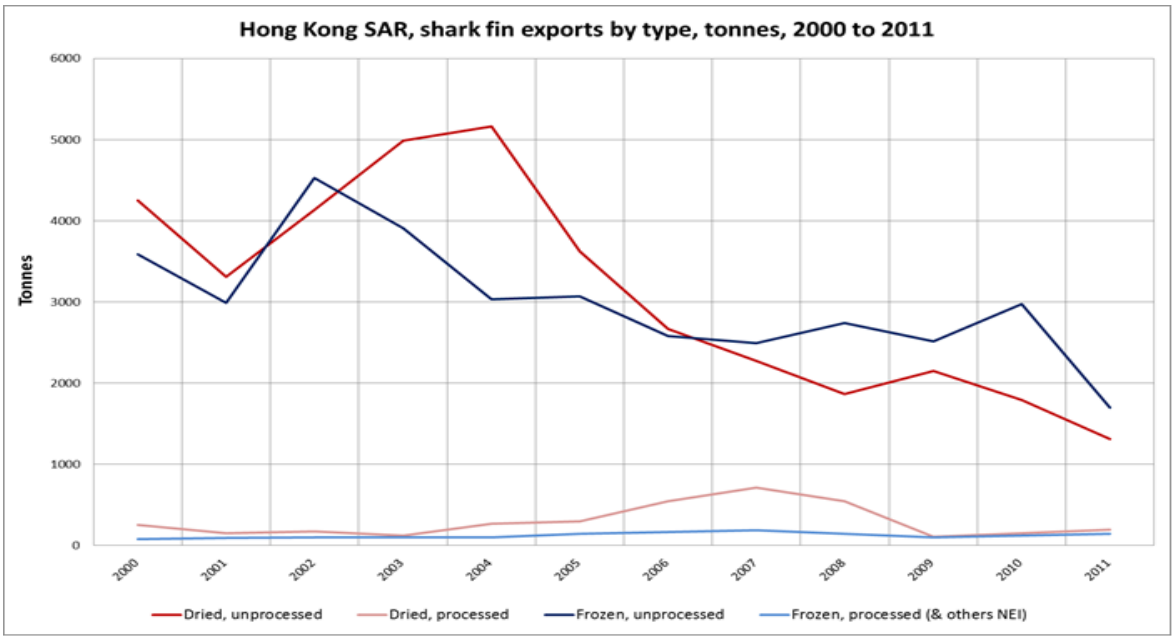
Traditionally, Hong Kong SAR has imported large quantities of shark fins from producing countries in unprocessed forms and then exported them to regional markets, primarily China, where they are generally processed before consumption. Indications are that the trade in - mainly unprocessed - shark fins along the major Hong Kong SAR to China route, as well as trade of – mainly processed - fins in the opposite direction, has been following a declining trend since the early 2000s. However, it is unknown to what extent this trend reflects decreasing consumer demand in China rather than diversification of its suppliers or increased domestic production by the Chinese fleet. In addition, it should be noted that some of the information value of the Hong Kong SAR shark fin trade statistics has been lost as a result of changes in coding practices implemented in 2012 which re-classified wet shark fins as frozen shark meat.

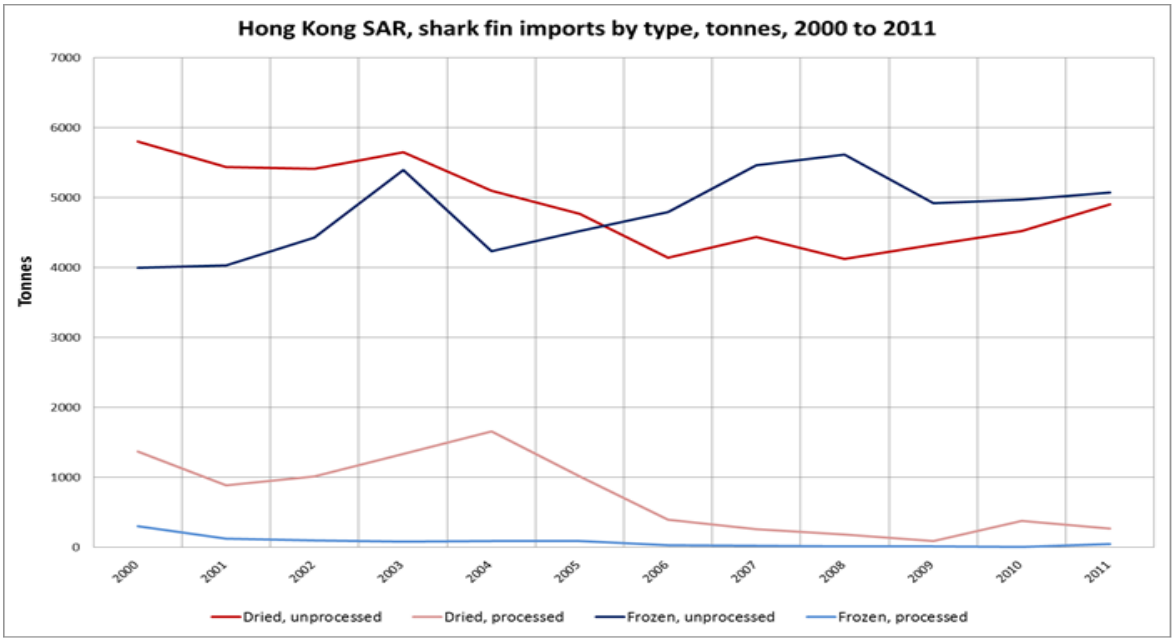
Figure 5. Major shark fin trading partners of Hong Kong SAR from 2000 to 2011



Source: Hong Kong Hong Kong Census & Statistics Department

Figure 6. Trends in the shark fin trade through Hong Kong SAR from 2000 to 2011





Source: Hong Kong Hong Kong Census & Statistics Department

Singapore's role in the world market for shark fins is similar to Hong Kong SAR as a regional trading centre with minimal domestic production. It is also believed to be involved in processing to some extent. China and Taiwan PC produce significant volumes of shark domestically in addition to consuming, importing, processing and trading fins (as exports and re-exports).

The world's major shark fin exporting producers are Spain, Indonesia, Taiwan PC and Japan, although issues with data quality and reliability that characterize the shark fin trade and shark capture statistics make it difficult to accurately quantify the relative importance of each individual producing country. In

particular, it is difficult to describe in any detail the role of countries such as Costa Rica, who appear to not only produce shark fins domestically but also act as trading hubs for neighbouring countries and other foreign fleets fishing in the surrounding waters.

United Arab Emirates is becoming increasingly important as a supplier of raw material to Hong Kong SAR, consisting almost entirely of unprocessed dried fins, although a comparison of export volumes with reported capture volumes strongly suggests that underreporting of captures and/or imports from other regional producers is occurring.

In counterpoint to what appear to be generally declining trends in shark fin trade volumes in Hong Kong SAR and China, this report has highlighted a number of new developments based on recent trade figures and changes in coding practices. Most strikingly, Thailand has surpassed Hong Kong SAR as the world's largest exporter, and estimates suggest that its main trading partners Japan and Malaysia may be among the world's top four importers of shark fins – particularly small, low-value fins – with no indications of decline. Since all three countries are among the top 15 shark capture production countries globally (see Appendix II), the full scope of their shark fin markets may be even larger than the trade-based estimates suggest.

Shark meat

Taking the shark fin and shark meat aggregate trends together, global trends suggest that shark fin supplies are limited by the existing levels of shark capture production, but shark meat is under-utilized by international markets and the import-export trade may thus continue to expand. The latest official figure of 121 641 tonnes (USD 379.8 million) of shark (sharks, skates, rays and chimaera) meat imported in 2011 represents an increase of 42% by volume compared with 2000.

To some extent the increasing amounts of shark meat observed in international trade may be arising from the wider application of restrictions on shark finning which, if complied with, may encourage landings of sharks whose fins are intended to be utilized. In this case, larger quantities of shark meat in international trade will not necessarily signal higher shark catches. Nevertheless, there are likely to be areas where increasing demand for seafood, and the decreasing proportion of under-utilized stocks of other fish species, will see demand for shark meat remain sufficiently high that even if demand for shark fins declines, existing fishing pressure will not.

Large shark producers such as Spain and Taiwan PC, in addition to their roles as suppliers to the shark fin markets, also export large volumes of shark meat to their respective major markets of Italy and Brazil. Uruguay, meanwhile, has also emerged as an important importer of unprocessed shark meat from major shark fishing nations (such as Taiwan PC and Spain) and re-exporter of processed shark meat supplying the rapidly expanding Brazilian market. Together, Uruguayan imports of raw material and Brazilian imports of processed shark meat from Uruguay account for the major proportion of the increase in shark meat volumes traded.

Figure 7. Brazil imports of shark meat from 2000 to 2012

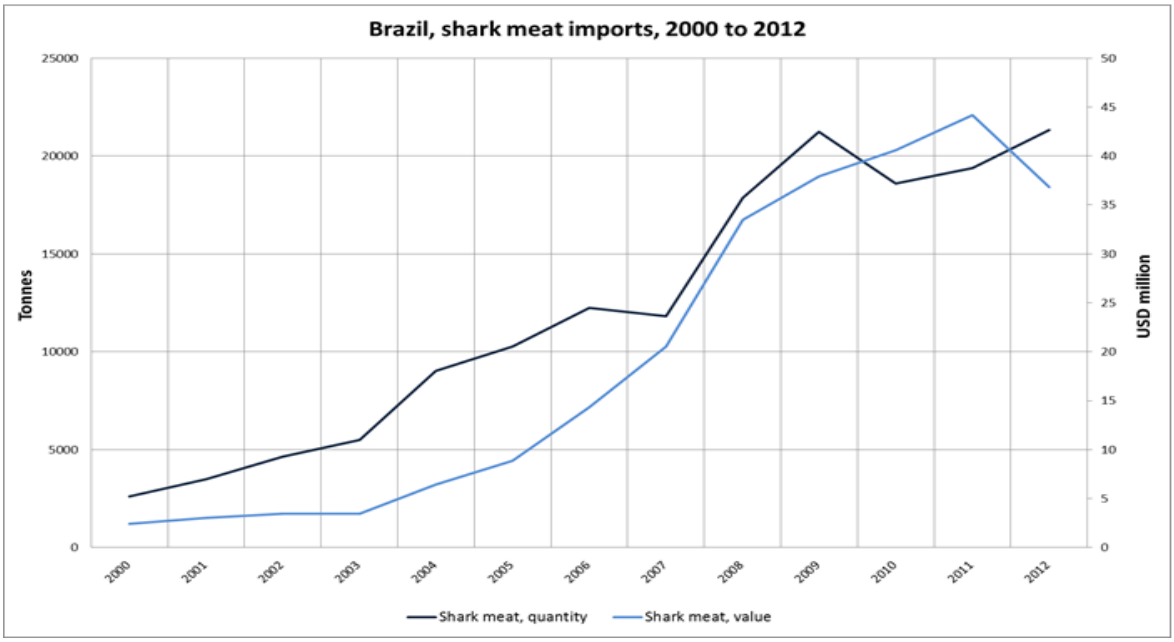
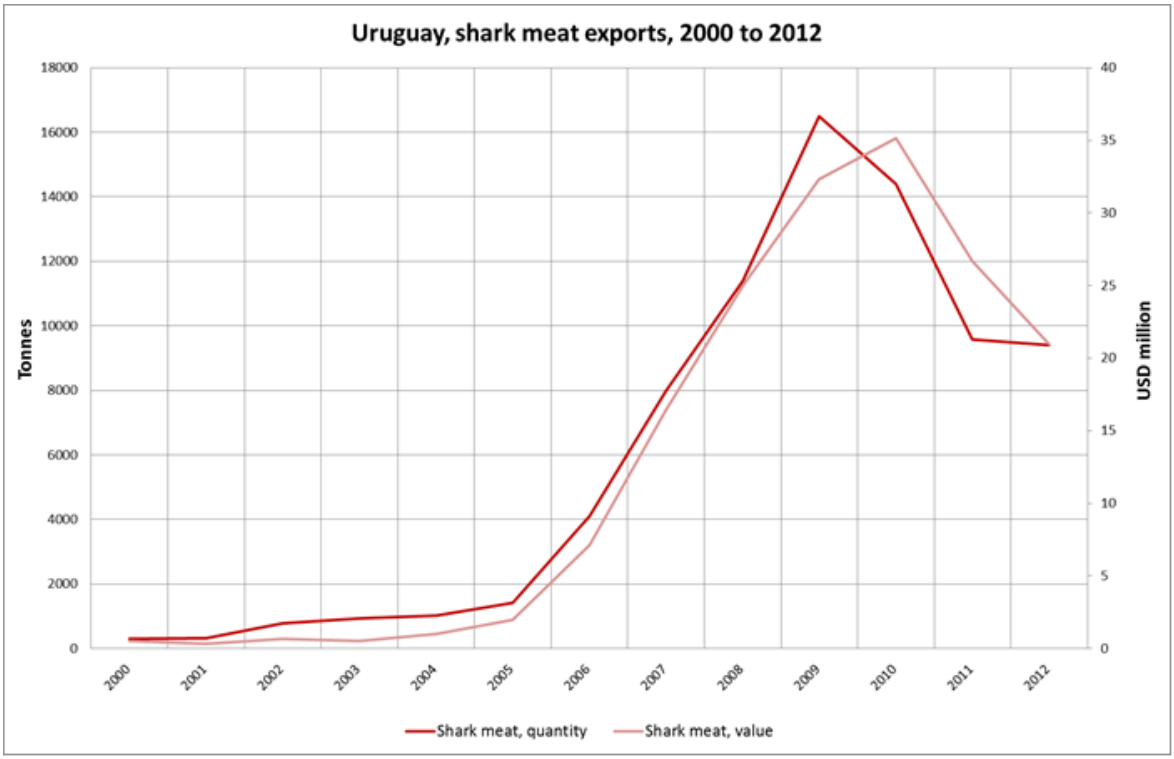


Figure 8. Uruguay exports of shark meat from 2000 to 2012



European and North American markets such as the USA, Italy and France seem to have a preference for dogfish species, although this is possibly influenced by sanitary regulations which prevent the import of larger shark species due to high mercury content. Demand in South and Central American and Asian markets, in contrast, appears to be mainly for larger species. The Republic of Korea is notable for importing relatively small quantities of true shark meat but accounting for the vast majority of world imports of skate and ray meat[1]. In general, markets for shark meat are much more diverse and geographically dispersed than those for shark fins, and as a result there is considerable potential for expansion.

Trade monitoring for shark meat is less straightforward than for shark fins as there are no dominant entrepôts whose statistics can be used as global indicators. Instead, several of the traditional markets for shark meat, i.e. Spain, Mexico, and Taiwan PC, also have high shark capture production which supplements imported supplies. Conflicting trends of increasing exports and decreasing imports in Spain, decreasing imports in Mexico, and increasing exports and imports in Taiwan are thus difficult to interpret. Italy, a large traditional shark meat market with little capture production of its own, has shown steady imports for many years. In contrast, even with high shark capture production, the growth of the market in Brazil has prompted imports of shark meat to increase by eight-fold since 2000 (from 2 621 to 21 067 tonnes) and rank Brazil as the world's largest importer in 2011. These trends caution that while traditional markets may be stable, new markets may determine the global trend.

Issues with trade Statistics

In the case of shark fins in particular, it is important to understand that in their current form, published trade statistics do not necessarily accurately reflect the quantity of actual shark fin material being traded, and also that apparent trends over time may be misleading. This is for three main reasons.

Firstly, as alluded to above, the frequent introduction and subsequent removal of revised commodity codes that may or may not identify shark fins explicitly is commonplace among trading countries, thus increasing or decreasing reported volumes but not accurately reflecting real volumes. After many rounds of discussion the World Customs Organization recommended that as of 2012 all 179 members should implement specific commodity codes for shark fins as well as for ray and skate meat. While this should have been a positive step toward more effective monitoring of the trade, it has unfortunately resulted in a critical loss of information from some major shark fin markets. As result, it will become increasingly more difficult to understand what role market forces are exerting on shark resources.

Secondly, only certain customs authorities maintain separate commodity codes for frozen and dried shark fins. This an important distinction because frozen fins can weigh as much as four times as much as dried fins (Clarke 2004) due to additional water content. Because of these data limitations, the proportion of frozen versus dried fins making up trade volumes global level is not known, and it is therefore impossible to determine exactly how much of the reported quantities consists of shark fin and how much is accounted

[1] *It should be noted that the majority of countries did not maintain separate commodity codes for skate and rays before the introduction of a dedicated HS commodity code in 2012. Previously, these species were not recorded under shark commodity codes, but generally included under aggregated seafood categories.*

for by water content. Prepared and preserved fins, usually in canned or pouched form, may present similar difficulties unless identified explicitly in trade records, as a result of their containing ingredients other than shark fins such as soup broth. This has important implications when considering unit values as calculated by dividing value by quantity. Specifically, it may not be clear whether a high unit value points to a higher value of the shark fin itself - which would likely be a result of its size or species - or whether it simply reflects a relatively lower proportion of water content and/or other non-fin components.

This also has implications for the calculation of domestic consumption. If products are exported in a form which is more highly processed than the form in which the fish was landed, processing yields should be factored into the equations. However, this is often impossible, especially if commodity codes aggregate product forms. The picture is further complicated by potential inconsistencies in capture statistics. If capture production figures include discards (i.e. total catches) rather than landings only, the amount of domestic consumption may be over-estimated by assuming that discarded quantities represent consumption. These issues represent a major obstacle to accurate analysis, and suggests that uncertainties regarding domestic consumption will take considerably longer to resolve than uncertainties regarding international trade.

A third difficulty with current trade statistics arises from the fact that the supply chains conveying shark fins from fishing vessel to consumer are complex and global in nature, incorporating multiple transshipment stages through different customs territories. For illustration, consider that the shark fin may be produced (separated from the carcass upon capture or landing) in one country, exported to a regional trader, re-exported to a processing centre, processed and re-exported once again to the consuming country. Assuming that the shark fin in this case is recorded explicitly as such at every stage – though this may be an unlikely scenario given the issues with shark fin trade recording in many countries outlined above - it will be recorded as an import and export on three separate occasions. Without a better understanding of these supply chains allowing us to establish which shark fins are likely to be re-exports and which are not (few customs authorities make this distinction in their databases), it is not possible to know precisely what proportion of globally aggregated figures comprises fins that have been counted more than once.

There are other important details of the shark fin trade that are obscured by the lack of information currently contained in trade recording systems. Shark species are not necessarily exchangeable commodities. Hammerhead, oceanic whitetip and blue sharks are preferred for shark fin soup whereas dogfish, mako and school sharks are preferred for meat. Therefore, shark population impacts exerted by fin and meat markets would be expected to differ in ways that may not be apparent in aggregated trade statistics. Furthermore, non species-specific trade statistics will not identify shifts in utilization between species within each trade, for example, when less resilient species are fished down and more prolific species take up the slack. It might thus be expected, for example, that stable levels in both shark fin trade and capture production figures are more and more supported by blue sharks, whose reported capture production has increased from 5% to 14% of the total between 2000 and 2011. Shark meat supplies too may be increasingly reliant on blue sharks as identified in the Japan, Spain, Taiwan PC and Uruguay markets.

Key recommendations

Although there may be limited appetite for tackling this subject again at the WCO, it is clear that further modification of the commodity coding system for shark products is necessary for meaningful trade monitoring to continue. As a matter of urgency separate commodity codes should be implemented for four shark fin products: unprocessed dried, processed dried, unprocessed wet and processed wet. WCO recommendations falling short of this may, like the 2012 recommendations, not only result in sub-optimal monitoring but also worsen existing systems. This occurs when distinct product types previously identified explicitly in trade records, are aggregated under one category, thereby obscuring what proportion of the traded quantity is organic chondrichtyan material and what proportion consists of water, ice or other materials such as soup broth.

In response to the findings of this report, national authorities responsible for shark management should prioritize marshalling in-country support for these commodity coding changes and not leave the matter to be lost among competing trade issues and priorities. One effective means of doing this would be to modify the national commodity coding system as a gesture of support for shark conservation and management efforts. Similar to the use of product-specific commodity codes, individual countries may choose to establish species-specific commodity codes to facilitate trade monitoring of protected species. Most frequently such efforts have been aimed at CITES-listed species.

There is now a clear nexus between CITES-listed species and fish species required to be reported to fishery management authorities. National CITES authorities are likely to rely heavily on information from fisheries statistical systems when considering non-detriment findings in support of CITES export permits. Conversely, fisheries statistical systems which provide catch estimates vital for stock assessment purposes would be strengthened by linkages with trade databases. Given this new ground for cooperation between CITES and fisheries management systems, there are a number of steps that could be taken to ensure these systems work together for maximum effectiveness.

First, using CITES as an impetus, national authorities should ensure that there are appropriate taxonomically-specific data recording systems for both fisheries and trade.

Second, countries should then ensure that these species-specific data are shared appropriately between their national fisheries management and CITES authorities. Such sharing would facilitate CITES non-detriment findings, provide fisheries management with feedback on catch estimates, and highlight where further data improvements are necessary. Countries may choose to use their National Plans of Action-Sharks as the basis for describing how CITES and fisheries management authorities will cooperate on CITES-listed species, and to designate any other species for monitoring. They may also establish other frameworks for monitoring domestic consumption or other non-trade uses such as local fish meal production.

Finally, integration of trade and fisheries management should be pursued at the international level as well. The CITES Secretariat (or UNEP's World Conservation Monitoring Centre which manages the CITES Trade Database) should establish a formal process of liaison with regional fisheries management bodies to cross-check datasets, discuss data quality issues, identify patterns and report back to national

authorities. In addition to CITES, there may be opportunities for UNEP's Secretariat for the Convention on Migratory Species (CMS) to join this process and participate on coordination issues for co-listed CMS species (i.e. basking, great white, whale and porbeagle sharks and giant manta).

Appendix I – Estimation of shark fin trade volumes for selected countries from 2000 to 2011

Export volumes estimated by summation of reported imports (national statistics/customs records) of Canada, China, Hong Kong SAR, Indonesia, Malaysia, Singapore, Taiwan PC and the USA

Import volumes estimated by summation of reported exports (national statistics/customs records) of China, Hong Kong SAR, India, Indonesia, Singapore, Thailand Taiwan PC and the USA

Estimated exports by exporter and reporter, tonnes, 2000 to 2011

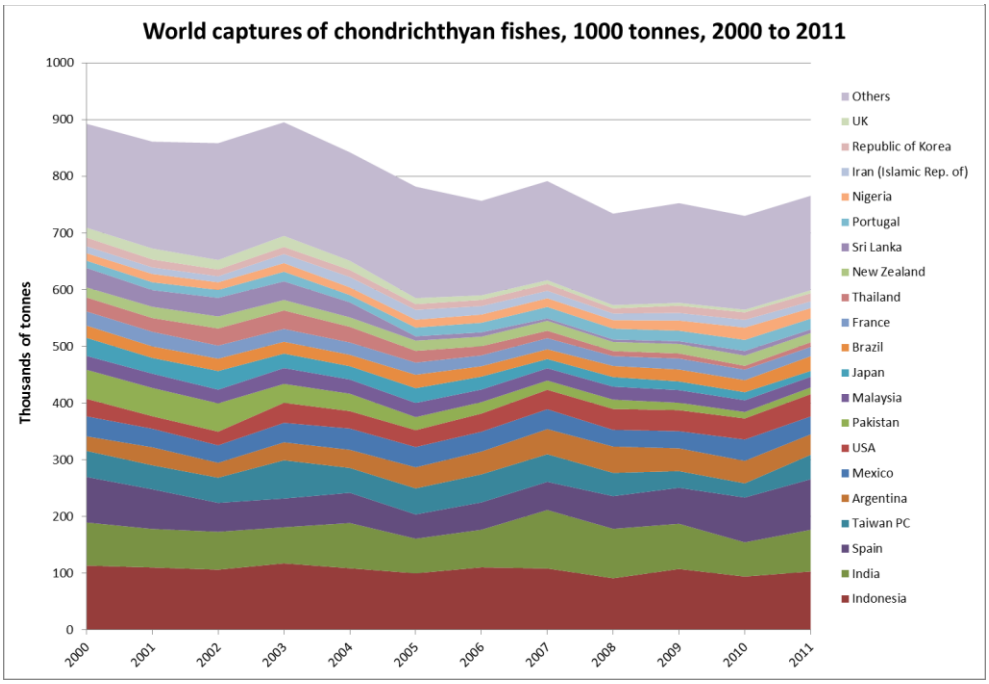
Exporter (origin)	Reporter	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	AVERAGE
Argentina	China	0	0	0	5	0	44	39	5	25	19	0	0	11
	Hong Kong	41	25	28	69	56	96	153	136	185	170	191	122	106
	Indonesia	10	23	27	65	71	55	22	9	37	24	0	31	31
	Malaysia	0	0	0	0	0	0	1	0	2	0	0	0	0
	Singapore	0	0	0	0	10	22	35	38	30	15	22	9	15
	Taiwan	0	0	0	0	19	7	0	0	0	0	0	1	2
	United States	25	8	0	0	0	0	0	0	0	0	0	0	3
Argentina Total		**76**	**56**	**55**	**139**	**156**	**224**	**250**	**188**	**279**	**228**	**213**	**163**	**169**
Australia	Canada	0	0	0	0	0	0	1	2	5	6	8	17	3
	China	23	47	6	0	0	0	0	0	0	0	0	0	6
	Hong Kong	98	70	84	85	128	104	62	81	94	59	66	57	82
	Indonesia	0	0	3	1	1	1	0	5	0	0	0	0	1
	Malaysia	1	0	0	0	0	0	0	0	0	0	1	0	0
	Singapore	18	10	15	14	16	7	4	26	7	1	3	2	10
	Taiwan	5	4	2	2	0	0	0	0	0	0	0	0	1
	United States	1	0	1	0	0	0	0	1	0	0	0	7	1
Australia Total		**146**	**131**	**111**	**102**	**145**	**112**	**67**	**115**	**106**	**66**	**78**	**83**	**105**
Brazil	China	17	41	318	277	16	34	19	33	5	0	0	0	63
	Hong Kong	194	334	324	330	302	291	184	173	201	130	133	181	231
	Taiwan	0	0	0	0	1	1	0	0	0	0	4	4	1
	United States	1	2	0	0	0	2	0	0	0	0	0	0	0
Brazil Total		**212**	**377**	**642**	**607**	**319**	**328**	**203**	**206**	**206**	**130**	**137**	**185**	**296**
Canada	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	4	95	52	24	31	16	4	25	0	0	0	0	21
	Hong Kong	135	51	139	114	141	159	81	101	58	83	42	61	97
	Indonesia	8	0	0	0	0	0	0	0	0	0	0	0	1
	Singapore	0	0	0	0	2	0	0	0	0	0	0	0	0
	Taiwan	14	1	1	2	0	0	0	0	0	0	0	0	2
	United States	7	7	1	0	0	0	0	2	0	1	0	0	2
Canada Total		**168**	**154**	**193**	**140**	**174**	**175**	**85**	**128**	**58**	**84**	**42**	**61**	**122**
China	Canada	0	0	17	11	11	6	26	3	19	21	15	5	11
	Hong Kong	378	363	367	745	810	413	58	3	13	30	161	12	279
	Malaysia	0	24	2	1	8	10	22	5	1	0	0	0	6
	Singapore	29	42	59	46	29	45	50	90	49	61	29	33	47
	Taiwan	0	0	22	62	27	29	23	92	127	179	155	313	86
	United States	2	1	21	0	2	0	4	5	1	6	21	12	6
China Total		**409**	**430**	**488**	**865**	**887**	**503**	**183**	**198**	**210**	**297**	**381**	**375**	**436**
Costa Rica	Hong Kong	186	545	358	957	543	402	357	286	327	306	342	252	405
	Taiwan	308	172	178	307	225	145	215	53	13	19	58	76	147
	China	10	4	0	8	363	203	154	176	185	35	0	0	95
	Singapore	137	42	25	36	0	0	0	0	0	0	0	0	20
	United States	1	1	0	0	0	0	0	0	0	0	0	0	0
	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
Costa Rica Total		**642**	**764**	**561**	**1308**	**1131**	**750**	**726**	**515**	**525**	**360**	**400**	**328**	**668**
Ecuador	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	21	36	42	34	28	14	0	0	0	0	0	0	15
	Hong Kong	140	130	125	112	94	64	48	35	134	162	207	185	120
	Singapore	0	0	0	0	0	0	0	0	0	0	0	0	0
	Taiwan	1	0	0	0	0	0	0	0	0	0	0	0	0
	United States	2	3	0	0	0	0	0	0	0	0	0	0	0
Ecuador Total		**164**	**169**	**167**	**146**	**122**	**78**	**48**	**35**	**134**	**162**	**207**	**185**	**135**
Hong Kong	Canada	0	0	40	38	52	79	56	50	66	111	65	39	50
	China	55	47	188	124	71	197	147	79	22	32	7	53	85
	Hong Kong	1	0	0	0	0	0	1	0	0	0	0	0	0
	Indonesia	20	13	0	0	4	3	0	0	6	0	0	0	4
	Malaysia	16	5	0	0	1	1	4	6	8	13	10	80	12
	Singapore	123	90	106	86	102	61	45	73	64	56	66	64	78
	Taiwan	82	37	31	37	51	31	2	0	0	5	1	21	25
	United States	4	2	3	1	5	7	16	20	23	11	11	15	10
Hong Kong Total		**301**	**194**	**368**	**286**	**286**	**379**	**271**	**228**	**189**	**228**	**160**	**272**	**264**
India	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	214	126	230	129	151	2	4	7	0	0	6	0	72
	Hong Kong	432	386	351	299	302	147	107	84	117	187	151	165	227
	Indonesia	0	0	0	5	46	39	14	0	1	0	0	0	9
	Malaysia	0	0	0	1	7	4	9	11	10	4	8	3	5
	Singapore	89	56	59	59	96	48	43	56	34	18	22	25	50
	Taiwan	0	1	3	9	9	9	0	11	37	21	46	38	15
	United States	4	7	4	6	3	0	0	0	0	0	0	1	2
India Total		**739**	**576**	**647**	**508**	**614**	**249**	**177**	**169**	**199**	**230**	**233**	**232**	**381**
Indonesia	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	65	357	416	594	658	468	327	106	6	2	0	0	250
	Hong Kong	860	794	929	848	717	620	439	747	681	776	806	602	735
	Indonesia	0	0	0	0	0	0	0	0	0	0	11	0	1
	Malaysia	16	18	16	10	13	9	8	21	53	198	7	14	32
	Singapore	0	0	0	66	80	55	106	60	57	47	84	51	51
	Taiwan	5	3	6	8	16	43	43	80	126	159	138	102	61
	United States	3	0	0	0	0	1	0	0	0	0	0	0	0
Indonesia Total		**949**	**1172**	**1367**	**1526**	**1484**	**1196**	**923**	**1014**	**923**	**1182**	**1046**	**769**	**1129**
Japan	Canada	0	0	1	2	1	2	3	1	0	1	0	0	1
	China	1847	463	20	25	18	26	2	9	4	11	3	0	202
	Hong Kong	579	348	266	282	278	300	242	260	162	171	209	192	274
	Indonesia	17	3	10	27	3	113	39	0	49	1	43	10	26
	Malaysia	0	0	0	0	0	0	1	0	0	0	0	0	0
	Singapore	50	65	36	41	49	62	69	70	102	47	30	25	54
	Taiwan	22	41	2	2	1	1	1	62	4	1	0	0	11
	United States	6	6	1	0	0	0	0	0	2	0	0	0	1
Japan Total		**2521**	**926**	**336**	**379**	**350**	**504**	**357**	**402**	**323**	**232**	**285**	**227**	**570**
Mexico	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	0	0	0	0	0	0	6	0	0	0	0	0	1
	Hong Kong	296	428	332	226	178	201	181	203	217	163	319	301	254
	Malaysia	0	0	0	0	0	0	0	0	0	0	0	0	0
	Singapore	0	0	0	0	0	0	0	0	0	0	0	0	0
	Taiwan	0	0	0	0	0	1	3	0	0	0	0	0	0
	United States	7	7	3	0	0	0	0	0	0	0	0	0	1
Mexico Total		**303**	**435**	**335**	**226**	**178**	**202**	**190**	**203**	**217**	**163**	**319**	**301**	**256**
New Zealand	Canada	0	0	1	0	0	1	1	0	0	0	0	0	0
	China	0	0	3	0	0	0	0	0	0	0	0	0	0
	Hong Kong	27	22	55	58	79	101	82	65	80	174	153	72	81
	Indonesia	0	2	0	0	0	0	0	0	10	0	0	11	2
	Malaysia	0	0	0	0	0	1	0	2	0	6	3	2	1
	Singapore	20	23	20	14	41	40	33	43	1	4	3	2	20
	Taiwan	0	0	1	0	1	1	1	0	1	0	0	0	0
	United States	0	0	0	0	0	0	1	0	1	3	1	24	3
New Zealand Total		**47**	**47**	**80**	**72**	**121**	**144**	**118**	**110**	**93**	**187**	**160**	**111**	**108**
Oman	China	19	137	105	0	0	0	0	0	0	0	0	0	22
	Hong Kong	165	144	75	26	43	130	91	59	56	59	12	30	74
	Singapore	2	3	5	1	0	0	0	1	0	2	14	0	2
	Taiwan	1	0	0	5	3	0	1	5	0	0	0	1	1
Oman Total		**187**	**284**	**185**	**32**	**46**	**130**	**92**	**65**	**56**	**61**	**26**	**31**	**100**

Pakistan	China	21	0	0	0	3	5	199	299	165	51	0	6	62
	Hong Kong	56	47	36	38	54	33	40	66	40	71	52	35	47
	Malaysia	0	0	0	0	0	0	5	1	0	0	0	0	1
	Singapore	57	40	36	29	19	9	13	14	1	0	1	0	18
	Taiwan	0	0	0	0	0	0	0	1	2	0	0	0	0
Pakistan Total		**134**	**87**	**72**	**67**	**76**	**47**	**257**	**381**	**208**	**122**	**53**	**41**	**129**
Panama	Canada	0	0	1	1	0	0	0	0	1	7	5	18	3
	China	0	20	54	18	0	0	0	0	0	0	0	0	8
	Hong Kong	125	108	71	71	103	114	76	70	85	47	37	26	78
	Indonesia	0	0	0	0	0	0	0	0	8	0	0	0	1
	Singapore	0	6	18	89	72	59	75	42	68	11	44	0	40
	Taiwan	0	0	0	0	31	10	0	53	203	237	26	5	47
	United States	0	4	0	0	4	1	7	0	0	0	0	0	1
Panama Total		**125**	**138**	**144**	**179**	**210**	**184**	**158**	**165**	**365**	**302**	**112**	**49**	**178**
Peru	Canada	0	0	1	0	0	0	0	0	0	0	0	0	0
	China	1	24	33	22	11	0	0	0	0	0	0	0	8
	Hong Kong	103	122	114	110	92	147	175	203	122	144	199	211	145
	Indonesia	2	0	0	0	0	0	0	0	0	0	0	0	0
	Singapore	0	0	0	0	0	0	1	7	1	1	1	1	1
	Taiwan	0	0	0	0	0	0	0	0	0	0	0	0	0
	United States	0	0	0	0	0	0	0	2	0	0	0	0	0
Peru Total		**106**	**146**	**148**	**132**	**103**	**147**	**176**	**212**	**123**	**145**	**200**	**212**	**154**
Philippines	Canada	0	0	0	0	0	1	5	5	2	4	3	2	2
	China	0	2	116	547	907	648	3	1	513	167	0	0	242
	Hong Kong	47	49	90	184	327	249	61	79	73	68	35	27	107
	Indonesia	0	0	1	0	0	0	0	0	0	0	0	0	0
	Malaysia	0	0	9	14	11	9	14	13	7	10	7	14	9
	Singapore	1	1	23	19	23	22	28	27	23	30	28	27	21
	Taiwan	0	1	0	1	0	0	1	0	0	1	0	0	0
	United States	0	0	0	1	0	16	0	0	0	0	0	0	1
Philippines Total		**48**	**53**	**239**	**766**	**1268**	**945**	**112**	**125**	**618**	**280**	**73**	**70**	**383**
Senegal	Canada	0	0	0	0	0	0	0	5	0	1	1	1	1
	China	5	0	0	0	0	45	10	0	0	100	95	100	30
	Hong Kong	130	155	152	92	82	116	61	157	71	54	42	173	107
	Singapore	0	0	0	0	0	0	0	0	0	0	0	3	0
	Taiwan	8	5	3	6	8	4	1	33	1	4	0	5	7
Senegal Total		**143**	**160**	**155**	**98**	**90**	**165**	**72**	**195**	**72**	**159**	**138**	**282**	**144**
Singapore	Canada	0	0	4	3	0	0	0	0	0	0	0	0	1
	China	631	769	1323	1452	1632	857	523	237	23	40	25	0	626
	Hong Kong	614	326	646	841	876	1138	818	677	1201	938	1201	1495	898
	Indonesia	3	0	1	39	45	120	130	23	46	49	23	16	41
	Malaysia	14	8	5	4	2	2	14	3	3	17	33	2	9
	Taiwan	1	0	1	0	0	2	21	0	95	40	22	114	25
	United States	0	2	5	0	0	0	0	0	0	0	0	0	1
Singapore Total		**1263**	**1105**	**1985**	**2339**	**2555**	**2119**	**1506**	**940**	**1368**	**1084**	**1304**	**1627**	**1600**
South Africa	Canada	0	0	1	0	0	0	0	0	0	0	0	5	1
	China	10	58	124	140	138	2	0	0	0	0	0	0	39
	Hong Kong	204	114	212	168	96	106	136	75	183	173	110	83	138
	Malaysia	0	0	0	0	0	0	0	2	0	0	0	0	0
	Singapore	5	3	1	0	0	0	6	0	0	0	5	0	2
	Taiwan	1	0	0	0	0	0	0	5	3	1	0	1	1
	United States	0	0	0	0	0	0	0	0	0	0	0	0	0
South Africa Total		**220**	**175**	**338**	**308**	**234**	**108**	**142**	**82**	**186**	**174**	**115**	**89**	**181**
Spain	Canada	0	0	0	0	0	8	7	5	8	7	6	9	4
	China	1469	779	382	37	87	139	8	194	472	150	0	0	310
	Hong Kong	3159	3136	3353	3454	2579	2676	2909	3188	2647	2536	2054	2460	2846
	Indonesia	49	0	0	0	0	0	0	0	26	26	0	28	11
	Malaysia	0	0	25	0	0	0	0	0	0	0	0	0	2
	Singapore	4	69	253	178	106	599	694	1107	4	9	2	48	256
	Taiwan	5	23	41	0	21	72	155	84	37	47	94	166	62
	United States	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain Total		**4686**	**4007**	**4054**	**3669**	**2793**	**3494**	**3773**	**4578**	**3194**	**2775**	**2156**	**2711**	**3491**
Taiwan	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	37	0	78	376	637	679	1127	1156	273	117	1	1	374
	Hong Kong	1054	1108	1053	1326	1150	772	1254	1330	991	716	922	1006	1057
	Malaysia	1	0	0	0	0	0	0	0	0	0	0	1	0
	Singapore	51	35	75	290	311	214	174	152	148	90	94	113	146
	United States	0	0	0	0	0	0	18	0	0	0	0	0	2
Taiwan Total		**1143**	**1143**	**1206**	**1992**	**2098**	**1665**	**2573**	**2638**	**1412**	**923**	**1017**	**1121**	**1578**
Thailand	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hong Kong	42	33	27	39	14	26	13	8	19	25	33	92	31
	Indonesia	0	0	0	0	4	0	72	38	24	0	96	0	20
	Malaysia	0	1	0	2	708	762	872	1045	1065	1050	1200	1237	662
	Singapore	16	35	59	76	63	55	35	47	43	29	29	51	45
	Taiwan	13	3	0	0	0	0	0	0	14	17	31	72	13
Thailand Total		**71**	**72**	**86**	**117**	**789**	**843**	**992**	**1138**	**1165**	**1121**	**1389**	**1452**	**770**
Trinidad & Tobago	Canada	0	0	1	0	0	0	1	3	5	19	2	4	3
	Hong Kong	24	5	1	7	0	7	22	7	103	182	127	333	68
	Taiwan	0	0	0	0	16	0	15	70	91	91	124	27	36
	United States	0	0	0	0	0	0	0	0	0	0	0	0	0
Trinidad & Tobago Total		**24**	**5**	**2**	**7**	**16**	**7**	**38**	**80**	**199**	**292**	**253**	**364**	**107**
United Arab Emirates	Canada	0	0	0	0	0	0	0	0	0	0	0	0	0
	China	0	2	0	0	0	8	0	0	0	0	0	0	1
	Hong Kong	536	378	554	510	407	509	408	477	511	459	499	441	474
	Indonesia	0	0	0	0	14	0	0	0	0	0	0	0	1
	Malaysia	0	0	0	0	0	0	0	0	0	0	0	0	0
	Singapore	9	23	2	6	2	5	1	2	0	0	1	1	4
	Taiwan	0	0	0	0	0	0	0	8	0	0	0	0	1
United Arab Emirates Total		**545**	**403**	**556**	**516**	**423**	**522**	**409**	**487**	**511**	**459**	**500**	**442**	**481**
United States	Canada	0	0	11	8	2	14	12	16	10	7	1	3	7
	China	2	0	0	0	0	0	0	0	0	0	47	0	4
	Hong Kong	506	169	315	289	281	235	176	175	251	186	251	291	260
	Indonesia	0	0	0	0	0	1	0	0	0	0	0	0	0
	Malaysia	4	1	3	3	1	1	0	1	0	0	0	0	1
	Singapore	50	0	12	3	8	0	0	2	0	0	0	1	6
	Taiwan	21	0	0	1	0	0	0	0	4	0	0	0	2
United States Total		**583**	**170**	**341**	**304**	**292**	**251**	**188**	**194**	**265**	**193**	**299**	**295**	**281**
Uruguay	China	0	0	0	0	0	0	0	0	3	4	0	0	1
	Hong Kong	118	61	111	69	109	47	51	44	39	48	30	33	63
	Singapore	0	17	26	16	182	328	328	104	10	0	0	1	84
	Taiwan	6	0	15	0	61	1	0	0	0	0	0	11	8
Uruguay Total		**124**	**78**	**152**	**85**	**352**	**376**	**379**	**148**	**52**	**52**	**30**	**45**	**156**
Yemen	China	0	0	0	0	0	8	34	185	278	0	0	0	42
	Hong Kong	350	225	118	107	56	83	219	278	228	216	422	333	220
	Indonesia	0	0	1	4	2	1	0	0	0	0	0	0	1
	Singapore	23	43	133	112	98	89	89	94	123	44	9	14	73
	Taiwan	0	0	0	1	0	0	9	3	10	0	0	0	2
Yemen Total		**373**	**268**	**252**	**224**	**156**	**181**	**351**	**560**	**639**	**260**	**431**	**347**	**337**
World	Canada	0	0	91	66	68	112	112	94	118	184	107	103	88
	China	4613	3129	3555	3818	4770	3416	2662	2546	2019	732	182	161	2634
	Hong Kong	11475	10472	10964	12458	11088	10395	9365	10192	9950	9356	9873	10293	10490
	Indonesia	127	41	46	144	193	332	293	84	220	151	249	101	165
	Malaysia	57	66	65	36	849	843	1036	1197	1197	1331	1345	1433	788
	Singapore	1170	912	1416	1431	1593	1933	2044	2162	848	574	591	595	1272
	Taiwan	498	398	310	480	525	434	711	573	796	978	1157	1260	677
	United States	66	51	39	11	14	27	47	29	29	21	34	58	36
World Total		**18006**	**15069**	**16486**	**18444**	**19100**	**17492**	**16270**	**16877**	**15177**	**13327**	**13538**	**14004**	**16149**

Estimated importers by importer and reporter, tonnes, 2000 to 2011

Importer (destination)	Reporter	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	AVERAGE
Australia	Hong Kong	7	6	4	3	4	3	2	3	3	2	3	3	4
	India	0	0	0	0	0	0	0	0	0	2	0	0	0
	Indonesia	0	2	0	0	0	7	7	0	0	0	0	2	2
	Malaysia	0	0	0	0	0	0	0	0	0	0	0	0	0
	Singapore	0	0	3	1	1	0	1	3	0	1	1	2	1
	Taiwan	0	0	1	0	0	1	0	1	0	0	6	0	1
	Thailand	0	0	0	0	0	2	0	1099	242	281	266	284	181
	USA	0	0	0	0	0	0	0	0	1	0	0	0	0
Australia Total		**7**	**8**	**8**	**4**	**5**	**13**	**10**	**1106**	**246**	**286**	**276**	**291**	**188**
China	Hong Kong	7270	6044	8452	8633	7952	6274	5096	4790	4307	2984	1031	1257	5341
	India	1	1	10	0	1	0	9	0	0	4	0	0	2
	Indonesia	1	0	9	27	0	4	48	67	1	95	82	5	28
	Malaysia	0	0	2	0	1	0	0	0	0	0	0	0	0
	Singapore	53	42	48	2	1	0	247	186	39	2	5	4	52
	Taiwan	0	0	7	4	18	213	168	184	149	242	84	114	99
	Thailand	0	0	0	0	0	0	0	59	138	123	143	105	47
	USA	131	0	0	0	16	2	0	0	1	3	2	5	13
China Total		**7456**	**6087**	**8528**	**8666**	**7989**	**6493**	**5568**	**5286**	**4635**	**3453**	**1347**	**1490**	**5583**
Hong Kong	China	1907	1611	1708	2076	2351	1179	419	416	268	231	194	232	1049
	India	204	142	168	147	45	64	66	64	56	70	77	45	96
	Indonesia	297	299	332	390	428	404	373	463	332	455	441	356	381
	Malaysia	11	1	10	1	3	1	4	4	21	8	20	0	7
	Singapore	666	267	530	509	718	1025	1003	826	439	211	294	161	554
	Taiwan	1020	1027	874	1177	1242	927	809	666	569	504	757	752	860
	Thailand	55	40	18	17	17	31	7	1322	198	235	108	115	180
	USA	204	307	362	38	61	57	42	32	30	71	39	29	106
Hong Kong Total		**4364**	**3694**	**4002**	**4355**	**4865**	**3688**	**2723**	**3793**	**1913**	**1785**	**1930**	**1690**	**3234**
Indonesia	Hong Kong	2	9	0	6	4	4	0	0	6	0	0	0	3
	India	0	0	0	26	14	8	0	0	0	0	0	0	4
	Malaysia	0	0	0	1	11	3	92	129	84	53	110	222	59
	Singapore	0	0	0	110	125	145	133	140	40	9	15	19	61
	Taiwan	0	3	0	1	1	0	0	0	0	0	0	0	0
	Thailand	0	0	0	0	0	0	0	2	426	24	1	0	38
	USA	0	0	0	0	0	0	0	0	0	0	0	0	0
Indonesia Total		**2**	**12**	**0**	**144**	**155**	**160**	**225**	**271**	**556**	**86**	**126**	**241**	**165**
Japan	China	108	55	84	91	85	155	85	86	102	108	77	92	94
	Hong Kong	414	108	108	98	126	141	315	247	225	186	214	214	200
	India	78	93	8	0	8	0	0	0	0	0	0	0	16
	Indonesia	87	20	100	226	277	822	485	146	880	281	88	92	292
	Singapore	1	8	1	81	18	79	19	126	1	2	0	1	28
	Taiwan	68	37	92	1	2	13	4	3	91	45	42	33	36
	Thailand	0	0	0	0	0	0	1	3841	2375	2516	3231	3802	1314
	USA	0	1	2	2	0	0	2	0	4	0	0	0	1
Japan Total		**756**	**322**	**395**	**499**	**516**	**1210**	**911**	**4449**	**3678**	**3138**	**3652**	**4234**	**1980**
Korea, South	China	1	2	0	0	0	8	3	1	0	14	17	6	4
	Hong Kong	56	50	48	35	35	42	53	66	63	37	46	54	49
	Indonesia	0	1	17	37	11	11	0	6	6	10	10	9	10
	Malaysia	0	0	0	2	7	6	2	8	3	0	1	1	3
	Singapore	0	2	0	1	0	0	1	3	0	0	0	0	1
	Taiwan	0	0	0	0	1	0	0	0	0	0	2	2	0
	Thailand	0	0	0	0	0	0	0	200	38	109	244	179	64
	USA	0	0	13	1	0	0	0	0	0	0	0	0	1
Korea, South Total		**57**	**55**	**78**	**76**	**54**	**67**	**59**	**284**	**110**	**170**	**320**	**251**	**132**
Malaysia	China	0	5	1	0	0	0	0	0	0	0	1	0	1
	Hong Kong	52	15	6	15	22	13	16	17	16	14	12	14	18
	India	0	0	0	3	2	1	0	4	1	0	1	1	1
	Indonesia	182	17	54	377	26	30	18	28	25	136	101	111	92
	Singapore	124	80	95	72	75	87	54	84	42	38	32	31	68
	Taiwan	9	0	17	1	1	0	0	0	0	0	6	2	3
	Thailand	1	1	2	2	1	0	0	156	6	3	61	88	27
	USA	0	2	0	0	0	0	0	0	0	0	0	0	0
Malaysia Total		**368**	**120**	**175**	**470**	**127**	**131**	**88**	**289**	**90**	**191**	**214**	**247**	**209**
Mexico	Hong Kong	0	0	0	0	0	0	0	9	5	0	0	0	1
	India	0	0	0	0	0	0	0	0	6	0	0	0	1
	Thailand	0	0	0	0	0	0	0	1331	0	0	0	0	111
	USA	0	3	8	1	2	1	0	0	0	0	0	0	1
Mexico Total		**0**	**3**	**8**	**1**	**2**	**1**	**0**	**1340**	**11**	**0**	**0**	**0**	**114**
Myanmar	Hong Kong	0	0	0	0	0	0	0	0	0	0	0	0	0
	Singapore	0	0	0	0	0	0	0	0	0	0	0	0	0
	Thailand	0	0	0	0	0	0	0	41	2	119	813	598	131
Myanmar Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**41**	**2**	**119**	**813**	**598**	**131**
Russia	China	0	0	0	0	0	0	0	0	0	0	0	0	0
	Hong Kong	0	0	0	0	0	0	0	0	0	0	0	0	0
	Thailand	0	0	0	0	0	0	0	1543	74	185	967	1209	332
Russia Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1543**	**74**	**185**	**967**	**1209**	**332**
Singapore	China	30	18	20	27	30	35	48	27	18	27	25	22	27
	Hong Kong	72	98	105	75	52	219	61	84	70	155	116	120	102
	India	115	91	61	66	42	36	22	17	25	13	16	10	43
	Indonesia	172	73	164	89	116	111	122	82	61	184	108	273	130
	Malaysia	9	2	5	2	65	5	7	87	312	258	32	39	69
	Taiwan	5	12	65	92	44	81	59	108	66	163	236	147	90
	Thailand	7	9	13	9	9	10	6	455	255	237	234	273	126
	USA	14	0	0	0	0	0	0	0	0	0	0	0	1
Singapore Total		**424**	**303**	**433**	**360**	**358**	**497**	**325**	**860**	**807**	**1037**	**767**	**884**	**588**
Taiwan	China	2	0	0	1	0	21	14	16	5	0	0	21	7
	Hong Kong	116	46	79	82	183	152	51	118	154	180	221	328	143
	Indonesia	407	7	13	25	8	36	7	5	5	79	279	11	74
	Malaysia	0	0	0	0	0	0	0	1	2	1	0	0	0
	Singapore	75	141	162	99	122	79	229	251	75	18	28	7	107
	Thailand	3	6	0	0	1	0	0	343	347	330	190	118	112
	USA	0	9	4	1	1	0	0	0	0	0	0	0	1
Taiwan Total		**603**	**209**	**258**	**208**	**315**	**288**	**301**	**734**	**588**	**608**	**718**	**485**	**443**
Thailand	China	0	0	0	0	0	0	0	0	2	2	0	2	1
	Hong Kong	62	48	22	66	83	79	71	54	55	21	41	58	55
	India	0	0	8	0	8	0	0	0	1	1	0	0	2
	Indonesia	0	0	11	2	0	0	0	4	9	10	3	20	5
	Malaysia	0	6	3	2	2	0	4	2	9	12	10	10	5
	Singapore	23	10	17	14	7	13	9	10	7	9	10	8	11
	Taiwan	0	2	0	0	0	0	0	0	0	0	0	0	0
	USA	17	0	0	0	9	0	0	0	0	0	0	0	2
Thailand Total		**102**	**66**	**61**	**84**	**109**	**92**	**84**	**70**	**83**	**55**	**64**	**98**	**81**
United States	China	4	0	0	0	0	0	0	0	0	0	0	0	0
	Hong Kong	41	37	43	49	34	53	70	45	50	30	29	36	43
	India	39	16	5	3	0	0	20	4	2	1	0	0	8
	Indonesia	0	0	17	0	0	7	0	0	0	1	0	0	2
	Malaysia	0	0	0	0	0	0	1	0	0	0	0	0	0
	Singapore	7	4	6	2	1	0	0	0	0	0	0	0	2
	Taiwan	3	3	10	11	13	5	6	12	12	3	10	8	8
	Thailand	0	0	0	0	0	0	0	951	169	466	294	522	200
United States Total		**94**	**60**	**81**	**65**	**48**	**65**	**97**	**1012**	**233**	**501**	**333**	**566**	**263**
Vietnam	Hong Kong	0	7	0	0	7	58	93	152	227	1136	3218	1176	506
	India	0	0	0	0	0	1	0	0	0	0	0	0	0
	Indonesia	1	0	0	0	0	0	0	0	0	235	1240	572	171
	Malaysia	0	0	0	0	0	0	0	0	1	0	0	0	0
	Singapore	4	9	0	2	0	18	56	36	13	0	2	0	12
	Taiwan	3	0	0	0	0	0	0	0	0	0	0	0	0
	Thailand	2	4	0	0	0	0	0	5	1	1	0	0	1
Vietnam Total		**10**	**20**	**0**	**2**	**7**	**77**	**149**	**193**	**242**	**1372**	**4460**	**1748**	**690**
World	China	2065	1691	1814	2198	2473	1398	571	552	394	382	314	489	1195
	Hong Kong	8167	6548	8934	9120	8560	7132	5963	5670	5300	4875	5043	3354	6556
	India	481	345	271	253	207	135	140	91	113	91	113	76	193
	Indonesia	1166	479	771	1288	943	1554	1073	801	1320	1641	2591	1795	1285
	Malaysia	20	10	20	9	163	17	120	365	459	347	200	298	169
	Singapore	967	628	990	940	1126	1538	1862	1690	677	297	390	239	945
	Taiwan	1123	1084	1068	1287	1323	1241	1048	1015	916	975	1145	1065	1108
	Thailand	70	61	34	29	29	44	18	13188	4742	5005	7142	7723	3174
	USA	366	335	441	49	93	65	49	36	37	77	42	38	136
World Total		**14425**	**11181**	**14343**	**15173**	**14917**	**13124**	**10844**	**23408**	**13958**	**13690**	**16980**	**15077**	**14760**

Appendix II - World captures of sharks, chimaeras, skates and rays from 2000 to 2011 (source: FAO)



Appendix III - Trends in liver/liver oil, shark/ray skin, cartilage, jaws/rostra and ray gill rakers in 40 countries surveyed by the IUCN Shark Specialist Group.

Each row represents an integrated response from all participants from that country, however, notes are attributable to specific respondents only. The number of respondents (n) is shown in parenthesis in the first column for all countries for which n>1. X signifies that the product is traded; any information on trends in the trade is shown in parentheses.

Country	Livers or Liver Oil	Shark or Ray Skin	Cartilage	Jaws or Rostra	Manta or Mobula Gill Rakers	Notes
Australia (n=8)	X		X	X (decreasing)		No trade in manta or mobula gill rakers in Australia (A. Chin, pers. comm, Dec. 2013)
Belize	X	X	X	X		Liver oil is sold within Belize and used for medicinal purposes (D. Chapman, pers. comm., Dec. 2013)
Canada (n=4)	X		X (stable)	X (stable)		British Columbia's spiny dogfish fishery produces dried shark cartilage for the nutraceutical industry; process waste is used for liquid hydrolyzed fertilizer for the agriculture and horticulture markets (http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/british-columbia-spiny-dogfish)
Chile	X	X (stable)	X	X		
China	X (decreasing)	X (increasing)	X (stable)	X (stable)	X (stable)	
Croatia						Shark fins, liver, liver oil, cartilage, jaws or rostra and gill rakers have never been a subject of trade in Croatia nor in Slovenia, Bosnia&Herzegovina, Montenegro or Albania (Eastern Adriatic Sea) (A. Soldo, pers. comm., Dec. 2013)
France (n=3)	X (stable)	X (stable)	X (increasing)	X (stable)		Liver oil of chimaeras appears to be a new product (B. Séret and F. Poisson, pers. comm. Dec. 2013). A raw ray skin can sell for 300 euros (B. Séret, pers. comm., Dec. 2013)
French Polynesia				X		Sales of shark products derived from the territory are prohibited, however, shark products of foreign origin may

Country	Livers or Liver Oil	Shark or Ray Skin	Cartilage	Jaws or Rostra	Manta or Mobula Gill Rakers	Notes
						still be sold (J. Mourier, pers comm, Dec. 2013)
Germany (n=2)	X	X	X	X		Shark oil imported and used by cosmetics and pharma industries (M. Stehmann, pers. comm., Dec. 2013).
Guinea-Bissau				X		Sawfish rostra are less available now due to large decreases in sawfish catches; sold mainly to tourists (R. Leeney, pers.comm., Dec. 2013)
India	X	X	X	X	X	Livers or liver oil- usually exported but also used as local medicine for wounds and other skin ailments. A few pharamaceutical companies process deepsea shark liver oil. In 2006, the export value of squalene was double that of shark meat and one-third that of shark fins. Shark skin was also exported with an export value one-tenth that of squalene. Ray skins are used for leather in purses/wallets. Local traders buy gill rakers for export (K.V. Akhilesh, pers. comm., Dec 2013)
Indonesia (n=2)	X (increasing)	X (increasing)	X (increasing)	X	X (increasing)	Shark skin is mainly utilized for local consumption but for large sharks at some places is dried and exported. Liver oil is mainly utilized traditionally and sold locally or to industry, but for good quality products, it is sometimes exported. Gill rakers are mainly exported to countries such as China and Hong Kong (Fahmi, pers. comm., Dec 2013).
Iran						There is no trade in these products and the fishing of sharks has been banned in the Persian Gulf and Oman Sea (T. Valinassab, pers. comm., Dec. 2013)
Ireland						Unaware of any official trading of cartilage, jaws etc in Ireland

Country	Livers or Liver Oil	Shark or Ray Skin	Cartilage	Jaws or Rostra	Manta or Mobula Gill Rakers	Notes
						(E. Farrell, pers. comm., Dec. 2013).
Italy (n=2)	X		X			
Japan (n=2)	X	X	X	X		
Kenya	X			X		Jaws may be sold to tourists. Liver oil is used for dhow boat building and repair (M. Samoilys, pers. comm., Jan. 2013)
Kuwait **Bahrain** **Qatar**						Liver, skin, cartilage and jaws are discarded (A. Moore, pers. comm., Dec. 2013)
Lebanon				X		
Malaysia		X (decreasing)				No domestic production of liver oil but fresh livers may be sold. Ray skins exported to Thailand. Jaws sold in souvenir shops. No information on trade in cartilage or gill rakers but may be sold as medicine (A. Ali, pers. comm., Dec. 2013).
Mauritania (n=3)		X (decreasing)	X			
Mauritius		X (stable)	X (stable)	X (stable)		Very few shark products are sold locally, except to Chinese restaurants. Jaws sell for USD 20 per unit (V. Kauppaymuthoo, pers. comm. Dec. 2013).
Mexico		X	X	X	X	
Mozambique (n=2)				X	X	Jaws occasionally offered for sale to tourists, but demand/supply is not likely to be significant (S. Pierce, pers. comm., Dec. 2013). Livers and skins are not used. Rays are primary caught for their meat, but their gill rakers are also exported (A. Marshall, pers. comm., Dec. 2013).
New Zealand	X (stable)					No trade in jaws/rostra or gill rakers in New Zealand (M.

Country	Livers or Liver Oil	Shark or Ray Skin	Cartilage	Jaws or Rostra	Manta or Mobula Gill Rakers	Notes
						Francis, pers. comm., Dec. 2013)
Portugal (n=2)	X					Shark skin, cartilage, jaws and gill rakers have little commercial value and are thus unlikely to be sold or exported (R. Coelho, pers. comm., Dec. 2013)
Reunion	X	X	X	X (stable)	X	Gill rakers are not traded. Price of jaws depends on species and size (E. Romanov, pers. comm., Dec. 2013)
Russia (n=2)	X (stable)	X (stable)	X (stable)	X (stable)		Demand for and availability of shark products is low (A. Dolgov and A. Orlov, pers. comm., Dec. 2013).
Sierra Leone						
South Africa (n=2)	X (decreasing)	X		X (increasing)		There was limited trade of livers for the use as lures in the white shark diving industry but this decreased. Limited and periodic market for shark/ray skin (sword handles) and cartilage. Jaws/teeth still marketed to tourists. Majority of shark products are exported (S. Winter and C. da Silva, pers. comm., Dec. 2013)
Sri Lanka				X (stable)	X (stable)	Demand appears stable though catches have declined. Ray, but not shark, skin is exported to India. Jaws are exported to the Maldives for the tourist trade. Gill rakers are bought and exported in conjunction with shark fins. Prices for dried mobula gill plates range from USD 50-110 per kg and for dried manta gill plates from USD 90-190 per kg (D. Fernando, pers. comm., Dec. 2013)
Sudan (n=2)		X	X	X		Jaws of mako and tiger shark are sold to tourists. Skin and cartilage sold informally to in-country Chinese traders (not exported). Liver oil is used by

Country	Livers or Liver Oil	Shark or Ray Skin	Cartilage	Jaws or Rostra	Manta or Mobula Gill Rakers	Notes
						some fishers (I. Elhassan, pers. comm., Dec. 2013).
Sweden						None of these products are traded (M. Cardinale, pers. comm., Dec. 2013).
Syria		X (stable)				
Taiwan PC						
Tunisia						A small directed fishery exists in the south of the country. Ray catch is 40% of the total chondrichthyan catch (M. Bradai, pers. comm., Dec. 2013).
United Kingdom						Trade in chondrichthyan fishes is stable overall but there have been increases/decreases in various species. Not aware of any trade in fins/cartilage/skin/jaws. Liver utilization curtailed by catch limits on deepwater sharks (J. Ellis, pers. comm., Dec. 2013).
United States (n=8)	X	X	X	X		On the West Coast, jaws/rostrum are sold for $100-$1000 per set depending upon species of shark (J. Bigman, pers. comm., Dec. 2013). Oil from spiny dogfish livers can be used in the nutraceutical industry as a source of omega 3 fatty acids; offal is converted into dried meal or liquid fertilizer (Kulka, D., Rivard, D. and Scott, I. 2012. The United States Atlantic Fishery for Spiny Dogfish (Squalus acanthias) Version 5, Public Certification Report, August 2012).