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Global Analysis Report

Pelagic Fish
in China

February 2014

EXECUTIVE SUMMARY

- China accounts for one-quarter of the world's seafood consumption.
- China is also the largest producer of seafood, accounting for 40% of global seafood production in 2012, and 60% of global aquaculture production.
- Per capita consumption in China has increased from 10 kg in 1990 to 39 kg in 2012. Consumers increasingly see fish and seafood as a healthy and prestigious meal.
- Increasing production of fish and seafood in China has led to an increase in demand for fishmeal (small pelagic), driving international prices up and creating competition between countries for this product.
- This report provides an overview of the pelagic fish industry in general and provides some insight into demand trends by individual species.

***Note:** Please be advised that the 2012 Harmonized Code 6-digit level changes will be reflected in the January trade data of most countries. These changes are color coded for your convenience. New codes will be blue; discontinued codes will be red; and modified codes will be green.*

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INTRODUCTION

China is the key driver to the world's seafood industry[1]. Recent changes in logistics and production of fish and seafood have led China to obtain double digit growth numbers. As a result, China is the largest exporter of fish and seafood in the world. China is also a leading importer of fish and seafood, as its population continues to grow and consumers become more health conscious and demand more variety in products.

In 2012, China exported US$16 billion of fish and seafood products. This represented a compound annual growth rate of 15% since 2000. China surpassed Norway and Peru as the highest exporting country of fish and seafood.

Despite such large production numbers, the variety of Chinese fish and seafood products is limited. Chinese consumers account for one quarter of the world's seafood consumption, and are increasingly demanding other varieties of fish and seafood which offers excellent opportunities for Canadian seafood products.

With a population of over 1 billion people and growing, China is also a main importer of fish and seafood. China was the third-largest importer of fish and seafood in 2012, importing over 4.1 million tonnes. This was an increase of 1.6 million tonnes since 2007.

Chinese consumers view fish and seafood products as a healthier alternative to other meat proteins. Changes in preservation techniques such as increasing the availability of cold storage has also contributed to a growing demand of fish and seafood in China.

DEFINITIONS

Pelagic Fish

Pelagic fish plays a central role in China's aquaculture economy. China has become one of the major producers, but is also a large importer in world pelagic fish products.

According to Atlantic Fishes of Canada, pelagic fish live in the water column of coastal, ocean and lake waters, and are different from demersal fish which live on the bottom of the sea. They spend their lives primarily in the surface layers or a short distance below the surface, and frequently travel in large schools, turning and maneuvering in close formation steadily for long periods. The Department of Fisheries and Oceans lists the following as Pelagic fish:

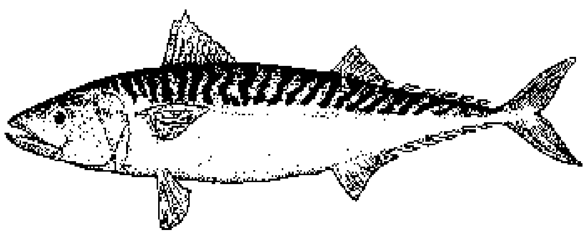
Atlantic Hagfish	Hammerhead Shark	Redfish
Atlantic Mackerel	Leatherback Turtle	Spotted Wolffish
Blue Sharks	North Pacific Albacore Tuna	Surf Smelt
Bluefin Tuna	Northern Wolffish	Swordfish
Bocaccio	Pacific Herring	Widow Rockfish
Capelin	Pacific Ocean Perch	
Cusk	Pacific Sardine	

[1] "The Dragon's changing appetite – Rabobank Industry Note #341 – October 2012

Herring

This small fish, with its characteristic greenish glints, is of great commercial importance, in terms of quantities landed.

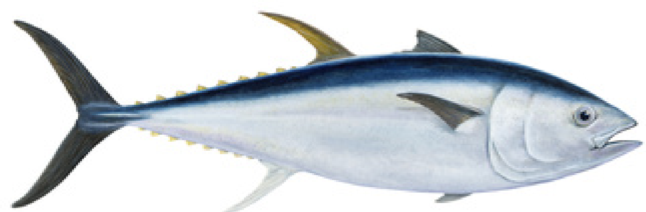
Source: Marine Research Institute



Mackerel

Mackerel are fast swimmers. Great schools of them come in close to the shore late in May, retiring back out to sea and the warmer waters of the continental shelf when autumn comes.

Source: *Atlantic Fishes of Canada*



Bluefin tuna

Bluefin tuna are great travelers, also one of the major Canadian exported high seas species.

Source: *Ministry of Fisheries and Agriculture, 2013*

CHINESE SUPPLY

According to global production statistics from the Food and Agriculture Organization (FAO) of the United Nations, Chinese pelagic fish production totalled 3.29 million tonnes in 2011. It was the miscellaneous pelagic fishes that accounted for the largest production. These included the Japanese anchovy (23.3%), Chub mackerel (17.4%), Scads (17.1%), Seerfish (14.2%), and the Silver pomfrets (11%), Herrings, sardines and anchovies accounted together for 28% of total pelagic fish production, while tunas, bonitos and billfishes accounted for 19%.

Chilean jack mackerel and Japanese jack mackerel have seen a significant decline in production over the past 5 years, declining by 30% and 37% compound annual growth rates (CAGR), respectively. Most likely, this decline is the reflection of an overall international depleted stock. By contrast, Chub mackerel has seen a CAGR 160% since 2007, and pompano fish has also experienced high growth, with a CAGR of 35%.

Total Production - Pelagic Fish in China (Tonnes)
Historic 2007-2011

	2007	2008	2009	2010	2011
Pelagic Marine Fish Total	3,263,794	3,260,177	2,836,264	3,021,430	3,293,826
Herrings, sardines, anchovies	997,357	842,002	677,942	757,323	936,533
Miscellaneous pelagic fishes	1,656,728	1,841,200	1,568,564	1,645,672	1,724,940
Amberjacks nei	11,528	19,511	19,404	16,787	13,325
Chilean jack mackerel	140,582	143,182	117,963	63,606	32,862
Chub mackerel	343,821	592,637	397,010	494,691	573,458
Cobia	25,855	23,475	29,104	36,356	37,210
Jack and horse mackerels nei	68	45	684	223	3,110
Japanese jack mackerel	186,411	59,028	25,311	26,251	29,827
Pompano	35,000	36,000	66,000	80,000	115,000
Scads nei	570,716	595,280	539,943	562,982	561,687
Silver pomfrets nei	342,747	372,042	373,145	364,776	358,461
Tunas, bonitos, billfishes	609,709	576,975	589,758	618,435	632,353

Source: *Fishery Statistical Collection, FAO, 2013.*

CHINESE DEMAND

China was the second largest importer of pelagic fish by volume, importing 646 000 tonnes in 2012 at a value of US$ 930 million. This represented 12% of overall fish imports into China in 2012.

Fishmeal (small pelagic fish) accounted for the largest amount imported in 2012, over 50% of overall imports. It was followed by fish for human consumption which included frozen mackerel (76,422 tonnes, US$127.1 million), frozen herring (177,452 tonnes, US$108.7 million), frozen skipjack tuna (50,682 tonnes, US$100.5 million), frozen Jack and horse mackerel (21,670 tonnes, US$30.8million) and frozen sardines (20,610 tonnes, US$19 million).

Between 2008 and 2012, frozen skipjack tuna was the fastest-growing pelagic fish species with a compound average growth rate of 132% in volume terms, followed by sardines, not minced (50%) and yellowfin tuna (47%). While Chinese consumers traditionally prefer live and fresh fish and seafood, there has been increasing demand for frozen and processed seafood due to the expansion of retail distributions and changing consumer lifestyles. Recently, the supermarket chains that are equipped with cold storage are rapidly growing in China, which enable fish and seafood products to be distributed under satisfactory quality conditions.

According to China Ministry of Agriculture, China Fishery Bureau, Fuzhou port in Southeast Asia is the main pelagic fish distribution center. Fuzhou has more than 330 aquatic products processing enterprises; the annual recorded demand of pelagic fish was 300,000 tonnes.

Fishmeal

China is a major importer of fishmeal on a global scale. In 2012, China imported 1.25 million tonnes of fishmeal, amounting to US$19.4 million, for aquaculture feeds.

One large effect of China's improved and growing fishery and aquaculture production is its increase in in the need for inputs and supplies such as fishmeal. Larger ports and processing plants are contributing to the growing volume of species harvested and processed and subsequently a higher demand for fishmeal. At the same time, small pelagics have not increased over the past 20 years, creating additional pressure on an already limited amount of resources. China already uses half of the world's production of fishmeal, and its increasing demand has driven the price up. In 2012, Peru produced 82% of the world's fishmeal. China imported over 50% of Peru's production. China's increased demand for higher amounts of pelagic fish for fishmeal is affecting and will continue to affect fish production all over the world.

GLOBAL IMPORTS

China Import Statistics: Top 20 Pelagic Fish Imports from the World, 2008-2012 in US$

HS code	Description	2008	2009	2010	2011	2012
	TOTAL	$1,218,092,708	$1,484,077,644	$1,730,917,013	$1,873,196,050	$930,089,724
030389	Fish, Frozen, Nesoi	$0	$0	$0	$0	$496,913,741
030354	Mackerel, Frozen	$0	$0	$0	$0	$127,145,958
030351	Herrings, Frozen	$35,512,739	$32,736,937	$59,033,590	$83,033,799	$108,725,978
030343	Skipjack Tunas Except Fillets, Livers, Roes, Frozn	$2,048,931	$24,538,175	$18,363,844	$30,160,420	$100,534,386
030355	Jack And Horse Mackerel, Frozen	$0	$0	$0	$0	$30,836,027
030353	Sardines, Sardinella, Brisling Or Sprats, Frozen	$0	$0	$0	$0	$19,068,463
030342	Yellowfin Tuna Except Fillets, Liver & Roes Frozen	$3,342,429	$6,172,295	$6,382,104	$12,232,521	$16,558,029
030341	Albacore/Longfinned Tunas Ex Fillet/Lvr/Roe Frozen	$2,871,383	$2,030,526	$4,218,128	$8,574,560	$11,791,453
160414	Tunas/Skipjack/Bonito Prep/Pres Not Minced	$3,478,885	$4,238,761	$4,857,781	$9,437,023	$8,560,224
030235	Atlantic & Pacific Bluefin Tunas, Fresh Or Chilled	$43,581	$65,307	$62,159	$696,386	$1,794,130
030345	Atlantic And Pacific Bluefin Tunas, Frozen	$166,824	$394,895	$211,232	$747,263	$1,652,765
030487	Tuna, Skipjack/Stripe-Bellied Bonito Fillet Frozen	$0	$0	$0	$0	$1,606,835
160413	Sardines/Sardinella/Brisling Prep/Pres, Not Minced	$175,840	$199,884	$328,763	$515,516	$1,597,098
030344	Bigeye Tunas Exclud Fillets, Livers & Roes, Frozen	$15,174,523	$2,097,752	$337,920	$471,109	$954,628
030563	Anchovies, Salted Or In Brine, Not Dry Or Smoke	$753,790	$345,015	$1,050,318	$1,026,010	$621,803
030245	Jack And Horse Mackerel, Fresh Or Chilled	$0	$0	$0	$0	$539,659
160415	Mackerel, Prepared Or Preserved, Not Minced	$319,276	$174,229	$235,719	$367,216	$312,804
030349	Tunas Nesoi, With Bones, Frozen	$6,256,884	$1,670,991	$1,680,485	$172,776	$291,857

Source: *Global Trade Atlas, 2013*

As can be seen in the chart below, Canada was the 14th largest supplier of pelagic fish to China, with US$15.7 million dollars in 2012. Norway, Russia and the United states continued to be the top three suppliers for fish and seafood pelagic fish to China.

China Import Statistics: Top 20 Supplying Countries of Pelagic Fish, 2008-2012 in US$ Millions

	2008	2009	2010	2011	2012
World	1,218.1	1,484.1	1,730.9	1,873.2	930.1
Norway	70.6	93.8	138.8	164.9	129.3
Russia	524.5	743.1	868.2	830.7	103.4
United States	47.2	85.2	118.2	192.7	99.8
India	71.9	93.4	117.5	118.2	89.2
Taiwan	10.6	15.3	7.9	34.5	81.4
Korea South	46.3	38.3	60.8	65.8	53.7
Thailand	79.4	56.3	53.0	59.9	49.0
Iceland	20.9	18.8	19.6	45.2	39.6
New Zealand	40.6	48.6	47.9	61.8	35.9
Indonesia	20.2	20.5	19.6	28.7	30.9
Japan	40.4	52.1	57.9	44.9	24.1
Marshall Islands	0.0	11.9	5.7	17.2	23.3
Pakistan	12.3	17.1	18.8	20.7	17.1
Canada	19.0	18.3	19.6	22.8	15.7
Netherlands	69.8	34.8	43.2	29.3	14.2
Micronesia (Federated States)	0.0	3.9	2.7	1.4	10.9
Ireland	6.1	5.3	3.8	3.9	8.9
Malaysia	9.4	8.5	7.6	8.4	8.5
Uruguay	6.5	8.0	4.3	9.1	8.4
Myanmar	22.5	19.3	19.5	15.6	7.8

Source: *Global Trade Atlas, 2013*

IMPORTS FROM CANADA

Among the products exported from Canada, Frozen mackerel, sardines and albacore/long-finned tunas were amongst the top five imported fish. Frozen mackerel accounted for 8% of total value exports, while sardines accounted for 7% of total value exports.

China Import Statistics: Top 5 Pelagic Fish Imports from Canada, 2008-2012 in US$

HS code	Description	2008	2009	2010	2011	2012
	TOTAL	$19,030,995	$18,273,399	$19,635,210	$22,786,171	$15,685,615
030389	Fish, Frozen, Nesoi	$0	$0	$0	$0	$12,152,248
030354	Mackerel, Frozen	$0	$0	$0	$0	$1,181,837
030353	Sardines, Sardinella, Brisling Or Sprats, Frozen	$0	$0	$0	$0	$1,060,716
030341	Albacore/Longfinned Tunas Ex Fillet/Lvr/Roe Frozen	$890,283	$1,042,881	$3,210,292	$4,261,243	$797,171
030351	Herrings, Frozen	$90,996	$9,153	$111,881	$83,226	$493,643

Source: *Global Trade Atlas, 2013*

Chinese pelagic fish imports from Canada were destined to one of several districts in the country. The district of Qingdao received 37% of total Canadian pelagic fish supplied, Dalian received 23% while Guangzhou received 13%.

China Import Statistics: Imports of Pelagic Fish from Canada by Destination District, 2008-2012 in US$ Millions

	2008	2009	2010	2011	2012
All Districts	19.03	18.27	19.64	22.79	15.69
Qingdao	6.42	7.29	9.30	10.11	5.75
Dalian	4.34	2.96	2.54	4.03	3.58
Guangzhou	1.03	2.57	2.18	2.78	2.07
Ningbo	---	0.30	0.11	0.80	1.05
Huangpu	0.42	0.21	0.12	0.55	0.95
Shenzhen	3.93	2.78	2.98	2.23	0.61
Beijing	0.30	0.29	0.30	0.72	0.57
Tianjin	0.25	1.03	0.99	0.36	0.51
Gongbei	---	---	---	0.84	0.18
Shanghai	1.97	0.58	0.90	0.33	0.17

Source: *Global Trade Atlas, 2013*

CONCLUSION

While China has become a major producer and exporter of fish and seafood, domestic demand will continue to drive imports into the country.

As Chinese living standards continue to improve, more consumers are choosing fish and seafood rather than meat, as it is seen as healthier and lower in fat. Premium pelagic fish will be in greater demand amongst the highest income groups in China, as studies have shown that consumption patterns in China are related to premium species as income increases.

Higher production of fish in China will continue to create opportunities for producers of fishmeal (small pelagic fish). There will continue to be high demand from China for this product, increasing prices and providing high returns for fishmeal producers around the world.

RESOURCES

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Pelagic Fish in China

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