

**EVIDENCE
OF DECLINES IN
SHARK FIN DEMAND
CHINA**

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EXECUTIVE SUMMARY

Many of the planet's vulnerable shark species face extreme population pressures due to overfishing often driven by demand for their fins. In recent years, with its growing economy, China has emerged as the largest market for shark fin. Consumer awareness campaigns that focus on demand reduction are vital to addressing this urgent crisis.

Since 2006, WildAid's culturally sensitive and celebrity-driven multimedia campaigns focused on shark fin demand reduction have reached hundreds of millions of consumers throughout China on broadcast and satellite television, LCD screens on trains and in subway and railway stations, airports, airline in-flight entertainment, shopping malls, banks, taxis, universities and hospitals. To enhance their impact these public service announcements and social media campaigns feature celebrity ambassadors, such as Yao Ming, Jackie Chan and David Beckham, promoting the message, "When the buying stops, the killing can too."

FINDINGS:

- **82% decline in sales** reported by *shark fin vendors in Guangzhou*, China and a decrease in prices (47% retail and 57% wholesale) over the past two years.
- **85% of Chinese consumers surveyed online said they gave up shark fin soup** within the past three years, and **two-thirds of these respondents cited awareness campaigns as a reason for ending their shark fin consumption**. The second and third most popular reasons given were that they "want to protect sharks" and that it is "cruel the way they kill sharks" –key messages of WildAid's public awareness campaign. The government banquet ban was cited as a reason by 28.2% of survey respondents.
- 43% of consumers responded that much of the shark fin in the market is fake.
- **24 airlines, three shipping lines, and five hotel groups** have banned shark fin from their operations.
- **80% decline in prices paid to fishermen from 2007 levels in Tanjung Luar and Lombok in Indonesia** and a **decline of 19% since 2002-03 in Central Maluku, Southeastern Maluku and East Nusa Tenggara**.
- Of **20 Beijing restaurant representatives interviewed, 19 reported a significant decline in shark fin consumption**. All agreed that WildAid PSAs featuring Yao Ming had "definitely raised awareness among customers."

In 2012, the impact of demand reduction campaigns became more pronounced and was further boosted by the Chinese government's announced ban on shark fin at state banquets, and the resulting extensive media coverage of the issue by Chinese State television (CCTV). In 2013, WildAid's demand reduction campaigns leveraged US\$164 million in pro-bono media placement via state and private media partnerships in China.

Recent consumer surveys indicated that these demand reduction campaigns have been broadly viewed and reportedly have prompted many people to give up shark fin soup in China. This report compiles recent information on consumer behavior and changes in the prices of shark fin in the markets from a variety of independent sources. As any one survey or study provides only a snapshot and is usually limited in scope, this report aims to provide a more complete picture of current shark fin demand.





IMPACTS OF THE FIN TRADE

While shark products include meat, skin, teeth and oil, it is the higher market value of shark fins, primarily in China, that has driven the demand for these animals and their population declines.¹ Of the fourteen shark species most prevalent in the shark fin trade, all have experienced regional population declines ranging from 40-99%, and all are classified as Threatened or Near Threatened by the International Union for the Conservation of Nature (IUCN) (Table 1). Over 71% are classified as Vulnerable or Endangered, meaning they are considered to be at high or very high risk of extinction in the wild.²

In addition fins from sharks considered threatened or endangered, and listed on the Convention on Trade in Endangered Species of Wild Flora and Fauna (CITES) Appendices, are still often found by investigators in a trade that is usually unregulated and undocumented.

CITES currently lists eight species of shark on Appendix II: white shark (*Carcharodon carcharias*), whale shark (*Rhincodon typus*), basking shark (*Cetorhinus maximus*), porbeagle shark (*Lamna nasus*), oceanic whitetip shark (*Carcharhinus longimanus*), scalloped hammerhead shark (*Sphyrna lewini*), smooth hammerhead shark (*Sphyrna zygaena*) and great hammerhead shark (*Sphyrna mokarran*). CITES defines Appendix II species as “[those] not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.”

Appendix II allows for permitted export or re-export of these species or their parts via certificate issued by the Management Authority of the State, provided the parts were legally obtained and the export of which will not be detrimental to the survival of the species.³ In practice, these scientific “non-detriment” findings are not carried out and dried shark fin is difficult for nonexperts to distinguish were authorities actually checking. CITES Appendix II listings do not uniformly reflect the status of the same species as determined by the IUCN Red List of Threatened Species.⁴

COMMON NAME	SCIENTIFIC NAME	FIN PRODUCT NAME	IUCN RED LIST STATUS	IUCN TREND	DECLINE*
BLUE SHARK	<i>Prionace glauca</i>	Ya Jian	NT	Unknown	60–87%
SHORTFIN MAKO SHARK	<i>Isurus oxyrinchus</i>	Qing Lian	VU	Decreasing	40–99%
SILKY SHARK	<i>Carcharinus falciformis</i>	Wu Yang	NT	Decreasing	60–91%
DUSKY SHARK	<i>Carcharinus obscurus</i>	Hai Hu	VU	Decreasing	62–92%
SANDBAR SHARK	<i>Carcharinus plumbeus</i>	Bai Qing	VU	Decreasing	65–97%
TIGER SHARK	<i>Galeocerdo cuvier</i>	Ruan Sh	NT	Unknown	65–99%
HAMMERHEAD SCALLOPED/ SMOOTH	<i>Sphyrna lewini/ zygaena</i>	Chun Chi	EN/VU	Unknown/ Decreasing	79%–total collapse
GREAT HAMMERHEAD	<i>Sphyrna mokarran</i>	Gu Pian	EN	Decreasing	79%–total collapse
THRESHER SHARKS COMMON, BIGEYE, PELAGIC	<i>Alopias</i>	Wu Gu	VU	Decreasing	50–83%
BULL SHARK	<i>Carcharinus leucaas</i>	Sha Qing	NT	Unknown	98.6–99.99%
OCEANIC WHITETIP	<i>Carcharinus longimanus</i>	Liu Qiu	VU	Decreasing	70–99%

Table 1 : Fourteen species of sharks most prevalent in the shark fin trade.⁵

* Regional declines cited from scientific literature (see references). The range in numbers is due to studies of declines in different regions over different time periods. Most estimates refer to declines over a 20-30 year period (approximately 2 to 3 generations).

Though volume of trade in some species may be relatively low, it can be significant in terms of global populations of scarce and slow reproducing species that have already suffered significant declines. For example, fins from great white sharks (*Carcharodon carcharias*) may be relatively rare in the global trade, but even low levels in the markets might adversely impact the populations.

Shark fin trade in consuming countries falls through the regulatory gaps. Fisheries authorities have little interest in or capacity to monitor fishery products that are dried and not caught by domestic fishermen, while CITES Management Authorities tasked with implementing the treaty often focus on terrestrial species rather than marine. For customs officials and police, shark fin is hard to identify by species and a low priority. Little or no data by species is recorded except in traders' private, individual records.





TRADE BANS & FINNING LAWS

Over the past several years as awareness of overfishing, shark “finning,” mercury contaminations and the ecological importance of sharks as apex predators has grown, the U.S. and a number of other nations have banned the practice of “finning” – defined as removing fins and discarding the sharks’ bodies at sea to maximize cargo space for the more valuable fins (Table 2, following page). A 2012 review of 211 countries and territories found that approximately 1/3 have shark finning regulations.⁶ The more effective Shark finning regulations apply a ‘fins naturally attached policy’ while regulations that apply fin-to-carcass ratio allows for the mixing of the fins and carcasses of multiple species.⁷

However, given the gaps in observer coverage, transshipping at sea and the prevalence of illegal, unregulated, unreported (IUU) fishing, the practice continues globally.⁸ In Indonesia, among the top five shark fin exporting countries, finning remains legal (with the exception of Raja Ampat).⁹ In many countries where the practice of shark finning has been banned, such as the U.S., it is still legal to catch and land many species of sharks provided their fins are attached.

Beginning in 2001, countries and states began to pass laws to ban the possession, sale and trade of shark fins (Table 3, page 14). Today, 25 states and countries have instituted bans.



X = seasonal closures or protected areas

COUNTRY/TERRITORY	FINNING BAN	FISHING BAN
AMERICAN SAMOA (TERRITORY OF U.S.A)	X	X
ARGENTINA	X	
AUSTRALIA	X	
AUSTRIA	X	
BAHAMAS	X	X
BELGIAM		
BELIZE	X	
BERMUDA	X	
BRAZIL	X	
BRUNEI	X	X
BULGARIA	X	
BURMA (MYANMAR)	X	X
CANADA	X	
CAPE VERDE (REPUBLIC OF CABO VERDE)	X	
CAYMAN ISLANDS	X	
CHILE	X	

COUNTRY/TERRITORY	FINNING BAN	FISHING BAN
CHRISTMAS ISLAND (TERRITORY OF AUSTRALIA)	X	X
TERRITORY OF THE COCOS (KEELING) ISLANDS	X	X
COLOMBIA	X	X
CONGO (BRAZZAVILLE)	X	X
COOK ISLANDS	X	X
COSTA RICA	X	X
CYPRUS	X	
CZECH REPUBLIC	X	
DENMARK	X	
DOMINICAN REPUBLIC	X	
ECUADOR	X	X
EGYPT	X	X
EL SALVADOR	X	
ESTONIA	X	
FEDERATED STATES OF MICRONESIA	X	X
FINLAND	X	
FRANCE	X	
FRENCH POLYNESIA	X	X
(REPUBLIC OF) THE GAMBIA	X	
GERMANY	X	
GIBRALTAR	X	
GREECE	X	
GUADELOUPE	X	
GUAM	X	
GUATEMALA	X	
(REPUBLIC OF) GUINEA	X	
(REPUBLIC OF) GUINEA-BISSA		X
(CO-OPERATIVE REPUBLIC OF) GUYANA	X	
HONDURAS	X	X
HUNGARY	X	
INDIA	X	
(ISLAMIC REPUBLIC OF) IRAN		X
(REPUBLIC OF) IRELAND	X	
ISRAEL	X	X

COUNTRY/TERRITORY	FINNING BAN	FISHING BAN
ITALY	X	
(INDEPENDENT AND SOVEREIGN REPUBLIC OF) KIRIBATI		X
(STATE OF) KUWAIT	X	X
(REPUBLIC OF) LATVIA	X	
(REPUBLIC OF) LITHUANIA	X	
(GRAND DUCHY OF) LUXEMBOURG	X	
(REPUBLIC OF THE) MALDIVES	X	X
(REPUBLIC OF) MALTA	X	
(REPUBLIC OF THE) MARSHALL ISLANDS	X	X
MARTINIQUE		X
(ISLAMIC REPUBLIC OF) MAURITANIA		X
MAYOTTE (OVERSEAS DEPARTMENT OF FRANCE)	X	
MEXICO	X	X
NETHERLANDS	X	
(REPUBLIC OF) NAMIBIA	X	
NEW CALEDONIA	X	X
(REPUBLIC OF) NICARAGUA	X	
(FEDERAL REPUBLIC OF) NIGERIA	X	
NIUE	X	
(COMMONWEALTH OF THE) NORTHERN MARIAN ISLANDS (CNMI)	X	X
(SULTANATE OF) OMAN	X	
(REPUBLIC OF) PALAU	X	X
PANAMA	X	
POLAND	X	
PORTUGAL	X	
PUERTO RICO (TERRITORY OF U.S.A)	X	
RAJA AMPAT, INDONESIA	X	X
REUNION ISLAND, FRANCE	X	
ROMANIA	X	
(INDEPENDENT STATE OF) SAMOA	X	
SAINT PIERRE AND MIQUELON ISLAND (TERRITORY OF FRANCE)	X	
(REPUBLIC OF) SENEGAL		X

COUNTRY/TERRITORY	FINNING BAN	FISHING BAN
(REPUBLIC OF) SEYCHELLES	X	
(REPUBLIC OF) SIERRA LEONE	X	
SLOVAK REPUBLIC	X	
(REPUBLIC OF) SLOVENIA	X	
(REPUBLIC OF) SOUTH AFRICA	X	
SOUTH KOREA	X	
SPAIN	X	
(REPUBLIC OF THE) SUDAN	X	X
SWEDEN	X	
TAIWAN	X	
TOKELAU	X	
UNITED ARAB EMIRATES	X	X
UNITED KINGDOM	X	
UNITED STATES OF AMERICA	X	X (state-level)
VANUATU	X	
VENEZUELA	X	X
VIRGIN ISLANDS	X	
WALLIS AND FUTUNA ISLANDS (FRENCH TERRITORY)	X	
(REPUBLIC OF) YEMEN	X	

Table 2 : Finning regulations/bans vary from requiring a fins-to-carass ratio, to the preferred 'fins naturally attached' policy. (Adapted from New Zealand Shark Alliance, 2013)

References: New Zealand Shark Alliance. (2013) Summary of Countries that have at a minimum banned shark finning. <http://nzu.org.nz/wp-content/uploads/Summary-of-countries-that-have-at-a-minimum-banned-shark-finning.pdf>
Pew Environment Group. (2012) Navigating Global Shark Conservation Measures: Current Measures and Gaps. Pew Environment Group, Washington DC

COUNTRY/STATE	YEAR	REGULATION SUMMARY
CONGO (BRAZZAVILLE)	2001	Ban on the export of sharks or shark products
EGYPT	2005	Prohibits the commercial sale of sharks
FRENCH POLYNESIA	2006	Trade ban on all sharks (except makos); shorfin mako added to law, 2012
MALDIVES	2009	Ban on the trade and export of sharks & shark products
HAWAII, USA	2010	Possession, sale and trade of sharks and shark products prohibited
GUAM	2011	Ban on possession (except for subsistence fishing), sale and trade of shark fins
OREGON, USA	2011	Possession, sale and trade of shark fins prohibited (with an exception for dogfish)
WASHINGTON, USA	2011	Possession, sale and trade of shark fins prohibited
CALIFORNIA, USA	2011	Bans the possession, sale, and distribution of imported shark fins
BRANDFORD, CANADA	2011	Ban on possession and sale of shark fins
OAKVILLE, CANADA	2011	Ban on possession and sale of shark fins
MISSISSAUGA, CANADA	2011	Ban on possession and sale of shark fins
TORONTO, CANADA	2011	Ban on possession, sale of shark fins (overturned 2012)
REPUBLIC OF THE MARSHALL ISLANDS	2011	Ban on trade in shark products
BAHAMAS	2011	All shark fishing, sale and trade in shark products was banned
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS	2011	Possession, sale and trade of shark fins prohibited
THE FEDERATED STATES OF MICRONESIA	2012	Resolution to develop regional bans on the possession, sale and trade of shark fins
CHINA	2012	Prohibits serving of shark fin at any official government functions
ILLINOIS, USA	2012	Possession, sale and trade of shark fins prohibited
AMERICAN SAMOA	2012	Possession, sale and trade of shark fins prohibited
MARYLAND, USA	2013	Possession, sale and trade of shark fins prohibited
DELAWARE, USA	2013	Possession, sale and trade of shark fins prohibited
NEW YORK, USA	2013	Possession, sale and trade of shark fins prohibited (except 2 species of dogfish)
BRUNEI DARUSSALEM	2013	Domestic sale, import and trade of shark products prohibited
MASSACHUSETTS, USA	2014	Bans possession and sale of shark fins (except smooth hound sharks and spiny dogfish)

Table 3 : Bans on the possession/sale/trade of shark fins.

Reference: Shark Savers (2012) I'm FINished with FINS Campaign Tool Kit. WildAid, San Francisco CA.





SHARK FIN TRADE SHIFT

FROM HONG KONG TO GUANGZHOU

Historically Hong Kong was the epicenter of the global shark fin trade (as it was for the international ivory trade until it was banned in 1989), but trade has shifted more recently to Guangzhou, in southern China. Between 1980 and 1990 available statistics show that Hong Kong imported 65-80% of all recorded shark fins.¹⁰ From 2000 to 2009, Hong Kong was the largest importer, followed by China.¹¹ Although China collates no trade data, market sources and investigations assert that the center of the trade has shifted.¹² By 2000, shark fin traders estimated that Hong Kong's imports had declined to 44-58% of the global market.¹³ From 2001 to 2006, that fell to 30-50%.¹⁴ A 2007 study of the social, economic and regulatory drivers of the shark fin trade determined that "the migration of the trade from its former center in Hong Kong to Mainland China has resulted in a severe curtailment of the ability to monitor and assess impacts on shark populations."¹⁵

Recently, shark fin imports to Hong Kong declined from 10,292,421kg in 2011 to 8,254,332kg in 2012, a 20% decrease. In 2013 Hong Kong shark fin imports reportedly dropped an additional 35% to 5,390,122kg.¹⁶ However, the codes under which shark fin products are reported were revised in the 2012 government data. Because of this change, fins were logged under a rarely used code and, therefore, may be missing from reported totals.¹⁷

In May 2014, the Hong Kong Shark Fin Trade Merchants Association reported a membership of 70-80 companies (exclusively from Sheung Wan, Sai Wan or Sai Ying Pun), representing approximately 700-800 employees. However, none of the member companies depend solely on shark fin for their sales. All association member companies were diversified into other products such as fish maw and sea cucumbers.¹⁸ Similar information regarding numbers of shark fin companies in China is not available.

In April 2014, an extensive interview with a trader in Hong Kong's shark fin retail district of Sheung Wan confirmed that the bulk of all shark fins now enter Guangzhou directly by ship, and that Hong Kong has lost its shark fin-hub status to Guangzhou. He stated that imports by weight were down by 50% over the previous 12 months, and the price of shark fin had fallen by 30% over the previous five months with prices continuing in "free-fall."¹⁹ Hong Kong shark fin traders have attributed their loss of market share to this shift of importing fins directly to Guangzhou.²⁰

The lack of any official shark fin trade data from China makes the information that WildAid has gathered from interviews with traders and vendors in Hong Kong and Guangzhou valuable in understanding trends in the shark fin markets

GUANGZHOU SHARK FIN MARKETS – PRICES AND PERCEPTIONS

In December 2013, fifteen shark fin vendors and traders were interviewed in two key market areas in Guangzhou, China: Qing Ping Lu which primarily consists of retail vendors, and Yuexiu which primarily consists of wholesale traders. They were asked about past and current prices of randomly selected, medium-size shark fins and about their estimates of any changes in sales. They were also asked to explain the reason(s) for any changes in prices and demand. Our interviews found:

- **Eleven** traders/vendors responded regarding their estimated change in sales of shark fin over the past 1-2 years. All stated that sales had declined generally, with one indicating an expected, slight increase with the coming Chinese New Year (during which shark fin soup is traditionally consumed). *Their estimated decline in sales ranged from 100% to 50% with an average of 82%.* Notable comments included:

GUANGZHOU RETAIL VENDOR: “Now, shark fin is hard to sell.”

GUANGZHOU WHOLESALE TRADER: “Business is shrinking; I don’t know what new product to sell.”

- **Ten** traders/vendors provided price comparisons for medium-size fins over the past 1-2 years (Table 4). Past and current prices ranged widely, likely due to differences in fin value from different shark species.²¹ However, all stated that prices had declined with an average retail price decrease of 57% and an average wholesale price decrease of 47%. Notable comments included:

GUANGZHOU WHOLESALE TRADER: “On the street, shark fin is now the same price as squid.”

GUANGZHOU WHOLESALE TRADER: “I’m waiting for my business to die.”

GUANGZHOU WHOLESALE TRADER: “Prices dropped because government taxes are not used for purchasing shark fins anymore.”

- **Six** traders/vendors responded regarding their estimated change in supply. Three indicated a steady supply and three indicated a decrease in supply of shark fins with one specifically mentioning a lack of supply of large shark fins.
- **Three** major wholesalers indicated they are now selling from their existing stockpile, not from new stock. Notable comments included:

GUANGZHOU WHOLESALE TRADER: “My focus has shifted to other products because shark fin is a dying business; we’re selling from our stockpile, now, not new catches.”

GUANGZHOU WHOLESALE TRADER: “At this price fishermen lose money so they won’t be catching sharks; dealers who can change product focus, do and will.”

- **Ten** traders/vendors responded regarding reason(s) for the decline in sales (Table 5). The most common reasons cited were the Chinese government’s ban on shark fin at official functions (nine respondents) followed by awareness campaigns (four respondents) and consumer concerns about fake shark fin in the markets (four respondents). Only one respondent mentioned the influence of the economic downturn, and another credited the decline to a change in supply. Notable comments included:

GUANGZHOU RETAIL VENDOR: “I don’t deal in fins anymore because it is bad business... because the public is aware of its low nutrition...”

GUANGZHOU WHOLESALE TRADER: “Yao Ming’s commercial [PSA] impact single-handedly smashed my business.”

GUANGZHOU WHOLESALE TRADER: “Some governments may ban the business completely, so it is too risky.”

Declines in consumption can also be seen in a 2012 survey initiated by the Department of Sociology at Peking University on consumer attitudes and behaviour towards seafood consumption in Beijing. *Of the 20 restaurant representatives interviewed, 19 reported a significant decline in the consumption of shark fin* and all agreed that WildAid PSAs featuring Yao Ming had “definitely raised awareness among customers.”¹⁹



MEDIUM SHARK FIN PRICES, GUANGZHOU MARKET, CHINA
SAMPLED VIA VENDOR/TRADER INTERVIEWS, DECEMBER 2013

RETAIL					
CNY/KG (PAST PRICE)	USD/KG (PAST PRICE)	CNY/KG (CURRENT PRICE)	USD/KG (CURRENT PRICE)	CHANGE OVER TIME (YEARS)	PERCENT DECREASE
¥1,200	\$193	¥340	\$55	1	72%
¥3,200	\$514	¥1,600	\$257	1	50%
ND	ND	¥7,600	ND	1	-
¥4,000	\$642	¥2,000	\$321	1	50%

AVERAGE REPORTED PRICE DECREASE: 57%

WHOLESALE					
CNY/KG (PAST PRICE)	USD/KG (PAST PRICE)	CNY/KG (CURRENT PRICE)	USD/KG (CURRENT PRICE)	CHANGE OVER TIME (YEARS)	PERCENT DECREASE
¥3,000	\$482	¥2,000	\$321	1	33%
¥12,000	\$1,927	¥6,000	\$963	2	50%
¥2,080	\$334	¥760	\$122	1	63%
¥2,000	\$321	¥800	\$128	2	60%
¥2,400	\$385	¥1,200	\$193	2	50%
¥800	\$128	¥500	\$80	1	38%
¥600	\$96	¥400	\$64	1	33%
ND	ND	¥4,000	ND	ND	-

AVERAGE REPORTED PRICE DECREASE: 47%

Table 4

REPORTED REASONS FOR DECLINE IN SHARK FIN SALES						
VENDOR/TRADER INTERVIEWS, GUANGZHOU, CHINA 2013						
RESPONDENT	GOVERNMENT BAN	FAKE SHARK FINS	AWARENESS CAMPAIGNS	ECONOMIC DOWNTURN	CHANGE IN SUPPLY	NO RESPONSE
Retail Vendor 1	X	X				
Retail Vendor 2	X	X				
Retail Vendor 3	X					
Retail Vendor 4						X
Retail Vendor 5	X	X				
Retail Vendor 6	X	X	X			
Wholesale Trader 1	X					
Wholesale Trader 2						X
Wholesale Trader 3	X		X			
Wholesale Trader 4					X	
Wholesale Trader 5	X					
Wholesale Trader 6	X		X			
Wholesale Trader 7						X
Wholesale Trader 8			X	X		
Wholesale Trader 9						X

Table 5





AWARENESS CAMPAIGNS IMPACTS

In 2006, when WildAid started its shark fin awareness campaign in China, public knowledge of the problem was negligible. Early surveys indicated that 75% of Chinese were unaware that shark fin soup came from sharks (the name of the dish translates to “fish wing soup” in Mandarin), while 19% believed the fins grew back and few understood the negative impacts on shark populations.²²

Two years later following the 2008 Beijing Olympics, an independent survey revealed that 55% of people in Beijing remembered WildAid’s shark fin awareness campaign with 82% saying they would reduce or stop their consumption as a result and 89% saying shark fin should be banned.²³ In a 2010 online poll on Sina Weibo (China’s equivalent of Twitter), 27,370 people voted for a ban on shark fin sales, with only 440 against – indicating broad public support. In May 2012 on the Chinese TV show Xin Shu (similar to General Hospital in the U.S.), popular Chinese actress Hai Qing stated, “... I shouldn’t eat shark fin soup ... as Yao Ming said, when the buying stops, the killing can too.” She also tweeted her pledge not to eat shark fin soup to her 4.8 million social media followers.

In 2013, WildAid’s shark fin awareness public service announcements (PSAs) aired 3,250 times across 19 TV channels in China. In addition, WildAid launched the “I’m FINished with Fins” social media pledge campaign in partnership with Sina Weibo, reaching 200 million Weibo subscribers. Of those, 50 million posts were read, and 340,000 users uploaded photos or signed the pledge in the first two weeks.²⁴

GOVERNMENT ACTION

In July 2012, the Chinese government announced that it would ban shark fin from all state banquets within three years; the ban was implemented in 2013.²⁵ This was part of the government’s crackdown on corruption and excess, and the first response to the National People’s Congress proposal, which credited the WildAid/Yao Ming shark fin awareness campaign.

In September 2013, the Hong Kong government also banned shark and other unsustainable seafood products from government functions.

MEDIA COVERAGE

Beginning in mid-2012, Chinese and international media began to report on the decline in the shark fin trade in Hong Kong and China:

- July 3, 2012 – *CNN* reported on China’s announcement of its ban on shark fin soup at state functions. The segment highlighted the impact of the trade on shark populations and the cruelty of the practice of finning. In an interview from a Hong Kong market, *a vendor discussed the impact of awareness campaigns* on his declining business, and then said, “*when his grandchildren tell him ‘don’t eat shark fin,’ he admits he says okay.*”²⁶
- January 5, 2013 – *South China Morning Post* reported Shark Fin Trade Merchants Association chairman Ho Siu-chai as stating, “*The whole industry has recorded a 50% sales decrease from last year ... [the decline] is mainly due to the omnipresent advocacy by green groups ... The strong hostility to the trade has seen about 30% of shark fin shops close down in recent years.*”²⁷
- January 9, 2013 – *CCTV Primetime Focus Report* ran a series of reports on restaurants serving up fake shark fin soup and that many soup samples contained dangerous levels of cadmium and methyl mercury. The series also discussed the level of awareness that has been reached about the negative effects of shark finning. At the end of the episode, *the host quoted “When the buying stops, the killing can too,” and they showed a WildAid image of sharks.*²⁸
- January 14, 2013 – *CCTV-1 7.30 p.m.* aired a short documentary about the shark fin trade. This primetime news report on China Network Television provided viewers with information about shark fishing, the practice of finning, and the countries and regions that are major exporters. Viewership was between 2.3% and 2.57%, so *about 31.74 million to 35.47 million people viewed the show on that day. In addition, the video clip has received 167,408 hits on the Internet.*²⁹
- March 7, 2013 – *BBC News* reported that the chairman of the Hong Kong Shark Fin Trade Merchants Association attributed a *60% drop in shark fin sales in 2012* to anti-shark fin awareness campaigns. The article quoted the chairman saying, “*Now they’re stockpiling in the shop. It’s tough to sell them ...*”³⁰
- January 1, 2014 – *Macau Business Daily* reported the owner of a dried seafood shop in San Ma Lou saying, “*We felt that sales of shark’s fin begun to show a decline in 2012, but last year [2013] the decline was even more obvious.*” The article continued to say that “*Macau importers and retailers believe their trade is dwindling mainly because of campaigns by environmentalists against shark’s fin consumption in Greater China; one especially notable campaigner is [WildAid Ambassador] Yao Ming.*”³¹
- January 11, 2014 – *The Guardian* reporter John Vidal in an article titled “*This could be the year we start to save, not slaughter the shark*” wrote, “*Yao [Ming’s WildAid] campaign is said to have helped to reduce consumption of shark fin soup and contributed to the Chinese government’s decision to formally ban the soup from all state banquets. The statistics are unreliable, but the latest Chinese ministry of commerce figures suggest a 70% fall in the consumption of shark fins in China in 2012-2013 and a 30% drop in exports to the Chinese mainland from Hong Kong in 2013.*”³²



CONSUMER SURVEYS

In August 2013, WildAid commissioned iResearch to conduct a consumer survey in Beijing, Shanghai, Guangzhou and Chengdu. (Fig. 1).³³ Questionnaires were sent out randomly and 1568 replies were received.

QUESTION 1.

Do you think the demand for shark fin soup has caused overfishing and the decline of shark populations?

The vast majority (96%) of respondents believe shark fin soup has caused the decline of shark populations.

QUESTION 2.

Have you stopped eating shark fin soup in the last 3 years?

85% said they had stopped eating shark fin soup in the past three years (Fig. 2).

QUESTION 3.

If so, why?

When asked to select one or more reasons why they had stopped, 65% cited “awareness campaigns.” Additionally, the second and third most popular responses – because “I want to protect sharks” (61.7%) and because it is “cruel the way they kill sharks” (55.3%) – may also be attributed to public information provided by awareness campaigns throughout China (Fig. 3). The least common reason given for stopping the consumption of shark fin soup was the Government banquet ban.

This differs from the opinions of Guangzhou shark fin traders, who most frequently believed the ban was the reason for declines in sales. A possible explanation is that consumers who stop ordering shark fin soup will probably not tell restaurants their reasons and instead simply choose different dishes. In turn, restaurants may not be able to accurately explain the reasons for their lower sales to their suppliers. Trader’s perceptions may be influenced because they are more directly impacted by the ban, as they can no longer rely on direct orders from government banquets. On the other hand, consumers may be more likely to support a ban or other protections if they already prioritize the conservation value of sharks, and the results of this survey indicate that they do.

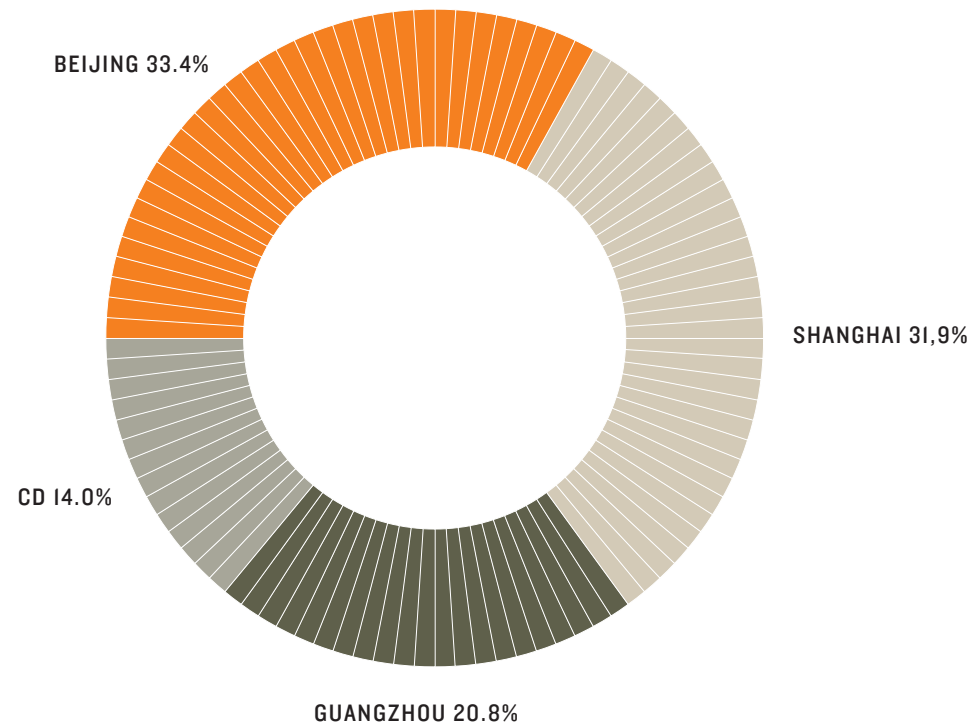


Figure 1 : Shark fin consumer survey, 2013. 1,568 respondents by region.

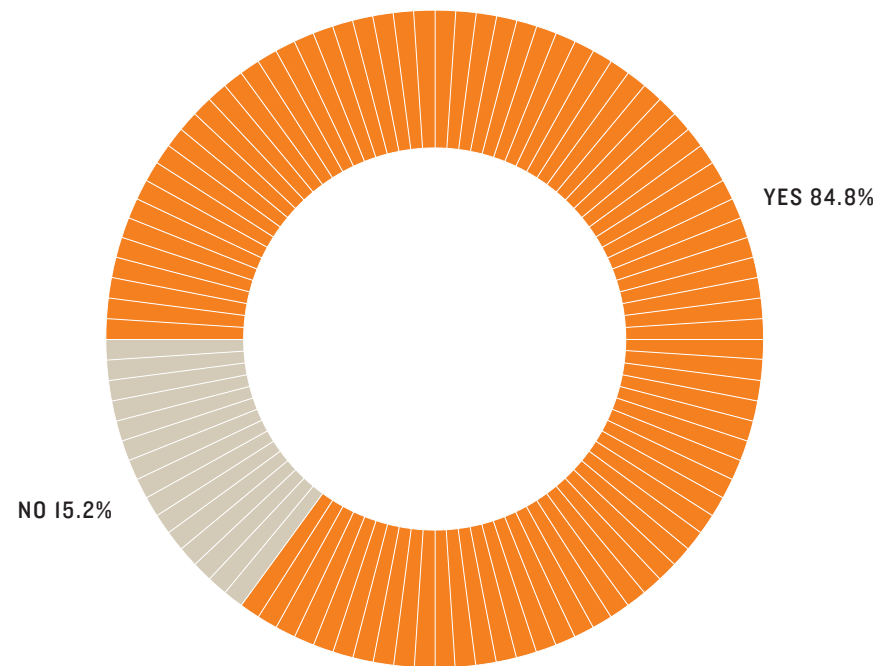


Figure 2 : Have you stopped eating shark fin soup in the last 3 years? Shark fin consumer survey, 2013. 1,568 respondents.

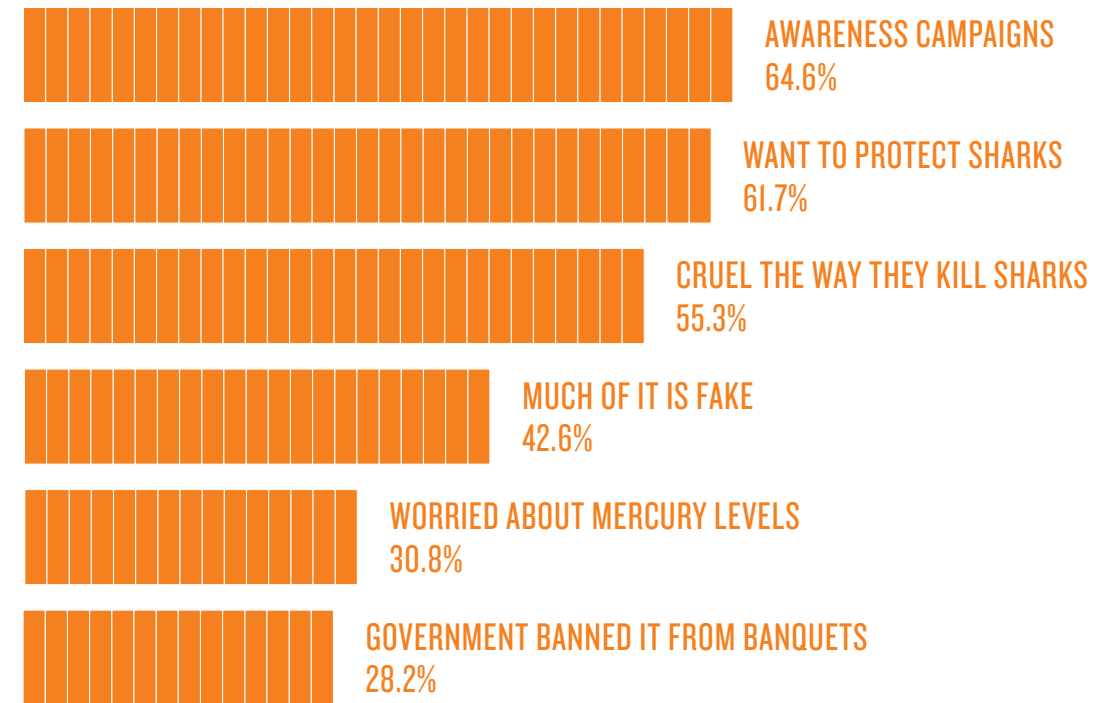


Figure 3. Percent reasons for not eating shark fin soup in the past three years. Shark fin consumer survey, China, 2013. 1,568 respondents.

QUESTION 4.

The Chinese government has banned shark fin from state banquets; do you think Chinese government should impose a ban on all shark fin trade to help save shark species?

91% think the Chinese government should impose a ban on all shark fin trade.

Demand reduction campaigns are also resonating with companies and business leaders. As of July 2014, 24 airlines have responded with shark fin ban policies. These include Thai Airways, Cebu Pacific, Singapore Airlines, Etihad Airways, Air Seychelles, Philippine Airlines, Air Asia, Garuda Indonesia, Korean Airlines, Asiana Airlines, Emirates, Eva Air, Qantas, Air New Zealand, Qatar Airways, KLM, Swiss, FinnAir, Lufthansa, Lan

FAKE SHARK FIN & FOOD SAFETY

Both the Guangzhou trader/vendor interviews and consumer surveys expressed concern over the prevalence of fake shark fin in the market. Four of the traders/vendors mentioned this as a reason for the decline in their sales (Table 5) and 43% of consumers responded that much of the shark fin in the market is fake. Fake shark fin is described in a 1999 United Nations Food and Agriculture report, “Shark Utilization, Marketing and Trade”:

“... a product with the appearance and, to some extent, the texture of shark fin that has been produced from animal and plant materials. Because of its looks and its comparatively very low price, some restaurants use it instead of shark fin with or without the knowledge of the consumer. To make the dishes more authentic, the restaurants usually mix artificial fins in with [real] shark fin in a 30/70 ratio.”³⁴ One Guangzhou retail vendors stated that several hundred tons of fake shark fin have appeared in the markets over the past two years.

In both surveys, respondents expressed a concern about mercury in shark fins. Studies show that shark has among the highest levels of methylmercury, an organic form of mercury found in fish. In 2009, a testing laboratory of Chulalongkorn University analyzed randomly selected shark fins from the Bangkok markets and found that 15 of the 45 tested had mercury exceeding the level deemed safe by the Thai Food and Drug Administration.³⁵ One quarter of 70 uncooked fins from a Hong Kong market were found to contain mercury concentrations well above the World Health Organization’s guidelines, enough to be a significant threat to children and infants.³⁶ Organizations throughout the world, including the United States Environmental Protection Agency (USEPA), the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO), recognize mercury to be a dangerous neurotoxin and warn against eating shark.

Public concern about fake or contaminated foods and food safety has been prevalent throughout China over the past decade. In early 2004, health scares began to make headline news focusing on fake “baby-killer” infant formula.³⁷ Every year thereafter, product contaminations via illegal, harmful additives have continued to make news and heighten concerns about food sources. Examples of major incidents include:

Chile / LATAM Airlines Group, Aeroméxico, Fiji Airways (operates sustainable fins only policy) and Cathay Pacific/Dragonair (operate sustainable fins only policy). In addition, three shipping lines (Evergreen Line of Taiwan, CMA CGM of France and Hanjin of Korea) and five hotel chains (Hilton Worldwide, Starwood Hotels, Ritz-Carlton, Peninsula Group/Hong Kong & Shanghai Hotels and Shangri-La Hotels) have banned shark fin from their operations.

- 2005—illegal and prevalent use of carcinogenic red food dye³⁸
- 2006—counterfeit antibiotics with disinfectant as an ingredient³⁹
- 2007—sewage used in manufacturing tofu⁴⁰
- 2008—infant formula contaminated by toxic melamine⁴¹
- 2009—plastic and arsenic found in tapioca pearls/bubble tea⁴²
- 2010–13—“gutter oil”: garbage and sewage used to make recycled cooking oil⁴³
- 2013—fake beef containing paraffin wax and industrial salts⁴⁴
- 2013–14—*fake shark fin* composed of bean starch, gelatin, sodium and toxic chemicals⁴⁵

In 2012, the Chinese Government announced a crackdown on companies that violate food-safety regulations including the production of food with inedible substances, dangerous materials or prohibited food additives.⁴⁶ However, China’s food industry continues to be featured unfavorably in both the Chinese and international media. For example in 2013, Chinese news station CCTV investigated restaurants in Guangzhou and other major cities, concluding that as much as 40% of all shark fins consumed in China may be fake.⁴⁷ At the end of the broadcast, the host quoted WildAid’s demand-reduction campaign tagline, “When the buying stops, the killing can too.” The program caused an outcry across the Chinese blogosphere. In this uncertain food safety environment, the public’s apparent motivation to avoid fake shark fin by not consuming any shark fins is understandable and may contribute to the reported decrease in demand and, therefore, sales.





SHARK FISHERS IN EASTERN INDONESIA

In December 2013, a major shark fin wholesaler in Guangzhou commented “at this price fishermen lose money so they won’t be catching sharks.” In February 2014, reports from the field in Indonesia began to echo that sentiment. Surveyed shark fishermen in the areas of Central Maluku, Southeastern Maluku and East Nusa Tenggara reported that the money they now get from their catch is often not enough to cover their operational costs, which include fuel, food for the trip, gear and vessel repairs.⁴⁸ Salaries are not mentioned, as they are often negligible. There have been further reports from this area of shark fishing boats remaining ashore due to low prices.⁴⁹

Surveys from August 2012 and August 2013 of 94 Indonesian fishers, in three communities, who specifically target shark fin found that the average price paid per kilogram across all traded species had decreased by 19% since 2002–03, with 2002–03 reported as the peak of both local shark fishing activity and shark fin prices (Table 6).⁵⁰ This applied to both oceanic and reef species as well as guitarfish and shovelnose rays (Fig. 4).⁵¹

AVERAGE SHARK FIN PRICES, EASTERN INDONESIA										
SAMPLED VIA FISHER INTERVIEWS, AUGUST 2012 & 2013										
	IDR/KG	\$US/KG	IDR/KG	\$US/KG	%INCREASE	IDR/KG	\$US/KG	IDR/KG	\$US/KG	%DECREASE
CATEGORY/ YEAR	PRE-1997	PRE-1997	1997-98	1997-98		2002-03	2002-03	2012-13	2012-13	
Medium fins, active fishers	Rp. 255,000	\$21	Rp. 357,000	\$30	40%	Rp. 552,000	\$46	Rp. 449,000	\$37	19%
Medium fins, retired fishers	Rp. 235,000	\$20	Rp. 382,000	\$31	62%	Rp. 589,000	\$49	Rp. 475,000	\$40	19%

Table 6 : Average shark fin prices reported by 94 respondents surveyed in three shark fishing communities. (Total data points from which averages were calculated = 1816 records.) Prices are in thousands of Indonesian Rupiah (IDR) for processed, export-quality fins (~12,000 IDR per 1 USD). Time periods were

chosen to aid fishers' memory; pre-1997 and 1997/98 were periods before and after the Asian monetary crisis, respectively. 2002/03 was remembered by many fishers as the peak of shark fishing activity and peak price of shark fins.

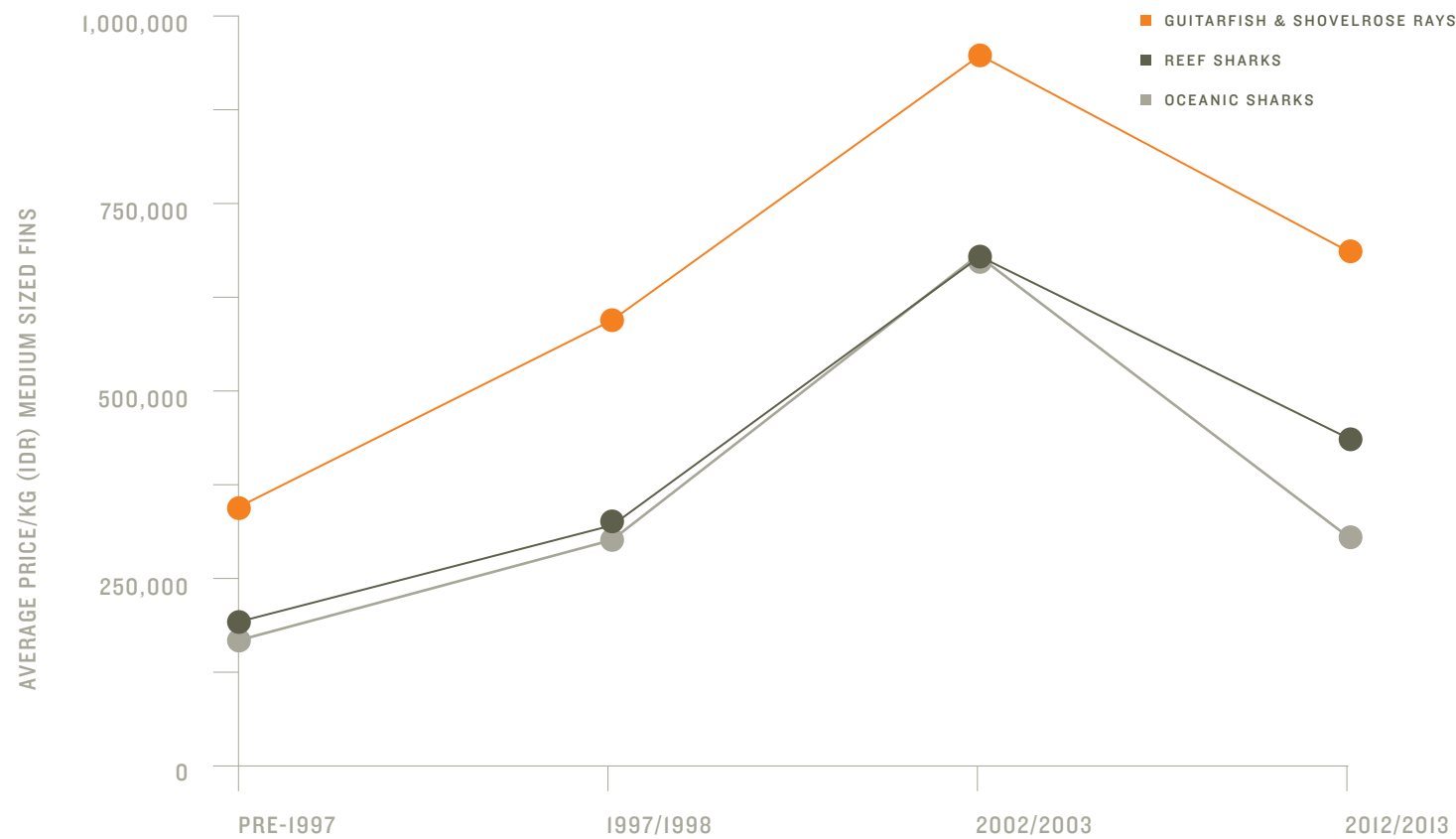


Figure 4 : Declines in shark fin prices of the three main groups of shark species caught and traded in Eastern Indonesia for the international shark fin trade. All reported prices were averaged across 94 respondents surveyed in three shark fishing communities. (Total data points from which averages were calculated = 1816 records.) Prices are in Indonesian Rupiah (~ 12,000 IDR per 1 USD) for processed, export-quality fins. Time periods were

chosen to aid fishers' memory; pre-1997 and 1997/98 were periods before and after the Asian monetary crisis, respectively. 2002/03 was remembered by many fishers as the peak of shark fishing activity and peak price of shark fins.

Most of the fishers interviewed did not know where their fins are exported to, but a few traders stated that the fins go to either Surabaya or Manado, and then on to Hong Kong and Taiwan. Fishers provide their shark fins to men in exchange for credit to finance their fishing trips. In turn, the middlemen buy the fins from the fishers, likely at a greatly reduced price. These middlemen then sell the fins to traders in the nearest towns (Dobo or Kupang, and/or in Surabaya in Java or Manado in Sulawesi). In one recent case a trader left empty-handed as the price he was prepared to offer was too low.⁵²

Based on 36 days of interviews with fishermen and shark fin traders in Tanjung Luar over the course of nine trips from 2007 to 2013, the average price for shark fin decreased from Rp 2 million to Rp 400,000 in August 2013 or a price decline of approximately 80% over 6 years.⁵³ Reports of a larger decline in shark fin prices in Tanjung Luar, as compared to the more remote fishing villages surveyed, may be attributed to either differences in the time periods of the surveys, proximity to developed and more competitive markets in Indonesia or prices associated with the fins of more valuable species, such as hammerhead and sandbar sharks. Reported shark fin prices in Tanjung Luar may more closely reflect true market values because it is a more competitive market. Whereas traders could more easily take advantage of fishers in more remote villages by offering lower prices for shark fins even when market prices were higher.⁵⁴



DISCUSSION

Although these data are compelling, the shark fin trade continues, both legally and illegally. For example in March 2014, interviews with Belizean fishermen revealed they continue to get US\$75 per pound (approximately US\$165 per kilogram) for medium to large shark fin and, comparatively, only US\$7 per pound (approximately US\$15 per kilogram) for the meat. Evidence of locally protected nurse sharks being targeted for their fins was also noted. In April 2014, the Belizean Fisheries Department arrested two fishermen for the attempted illegal export of 73 dried shark fins and other marine products to Guatemala.⁵⁵

Additionally, a 2014 field report from Hetang Town, Jiangmen in Guangdong revealed five businesses processing fins for transfer to and sale on YeDi Road in Guangzhou.⁵⁵ One business was found to be processing fins from the Philippines, another from Peru – a leading exporter of shark fins. Eleven such fin-processing businesses are registered in Jiangmen, though some illegal operations may now function underground because of government crackdowns due to inadequate hygiene.⁵⁷

CONCLUSION

While the international shark fin trade continues with devastating consequences for global shark populations, the combination of 2012-13 field reports from the Guangzhou markets, Chinese consumer surveys and pricing information from Indonesian fishing communities suggests a downward trend in both demand and prices in those areas. They further suggest that a combination of awareness campaigns focused on demand reduction and government product bans can and do negatively influence the market for shark fins and, thus, may aid in the conservation of those shark species targeted by the trade.

ABOUT WILDAID

WildAid is the only organization to focus on reducing the demand for wildlife products. WildAid works with hundreds of Asian and Western political figures, celebrities and business leaders, including the Duke of Cambridge, Yao Ming, Jackie Chan, Edward Norton and Sir Richard Branson, to dissuade people from purchasing endangered wildlife products. WildAid’s public service messages and educational initiatives reach hundreds of millions of people per week in China alone through donated media space. “When the buying stops, the killing can too.”

SUGGESTED CITATION:

Whitcraft, S., Hofford, A., Hilton, P., O’Malley, M., Jaiteh, V. and P. Knights. (2014) *Evidence of Declines in Shark Fin Demand, China*. WildAid. San Francisco, CA.

REFERENCES – TABLE I, REGIONAL DECLINES

IN ORDER CITED:

Ward, P. and R.A. Myers (2005). “Shifts in open-ocean fish communities coinciding with the commencement of commercial fishing.” *Ecology* 86(4): 835-847.

Baum, J. K., Myers, R.A., Kehler, D.G., Worm, B., Harley, S.J., and Dhoerty, P.A. 2003. Collapse and conservation of shark populations in the northwest Atlantic. *Science*, 299: 4.

Hueter, R.E., and C.A. Simpfendorfer. 2008. Trends in blue shark abundance in the western North Atlantic as determined by a fishery-independent survey. In *Sharks of the Open Ocean*, M Camhi and E.K. Pikitch, eds. Blackwell Scientific Publ., Fish and Aquatic Resources Series 13:236-241.

Clarke, S., Harley, S., Hoyle, S., Rice, J. 2012. Population trends in Pacific Oceanic Sharks and the Utility of Regulations on Shark Finning. *Conservation Biology*, Contributed Paper: 1-13.

Jiao, Y., C. Hayes and E. Cortes. 2009. Hierarchical Bayesian approach for population dynamics modeling of fish complexes without species-specific data. *ICES Journal of Marine Science* 66:367-387

Ferretti, F. Myers, R.A., Serena, F., and Lotze, H.K. 2008. Loss of large predatory sharks from the Mediterranean Sea. *Conservation Biology*, 22(4): 952-964.

Dudley, S. and Simpfendorfer, C. 2006. Population status of 14 shark species caught in the protective gillnets off KwaZulu-Natal beaches, South Africa, 1978-2003. *Marine and Freshwater Research* 57: 225- 240.

Camhi, M. D., Valenti, S. V., Fordham, S.V., Fowler, S.L., and Gibson, C. 2009. The Conservation Status of Pelagic Sharks and Rays: Report of the IUCN Shark Specialist Group Pelagic Shark Red List Workshop. IUCN Species Survival Commission Shark Specialist Group. Newbury, UK. x + 78 p.

de Jong S, and Simpfendorfer C. 2009. The Queensland Shark Control Program: a fisheries-independent assessment of shark stocks in far north Queensland. 8th Indo Pacific Fish Conference and 2009 Australian Society for Fish Biology Workshop and Conference, 31 May – 5 June 2009, Freemantle, Western Australia

Kotas, JE., 2004. Dinâmica de populações e pesca do tubarão-martelo *Sphyrnalewini* (Griffith & Smith, 1834), capturado no mar territorial e zona econômica exclusiva do sudeste-sul do Brasil. São Carlos: Universidade de São Paulo. 377 p. Tese de Doutorado em Ciências da Engenharia Ambiental.

Kotas, J. 2009. in litt. to IUCN/TRAFFIC Analyses Team, Cambridge, UK.

Myers, R. A., J. K. Baum, et al. (2007). “Cascading Effects of the Loss of Apex Predatory Sharks from a Coastal Ocean.” *Science* 315: 1846-1850.

Soriana-Velásquez, S.R., Acal-Sánchez, D.E., Castillo-Géniz, J.L., Vázquez-Gómez, N.Y. and Ramírez-Santiago, C.E. (2006). Tiburón del Golfo de Tehuantepec, Pp.323–360. In: Arreguín-Sanchez, F., Beléndez-Moreno, L.F., Méndez Gómez-Humarán, I., Solana Sansores, R., and Rangel-Dávalos (Eds). *Sustentabilidad y Pesca Responsable en México*. Instituto Nacional de la Pesca, SAGARPA, Mexico.

Bonfil, R., Amorim, A., Anderson, C., Arauz, R., Baum, J., Clarke, S.C., Graham, R.T., Gonzalez, M., Jolón, M., Kyne, P.M., Mancini, P., Márquez, F., Ruíz, C. & Smith, W. 2009. *Carcharhinus falciformis*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. <www.iucnredlist.org>. Downloaded on 17 November 2011.

Baum et al. in press; from Bonfil et al. 2009 above

Baum, J. K. and Myers, R.A. 2004. Shifting baselines and the decline of pelagic sharks in the Gulf of Mexico. *Ecology Letters*, 7: 11.

US Pelagic Longline logbook data: Oceanic Whitetip - 70% Northwest and Western Central Atlantic 1992 - 2000

Oceanic Whitetip - 99% Gulf of Mexico – should say mid 1950’s to late 1990’s – now says 40 years
Baum, J., Medina, E., Musick, J.A. & Smale, M. 2006. *Carcharhinus longimanus*. In: IUCN 2014. IUCN Red List of Threatened Species. Version 2014.1. <www.iucnredlist.org>. Downloaded on 27 June 2014.

US Pelagic Longline logbook data: Threshers - 50-80% Northwest Atlantic 1986-2005 – should be all thresher species, listed as Common in table

Amorim, A., Baum, J., Cailliet, G.M., Clò, S., Clarke, S.C., Fergusson, I., Gonzalez, M., Macias, D., Mancini, P., Mancusi, C., Myers, R., Reardon, M., Trejo, T., Vacchi, M. & Valenti, S.V. 2009. *Alopias superciliosus*. In: IUCN 2014. IUCN Red List of Threatened Species. Version 2014.1. <www.iucnredlist.org>. Downloaded on 27 June 2014.

US Pelagic Longline research survey:
Bigeye thresher - 83% Eastern Central Pacific 1950s to 1990s - also from Amorim et al. 2009

US Pelagic Longline logbook data:
Common thresher - 70% Eastern Central Pacific late 1970s - 1980s - from Goldman et al. 2009 - see below

Threshers - 63-80% Northwest and Western Central Atlantic 1986-2000 (not in current table) - also from Goldman et al. 2009

Goldman, K.J., Baum, J., Cailliet, G.M., Cortés, E., Kohin, S., Macías, D., Megalofonou, P., Perez, M., Soldo, A. & Trejo, T. 2009. *Alopias vulpinus*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. <www.iucnredlist.org>. Downloaded on 17 November 2011.

McAuley, R., Lenanton, R., Chidlow, J., Allison, R. and Heist, E. 2005. Biology and stock assessment of the thickskin (sandbar) shark, *Carcharhinus plumbeus*, in Western Australia and further refinement of the dusky shark, *Carcharhinus obscurus*, stock assessment. Final Fisheries Research and Development Corporation Report - Project 2000/134, Fisheries Research Report No. 151, Department of Fisheries, Western Australia, 132pp.

Japanese Fisheries Agency 2006:
Sandbar - 97% Northwest Pacific 1992-2004; from Musick et al. 2009(a) - see below

Myers et al. in press:
Sandbar - Northwest Atlantic - 84-97% - 13-41 years; from Musick et al. 2009(a) - see below

Musick, J.A., Stevens, J.D., Baum, J.K., Bradai, M., Clò, S., Fergusson, I., Grubbs, R.D., Soldo, A., Vacchi, M. & Vooren, C.M. 2009. *Carcharhinus plumbeus*. In: IUCN 2014. IUCN Red List of Threatened Species. Version 2014.1. <www.iucnredlist.org>. Downloaded on 27 June 2014.

Boero F. & A. Carli, 1979. Catture di elasmobranchi nella tonnarella di Camogli (Genova) dal 1950 al 1974. *Boll. Mus. Ist. Biol. Univ. Genova*, 47: 27-34.

Soldo, A. and Jardas, I., 2002. Large sharks in the Eastern Adriatic. In: Proc. 4th Elasm. Assoc. Meet., Livorno (Italy) (Vacchi M., La Mesa G., Serena F. & B. Séret, eds), pp. 141- 155. ICRAM, ARPAT & SFI.

Cortes et al in press:
Shortfin mako - 48% Northwest Atlantic 1992-2005; from Cailliet et al. 2009

2004 ICCAT stock assessment:
Shortfin mako - >50% CPUE Northwest Atlantic; from Cailliet et al. 2009

Cailliet, G.M., Cavanagh, R.D., Kulka, D.W., Stevens, J.D., Soldo, A., Clo, S., Macias, D., Baum, J., Kohin, S., Duarte, A., Holtzhausen, J.A., Acuña, E., Amorim, A. & Domingo, A. 2009. *Isurus oxyrinchus*. In: IUCN 2014. IUCN Red List of Threatened Species. Version 2014.1. <www.iucnredlist.org>. Downloaded on 27 June 2014.

O'Connell, M., Shepherd, T., O'Connell, A., Myers, R. 2007. Long-term Declines in Two Apex Predators, Bull Sharks (*Carcharhinus leucas*) and Alligator Gar (*Atractosteus spatula*), in Lake Pontchartrain, and Oligohaline Estuary in Southeastern Louisiana. *Estuaries and Coasts* Vol. 30, No. 4: 567-574.

NMFS Stock Assessment:
Dusky - 62-92% - Northwest and Western Central Atlantic 1972-2000) - NMFS Stock Assessment 2006 from Musick et al. 2009 (b) - dates should be 1974 - 2003
Musick, J.A., Grubbs, R.D., Baum, J. & Cortés, E. 2009. *Carcharhinus obscurus*. In: IUCN 2014. IUCN Red List of Threatened Species. Version 2014.1. <www.iucnredlist.org>. Downloaded on 27 June 2014.

END NOTES:

1. CITES - Conservation and management of sharks: Trade-Related Threats to Sharks. Convention on International Trade in Endangered Species of Wild Fauna and Flora. Twenty-second meeting of the Animals Committee, Peru, 7-13 July 2006, p. 4
2. Shark Savers Fact Sheet: IUCN Status of Shark Species. 2012. http://www.sharksavers.org/files/8013/3702/5512/IUCN_Status_of_Shark_Species_Shark_Savers.pdf Clarke, S. C., McAllister, M.K., Milner-Gulland, E.J., Kirkwood, G.P., Michielsens, C.G.J., Agnew, D.J., Pikitch, E.K., Nakano, H., and Shivji, M.S. 2006. Global estimates of shark catches using trade records from commercial markets. *Ecol. Letters*, 9:12.
3. How CITES works. (n.d.). Retrieved July 1, 2014, from <http://www.cites.org/eng/disc/how.php>
4. The IUCN Red List of Threatened Species. (n.d.). Retrieved July 1, 2014, from <http://www.iucnredlist.org/>
5. Shark Savers Fact Sheet: IUCN Status of Shark Species. 2012. http://www.sharksavers.org/files/8013/3702/5512/IUCN_Status_of_Shark_Species_Shark_Savers.pdf
6. Pew Environment Group. (2012) Navigating Global Shark Conservation Measures: Current Measures and Gaps. Pew Environment Group, Washington DC.
7. Ibid.
8. Worm, B., Davis, B., Kettner, L., Ward-Paige, C.A., Demian Chapman, Heithaus, M.R., Kessel, S.T., and Gruber, S.H. 2013. Global catches, exploitation rates, and rebuilding options for sharks. *Marine Policy* 40: 194-204
9. Mundy-Taylor V. and Crook V. (2013). *Into the deep: Implementing CITES measures for commercially-valuable sharks and manta rays*. Report prepared for the European Commission. p 66
10. Clarke, S. (2008). *Use of shark fin trade data to estimate historic total shark removals in the Atlantic Ocean*. *Aquat. Living Resour.* 21, 373-381

11. Mundy-Taylor V. and Crook V. (2013). *Into the deep: Implementing CITES measures for commercially-valuable sharks and manta rays*. Report prepared for the European Commission.
12. Clarke, S. (2004). *Shark Product Trade in Hong Kong and Mainland China and Implementation of the CITES Shark Listings*. TRAFFIC.
13. Clarke, S. (2008). *Use of shark fin trade data to estimate historic total shark removals in the Atlantic Ocean*. *Aquat. Living Resour.* 21, 373-381.
14. Ibid.
15. Clarke, S., Milner-Gulland E.J., and Cemare T.B. (2007) *Perspectives, Social, Economic, & Regulatory Drivers of the Shark Fin Trade*. *Marine Res. Econ.* Vol. 22, 305-327
16. WildLifeRisk/WildAid Report (2014) compiled from Hong Kong Government Census & Statistics Department, April 2014.
17. Clue, S. I. (2013, September 19). Drop in shark fin imports not all good news. Retrieved August 2, 2014, from <http://www.scmp.com/comment/insight-opinion/article/1312371/drop-shark-fin-imports-not-all-good-news>
18. Ibid.
19. Ibid.
20. Field Report from Sheung Wan District, Hong Kong, April 2014. WildAid, San Francisco CA.
21. Fabinyi, M. (2013, November 22). Shark fin drops off the menu, conservationists claim victory. *The Conversation*. Retrieved July 25, 2014, from <http://theconversation.com/shark-fin-drops-off-the-menu-conservationists-claim-victory-19482>.
22. WildAid Survey, China. 2006.
23. Independent Survey, Beijing, China. 2008.
24. Revkin, A. C. (2013, October 18). TV Stars Lead Online Push to Curb China's Shark Fin Appetite. *Dot Earth*. Retrieved July 25, 2014, from <http://dotearth.blogs.nytimes.com/2013/10/18/tv-stars-lead-online-push-to-curb-chinas-shark-fin-appetite>.
25. Wassener, B. (2012, July 2). China to Ban Shark Fin Soup At State Events. *The New York Times*. Retrieved July 25, 2014, from <http://www.nytimes.com/2012/07/04/world/asia/china-says-no-more-shark-fin-soup-at-state-banquets.html>
26. Hunt, K. (2012, July 3). Shark fin soup to be banned at official banquets in China. *CNN*. Retrieved July 25, 2014, from <http://eatocracy.cnn.com/2012/07/03/shark-fin-soup-to-be-banned-at-official-banquets-in-china/>
27. Shark fin trade 'victim of anti-Chinese conspiracy', say traders. (2013, January 5). *South China Morning Post*. Retrieved July 25, 2014, from <http://www.scmp.com/news/hong-kong/article/1120051/shark-fin-trade-victim-anti-chinese-conspiracy-say-traders>
28. Li, A. (2013, January 9). Video: Chinese restaurants found to serve poisonous fake shark fin soup. Retrieved July 25, 2014, from <http://www.scmp.com/news/china/article/1123637/video-chinese-restaurants-found-serve-poisonous-fake-shark-fin-soup>
29. CCTV-1 (2013, January 14). Retrieved July 25, 2014, from <http://tv.cntv.cn/video/C10326/f4989c6f79a04c688e31dae dff9957b0>

30. Pak, J. (2013, March 7). Hong Kong shark fin trade declines. *BBC News*. Retrieved July 25, 2014, from <http://www.bbc.com/news/business-21681746>
31. Lai, S. (2014, February 1). Shark's fin trade faces extinction. *Macau Business Daily* |. Retrieved July 25, 2014, from <http://macaubusinessdaily.com/Business/Shark%E2%80%99s-fin-trade-faces-extinction>
32. Vidal, J. (2014, January 12). This could be the year we start to save, not slaughter, the shark. *The Observer*. Retrieved July 25, 2014, from <http://www.theguardian.com/environment/2014/jan/11/shark-finning-in-decline-in-far-east>
33. iResearch. 2013. Shark Fin Consumer Survey - Beijing, Shanghai, Guangzhou, and Chengdu. WildAid, San Francisco CA.
34. FAO FISHERIES TECHNICAL PAPER 389 (1999). Rome. ISBN 92-5-104361-2 Sec. 6.2.7
35. Arak, J. (2002, July 31). Shark Fin Soup A Dangerous Delicacy?. *CBSNews*. Retrieved August 1, 2014, from <http://www.cbsnews.com/news/shark-fin-soup-a-dangerous-delicacy/>
36. Timms, T., Gonzalez, L., and Trent, S. 2009. In the Soup: how mercury poisons the fish we eat. WildAid, 20 pp.
37. Detained for selling baby-killer milk. (2004, May 10). Retrieved July 25, 2014, from http://www.chinadaily.com.cn/english/doc/2004-05/10/content_329449.htm
38. Yan, H. (2005, March 31). Red dye a 'food for thought' for Chinese. *The China Daily Times*. Retrieved July 25, 2014, from http://www.chinadaily.com.cn/english/doc/2005-03/31/content_429921.htm
39. Death toll in fake drug case rises to ten. (2006, June 3). Retrieved July 25, 2014, from http://www.chinadaily.com.cn/china/2006-06/03/content_607865.htm
40. Food safety incidents in China. *Wikipedia*. Retrieved July 25, 2014, from http://en.wikipedia.org/wiki/Food_safety_incidents_in_China
41. Kristine Kwok, Officials knew of tainted milk for a month, Page A4, *South China Morning Post* (17 September 2008)
42. Busch, J. (2009, August 6). The Bubble Tea Scandal: China Sickens its Own, Again. *Spend Matters*. Retrieved July 25, 2014, from <http://spendmatters.com/2009/08/06/the-bubble-tea-scandal-china-sickens-its-own-again/>
43. Barboza, D. (2010, March 31). Recycled Cooking Oil Found To Be Latest Hazard in China. *The New York Times*. Retrieved July 25, 2014, from <http://www.nytimes.com/2010/04/01/world/asia/01shanghai.html>
44. Song, S. (2013, October 31). China's Gutter Oil Scandal: 1/10 Of China's Cooking Oil May Be Recycled From Garbage. *International Business Times*. Retrieved July 25, 2014, from <http://www.ibtimes.com/chinas-gutter-oil-scandal-110-chinas-cooking-oil-may-be-recycled-garbage-1448384>
45. Griffiths, J. (2013, September 14). 20,000 kilos of fake beef seized in Xi'an. Retrieved , from http://shanghaiist.com/2013/09/14/20000_kilos_of_fake_beef_seized_in_xian.php
45. Tepper, R. (2013, January 10). Fake Shark Fins Are Widespread In China And May Be Poisonous, Says Investigative Report. *The Huffington Post*. Retrieved July 25, 2014, from http://www.huffingtonpost.com/2013/01/10/fake-shark-fins-china_n_2449389.html

46. Murphy, C. (2012, December 27). China Cracks Down on Food Safety. *The Wall Street Journal*. Retrieved July 25, 2014, from <http://online.wsj.com/news/articles/SB10001424127887323300404578205014086518522>
47. *Ibid.*
48. Pers. Comm. Vanessa Jaiteh, February 2014.
49. *Ibid.*
50. Vanessa Jaiteh, February 2014. Unpublished data. Centre for Fish, Fisheries and Aquatic Ecosystems Research, Murdoch University. Perth, Western Australia
51. *Ibid.*
52. Pers. Comm. Vanessa Jaiteh, February 2014.
53. Pers. Comm. Paul Hilton, July 2014.
54. Pers. Comm. Vanessa Jaiteh, July 2014.
55. Fisheries Department in Toledo records a huge bust. (2014, April 7). *Channel5Belize.com*. Retrieved July 25, 2014, from <http://edition.channel5belize.com/archives/97446>
56. Field Report from, Jiangmen, Guangzhou, May 2014. WildAid, San Francisco CA.
57. <http://www.china-customs.com/big5/customs/data/2004/6470.htm>
58. Field Report from, Jiangmen, Guangzhou, May 2014. WildAid, San Francisco CA

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