

SHARK PRODUCT TRADE
IN HONG KONG AND
MAINLAND CHINA
AND
IMPLEMENTATION OF THE
CITES SHARK LISTINGS

By
TRAFFIC EAST ASIA

A TRAFFIC EAST ASIA REPORT

TRAFFIC
— EAST ASIA —

This report was implemented
with the kind support of



Published by TRAFFIC East Asia, Hong Kong, China.

© 2004 TRAFFIC East Asia.

All rights reserved.

All material appearing in this publication is copyrighted and may be reproduced with permission. Any reproduction in full or in part of this publication must credit TRAFFIC International as the copyright owner.

The views of the author expressed in this publication do not necessarily reflect those of the TRAFFIC network, WWF or IUCN.

The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organizations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The TRAFFIC symbol copyright and Registered Trademark ownership is held by WWF. TRAFFIC is a joint programme of WWF and IUCN.

Suggested citation: Clarke, S. (2004). *Shark Product Trade in Hong Kong and Mainland China and Implementation of the CITES Shark Listings*. TRAFFIC East Asia, Hong Kong, China.

ISBN 962-86197-6-4

Front cover photograph: Shark fins on sale in Hong Kong.

Photograph credit: © WWF-Canon, Meg Gawler.

Printed on recycled paper.

SHARK PRODUCT TRADE IN HONG KONG AND MAINLAND CHINA AND IMPLEMENTATION OF THE CITES SHARK LISTINGS

by TRAFFIC East Asia

Credit: WWF-Canon, Jürgen Freund



Whale Shark fin, Philippines

TABLE OF CONTENTS

Acknowledgements	iv
Executive summary	v
Introduction	1
Background - CITES and its application to sharks	2
The international trade in shark products	4
<i>Types of shark products in trade, their values and their source fisheries</i>	4
<i>Market trends and trade patterns for shark products</i>	6
Shark fisheries and trade in Hong Kong and Mainland China	10
<i>Shark fisheries in Hong Kong and Mainland China</i>	10
<i>Shark product trade in Hong Kong and Mainland China</i>	11
<i>Shark fins</i>	11
<i>Shark meat</i>	16
<i>Trading routes and product destination in Hong Kong and Mainland China</i>	17
Control systems for trade in CITES-listed sharks in Mainland China	21
and Hong Kong	
<i>Mainland China</i>	21
<i>Legal instruments</i>	21
<i>Compliance-monitoring systems</i>	23
<i>Hong Kong</i>	24
<i>Legal instruments</i>	24
<i>Compliance-monitoring systems</i>	26
Air transport	28
Sea transport	31
Land transport	35
Conclusions and recommendations	38
<i>Technology</i>	39
<i>Deployment of human resources</i>	40
<i>Co-operation</i>	41
<i>Prioritization</i>	42
<i>Recommendations</i>	43
References	45
Appendices	51

ACKNOWLEDGEMENTS

The preparation of this report was made possible by financial support provided principally by the UK Foreign and Commonwealth Office (Environment Fund), but also by the Rufford Maurice Laing Foundation, and by technical support from many specialists who generously contributed their time and knowledge. From TRAFFIC East Asia, Samuel K. H. Lee and Sean Lam provided background materials and translation support, R. Craig Kirkpatrick strategically guided the study and Joyce Wu assisted with information on Whale Sharks in Taiwan. Many officials of the Hong Kong Special Administrative Region Government made diligent efforts to provide detailed information on the system of CITES implementation in Hong Kong, but T. F. Lam of the Customs and Excise Department and C. S. Cheung of the Agriculture, Fisheries and Conservation Department deserve special mention for their thoroughness and professionalism. Research elsewhere in China was conducted with the participation of Professor Xu Hongfa of TRAFFIC East Asia, Dr Meng Xianling of China's CITES Management Authority, Mr Li Xiaobin of the China Fisheries Administration and Madame Zhao Yanhua of the Chinese Research Academy for Environmental Sciences. Their assistance is gratefully acknowledged. Angela Barden of TRAFFIC International provided liaison with the UNEP-World Conservation Monitoring Centre and Anna Willock of TRAFFIC Oceania, Rachel Cavanagh of IUCN-The World Conservation Union, Dai Xiaojie of the Shanghai Fisheries University and others cited above provided helpful comments on the draft report.



EXECUTIVE SUMMARY

The purpose of this study is to describe the characteristics of shark product trade in Mainland China and Hong Kong in the People's Republic of China (China). It also examines regulatory and monitoring systems in Mainland China and Hong Kong for implementing the recent listing of three shark species in Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Basking Shark *Cetorhinus maximus* and Whale Shark *Rhincodon typus* were listed in Appendix II of CITES following the twelfth meeting of the Conference of the Parties to CITES (CoP12), in November 2002, and the Great White Shark *Carcharodon carcharius* was listed in Appendix III, by Australia, in 2001. These listings require that trade in products derived from these species be subject to a permitting system, to regulate their trade and to facilitate monitoring of the trade and conservation assessment. While CITES provides a forum for articulating and managing trade issues, management of shark fisheries is being encouraged by the International Plan of Action for Sharks (IPOA-Sharks) of the United Nations Food and Agriculture Organization (FAO). However, as of February 2003, only 17 of over 100 eligible nations had reported actually developing, or beginning to develop, National Plans of Action under the IPOA-Sharks.

Sharks provide a wide variety of useful products, of which shark meat is the most traded, in terms of quantity, and it is most commonly exported to European markets. Shark fins are the most valuable product per unit weight and their use as a luxury food item in Chinese cuisine, often in soups, is growing in pace with the increasing affluence of Asian consumers. Markets for shark liver oil, cartilage, skin and teeth are limited and may be under-represented by existing trade statistics, which usually do not distinguish these products as deriving from sharks. Trade in the CITES-listed shark species mainly consists of Whale Shark meat; jaws and teeth of the Great White Shark; and fins of all three species, either for consumption or as trophies. Much of the distinguishable shark product trade has historically been concentrated in Chinese communities, particularly in Hong Kong, which has long served as an entrepôt for Mainland China. The effectiveness of global shark trade regulation and monitoring measures in these markets will thus have a major influence on the overall effectiveness of global regulation measures.

Neither the fisheries of Hong Kong nor those of Mainland China rank among the world's top shark fisheries, but together Hong Kong and Mainland China dominate the global shark fin trade. During the 1990s, Hong Kong controlled the majority of unprocessed fin imports, but re-exported them to Mainland China for processing. With the increasing economic liberalization of Mainland China, Hong Kong traders no longer monopolize shark fin trade flows. This presents problems when attempting to quantify the trade, since, for reasons which remain unclear, Mainland China's shark fin import figures do not seem to reflect the true quantities of fins in trade. The best estimates of market parameters in 2000 suggest that the trade is growing by more than five per cent a year, with Hong Kong capturing 50% of the global trade in shark fins.

The most common trading route for shark fins is by sea to Hong Kong and subsequently by barge to processing factories in Guangdong Province, China. Only a small percentage of shark

fin imports reported by Mainland China are destined for other provinces in the country. A large proportion of traded shark fins are eventually consumed in Mainland China and trade statistics showing a ten-fold increase in frozen shark meat imports to the Mainland since 1998 may also signal an expanding market for this product.

Owing to delays in overhauling its CITES-implementing legislation, Hong Kong had not made legislative provision for implementing the CoP12 shark listings, nor the Appendix-III listing of the Great White Shark, at the time of writing, but intended to do so by May 2004. Mainland China implements CITES listings through administrative orders and was thus in a position to implement the Appendix-II shark listings as soon as they became effective, in February 2003. Hong Kong maintains a well-developed and transparent import control system at air, sea and land checkpoints. Enforcement personnel have the necessary tools to implement the CITES controls but greater involvement of specialist personnel in consignment screening will be necessary to identify products from protected shark species, particularly in cases where products from regulated species are mixed with products from similar, unregulated species. Only limited information on the internal workings of the Customs control system of Mainland China could be ascertained. However, several positive actions relating to the Mainland shark fin trade were identified: a special briefing was held by the CITES Management Authority for 140 trade representatives in Shenzhen (Guangdong Province), to inform them of the new CITES requirements in early 2003; shark fin tariff compliance and food quality regulatory actions have been taken; and the Mainland authorities implemented a single manifest system with Hong Kong in January 2004 (i.e. authorities require that the same manifest (cargo list) is presented to each jurisdiction). With the exception of the activities of the Customs Authority in Mainland China, which could not be fully assessed under this study, all processes necessary to allow the implementation of new CITES listings, including those for sharks, appear to be in place in both jurisdictions.

The prospects for improving the effectiveness of trade regulation for protected species can be considered in terms of technology, human resources, co-operation and prioritization. Technology in the form of x-ray equipment and intelligence databases is already at work in one or both jurisdictions. Genetics-based tools for species identification are technically feasible but will require effective cargo-screening procedures as a pre-requisite for meaningful application. Systems in both Mainland China and Hong Kong are characterized by a division of labour between Customs and protected-species officers, with the former given the responsibility for initial screening of shipments. Therefore, Customs officials must be given species-specific guidance when screening shipments which could contain products from protected sharks. In the case of Hong Kong, it may be possible to increase the involvement of protected species officers in the screening process without undue labour demands. Differences between the regulatory frameworks for protected species in Hong Kong and Mainland China should not necessarily hinder co-operation and there are signs that greater integration of Customs procedures, which may lead to broader co-operation on related issues, is occurring. Both jurisdictions face a host of competing priorities but should guard against diverting resources for species protection to other trade-compliance issues, such as those relating to textiles or pirated goods.

The key recommendations of this study are:

- Given the heavy reliance on visual (including x-ray-enhanced) screening by non-specialist Customs officers for inspecting cargo, it is essential that basic information on shark products be included in, and disseminated through, centralized intelligence databases as soon as CITES shark listings take effect.
- In addition to the basic information mentioned above, information on shark products such as likely size ranges, countries of origin, and methods of packing (for example, frozen, dried, sorted or mixed) should also be compiled and circulated.
- CITES Management Authorities should remain abreast of developments in molecular genetic identification tools for shark products and consider producing guidelines governing the use of forensic testing in enforcement actions.
- Given the difficulties in screening shark product shipments effectively, specialist officers should be involved in screening more frequently through increased use of referral procedures (for example, the use of 'F' codes by C&ED frontline inspection staff at the Hong Kong airport).
- Channels of communication between both CITES Management Authorities and their respective trade communities have been used to convey information regarding the new CITES listings and should continue to be used, especially if Hong Kong's new CITES-implementing legislation changes existing permitting requirements.
- Hong Kong and Mainland China should use the opportunity presented by implementation of the single manifest system at the border in January 2004 to reconcile discrepancies in commodity categories for shark products by amending Customs codes, and to promote further integration of intelligence systems.
- Mainland China should prioritize completion of its National Plan of Action-Sharks, actively engage in relevant regional fisheries organizations to ensure effective management of shark resources harvested in high seas areas, and consider means of improving, or initiating, shark catch documentation for its fleets operating in areas not controlled by regional fisheries organizations.
- In order to ensure a proper balance of enforcement priorities, the CITES Management Authorities of Mainland China and Hong Kong should participate in decisions regarding the allocation of general Customs compliance-monitoring resources.

INTRODUCTION

The purpose of this study is to describe the characteristics of shark product trade in Mainland China and Hong Kong in the People's Republic of China (China) and to assess the prospects for effective management and monitoring of this trade through the recent listing of three shark species in the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The first section of this report presents background information essential to understanding the current relationship between sharks and CITES. The following sections provide a brief introduction to the international shark trade, in order to establish the context for the specific discussion of trade in Mainland China and Hong Kong which follows. The report then describes in detail the current systems for managing sharks and their products in the separate jurisdictions (Mainland China and Hong Kong) and concludes with a review of the strengths of these systems, while discussing the prospects for improving their integration and effectiveness.

BACKGROUND - CITES AND ITS APPLICATION TO SHARKS

CITES controls international trade in over 25 000 plant species and 5000 animal species. The most endangered among CITES-listed animals and plants are listed in Appendix I of CITES. These are threatened with extinction and CITES generally prohibits commercial international trade in specimens of these species. Appendix II lists species that are not necessarily now threatened with extinction, but that may become so unless trade is closely controlled. Listings in Appendix III can be made unilaterally by CITES Parties that have protected certain species and desire assistance from other countries in regulating and monitoring their international trade. Conditions of trade for species in each of the three Appendices are shown in **Table 1**.

As of the end of 2003, there were 164 Parties to CITES (Anon., 2003a). However, implementation of the Convention by its Parties is often flawed. Reviews of national legislation conducted by the CITES Secretariat in a three-phase study concluded that, of 136 Parties reviewed, 37 (26%) had legislation generally believed to meet the requirements for implementation of CITES ("Category 1" Parties), 52 (36%) had legislation believed generally not to meet all the requirements ("Category 2" Parties) and 47 (32%) had legislation believed generally not to meet the requirements ("Category 3" Parties). In a further 10 Parties (6%), analysis was still underway (Anon., 2003b). Under Phase 1 of the National Legislation Project of CITES (1997), the CITES-implementing legislation of China was classed as Category 2 (see document *Doc. 10.31 (Rev.) Annex 1*, Anon., 2003a). Under Phase 3 of the Project, a revised analysis of the legislation was undertaken and the results communicated to China (see document *Doc. 11.21.1*, Anon., 2003a). By March 2002 (at the 46th meeting of the CITES Standing Committee), China was listed as a Party which had prepared draft legislation for implementing CITES and it submitted an outline of its plan to draw up the legislation, by 31 May 2002, according to the schedule stipulated by CITES. This plan was required to include the agreed steps needed to adopt adequate legislation by 31 December 2003 (see CITES Standing Committee document *SC46 Doc. 11.1* and document *CoP12 Doc. 28* - Anon., 2003a).

Table I

Conditions of trade required under CITES Appendices I, II and III

Appendix	Permit conditions	Export Permit required?	Re-export certificate required?	Import permit required?	Non-detriment finding required?
I	Not for commercial trade; trade not detrimental to the species; trade is legal; avoids cruel or injurious shipping of live specimens	Yes (granted only if import permit already in hand)	Yes (granted only if in accordance with CITES and there is a valid import permit)	Yes	Yes
II	Trade not detrimental to the species; trade is legal; avoids cruel or injurious shipping of live specimens	Yes	Yes (granted only if in accordance with CITES)	No (unless required under national law)	Yes
III (if trade originates with listing party)	Trade is legal and avoids cruel or injurious shipping of live specimens	Yes	Not applicable	No (unless required under national law)	No
III (if trade does not originate with listing party)	Trade is legal and avoids cruel or injurious shipping of live specimens	No (certificate of origin only)	No (certificate of origin only)	No (unless required under national law)	No

Sources: Anon., 2003a; Reeve, 2002.

Discussion of potential actions with regard to shark conservation in the CITES forum began in 1994, at the ninth meeting of the Conference of the Parties to CITES (CoP9), with *Resolution Conf. 9.17*. This Resolution arose from concerns regarding increasing levels of international trade in shark products and unmanaged exploitation of sharks and called for compilation and review of existing biological and trade data for discussion at the tenth meeting of the Conference of the Parties (CoP10), in 1997. In fact, many, if not the majority, of international chondrichthyan conservation and management initiatives arose as a direct result of *Resolution Conf. 9.17* and associated CITES Decisions. During CoP10, a report prepared by the CITES Animals Committee, pursuant to *Resolution Conf. 9.17*, was adopted by CITES Parties. It called for the United Nations Food and Agriculture Organization (FAO) to encourage shark data collection and fishery management efforts (Anon., 2003 - document *Doc. 10.51* of CoP10). This resolve became the basis for FAO's International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks), adopted in 1999, which highlights the actions required for sharks within the context of FAO's Code of Conduct for Responsible Fisheries (Anon. 2000a). The IPOA-Sharks calls for States to prepare Shark Assessment Reports (SARs) and for

those which catch sharks, or in whose waters shark are caught, to submit National Plans of Action (NPOAs) to FAO by February 2001 (Anon., 1999a and CITES Animals Committee meeting document *AC 18 Doc. 19.2* - Anon., 2003a). If implemented, the IPOA-Sharks would provide most of the management and monitoring activities identified as necessary in the original CITES Resolution. However, very few countries have produced effective NPOAs: over 100 States report shark landings to FAO (CITES Animals Committee meeting document *AC 18 Doc. 19.2*, Anon., 2003a), yet at the 25th session of the FAO Committee on Fisheries (COFI), in February 2003, it was reported that only six such States had developed NPOAs. A further 11 were undertaking, or had undertaken, initial assessments in preparation for development of their NPOAs.

Concerned by this lack of progress, the twelfth meeting of the Conference of the Parties to CITES (CoP12) (November 2002) issued *Resolution Conf. 12.6*, to raise its concerns with FAO, to monitor progress with the implementation of IPOA-Sharks and to monitor shark status, with a view to making species-specific recommendations to the thirteenth meeting of the Conference of the Parties to CITES. The CITES Secretariat subsequently called on FAO to ‘broaden and deepen its efforts to promote [IPOA-Sharks] implementation’, but FAO responded that it faced tight budgetary constraints which limited its assistance to States wishing to develop NPOAs (CITES Animals Committee meeting document *AC 19 Doc. 18.2* - Anon., 2003a). It should be noted that, while some argue that CITES listings of sharks and the IPOA-Sharks are complementary in their mutual reinforcement of key goals regarding sustainability (Anon., 2002a), others see CITES listings of marine fish as an infringement of the rights and responsibilities of States to manage their own fisheries (Berney, 2000). One of the salient differences between the IPOA-Sharks and CITES measures for shark conservation is that the former plan of action is wholly voluntary whereas requirements under CITES bring to bear the full weight of the treaty on Parties (see Reeve, 2002).

In parallel with CITES Resolutions calling for improvements in management and monitoring of shark fisheries, several proposals to list shark species under CITES were debated at the meetings of the Conference of the Parties in 2000 and 2002. Proposals at the eleventh meeting (CoP11) (2000) to list the Basking Shark *Cetorhinus maximus*, Whale Shark *Rhincodon typus* and Great White Shark *Carcharodon carcharius* in Appendix II were submitted by the UK, the USA, and Australia and the USA, respectively. All were unsuccessful. (The original proposal for the Great White Shark was for listing in Appendix I, but this was amended to a proposal for an Appendix-II listing during the meeting of the Conference of Parties.) Parties opposing the proposals believed there was a lack of evidence of decline in shark populations as a result of commercial fishing, insufficient evidence of detrimental trade, and that FAO had exclusive competence in matters relating to fisheries (Anon., 2000b). Special problems relating to CITES listings of marine fishes usually revolve around the means of evaluating population declines in commercially fished species, the methods for making non-detriment findings for marine species and the necessity of avoiding conflicts between CITES, on the one hand, and regional fisheries organizations (RFOs) and FAO on the other (Anon., 2002a).

Subsequent to the failed shark listings at CoP11, the Basking Shark was listed in Appendix III by the UK, on behalf of the European Union, in September 2000, and the Great White Shark was listed in Appendix III, by Australia, in October 2001. Both Japan and Norway entered reservations on these Appendix-III listings, which exempt them from CITES requirements applicable to these listings. At CoP12 (2002), two species of shark were proposed for listing in Appendix II. A Basking Shark proposal was again put forward by the UK, a Whale Shark proposal by India, the Philippines and Madagascar. The Chinese delegation to CoP12, comprising representatives of the CITES Management Authorities of both Mainland China and Hong Kong, spoke against these proposals and tabled an information document outlining several reasons for its opposition to the listings (document *CoP12 Inf. 30* - Anon., 2003 a). Both listing proposals obtained slightly more than the required two-thirds' majority approval and came into effect in February 2003. Iceland, Indonesia, Japan, the Republic of Korea and Norway have entered reservations on these Appendix-II shark listings (see *Reservations* - Anon., 2003a).

The key points presented in this section are as follows:

- Sharks were first discussed in the CITES forum at CoP9, in 1994.
- The FAO International Plan of Action for Sharks (IPOA-Sharks) evolved from CITES decisions taken at CoP10, in 1997.
- In 2000, the Basking Shark was listed in CITES Appendix III by the UK, on behalf of the European Union, and the Great White Shark was listed in Appendix III by Australia, in 2001.
- By February 2003, it was reported that only six eligible States had developed NPOAs, although a further 11 were undertaking, or had undertaken, initial assessments in preparation for development of their NPOAs.
- In 2002, at CoP12, the Basking Shark and Whale Shark were listed in Appendix II, despite the opposition of several nations, including China.

THE INTERNATIONAL TRADE IN SHARK PRODUCTS

The diversity of shark products (for example, meat, fins, skin, oil, cartilage and jaws) is remarkable among fisheries commodities and this range of products is matched by exceptionally large variability in the value of the products. While the demand for some products, such as fins and some types of shark meat, appears to be rising rapidly, substantial declines have been observed in reported trade for other shark products. Although most existing data on shark products are not species-specific, the following discussion includes references to the CITES-listed Basking Shark, Whale Shark and Great White Shark, where information is available.

Types of shark products in trade, their values and source fisheries

The greatest quantity of international trade in shark products is in the form of fresh, chilled or frozen, unspecified, shark meat (Anon., 2003c). Shark meat is valuable as subsistence protein

for artisanal fishermen (Rose, 1996; Joseph, 1999; Almada-Villela, 2002; Shehe and Jiddawi, 2002), but in fisheries targeting high-value species, such as tuna and Swordfish *Xiphias gladius*, shark meat cannot compete for hold space in vessels and is often discarded (Bonfil, 1994; Camhi, 1999). In a small number of fisheries, primarily in temperate waters, sharks are targeted specifically for their meat. Examples of such fisheries include trawl fisheries for Piked Dogfish *Squalus acanthias* in the North Sea and off the northern coasts of the USA and Canada (Bonfil, 1999; Anon., 2003c); a longline fishery for Porbeagles *Lamna nasus* in eastern Canada (Hurley, 1998); and trawl and gill net fisheries for School Shark (or Tope Shark) *Galeorhinus galeus*, Gummy Shark *Mustelus antarcticus* and Spotted Estuary Smooth-hound (or Rig) *Mustelus lenticulatus*, off Australia and New Zealand (Walker, 1999; Francis, 1998). In semi-tropical or tropical waters, directed harpoon fisheries for Whale Sharks have been banned in India and the Philippines (Hanfee, 2001; Alava *et al.*, 2002), but are still pursued in Taiwan and several other places (Chen and Phipps, 2002; CITES listing proposal *Prop. 12.35* - Anon. 2003a). Press reports of the capture of a Whale Shark off Zhejiang Province in 2002, confirmed the recent occurrence of this species in coastal waters of Mainland China (X. J. Dai, Shanghai Fisheries University, *in litt.*, to R. C. Kirkpatrick, January 2003). Taiwan has recently implemented regulations for its Whale Shark fishery, limiting catches to 120 animals between July 2003 and the end of 2004 (a period of 18 months) and to one shark, per vessel, per trip (Joyce Y. Q. Wu, TRAFFIC East Asia - Taipei, pers. comm., November 2003).



Credit: Shelley Clarke

Fresh Whale Shark meat from a harpoon fishery

The quantities of shark meat in trade are large, relative to other shark products in trade, but the price of shark meat is generally low. Compilation of shark meat prices for a range of species worldwide indicated that Blue Sharks *Prionace glauca* and mako sharks *Isurus* spp. were sold for USD1 to 4/kg whereas Piked Dogfish fillets were the most valuable at nearly USD10/kg (Vannuccini, 1999). Retail prices quoted for Whale Shark meat in markets in Taiwan were considerably higher, with the most common price around USD12/kg, though prices ranged up to around USD17/kg (Chen and Phipps, 2002).

In contrast to the typically low value of shark meat, shark fins, particularly those from desirable species, are some of the most expensive seafood products in the world, retailing for up to USD740/kg in 2001, in Hong Kong (Clarke, 2002). A fin's value is ultimately determined by the number and quality of ceratotrichia (fin needles) that can be produced from it. Knowledgeable traders in Hong Kong have indicated that there are approximately 30-40 market categories of fin (some of which may be species-specific) that provide useable products



Credit: Shelley Clarke

Dried Basking Shark fins

(Vannuccini, 1999; Yeung *et al.*, 2000). Fins of all three CITES-listed sharks are internationally traded, although it is not clear whether the large sizes of these fins render them more appealing as trophies for display, than as products for consumption (S. Clarke, pers. obs., 2003). For example, traders in Hong Kong claim that Basking Shark and Whale Shark fin rays are coarse and taste of ash (Yeung *et al.*, 2000) and this may explain why these fins are reported to

command high prices per single large fin (for example, USD57 000), but relatively low prices per unit weight for small fins, with low trophy value (S. Clarke, pers. obs., 2003). Traders in Hong Kong claim that Great White Shark fins are only of value as trophies, as the quality of the ceratotrichia is very poor.

Other types of shark products, including skin, liver oil, cartilage and teeth, are not traded in large quantities or are not separately recorded in trade statistics. Demand for these products appears to fluctuate over time with changes in fashion, medical knowledge and the availability of substitutes (Rose, 1996). Harpoon fisheries for Basking Shark, now undertaken mainly by Norway in the North Sea, were initiated to supply the market for shark liver oil, but more recently have been motivated by the high prices for fins (see CITES listing proposal document *Prop. 12.36* - Anon., 2003a). Large numbers of sharks are taken as by-catch in deepwater trawl fisheries and use is often focused on livers, but sometimes also on flesh and fins (Gordon, 1999; Irvine *et al.*, 2003). The demand for distinctive jaws and teeth as curios is believed to act as an incentive for catches of Great White Sharks (see CITES listing proposal document *Prop. 11.48* - Anon., 2003a).

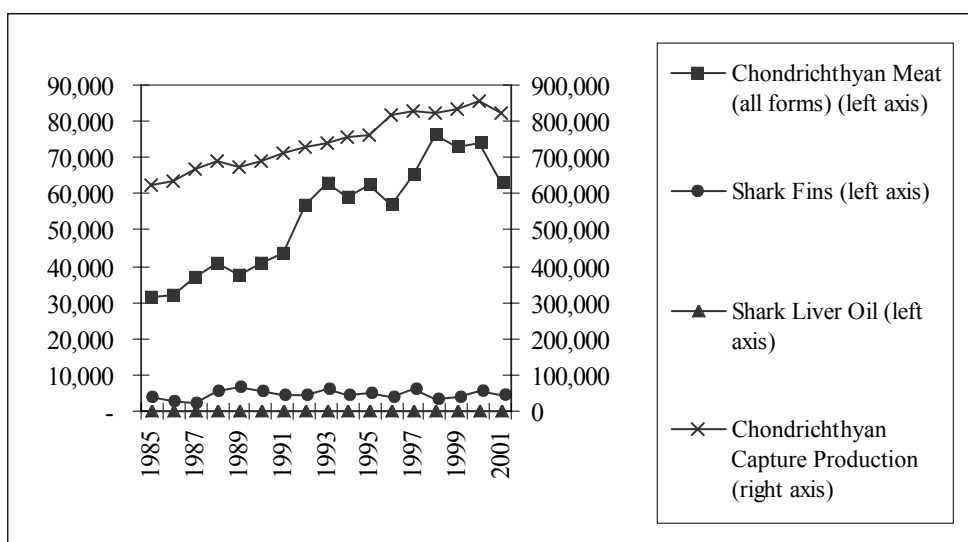
Market trends and trade patterns for shark products

Over the period 1985-2001, reported production of fresh, frozen and salted chondrichthyan (shark, skate, ray and chimaera) meat and fillets more than doubled, from approximately 31 500 t to 63 000 t, and grew by an average of two per cent each year (Anon., 2003c). Despite this growth in reported meat production, these figures still represent less than 10% of reported

capture production (catches), which suggests, assuming both sets of figures are accurately reported, that a large proportion of biomass is either used domestically (for example for subsistence or local market use), or discarded (**Figure 1**). Reported import and export quantities of meat are approximately equal to or lower than reported production quantities from 1985 to 2000, but in 2001 reported imports exceeded reported production by 24 t (Anon., 2003c).

Figure 1

Reported production quantities (t) of chondrichthyan meat, shark fins and shark liver oil, and total “capture production” (catches) of chondrichthyans (t), 1985-2001, showing reported meat production is consistently less than 10% of reported capture production.



Source: Anon., 2003c

Markets for chondrichthyan **meat** sufficiently valuable to warrant international trade are generally centred in Europe, for example, in Spain, France, Italy and the UK, and are based on rays and small sharks (Clarke *et al.*, in press). However, international trade in Whale Shark meat is believed to support the market in Taiwan (Chen and Phipps, 2002) and anecdotal evidence from the Philippines suggests there are markets for Whale Shark meat in Hong Kong, Singapore and Japan (Alava *et al.* 2002). ,

Shark **fin** trade quantities compiled by FAO are based on tallies of national Customs statistics and indicate that production remained steady, 1991-2001, at approximately 5000 t a year (**Figure 1**), whereas reported imports totalled roughly 14 000 t for 2000 and 16 700 t for 2001 (Anon., 2003c). These figures indicate that either production is under-reported and/or that shark fins imported to more than one country along the route from producer to consumer are double-counted. An alternative estimate, which accounts for double-counting, placed the global trade level at approximately 10 000 t in 2000 (Clarke, 2004). Hong Kong, which serves as an entrepôt for Mainland China, has been the centre of the world trade in shark fins for many years,

with a large portion of the remaining trade transiting Singapore (Kreuzer and Ahmed, 1978; Parry-Jones, 1996; Vannuccini, 1999; Fong and Anderson, 2000). Estimates of Hong Kong's share of world imports have varied between 50% (Tanaka, 1995, based on data up to and including 1990) and 85% (Vannuccini, 1999, based on 1992 data). More recent analysis of national Customs statistics (1996-2000) for the major trading centres for shark fin, i.e. Hong Kong, Mainland China, Singapore, Taiwan and Japan, indicates that 50% of the global trade passes through Hong Kong (Clarke, 2004). The trade in shark fins through Hong Kong, which is likely to be indicative of the volume of the global trade, is growing at an annual rate of six per cent and appears to be linked to increases in disposable income in Mainland China (Clarke, 2003).

Even fewer statistics are available for shark products, such as liver oil, cartilage, jaws, teeth, skin and offal, than for meat and fins, but the majority of documented trade in these categories is in liver oil and cartilage (Clarke *et al.*, in press). Since 1994, only the Maldives has reported producing shark liver oil (1700 t in 2001), although Norway and the Republic of Korea have both continued to report liver oil trade, imports and/or exports, throughout this period (Anon., 2003c). Major producing and trading countries for shark cartilage are believed to be the USA, Japan, Australia and India and products are known to be sold in Europe, Hong Kong, Taiwan, Singapore and many other locations (Vannuccini, 1999).

There are numerous difficulties in using existing trade databases to quantify trends in the shark trade by species. For example, none of the 14 commodity categories used by FAO for chondrichthyan fishes can be taxonomically segregated, with the exception of four categories for various forms of dogfish sharks (family Squalidae). Furthermore, because of non-specific reporting of both trade and capture production figures by many countries, sharks are commonly aggregated into generic fish categories (for example, 'marine fishes, not elsewhere indicated (nei)') and thus the reported figures for chondrichthyans are likely to be lower than the actual catches and production quantities (Shotton, 1999). Therefore, at present, quantitative analysis of shark product trade based on FAO data can only be conducted for generic shark products.

The recent listings of species of shark in CITES Appendices II and III will generate trade records that should provide an indication of the quantities of these three species in trade. Basking Shark Appendix-III permits may date from 2000 and Great White Shark Appendix-III permits from 2001, but it is unlikely that Appendix-II listings for Basking and Whale Sharks will generate data prior to late 2004, when countries are required to report permit data for 2003. The UNEP-World Conservation Monitoring Centre (UNEP-WCMC), which maintains the CITES trade database, has thus far reported only two occurrences (both in 2001) of Basking Shark product trade: one import to the UK of a Basking Shark leather product and one dubious record of a UK import of a Basking Shark carving (J. Caldwell, UNEP-WCMC, *in litt.* to A. Barden, TRAFFIC International, September 2003). More instances of trade in Great White Shark products have been recorded, all of which were imports to the USA in 2002 - a total of 300 teeth from Australia, one skull from Australia, and six pieces and 13 kg of bones from Australia, Taiwan and South Africa were traded (J. Caldwell, UNEP-WCMC, *in litt.* to A. Barden, TRAFFIC International, November 2003). These were all traded on a single export permit,

granted in view of the fact that the items were pre-Convention specimens.

Recent activities of the CITES Secretariat and Animals Committee have focused on liaison with the World Customs Organization to implement additional product- and perhaps species-specific commodity codes for shark products which can then be adopted by national Customs authorities (see document *AC 19 Doc. 18.2*, - Anon., 2003a; Anon., 2003d). Application of these would provide more detailed information on shark product trade and supplement that already available from CITES permit data. The only authority known to maintain separate Customs commodity codes for any of the CITES-listed sharks is Taiwan's Customs authority, which implemented seven new

codes for various forms of Whale Shark meat in 2001 (Chen and Phipps, 2002). As of July 2003, only one shipment of Whale Shark meat was reported under Taiwan's new codes, namely an export of 2000 kg to Spain.



Credit: WWF-Canon, Jürgen Freund

Whale Shark. Meat from this species commands high prices.

The key points presented in this section are as follows:

- Meat is traded in higher quantities than any other shark product and exports are mainly destined for European markets.
- Reported quantities of shark meat production and trade represent only 10% of reported shark catches, perhaps reflecting market demand for a limited subset of shark species.
- Per unit weight, fins are the most valuable shark product and demand appears to be growing rapidly, in pace with China's economic development.
- Production and trade of shark liver oil, cartilage, skin and teeth appears limited relative to production and trade in meat and fins.
- Currently, of the CITES-listed sharks, Whale Sharks are traded for meat, Basking and Whale Sharks for fins, perhaps mainly as trophies, and the jaws, fins and teeth of Great White Sharks are valued as curios.
- Analysis of national Customs statistics (1996-2000) for the major trading centres for shark fin indicates that 50% of the global trade passes through Hong Kong.

SHARK FISHERIES AND TRADE IN HONG KONG AND MAINLAND CHINA

Hong Kong and Mainland China maintain separate systems for managing and monitoring fisheries and trade, yet these systems are inextricably linked by their common borders and, since 1 July 1997, by the reversion of the British overseas territory of Hong Kong to Chinese sovereignty. As part of the handover agreement, the Government of the People's Republic of China (Mainland China) promised that Hong Kong would continue to operate under its own administrative systems, such as its legal and currency systems, for 50 years. Under this 'one country, two systems' structure, the government in Hong Kong retains its own import and export control system, as if it were a distinct country, and independently reports Customs data to international organizations, such as FAO. Hong Kong also manages capture fisheries in its own waters under a separate system. This section of the report describes these trade and fisheries management systems as they relate to sharks and highlights key factors influencing the implementation of CITES listings for sharks in both Hong Kong and the Mainland.

Shark fisheries in Hong Kong and Mainland China

According to local fishermen and fisheries management officers from the Hong Kong Agriculture, Fisheries and Conservation Department (AFCD), a directed fishery for sharks existed in Hong Kong between the early 1960s and the mid-1970s (Parry-Jones, 1996). More recent data indicate Hong Kong elasmobranch (shark, skate and ray) landings totalled approximately 500-1000 t in the early 1990s and declined to approximately 350 t a year, 1988-2001 (Anon., 2003c). Given what is known about the Hong Kong ecosystem (Pitcher *et al.*, 2000), it is likely that this production is derived from offshore Chinese waters rather than the nearshore areas (ca. 1650 km²) controlled by Hong Kong itself. Outside marine parks and reserves, which comprise 1.5% of Hong Kong's marine area, Hong Kong has no management controls on fishing effort in its own waters, nor does it regulate the fishing activities of offshore fishing vessels which use Hong Kong as a home port. While Hong Kong may not serve as an important port of landing for shark fisheries, companies in Hong Kong are known to operate at least one directed shark fishery off Pacific islands (Anon. 2003e).

There is no requirement to report shark catches in the coastal waters of Mainland China (X. B. Li, Fisheries Administration, pers. comm. to Y. H. Zhao, November 2003) and no elasmobranch catches in either nearshore or distant waters were reported by the Mainland to FAO prior to 1997. Since then, catches of unidentified elasmobranchs and Shortfin Mako Sharks *Isurus oxyrinchus* have been reported by the Mainland in small quantities (<200 t a year) for the following internationally established fishing areas: Eastern Central and Southeast Atlantic, the Western Central Pacific, and Eastern and Western Indian Ocean (Anon., 2003c). Chinese fleets fishing in waters controlled by RFOs, focusing on high-value species, such as tunas and Swordfish, record shark catches in a shark-specific logbook category (see, for example, Dai *et al.*, 2002), but Chinese fleets have no shark-specific logbook requirements when fishing in other areas (X. L. Meng, Chinese CITES Management Authority, pers. comm., September 2003). The Government in Mainland China maintains that no Mainland fleets are targeting sharks (X. B. Li,

Fisheries Administration, pers. comm. to Y. H. Zhao, November 2003; X. L. Meng, Chinese CITES Management Authority, pers. comm., September 2003).

The Mainland China Fisheries Administration intends to prepare a NPOA for sharks and has drafted a National Action Plan for Aquatic Animals containing four parts, one of which pertains to sharks. The plan is in its second draft (X. B. Li, Fisheries Administration, pers. comm. to Y. H. Zhao, November 2003) but has not yet been the subject of inter-departmental discussions (X. L. Meng, Chinese CITES Management Authority, pers. comm., September 2003). In June 2002, Hong Kong submitted a Shark Assessment Report (**Appendix 1**) to the Fisheries Working Group of the Asia-Pacific Economic Community (APEC), of which it is a member. The AFCD in Hong Kong considers that it is unnecessary to develop a NPOA for sharks in Hong Kong, as there is no directed fishery and only small quantities are caught by local fishermen as by-catch (C. S. Cheung, AFCD, *in litt.*, January 2004). While this interpretation of the necessity to prepare a NPOA complies with the requirements set by FAO, it effectively places the full burden of controlling fleets which are operating with the financial support of companies in Hong Kong, and which are supporting a thriving trade in Hong Kong, on other countries or on RFOs.

Shark product trade in Hong Kong and Mainland China

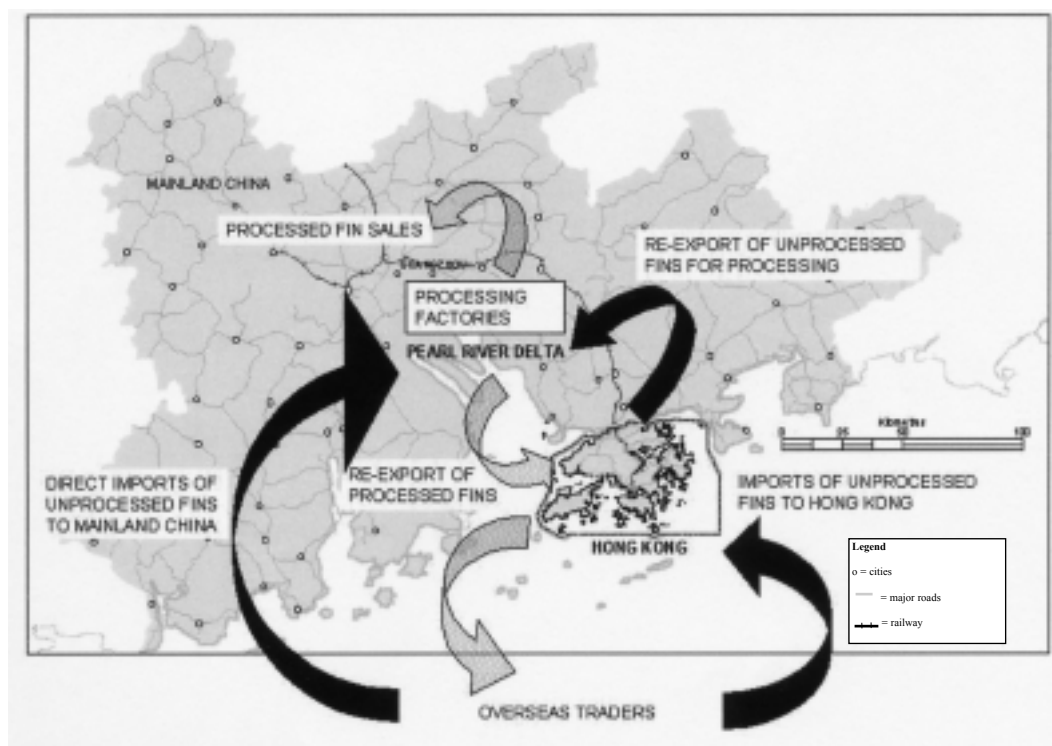
Shark fins

Hong Kong has long served as a transit point for goods passing between Mainland China and the rest of the world. This situation creates a complex trading relationship between the two jurisdictions, with raw and finished goods moving back and forth across the border as materials are sourced, processed, consumed or re-exported. The trade in shark fins through Hong Kong is no exception (**Figure 2**). Imported, unprocessed shark fins from overseas suppliers are shipped across the border from Hong Kong to processing factories in Guangdong Province (Mainland China), from where some of these same fins are re-imported to Hong Kong, for consumption, or re-export, for example to overseas Chinese communities. The remainder of the processed product is sold within Mainland China, primarily for domestic consumption (Parry-Jones, 1996; Clarke, 2003). (A processed shark fin may be wet or dry; the processing involves removing any attached meat, the skin and the cartilage (leaving only the edible fin rays).

This established trading pattern between Hong Kong and the Mainland is beginning to change in many sectors as the economy of Mainland China expands, the constraints on Mainland Chinese traders (for example, travel restrictions, currency controls) are relaxed, and as trade is increasingly able to bypass Hong Kong. However, recorded imports to Hong Kong of unprocessed fins are not declining over time. Furthermore, although it would be expected, according to this scenario, that the proportion of Mainland imports relative to imports to Hong Kong would increase over time, the data actually show that the Mainland proportion is decreasing (**Table 2**). Nevertheless, other signs reinforce evidence of the expected trend: trade in shark fins between key Southeast Asian trading centres (for example, Singapore, Malaysia and Thailand) and Mainland China has noticeably expanded in recent years (Clarke, *in press*).

Figure 2

Schematic diagram of the complex trading relationship existing between Hong Kong and Mainland China in the shark fin trade. Black arrows represent unprocessed fins; grey arrows represent processed fins.



Source: Clarke, 2003

Table 2

Declared quantities of shark fins imported to Hong Kong and Mainland China, 1998-2002

Year	Declared imports to Hong Kong (t) (HK)	Declared imports to Mainland China (t) (MC)	Proportion of the total (HK+MC) imported to the Mainland (%)
1998	6919	4236	38
1999	7643	4062	35
2000	9799	4646	32
2001	9461	3128	25
2002	9846	3555	26

Note: Quantities for Hong Kong represent unprocessed shark fins, only, which have been recorded separately since 1998. Mainland China does not distinguish between processed and unprocessed shark fins in its Customs commodity coding system, but it is unlikely that it imports processed fins.

Sources: Anon., 1999b, 2000b, 2001a, 2002b, 2003f, 2003g.

This comparison of the trade figures for Hong Kong and Mainland China raises an important issue when interpreting Mainland China Customs statistics. Previous research has identified disparities of up to two orders of magnitude between Customs statistics for Hong Kong and Mainland China for shark fins on the north-bound trade route, i.e. from Hong Kong to the Mainland, but a close match in figures for the south-bound route, i.e. from the Mainland to Hong Kong (Clarke, 2004). The reason for the discrepancy on the north-bound route could be that, in contrast to Hong Kong which is a duty-free port, Mainland China imposes high tariffs on imported shark fins. Tariffs as high as 80% (general rate) or as low as 15% (preferential rate), in addition to other taxes, such as a value-added tax of 13%, may apply (Anon. 2003h). Traders may thus use separate manifests (cargo lists) for Mainland China and Hong Kong, to under-report imports to Mainland China and avoid tariffs or other taxes, but freely report quantities passing south to Hong Kong (see page 37). Another possibility is that goods imported from Hong Kong ‘for processing’ are not reflected in import totals by Mainland statistical authorities. Either of these factors could act to reduce the quantities of fins reported as imports to Mainland China from Hong Kong, as well as from other countries, and thereby depress the figures showing imports of shark fins to Mainland China (see **Table 2**). If Mainland China import data are reported by country of origin rather than country of consignment this could also explain why imports from Hong Kong are low, but this would not account for why the number of countries in the Mainland China import database (which averages 21 each year between 1996-2002) is considerably lower than the number of countries in the Hong Kong import database (>80, see below). A final possible explanation for the discrepancy arises from an amendment of China’s Customs commodity codes in May 2000 (Anon., 2000d). The wording of the amendment indicates that, from the date of implementation onwards, fresh, chilled and frozen shark fins were to be recorded as shark meat (i.e., codes 0302- and 0303-, see **Table 3**) (H. F. Xu, TRAFFIC East Asia, *in litt.* to R. C. Kirkpatrick, January 2004), despite the lack of

Table 3

Commodity codes for shark products used in Hong Kong and Mainland China

Code	Official definition
<i>Hong Kong</i>	
0303-7500	Dogfish and other sharks, excluding fillets, livers and roes, frozen
0305-5950	Shark fins with or without skin, with cartilage, dried whether or not salted but not smoked
0305-5960	Shark fins with or without skin, without cartilage, dried whether or not salted but not smoked
0305-6930	Shark fins with or without skin, with cartilage, salted or in brine but not dried or smoked
0305-6940	Shark fins with or without skin, without cartilage, salted or in brine but not dried or smoked
<i>Mainland China</i>	
0302-6500	Fresh or chilled dogfish or other sharks
0303-7500	Frozen dogfish and sharks
0305-5920	Dried shark fins, not smoked

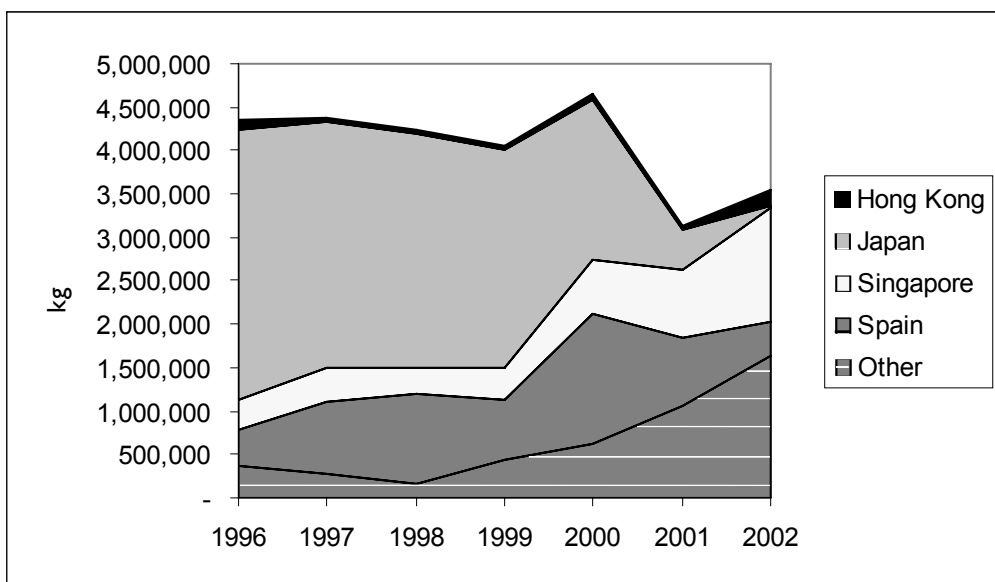
Sources: Anon., 2003f and g.

any reference to shark fins in internationally published descriptions and statistics for these categories. This would explain the observed dip in China's declared imports of shark fin in 2001 (**Table 2**), but renders compilation of accurate figures on China's share of the global shark fin trade impossible.

Despite these drawbacks and uncertainties associated with the Mainland Chinese Customs statistics, analysis of the origin of dried fin imports to Mainland China, at face value, reveals a particular trend (**Figure 3**). While Hong Kong has long been reported as only a minor supplier, Japan dominated imports to Mainland China throughout the late 1990s, but has contributed only a small share since 2000. In contrast, Singapore's trade has grown to the point where it was the biggest supplier to Mainland China in 2002, surpassing even Spain, according to China's import statistics. **Figure 3** also shows how the sources of dried shark fin imports to Mainland China have diversified. Although the number of countries in category "Other" contributing imports to Mainland China (27) has not grown since 2000, the quantity of imports from these countries grew to 46% of the total in 2002 and may reflect the increasing frequency of direct business connections between Mainland dealers and overseas suppliers.

Figure 3

Sources of dried shark fin imports to Mainland China, according to import data by country, 1996-2002



Note: Only Hong Kong and those countries contributing more than 1000 kg in any one year are shown in separate categories and all other countries are shown in aggregate.

Sources: Anon. 1997, 1998, 1999b, 2000b, 2001a, 2002b, 2003f

Based on the above discussion of uncertainties in the Mainland import data, Hong Kong Customs data may provide the most reliable measures of trends in the shark fin trade. Not only

is the system in Hong Kong less prone to under-reporting, in 1998 it implemented four commodity codes for shark fins which are essential in correcting for biases (**Table 3**). This system distinguishes raw from processed fins on the basis of whether fin cartilage is present and thus allows correction for potential double-counting (for example, fins counted in Hong Kong as imported in raw form and then again when imported in processed form; see **Figure 2**). Hong Kong also maintains the separate reporting categories for dried and salted (frozen) shark fins that were in use prior to 1998 and allows correction for water content of frozen fins (Clarke and Mosqueira, 2002). It is possible to compare data compiled under the old (pre-1998) and new (post-1998) systems if it is assumed that, before 1998, all shark fins imported to Hong Kong from Mainland China were in processed form and should thus be subtracted from the total of declared imports to Hong Kong, to obtain figures for unprocessed fin imports (Parry-Jones, 1996).

Using this method, the total declared imports of unprocessed shark fins to Hong Kong were adjusted for double-counting of processed fins to produce a corrected total (**Figure 4**). A second adjustment is necessary to account for the fact that the ‘salted or in brine’ fins are believed to be in frozen form and thus should be normalized for water content. Evidence from several sources indicates that the weight of frozen fins should be reduced by a factor of four to correct for water content (Clarke, 2003). **Figure 4** reveals that quantities indicated by the unadjusted totals overestimate the true volume of the trade by 60 to 70% a year for the past decade. Similarly, the year-on-year rate of increase for the entire time period is estimated at 8.8% for the unadjusted series, but only 5.4% for the twice-adjusted series. The increasing proportion of ‘salted or in brine’ (i.e. frozen) imports to Hong Kong, particularly since the mid-1990s, is responsible for this divergence and causes misleading patterns in the unadjusted totals. For example, the unadjusted totals suggest that shark fin imports declined in 1998 but this was actually only because of a slowing of the rate of increase for imports of ‘salted or in brine’ fins. In contrast, the fall in unadjusted imports in 2001-2002 represents a real contraction in the Hong Kong trade, since it is also reflected, although to a lesser extent, in adjusted totals.

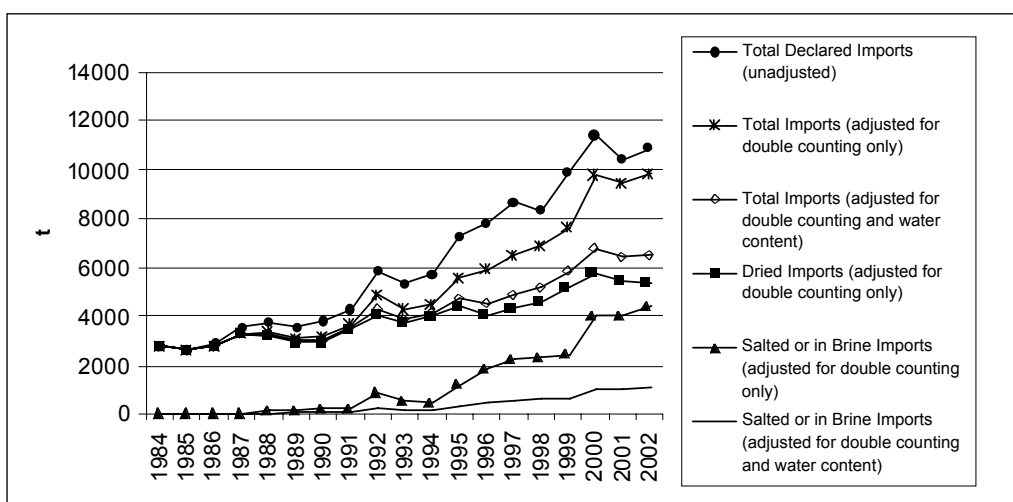
Hong Kong imported unprocessed shark fins from at least 84 countries in 2001 and 80 countries in 2002. This is a slight decrease from the 85 and 86 countries exporting shark fins to Hong Kong in 1999 and 2000, respectively (Clarke, 2002) and a major reduction from the 125 countries recorded in 1995 (Parry-Jones, 1996) (which total appears to have been based on counting all islands within groups such as US island territories and protectorates in the Pacific, as separate importing countries).

Declared countries of origin for the adjusted import quantity of shark fins to Hong Kong in 2001 and 2002 were predominantly Spain, Taiwan, Indonesia and the United Arab Emirates: these countries were also the top-four exporters to Hong Kong between 1998 and 2000 (Clarke, 2002). Changes in the origin of shark fin exports to Hong Kong in 2001 and 2002 include a reduction in exports from the USA, which dropped from sixth-most important exporter, 1998-2000, to 13th in 2001, and 11th in 2002, possibly as a result of the *Shark Finning Prohibition Act* (Anon., 2002c). Other changes included the emergence of Brazil as the sixth-ranked exporter of shark fins to Hong Kong and inclusion of Mainland China in the top-ten exporters

to Hong Kong for the first time. In the case of the Mainland, its high ranking as a country of origin for shark fins is surprising, given its lack of reported shark capture production (see page 10). Large quantities of unprocessed shark fins exported to Hong Kong with Mainland China as the declared country of origin may be a function of erroneous Customs declarations for fins which originated outside China altogether and were shipped into the Mainland directly from supplier countries. One reason for importing raw fins from the Mainland to Hong Kong could be to sell them at daily auctions in Hong Kong to the highest bidder (see Clarke, 2003).

Figure 4

Imports (t) to Hong Kong of shark fins dried or “salted or in brine” and of total shark fins, 1984-2002, showing growth in twice-adjusted imports of 5.4%. The two corrections applied to the total declared import figures are: first, all figures for dried and salted fins prior to 1998 have been adjusted for double-counting of re-imported (i.e. processed) fins, as in Parry-Jones (1996) (■ and ▲ series) and, second, salted or in brine imports in all years have been adjusted for water content (○ series). The total imports without adjustment (●) are shown, as well as the totals resulting from the adjustment for double-counting alone (✕) and from double counting in combination with adjustment for water content (◇).



Source: Anon., 2003f - for imports (t) to Hong Kong of shark fins dried, salted or in brine and total shark fins, 1984-2002.

Shark meat

The trade in shark meat is straightforward relative to the trade in shark fins since, in the absence of processing, and subsequent re-sale, there is no reverse flow of product. Although Hong Kong may act as an entrepôt for small quantities of shark meat products (no more than 30 t a year were re-exported in 2000 and 2001), the market in Mainland China is larger, particularly for frozen

shark meat, the market for which has expanded ten-fold since 1998 (**Table 4**). This Mainland market appears to be served primarily by Singapore, Japan and Spain. The information suggesting that fresh, chilled and frozen shark fins have been declared as shark meat since mid-2000 could explain the substantial growth in frozen shark meat imports in recent years. However, growth in the Mainland market for shark meat products *per se* may also be occurring, in concert with increasing demand for other types of seafood (Delgado *et al.*, 2003).

Table 4

Total declared imports (t) of shark meat to Mainland China and Hong Kong, 1998-2002

	Mainland China, fresh	Mainland China, frozen	Hong Kong, frozen
1998	70	243	0
1999	179	1004	25
2000	350	1812	11
2001	419	2382	85
2002	595	4603	3

Note: Hong Kong does not maintain a commodity code for fresh shark meat.

The source countries for shark meat imports to Hong Kong and Mainland China were examined, to investigate the possibility of a market for Whale Shark meat. Hong Kong recorded shipments of shark meat from India of 25 200 kg and 75 170 kg in 1999 and 2001, with declared values of USD1.28/kg and USD2.43/kg, respectively, but there is no way of identifying whether this was Whale Shark meat. China has also imported fresh shark meat from Taiwan, 2001-2002, frozen shark meat from Taiwan, 2000-2002 and frozen shark meat from India, in 2000. Declared values were approximately USD1/kg, except in the case of the fresh shark meat from Taiwan in 2001, for which the declared value was USD8.10/kg, suggesting that this may have been Whale Shark meat, since few other sharks are valued this highly (see page 5)

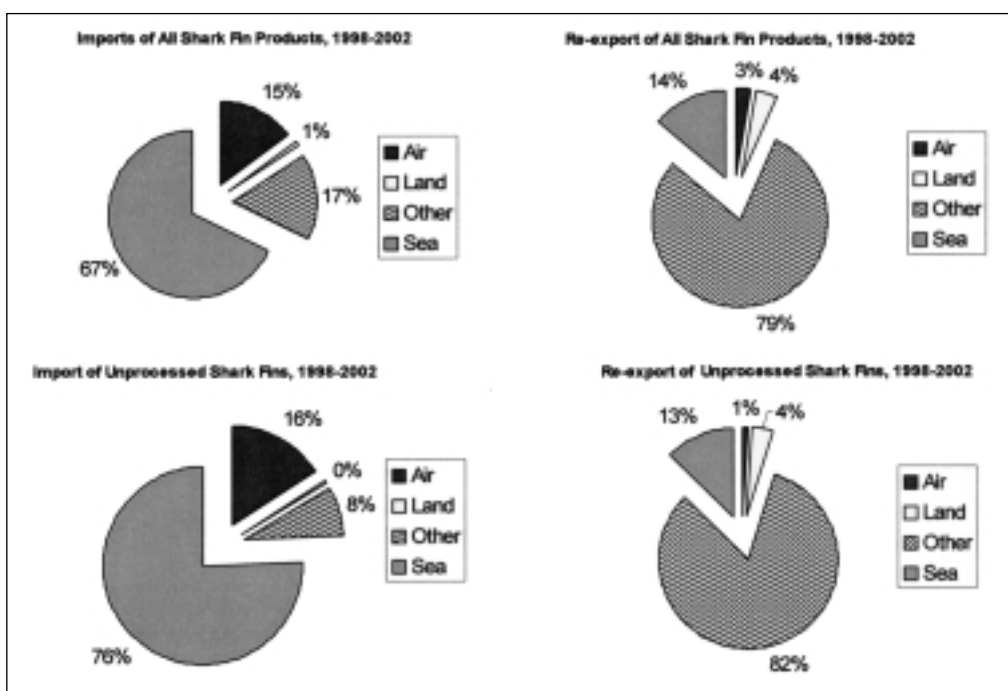
Trading routes and product destinations in Hong Kong and Mainland China

In order to understand which trade control checkpoints are most important in enforcing CITES permitting requirements for shark products, information relating to modes of transport for international trade in shark products to and from Hong Kong were compiled for 1998 to 2002. Given the small quantities of imported shark meat and the even smaller quantities of re-exported shark meat, only data for shark fins were compiled (**Figure 5**). Trends have remained fairly consistent for shark fin trade. Overall, most shark fins (67%) are imported to Hong Kong by sea. The percentage of unprocessed shark fin cargo arriving by sea is actually higher (76%), but appears less in aggregated figures because of imports of processed fins. Processed fins, which are generally imported to Hong Kong from factories in Guangdong Province, often arrive by means of a transport category entitled 'Other'. This category includes transit by river, post and

other, unspecified means and is believed to include transport by river barges plying the Pearl River Delta (see **Figure 2**). Shark fins re-exported from Hong Kong, most of which would be expected to be unprocessed fins destined for Mainland China, are also transported predominantly (82%) by the ‘Other’ category (according to traders and Customs officials, this means almost exclusively transport by river barge) (**Figure 5**). Approximately 15% of Hong Kong’s shark fin imports arrive by air, but only a negligible percentage of fins are re-exported in this manner. Air is seldom used as a means of transport for imports and re-exports of shark fin (either unprocessed or processed).

Figure 5

Modes of transport for shark fin imports to Hong Kong and re-exports from Hong Kong, 1998-2002



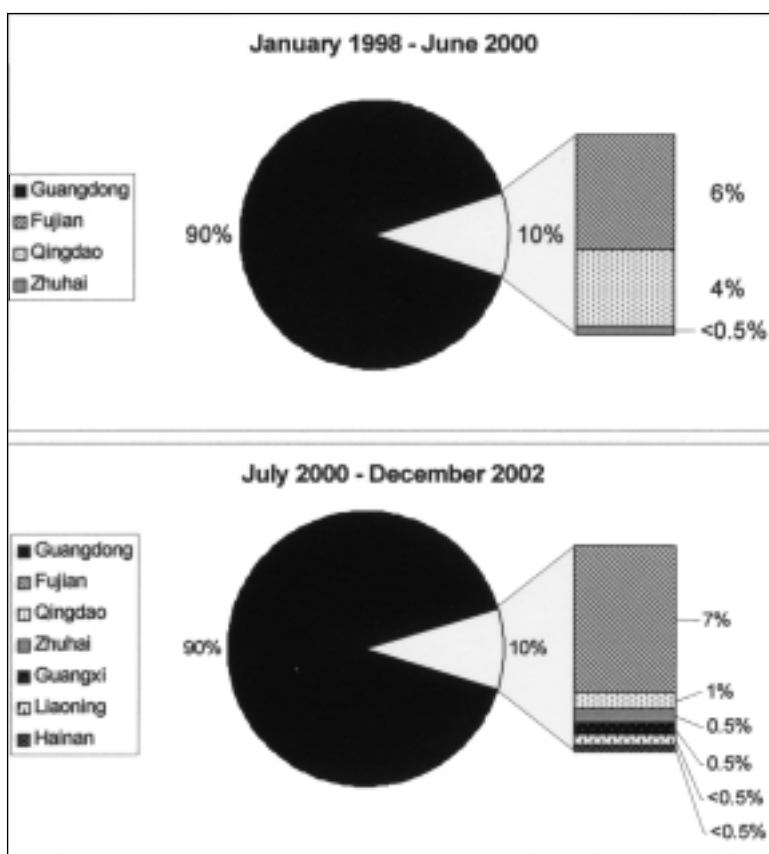
Source: Anon. 2003g

Complementary data for Mainland China are not freely available (but can be purchased for a negotiable fee, depending on the type of data and number of data points desired) (Anon., 2003i). A dataset showing the quantity of shark fins imported to Mainland cities for the periods January 1998 to June 2000 (“period 1”) and July 2000 to December 2002 (“period 2”) was acquired (**Appendix 2**). This dataset was looked at, to attempt to discern any changes in import destinations that may have occurred as a result of the patterns revealed in **Figure 3**, for example, a shift away from imports from Japan. Imports in both periods (1 and 2) were dominated by shipments (90%) to Guangdong Province (**Figure 6**). The cities in Guangdong receiving the greatest number of shark fins were the processing centres of Jiangmen, Shunde, Nanhai and

Zhongshan. In both periods, Jiangmen imported by far the largest quantity (43-45%); the proportion of fins destined for Shunde and Nanhai dropped in the latter half of the timeframe, while Zhongshan's proportion increased. In the earlier period (period 1), the cities outside Guangdong receiving large quantities of shark fin (i.e., over 35 t for 30 months) were Ningde, in Fujian Province and the Qingdao and Zhuhai Special Economic Zones (SEZ).

Figure 6

Percentage of total shark fin imports to Mainland China by destination province or Special Economic Zone for 30-month periods beginning in January 1998 and July 2000



In period 2, a greater number of locations acquired a greater share of overall imports (when considering only those locations acquiring at least 0.3% of the total quantity and over 25 t in total for the period). Processing centres in Fujian, Qingdao and Zhuhai were joined by those in Guangxi Province (Wuzhou City (on the Guangdong border)), Liaoning Province (Dalian) and the Hainan SEZ. A comparison of quantities imported to northern China (from Shandong Province northward) in periods 1 and 2 was undertaken in order to explore a hypothesized linkage between a decline in imports of fins from Japan and the level of activity of processing

plants in northern China. Although the proportion of imports to northern China appeared to decline, from 4% in the earlier period, to 1.5% in the later period, the magnitude of this decline does not match the magnitude of the observed shift in the source of imports away from Japan (**Figure 3**). Overall, import destinations are largely consistent between the two periods, with only a slight suggestion of a proliferation of processing locations in the Mainland.

The key points presented in this section are as follows:

- Based on available information, fleets from Mainland China and Hong Kong are not catching large quantities of sharks, but Mainland distant-water fleets have only recently begun reporting shark by-catches in areas controlled by RFOs and have no logbook requirements for sharks in other areas.
- With the continued liberalization of the Mainland market, some signs indicate that shark fins are increasingly by-passing Hong Kong. However, declared imports to Hong Kong of unprocessed fins are not declining over time, nor is the Mainland proportion of reported fin imports increasing.
- For reasons which remain unclear, reported Mainland import statistics do not appear to reflect the true quantity of shark fins in trade, but if available figures accurately reflect qualitative trends, a shift away from suppliers in Japan has occurred.
- Market trends based on Hong Kong import statistics suggest the shark fin trade grew by 5.4% during 2002 and was dominated by imports from Spain, Taiwan, Indonesia and the United Arab Emirates.
- Reported imports of frozen shark meat to Mainland China have expanded ten-fold since 1998, reflecting either an increasing trend of declaring shark fins as shark meat or an expanding market for frozen shark meat (or both).
- Most shark fins are imported to Hong Kong by sea and re-exported by river barge to the Pearl River Delta area.
- The vast majority (90%) of shark fins imported by Mainland China, 1998-2002, were destined for processing plants in Guangdong Province.

CONTROL SYSTEMS FOR TRADE IN CITES-LISTED SHARKS IN MAINLAND CHINA AND HONG KONG

Despite a long history of implementation, Hong Kong has never been an independent Party to CITES. Originally, Hong Kong acceded to the Convention as a territory of the UK. Then, at the handover of Hong Kong to China in July 1997, Hong Kong was obliged to implement CITES as part of China. Although Hong Kong now reports CITES data to the Secretariat via the Government of China and forms a unified delegation with Mainland China at CITES meetings, its system of CITES implementation derives from British law and has not changed substantially since the handover. Based on available information, this section describes the implementation of CITES in Mainland China and Hong Kong, including a review of legal instruments and compliance-monitoring systems.

Mainland China

Legal instruments

China acceded to CITES in January 1981 and the Convention entered into force for China in April 1981. The Convention is implemented in China under the *Wild Animal Protection Law (WAPL)* which became effective on 1 March 1989. Revisions to the law have been under discussion for some time but had not been unveiled at the time of research for this report. The *Terrestrial Wild Animal Protection Regulation* (1 March 1992) and the *Aquatic Wild Animal Protection Regulation* (5 October 1993) implement the *WAPL* in the terrestrial and aquatic/marine environments, respectively. The principal enforcement agencies for this law as it relates to marine organisms and their products are:

- the State Forestry Administration, which is the parent organization of the national CITES Management Authority;
- the Bureau of Fisheries (or Fisheries Administration) under the Ministry of Agriculture, which implements the *Aquatic Wild Animal Protection Regulation* for imports and exports of listed species;
- the Customs Authority, which is responsible for supervision and control of all imported and exported goods; and
- the State Administration of Industry and Commerce, which is responsible for supervision and control of wildlife and wildlife products in the marketplace (Lee, in prep.; O'Connell-Rodwell and Parry-Jones, 2002).

Even though *WAPL* and both of the implementing regulations are designed to provide protection for species native to China, the scope of *WAPL* was broadened under an administrative order in 1993 to extend also to non-native CITES-listed species. Under *Notification (Linhutongzhi) 1993 No. 48*, issued by the Ministry of Forestry (now the State Forestry Administration) all CITES species listed in Appendix I and II are considered as Class I and II species, respectively, under *WAPL*. Given this explicit link between CITES Appendices I and II and the *WAPL*, Mainland China is able to act effectively to implement new CITES listings in a timely way. In practice, China's CITES Management Authority issues a notice shortly before the CITES

listings come into effect, informing the relevant domestic authorities of the new species under regulation. In the case of the CITES Appendix-II shark listings, the *Notification (Pin Ban Zi) 2003 No. 5* was issued in January 2003 and became active in February 2003, when the listings became effective (S. Lee, TRAFFIC East Asia, *in litt.*, January 2004). CITES Appendix-III listings are implemented in Mainland China under *Item 24* of *WAPL*, which requires use of permits for trade in any wildlife product that is controlled under an international convention.

Although not required under CITES (see **Table 1**), Mainland China, like Hong Kong, requires both import and export permits for species listed in CITES Appendix II. Species in CITES Appendix III also require both import and export permits in Mainland China but, in contrast to the case with Appendix I and II species, there is no penalty for non-compliance. No special permits for CITES Appendix-III species are issued by the government in Mainland China, but traders are expected to obtain the relevant CITES permits (H. F. Xu, TRAFFIC East Asia, *in litt.*, January 2004). The CITES Management Authority consists of the headquarters in Beijing, which handles all international liaison, and the 17 regional offices, the activities of which are co-ordinated by the office in Beijing. Permits can be issued by offices in Beijing, Shanghai, Tianjin, Guangzhou, Chengdu and Fuzhou, in consultation with the Endangered Species Scientific Commission (ESSC), which is the CITES Scientific Authority in China (O'Connell-Rodwell and Parry-Jones, 2002).

In addition to issuing the Notification of January 2003, the CITES Management Authority of Mainland China produced a booklet in March 2003, showing the scientific and Chinese names and status of the Basking Shark, Whale Shark and Great White Shark and disseminated information about the listings via their website and the regional CITES Management Authorities. In co-operation with the regional office in Guangzhou, a special briefing was held with 140 trade representatives in Shenzhen, to inform them of the new requirements. Formal tri-partite meetings are held between Mainland, Hong Kong and Macau CITES Management Authorities on an annual basis and informal communication occurs frequently (X. L. Meng, CITES Management Authority, pers. comm., September 2003).

In addition to CITES permitting requirements for sharks listed in any one of the CITES Appendices, a regulation issued in 1997 requires that all shipments of shark products have an additional permit, designed to assist with tracking the level of trade. This additional permitting requirement was implemented in response to shark conservation concerns expressed at CoP10. Data from these permits are compiled by the CITES Management Authority and indicate that approximately 2000 t of shark fin and 200 t of shark meat a year are imported. Cases in which the trade estimates in this database are lower than those in the official import figures maintained by the China Customs Authority (see **Tables 2** and **4**), may indicate lack of compliance with the additional permit regulations and/or loss of the data between the point of collection and its final repository in the national CITES Management Authority (X. L. Meng, CITES Management Authority, pers. comm., September 2003).

Compliance-monitoring systems

Within Mainland China, the responsibility for monitoring compliance with trade permitting requirements for sharks lies with the Animal Examination and Quarantine Bureau of the Customs Authority. Upon import or export of any animal product, this bureau checks that all permits, including any CITES permits, if required, are in order. Although the State Administration of Industry and Commerce has authority for marketplace monitoring, in practice very little control is exercised (X. L. Meng, CITES Management Authority, pers. comm., September 2003).

Unfortunately, attempts to arrange interviews or otherwise communicate with the Customs Authority of China and with several of the regional branches of the Chinese CITES Management Authority were unsuccessful. Therefore, information on enforcement of regulations applicable to sharks and the shark fin trade in Mainland China has been compiled based on anecdotal information from sources available in Hong Kong.

Newspaper reports in 2001 suggested that the shark fin trade between Hong Kong and China was being targeted for Customs enforcement, owing to the prevalence of smuggling to avoid paying tariffs. Under Mainland Customs regulations, goods imported for the sole purpose of processing are exempt from tariffs as long as the finished, processed materials are re-exported. According to Parry-Jones (1996), the system fixes the required re-export weight for shark fins at 30-50% of the imported, unprocessed weight; more recent studies suggest the percentage of the unprocessed weight is 35% (Clarke, 2003). In this case, traders were re-exporting a lower quantity of processed fins than required under the condition of tariff-free imports, resulting in a stockpile of tariff-free processed fins which could be sold illegally in China with a higher profit margin. Mainland authorities eventually determined that re-exported processed fin quantities were lower than required by regulation and targeted the illegal operations. It was reported that three suspects were arrested in Guangdong Province, where as many as 81 shark fin factories were located, and accused of selling shark fin on the black market worth USD500 000, thereby evading some USD35 000 in tax (Anon., 2001b and Anon., 2001c). In another case, it was rumoured that one major dealer in Hong Kong had been caught under-reporting re-exports to his factory in Guangdong (i.e., imports to Mainland China), thus under-paying the tariff and owing HKD10 million (USD1.3 million) in back taxes to the Mainland government (S. Clarke, pers. obs., 2003).

Imports of shark fin to Mainland China have recently been subject to another form of regulation: shark fin traders outside Mainland China claim that shark fin shipments entering that territory are now required to present documentation certifying they are free of formaldehyde and its by-products. According to these sources, formalin is often used during drying to speed moisture evaporation and produce a shiny, attractive finish on shark fins, but this presents health risks to consumers (formalin is classified as a carcinogen). The details of documentation required and of the authorities enforcing this new rule are not known (S. Clarke, pers. obs., 2003).

These anecdotes illustrate Mainland China's ability to exercise control over shark fin imports, given sufficient incentive, i.e., loss of tariff revenues and food safety, respectively, in these last-mentioned cases. However, it is not clear whether the same degree of control is being exercised for enforcement of requirements for CITES-listed shark species.

The Chinese CITES Management Authority believes that it currently has all of the tools it requires to regulate the trade in shark fins in compliance with the requirements of CITES. Representatives of the Authority claimed that Basking Shark, Whale Shark and Great White Shark fins would be easy to distinguish based on their size and saw little or no need for genetic techniques (for example, as in Heist and Gold, 1999; Hoelzel, 2001; Shivji *et al.*, 2002; Chapman *et al.*, 2003) for forensic identification. Representatives of the Management Authority further explained that China had limited resources for the protection of endangered species and that other issues, specifically those involving separating captive breeding from wild species, warranted more of China's attention (X. L. Meng, CITES Management Authority, pers. comm., September 2003).



Credit: WWF-Canon, Michel Gunther

Specialist shop selling shark fins, Beijing, China

Hong Kong

Legal Instruments

CITES has been implemented in Hong Kong since 1976 when the UK, of which Hong Kong was at that time a territory, ratified the Convention. Hong Kong's primary tool for implementing CITES is the *Animals and Plants (Protection of Endangered Species) Ordinance (APO)*, which was enacted in the same year. Since enactment, the legal framework for endangered species protection embodied in the *APO* has remained essentially unaltered with the exception of periodic updates to its Schedules (appendices), to reflect changes in listed species.

The CITES Management Authority in Hong Kong is the Agriculture, Fisheries and Conservation Department (AFCD), which holds responsibility for both permitting and enforcement.

The Schedules of the *APO* have been modified and augmented in parallel with the development of CITES and at present comprise a rather complex and ungainly system for cataloguing protected species. Schedules with potential relevance to sharks include:

- Schedule 1, Part 1, listing all animal species in CITES Appendices I and II, and Schedule 1, Part 2, listing all animal species in CITES Appendix III;
- Schedule 2, Part 1, listing substantially complete, or parts of, dead specimens or meat of animals listed in Schedule 1, Part 1 (for fish, only sturgeon egg/caviar is listed), and Schedule 2, Part 2, which refers to parts of species listed on Schedule 1, Part 2 (i.e. CITES Appendix III);
- Schedule 5, which previously referred to ‘controlled medicines’ made from Tiger and rhinoceros, but now simply cross-references medicines made from any species listed on Schedule 6 (C. S. Cheung, AFCD, *in litt.* to R. C. Kirkpatrick, January 2004); and
- Schedule 6, Part 1, listing all animal species in CITES Appendix I.

The *APO* Schedules were last updated in February 2002 and all further updates had until recently been suspended pending the enactment of new legislation which will reduce existing control measures (for example, remove existing Hong Kong permitting requirements for import and possession of CITES Appendix II species) and strengthen enforcement. The intention is to replace the existing Schedules with ones more closely resembling the CITES Appendices and to make explicit the legislation’s role in implementing CITES in Hong Kong (C. S. Cheung, AFCD, pers. comm., August 2003). Recently, unforeseen delays in placing this issue on Hong Kong’s legislative agenda have postponed tabling of the relevant bill until 2005 and, under these circumstances, the government in Hong Kong has decided to amend the *APO* Schedules once more, to include all of the most recent changes to the CITES Appendices.

Listing of a shark species on the *APO* Schedules first occurred when Hong Kong implemented the CITES Appendix III-listing of the Basking Shark, (i.e., added *Cetorhinus maximus* to Schedule 1, Part 2), in February 2002. Implementation of more recent CITES listings of sharks, i.e., CITES Appendix-II listings for the Basking Shark and Whale Shark and the Appendix-III listing for the Great White Shark, will occur with the forthcoming issuance of new Schedules, which should be in place in or around May 2004 (C. S. Cheung, AFCD, pers. comm., November 2003). Given this situation, the following discussion is necessarily based on the existing system of implementation, which at present concerns the now-superseded CITES Appendix-III listing of the Basking Shark only, but which should be similar for the other CITES-listed sharks until, and possibly beyond, passage of the new CITES-implementing legislation.

In Hong Kong at present, trade in CITES Appendix-II and -III species (i.e., those listed on Schedule 1 but not on Schedule 6) requires both import and export permits. However, no permits have yet been applied for, or granted for, Basking Shark as of the end of 2002 (C. S. Cheung, AFCD, pers. comm., November 2003). Similar permitting requirements will pertain

to all CITES-listed sharks once they are scheduled. Furthermore, for the sharks listed in CITES Appendix II (i.e., on Schedule 1, Part 1, but not on Schedule 6) all existing stocks will need to be declared within three months of implementation of the new Schedules. This declaration must include all stocks, regardless of whether they are intended for future trade since, in addition to trade, Hong Kong also currently regulates possession of CITES Appendix-II species (i.e., those on Schedule 1, Part 1, but not on Schedule 6). However, in this case, the government in Hong Kong may choose to exercise an option under Section 18 of the *APO* exempting current stocks from possession permits. Possession of CITES Appendix-III species (on Schedule 1, Part 2, or Schedule 2, Part 2) in Hong Kong is not regulated, as per the *APO* Exemption Order.

Penalties for contravening the *APO* include a maximum fine of HKD5 million (USD640 000), two years' imprisonment and forfeiture of specimens. If the incident involves the import or export of unmanifested cargo under the *Import and Export Ordinance*, i.e., a false declaration, fines of up to HKD2 million (USD255 000) and prison terms of seven years may be invoked. Other regulations apply to the transport of live animals, but as they are unlikely to pertain to sharks, which are usually traded as parts, they are not discussed here.

AFCD representatives were familiar with a guide to Basking Shark fin identification produced by the UK and were interested in obtaining similar materials for Whale Sharks and Great White Sharks. DNA techniques for forensic identification were also of interest, but only once fins had already been visually identified as suspected to derive from protected species. Obtaining sufficient materials and support for identifying and detaining fins from protected species is clearly the main priority (P. Sze, AFCD, pers. comm., September 2003).

AFCD officials maintain contact with shark fin traders in Hong Kong on CITES issues and hold meetings with the trade association approximately once per year: traders in Hong Kong have been aware of conservation concerns surrounding shark species for several years (Clarke, 2002). The most recent meeting was held shortly after CoP12, to feed back information on the two shark listings. While traders did not support the listings, they claimed that very few products from listed sharks were traded in Hong Kong (C. S. Cheung, AFCD, pers. comm., August 2003). No additional meetings were planned with the trade community prior to implementation of the listings in Hong Kong, in spring 2004, but it was planned to issue a circular at that time, to remind traders of the new requirements (C. S. Cheung, AFCD, *in litt.*, November 2003).

Compliance-monitoring systems

The import control system for protected species in Hong Kong is implemented through a co-operative effort between the AFCD and the Customs and Excise Department (C&ED). Although C&ED has the primary responsibility for inspection of incoming and outgoing shipments, they are assisted at the Hong Kong International Airport by AFCD specialists stationed there and C&ED will call for AFCD support as necessary at other checkpoints. C&ED's stated enforcement priorities include prevention of the smuggling of hydrocarbon products (for example, diesel fuel), tobacco, narcotics, counterfeit goods and other prohibited

or contraband goods, including endangered species, and the prevention of those violating intellectual property rights (T. F. Lam, C&ED, pers. comm., September 2003).

C&ED gathers and disseminates intelligence in a variety of ways. For endangered species-related intelligence, one of the avenues is the Endangered Species Protection Liaison Group (ESPLG). ESPLG involves representatives of C&ED, AFCD, the Hong Kong Police, the Environment, Transport and Work Bureau, and various other non-governmental organizations concerned with the issue. ESPLG maintains formal liaison with the World Customs Organization-Interpol Working Group on Wildlife Crime and meets regularly on a half-yearly basis. Apart from this group, C&ED has established a dedicated intelligence desk with AFCD, for information exchange on endangered species issues. In addition to the standard intelligence-gathering methods for illicit trade, AFCD operates a reward scheme, whereby individuals providing information leading to a successful seizure or conviction related to the import, export or possession of endangered species will be rewarded in cash. C&ED applies risk management techniques in identifying shipments that warrant inspection. Suspected consignments or individuals may be placed on watch lists. Intelligence may also take a number of other forms which can serve as references that can be consulted during an inspection. These other forms of intelligence are available through the Case Processing and Customs Controls Systems (CAPS/CCS) and an intranet risk management database (RM.net) containing photographs, descriptions and key features of various products, including wildlife, that are subject to regulation (T. F. Lam, C&ED, *in litt.*, November 2003). During field visits in September 2003, no information on the identification of Basking Shark fins, i.e. the only shark currently regulated in Hong Kong, could be located in the C&ED intelligence databases. AFCD officers stated that Basking Shark fin identification materials in the form of photos had been provided for use in specific inspection actions at the container port (C. S. Cheung, AFCD, *in litt.*, January 2004), but for some reason these materials had not been placed on file in the C&ED intelligence databases.



Credit: WWF-Canon, Meg Gawler

Shark fins on sale in Hong Kong

Cases of suspected trade in endangered species referred to AFCD for detailed investigation and potential prosecution totalled 219 in 2001, 280 in 2002 and 89 for the period January to July 2003 (seven months). In each year, the greatest number of cases (40-50%) involved orchids. Cases involving specimens known or thought to have been marine in origin are summarized in **Table 5**. Only two enforcement cases relating to shark fin have been recorded in recent years, both involving unmanifested cargo. One case was intercepted at the Lok Ma Chau border crossing in July 2001 and involved shark fins mixed with automobile parts. The other case involved 120 kg of unmanifested, processed shark fin worth HKD360 000 (USD46 000), found on a river trade vessel coming from Mainland waters (T. F. Lam, C&ED, pers. comm., September 2003 and *in litt.*, November 2003).

Table 5

Cases of trade in suspected endangered species in Hong Kong, involving specimens known or thought to have been marine in origin, January 2001 to July 2003

Year	Type of organism	Number of cases	Quantity of organisms
2001	Fish	2	49 (items)
2001	Coral	5	117 (items)
2001	Turtle, parts and specimens	11	10 kg + 656 (items)
2002	Coral	8	24 008 kg + 15 (items)
2002	Turtle	6	114 (items)
2002	Giant Clam	≥1	na
2003	Stony Coral	≥1	na

Source: C&ED, unpublished data

Since the effectiveness of import control systems is a function of both the regulatory system and its implementation and enforcement, a number of interviews and field visits were carried out in order to assess the day-to-day operation of Hong Kong's import control systems. Interviews were conducted with AFCD and C&ED officials and, with their assistance, field visits were made to the Chek Lap Kok Airport, the Kwai Chung Container Terminal and the Lok Ma Chau border checkpoint. At each of these locations, a high standard of motivation and professionalism was observed amongst both the senior and junior officers. The following descriptions of inspection systems and procedures at each location provide insight into the effectiveness of the systems for regulating CITES-listed sharks, once these species are scheduled under the *APO*. They also illustrate the special problems and competing priorities for Customs control at each checkpoint.

Air transport

The import control system at the Hong Kong International Airport at Chek Lap Kok is acknowledged by the government in Hong Kong to be the most advanced and thorough of its

Customs clearance systems. This system, which streamlines the screening process to a considerable degree, was implemented through a Memorandum of Understanding (MOU) with all cargo handlers using the airport. The MOU states the common objective for C&ED and cargo operators is to develop ways to achieve a balance between effective control and trade facilitation (Anon., 2000c). The generally higher value and time-sensitive nature of air freight shipments render the efficiency of such a system worth the cost of implementation from the handlers' perspective.

Hong Kong's Air Cargo Clearance System (ACCS) provides screening for 100% of the nearly 2.5 million tonnes of air cargo passing through the world's busiest air cargo terminal each year (Anon., 2003j). As detailed in **Figure 7**, the first stage of the ACCS involves screening using an electronic manifest system and selecting cargo consignments for x-ray examination. The x-ray examination enables C&ED staff to determine the contents of most cargo, but in the case of live fish or other cargo in liquid, can only confirm that the container contents is liquid. Approximately 20 x-ray machines are in operation at the airport. One example of an x-ray examination distinguishing between watermelons packed in the front of a container and illegally imported box turtles packed in the back was cited (K. L. Low, AFCD, pers. comm., August 2003).

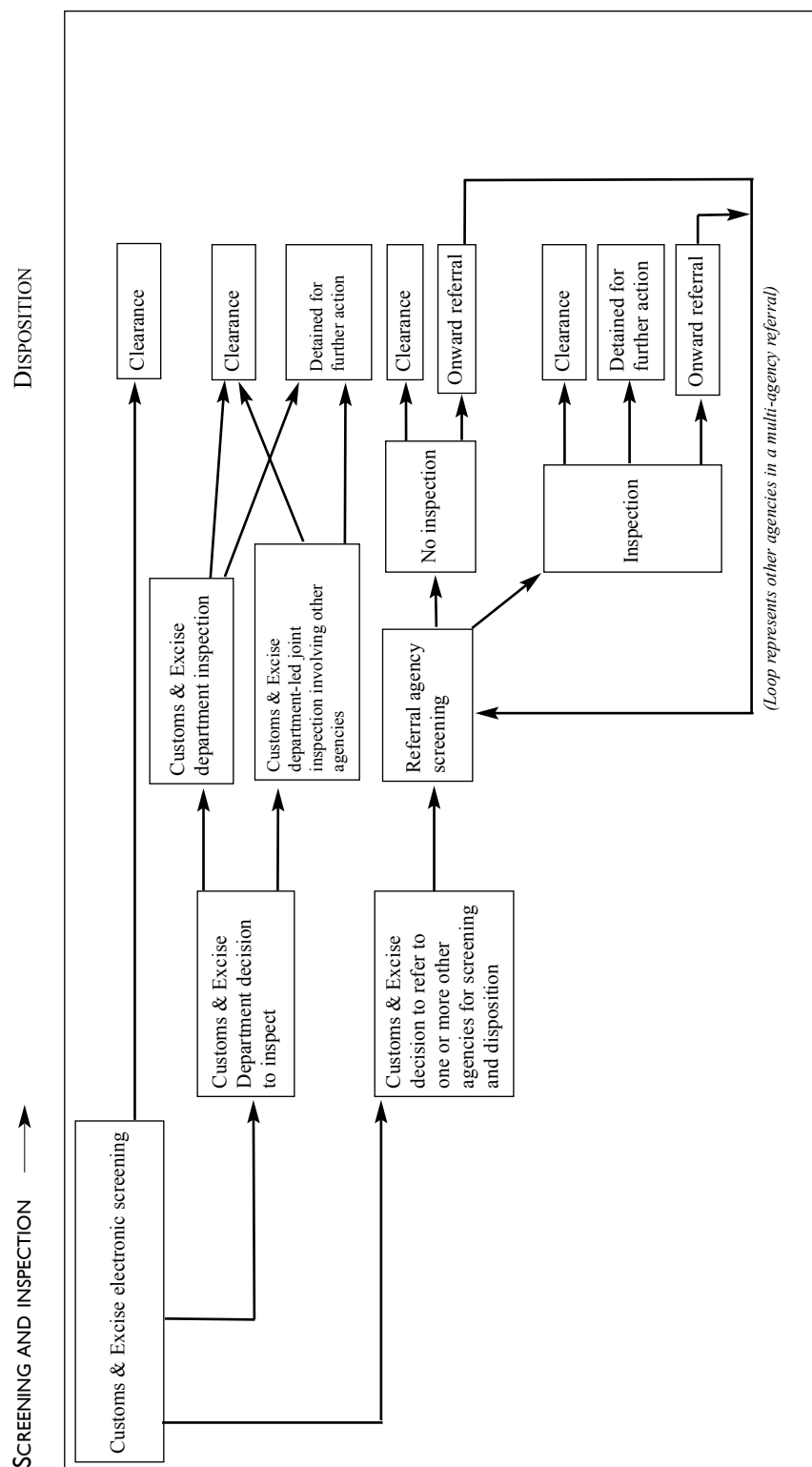
The declarations for incoming consignments and the x-ray results, if x-rays have been conducted, are compared against the watchlist maintained by C&ED. However, these procedures will only aid in the detection of shipments which are explicitly declared to contain one of the species on the *APO* Schedules or where any x-ray results indicate discrepancies with the manifested contents. The system is thus not effective at screening shipments containing an undeclared mixture of fins from regulated and unregulated shark species unless, as may be the case with the listed shark species, the items of concern are substantially larger than those they are mixed with and thus visible during the x-ray scan, if conducted. The possibility or likelihood of encountering such mixtures had not been explicitly articulated to inspection staff. This is perhaps because of the stated priority of the system to focus on large consignments of contraband items (C. S. Cheung, AFCD, pers. comm., August 2003).

Based on the results of the screening, C&ED personnel will assign a code to the shipment. Codes containing the letter 'F' require the involvement of AFCD staff before the shipment can be cleared and released and include cases of animal welfare, public health, or animal or plant checks. If a code which does not contain 'F' is assigned, AFCD staff will have no contact with the shipment. Some shipments requiring screening and/or inspection by more than one government department, for example, by C&ED and AFCD and/or the Health Department, and/or the Food and Environmental Hygiene Department, may be assigned more than one code. An 'NF' code authorizes AFCD to screen, inspect and clear the shipment independently whereas an 'EF' code requires joint AFCD and C&ED screening, inspection and/or clearance.

The range of shipments referred to AFCD by C&ED is quite broad and in addition to the expected instances of live animals (for example, pets or tropical fish) or declared animal products, includes, for example, products specified in whole or in part as leather (even synthetic

Figure 7

Hong Kong SAR Government Airport Customs Control System (ACCS) Schematic



leather) or bear (even “Teddy bear”). Despite the broad range of referrals, the volume of shipments containing animals or animal products is large and referral to AFCD is not automatic. Statistics concerning the total number of consignment referrals to AFCD are confidential but such referrals are believed to be triggered primarily when the shipment has been pre-flagged in the intelligence database via watchlist information, in addition to a small percentage of shipments selected at random for referral. When neither of these cases applies, shipments which might benefit from referral to AFCD may at times pass unchecked by it. For example, during the field visit for research for this report, C&ED independently cleared a shipment of live fish after verifying the containers’ contents was liquid. AFCD personnel stated that whenever live fish shipments were referred to them, these were considered a high priority for inspection. It should be noted that, in the case of perishable cargo, a C&ED performance pledge to release shipments, on average, within 30 minutes of receipt may contribute to a lower percentage of random (i.e., not intelligence-based) referrals to AFCD for such shipments.

Air freight shipments referred to AFCD for screening are handled by a dedicated team of 30 officers stationed at Chek Lap Kok. Based on the referral information from C&ED (i.e., the results of the first-stage screening plus any associated intelligence from the database), AFCD staff will determine whether an inspection is warranted. This decision is based on AFCD’s own risk-management system which, though confidential, was said to rank items such as leather and sheepskin products as a low priority and items such as turtles and tropical fish as a high priority for inspection (K. L. Low, AFCD, pers. comm., August 2003). Since animal or plant inspection involves both species identification and enumeration of items against the manifest, the shipment’s volume or number of items is also a factor in the inspection decision. The inspection rate for referrals will vary between 50-100%, depending on priority and weight/number, with a higher percentage of inspection for smaller, high-priority shipments. It is during these inspections that mixtures of protected and non-protected species may be detected. One case was described in which a shipment of live turtles was referred to AFCD based on intelligence about the receiving trader. The inspection revealed a two-layer carton with non-protected species packed on top and protected species below. When identified by AFCD personnel, the trader immediately produced a permit for the protected species which, had he not been required to show, could have been used for a subsequent shipment (K. L. Low, AFCD, pers. comm., August 2003).

Sea transport

Most shark fins are imported to Hong Kong by sea and pass through one of the container terminals at Kwai Chung. The Hong Kong Port handled a total of 19.2 million TEU (twenty-foot equivalent units) in 2002 and ranked as the busiest port in the world (Anon., 2003j). Re-export of shark fins from Hong Kong to processing factories located primarily in Guangdong Province is primarily via barge up the Pearl River Delta (Anon., 2003g). Barging points in Hong Kong include the River Trade Terminal at Tuen Mun (which handles approximately 22% of the trade), as well as berths at Public Cargo Working Areas at Chai Wan, Western, Kwun Tong, Chakwoling, Stonecutters Island, Yaumatei, Rambler Channel and Tuen Mun. Barges may also berth at other jetty terminals or at Kwai Chung Container Terminal (W. B. Tsui, C&ED, *in litt.*, November 2003).

Relative to air freight, sea freight is a multi-disciplinary and decentralized business and the operators have thus less incentive to participate in the development of an automated system for cargo clearance, such as that implemented at the airport (J. L. Y. Lee, C&ED, pers. comm., September 2003). This situation places a considerable additional burden on C&ED Ports and Maritime Command (PMC) personnel responsible for initial screening of cargo at Hong Kong's ports. Furthermore, unlike the airport, where all shipments must be cleared through a facility staffed by C&ED and AFCD personnel, port cargo clearance relies upon owners of vessels to provide information on vessel movements and on consignees to arrange a location and time with C&ED for inspection of selected shipments before they are released. These responsibilities are specified under Hong Kong's *Import and Export Ordinance*, which holds the owners of vessels, container terminal operators, the shipping companies and the consignees liable for compliance with all import controls. At other berthing points, C&ED employs 'strike and search' techniques, whereby officers from the Harbour & River Trade Division and the Marine Strike & Support Division obtain the manifests and, if warranted, conduct on-the-spot cargo examination onboard the vessels (W. B. Tsui, C&ED, *in litt.*, November 2003).



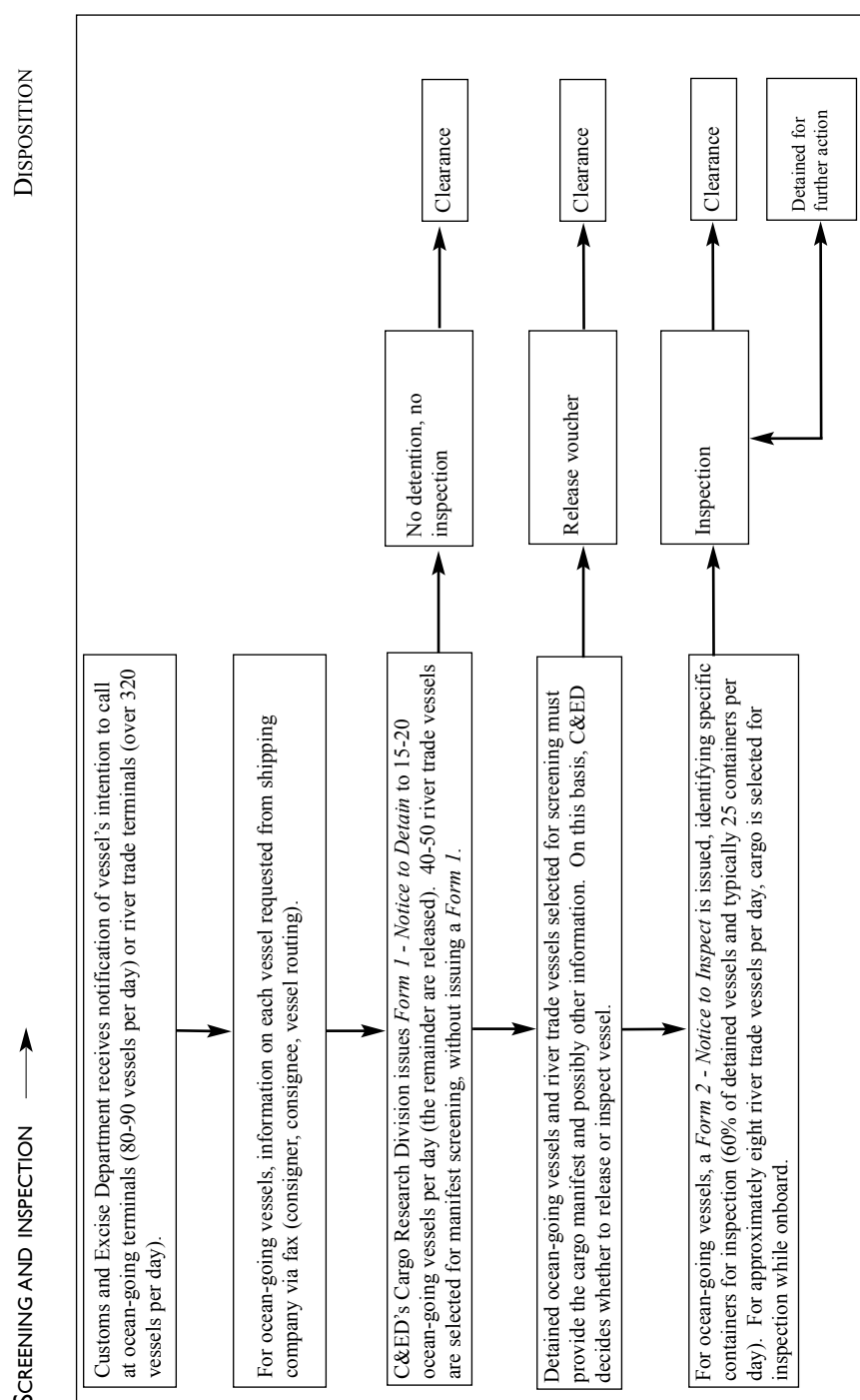
Credit: J. L. Y. Lee, C & E Dept.

View of the Kwai Chung Container Terminal, Hong Kong, taken from the Customs and Excise Department's Ports and Maritime Command. Most shark fins imported to Hong Kong pass through one of the container terminals at Kwai Chung.

For the approximately 80-90 ocean-going vessels calling in Hong Kong each day, C&ED obtains advance information on demand from shipping agents and via an on-line vessel traffic information system operated by the Hong Kong Marine Department (**Figure 8**). Usually the information, consisting of vessel registration, routing and handling agents, is received and can be processed several days in advance of arrival. For the approximately 320 river trade vessels berthing in Hong Kong each day, the Marine Department system is the main source of arrival information, although this is supplemented by agent information provided by the operator of the consolidated River Trade Terminal at Tuen Mun when that is the port of call. Since the journey time for the river trade barges is in the order of hours rather than days, arrivals are usually

Figure 8

Hong Kong SAR Government Ports and Maritime Command (PMC) Cargo Clearance System



monitored in real-time by C&ED staff assigned to the River Trade Terminal or to patrolling the various other berthing areas (W. B. Tsui, C&ED, *in litt.*, November 2003).

In the case of ocean-going vessels, the C&ED PMC Cargo Research Division evaluates available shipping information and risk indicators to select vessels for further manifest scrutiny. Factors which act to increase the risk grading include an unknown consigner or consignee (i.e., the possibility of a fictitious company) and transshipment of goods between Mainland China and a third-party country through Hong Kong (i.e., an unusual route). A *Form 1 – Notice to Detain* is issued for selected containerized ocean-going vessels. The *Form 1* mechanism allows for the detention of all cargo conveyed by the vessel until detailed cargo information is obtained. As a result of the limited advance notice of arrival, river trade vessels are never issued with *Form 1* detention notices (W. B. Tsui, C&ED, pers. comm., September 2003).

On average, 15-20 ocean-going vessels are issued a *Form 1* each day. Each of these must provide a detailed manifest and other shipping documents, such as the bill of lading or the packing list, may also be required. Based on examination of these documents, C&ED PMC can decide to issue a *Form 2 – Notice to Inspect*, which prohibits the owner from offloading the cargo except to a location specified for inspection. From among the 15-20 vessels detained each day, approximately 40% are released without any cargo action, while the remaining 60% of the vessels undergo some level of inspection. On average, 25 containers from ocean-going vessels are inspected each day. Another 40 to 50 river trade vessels are selected for manifest screening each day and approximately eight undergo cargo inspections. In either location (sea or river), if the cargo is believed to contain any plant or animal material, AFCD staff will be asked to participate in the inspection (T. F. Lam, C&ED, pers. comm., November 2003).

According to the Import and Export Ordinance, the government in Hong Kong is not empowered to specify the time and place of the inspection and therefore co-ordination with the container terminal operator, who is provided with copies of *Forms 1* and *2*, is required to schedule the inspection. PMC maintains a small compound at Kwai Chung where containers are brought for inspection, but staff often travel to bonded warehouses to conduct on-site inspections. In such cases, the container(s) will typically remain in the container port until just prior to the inspection appointment and be accompanied by C&ED staff to the inspection location. C&ED may also apply a seal to the container to discourage any tampering with the contents. Owing to the variable location of inspections, C&ED inspection equipment consists of four mobile x-ray scanners and container measurement devices, as well as seven dogs trained to detect narcotics and explosives. The inspection will always consist of matching the container contents to the manifest, but only if there is a specific reason to suspect mis-reporting of declared quantities will numbers or weights be checked against the documentation (W. B. Tsui, C&ED, pers. comm., September 2003).

In 2002, PMC checked cargo consignments for about 16 300 TEUs (or less than 0.1%) of the nearly 19.2 million TEUs of the total container throughput of Hong Kong (**Figure 8**). While this percentage is small, C&ED PMC staff point to the importance of targeting inspection towards the most highly suspect shipments, rather than expending a larger effort on random

searching for a potentially lower rate of interdiction. For example, during the course of this study, PMC officials, acting on intelligence, intercepted a shipment of ‘wood carvings’ from Indonesia and amongst camouflaging tree trunks discovered nearly two tonnes of undeclared ivory, worth HKD2.7 million, or nearly USD350 000 (Anon. 2003k). Another notable seizure effected by PMC involved confiscation of 506 kg of ivory from a vessel in Hong Kong waters in October 2002, for which Hong Kong received a CITES Certificate of Commendation in 2003 (Anon. 2003l).

Land transport

Hong Kong maintains four Customs control checkpoints along the land boundary with Mainland China: Lo Wu, Lok Ma Chau, Man Kam To and Sha Tau Kok. Of these, Lok Ma Chau is the busiest overall, handling on average nearly 27 000 vehicles per day (72% of total vehicle crossings) and 71 111 persons (20% of the total). Unlike the situation in the sea and river ports, the Lok Ma Chau Land Boundary System benefits from a situation where the cargo must pass through their checkpoint and, as at the airport, an electronic system greatly facilitates screening (**Figure 9**).

At Lok Ma Chau, all vehicles crossing the border must pass through one of 12 out-bound or in-bound bays staffed by a kiosk officer. At the kiosk, all drivers must present a detailed cargo manifest and have their vehicle registration numbers scanned electronically. This information is compared against the C&ED watchlist and a decision regarding whether or not to inspect the vehicle is made on the basis of a risk-management system involving intelligence, observation, profiling and an element of random selection (K. C. Suen, C&ED, pers. comm., September 2003). The entire process requires on average less than one minute per vehicle.

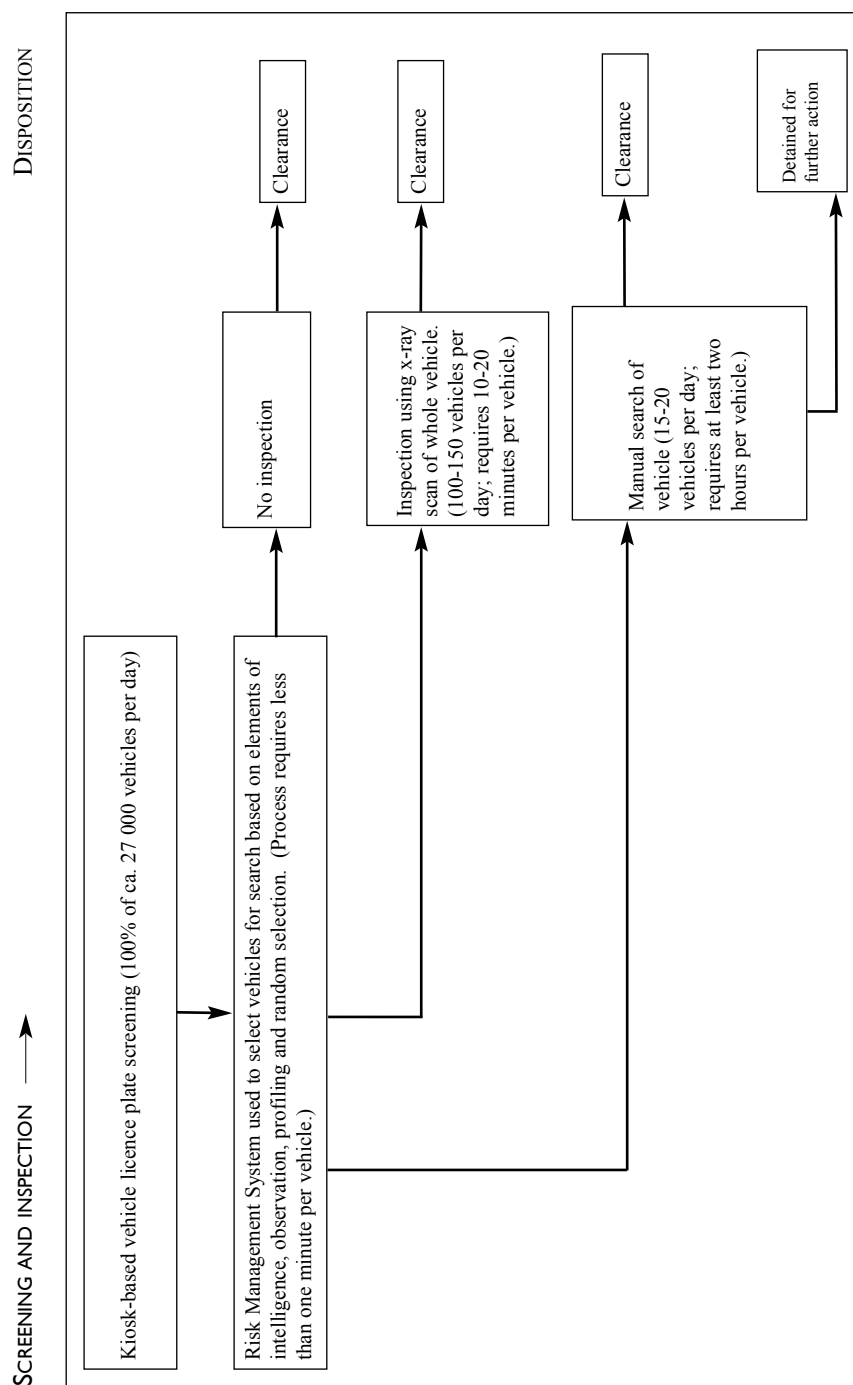
Each day approximately 100-150 vehicles at Lok Ma Chau are selected for further screening involving Hong Kong’s only whole-truck x-ray machines (one each at the out-bound and in-bound bays). Installed at a cost of HKD14.6 million (USD1.9 million) each, in February 2003, these machines have already been responsible for seizures of over HKD1 billion in contraband goods. Trucks loaded with containers are driven on to a moveable platform which subsequently passes through the x-ray field and is digitally examined for hidden compartments. The process, which requires 10-20 minutes per vehicle, is performed on both loaded and empty vehicles in order to check for smuggled goods placed near or in the engine block, the fuel tank and the tyres. If any suspicions are raised as a result of the x-ray screening, the container and truck are searched by hand, potentially by means of a dog team, a process which requires at least two hours per vehicle.

Over the past few years, most enforcement cases at the border crossings have involved false declarations and there are typically 80-90 such cases per year. The most common types of case involve smuggling of textiles from Mainland China to Hong Kong, to export under Hong Kong’s garment quotas, and smuggling of computer parts to Mainland China and cigarettes to Hong Kong. Given the logistics of Customs control at this border, C&ED staff stationed there

Figure 9

Hong Kong SAR Government Land Boundary System (LBS) for Customs Clearance.

(Statistics given in this schematic are based on figures for the Lok Ma Chau border checkpoint, as of July 2003.)



were to some extent familiar with Mainland capabilities and procedures and were able to provide some information in this regard. *Ad hoc* liaison meetings are held between the two sides and a hotline between the two authorities allows for instantaneous communication, for example, in cases where vehicles flee before completing procedures. In contrast to Hong Kong's two whole-truck x-ray scanners, Mainland China has 48 whole-truck x-ray scanners and was characterized as being far superior to Hong Kong, in terms of both technology and human resources. Perhaps most importantly, authorities in Mainland China announced during the course of this study that a single manifest system for Hong Kong and Mainland China would be implemented at the end of 2004 and it is reported that this system has been implemented well ahead of schedule, in January 2004 (T. F. Lam, C&ED, *in litt.* to R.C. Kirkpatrick, January 2004). This new system should curtail the practice whereby operators (drivers, and perhaps barge captains in the river trade) can show one manifest to authorities in Hong Kong and a completely different manifest to authorities in Mainland China, with no cross-checking between the two (see page 13). It was also reported that authorities in Mainland China were working towards implementing a system, within the next few years, in which manifests would be submitted electronically, in advance of approaching a checkpoint.

The key points presented in this section are as follows:

- Mainland China's protected species legislation has been explicitly linked to the CITES Appendices through administrative orders and CITES shark listing requirements have therefore been implemented in China as soon as they have become effective.
- Hong Kong is in the process of revising its protected-species legislation and has not yet implemented the CITES Appendix-III listing requirements for the Great White Shark and the CITES Appendix-II listing requirements for the Basking Shark and Whale Shark.
- Authorities in Mainland China have informed traders of the CITES listings through their website and at least one special briefing held in southern China in early 2003 and Hong Kong CITES officials maintain regular communication with traders.
- Details of CITES-specific enforcement activities for sharks could not be obtained, but anecdotal information suggests that the Customs Authority in Mainland China has exercised control on shark fin imports via regulations on tariffs and formaldehyde/formalin additives.
- Hong Kong deploys a highly advanced and readily documentable import control system at its airport, ports and land border checkpoints.
- Intelligence databases in Hong Kong are highly developed, but lack integration and provision of shark product identification materials throughout the headquarters, airport, sea and river ports and land border control points.
- A single manifest system for Hong Kong and Mainland China has been implemented and should significantly enhance joint enforcement action.

CONCLUSIONS AND RECOMMENDATIONS

Preceding sections of this report have established that, while the market for shark meat is primarily in Europe, together Hong Kong and Mainland China dominate the global shark fin trade. Since the trade in shark fins is one of the threats to CITES-listed sharks, the implementation of the recent CITES provisions for shark species in these two jurisdictions and the degree of co-operation between them, particularly with regard to cross-border trade, will be critical to the overall effectiveness of the listings.

Liaison on a broad spectrum of issues between the two jurisdictions has been enhanced with the handover of Hong Kong to China (mid-1997), but systems for regulating trade in protected species are still very different. Another potential challenge arises from the recent trade dynamics: what was once a highly integrated market for shark fin, with nearly all imports controlled by Hong Kong traders, is now diversifying with the increasing economic independence of traders in Mainland China.

While an assessment of the entire system of CITES implementation in Hong Kong and Mainland China is beyond the scope of this study (for example, this study does not assess Mainland China's new legislation, drafted in 2002 (see page 1)), conclusions regarding the implementation of the CITES shark listings can be drawn. In broad terms, implementation of these, or indeed any, CITES listings requires amendment of the legal basis for trade control, provision of training and tools to allow enforcement staff to undertake effective surveillance, and continual liaison with the trade community to encourage compliance. It is against these requirements that the implementation of CITES shark listings in Mainland China and Hong Kong have been measured.

Hong Kong has not yet implemented the Appendix-II listings of the Basking Shark and Whale Shark and the Appendix-III listing of the Great White Shark, owing to delayed legislative changes, but all three species are expected to be brought under the existing control scheme, with the issuance of new Schedules, around May 2004. Mainland China activates new CITES listings through an expedited process of administrative orders and all three shark listings in force after CITES CoP12 were thus implemented in Mainland China shortly after they became effective. Training and information resources in Hong Kong appear adequate in cases which have been referred to AFCD specialist staff, however shark-specific materials could be better distributed through the Customs control system, especially to frontline officers performing bulk screenings. It was not possible to assess the degree to which Mainland China's Customs Authority has integrated shark-specific materials into its surveillance programme, although it is known to check shark fin shipments for reasons other than CITES compliance. Finally, both jurisdictions have held recent meetings with the trade community on the subject of CITES shark listings and provide information through websites and other publications. In summary, with the exception of the Customs Authority of Mainland China, the activities of which could not be fully assessed during this study, the necessary systems (i.e. for updating legislation, training enforcement personnel and liaising with traders) appear to be in place in both jurisdictions. The

following sections discuss in more detail the efficiency and effectiveness of these frameworks and processes in the areas of:

- technological advances and applications,
- deployment of human resources,
- co-operation within and between systems; and
- the precedence afforded these issues relative to other regulatory priorities.

Specific points which may be relevant to the potential listing of other sharks in CITES and to other Parties implementing CITES shark trade controls are highlighted. Recommendations are highlighted in a final summary.

Technology

Several technologically advanced enforcement tools are already in place in Mainland China and in Hong Kong. **X-ray scanning** of incoming cargo shipments at the Hong Kong International Airport and newly-installed x-ray technology at Hong Kong's busiest land boundary checkpoint, Lok Ma Chau, have already resulted in seizures worth several times more than their cost. X-ray technology is also employed at ports in Hong Kong, the main points of entry for incoming shark fin shipments, but primarily for containerized cargo. Logistical difficulties associated with deploying scanner technology for non-containerized river trade barge cargo, the means by which most shark fins are re-exported from Hong Kong, result in higher reliance on manual searches for this mode of transport. Sources stated that a total of 48 x-ray scanners were in use in Mainland China for Customs clearance, but details of their application were unavailable to this study.

X-ray technology is clearly capable of distinguishing between objects of different sizes and shapes, but its effectiveness in identifying products from protected shark species is questionable, particularly as it cannot be assumed that all traded products from CITES-listed species will be visually distinct. For example, while large 'trophy' fins and teeth or jaws from Great White Sharks should be distinguishable during screening, fins from juvenile specimens or shark meat would not. Any future listings of other shark species traded for fins, which are less likely to be traded as large 'trophy' fins than the currently listed shark species, would place even further demands on a system already heavily reliant on visual screening techniques.

Another important enforcement tool is the **computerized intelligence system**. The C&ED in Hong Kong has several such systems which provide a framework for collating and disseminating information on product identification, as well as intelligence on suspicious shipments. While the system is powerful, identification of regulated shark products depends heavily on the involvement of specialists from AFCD, who are only called upon if the shipment is first flagged by C&ED officers. Based on observations in this study (see page 27), it is not clear whether frontline C&ED inspection personnel have the tools they need to determine whether AFCD involvement is warranted. At a minimum, basic information on shark products should be incorporated into intelligence databases as soon as species controls are implemented. Furthermore, since separate intelligence systems are in operation at the various checkpoints in

Hong Kong, integration of systems, or at least replication of information pertaining to the shark product trade, is recommended, particularly for systems in use at the airport and sea and river cargo ports, as these are the channels through which most shark fins are traded in Hong Kong.

The role of intelligence databases in Customs clearance in Mainland China could not be assessed in this study.

Advances in **DNA technology** are potentially applicable to regulation of the trade in shark fins in both jurisdictions. Research on developing molecular genetic tests for identifying products of Basking Sharks, Whale Sharks and Great White Sharks is currently underway and at least one laboratory is currently engaged in forensic testing of shark fins for enforcement purposes (M. Shivji, Guy Harvey Research Institute, pers. comm., November 2003). Based on interviews conducted for this study with government personnel, use of molecular genetic techniques in shark trade regulation in Hong Kong would be premised upon the ability of inspection authorities to select products which warrant the additional effort and expense of genetic testing. While the selection of large, 'trophy' fins from Basking Sharks, Whale Sharks or Great White Sharks for genetic testing would be relatively straightforward, it is also true that identifying such fins to species level could be conducted with a high degree of certainty without resorting to genetic testing. In the case of smaller fins and meat products from these and other species, the large quantities of potential look-alike products traded through the same channels make simple visual selection and sorting particularly difficult. Therefore, while molecular genetic tests could provide a powerful new monitoring tool, they are still reliant on basic visual identification as an initial form of triage. As such, DNA testing emphasizes, rather than eclipses, the need for effective traditional screening procedures. For this reason, Customs officers should not only be kept informed of the new technology, but also be given guidance on how to integrate forensic testing into existing enforcement action procedures.

Deployment of human resources

As articulated in the preceding section, technology must be coupled with practical, effective and appropriately targeted inspection protocols. One weakness of the current system of shark fin regulation in Hong Kong is that, while AFCD has technical resources to distinguish fins of protected shark species, all the screening of shark products is performed by C&ED officers and it is not clear whether they have the information they need to perform this screening effectively. In addition to providing more shark-specific information to C&ED personnel at the screening stage, implementation would be improved by allowing AFCD personnel to play a stronger role in the clearance of shark fin shipments. For example, this could be easily accomplished at the airport by assigning a code containing the letter 'F' to all (or a high proportion of) shark fin shipments. Such a code requires that AFCD be involved in the decision of whether to clear a shipment, but does not necessarily require a greater number of inspections (see **Figure 7**). Since AFCD tracks protected species issues more closely than C&ED, 'F' code designations would allow C&ED to focus on screening shipments for false declarations and other Customs offences, while allowing the AFCD screening to focus on species-specific intelligence. Similarly, AFCD involvement in sea and river trade cargo screening and inspections should be increased if possible.

The level of outreach from AFCD to shark fin traders in Hong Kong is considered appropriate at present and AFCD should continue to plan to inform traders of any changes in legal requirements relative to CITES-listed sharks (see page 26).

It was not possible in this study to learn about the distribution of human resources in Mainland China with regard to compliance with shark product trade regulations. From available information it appears that responsibilities for this lie solely with the Customs Authority and that the CITES Management Authority has not conducted any special training sessions or distributed materials regarding sharks to Customs Authority personnel. However, a meeting with shark fin traders in Shenzhen, convened by the Management Authority in early 2003, was well attended. It is thus assumed that traders in the Guangdong area, which remains the dominant centre of shark fin processing, should be aware of the current compliance requirements.

Co-operation

Better co-ordination of intelligence between border checkpoints in Hong Kong and increased involvement of AFCD personnel in shipment clearance would improve the compliance system in Hong Kong. Although information on inter-departmental co-ordination in Mainland China was limited, potential breaks in the flow of data relating to shark product permits between the Customs Authority and the CITES Management Authority in Mainland China (see page 22) signal that there may be room for improved co-ordination in this area.

One of the most positive developments in cross-border co-operation is China's implementation of a single manifest system for shipments passing between Mainland China and Hong Kong. In addition to helping to reconcile commodity codes and trade statistics, which are important steps in accurate quantification of trade flows, this new policy may lead to further integration of intelligence. Mainland China's plan to implement an electronic system for manifest submissions will not only facilitate the screening process and better focus available resources on the northern side of the border, but should make such requirements in Hong Kong more palatable to traders. With this impetus, Hong Kong may be able to upgrade clearance procedures at land and river checkpoints to come closer to present electronic capabilities at the airport.

There are currently fundamental differences in the regulatory aspects of CITES implementation in Hong Kong and Mainland China, for example discrepancies in the implementation dates for new CITES listings and in the fact that possession of CITES Appendix-II species is regulated in Hong Kong, but not in Mainland China. Such differences are likely to continue to be a feature of the two jurisdictions even after Hong Kong's CITES-implementing legislation is revised. Specifically, Hong Kong plans to discontinue regulation of possession of Appendix-II species, making it compatible with Mainland China in this regard, but also to discontinue the requirements for CITES Appendix-II import permits, which are required by Mainland China. Mainland China is likely to continue to implement new CITES listings through administrative orders, whereas amendment of Schedules for CITES-listed species in Hong Kong will require

a more time-consuming legislative process, resulting in discrepancies in implementation dates for new CITES listings in the two jurisdictions. Despite these difficulties, the existence of the dissimilar compliance systems on either side of the border does not necessarily impede co-operation and dialogue, particularly since such differences exist between Hong Kong and Mainland China across a wide spectrum of issues, yet integration is progressing in many areas.

Another aspect of international co-operation pertinent to shark management is the evolving relationship between CITES (dealing with trade aspects) and the FAO IPOA-Sharks, (dealing with shark fisheries management). The reliance of the shark fin trade in Hong Kong and in Mainland China on the shark fisheries of other countries is obvious, both from import statistics and from available information on shark catches. Therefore, both Hong Kong and Mainland China must recognize that a sustainable shark fin trade requires sustainable shark fisheries and, therefore, provide a prominent contribution to this end. At a minimum, Mainland China should prioritize completion of its NPOA-Sharks and consider means of improving, or initiating, shark catch documentation in areas not controlled by RFOs. It should also actively encourage other countries to support efforts to manage shark populations appropriately.

Prioritization

The efficiency of control of the trade in shark products is a function of technology, human resources and co-operation between authorities, but ultimately each of these is governed by the priority given the issue by each government. Hong Kong maintains a strong and efficient Customs control system, but as one of world's busiest trading centres it must balance its attention across a range of issues. While regulation of endangered species is a priority, Hong Kong finds itself in the centre of current trade conflicts between Western trading partners and Mainland China over issues such as those relating to textiles and pirated goods and political pressures to focus resources on these issues are strong. Unlike Hong Kong, Mainland China is largely concerned with trade in native species and thus must devote resources to regulation of captive-breeding programmes and other forms of wildlife protection, as well as to trade regulation.

With regard to resources assigned to trade regulation for protected species, shark products are not necessarily afforded a lower priority than other animals or plants. However, the existing large-volume trade in unregulated shark products through Hong Kong and Mainland China exacerbates the difficulties in locating, if not identifying, products from protected species and this may tend to divert attention towards more easily detected contraband. In addition, intelligence systems generally improve with time and experience. Since shark fin regulation is a relatively new issue for the two authorities, particularly Hong Kong, it is likely that in the short term enforcement priorities will be directed towards products for which the existing intelligence is most compelling.

More broadly, while balancing resources and priorities by governments is inevitable, this balancing should occur within the field of endangered species protection, given the available resources, and not between these efforts and other Customs enforcement issues. The best way

to ensure this is to empower CITES Management Authorities to participate in compliance-monitoring and enforcement. Of the two systems assessed here, Hong Kong's system comes closest to this model. Even so, at present AFCD is not involved in shipment screening and thus can only prioritize from amongst the shipments it receives on referral. Based on available information, it appears that there is little regular liaison between the Chinese Customs Authority and the Chinese CITES Management Authority on monitoring shark product trade and related enforcement. In both jurisdictions, enhanced co-operation between Customs and protected species portfolios will lead to more efficient prioritization, more effective use of limited resources, and improved compliance with international commitments under CITES.

Recommendations

The key recommendations summarized from the discussion above are as follows:

- Given the heavy reliance on visual (including x-ray-enhanced) screening by non-specialist Customs officers for inspecting cargo, it is essential that basic information on shark products be included in, and disseminated through, centralized intelligence databases as soon as CITES shark listings take effect.
- In addition to supplying basic information on shark products, information such as likely product size ranges, countries of origin, and methods of packing should also be compiled and circulated. This information could point out, for example, that fins from regulated shark species may be considerably larger than fins from non-protected species; that fins from regulated species may be mixed with those of non-regulated species and the ratio of regulated:non-regulated specimens may be very low; and that, given the existence of fisheries for Basking and Whale Sharks in certain countries, shark product shipments from these countries should be given special attention.
- CITES Management Authorities in Hong Kong and Mainland China should remain abreast of developments in molecular genetic identification tools for shark products and produce guidelines governing the use of forensic testing in enforcement actions.
- Given the difficulties in screening shark product shipments effectively, specialist officers should be involved in screening more frequently, through increased use of referral procedures (for example, through the use of 'F' codes by C&ED frontline inspection staff at the airport in Hong Kong).
- Channels of communication between both CITES Management Authorities and their respective trade communities have been used to convey information regarding new CITES listings and should continue to be used, especially if Hong Kong's new CITES-implementing legislation changes existing permitting requirements.
- Hong Kong and Mainland China should use the opportunity presented by implementation of the single manifest system at the border in January 2004 to reconcile discrepancies in

commodity categories for shark products by amending Customs codes and to promote further integration of intelligence systems.

- Mainland China should prioritize completion of its National Plan of Action-Sharks, actively engage in relevant RFOs (regional fisheries organizations) to ensure effective management of shark resources harvested in high seas areas, and consider means of improving, or initiating, shark catch documentation for its fleets operating in areas not controlled by RFOs.
- In order to promote a proper balance of enforcement priorities (protected species versus textiles, cigarettes, computer parts, etc.), CITES Management Authorities should participate in decisions regarding the allocation of resources for Customs controls.

REFERENCES

- Alava, M. N. R.; Dolumbaló, E. R. Z; Yaptinchay, A. A. and Trono, R. B. (2002). Fishery and trade of Whale Sharks and Manta Rays in the Bohol Sea, Philippines. In: Fowler, S. L.; Reed, T. M. and Dipper, F. A. (Eds). *Elasmobranch Biodiversity, Conservation and Management. Proceedings of the International Seminar and Workshop, Sabah, Malaysia, July 1997*. Occasional Paper of the Species Survival Commission No.25, ISBN 2-8317-0650-5. 258 pp.
- Almada-Villela, P. C. (2002). Pilot Fisheries Socio-economic Survey of Two Coastal Areas in Eastern Sabah. In: Fowler, S. L.; Reed, T. M. and Dipper, F. A. (Eds). *Elasmobranch Biodiversity, Conservation and Management. Proceedings of the International Seminar and Workshop, Sabah, Malaysia, July 1997*. Occasional Paper of the Species Survival Commission No.25, ISBN 2-8317-0650-5. 258 pp.
- Anon. (1997). *China Customs Statistics Yearbook 1996*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (1998). *China Customs Statistics Yearbook 1997*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (1999a). *International Plan of Action for the Conservation and Management of Sharks*. Document FI:CSS/98/3, endorsed February 1999. Food and Agriculture Organization, Rome, Italy.
- Anon. (1999b). *China Customs Statistics Yearbook 1998*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (2000a). *FAO Technical Guidelines for Responsible Fisheries, I. Conservation and Management of Sharks*. Food and Agriculture Organization, Rome, Italy.
- Anon. (2000b). Summary of the Eleventh Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora. *Earth Negotiations Bulletin* 21(11): 1-13, International Institute for Sustainable Development, Winnipeg, Canada.
- Anon. (2000c). *China Customs Statistics Yearbook 1999*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (2000d). *Notification of Wildlife Products Categories for Import/Export, Pin Ban Zi (2000) No. 9*. China CITES Management Authority and Customs Authority, Beijing, China.
- Anon. (2000e). Customs and the Air Cargo Industry: A Strategic Partnership. Speech by John C. Tsang, Commissioner of Customs and Excise, Hong Kong at the International Air Cargo Forum 2000 in Washington, DC. Viewed at http://www.info.gov.hk/customs/eng/new/speech/29092000_aircargo_e.html, November 2003.
- Anon. (2001a). *China Customs Statistics Yearbook 2000*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (2001b). \$4.3 million shark's fin smuggling arrests. *South China Morning Post*, 27 March 2001. Hong Kong, China.
- Anon. (2001c). Information viewed at <http://www.steeltube.com.cn/English/news/no2>, November 2003.

- Anon. (2002a). *A CITES Priority: Marine Fish and the Twelfth Meeting of the Conference of Parties to CITES, Santiago, Chile, 2000*. IUCN, WWF and TRAFFIC Briefing Document.
- Anon. (2002b). *China Customs Statistics Yearbook 2001*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (2002c). Final Rule for Implementation of the *Shark Finning Prohibition Act (US)* 50 CFR Parts 600, 635, 648 and 660. Vol. 67, No. 28, pp. 6194-6202. US Government, Washington, DC, USA.
- Anon. (2003a). Information obtained from the CITES website. Viewed at <http://www.cites.org>, November 2003.
- Anon (2003b). National Legislation Project. Document Doc. 11.21.1, prepared by the CITES Secretariat for the 11th meeting of the Conference of the Parties to CITES. Viewed, January 2004, at http://www.cites.org/eng/cop/11/docs/21_01.pdf.
- Anon. (2003c). *FISHSTAT Plus (v. 2.30), Capture Production Database, 1970-2001, and Commodities Trade and Production Database 1976-2001*. Food and Agriculture Organization, Rome, Italy. Viewed at www.fao.org/fi/statist/FISOFT/FISHPLUS.asp, November 2003.
- Anon. (2003d). Summary of the 19th Meeting of the CITES Animals Committee. *Earth Negotiations Bulletin* 21(32): 1-12. International Institute for Sustainable Development, Winnipeg, Canada.
- Anon. (2003e). Marshalls divers cite illegal shark fishing. *Marianas Variety*, 20 May 2003. As reported by the Pacific Islands Report of the East-West Center, Honolulu, Hawaii. Viewed at <http://166.122.164.43/archive/2003/May/05-20-11.htm>, 25 September 2003.
- Anon. (2003f). *China Customs Statistics Yearbook 2002*. Goodwill China Business Information Limited, Hong Kong, China.
- Anon. (2003g). Imports and re-exports of Shark Fin (0305-5950, 0305-5960, 0305-6930, 0305-6940) for 1998 through 2002. Unpublished data, Census and Statistics Department, Hong Kong Special Administrative Region Government, Hong Kong.
- Anon. (2003h). *Customs Import and Export Tariff of the People's Republic of China, 2003 Edition*. China Customs Press, Customs General Administration, Beijing, People's Republic of China.
- Anon. (2003i). Unpublished data. Goodwill China Business Information, Hong Kong, China.
- Anon. (2003j). Annual Review, Port and Airport Development, Airport and Port Statistics 2002. Viewed at <http://www.hkshippers.org.hk>, 24 November 2003.
- Anon. (2003k). Customs makes record seizure of ivory. Viewed at http://www.info.gov.hk/customs/eng/new/release/20031014_seize_ivory_e.html, 24 November 2003.
- Anon. (2003l). CITES commends Hong Kong on protection of endangered species. Viewed at <http://www.info.gov.hk/gia/general/brandhk/0506167.htm>, 24 November 2003.
- Berney, J. (2000). *CITES and commercial fisheries: the relationship between CITES and FAO and RMFOs*. IWMC World Conservation Trust Paper. Viewed at <http://www.iwmc.org>, 25 February 2003.
- Bonfil, R. (1994). *Overview of world elasmobranch fisheries*. FAO Fisheries Technical Paper 341. Food and Agriculture Organization, Rome, Italy. 119 pp.

- Bonfil, R. (1999). The Dogfish (*Squalus acanthias*) Fishery of British Columbia, Canada and its Management. In: *Case Studies of the Management of Elasmobranch Fisheries*. Shotton, R. (Ed.). FAO Fisheries Technical Paper 378, 1 and 2. Food and Agriculture Organization, Rome, Italy. 920 pp.
- Camhi, M. (1999). *Sharks on the Line II: an Analysis of Pacific State Shark Fisheries*. National Audubon Society Living Oceans Program, Islip, New York, USA. 114 pp.
- Chapman, D. D.; Abercrombie, D. L.; Douady, C. J.; Pikitch, E. K.; Stanhope, M. J. and Shivji, M. S. (2003). A streamlined, bi-organelle, multiplex PCR approach to species identification: Application to Global Conservation and Trade Monitoring of the Great White Shark, *Carcharodon carcharias*. *Conservation Genetics* 4: 415-425.
- Chen, V. Y. and Phipps, M. J. (2002). *Management and Trade of Whale Sharks in Taiwan*. TRAFFIC East Asia-Taipei. 25 pp.
- Clarke, S. (2002). *Trade in Asian Dried Seafood: Characterization, Estimation and Implications for Conservation*. Wildlife Conservation Society Working Paper No. 22, New York, US, 88 pp.
- Clarke, S. C. (2003). *Quantification of the Trade in Shark Fins*. PhD thesis, Imperial College London, UK. 327pp.
- Clarke, S. C. (2004). Understanding pressures on fisheries resources through trade statistics: a pilot study of four products in the Chinese dried seafood market. *Fish and Fisheries* 5: 53-74.
- Clarke, S. C. (in press). Trade in Shark Products in Malaysia, Singapore and Thailand. Southeast Asian Fisheries Development Centre, Singapore, 62 pp.
- Clarke, S. C. and Mosqueira, I. (2002). A preliminary assessment of European participation in the shark fin trade. In: Vacchi, M.; La Mesa, G.; Serena, F. and Séret, B. (Eds.), *Proceedings of the 4th European Elasmobranch Association Meeting*, Livorno (Italy), 2000. ICRAM, ARPAT-GEA and Soc. Fr. Ichthyol., Paris, France.
- Clarke, S. C.; Burgess, G. H.; Cavanagh, R. D.; Crow, G.; Fordham, S. V.; McDavitt, M. T.; Rose, D. A.; Smith, M. and Simpfendorfer, C. (in press). Socio-economic importance of elasmobranchs. In: Fowler, S. L.; Camhi, M.; Burgess, G. H.; Cailliet, G. M.; Fordham, S.; Cavanagh, R. D.; Simpfendorfer, C. A. and Musick, J. A. (Eds.). *Sharks, Rays and Chimaeras: the Status of the Chondrichthyan Fishes*. IUCN SSC Shark Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.
- Dai, X. J.; Xu, L. X. and Song, L. M. (2002). Preliminary analysis of the nominal CPUE and fishing effort in the China longline fishery in the Indian Ocean. *Indian Ocean Tuna Commission Proceedings* 5: 274-278.
- Delgado, C. L.; Wada, N.; Rosegrant, M. W.; Meijer, S. and Ahmed, M. (2003). *Fish to 2020*. World Fish Centre and International Food Policy Research Institute, Penang, Malaysia.
- Fong, Q. S. W. and Anderson, J. L. (2000). Assessment of the Hong Kong shark fin trade. *INFOFISH International* 1/2000: 28-32.
- Fowler, S. L. (2002). Elasmobranch biodiversity, conservation and management. In: Fowler, S. L., Reed, T. M. and Dipper, F. A. (Eds.). *Proceedings of the International Seminar and Workshop, Sabah, Malaysia, July 1997*. Occasional Paper of the Species Survival Commission No.25. 258 pp. (ISBN 2-8317-0650-5).
- Francis, M.P. (1998). New Zealand shark fisheries: development, size and management. *Marine and Freshwater Research* 49(7): 579-591.

- Gordon, J. F. G. (1999). Deepwater Shark Fisheries of the Northeast Atlantic. In: Shotton, R. (Ed.). *Case Studies of the Management of Elasmobranch Fisheries*. FAO Fisheries Technical Paper 378, 1 and 2. Food and Agriculture Organization, Rome, Italy. 920 pp.
- Hanfee, F. (2001). *Gentle Giants of the Sea: India's Whale Shark Fishery*. TRAFFIC-India/WWF-India. 38 pp.
- Heist, E. J. and Gold, J. R. (1999). Genetic identification of sharks in the US Atlantic large coastal shark fishery. *Fishery Bulletin* 97(1): 53-61.
- Hoelzel, A. R. (2001). Shark fishing in fin soup. *Conservation Genetics* 2: 69-72.
- Hurley, P. C. F. (1998). A review of the fishery for pelagic sharks in Atlantic Canada. *Fisheries Research* 39(2): 107-113.
- Irvine, S. B., Stevens, J. B. and Laurenson, L. J. B. (2003). Utilization of Deepwater Dogfishes in Australia. Abstract of presentation given at Conservation and Management of Deepsea Chondrichthyan Fishes, DEEPSEA 2003 Conference, 27-29 November 2003, University of Otago, Dunedin, New Zealand. Available online at <http://www.deepsea.govt.nz/legal/Conservation—management-deepwater-chondrichthyan-fishes.doc>.
- Joseph, L. (1999). Management of Shark Fisheries in Sri Lanka. In: Shotton, R. (Ed.). *Case Studies of the Management of Elasmobranch Fisheries*. FAO Fisheries Technical Paper 378, 1 and 2. Food and Agriculture Organization, Rome, Italy. 920 pp.
- Kreuzer, R. and Ahmed, R. (1978). *Shark Utilization and Marketing*. Food and Agriculture Organization, Rome, Italy. (ISBN: 92-5-100654-7.)
- Lee, S. K. H. (in prep). Medicinal Plant Trade in East Asia. TRAFFIC East Asia, Hong Kong, China.
- O'Connell-Rodwell, C. and Parry-Jones, R. (2002). *An Assessment of China's Management of Trade in Elephants and Elephant Products*. TRAFFIC International, Cambridge, UK.
- Parry-Jones, R. (1996). TRAFFIC Report on Shark Fisheries and Trade in Hong Kong. In: Anon., 1996. *The World Trade in Sharks: A Compendium of TRAFFIC's Regional Studies*, I. TRAFFIC International, Cambridge, UK.
- Pitcher, T. J.; Watson, R.; Haggan, N.; Guénette, S.; Kennish, R.; Sumaila, R.; Cook, D.; Wilson, K., and Leung, A. (2000). Marine reserves and the restoration of fisheries and marine ecosystems in the South China Sea. *Bulletin of Marine Science*, 66(3): 543-566.
- Reeve, R. (2002). *Policing International Trade in Endangered Species: the CITES Treaty and Compliance*. Earthscan Publications Ltd., London, UK. 346 pp.
- Rose, D. A. (1996). *An Overview of World Trade in Sharks and other Cartilaginous Fishes*. TRAFFIC International, Cambridge, UK. 106 pp. (ISBN 1-85850-114-8).
- Shehe, M. A. and Jiddawi, N. S. (2002). The Status of Shark Fisheries in Zanzibar. In: Fowler, S. L., Reed, T. M. and Dipper, F. A. (Eds). *Elasmobranch Biodiversity, Conservation and Management. Proceedings of the International Seminar and Workshop, Sabah, Malaysia, July 1997*. Occasional Paper of the Species Survival Commission No.25, IUCN, Gland, Switzerland. 258 pp. (ISBN 2-8317-0650-5).
- Shivji, M.; Clarke, S.; Pank, M.; Natanson, L.; Kohler, N. and Stanhope, M. (2002). Genetic identification of pelagic shark body parts for conservation and trade monitoring. *Conservation Biology* 16(4):1036-1047.

- Shotton, R. (1999). Species Identification Practices of Countries Reported Landings of Chondrichthyan Fishes in the FAO Nominal Catches and Landings Data Base. In: Shotton, R. (Ed). *Case Studies of the Management of Elasmobranch Fisheries*. FAO Fisheries Technical Paper 378, 1 and 2. Food and Agriculture Organization, Rome, Italy. 920 pp.
- Tanaka, S. (1995). The shark fin Trade in Asia. *Shark News* 3:6.
- Vannuccini, S. (1999). *Shark Utilization, Marketing and Trade*. FAO Fisheries Technical Paper 389. Food and Agriculture Organization, Rome, Italy. 470 pp.
- Yeung, W. S., Lam, C. C. and Zhao, P. Y. (2000). *The Complete Book of Dried Seafood and Foodstuffs*. (In Chinese.) Wan Li Book Company Limited, Hong Kong. 246 pp.
- Walker, T. (1999). *Galeorhinus galeus* fisheries of the world. In: Shotton, R. (Ed.). *Case Studies of the Management of Elasmobranch Fisheries*. FAO Fisheries Technical Paper 378, 1 and 2. Food and Agriculture Organization, Rome, Italy. 920 pp.

APPENDICES

Appendix I

Hong Kong Special Administrative Region Shark Assessment Report, submitted to the Asia Pacific Economic Co-operation (APEC) Fisheries Working Group in June 2002.

Reprinted with permission from AFCD, (C.S. Cheung, AFCD, *in litt.*, January 2004.)

Introduction

In recent years, there is widespread concern over the increase of shark fishing and the potential negative impacts on shark populations. In response to this, Food and Agricultural Organization (FAO) has developed the International Plan of Action for Conservation and Management of Sharks (IPOA-SHARKS) in 1998 and all States are encouraged to implement it. States should carry out a regular assessment of the shark fisheries so as to determine if there is a need for development of a shark plan. In this connection, the Agriculture, Fisheries and Conservation Department of the Hong Kong Special Administrative Region has prepared this shark assessment report in accordance with guidelines provided in *FAO Technical Guidelines for Responsible Fisheries – Fisheries Management - 4 Suppl. 1-1: Conservation and Management of Sharks* (FAO, 2000) and the International Plan of Action for the Conservation and Management of Sharks (FAO, 1998).

Fishery

Capture fishery

The Hong Kong fishing fleet has about 5,100 vessels comprising 665 pair trawlers, 232 stern trawlers, 536 shrimp trawlers, 257 long liners, 350 gill netters, and the remaining being hand liners, cape trappers, multi-gears sampans etc. The fleet mainly operates in the waters of the adjacent continental shelf in the South and East China Seas, extending over a 160-kilometre wide section of this shelf between the Gulf of Tonkin and the East China Sea. The predominant fishing method is trawling, which accounted for 84% of the catch. About 90% of the local capture fisheries production is derived outside the waters of Hong Kong. The total fish catch in 2001 amounted to some 174 000 t, with an estimated wholesale value of USD220 million.

Shark fishery

In Hong Kong, there is no shark fishery and only very small quantities of sharks are caught as by-catch by long-lining and bottom trawling in adjacent waters of Hong Kong. The production and landing of sharks by Hong Kong fishing fleet between 1991 and 2000 are listed in **Table 1** overleaf. Shark production contributes less than 0.5% of the total catch of Hong Kong fishing fleet. As indicated in the table below, only part of the shark catch was landed in Hong Kong whereas the remaining was landed elsewhere.

Table I**Shark production (t) and landings (t) by the Hong Kong fishing fleet between 1991 and 2000**

Year	Shark production (t)	Shark landing in Hong Kong (t)	Value of shark landing (USD000)
1991	1017	366.7	200.9
1992	817	264.0	147.0
1993	848	419.2	218.7
1994	688	352.8	251.0
1995	485	233.0	188.8
1996	456	228.3	255.7
1997	420	211.4	269.4
1998	382	209.5	281.6
1999	No data	115.7	143.9
2000	No data	49.4	51.3

Source: Based on AFCD fisheries surveys and the landing records of the Fish Marketing Organization

Use and species

The majority of sharks harvested are small, less than three kilogrammes, but a few large sharks are occasionally caught (over 50 kg). Sharks, similar to other marine fishes, are retained and sold whole, except the larger individuals, the fins of which are removed and sold separately. Sharks are fully used in Hong Kong fisheries. Thus, shark finning and discarding of sharks is not a problem. Since sharks are caught as by-catch in small quantities by local fishermen, they are not identified and only the total weight of the catch is recorded.

Fishing ground and fishery management

Almost all the sharks are caught in the waters of the adjacent continental shelf in the South and East China Seas, which are under Mainland China's jurisdiction. Fishing activities in these waters are regulated by Mainland China's fisheries management regime.

Conclusion

Given the relatively small quantities of sharks caught by our fishermen in non-directed fisheries, it is considered not necessary to develop a specific plan of action for the conservation and management of sharks in Hong Kong. Notwithstanding this conclusion, we are fully aware of the need for concerted efforts and co-operation between economies in the region to manage and conserve the shark fisheries resources effectively. We are prepared to co-operate with other economies in the region and make the relevant data available to relevant sub-regional and regional fisheries organizations and FAO. We shall also try to improve species identification to facilitate the monitoring of sharks caught and landed in Hong Kong.

Appendix 2

Destination for Mainland China Shark Fin (0305-5920) Imports, 1998-2002

Period	Province	City	Quantity	Value (USD)	# of shipments	Value/kg
1	Guangdong	Jiangmen	4 671 720	39 143 784	301	8.38
1	Guangdong	Shunde	1 780 713	4 560 742	184	2.56
1	Guangdong	Nanhai	1 528 841	5 506 079	62	3.60
1	Guangdong	Zhongshan	894 421	3 666 395	103	4.10
1	Fujian	Ningde	592 315	1 514 763	31	2.56
1	Qingdao	SEZ	386 443	55 575	25	0.14
1	Guangdong	Foshan	142 798	880 980	19	6.17
1	Guangdong	Dongguan	98 469	909 727	36	9.24
1	Guangdong	Guangzhou	59 505	210 442	29	3.54
1	Zhuhai	SEZ	38 227	191 669	13	5.01
1	Guangdong	Shanwei	34 291	96 777	5	2.82
1	Liaoning	Dalian	18 791	755 015	5	40.18
1	Guangdong	Shantou	18 790	95 448	11	5.08
1	Guangdong	Shenzhen	15 855	167 913	41	10.59
1	Shanghai	Minhang	4563	177 359	2	38.87
1	Guangdong	Maoming	4525	116 780	10	25.81
1	Guangdong	Yangjiang	1750	903	1	0.52
1	Shanghai	Jingan	741	4626	10	6.24
1	Shandong	Jinan	200	13 471	1	67.36
1	Beijing	Chaoyang	179	11 139	4	62.23
1	Dalian	SEZ	136	8012	2	58.91
1	Yunnan	Kunming	120	578	1	4.82
1	Hebei	Shijiazhuang	90	2712	1	30.13
1	Jiangsu	Nanjing	70	1594	1	22.77
1	Shanghai	Luwan	13	1787	2	137.46
1	Beijing	Shunyi	12	2114	1	176.17
1	Zhejiang	Wenzhou	9	221	1	24.56
1	Dalian	SEZ	1	131	1	131.00
2	Guangdong	Jiangmen	4 004 330	31 138 877	na	7.78
2	Guangdong	Zhongshan	1 390 377	5 611 261	na	4.04
2	Guangdong	Nanhai	854 567	4 371 986	na	5.12
2	Guangdong	Shunde	843 631	2 554 489	na	3.03
2	Fujian	Ningde	616 783	1 590 102	na	2.58
2	Guangdong	Shantou	400 296	2 475 818	na	6.18
2	Guangdong	Maoming	339 206	916 122	na	2.70

Destination for Mainland China Shark Fin (0305-5920) Imports, 1998-2002 (cont.)

Period	Province	City	Quantity	Value (USD)	# of shipments	Value/kg
2	Guangdong	Shanwei	296 627	1 362 910	na	4.59
2	Guangdong	Dongguan	114 009	1 118 469	na	9.81
2	Guangdong	Guangzhou	75 333	356 517	na	4.73
2	Qingdao	SEZ	727 97	8753	na	0.12
2	Zhuhai	SEZ	55 380	382 922	na	6.91
2	Guangxi	Wuzhou	52 103	228 460	na	4.38
2	Guangdong	Shenzhen	44 699	604 768	na	13.53
2	Liaoning	Dalian	39 649	108 950	na	2.75
2	Hainan	SEZ	26 645	228 240	na	8.57
2	Guangdong	Huizhou	23 501	106 436	na	4.53
2	Shenzhen	SEZ	13 972	26 871	na	1.92
2	Shandong	Dongying	11 610	92 383	na	7.96
2	Guangdong	Foshan	6581	42 194	na	6.41
2	Shandong	Weihai	6013	212 350	na	35.32
2	Beijing	Dongcheng	5205	13 429	na	2.58
2	Fujian	Fuzhou	4000	35 899	na	8.97
2	Beijing	Other	1480	13 284	na	8.98
2	Shanghai	Jiading	130	7500	na	57.69
2	Shandong	Yantai	89	1246	na	14.00
2	Beijing	Shunyi	40	7921	na	198.03
2	Beijing	Chaoyang	31	181	na	5.84
2	Jilin	Changchun	10	326	na	32.60
2	Liaoning	Shenyang	1	44	na	44.00

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

For further information contact:

The Director
TRAFFIC East Asia
Room 2001, Double Building
22 Stanley Street
Central, Hong Kong

Telephone: (852) 2530 0587
Fax: (852) 2530 0864
Email: tea@pccw.imsbiz.com

The Executive Director
TRAFFIC International
219a Huntingdon Road
Cambridge CB3 0DL
UK

Telephone: (44) 1223 277427
Fax: (44) 1223 277237
Email: traffic@trafficint.org

TRAFFIC

is a joint programme of



IUCN
The World Conservation Union