CHINA'S LUXURY SEAFOOD DEMAND AND MEXICO'S FISHERIES

A report by Caplog Group, with the support of EDF Mexico

2014
Over the past twenty years, China's economic growth has profoundly impacted the global economy. In China, rising incomes have changed the way tens of millions of Chinese people live. The middle class' newfound disposable income, coupled with easy access to new technologies and the global marketplace, has had far-reaching consequences. German carmakers, French fashion houses and American resort operators are all realizing economic benefit from a new class of Chinese luxury consumer.

The US Department of Commerce estimates that by 2015, China will make up close to 20% of global luxury consumption.¹

Another, less publicized category of luxury consumption in China has similar broad-reaching social and economic implications: the luxury seafood trade. Celebratory banquets are an important part of Chinese culture. Weddings, business gatherings and government meetings are often marked by lavish spreads of rare delicacies from across the plant and animal kingdoms.

One report estimates that the Chinese government spent as much as $60 billion on banquets in 2012 alone.²

Exotic menu items like shark fin soup, swim bladder, sea cucumber, geoduck and sea urchin can fetch over $200 a plate and, in late 2013, at one Hong Kong apothecary, a single swim bladder was on sale for more than $40,000.³

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Demand for luxury seafood has set off a global ‘blue gold rush’, as Chinese traders seek new sources of the lucrative commodities. When a fishing community is identified as a new source for a luxury species, there are often immediate consequences: local economies experience sudden and significant price rises, fishermen change their fishing behavior to take advantage of the new market opportunity, businesses invest in new business lines and increased processing capacity and the complex relationships between species in the marine ecosystem begin to evolve. In many communities around the world, the high prices for luxury seafood species have not only contributed to overfishing but also increased illegal fishing and black market commerce.

The rapid nature of these impacts, lack of reliable trade data, language barriers and sheer distance between supply and demand often mean that it is difficult for businesses, governments and civil society to anticipate and effectively respond to opportunities and threats associated with the luxury seafood species increased illegal fishing and black market commerce.

This overview, together with a larger detailed report, explores the economic, social and environmental impacts of China’s luxury seafood demand on one of China’s increasingly important trade partners: Mexico. Over the past decade many of Mexico’s artisanal fisheries have been transformed by rising prices for marine species destined for China’s dinner tables.

Chinese demand for luxury seafood products presents both great opportunities to Mexico’s private sector and severe risks to the marine species and ecosystems and to the fishermen and related businesses dependent upon them. Policy makers, business leaders and NGO representatives will be best able to take advantage of the opportunities that Chinese luxury seafood consumption presents and to manage the associated risks if they have information on the key trends in demand. This report seeks to present a recent historic analysis of China’s evolving seafood demand, to summarize Mexico’s production of luxury seafood species as well as the Mexico-China luxury seafood trade, and to examine key trends in this rapidly changing international commerce.
The report begins with a “macro view” of Chinese consumption, Mexican production and Mexico-China seafood trade across all seafood products. It then examines several ‘luxury focus species’ of particular interest to the Mexico-China luxury seafood trade: swim bladder (from various species), shark fin (from various species), geoduck, sea cucumber, crab, octopus, sea urchin, jellyfish, croakers, seahorse, abalone and lobster.

Except where explicitly described otherwise, data presented for “China” includes both Mainland China as well as Hong Kong. All monetary amounts are in real 2012 US Dollars (USD), except where otherwise labeled.

Unless otherwise stated, all photos in the report were taken by CapLog staff.

CapLog Reports are published and distributed on a regular basis with the goal of contributing to understanding of the challenges and opportunities facing fishermen and the seafood industry in different fisheries around the world. The series aims to identify baseline information, trends and issues that merit further attention and productive discussion. Copies of the reports are available at: http://caploggroup.com/projects.
As noted above, over the past twenty years, the growth of China’s middle class, with its increasing disposable income and its expanded access to global markets, has driven economic trends and impacted natural resources far beyond the country’s border. Other nations scramble to create policies and dedicate resources to address this growth, and multinational corporations adjust strategies to tap into these lucrative markets. The overall trend is clear and well-documented; what is less understood is the impact on particular product segments. One such segment is the luxury seafood trade.

The US Department of Commerce estimates that by 2015, China will make up close to 20% of global luxury consumption. While Western consumers often equate luxury goods with designer watches, expensive liquor and haute couture, a less-publicized category of luxury consumption in China with broad-reaching economic, cultural and environmental implications is the luxury seafood trade. Celebratory banquets are an important part of Chinese culture. Weddings, business gatherings and government meetings are often marked by lavish spreads of rare delicacies from across the plant and animal kingdoms. This growing demand for luxury seafood has set off a global ‘blue gold rush’, as Chinese traders seek new sources of these lucrative commodities.

This overview, together with the more detailed report, examines the impacts of China’s luxury seafood demand on one of China’s growing trade partners: Mexico. Over the past decade many of Mexico’s artisanal fisheries have been transformed by rising prices for marine species destined for China’s dinner tables. Despite the scale of this trade, there is little available data or analyses of the impact of China’s luxury seafood demand on Mexico’s coastal economies and ecosystems. This paper aims to fill that gap by looking at five Mexican luxury seafood exports that have been most impacted by Chinese demand: sea cucumber, shark fin, geoduck, swim bladder and jellyfish.
Evolving Chinese Seafood Demand

Today China represents a fifth of the world’s population and consumes over one-third of the world’s seafood, making it the largest single national consumer of seafood. Its total seafood consumption has more than tripled in the past twenty years, driven by a growing population and increasing per capita consumption. Chinese consumers, including those in Hong Kong, are also purchasing a progressively more diverse basket of seafood products. For example, Chinese demand for luxury seafood – such as sea cucumber, shark fin, geoduck, swim bladder and jellyfish – has also expanded alongside rising incomes. The consumption of luxury seafood in China is tied to both social prestige and perceptions of health benefits associated with traditional Chinese medicine.

Even with the country’s tremendous investment in domestic aquaculture to respond to this growing demand, China’s seafood imports have continued to grow, from $3.9 billion in 2009 to $5.5 billion in 2012. According to some estimates, by 2020, China will be importing over $20 billion of seafood from around the world.

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1 Hong Kong is a major consumer of seafood imports from a variety of outlets (neighborhood wet markets, supermarkets, dried seafood shops and restaurants) and a gateway for much of the seafood that reaches Mainland China. In fact, from 2004-2011, Hong Kong re-exported to other destinations nearly a third of all seafood products it imported. About half of these re-exports were destined for Mainland China. For these reasons, this paper focuses on Hong Kong as an appropriate proxy for understanding market trends in broader China.

2 As this demand increased and domestic production of wild-caught seafood stalled due to over-exploitation and increased fishing regulations, China invested heavily in its domestic aquaculture industry. By 2013, Chinese seafood production (for both wild-caught and farmed seafood) had grown to an estimated 58.7 million MT. It is predicted to account for well over one-third of global seafood production by 2030.
Mexico is the third largest seafood producer in Latin America, after Peru and Chile. Sardine, tuna, shrimp and squid fisheries made up nearly 60% of the Mexico’s total catch from 2002-2012. Shrimp accounted for more than one-third of Mexico’s total fishery value over the 10-year period.

Overall the total value of Mexico’s seafood trade (across all species) with China has skyrocketed, increasing about 850% from 2002 to 2012, driven primarily by tuna, shrimp and sardines. While luxury seafood products represent only a small portion of Mexico’s total fishery exports, luxury seafood products are an important component of Mexico’s seafood trade with Hong Kong. Since 2002, the total value of Mexico’s seafood trade with Hong Kong has been consistently 3-5 times greater than its seafood trade with Mainland China, with a basket of seafood with a higher proportion of high value luxury species. Today Mexico is one of Hong Kong’s top ten suppliers of shark fin, seahorse, sea urchin, yellow croaker and bivalves. Notably, several luxury species that are commonly traded with Hong Kong today, such as swim bladder, geoduck and jellyfish, were not part of commercial fisheries in Mexico just ten years ago.
The Chinese government's frugality campaign: In 2012 the Chinese Communist Party instituted new frugality rules, aimed at curbing the use of public funds for lavish celebratory dinners, which often featured luxury seafood products such as shark fin, sea cucumber and fish maw. The frugality campaign has had significant impacts on the banquet trade in Beijing and other large cities. That said, luxury seafood demand is on the rebound as spending on luxury seafood shifts from government to private consumers and restaurants are shifting menus towards lower priced luxury seafood dishes to accommodate a wider price-conscious customer base.

On-going food safety concerns in China and the associated regulatory response: Several high-profile food contamination scandals over the past several years have undermined Chinese consumer confidence in the safety of their domestic food supply.
Freshness and food safety are the most important attributes Chinese consumers consider when purchasing seafood and Chinese consumers generally have more confidence in imported seafood. Oversight of Mainland China’s food safety system is shared by more than 10 government agencies, and there are clear examples of reactionary, disproportionate food safety policy that makes regulatory moves difficult to predict. Going forward, China’s unpredictable implementation of food safety regulations presents a certain level of risk for Mexican seafood exporters.

Evolving Chinese consumer preferences: A lack of trust in China’s domestic food production system and growing cachet associated with eating imported goods has led Chinese seafood consumers place value on imported seafood products. There are several examples of successful regionally-branded seafood products, including Japanese sea cucumber, South African abalone and Canadian geoduck. While Mexico is not generally associated with high quality seafood in China, several buyers in Hong Kong mentioned that Mexico does have a great reputation exporting high value abalone.

Overall economic and market factors affecting Mexico-Chinese trade: China’s entry into the WTO in 2001 harkened a new era of trade liberalization, international cooperation and transparency. However, while China has signed 11 free trade agreements (FTAs) – including one with Chile, a FTA between Mexico and China does not appear likely in the near future. Nonetheless, Chinese and Mexican officials signed several memorandums aimed to incite economic cooperation in 2013. As with food safety regulations, China’s unpredictable implementation of import regulations create some risk for Mexican seafood exporters.

Foreign exchange also presents risks to Mexico’s seafood export industry. The relative fluctuations of the Mexican Peso (MXN) and the Chinese Yuan (CNY) impact both China’s ability to purchase seafood from Mexico and Mexican seafood exporters’ competitiveness on the global market. The behavior of the US Dollar (USD) also impacts the Mexico-China seafood trade, as many seafood deals are denominated in dollars. As Mexican businesses increase their exports to China, they will have to follow currency fluctuations closely and develop strategies to mitigate their foreign exchange exposure.
Public policy groups point out that the continued growth of the Mexico-China seafood trade will impact Mexico’s fish stocks and seafood industry in a variety of ways. According to a recent report on illegal fishing in Mexico, over four-fifths of Mexican fisheries are overexploited or have reached their maximum sustainable yield.

High prices for the luxury focus species make them vulnerable to both legal and illegal fishing.

The value of illegal luxury seafood confiscated over the last two years in Mexico (likely a small percentage of the real amount) was estimated at over $26 million.

In short, the tremendous demand presents both substantial growth opportunities and real risks of overexploiting fishing stocks and causing the proliferation of illegal seafood trade. This overview aims to highlight trends that can help inform investment and policy decisions associated with this sector.
3.1 China’s demand for seafood is huge – and rising

Over the past 20 years, China has become the world’s largest seafood consumer, thanks to a growing population, rising GDP and an increase in the amount of seafood consumed per person. China represents roughly one fifth of the world’s population, but accounts for more than a third of total global seafood consumption.iv

From 1990 to 2009, Chinese seafood consumption rose by +225% to 42.2 million MT.

By 2030 China is projected to account for close to 40% of all global seafood consumption. Together with its regional neighbors, South and Southeast Asia are projected to account for up to 70% of global seafood consumption in 2030.v

Graph 1: China’s Seafood Consumption* v. Population Growth (MT; 1990-2009)

Sources: Food and Agriculture Organization, Indexmundi.com, Populstat.info

*Includes saltwater and freshwater, wild-caught and farmed products
3.2 China’s per capita seafood consumption is growing much faster than the global average

On average, each Chinese consumer eats 33 kg of seafood per year, compared with the global average of 18 kg, making it the largest consumer, followed by Japan and the USA.iii Consumption is growing steadily in both urban and rural areas.

Graph 2: Chinese Seafood Consumption* v. Global Seafood Consumption
(Consumption/KG; 1990-2009)

- Chinese per capita seafood consumption
- Global per capita seafood consumption

Source: Food and Agriculture Organization
*Includes saltwater and freshwater, wild-caught and farmed products

3.3 Rising incomes (in both urban and rural areas), improved storage and transportation infrastructure, and a growing diversity of seafood products more easily available to the consumer drive increases in per capita consumption

From 1989 to 2013 China GDP grew at an average annualized rate of 9.23%³

This rapid rise in GDP has resulted in the emergence of a large middle class, which is estimated at over 300 million people todayvii and may reach as high as 650 million people by 2015.viii Average annual disposable income in China has grown from $1,351/capita in 2001 to $5,559/capita in 2011 (Graph 3). Given its celebrated status in Chinese cuisine and social status symbol, seafood is one category of consumption that rises quickly once populations enter the middle class.

Luxury products like these sea cucumbers can increasingly be found in the frozen seafood aisle in Hong Kong supermarkets.

³ In comparison, according to World Bank data, the GDP annual growth rate in the developing nations of East Asia the Pacific averaged 8.4% from 1989-2012.
3.4 Demand for luxury seafood products grows for reasons beyond taste and nutrition

Tradition, social status and perceived health benefits all play a role in defining the Chinese diet. For example, many Traditional Chinese Medicine practitioners recommend that patients include specific dried seafood products (hai wei, 海味) as a complement to their treatment (see Appendix A for an overview of the common food therapy uses for luxury seafood products). Luxury seafood also plays an instrumental role in celebratory banquets or special occasions such as weddings, birthdays and important business or government events. In Chinese culture, lavish dinners help friends, family and associates establish and maintain guanxi (關係, ‘relationship’), which is an essential component of social life and business success in China.x With recent rises in economic prosperity, spending on celebratory banquets appears to have reached a zenith.

*They are called the four treasures of Chinese cuisine – swim bladder, shark fin, sea cucumber, and abalone. They are a must-have for all luxurious Chinese banquets. It's a necessity when treating guests.*

_Hong Kong Restaurant Owner_
3.5 China is actively investing in domestic aquaculture to respond to growing seafood demand

Over the past decade, China’s seafood production (both marine capture and aquaculture) grew by over 60% to reach an estimated 58.7 million MT in 2013, making it the world’s largest seafood producer. By 2030 the FAO estimates that Chinese seafood production will account for 37% of total global production. While total marine capture landings have remained relatively constant over the last ten years, aquaculture production has more than doubled to 42.8 million MT in 2013. Today, aquaculture accounts for 72% of China's seafood production. China’s import of fish meal and fish oil has increased alongside the expansion of aquaculture. Today fishmeal represents nearly a third of all Chinese seafood imports (by volume). The FAO projects that by 2022, nearly four fifths of China’s seafood production will be farmed. The case study provided in Appendix B highlights how the growth in Chinese aquaculture has a direct effect even on Mexican wild-caught fisheries.

3.6 China imports lots of seafood for both domestic consumption as well as processing and re-export

As its aquaculture production has more than doubled and its marine capture landings have remained relatively constant over the past ten years, its seafood imports rose by 63% from 2000 to 2011, reaching four million MT in 2011. It is the world’s third largest importer of seafood. This increase has been driven by the re-export industry, which imports seafood from countries with high labor costs and processes it for re-export, often to the very country where it originated. Nearly two-thirds of China’s frozen fish imports are destined for re-export.

Over the past 20 years, China has become the world’s largest seafood consumer, thanks to a growing population, rising GDP and an increase in the amount of seafood consumed per person. China represents roughly one fifth of the world’s population, but accounts for more than a third of total global seafood consumption.
3.7 Most of the product imported into China comes through a few key ports

The number and diversity of actors that channel seafood to China’s 1.35 billion consumers is staggering. Generally speaking however, the import and distribution of seafood in China for domestic consumption flows along the following path, and there is typically little difference between the distribution channels of live, fresh, frozen and processed seafood products (Figure 1).

Most seafood in Mainland China is imported through the coastal cities of Shenzhen and Guangzhou (in the southeast region), Shanghai (in the central eastern region) and Qingdao and Dalian (in the northeast region). The northeastern ports of Qingdao and Dalian together accounted for about 80% of the total Chinese import volume in 2012.\textsuperscript{xviii} The island of Hong Kong also serves as a major seafood trade route into Mainland China. Favorable import tax laws make Hong Kong a primary hub for luxury seafood and many mainland Chinese will travel to Hong Kong to purchase their favorite seafood luxuries.
3.8 Traditional supply chains are being affected by new infrastructure, technology and market shifts

In general, seafood distribution in China is centered around wholesale seafood markets. It is very competitive and highly-fragmented – and currently dominated by many small players.xix Modernized infrastructure, new technologies (see inset below) the emergence of supermarkets, the growing high-end hospitality sector and a number of other factors are responsible for many innovations in the seafood distribution chain in China. Recent innovations include direct sourcing from importers and the establishment of high-end, specialty-focused distributors and sub-distributors.xx In addition, large hotels, restaurant chains and supermarkets are also becoming increasingly powerful actors and are reshaping the Chinese seafood supply chain. Whereas smaller restaurants and hotels purchase seafood directly from a wholesaler, or place orders for regular delivery, larger retail outlets tend to make large orders on a monthly basis from distributors and may even purchase seafood products directly from importers.xxi These larger retail outlets often exert enough market influence that they offer payment terms instead of cash, a major shift in the traditionally cash-based industry.

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Swim bladders increase in popularity (and price) as shark fin consumption drops in Hong Kong
3.9 Prices for luxury seafood products are increasing

Prices have risen across all species surveyed, at both the wholesale and retail levels. The Hong Kong Fish Marketing Organization (FMO) Market Manager estimated that wholesale prices may have risen across the board as much as 80% over the past 10 years. Prices for dry goods such as swim bladder, shark fin and sea cucumber have risen more quickly than prices for fresh, frozen, or live species. Swim bladder prices were reported to have increased the most, with estimates of price increases of 6-7 times over the last 5-10 years, others an increase in price of about 2-3 times over the last year.

3.10 Freshness, size and, to a lesser extent, origin affect demand for the seafood products in China

On the demand side, interviews validated that Hong Kong consumers value seafood freshness, size and, to a lesser extent, the origin of the product. Sustainability, an important driver of seafood consumption preference in the US and EU, does not appear to be a major factor among Hong Kong consumers, with the exception of shark fin, the consumption of which appears to have been discouraged by environmental campaigns.

"Chinese people prefer live things. Live fish, live chicken. They believe the fresher it is, the better the quality. So we sell them in water tanks. You can see the shrimp moves and know it’s fresh. The more it moves, the better." - Cantonese restaurant manager

Geoduck: “These bigger [geoduck] are more popular in winter when there are family gatherings. They are expensive.” - Neighborhood market vendor

Shark fin: “But [price] is not usually based on where the fins are from or even the species. It’s based on size and whether it’s the whole fin or loose fins.” - Restaurant manager

Sea cucumber: “Some are gigantic, big like a 1 liter soda bottle. Those are around $128.97-$257.94 (HK$1,000-2,000), depends on its thickness.” - Chef who works for Cantonese restaurant chain

“Shark fin decreased in demand because of environmental reasons, especially during wedding banquets. We usually use expensive substitutes such as bird’s nest to make sure it’s still presentable. But this is the case for around 10-20% of banquets here only because the older people in the family like shark fin. It is a symbol of status. The younger ones, if they have a say in banquet food, would care more about environmental impacts.” - Restaurant owner

“It is possible [that origin will increase price] but definitely not in Mainland China. Chinese culture doesn’t regard these as important. They don’t care about environmental impact. It’s just not a reason for them to even consider. From my experience, Hong Kong’s shark fin demand may have dropped more than in Mainland China. It’s possible that Chinese demand [for shark fin] may still be increasing as a whole” - Restaurant owner

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4 An expert on Chinese culinary traditions consulted for the report agreed with this statement, “Hong Kong has been affluent for much longer and consumers are more attuned to demanding environmental quality. They’ve been wealthy and are ‘over’ shark fin – less of a need to prove their wealth. [Mainland] China for the most part is starting to become increasingly affluent after decades of “suppression” of enjoying luxury process (mostly access due to limited wealth). After finally accumulating this wealth, the Chinese are generally eager to flex this wealth. Shark fin is still the “cool” benchmark.”
3.11 'Branded' regional (country of origin) products can affect demand and prices

For the most part, wholesalers, retailers, restaurant owners and consumers do not inquire about the origins of the seafood they buy. The notable exceptions are when a seafood production region has a reputation, be it good or bad. On one hand, products like Japanese sea cucumber, Norwegian salmon and Canadian geoduck all enjoy a positive market cachet, as they are believed to come from pure, uncontaminated oceans. On the other hand, species originating in Mainland China are generally perceived to be of lower quality and are therefore less expensive. For example, Chinese farmed geoduck are smaller and darker than US and Canadian geoduck, and dried Chinese swim bladder tend to be significantly cheaper as well.

3.12 Fresh seafood prices in China are always higher during winter months

Over the course of the year, demand and prices vary seasonally and are always higher during the winter months, peaking around the Chinese New Year. There are several important Chinese holidays during the winter, but it is also a common belief that winter is a more suitable time for supplementing and nourishing your body, thus contributing to increased seafood consumption as well.
KEY FINDINGS: MEXICAN SEAFOOD AND LUXURY SEAFOOD PRODUCTION AND EXPORT

4.1 Just a few fisheries make up the majority of Mexico’s catch volume and value

Mexico is the third largest seafood producer by volume in Latin America, behind Peru and Chile. Sardine, tuna and shrimp are Mexico’s most productive fisheries, making up 53% of the nation’s total commercial catch from 2005-2012. Mexico’s most valuable fisheries are shrimp, tuna, octopus, and lobster. Shrimp was by far the most lucrative Mexican fishery, with an average annual harvest valued at $275 million.

4.2 Landings of luxury seafood products (a small percentage of Mexico’s catch) are rising

The luxury species selected for this study do not account for a significant proportion of Mexico’s total fishery volume; however, their production and total fishery value have been rising at notable rates in recent years. Graph 9 shows the aggregate landings and value of the luxury focus species selected for this study (geoduck, sea cucumber, sea urchin, shark fin and swim bladder). The average landings of these focus species grew by 77% from 2005 to 2012. Over the same period of time, the average annual value of these species increased by 78%, from an average of $14 million from 2005-2008 to an average of $25 million from 2009-2012.

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Sources: CONAPESCA; CapLog 2012; Barron 2011; Caplog 2013

*Luxury focus species refers to geoduck, sea cucumber, shark fin, swim bladder,

5 The aggregate total value of Mexico’s shrimp, tuna, octopus and lobster fisheries was $434.5 million from 2005-2012.
6 The aggregate total value of Mexico’s shrimp production was $2.2 million from 2005-2012.
4.3 Mexico’s seafood exports have grown, driven largely by growth in exports of fishmeal and fish oil

The growth in Mexico’s seafood exports from 2000-2011 has resulted from the emergence of an important trade in fishmeal and fish oils. In 2000, fishmeal and oils represented only 2% of Mexico’s total seafood export volume, with just over 4,000 MT. By 2011, fishmeal and oils made up more than 25% of all of Mexico’s seafood exports, at close to 90,000 MT.

Graph 5: Mexico’s Top Seafood Exports by Volume
(Thousands of MT; 2000-2011)

Source: Food and Agriculture Organization

4.4 The US is by far the top importer of Mexico’s seafood (in general)

The US is Mexico’s largest seafood export partner in terms of volume, accounting for 41% of Mexico’s seafood exports from 2003-2013. The US is also Mexico’s largest seafood export destination in terms of value, accounting for 56% of total export value in 2012 (or $443 million). China has increased its imports from Mexico by 232% over the past decade. Mainland China and Hong Kong have become increasingly relevant export markets for Mexican seafood, increasing from 5% of Mexico’s total seafood export value in 2002 to 10% in 2012 at total value of $77 million.
4.5 The US, China and Hong Kong are the top three importers of Mexico’s luxury seafood products

Octopus, sea cucumber and shark fins were the most valuable of Mexico’s luxury seafood exports. The US, China and Hong Kong are consistently top three importers of Mexican luxury seafood. While the US was the largest importer of these products by volume, Hong Kong imported the most product in terms of value.

4.6 Exports of luxury seafood products from Mexico to Hong Kong are growing substantially

Excluding lobster, mollusks and invertebrates, the aggregate export value of the luxury focus species shark fin, sea cucumber, clams (includes geoduck) and fish maw, tails and heads (includes swim bladder) from Mexico to Hong Kong has risen significantly since 2009, reaching a total of $30.1 million in 2013 (Graph 16). Sea cucumber is the main driver of increased volume and value of luxury focus species imports to Hong Kong from Mexico.

**Graph 6: Hong Kong Imports of Luxury Focus Species from Mexico**

(MT; Thousands of 2012 USD; 2004-2013)

- **Fish maw, tails, heads (Swim Bladder)**
- **Clams (Geoduck)**
- **Sea Cucumber**
- **Shark Fin**
- **Value (2012 USD)**

Source: Hong Kong Customs and Statistics Department

*Swim bladder does not have its own product specification and is grouped into the larger category ‘fish heads, tails and maws’

**Geoduck does not have its own product specification and is grouped into the larger category ‘clams’
5.1 Direct shipment of seafood products from Mexico to China has increased

Mexican seafood exports travel through several distinct channels en route to market in China. These channels can generally be broken up into three categories: i) Direct shipment to Mainland China or Hong Kong; ii) Indirect shipment via the US and other countries; and iii) Indirect shipment through ‘gray channels’. Each of these channel types meets a different set of exporter needs. Direct shipment of seafood products between the two trading partners has been increasing as investments in trade infrastructure in Mexico and China are made.

5.2 Most indirect shipments of seafood products from Mexico to China flows through the US

While direct seafood trade between Mexico and Mainland China is rising, a high percentage of Mexican luxury seafood passes through a number of indirect channels before reaching the destination market. Nearly half of all indirect seafood trade from Mexico to Hong Kong first flows through the US due primarily to Mexico’s dependence on US transformation infrastructure.

Graph 7: Volume of all Mexican Seafood Products Traveling through US Prior to Reaching Hong Kong (MT, 2004-2013)

Source: Hong Kong Customs and Statistics Department
5.3 Alternative trade routes sometimes used to avoid tariff policies and regulations in China

High import tariffs and arduous regulations in Mainland China have resulted in some seafood importers to seek alternative trade routes. One “trampoline country” strategy involves shipping Mexican seafood legally to Vietnam, which borders China and has comparably low seafood import taxes and then re-exporting these goods through the Vietnamese-Chinese border.

5.4 Mexican seafood exporters not yet comfortable with growing trade relations with Chinese partners

China and Hong Kong have become significantly more important trading partners for Mexican seafood exporters over the past decade. Despite the perceived importance of Chinese demand, exporters do not understand the destination market. On the whole, Mexican exporters struggle to form secure relationships with Chinese buyers. What is clear is that the Chinese buyers typically have the leg up in trade dealings. As one Sonoran seafood exporter put it: “We now understand that we are going to do business with the Chinese when they want to, not when we want to.”

“There are a lot of cultural problems. Different ways of thinking. I took a course about international commerce. The Chinese are less formal. You cannot always trust them.”
- Seafood Exporter based in Guaymas, Sonora

“Working with the Chinese is like trying to get a tiger to smile.”
- Seafood Exporter based in Ensenada, Baja California
6
LOOKING FORWARD

6.1 Major Trends Impacting Chinese Seafood Demand and Mexico-China Seafood Trade

- Demand for luxury seafood products in Mainland China took a sharp dive immediately following the implementation of the Chinese government’s Frugality Campaign in 2012. However, luxury seafood demand is on the rebound as spending on luxury seafood is shifting from the government to private consumers and restaurants are shifting menus towards relatively lower priced luxury seafood dishes to accommodate a wider customer base.

- Several high-profile food contamination scandals have undermined Chinese consumer confidence in the safety of the domestic food supply. Oversight of Mainland China’s food safety system is shared by more than 10 government agencies, and there are clear examples of reactionary, disproportionate food safety policy that makes regulatory moves difficult to predict.

- A lack of trust in domestic food production, coupled with the cache of eating imported goods, has led Chinese seafood consumers to distinguish between imported and domestic seafood. Branding imported products with their country of origin presents a good market opportunity for Mexico in China.

- China’s entry into the WTO in 2011 harkened a new era of trade liberalization, international cooperation, and transparency. However, a FTA between Mexico and China in the near future does not appear likely. Nonetheless, the Chinese government and Chinese companies have consistently expressed interest and taken steps toward economically integrating with Latin America as a whole, as well as with Mexico, by signing agreements to support economic cooperation and also investing in Latin American production and processing.

- The relative fluctuations of the Mexican Peso (MXN) and the Chinese Yuan (CNY) impact both China’s ability to purchase seafood from Mexico and Mexican seafood exporters’ competitiveness on the global market. The behavior of the US Dollar (USD) also impacts the Mexico-China seafood trade, as many seafood deals are denominated in dollars. It is reasonable to expect that over the next five years, the CYN will appreciate modestly against the MXN, increasing the purchasing power of Chinese seafood importers.

Hong Kong apothecaries specialize in medicines from the sea
6.2 Impact of Major Trends on Mexico’s Luxury Seafood Fisheries

• Eighty-three percent of Mexican fisheries are currently overexploited or have reached their maximum sustainable yield. Among the luxury focus species, only geoduck, sea cucumber and swimming crab have potential for increased capture and development. However, assessments of ecological status of these species may not be accounting for increased vulnerability due to illegal activities.

• High prices for the luxury focus species make them vulnerable to illegal fishing and illegal trade, placing significant pressure on the stock and its surrounding ecosystem. The value of illegal luxury seafood confiscated over the last two years in Mexico (likely a small percentage of the real amount) totaled over $26 million, representing 86% of the total value of legal luxury seafood exports from Mexico to Hong Kong in 2013.

• Authorities must implement management decisions that not only address declining stock, but also increase oversight of illegal trade channels. Government limits on legal fishing as well as crackdowns on illegal fishing of the luxury focus species may shift Chinese demand to alternative luxury products (e.g., sourcing swim bladder from bagre or bandera), but these actions could also continue to increase prices and illegal trade if gray markets are not addressed in tandem with environmental controls.

• Coupled with a crackdown on illegal fishing and trade, public and private investment that increases the production and processing capacity and therefore the quality of the Mexican luxury focus species products would likely generate higher and more stable prices from the Chinese market.
CONCLUSION

Chinese demand for luxury seafood products presents great opportunities as well as serious risks to Mexican businesses and many of Mexico’s marine resources. This analysis of the rich and complicated Mexico-China luxury seafood trade has shown:

• **Mexican businesses commercializing the luxury focus species benefit from the trade, but face a power imbalance.** While the Chinese market is the largest demand driver for these species in Mexico, Mexico supplies only a small amount of China’s overall luxury seafood imports. This imbalance has led to extreme price and demand swings, and creates insecurity for Mexican fishermen and exporters. Mexico must be very strategic about branding itself to Chinese buyers, in order to demonstrate value of Mexican product over competitors, as well as being a unique source worldwide of luxury seafood products.

• **There is a significant market opportunity for Mexico to brand its products as high quality, safe and coming from pristine waters.** As evidenced by the success of other products such as Japanese sea cucumber and US or Canadian geoduck, Chinese consumers are amenable to country-of-origin marketing. In order to capitalize fully on this opportunity however, key investments are needed to continue to improve Mexican luxury seafood processing, supply chain traceability, and food safety and quality certifications.

• **Significant business opportunities through direct trade between Mexico and China could also be captured by further investment in Mexican processing, storage and transportation capacity.** The Mexican seafood industry can capture more value by building its own port and air infrastructure and therefore becoming less reliant on US trade infrastructure.
• **Informal and illegal seafood trade represents significant lost value and a huge lost opportunity to Mexico.** Formalizing the seafood trade and cracking down on illegal harvest and trade stabilizes prices and business contracts and protects overexploited and threatened Mexican fisheries. Government limits on legal fishing as well as crackdowns on illegal fishing may shift Chinese demand to alternative luxury products (e.g. sourcing swim bladder from bagre bandera). However, these actions could also continue to increase prices and illegal trade if gray markets are not addressed in tandem with environmental controls.

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• **Lastly, additional investment in public-private information sharing systems is needed to support data-driven management decisions.** There are clear information gaps that are hurting Mexico’s export businesses. Without better access to trade statistics, consumer trend data, information about shifts in trade policies and independent biological research on species of interest, seafood exporters may not be able to transform the boom and bust cycles associated with Chinese demand into long term, stable trade relationships. Allocating specific tariff codes to luxury species and product categories would benefit all stakeholders in the fishery.
Several of the luxury focus species in this report are considered one of the ‘Eight Treasures of the Sea,’ (hai ba zhen, 海八珍) or foods that are thought to have powerful medicinal properties. The ‘eight treasures’ are: bird’s nest, shark fin, sea cucumber, swim bladder (fish maw), fish bone, abalone, seal and Chinese giant salamander.xxv

This feature highlights common food therapy uses for some of this report’s luxury species, according to a student of TCM.

**Sea cucumber**xxvi

Sea cucumber is often called hai shen (海參) in China, which translates to ‘ginseng of the sea,’ due to their perceived value in food therapy. Sea cucumber has been crowned the “king of medicinal food” (shi zhong yao wang, 食中藥王). Sea cucumber is considered a very healthful food because it is rich in protein, but low in fat and cholesterol. It is usually braised and stir-fried with other seafood or vegetables. According to ancient Chinese literature, sea cucumber can replenish one’s Qi and nourish internal organs, especially improving kidney and reproductive organ function. It is commonly believed that patients with inflammation, tumor cells, or poor immune system would benefit from the consumption of sea cucumber. TCM practitioners also recommend sea cucumber for pregnant women, as they believe that the protein and collagen found in the animal are good for the fetus and will increase the chances of having a smooth, natural delivery.xxvii

**Shark fin**xxviii

Shark fin, known as yu chi (魚翅, ‘fish wing’) in China, is one of the most valuable food therapy remedies.xxix It has been considered a delicacy since the Sung dynasty (960-1279 AD) and is now a traditional dish served at most formal banquets.xxx Shark fin is most commonly consumed in soup, but it is also used in dim sum and other dishes in small quantities. Common perceptions of the health benefits of shark fin include: improved function of the five internal organs (heart, liver, spleen, lung, and kidney), increased upper body strength, stronger appetite, better digestion, and a stronger immune system. Because it is rich in natural collagen, shark fin is also commonly viewed as a way of improving skin and skeletal health.xxxi
Swim bladder

Processed swim bladders are also known as fish maw (hua jiao, 花膠), which literally translates as ‘collagen’. Fish maw has been a delicacy since ancient Chinese times, and was documented in the Qi Min Yao Shu during the late Wei dynasty (386 – 534 A.D.). In modern times it is considered as one of the “four major supplemental foods.” It is very popular among the health conscious population, and is usually consumed braised, stir-fried or in soup. According to one practitioner of TCM, fish maw is a great supplemental food because it is “mild” in nature: it is nutritious but does not “dry” one's body. Among the perceived health benefits of consuming fish maw are improved kidney and stomach function, the facilitation of blood cell generation and increased immune function. It is often recommended for people with chronic fatigue, poor immunity and anemia. It is also very popular among women because collagen is perceived as improving skin condition and elasticity.

Abalone

Abalone has been considered a noble food since ancient times, and was also first documented in the Qi Min Yao Shu during the late Wei dynasty (386 – 534 A.D.). It is popular in the Chinese culture because it is fleshy, rich in flavor and has a high nutritional value. They are usually consumed whole or sliced in stir-fry or braised items. Abalone contains most of the essential amino acids that one's body needs; thus consuming abalone can ensure one's immune system functions properly. Some practitioners of TCM believe that abalone can fight and prevent cancer cells, lower blood lipids, lower blood pressure and improve liver, kidney and reproductive health. Its shell is also a famous Chinese medicine called Shi Juiming, (石決明) which is commonly thought to treat, cleanse and improve liver function and to improve eyesight or eye-related diseases.

Seahorse

Seahorse is also known as the “ginseng of the south” (nan fang ren shen, 南方人蔘). They are considered a remedy for improving kidney function and erectile dysfunction in TCM. In food therapy, it is grounded into powder and consumed with wine or food to improve kidney function, reproductive system function and blood circulation.

Geoduck

While not a part of TCM food therapy due to its relatively recent introduction to Chinese cuisine, the geoduck is popularly perceived as having health benefits. Geoduck is usually thinly sliced and consumed as sashimi, stir-fry or hotpot item. According to one organization dedicated to promoting healthy living, geoduck is rich in protein that helps maintain a healthy immune system. Additionally, geoduck is reported to have nutrients that increase metabolism, leading to reduced inflammation, blood circulation and water accumulation. There is common phrase in Chinese (以形補形) that means one should use something that is similar in shape to nourish a specific organ; for example, one should consume walnuts to enhance brain function. After this fashion, the exaggerated phallic appearance of the geoduck contributes to the belief that geoduck can improve one’s reproductive function. Specifically, geoduck is believed to act as an aphrodisiac and increase the mobility of the sperm.
Aquaculture production is one of the fastest growing food production industries worldwide and China is the world’s leading fish farmer. From 2000 to 2013, China’s aquaculture production nearly doubled and in 2011 China accounted for 62% of total global aquaculture by volume. China’s fish farms rely on a steady supply of fish oils and fishmeals from wild caught fisheries to supplement the diet of the farm-raised animals. In 2010, 73% of global fishmeal production was destined for aquaculture use, up from just 10% in 1980.

Mexico’s exports of fishmeals and oils have grown exponentially in recent years. In 2000 Mexico exported just over 4,000 MT of fishmeals and oils, making up fewer than 2.5% of all Mexican seafood exports by weight. Just nine years later, Mexico exported nearly 125,000 MT of fishmeals and oils, making up roughly 43% of Mexico’s total seafood exports by weight. Between 2011 and August of 2012, Mexico’s export of fishmeals quadrupled and oils grew by a factor of eight, with combined exports of 672,000 MT.

**Graph 8: China’s Aquaculture Production v. Mexico’s Export of Fishmeal and Oils to All Destinations**

(Thousands of MT, 2000-2011)

Sources: Food and Agriculture Organization; FAO-OECD Agricultural Outlook

*Data regarding the trade of fishmeal and oils between Mexico and China was not available in the FAOSTAT database*
China is the largest market for Mexico's fishmeal exports, and the rise in Mexico's exports of fishmeal and oils to China follows China's rising aquaculture production (Graph 7). In 2012, 75% of Mexico's fishmeal exports were destined for China and Taiwan. The principal destinations for Mexican fish oil are the European Union and the United States, together accounting for 92% of total exports.

But there is a much more complex relationship between Mexico's wild-capture fisheries and China's aquaculture farms. Despite consuming 34% of global fish production, China is a net exporter of fish and is exporting large quantities of farmed fish back to Mexico. According to one wholesaler at the Nueva Viga fish market, the influx of Chinese tilapia (Oreochromis niloticus) and basa (Pangasius bocourti) over the past three years has exerted downward pressure on prices for wild caught fish in Mexico City. Furthermore, as the prices of wild caught fish in Mexico decline, Chinese traders on the hunt for well-priced seafood are able to purchase Mexican fish at a lower price.

While further analysis is certainly needed, it seems as if Mexico is exporting its fishmeal to China, where it is used to grow tilapia and basa, which in turn are exported back to Mexico. This inexpensive supply of farm-raised fish from China depresses prices for wild caught fish in Mexico, giving global (including Chinese) seafood buyers access to cheaper wild caught seafood.
Regular trade routes between China and Mexico have existed since the mid-16th century, when the Spanish Crown established regular shipping routes between Acapulco, Mexico and Manila, Philippines to meet China’s demand for silver ingots, which were used as the standard means of trade during the Ming Dynasty. Spanish galleons, laden with silver from the rich mines of Zacatecas in Mexico’s central highlands, left the Mexican port of Acapulco, embarking on a four-month journey to the Philippines, where the precious metal was traded to Chinese merchants in exchange for spices, porcelain and other luxury goods. The ‘Manila Galleons’ sailed these Chinese trade goods back to Acapulco, where they were transported over the Mexican highlands to the eastern port of Veracruz, where they were loaded on Spanish silver fleet and shipped to Seville. This link between Spain and China, via Mexico, created one of the earliest examples of truly global commerce.

The Mexican seafood trade with China dates back at least as far as the early 1800s, when Chinese migrants, who came over to Mexico to work on the railroads and infrastructure projects of Mexico’s seven-term president Porfirio Diaz, saw opportunities in the seafood trade. The Chinese immigrants were largely from Southern China and brought with them a strong seafood cuisine tradition to their new home. By the mid-1800s Chinese immigrants in San Francisco, California had set up a regular seafood trade with China. And in 1870, California’s largest export was dried seafood being shipped to Hong Kong. Around three million pounds of shrimp were harvested in the Bay Area in the late 1800s and into the early 20th century, with the majority being exported to China.

At the turn of the century, Chinese-Mexicans living in the states of Sonora and Baja California also discovered the totoaba (Totoaba macdonaldi), a giant croaker endemic to the Upper Gulf of California. Chinese traders recognized the totoaba as having similar properties to the bahaba, or Chinese yellow croaker (both fish are members of the family Sciaenidae), which to this day is highly valued for its large swim bladder, thought to have curative properties.
A 1928 edition of the California Fish and Game Magazine highlights this early instance of luxury seafood trade between Mexico and China.

“But it happened that some Chinese … discovered that the sound or swim-bladder of the fish was of unusual character, and not dissimilar to that of fishes in the Orient which, when properly dressed and dried, sold for astonishing prices.”xlvii (1928)

“The product secured from the swim bladder is called "buche" and is made by simply removing the bladder and as much of the peritoneum as possible, and drying it in the sun. Sometimes as much as three pounds of this dried material is secured from one fish. It is sold at a price of from $1.50 to $2 a pound [44.09-$59.50/kg in 2012 USD] to the Chinese, who consider it a great delicacy, and use it in chop suey and other dishes.”xlviii (1926)

In both the case of the Chinese bahaba and the Mexican totoaba, the demand for swim bladder has led to serious overfishing and habitat degradation. Intensive fishing efforts in the 1930s and 1940s contributed to a steep decline in landings and the average size of animals caught. In 1945 over 2,200 MT of totoaba were caught in the Upper Gulf of Mexico, but by 1975, only 58 MT of totoaba were landed.xxxv By 1990 catching large bahaba (over 10lbs) had become exceedingly rare.

As each of these fish became scarcer in the wild, the demand for their swim bladder increased and prices skyrocketed, growing from a few $/kg in the late 1930s, to tens of thousands of dollars in the 2000s.xlix In 2010, the demand for totoaba swim bladder resurfaced, with buyers paying as much as $500/kg. By early 2014, the totoaba swim bladder was reportedly fetching over $2500/kg at the beach. In August of 2012, a fisherman netted a 176lb bahaba and was paid $371,974 for the whole fish.li

The Mexican government officially closed the totoaba fishery in 1975, and totoaba became ‘protected’ under the 1976 Convention on International Trade in Endangered Species (CITES) endangered species list. Bahaba and totoaba are both also classified as ‘critically endangered’ by the International Union for Conservation of Nature (IUCN) Red List of Threatened Species.xxxvii But as prices rise, so do the incentives to poach the endangered species. With bladders weighing as much as 1kg, fishermen in the Upper Gulf of California could stand to make a year’s wage in a single night of illegal fishing.
The e-commerce platform AliBaba.com currently handles an estimated 50% of all online sales in China.1 With more than 500 million customers and 800 million product listings, the company has become the world’s largest online retailer.

Mexican seafood producers are increasingly turning to the internet to market their wares to China. As of March 2014, there were over 125 Mexican vendors listed for the sale of sea cucumber, jellyfish, fish maw, geoduck, sea urchin and yellow croaker. The number of vendors present on Alibaba far exceeds the number of registered export firms listed on other directors of exporters, like the Directory of Exporters (DIEX), run by ProMexico.

Some of the product descriptions and vendor quotes reveal an increased awareness of trade of high value species between Mexico and China and a desire to form trade relations. One Mexican sea cucumber vendor on AliBaba states, “We are looking for long term business because in Mexico we have enough product to supply Asian markets for years,” while another is, “…looking to build a long-time relationship with a buyer in China.”

Management at Alibaba.com has recognized the growing trade in luxury seafood. In 2009 it announced that it would no longer allow shark fin to be traded over its online platform, a nod to concerns about global shark populations.

With tools like Alibaba.com, many small Mexican firms or fishing cooperatives have the opportunity to develop direct relationships with Chinese seafood importers.
In the early summer of 2012 a ‘bloom’ of cannonball jellyfish (Stomolophus meleagris) floated towards the Upper Gulf of California. The arrival of these animals en masse coincided with new interest in commercializing the species from East Asian buyers. With no permit governing the harvest of jellyfish in Mexico, the residents of Golfo Santa Clara, Puerto Peñasco and other towns along the Sonoran coasts harvested huge volumes of this species, which were previously considered a nuisance to fishermen. The jellyfish were so abundant that fisherman using dip nets and shrimp nets could fill their eight meter fiberglass pangas (‘small boats’) in less than two hours. Even non-fishermen got in on the action and eyewitnesses describe abuelitas (‘grandmothers’), collecting hundreds of pounds of jellyfish that had washed along the Upper Gulf’s beaches.

At the end of the short-lived season, Sonoran towns harvested close to 19,000 MT of live jellyfish. Agents of the East Asian buyers and Mexican entrepreneurs erected makeshift above-ground pools across Sonora’s beaches, where the jellyfish were brined, before being sun dried. The brining and drying process removes roughly 70% of the animals’ body weight and Sonora’s 19,000 MT of fresh catch resulted in an estimated processed weight of 5,640 MT. At a reported $3,500/MT, the first year of this nascent fishery netted the state of Sonora nearly $20,000,000 in new fishery export revenues. Seemingly overnight, Mexico became China’s second largest jellyfish supplier, providing 21% of the nation’s jellyfish imports, behind Bahrain with 27%.

Eager to capitalize on this new revenue source, existing seafood processors began investing in new processing capacity. Firms paid for Chinese export certification and specialized vats with conveyor belts to quickly handle and process large volumes of jellyfish. One study conducted in 2013 found that there were 20 plants along the Sonora coast with jellyfish processing capacity and 9 firms set up to market the product to Asia.
To the disappointment of many of these entrepreneurs, 2013 did not see a repeat of the previous year’s jellyfish bloom. Approximate landings in 2013 were 12,500 MT.\textsuperscript{lviii} Although there was an early arrival of jellyfish in Sonora in late March 2014, the capture of jellyfish was temporarily suspended due to the arrival of a cold front. In addition, biological monitoring revealed that a new generation of jellyfish had arrived and the best option was to give the specimens time to reach a larger size for capture.\textsuperscript{lix} During the first week of the season, fisheries officers detained six pangas and three freight vehicles which could not prove the legal origins of their capture. Predictions for the 2014 capture are around 13,000 to 15,000 MT.\textsuperscript{lx}

Sources close to the Mexican government report that new rules governing jellyfish harvest may be released in 2014. Meanwhile, fishermen in Sonora have created a set of self-imposed rules that seek to better manage the resource, such as implementing a daily landings quota of four tons and minimum capture sizes. The collective action of the fisherman is said to have been applauded by the Government of Sonora.


iii CapLog observation. September 2013.

iv Food and Agriculture Organization (UN FAO)


vi Food and Agriculture Organization (UN FAO)


xi Food and Agriculture Organization (UN FAO)


xviii USDA FAS GAIN. “China – Fishery Products Annual” 2012.


xxii Phone Interview, November 26, 2013.

xxiii Food and Agriculture Organization (UN FAO)


Estimate based on production data from “The Jellyfish Fishery in Mexico.” and price data from CapLog conversations with processors.

