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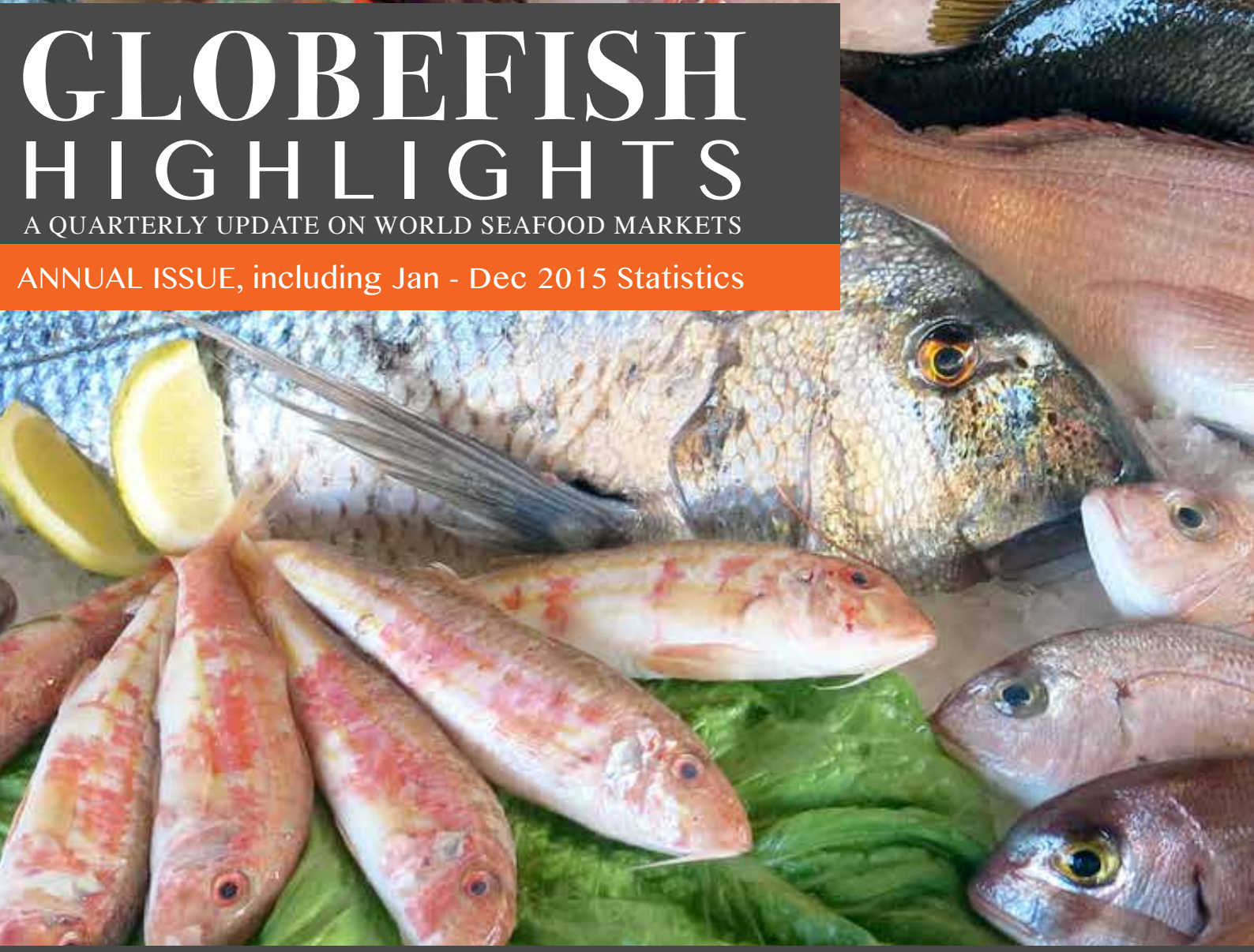
GLOBEFISH HIGHLIGHTS

A QUARTERLY UPDATE ON WORLD SEAFOOD MARKETS

ANNUAL ISSUE, including Jan - Dec 2015 Statistics



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ABOUT GLOBEFISH

GLOBEFISH forms part of the Products, Trade and Marketing Branch of the FAO Fisheries and Aquaculture Department and is part of the FISH INFOnetwork. It collects information from the main market areas in developed countries for the benefit of the world's producers and exporters. Part of its services is an electronic databank and the distribution of information through the European Fish Price Report, the GLOBEFISH Highlights, the GLOBEFISH Research Programme and the Commodity Updates.

The GLOBEFISH Highlights is based on information available in the databank, supplemented by market information from industry correspondents and from six regional services which form the FISH INFOnetwork: INFOFISH (Asia and the Pacific), INFOPESCA (Latin America and the Caribbean), INFOPECHE (Africa), INFOSAMAK (Arab countries), EUROFISH (Central and Eastern Europe) and INFOYU (China).

GLOBEFISH HIGHLIGHTS

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ACKNOWLEDGEMENTS

GLOBEFISH HIGHLIGHTS

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GLOBAL FISH ECONOMY

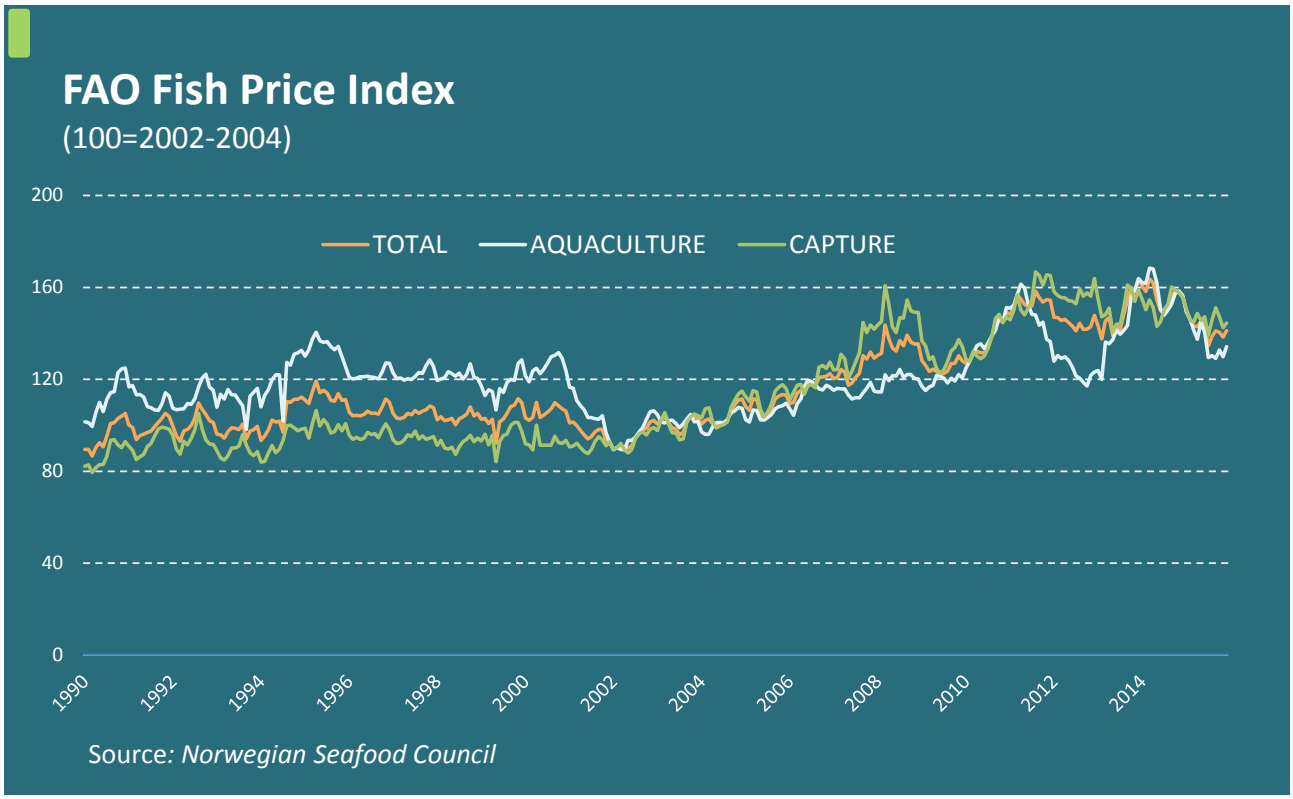
GLOBEFISH HIGHLIGHTS

Improved outlook in 2016 after last year's price falls and market challenges

In 2015, the prevailing long-term trend of stable capture fisheries production and steady growth of the global aquaculture sector continued, with total production forecasted to be some 2.6% higher than in 2015. World per capita consumption of fish also continues to grow with the average person eating 20.1 kg of seafood (whole fish equivalent) per year.

However, in market news, the value of global trade in fish and fishery products decreased significantly in 2015, contrary to the long-term trend. The drop in world seafood exports of some 9.3% in US dollar terms was the result of a range of factors: the relative strengthening of the US currency versus many other currencies, a fall in prices for the most important traded species, the production effects of El Niño and the weakening of large emerging markets.

Compared to December 2014, the FAO Fish Price Index was down 15 points to 141, with prices for aquaculture and capture fishery products down 22 points and 11 points respectively. The fall in the index has been driven primary by downward price trends expressed in US dollars in three of the most highly-traded and highest value seafood commodity groups, namely shrimp, salmon and tuna. Shrimp prices have fallen despite lower production, pointing to weakening demand in major markets, while Chilean



Source: *Norwegian Seafood Council*

World fish market at a glance

	2013	2014 estim.	2015 fcast.	Change: 2015 over 2014 %	
	million tonnes				
WORLD BALANCE					
Production	**162.8**	**164.3**	**168.6**	**2.6**	▲
Capture fisheries	92.6	90.0	90.6	0.7	▲
Aquaculture	70.2	74.3	78.0	5.0	▲
Trade value (exports USD billion)	**136.2**	**144.3**	**130.9**	**-9.3**	▼
Trade volume (live weight)	**58.8**	**59.5**	**59.8**	**0.5**	▲
Total utilization	**162.8**	**164.3**	**168.6**	**2.6**	▲
Food	141.0	144.6	147.5	2.0	▲
Feed	16.8	15.0	16.4	9.7	▲
Other uses	5.0	4.8	4.7	-2.1	▼
SUPPLY AND DEMAND INDICATORS					
Per caput food consumption					
Food fish (kg/year)	19.7	20.0	20.1	0.9	▲
From capture fisheries (kg/year)	9.9	9.7	9.5	-2.2	▼
From aquaculture (kg/year)	9.8	10.3	10.6	3.8	▲

Totals may not match due to rounding.

salmon prices dived on the back of various market difficulties. Tuna raw material prices, meanwhile, hit six-year lows in 2015 due to a combination of low fuel prices, stagnating demand for canned products and oversupply. Prices for certain other species moved in the opposite direction in 2015, particularly for cephalopods, herring and certain bivalve species.

The combination of a trade embargo in Russia with associated inflation and depressed consumer demand, a variety of economic difficulties in Brazil and slowing growth in China represents a significant weakening in global demand, especially as these three countries have become some of the most important seafood markets in the world. Meanwhile, the performances of the traditional developed markets, the USA, the EU and Japan, were mixed in 2015. US buyers were helped by a strong currency and low prices, but still saw a drop in total import value, while both Japan and the EU saw marginal growth in volume terms as imports were impacted by exchange rates and - in Japan's case - declining demand. The picture was brighter in many emerging economies, however, particularly in India and East and Southeast Asia, where increasing income growth and urbanisation is driving expansion of seafood markets.

Many producer countries benefited from a stronger US dollar in 2015, which made their exports relatively more attractive for US buyers. Norway, one of the world's largest seafood producers and exporters, saw export revenues soar on the back of high krone prices for cod, herring and salmon. In the shrimp sector, lower US dollar prices had a limited stimulating effect on US demand, but shrimp producers were able to take advantage of the situation to target emerging markets in Asia. In China, the large tilapia industry was heavily hit by weather and other factors, and total exports from the world's largest seafood exporter fell by some 8% in US dollar terms. Meanwhile, in South America, the effects of a strong El Niño have been felt in both Peru and Chile, with the Total Allowable Catch (TAC) set at only 1.1 million tonnes for the second anchoveta season for 2015, while cephalopod landings were also affected.

For 2016, the outlook in terms of prices is somewhat better than last year, with supply shocks, economic recovery in the EU and continuing strong growth in the USA and many emerging markets set to lift prices for some of the largest commodity groups. In the longer-term, the potential effects of climate change on the world's most important fisheries is of increasing concern to all stakeholders. More extreme weather patterns will continue to impact fish farmers and fishers alike, while warmer temperatures are driving key stocks such as anchoveta into cooler and more distant waters, making them more difficult to catch. A recent scientific study by NOAA also point to the relatively higher vulnerability of species with a narrow range of prey and habitat, e.g. scallops. FAO, together with the Global Partnership Climate, Fisheries and Aquaculture (PaCFA) are supporting a range of global initiatives to maintain or enhance the health and resilience of our oceans and dependent communities to the effects of climate change. More information can be found at www.fao.org/fishery/climatechange/en.

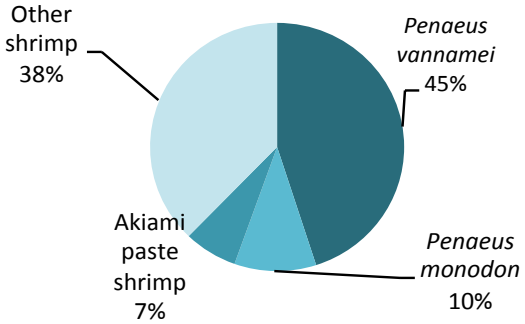
SHRIMP

GLOBEFISH HIGHLIGHTS

Lower prices helped shrimp consumption in USA

With a 3.2% rise in imports destined for local consumption, the USA was the largest market for imported shrimp in 2015. Lower shrimp prices helped producing countries increase exports beyond only traditional markets. Indeed, Ecuador, India and others exported large quantities of shrimp to Viet Nam and China as well as to other markets in Asia and the Middle East.

Shrimp production by species, both wild and farmed (2014)



Source: ***FAO***

Supply

Industry estimates indicate that the global 2015 farmed shrimp production totalled 2 million tonnes with lower production in China, India, Ecuador, Indonesia and Viet Nam compared with 2014. Farmers used conservative approaches in pond stocking as a result of falling market prices through the third quarter of 2015.

In China, the largest producing country, disease occurrence was reported, impacting supplies. In India, heavy rainfalls and floods significantly affected production in the last two months of 2015 in Andhra Pradesh, the main farming region of the country. As a result, the overall growth rate in India for 2015 is estimated be 10-15% compared with 22% growth in 2014. During the 2014-15 fiscal year (April-March), Indian farmers produced 433 448 tonnes, of which 82% was vannamei shrimp. This makes India the second largest producer of farmed shrimp after China. In Thailand, the farming situation has improved in 2015 with production estimated to be between 240 000-250 000 tonnes, still far below the record levels recorded some years ago. Within Latin America, Ecuador remained the largest producer of farmed shrimp in 2015, at 320 000 tonnes.

Imports

In 2015, there were mixed trends in global shrimp trade. Compared with 2014, imports declined in most of the developed markets, except in the USA, despite overall price weakening.

EU shrimp imports from extra-EU countries declined by 3.5% to total 563 000 tonnes in 2015, whereas US imports increased by 3.2% to reach 587 500 tonnes during the same period. Imports in Japan fell by 4.2% to total 213 700 tonnes. This data confirms the USA as the dominating market in international shrimp trade, and shows that US buyers continue to influence global market prices.

Lower shrimp prices also directed more exports to East Asian markets. Compared with 2014, imports increased in Viet Nam, Republic of Korea, China, Thailand and Taiwan Province of China. Viet Nam is now the fourth largest import market for shrimp, buying more than 200 000 tonnes of shrimp in 2015, mainly going to the processing industry for re-export.

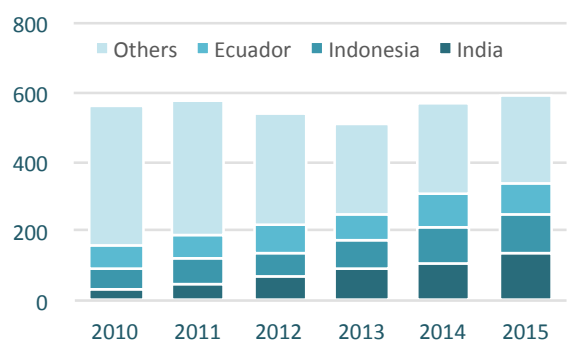
EU imports/exports of shrimp

	2010	2011	2012	2013	2014	2015
			(1 000 tonnes)			
IMPORTS						
Ecuador	80.7	97.3	92.3	83.1	93.3	96.3
India	60.0	59.5	60.6	66.4	83.3	82.7
Argentina	55.5	62.1	55.0	59.9	66.2	72.4
Others	652.3	631.1	574.9	549.2	552.8	517.4
Total	**848.5**	**850.1**	**782.8**	**758.5**	**795.5**	**768.9**
EXPORTS						
Morocco	31.9	32.6	31.1	30.1	31.6	35.4
France	47.1	51.8	42.7	34.8	32.0	32.1
Germany	34.9	34.5	32.1	32.4	35.1	31.5
Others	265.0	255.8	234.2	236.2	228.1	218.4
Total	**379.0**	**374.8**	**340.0**	**333.4**	**326.7**	**317.5**

Source: *EUROSTAT*

Top exporters of shrimp to the USA

Unit: 1 000 tonnes



Source: *NMFS*

Japanese imports of shrimp (by product)

	2010	2011	2012	2013	2014	2015
			(1 000 tonnes)			
Frozen, raw	205.3	205.2	200.5	187.3	162.3	153.2
Cooked, frozen	21.6	23.6	24.5	24.2	20.0	19.5
Prepared/preserved	46.6	49.2	50.3	45.7	36.8	37.5
Sushi (with rice)	2.0	3.2	2.4	2.2	2.0	2.4
Total	**280.7**	**285.3**	**280.4**	**262.1**	**223.4**	**213.7**

Source: *Japan Customs/INFOFISH*, small shares like smoked not included

Exports

In export trade, India was the lead supply source exporting 383 000 tonnes in 2015. Exports from these two countries increased by 11% and 15% respectively compared with 2014. Notably, Viet Nam was the number one import market for Ecuadorian shrimp and the second for Indian shrimp in 2015.

Falling production of farmed shrimp in China also resulted in reduced Chinese exports and increased imports as domestic market prices were more attractive to farmers. Official trade data indicated a 31% rise in shrimp imports to China at 102 846 tonnes in 2015 compared with 2014. This figure however, excludes most of the border trade with Viet Nam.

Excluding China, Viet Nam's shrimp exports were directed to 15 leading markets to total shipments of 230 000 tonnes. Considering this amount along with significant re-exports to China through border trade, total shrimp exports from Viet Nam most likely exceeds 300 000 tonnes. Following the trend in 2013 and 2014, strong imports of raw frozen shrimp continued in Viet Nam during 2015 to total 216 370 tonnes from 11 countries. Among the top three sources, supplies increased by 61% from Ecuador, 17% from India and 235% from Iran. Supplies also increased significantly from Thailand to Viet Nam for reprocessing and also from Mexico compared with 2014. For Ecuador and Iran, Viet Nam was the top export market for shrimp.

Thailand, which traditionally has exports dominated by value-added products, finally recovered its exports by 2.8%, with increased supplies to the USA mostly making up this increase. Thai supplies to Japan and the EU markets, however, declined compared with 2014.

Japan

Consumer demand for shrimp remained price sensitive and seasonal in Japan. Import demand for raw shrimp has been on a long-term decline trend and imports in 2015 were confirming this trend at a record low of 213 700 tonnes. Demand for value-added shrimp however increased compared with 2014.

The top five sources to Japan were Viet Nam, Thailand, Indonesia, India and China. Supplies increased marginally from Indonesia (+1.4%) and India (+1%) but declined from the others. Though not in the top five, it is interesting to note a 48% rise in imports from Ecuador to total 1 514 tonnes.

US imports of shrimp (by product)

	2011	2012	2013	2014	2015
Shell-on frozen	223.0	215.6	196.8	219.0	221.0
Peeled frozen	207.1	205.4	199.3	230.0	233.8
Breaded	43.9	37.9	36.9	39.4	44.5
Other products	103.1	76.0	76.3	80.9	88.5
Total	**577.1**	**535**	**509.3**	**568.6**	**587.2**

Source: *NMFS*

USA

2015 was a strong year for US shrimp imports due to a combination of a recovering economy, good weather in the summer months and growing shrimp consumption. The market remained attractive to most shrimp producing countries, even with the average export price in 2015 18-20% lower than the previous year. The USA was the top global import market for shrimp in 2015, with 587 507 tonnes imported, demonstrating 3.2% year-on-year growth. US importers paid nearly USD 1.25 billion less than in 2014 as the import value declined by 18.5% to total USD 5.46 billion in 2015. Imports of all types of raw and value-added shrimp increased compared with both 2013 and 2014.

The top five shrimp suppliers to the US market demonstrated varied trends in 2015; India (+25%), Indonesia (+11%), Ecuador (-7%), Thailand (+14%), and Viet Nam (-17%). As a result of weak US import prices, exporters from Ecuador diverted more shrimp (head-on) to Japan and other East Asian markets.

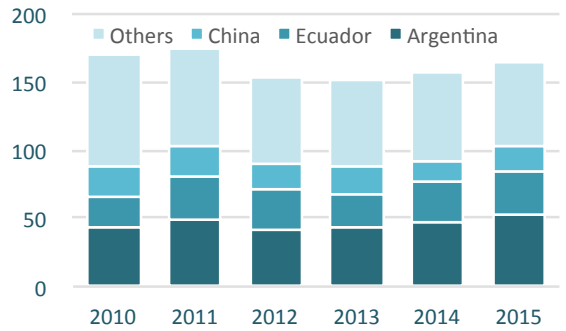
Preliminary statistics show 2015 shrimp tail-off supplies in the US market at 591 000-614 000 tonnes. This total is the combination of imports as well as domestic landings from various US fisheries. The estimate is roughly 3% above 2014, and the second highest since the 1980's.

EU

In general, shrimp demand in the EU was dormant in 2015 due to the weak euro. Subsequently, total extra-EU imports took a 3.5% fall totalling 562 000 tonnes, compared with 582 500 tonnes imported in 2014. Nearly 20% of this volume was comprised of prepared or value-added products. The share of tropical raw shrimp in extra-EU shrimp imports was 72%. The two largest markets, Spain and France, remained receptive to lower market prices and increased their imports by 4.3% and 2.8% respectively. Their combined market share totalled 48% of EU shrimp imports in 2015. Poland also imported more (+16%) at 8 249 tonnes compared with 2014. All other EU members imported less shrimp.

Total EU imports increased from Ecuador, India, Argentina and Viet Nam in 2015. Argentina posted especially strong growth, with year-on-year Argentine export prices 10-15% lower, following large catches of shrimp in 2015. These strong landings resulted in increased Argentine imports into Spain (+4%), France (+41%), Belgium (+24%) and Germany (+285%), and led to a total price collapse in the market.

Top exporters of shrimp to Spain
Unit: 1 000 tonnes



Source: *Agencia Tributaria*

Asia and other markets

Shrimp imports increased in Asian markets for direct consumption in China, Republic of Korea, Taiwan Province of China, Sri Lanka and the Maldives and for re-exports in Viet Nam and Thailand.

In the Pacific, shrimp imports declined by 14% in Australia and 7% in New Zealand.

In South Asia, the hospitality industries in Sri Lanka and the Maldives imported more shrimp from India during the reporting period.

Total EU imports increased from Ecuador, India, Viet Nam and Argentina in 2015. In fact, export prices from Argentina were 10-15% lower against 2014, following large catches of shrimp in 2015 . Subsequently, imports from Argentina increased by nearly 4% in Spain, 41% in France , 24% in Belgium and 285% in Germany causing a price crash in the

Chinese imports/exports of shrimp

	2010	2011	2012	2013	2014	2015
			(1 000 tonnes)			
IMPORTS						
Ecuador	1.2	5.6	6.4	7.4	16.8	27.0
Canada	15.5	13.6	13.7	20.3	17.2	22.9
Thailand	9.8	6.9	10.7	8.7	7.3	9.8
Others	31.1	27.1	24.0	34.9	36.9	43.2
Total	**57.6**	**53.1**	**54.7**	**71.3**	**78.2**	**102.8**
EXPORTS						
USA	45.3	44.0	37.6	34.9	33.6	35.9
Republic of Korea	25.3	35.4	31.0	21.5	14.2	25.9
Japan	35.3	58.6	40.9	37.3	32.7	24.6
Others	169.0	167.2	164.1	176.3	152.8	105.6
Total	**274.9**	**305.2**	**273.7**	**269.9**	**233.2**	**191.9**

Source: *China Customs*

market.

Outlook

Export earnings from shrimp declined in most of the producing countries in 2015 due to lower market prices. Many producers were able to increase sales in the non-traditional markets. For Ecuador, Asia has turned out to be an important market area despite the fact that Asia remains the largest shrimp producing region in the world.

2016 seems to have started with some stability in market prices, while imports in the USA increased by 6.5% during the first two months of 2016, indicating lower inventories in the market. Compared with 2015, consumer demand during Lent have been stronger in the USA, particularly within the catering trade. Meanwhile, US buyers are waiting for the seasonal supply to begin in Asia.

In Europe, shrimp prices are expected to continue on their downward trend due to plentiful stocks and the expectation of further arrivals of frozen shrimp, especially from record-high Argentine catches. Sales within the EU were strong during the Easter holiday, but European buyers are adopting a wait-and-see strategy in anticipation of further price discounts.

On the production side, pond stocking has been delayed in India due to weather conditions as well as some disease issues. Current harvests are lower than expected and raw material prices are high. Demand from Viet Nam is strong, also contributing to high raw material prices in India. Another factor is that the number of processing factories has increased and with last year's flooding in parts of Andhra Pradesh, raw material supplies remain low.

Looking forward, the unusual hot weather in Southeast Asia may cause a slow production beginning in April/May for the 2016 season.

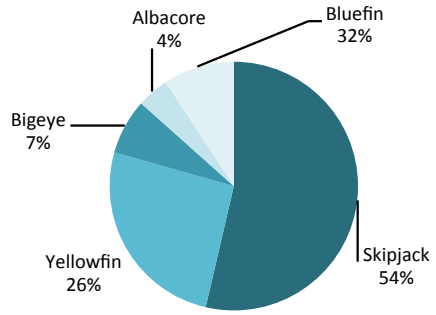
TUNA

GLOBEFISH HIGHLIGHTS

The canned tuna market remained dormant in 2015, though raw material prices were at a six year low

The impact of falling raw material prices in 2015 was minimal on the large and traditional markets of the USA, Europe and Australia, indicating saturated consumer demand for traditional canned tuna. In contrast, US imports of non-canned tuna, including frozen tuna fillets and high-value processed tuna in pouches increased in 2015. Taking advantage of lower raw material prices, European tuna canners also imported more cooked loins to produce high-value products.

Tuna production by species (2014)



Source: ***FAO***
*Both wild and farmed

Supply

Throughout 2015, overall supply of raw material tuna remained higher than the corresponding market demand for canned tuna. As a result, tuna packers in Southeast Asia, Ecuador and in the Western Indian Ocean held large inventories. Frozen skipjack prices fell to record low levels as did canned tuna prices. In December 2015, prices of frozen skipjack weakened to less than USD 1 000 per tonne, compared with USD 1 150 in the same month of 2014 and USD 1 400 in 2013. However, raw material imports into Thailand, the Philippines and China in 2015 did not increase compared with the previous year. Subsequently, fishing efforts reduced during the fourth quarter of 2015.

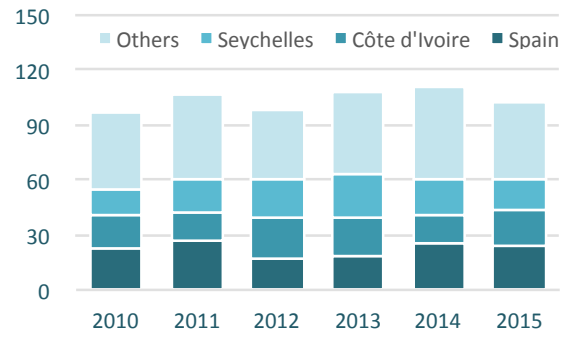
As of this writing, fishing in the Western and Central Pacific has also slowed due to poor weather. The US Tuna Treaty has been finalized and the US fleet is now allowed to resume fishing in the Western and Central Pacific. There has been a significant drop in landing activities in Thailand and Thai canneries are reporting moderate-to-low inventories. Raw material supply is expected to be tight in the coming months.

Fishing in the Eastern Pacific has resumed but catches are poor. In Ecuador, raw material inventories are low and expected to be tight over the next few months.

Short supplies from the Indian and Atlantic Oceans have resulted in substantially higher raw material prices in Europe this year. Fishing in the Indian

Ocean is moderate, with mainly skipjack being caught. Local canneries are holding good inventories of raw material. The FAD closure in the Atlantic Ocean ended on 1 March, but fishing has remained at a low-to-moderate level so far. Local canneries are holding moderate raw material inventories.

French imports of fresh tuna (by species)
Unit: 1 000 tonnes



Source: *DNSCE*

Non-canned tuna markets (fresh and frozen)

USA

Once again, US imports of air-flown whole/dressed tuna remained higher than Japanese imports of the same product in 2015. The USA also reported growth in this product category, by 3.7% compared with 2014.

US imports of frozen tuna (whole/ dressed and fillets) in 2015 grew significantly by 24% compared with 2014 to total 27 850 tonnes. Nearly 26 000 tonnes of frozen tuna fillets comprised 92% of the total volume, for which the average import price was USD 11.5 per kg. Indonesia was the lead supplier with a 38% market share, followed by the Philippines and Thailand.

Altogether the US market imported 51 000 tonnes of fresh and frozen tuna for non-canned usages in 2015, supported by strong demand from retail and catering trade.

Japan

The descending trend of Japan's sashimi tuna imports continued in 2015. Supplies of air-flown tuna from overseas were 20.6% lower than compared with 2014, once again highlighting falling consumer demand for raw tuna in the world's largest sashimi market. Lower imports of whole/dressed frozen bluefin, bigeye and yellowfin tuna also indicated that sashimi consumption in Japan declined. Moreover, the weak yen made imports costly and competition by cheaper salmon contributed to the decline.

Despite the decrease in imports, record low skipjack prices encouraged higher imports for that species (+60%) compared with 2014. Skipjack are primarily being used for processing katsuobushi (smoked/ dried tuna) and canned tuna for the domestic market.

Imports of deep frozen tuna fillets (for sashimi usage) increased in Japan by 13% compared with 2014 to total roughly 40 355 tonnes. The volume consisted of 14 958 tonnes of bigeye, 13 172 tonnes of yellowfin, 12 528 tonnes of bluefin and 21 tonnes of southern bluefin tuna fillets. Notably, in the tuna fillet market, the share of redmeat quality tuna (bigeye and yellowfin) was much higher in 2015 with increasing demand due to affordable prices and a longer shelf life compared with bluefin. The Republic of Korea and China are the main exporters of red meat quality tuna fillets to the Japanese market.

Canned tuna

Exports

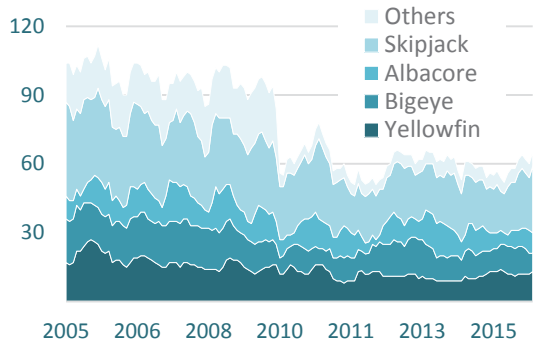
Falling tuna prices and stagnant demand in the traditional large import markets caused export revenues to fall in the top five exporting countries, Thailand (-16.3%), Ecuador (-30%), Spain (-20%), China (-11%) and the Philippines (-31%).

Japanese fresh and frozen tuna landings (by species)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Bluefin	Fresh	1.0	2.0	1.1	2.0	2.3	2.6
	Frozen	1.3	1.2	1.5	1.4	1.9	2.6
	Subtotal	**2.3**	**3.2**	**2.6**	**3.4**	**4.2**	**5.2**
Bigeye	Fresh	5.7	6.1	5.4	4.2	4.4	4.0
	Frozen	17.5	15.3	20.4	23.2	23.6	25.4
	Subtotal	**23.2**	**21.4**	**25.8**	**27.4**	**28**	**29.4**
Yellowfin	Fresh	8.9	7.9	7.0	6.5	4.5	6.5
	Frozen	6.4	5.7	24.5	21.9	28.9	31.5
	Subtotal	**15.3**	**13.6**	**31.5**	**28.4**	**33.4**	**38**
Albacore	Fresh	30.6	33.6	42.1	35.9	36.6	34.4
	Frozen	16.9	16.7	23.8	22.2	16.8	11.7
	Subtotal	**47.5**	**50.3**	**65.9**	**58.1**	**53.4**	**46.1**
Skipjack	Fresh	68.2	46.0	45.2	50.1	46.2	52.2
	Frozen	212.6	182.2	217.6	207.4	197.6	182.2
	Subtotal	**280.8**	**228.2**	**262.8**	**257.5**	**243.8**	**234.4**
	Total	**369.1**	**316.7**	**388.6**	**374.8**	**362.8**	**353.1**

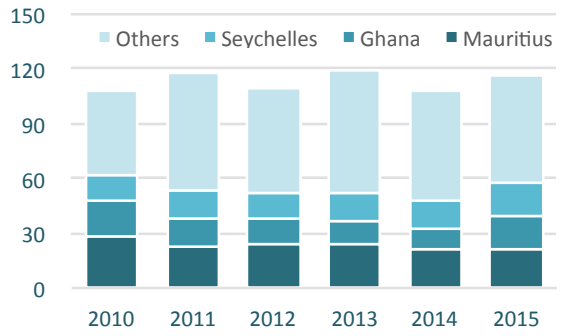
Source: *INFOFISH Trade News*

Japanese cold holdings of tuna (by species)
Unit: 1 000 tonnes



Source: *INFOFISH*

Top exporters of canned tuna to the UK
Unit: 1 000 tonnes



Source: *Her Majesty's Revenue & Customs*

During this same time period in terms of volumes, total exports of canned and processed tuna also declined for Thailand, Ecuador, China and the Philippines, though less than in value terms. Among the main exporters, only Spain reported a moderate growth of the canned tuna export quantity.

In terms of processed tuna, (HS code 1604141900), Thai exports increased by 16.3% in 2015 to reach 175 000 tonnes.

Imports

Record low import prices of canned and processed tuna failed to generate extra demand for conventional canned products in the two most important markets, the EU and the USA.

Non traditional markets, however, took advantage of lower market prices and imports increased in the Middle Eastern markets namely Egypt, Saudi Arabia, United Arab Emirates, Kuwait, Oman and Qatar. There were also higher imports in Latin American markets, such as Peru, Chile, Argentina and Brazil.

An analysis of 2015 import patterns indicate that demand for conventional canned tuna may have reached a saturation point in the traditional, large markets, whereas many emerging markets in the developing world offer trade opportunities.

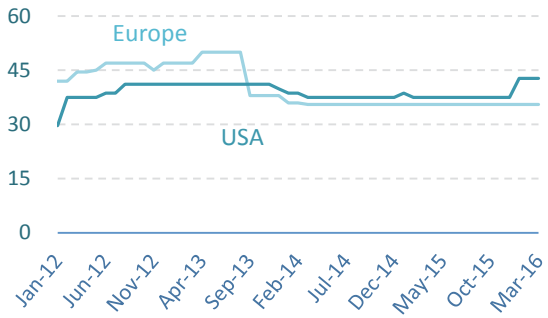
USA

In 2015, US imports of canned and processed tuna totaled 206 000 tonnes, which had a custom declared value of USD 876.8 million. These figures are respectively 14% and 17.5% lower than in 2014. Thailand, China, Ecuador, Viet Nam and the Philippines were the top five suppliers in the US market. Imports declined from all of these sources except Ecuador, which reported a 14% increase.

In 2015, US imports of processed tuna consisted of 64 160 tonnes of cooked loins, 33 065 tonnes of pouched tuna and 105 000 tonnes of canned tuna.

Compared to 2014, imports of cooked loins and canned tuna declined, whereas increased for pouched tuna, which is a higher value product. China and Thailand were the top suppliers of cooked loins and Thailand was the lead supplier of pouched tuna.

Prices
Tuna: USA, Europe
USD/carton



Canned tuna, carton:48*6.5 oz, origin:Thailand
Source: *INFOFISH Trade News*

EU

In 2015, the EU imported from extra-EU countries 485 700 tonnes of prepared and canned tuna, including cooked loins at a value of USD 2.14 billion. Compared with 2014, quantitative imports declined marginally -(0.5%) but the import value declined significantly by 18.8% due to raw material prices weakening worldwide. The top five import markets in the EU were Spain, the UK, Italy, France and Germany.

Compared with 2014, import demand remained rather stagnant even though raw material prices, especially frozen skipjack, were low. The top five suppliers to the EU market from extra-EU countries were Ecuador, Mauritius, the Seychelles, Thailand and the Philippines. Supplies declined from all of these countries except for the Philippines. However, imports increased from Ghana, Côte d'Ivoire, Madagascar and the Solomon Islands.

Looking at total EU imports of prepared tuna from extra-EU countries, the share of cooked loins was 25%. This product category demonstrated year-on-year growth of 13% to total a bit over 122 000 tonnes in 2015, with cooked skipjack and yellowfin each accounting for about 50 000 tonnes. Spain remained the largest market of tuna loins with a 23% rise in imports compared with 2014, as a result of lower raw material prices.

In the UK, imports of high-value products increased, particularly from Spain, France and Portugal. Compared with 2014, imports of eco-certified pole and line caught tuna products also increased from the Maldives by 175% at 520 tonnes. In comparison, imports from Papua New Guinea declined by 45% against the same period in 2014. In France, overall imports of canned and processed tuna in 2015 declined by 8% compared with 2014. However, cooked loin imports, which are included in this total, increased from 8 142 tonnes in 2014 to 8 679 tonnes in 2015. These were used for processing value-added products that are generally sold within the EU market.

Among the other markets in the EU, canned/processed tuna imports declined by 13% in Italy, 14% in Portugal, 15% in the Netherlands and 14% in Belgium but increased by 21% in Poland.

Other markets

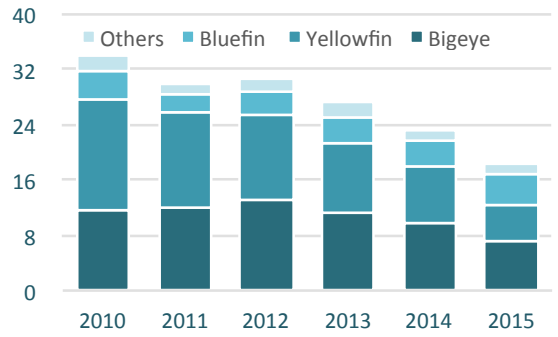
Overall import trends for canned tuna remained mixed in the Asia/Pacific region. Imports in Japan were stable at 55 000 tonnes, while domestic production of canned tuna increased following softening of raw material prices and increased raw material imports.

Outlook

Lower tuna prices generated improved demand for canned tuna in the emerging markets but failed to make much of an impact on US and EU imports for conventional products. However, US imports of pouched tuna increased during the reporting period. Spain managed to increase its exports of high-value canned tuna to the intra-EU market in 2015.

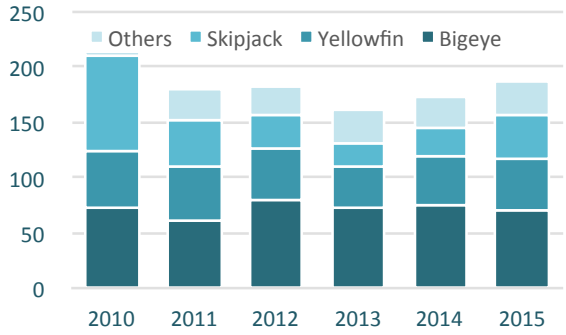
These summary trends for 2015 are likely to persist overall for 2016, as long as raw material prices remain stable. That said, as of March 2016, supplies of tuna had declined and lower inventories in canneries were reported. Both of these factors have led to strong demand for raw material and have resulted in increasing prices for both skipjack and

Japanese imports of fresh/chilled tuna (by species)
Unit: 1 000 tonnes



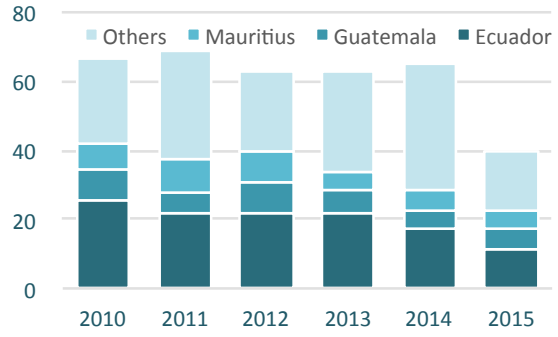
Source: *INFOFISH Trade News*

Japanese imports of frozen tuna (by species)
Unit: 1 000 tonnes



Source: *INFOFISH Trade News*

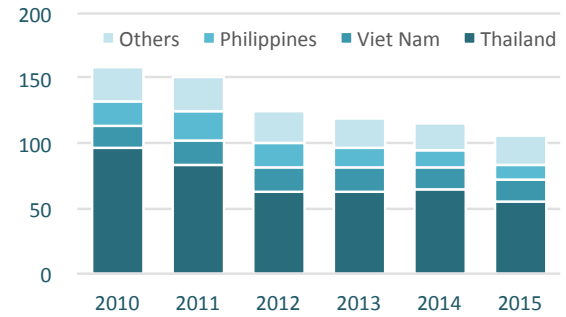
Top exporters of tuna loins to Spain
Unit: 1 000 tonnes



Source: *Agencia Tributaria*

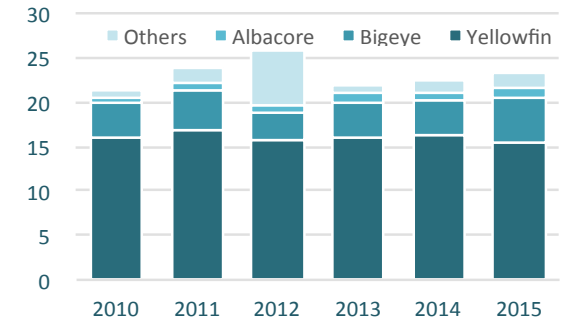
yellowfin. In Ecuador, skipjack prices are expected to reach USD 1 500 per tonne at the end of April. Demand from canned tuna buyers has also started to strengthen. Time will tell if this demand growth will continue long enough to affect overall tuna trade trends in 2016.

Top exporters of canned tuna to the USA
Unit: 1 000 tonnes



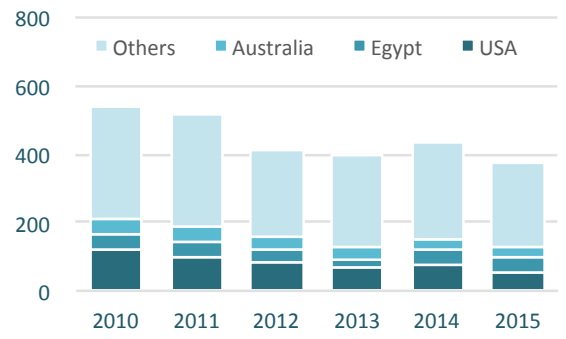
Source: *NFMS*

US imports of fresh tuna (by species)
Unit: 1 000 tonnes



Source: *NFMS*

Top importers of canned tuna from Thailand
Unit: 1 000 tonnes



Source: *Thai Customs*

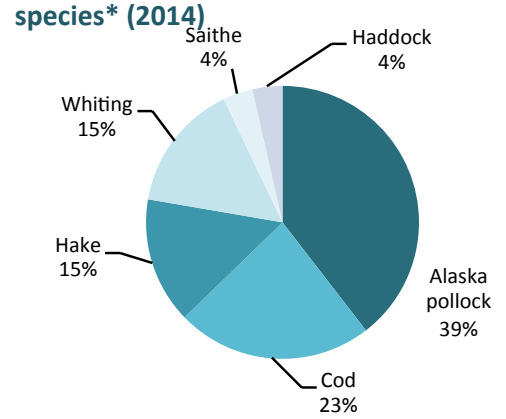
GROUNDFISH

GLOBEFISH HIGHLIGHTS

Stable supplies, changing trade patterns

The supply situation is stable, with an expected slight (+2-3%) increase in supplies in 2016. However, there may be an oversupply of pollock, resulting in some pressure on prices. Overall, trade flows will undergo some shifts in 2016, as more processing of raw material from Europe and North America will be shipped to Viet Nam instead of China.

Groundfish production by selected species* (2014)



Source: ***FAO***
*Both wild and farmed

Resources

Total supplies of groundfish will increase by just over 3% to reach 7.27 million tonnes in 2016, according to estimates presented at the North Atlantic Seafood Forum in March. Supplies of Atlantic cod are forecasted to be about the same as in 2015, while there will be slight increases for pollock, haddock and saithe. Various types of hake will also increase marginally, while supplies of hoki will decline by 3%.

In terms of management measures, scientists have recommended a 14% reduction in the 2017 pollock TAC in Russia, which means a TAC for industrial vessels of 1.3 million tonnes. Russian cod supplies in 2016 will remain stable at just under 900 000 tonnes (Source: *Russian Fishery Company*).

For the southern African hake fishery, the outlook for 2016 is optimistic. After three years of slight declines in total landings, a slight increase in production is forecasted for 2016. Estimates by the main South African company Irvin & Johnson indicate that South African production will remain level at 148 000 tonnes, while Namibian landings are expected to increase slightly from 140 000 tonnes in 2015 to 145 000 tonnes in 2016.

The Norwegian skrei (spring cod) fishery, which runs from January until April each year, started slowly this year, but picked up quickly in February and early March. The slow start in the beginning of the year was partially due to the fact that the spawners were somewhat slow in reaching the Lofoten and Vesterålen regions in North Norway, and also due to poor weather, as most skrei fishing is done by small coastal vessels. Fishers report strong catches of high quality, large fish, with such good volumes landed that prices for smaller sizes were higher than their larger counterparts in mid-March. In general, prices for Norwegian fresh cod are high at the moment, and demand for this high-quality fish is very good in Europe.

Processing

Processing of Alaska pollock from the Bering Sea, Aleutian Islands, and the Gulf of Alaska in 2015 was level with the 2014 output at 521 050 tonnes. However, there were significant shifts in the production volumes of the various product forms. There was a 28% increase in production of whole round cod, a 10% increase in surimi production and

a 7.4% increase in production of fishmeal, while there was a 28.6% decline in production of H&G and an almost 9% decline in roe production (Source: *NOAA Alaska Office*).

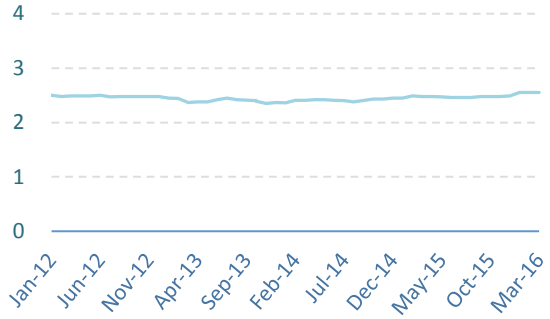
In China, increased labour and other production costs are expected to have an impact on processing and re-exports of whitefish from that country. Already there is a downturn of Chinese processing activity, with business being moved to neighbouring countries, particularly to Viet Nam, where a number of very high standard processing plants have available capacity. At the same time, Russia is processing more of its domestic landings, which were previously shipped to China for processing.

Producers active in the processing business expect that the shift from Chinese to Vietnamese processing will occur quite rapidly, with an estimated 60 000 tonnes of H&G pollock processed in Viet Nam by 2018, up from merely 10 000 tonnes in 2015, 25 000 tonnes in 2016, and 40 000 tonnes in 2017. Danish company Espersen has already moved its cod processing from China to Viet Nam. In 2016, Espersen expects to process about 10 000 tonnes of cod in Viet Nam.

Surimi

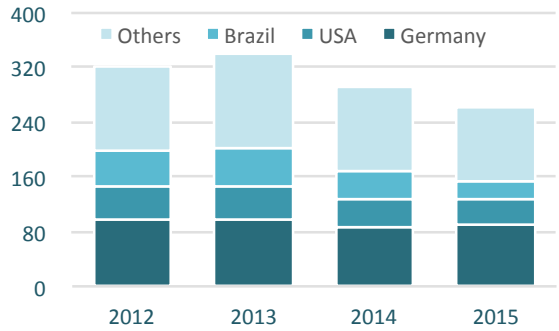
US pollock surimi production is expected to reach record levels in 2016 (more than 210 000 tonnes predicted), and consequently, Japanese buyers are predicting prices will decline. Inventory levels are also high, which is putting further pressure on prices. As a result, most Japanese buyers are now reluctant to pay the price demanded by suppliers. During the last four seasons, Japanese surimi import prices have been growing each year, and are now 40% above what they were five years ago.

Prices
Surimi: France
EUR/kg



Stick 250 gr/pc, origin: Spain
Source: *European Price Report*

Top importers of frozen Alaska pollock fillets from China
Unit: 1 000 tonnes



Source: *China Customs*

US producers are now putting more emphasis on surimi and deep-skinned fillets than on PBO filets. Thus, the trend from 2015 is continuing, with surimi production in January 2016 up by over 40% compared with January 2015, and deep-skinned fillet production up by 48%, while PBO fillet production declined by almost 19% in the same period.

South American production of surimi is picking up steadily, with vessels in Argentina and Chile expected to produce about 4 500-5 000 tonnes in 2016. Most of this is based on Southern blue whiting, and to a lower extend on hoki.

2016 Japanese imports of surimi from Asia are expected to remain at the same level as last year, at about 124 000 tonnes, although there will be some shifts in the relative positions of the suppliers. Thailand's production is suffering from resource issues as well as other problems, and Thai surimi output has declined significantly. In contrast, India is expected to become the largest Asian supplier to Japan. The country has been growing its production, and during the second half of 2015, India shipped 37 000 tonnes of surimi to Japan (Source: *Minato-Tsukiji*).

Trade

US imports of frozen cod and cod-like groundfish declined by 7.5% in 2015, to total 142 500 tonnes. Frozen fillet imports declined from 116 900 tonnes in 2014 to 110 400 tonnes in 2015 (-5.6%), while imports of blocks and slabs declined by 13.5%, from 37 100 tonnes to 32 100 tonnes in the same period. The main supplier, China, shipped 7.8% less than in 2014, but was still the largest supplier by far, accounting for 73% of the total. Among the other suppliers, there were only minor changes.

Recent trade statistics indicate that there may be a shift in US demand, from frozen cod to fresh cod.

Fillets

Blocks/Slabs

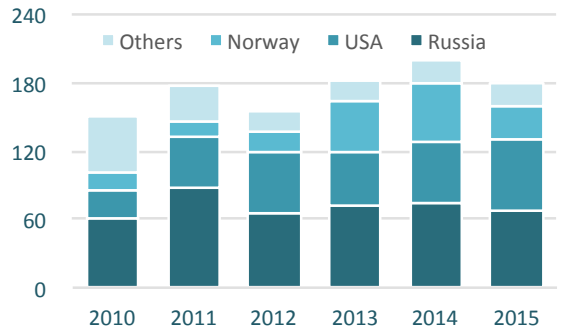
US imports of cod-like groundfish (by product and origin)

	2010	2011	2012	2013	2014	2015
			(1 000 tonnes)			
China	74.6	87.9	79.4	83.7	81.0	78.3
Iceland	9.2	7.1	9.7	11.0	9.6	10.0
Russia	8.3	5.2	4.7	6.5	5.2	5.2
Others	8.6	9.1	18.8	20.8	21.1	16.9
Subotal	**100.7**	**109.3**	**112.6**	**122**	**116.9**	**110.4**
China	35.9	36.6	33.4	31.2	31.9	25.8
Argentina	0.7	0.6	1.6	1.3	1.4	2.0
Iceland	0.7	0.7	1.1	1.7	1.6	1.4
Others	4.2	3.5	3.9	3.5	2.2	2.9
Subtotal	**41.5**	**41.4**	**40**	**37.7**	**37.1**	**32.1**
Total	**142.2**	**150.7**	**152.6**	**159.7**	**154**	**142.5**

Source: *NMFS*

Top exporters of whole frozen cod to China

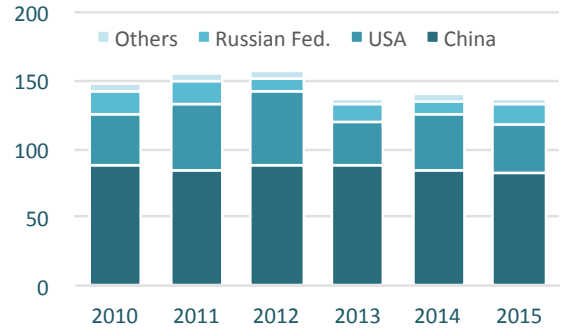
Unit: 1 000 tonnes



Source: *China Customs*

Top exporters of frozen Alaska pollock fillets to Germany

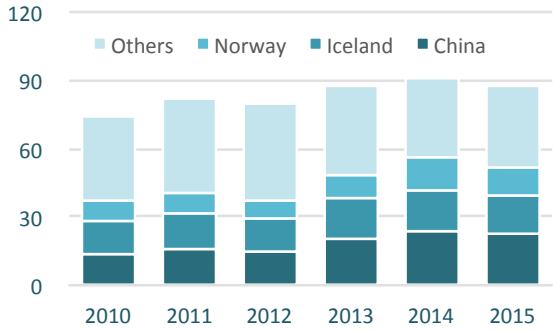
Unit: 1 000 tonnes



Source: *Germany Customs*

Top exporters of frozen cod to the UK

Unit: 1 000 tonnes



Source: *Her Majesty's Revenue & Customs*

The share of fresh fillets in total US cod imports has risen from 1.3% in 2010 to 5.5% in 2015. At the same time, import prices for fresh fillets have risen by 45-50%, while import prices for frozen cod fillets have risen by only 15-18%.

This trend is confirmed by Norwegian fresh cod exports, which increased by 28% in February 2016 compared with February 2015. Total Norwegian exports of cod reached a new record in January 2016, when a total of NOK 1.25 billion worth of cod, saithe, haddock and other groundfish were exported. This was an 11% increase from the cod export value for January 2015. Both fresh and frozen products demonstrated increases (Source: *Norwegian Seafood Council*). However, these growth in export values are based on exchange rate developments, and different trends can be observed whether looking at the US dollar or Norwegian krone.

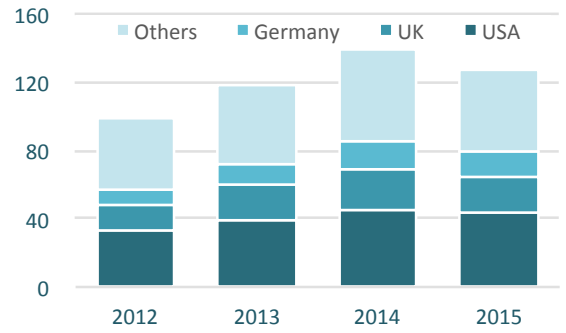
Imports of frozen cod fillets to Germany remained stable at 31 800 tonnes in 2015. The largest supplier, China, increased shipments only slightly, from 12 500 tonnes to 13 000 tonnes, while the second largest supplier, Poland, registered a 17.5% decline in shipments to Germany. In contrast, Denmark increased its frozen cod fillets exports to Germany from 1 300 tonnes in 2015 to 4 800 tonnes in 2015 (+269%).

UK frozen cod imports declined slightly, from 90 200 tonnes in 2014 to 87 300 tonnes in 2015. The largest supplier was China, which accounted for 25.7% of the total.

Chinese imports of whole frozen cod declined from 199 400 tonnes in 2014 to 179 200 tonnes in 2015 (-10.1%). Interestingly, the main suppliers (Russia, the USA and Norway) all had varied performance. Russian exports declined by 9.2% and Norway's exports fell significantly by 45.3%. There was positive news for the USA, where cod exports to China went up by 18.6%, to total 62 600 tonnes.

Top importers of frozen cod fillets from China

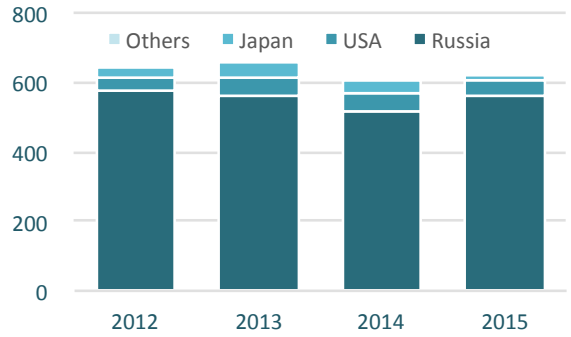
Unit: 1 000 tonnes



Source: *China Customs*

Top exporters of whole frozen Alaska pollock to China

Unit: 1 000 tonnes



Source: *China Customs*

In the Chinese market, where most cod imports are raw material for processing and re-exporting, there was an 8.4% fall in exports of frozen cod fillets, from 138 600 tonnes in 2014 to 126 900 tonnes in 2015. The main markets for these re-exports were the USA, the UK and Germany.

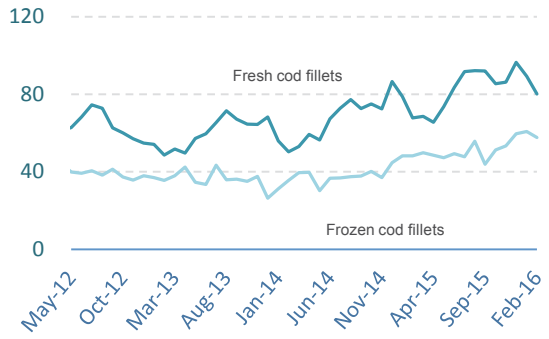
German imports of frozen pollock fillets declined slightly, from 140 200 tonnes in 2014 to 137 200 tonnes in 2015. The main supplier was China, accounting for over 60% of the total. The USA and Russia were also important suppliers to this market.

French imports of frozen pollock fillets actually increased slightly in 2015, from 46 900 tonnes in 2014 to 49 900 tonnes in 2015. Again, the main supplier was China, followed by Russia and the USA.

China is the largest importer of whole frozen pollock, and despite the shift towards processing more in Viet Nam, Chinese imports of whole pollock increased slightly in 2015 (+1.6%), from 615 300 tonnes in 2014 to 625 300 tonnes in 2015. Russia is by far the dominant supplier, accounting for almost 90% of the total volume.

Export price
Cod: Norway

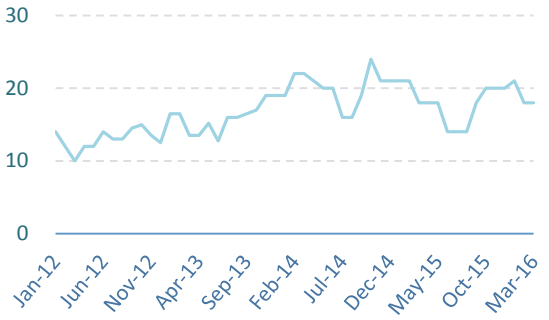
NOK/kg



Source: *Norwegian Seafood Council*

Prices
Haddock: Spain

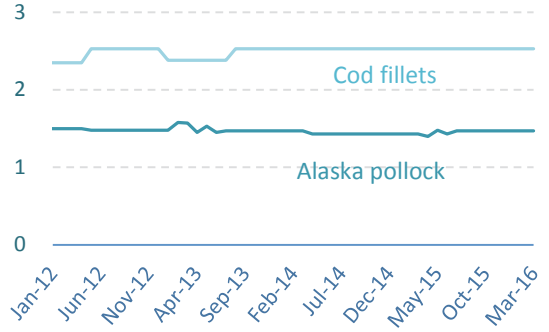
EUR/kg



H&G, < 800 gr/pc, origin: Norway
Source: *European Price Report*

Wholesale prices
Groundfish: USA

USD/lb



Source: *INFOFISH Trade News*

Prices

In general, cod prices are on the way up, although there are seasonal variations. Prices for fresh cod in Europe continued to climb until January 2015, and then took their usual seasonal dip in February. However, the general trend is upwards, with prices for frozen cod fillets following the same trend. In the USA, cod prices are much more stable, though recently low haddock inventories have pushed haddock prices up. Compared with Europe, the US cod market is far more static, as most supplies are made up of re-exports from China, resulting in a more stable price trend.

The pollock market is suffering from oversupply and declining prices. Prices for H&G pollock fell from USD 1 500 per tonne in November 2015 to just USD 1 050 per tonne in March 2016. With expectations of a record US pollock production in 2016, price expectations are very modest (Source: *Undercurrent News*).

In Japan, the market for pollock roe is diminishing, as Japanese youth do not eat nearly as much pollock roe as the older generation, thereby pushing prices down. According to an industry stakeholder at the North Atlantic Seafood Forum, revenue from US producers of pollock roe dropped by USD 80 million over the last four years. Thus, some stakeholders believe that more active promotion of the pollock roe market is very much needed.

Prices for Pacific cod from the USA have been relatively strong, but there are now signs of weakening. The main reason for this declining trend seems to be the recent strengthening of the Japanese yen against the US dollar. Another reason may be that demand for hot-pot dishes has been weak this winter due to the warmer weather.

Outlook

The outlook is for a fairly stable groundfish supply situation in 2016, with only slight increases. Prices for cod are high and will probably remain so or even edge further upwards. As usual, foreign exchange rates play an important role in the global trade picture, as prices in US dollars are much more stable than for example in Norwegian krone. Pollock prices are under pressure and may weaken. There will be some changes in trade patterns, as more whole frozen fish will go to Viet Nam and less to China.

CEPHALOPODS

GLOBEFISH HIGHLIGHTS

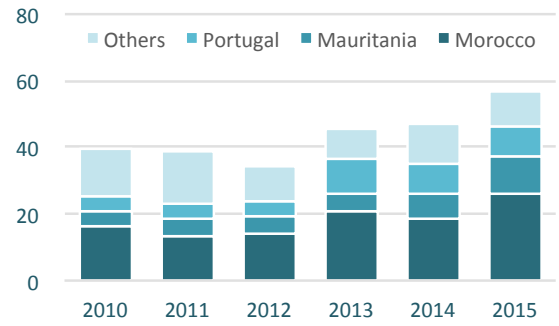
Declining prices with strong octopus and stable squid supplies

The strong El Niño this year is negatively impacting South American cephalopod landings in the Pacific, yet global squid supplies are expected to remain stable. Supplies of octopus have increased recently, and this has resulted in weaker prices on the main markets.

Octopus

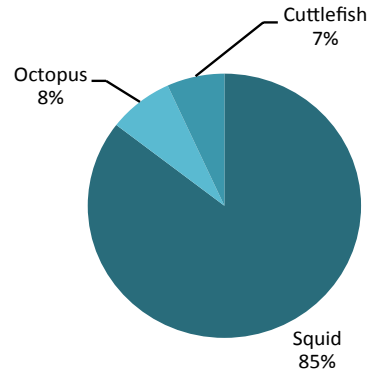
Supplies of octopus improved significantly in 2015, and this is reflected in trade statistics. Japanese imports increased strongly during the first nine months of 2015, and this trend continued through the fourth quarter. Total octopus imports into Japan in 2015 amounted to 50 900 tonnes, up 27.6% compared with 2014. However, it should be noted that Japanese octopus imports were rather low in 2014, at 39 900 tonnes, compared with 58 400 tonnes in 2013. This was related to slow demand in 2014 as well as tighter supplies. As can be seen from the 2015 rising import trend, demand has recovered. The two major suppliers (Morocco and Mauritania) both increased shipments to Japan in 2015, while other suppliers experienced little change.

Top exporters of octopus to Spain
Unit: 1 000 tonnes



Source: *Agencia Tributaria*

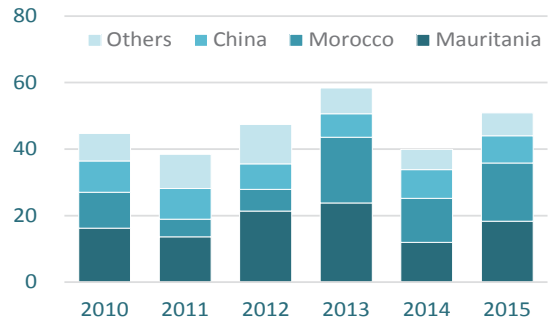
Cephalopods production (2014)



Source: ***FAO***

Spanish octopus imports also took a jump in 2015, from 46 900 tonnes in 2014 to 56 500 tonnes in 2015. Again, improved supplies from Mauritania and Morocco accounted for practically all of the increase, while the other suppliers remained level. Over the years, a number of researchers have tried to achieve success in octopus farming, with varied results. Now, the Mariculture Experimental Station of the National Institute for Fisheries Research in Argentina has reported some success with their farming experiments. By the end of 2016, the researchers hope to have adult and juvenile specimens as well as eggs for acclimatization to captivity. At the same time, the Kanaloa Octopus Farm on Hawaii is working on experiments to rear octopus in an aquarium. The owners hope to be able to produce octopus for human consumption soon.

Top exporters of octopus to Japan
Unit: 1 000 tonnes



Source: *Japan Customs*

RECENT NEWS

Spanish octopus fishery becomes MSC certified

For the first time, an octopus fishery has received MSC certification. Four artisanal fishing guilds in western Asturia, Spain, received certification for their fishery in early 2016. The guilds have a combined fleet of 27 vessels dedicated to small-scale fishing using pots. The species targeted is the common octopus (*Octopus vulgaris*).

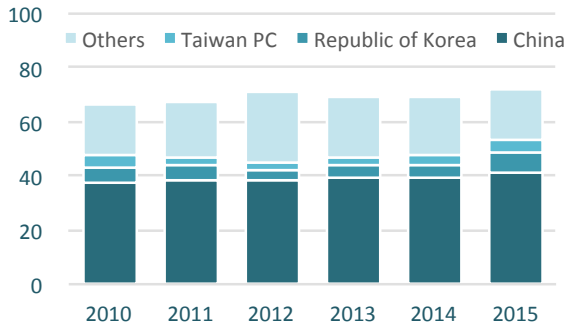
Squid

The US National Fisheries Institute reported in January 2016 that it expects global squid supplies to remain stable in 2016. From 2000 to 2014, global annual squid landings varied between 2.7 million tonnes and 3.5 million tonnes. In 2014 and 2015 global landings were about 3.0-3.2 million tonnes annually. However, there has been a marked shift betweeen the most important species. Particularly California market squid have seen strongly declining numbers.

US squid landings were quite high at around 145 000 tonnes in 2000, then declined more or less steadily to just under 60 000 tonnes in 2008, and shot up to over 150 000 tonnes in 2010. But since then, US landings have fallen off again, reaching only some 50 000 tonnes in 2015. Catches off California, which constitute about 85% of total US squid landings, have been the most negatively impacted.

US squid exports saw a corresponding decline, from almost 150 000 tonnes in 2011 to just under 80 000 tonnes in 2015. US imports, on the other hand, have been very stable around 70 000 tonnes for the last 6 years. It should be noted that while US exports are mainly whole squid, imports are mainly comprised of processed squid, sometimes re-imports of US raw material.

Top exporters of squid to the USA
Unit: 1 000 tonnes

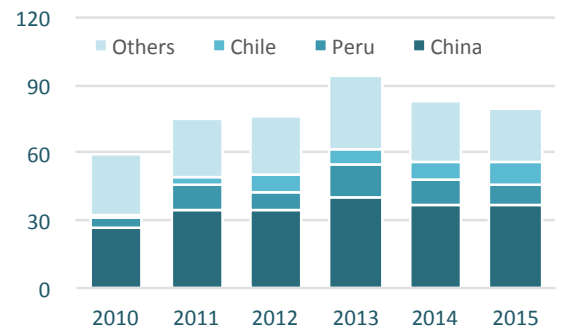


Source: *NMFS*

In Argentina, squid fishing began in early February, and by the middle of the month, a total of 64 joggers were participating. Yields were reported to be variable and the sizes caught were rather small, which is normal for this time of year.

In 2015, about 126 500 tonnes of illex squid were landed in Argentina, a 25% drop compared with 2014. This drop in illex squid landings contributed to the 4.2% fall in total seafood landings in Argentina in 2015. Of the total landings, about 95 000 tonnes of illex squid were exported. It is expected that both landings and exports will be somewhat higher in

Top exporters of squid to Japan
Unit: 1 000 tonnes



Source: *Japan Customs*

2016. The loligo squid season in Argentina started three weeks later (at the end of February), with 16 vessels participating in the fishery.

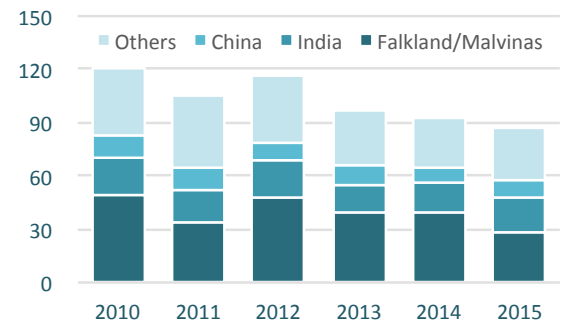
The Falkland Islands (Malvinas) illex squid season also started in mid-February. According to FIS.com, a total of 105 licences had been issued, a number that has remained stable for the past few years. It is too early to predict any results yet, but in 2015 landings of Illex reached a record of 358 000 tonnes.

In Peru, there has been concern about the poor catches of giant squid (*Dosidicus gigas*) for some time, but it now seems that the catches are slowly improving.

Trade

Japanese squid imports fell year-on-year by 5.2% in 2015, to 79 000 tonnes. China was the main supplier and managed to export about the same amount as in 2014, while imports from Peru and Argentina were down by 13.8% and 32%, respectively.

Top exporters of squid to Spain
Unit: 1 000 tonnes



Source: *Agencia Tributaria*

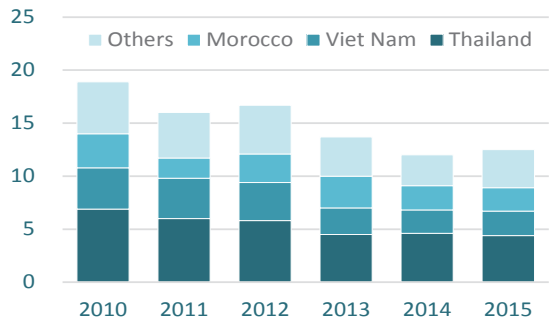
Squid imports into Spain also fell, from 92 500 tonnes in 2014 to 87 500 tonnes in 2015 (-5.4%). There was a massive reduction in imports from the Falklands (Malvinas) (-25.5%), while both India and China increased shipments to Spain. Shipments from southern Africa (Namibia and South Africa) increased in total, although Namibia saw a 15% decline, while South Africa doubled shipments to Spain.

As mentioned, US squid imports have been stable at around 70 000 tonnes for some years. In 2015, there was a slight increase in imports (+4.6%). China remains the major supplier, accounting for 56.8% of total imports, and in 2015 China strengthened its position on this market even more.

Cuttlefish

The ongoing quiet in cuttlefish trade continued in 2015. Japanese imports were stable with 2014 figures at around 12 000-13 000 tonnes, with main suppliers Thailand, Viet Nam and Morocco maintaining their relative positions. However, looking at the longer term trend, Japanese cuttlefish imports since 2010 have declined by about one third, from 18 900 tonnes in 2010 to 12 500 tonnes in 2015.

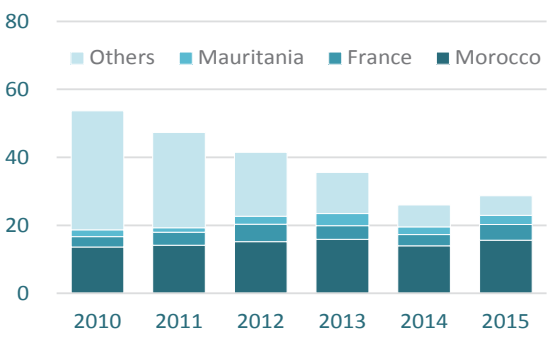
Top exporters of cuttlefish to Japan
Unit: 1 000 tonnes



Source: *Japan Customs*

In contrast, Spanish cuttlefish imports have increased slightly in 2015. Imports rose from 26 000 tonnes in 2014 to 28 700 tonnes in 2015. However, similarly to the declining Japanese trend, this figure is still significantly below the volumes imported in the beginning of this decade. Indeed, Spain imported 53 700 tonnes of cuttlefish in 2010.

Top exporters of cuttlefish to Spain
Unit: 1 000 tonnes



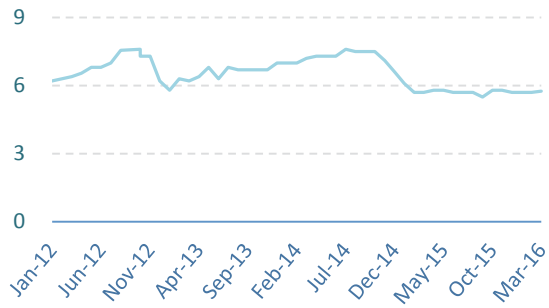
Source: *Agencia Tributaria*

Prices

After having demonstrated a growing price trend since mid-2013, Japanese import prices for octopus fell sharply in the beginning of 2015, then stabilized, and finally began declining again towards the end of the year. A similar trend was registered for Spanish imports of octopus. However, in Spain, prices rose until mid-2015, and then started a rapid decline.

Squid prices in Spain have been somewhat more stable over the past year, although there were some ups and downs during the last half of 2015. For instance, imports of patagonian squid fell dramatically in July 2015, which resulted in prices shooting up. In the Republic of Korea, squid prices have been on a long decline since the second quarter of 2015.

Prices
Squid: Italy



Whole, FAS, middle size, origin: South Africa
Source: *European Price Report*

Cuttlefish prices have been declining for some time, but showed signs of improving in Japan during the fourth quarter of 2015. Cuttlefish prices in Europe, on the other hand, were on a steady, but slow decline for most of 2015.

Outlook

Octopus supplies have improved, and further strong landings may put some pressure on prices. Squid supplies are expected to remain stable in 2016 in spite of a strong El Niño. Squid prices may continue to decline.

TILAPIA

GLOBEFISH HIGHLIGHTS

Chinese supply drops, main markets weaken

In 2015, the US and EU markets weakened while average import prices also declined. Industry sources estimate there was a 40% drop in Chinese tilapia production for the year, due to unfavourable weather conditions coupled with continued lower demand in the major markets of the USA and EU. In Asia, markets remain firm reporting higher imports as well as strong local production.

China

Total Chinese exports of tilapia in 2015 declined to total 391 200 tonnes, which is a reduction of roughly 24 000 tonnes. Total exports were approximately 1 million tonnes in whole fish equivalent. Estimates of more than 10 000 tonnes of live tilapia were exported from China to Hong Kong SAR.

In 2015, the Chinese tilapia industry was affected by challenges related to lower demand from its major market, the USA, as well as antibiotic related issues. Processing plants controlled production as result of the general slowdown in demand. Average export prices of Chinese frozen tilapia fillets in 2015 weakened by 15.3% compared with 2014, lowering to USD 3.86 per kg.

Frozen fillet exports, which make up 39% of Chinese tilapia exports, declined primarily to the USA. However, exports of frozen breaded tilapia increased with positive growth into the main markets, namely the USA, Mexico, Côte d'Ivoire and Zambia. Exports also increased by 1 564 tonnes to Russia reaching a total of 2 204 tonnes.

Iran has emerged as a potential market for tilapia fillets as imports continue on an increasing trend to reach 10 856 tonnes in 2015, up by 15.4% compared with 2014. Tilapia, which is a cheaper alternative, has been increasingly replacing the frozen fillet market dominated by New Zealand hoki. Average export price to this market in 2015 was USD 3.88 per kg from USD 4.91 per kg in 2014.

Chinese exports of frozen tilapia (by product and destination)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Whole frozen	USA	20.2	25.5	21.8	24.4	27.0	22.6
	Cote d'Ivoire	6.2	9.0	15.5	17.4	20.1	20.8
	Zambia	1.4	1.2	3.0	9.1	12.0	12.4
	Others	47.9	71.9	70.8	83.7	79.9	76.8
	Subtotal	**75.7**	**107.6**	**111.1**	**134.6**	**139.0**	**132.6**
Frozen fillets	USA	111.4	85.2	108.8	102.5	98.0	84.0
	Mexico	24.1	24.1	20.9	25.1	23.2	24.0
	Israel	6.4	9.3	4.9	3.3	9.4	10.9
	Others	44.6	39.5	44.6	51.2	39.7	34.3
	Subtotal	**186.5**	**158.1**	**179.2**	**182.1**	**170.3**	**153.2**
	Total	**321.7**	**329.0**	**360.1**	**402.5**	**401.8**	**391.2**

Source: *China Customs*, Total including breaded tilapia

USA

Total tilapia imports into the US market in 2015 were 3% lower compared with 2014, reaching 224 000 tonnes, primarily due to lower supplies of fresh and whole tilapia fillets. However, there were nuances depending on the product category.

Imports grew for the whole frozen product category, with China dominating supplies and reporting growth for its year-on-year imports for this product. In the fresh tilapia fillet category, supplies increased from Colombia as well as from Ecuador. Prices overall declined, with average import prices of fresh tilapia fillets weakening by 2.9% to USD 7.45 per kg. Honduras remained the largest supplier despite a decline in shipments to the US market. The whole frozen tilapia category posted marginal growth as China supplied more into the US market, as import value weakened. Average wholesale price of whole frozen tilapia fell significantly from USD 2.49 per kg in 2014 to USD 2.11 per kg last year due to devaluation of the Chinese yuan.

Besides China, which is the leading supplier to the US market, supplies increased from Viet Nam, Thailand, India, Bangladesh and Mynamar. Viet Nam particularly grew its exports to the USA, more than doubling its volumes in 2015 compared with the previous year.

EU

EU tilapia imports in 2015 weakened to total 29 345 tonnes of whole frozen and frozen tilapia fillets, a decline of 4.4% compared with 2014. Spain remained the leading importer of frozen tilapia fillets although the country imported 741 tonnes less (-12%) to total 5 319 tonnes. Germany showed positive growth (+18%) in 2015 imports to reach 2 742 tonnes.

Overall, EU imports were comprised approximately of 56% frozen fillets, 44% whole frozen and a small volume of fresh tilapia fillets. Average import prices into the EU declined significantly with frozen fillet prices taking a large dip (-14.4%) to reach USD 3.48 per kg while whole frozen tilapia prices declined by 8.4% to USD 1.91 per kg. Volume wise, imports of whole frozen tilapia declined marginally (-0.6%) in 2015 compared with the year before to reach 12 897 tonnes. Interestingly, in the whole frozen category, import prices for supplies from Viet Nam, Bangladesh and Taiwan Province of China (the latter only for premium quality products) strengthened.

By far, China was the leading supplier in all product categories and supplied more whole frozen tilapia in 2015 compared with 2014. Total imports of tilapia from China reached 21 177 tonnes in 2015, a slight increase of 0.9% from 2014.

US imports of tilapia (by product and origin)

		2010	2011	2012	2013	2014	2015
				(1 000 tonnes)			
Fresh fillets	Honduras	7.2	8.1	6.3	8.2	9.8	8.8
	Colombia	1.8	2.4	2.6	3.8	4.1	5.3
	Costa Rica	5.8	5.4	4.2	6.5	5.2	4.9
	Others	8.8	8.5	7.6	8.2	6.3	6.0
	Subtotal	**23.7**	**24.4**	**20.7**	**26.7**	**25.4**	**25.0**
Whole frozen	China	22.9	25.7	23.4	24.3	24.7	26.8
	Taiwan PC	16.3	12.2	10.4	16.4	12.1	10.4
	Thailand	1.2	0.6	0.5	0.4	1.0	0.7
	Others	0.5	1.2	1.0	0.7	2.1	3.4
	Subtotal	**40.9**	**39.7**	**35.3**	**41.8**	**39.9**	**41.3**
Frozen fillets	China	135.5	119.1	150.6	144.5	148.4	140.7
	Indonesia	10.2	9.2	11.9	11.8	11.6	10.4
	Mexico	0.0	0.0	0.0	0.0	0.9	2.1
	Others	5.0	4.6	6.5	4.3	5.1	5.0
	Subtotal	**150.8**	**132.9**	**169.0**	**160.6**	**166.0**	**158.2**
	Total	**215.4**	**197.0**	**225.0**	**229.1**	**231.3**	**224.5**

Source: *NMFS*

Asia

Tilapia import volumes to Asian countries are relatively small as most domestic production enters the local markets. In 2015, approximately 8 500 tonnes were imported into Asia. Hong Kong SAR was the largest importer among Asian countries, importing 3 348 tonnes of frozen tilapia (whole and fillet), a significant increase of 33% compared with 2014.

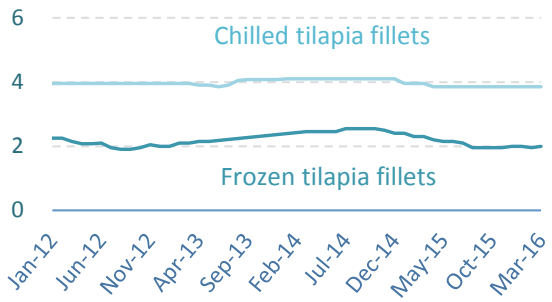
Imports into Japan totalled 275 tonnes mainly comprised of sashimi quality tilapia, which is supplied mostly by Taiwan Province of China. Average import price of this tilapia was JPY 1 355 per kg, 15% higher than a year ago.

In recent years, demand for live tilapia usually peaks during the Lunar New Year in retail markets and seafood restaurants in Malaysia, Singapore and Taiwan Province of China. Live tilapia in Malaysia is usually priced at around USD 7 per kg) and in some restaurants the price was tagged at USD 15 per kg during the Lunar New Year season. In Malaysia, supplies come almost entirely from local sources while live tilapia exports takes place to Singapore. Singapore imports approximately 2 500 tonnes of tilapia annually, comprised of about 1 500 tonnes of live tilapia from Malaysia and close to 1 000 tonnes of fresh and frozen tilapia from both China and Indonesia.

In Taiwan Province of China, overall tilapia exports in 2015 declined by 6 424 tonnes to reach 22 190 tonnes with frozen fillets accounting for 87% of total exports. In terms of only whole frozen tilapia, export volumes declined significantly by 19% in

2015 compared with the year before. The USA was the leading market for this product category in 2015, taking roughly a 60% market share of Taiwan Province of China's supplies. In value terms, Taiwan Province of China's export prices also declined to most destinations. Looking at only frozen fillets in contrast, Taiwan Province of China increased export volumes by 21.8% in 2015 compared to 2014, while average exports prices strengthened in most markets. Indeed, average export prices of frozen tilapia fillets in 2015 were USD 8.86 per kg, 12.4% higher than in 2014.

Prices
Tilapia: USA
USD/lb



Chilled tilapia fillets: primary wholesale, NY, USA, origin: Costa Rica; frozen tilapia fillets: 3-5 oz/lb, EXW NY, USA, orgin: China
Source: *INFOFISH Trade News*

Outlook

Extreme cold weather in China and Taiwan Province of China in early 2016 affected many fish farms, including tilapia farms. Looking forward, this is expected to result in lower production volume and subsequently higher prices.

PANGASIUS

GLOBEFISH HIGHLIGHTS

Problems for Vietnamese producers

In 2015, Asia and Latin America remained the lucrative markets for pangasius while the leading producer, Viet Nam, continued to be plagued by production problems. Overall, lower prices did not encourage imports into the major markets, the USA and the EU, whereas growth did occur in Asia and Latin America. In Asia, imports increased only to selected markets although prices were higher in 2015 compared with 2014.

Viet Nam

According to the Vietnam Association of Seafood Exporters and Producers (VASEP), the value of Viet Nam's tra catfish is expected to continue to fall in 2016.

Officials anticipate that the value of the tra fish export will see a year-on-year drop of 5% to USD 1.5 billion in 2016. According to VASEP, in 2015, the total value of tra fish exports reached USD 1.6 billion, which was 10% lower than the value in 2014. Meanwhile, the year-on-year value of tra fish exports rose in new markets; by 17% to the UK, 42% to mainland China and Hong Kong SAR, and 2.4% to Saudi Arabia in 2015.

However, 2015 was a difficult year for Vietnamese exports of tra fish products in most large markets. Challenges included lower demand, stagnant selling prices as well as increasingly stricter standards on quality, food hygiene and safety. Of particular concern to the industry has been the recent US preliminary result of its anti-dumping administrative review (POR-11) on Vietnamese tra fish fillets.

Current raw material prices are reported to have risen and on 15 March 2016 were quoted at VND 21 500 per kg compared with VND 20 500 per kg, the price quoted a week prior. This price increase is due to a shortage in supply from the Mekong Delta Province. Industry sources reported that the shortage will peak during April to August 2016 when exports are usually high. This is expected to put further upward pressure on prices.

USA

For 2015, total frozen catfish imports into the USA grew by nearly 8% compared with 2014, with the majority of the supplies coming from Viet Nam as usual. Imports of frozen pangasius fillets, which makes up 95% of total frozen volumes (107 626 tonnes) increased by nearly 11% compared with 2014. Myanmar exports, though acute, did grow, from 17 tonnes of frozen pangasius fillets in 2014 to 67 tonnes in 2015.

US imports of frozen catfish filltets

	2010	2011	2012	2013	2014	2015
			(1 000 tonnes)			
Viet Nam	48.4	84.6	96.6	101.8	97.2	107.6
China	7.9	4.8	2.7	5.5	7.0	4.8
Others	4.7	1.8	1.0	0.5	0.1	0.0
Total	**61**	**91.2**	**100.3**	**107.8**	**104.3**	**112.4**

Source: *NMFS*

EU

The market for pangasius in the EU remained weak in 2015 as import volumes of frozen pangasius (whole and fillets) declined nearly 14% from 2014, with the fall largely from the major supplier of Viet Nam. Spain retained its position as the largest market within the EU, although it imported less in 2015 compared with the previous year.

Interestingly, the EU market continues to demonstrate growth in the whole frozen category. Imports of whole frozen pangasius into the EU increased at a steady pace with 155 tonnes more imported in 2015 reaching 3 399 tonnes. Almost all suppliers are from Asia with Viet Nam in the lead followed by Indonesia, Thailand, Bangladesh and Myanmar.

Average import prices of frozen fillets into the EU strengthened slightly to reach USD 2.46 per kg compared with USD 2.39 per kg in 2014. In contrast, average import prices of whole frozen pangasius were down at USD 1.99 per kg in 2015 from USD 2.09 per kg in 2014.

Asia

In 2015, Asia imported approximately 81 000 tonnes of pangasius (whole and fillets) according to national statistics, roughly 21% more than in 2014. Among the major markets in Asia were Thailand, China, Singapore, Malaysia, Taiwan Province of China, Hong Kong SAR, India, Japan and the Republic of Korea. Thailand was the largest market and imported nearly 25% more in 2015, reaching a total of 20 617 tonnes. China, the second largest Asian market for the product, is growing as well. Indeed, imports grew significantly by 88% to reach almost 17 000 tonnes in 2015.

In general, average import prices were lower in most of Asia, though they were higher in China (USD 2.38 per kg, +1.4%), Hong Kong SAR (USD 2.06 per kg +6.7%) and Taiwan Province of China (USD 1.45 per kg, +19.4%).

Latin America

For 2015, Latin America continued to be one of the most lucrative regions for Viet Nam pangasius exporters. According to national statistics, Latin American markets imported more than a total of 120 000 tonnes of pangasius (whole and fillets) in 2015. Frozen fillets comprised nearly 91% of these imports. Mexico was the largest market within the region, followed by Brazil and Colombia although supplies declined to the latter markets. Average import prices on the whole declined by an estimated 6-10% in 2015 from the year before, which encouraged imports into the region.

Outlook

As of late March, industry sources report high raw material prices due to supply shortages from Viet Nam. The upcoming high demand season during April to August will possibly put further upward pressure on prices. Asia and Latin America will continue to absorb increasing volume of products.

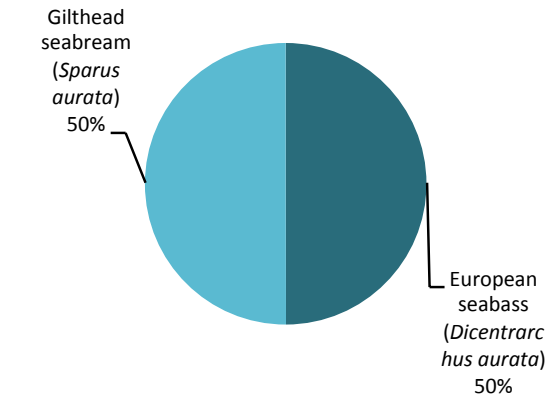
SEABASS & SEABREAM

GLOBEFISH HIGHLIGHTS

Continuing high prices expected as supply set to tighten further in 2016

After a year of lower harvests, firming prices and relieved pressure on producer margins, 2016 has started off well with a sharp upturn in seabass and seabream prices on European markets. Further reductions in supply from the major sources should see this situation continue, giving a further boost to the expanding Turkish industry and allowing Greek companies the opportunity to build on what are now more solid foundations.

Bass and bream production (2014)



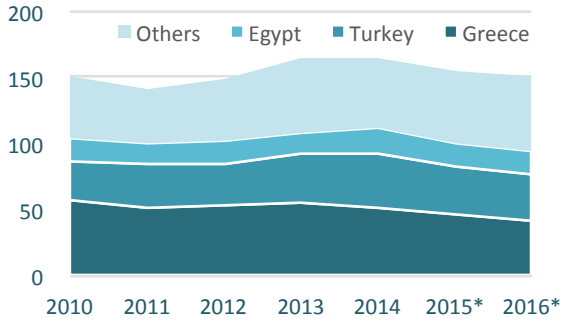
Source: ***FAO***

Supply

Total supply of bream fell by approximately 6% in 2015, according to figures from a recent Kontali analyse report, with the expected impact of pushing prices strongly upwards. Multi-year highs were reached in the peak mid-summer season on the major Italian market, with 300-450 g sizes reaching EUR 5.80 per kg (CIF). Bass production, meanwhile, remained flat compared with the previous year, which kept prices for this species relatively lower. Forecasts are for a further 3% drop in production this year, with both Turkey and Greece seeing the

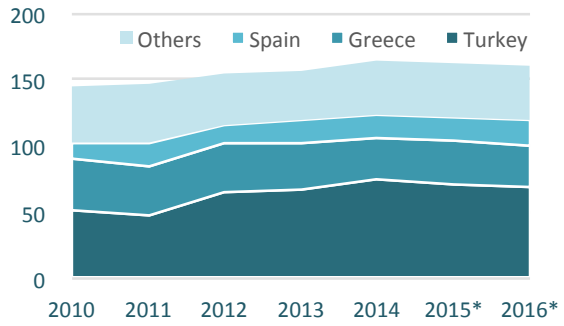
Top global producers of seabream (*Sparus aurata*)

Unit: 1 000 tonnes



Source: *FAO* (until 2014), *Estimate

Top global producers of seabass (*Dicentrarchus labrax*)
Unit: 1 000 tonnes



Source: *FAO* (until 2014), *Estimate

results of reduced juvenile production over recent years.

With fewer fish to sell, Greek exporters reduced volumes to many major Mediterranean markets in 2015. Exports to Italy fell in particular, and Turkish exporters managed to further increase their share of this important market with cheaper product and more readily available volumes. Greek exports to Spain also fell significantly for the second year in a row as investment in the Spanish farmed bass and bream industry is boosting domestic production. In contrast to Turkey, Greece remains heavily dependent on the core EU markets, with Italy, France and Portugal taking more than three quarters of its total export volume.

Italian imports of fresh seabram and seabass

	2010	2011	2012	2013	2014	2015
			(1 000 tonnes)			
Spain	0.5	0.5	0.6	0.5	0.5	0.5
Greece	1.2	0.9	1.0	0.3	0.3	0.1
Portugal	0.2	0.2	0.1	0.2	0.2	0.2
Others	0.2	0.1	0.1	0.2	0.1	0.1
Subtotal	**2.1**	**1.7**	**1.8**	**1.2**	**1.1**	**0.9**
Greece	17.1	17.2	18.9	19.7	18.2	15.7
Turkey	2.2	1.6	2.5	2.5	3.6	5.4
Croatia	0.7	0.7	0.8	0.9	1.2	1.8
Others	2.5	3.1	3.3	2.4	2.9	3.2
Subtotal	**22.5**	**22.6**	**25.5**	**25.5**	**25.9**	**26.1**
Greece	16.7	16.8	15.4	15.1	15.7	15.5
Turkey	2.3	1.7	2.3	2.7	3.7	4.8
Croatia	1.0	1.6	1.2	1.2	1.4	2.4
Others	1.7	2.3	1.7	1.8	1.7	2.3
Subtotal	**21.7**	**22.4**	**20.6**	**20.8**	**22.5**	**25**
Total	**46.3**	**46.7**	**47.9**	**47.5**	**49.5**	**52**

Source: *ISTAT*

That said, the increase in Greek export revenue despite the drop in volumes, points to an improvement in margins and hence business stability for an industry that has been struggling for some years now. After refinancing, restructuring and efforts to reduce costs, investor confidence in the sector appears to be recovering slowly as profitability returns. The newly consolidated and revitalized industry will now be looking to build steadily on the back of technological and product innovation, although there is still a distinct wait-and-see attitude amongst understandably cautious would be investors.

In Turkey, the rise in prices for bream in early 2016 was below expectations as domestic sales and exports for bream were lower than expected resulting in a surplus stock for 400-600 and 600-800 g fish. Slightly rising prices remained flat in March. In contrast, there was a price boost for bass and specifically large fish exceeded exceptions. According to industry sources, losses in stocks of bass due to diseases and accidents (poor sea conditions) in 2014 and 2015 will continue to boost the prices of bass in 2017.

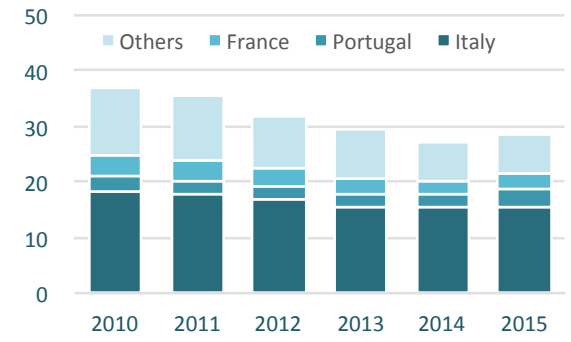
According to some sources, the demand for Turkish juveniles in 2016 is expected to be around 400 million. The breakdown for production is likely to be 250 million bass and 150 million for bream.

A new development in the Turkish industry is a shift in hatcheries' sales strategies, which will have an impact on supply of fish in the near-term. Previously, Turkish growers usually stocked their cages with juveniles of around 5 g, which are more resistant to disease and marine conditions. To mitigate the risk associated with growing fry to 5 g juvenile size, however, hatchery operators have begun encouraging their growers to start with smaller fish by lowering the price for 2 g juvenile. This also carries a risk though, as early stocking of cages with 2 g juveniles has increased the incidents of flexi bacteriosis outbreaks, resulting in an estimated 5% loss of stocks. Though slight, this 5% loss will have an impact on supply of marketable fish for 2017 and 2018.

Italy

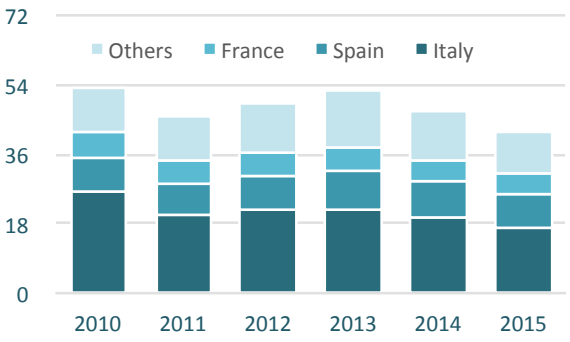
Despite higher prices, Italy imported 5.5% more bass and bream in in 2015, to total 51 000 tonnes. This reflects strong demand in this core EU market, which is being driven by a recovering economy and supplied increasingly by relatively cheaper and more plentiful Turkish fish. In fact, Turkey's share of Italy's bass and bream import volume was at 20% in 2015 (up from 15% in 2014), while Greece's has fallen to 61% in 2015 (down from 70% in 2014). The high-end segment, meanwhile, is occupied

Top importers of fresh seabass from Greece
Unit: 1 000 tonnes



Source: *Eurostat*

Top importers of fresh seabream from Greece
Unit: 1 000 tonnes



Source: *Eurostat*

primarily by imported French product, as well as domestically produced fish, which commands 20% higher prices than the Greek product. As of March 2016, prices are high and rising on Italian markets, with mid-size fish prices already well above the EUR 5.00 per kg mark.

Spain

Spain is another Mediterranean market that is being stimulated by an economic recovery, with demand remaining stable despite rising prices. In April 2016, average prices at wholesale markets are above EUR 6.00 per kg and higher than the same month last year. A shortage of smaller sizes is pushing up prices in this segment in particular. On the supply side, imports have fallen as demand is increasingly being met by production growth in the Spanish domestic industry, which continues counter to the prevailing trend.

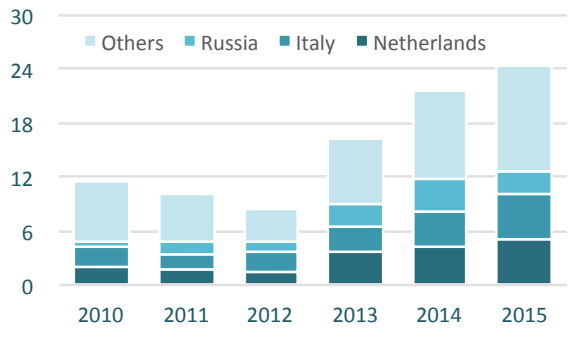
France

Presumably motivated by the relatively large price differentiation, French buyers are becoming somewhat more accepting of farmed Turkish bass and bream as opposed to Greek and Spanish fish. Although the Turkish import volumes are still significantly lower than those of Greek and Spanish fish, this trend demonstrates the successful penetration of Turkey origin product into even previously resistant markets, the result of a combination of marketing, availability, price difference and exchange rate development.

Russia

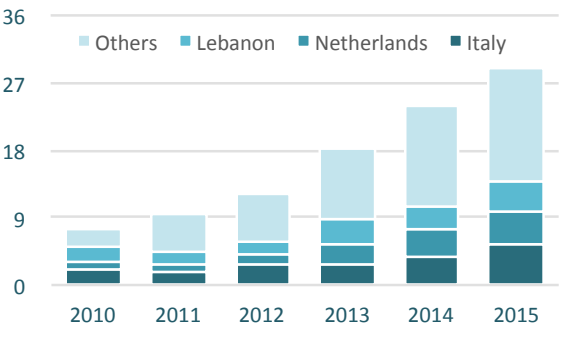
Russian imports of fish continued on its declining trend in 2015 due to the combined effects of the food embargo, devaluation of RUB and decreased consumer demand. Although fish products from Turkey were not under the restrictions, Russian

Top importers of fresh seabass from Turkey
Unit: 1 000 tonnes



Source: *State Statistics of Institute*

Top importers of fresh seabream from Turkey
Unit: 1 000 tonnes



Source: *State Statistics of Institute*

imports of bass and bream went down 30% in 2015 compared to the year before.

According to the Russian Federal Customs Service, in 2015 2 680 tonnes of fresh bass were imported, a reduction of 30% compared with 2014. Imports of frozen bass in the same year amounted to 294 tonnes, 6% less compared with 2014. Turkey supplied nearly all of the bass to the country, responsible for 99% of the imports, while the remaining quantities were supplied from Morocco, Tunis and through Belarus.

In terms of bream, Russian imports of fresh bream went down to 2 650 tonnes in 2015, 34% less over 2014. Imports of frozen bream were 333 tonnes, 1% less than in 2014. Turkey again had the dominant share of bream supply with 99% of the total bass imports to the Russian market. Tunis, Morocco, Belarus and United Arab Emirates were other supplying countries.

As the previous supplying countries of bass and bream (Greece, Cyprus, etc.) cannot deliver their fish products to the Russian market, Turkey is currently the major supplier to Russia. However, Iran could increasingly supply bream and bass to the Russian market in the future. According to the Federal Agency for Fisheries in Russia, the Russian authorities and the Ministry of Agriculture of Iran met in order to build cooperation between their respective fishery sectors. Iran expressed an intention to export farmed bass and bream to Russia, thereby potentially moving in on some of Turkey's market share in the future.

Other markets

A strengthening British pound versus the euro has boosted the purchasing power of UK importers, which saw import volumes increase by 13% to 11 500 tonnes in 2015. Imports of mainly Dutch (origin elsewhere) and Greek fish supplement the UK wild-caught supply. Meanwhile, the bass market in the USA was stable with flat import volumes year-on-year, despite a relatively stronger US dollar offsetting the higher prices.

Outlook

The tight supply situation can be expected to continue for at least the next two years, which should keep prices up at a sustainable level and give the Greek industry time to recover further. Meanwhile, the Turkish industry finds itself in a very advantageous position, with a weaker currency favouring exporters, a much more diverse range of market options than their main competitors and limited sources of additional supply to affect the good prices. 2016 will also see more diversification in terms of products, with value-added forms and sustainable or organic ecolabelling becoming more widespread in the farmed bass and bream industry as a whole.

On the supply side, continued investment in the sector, particularly in alternative Mediterranean producer countries, may bring some relief to prices at a later stage. In the shorter-term, however, prices have begun their annual climb to their peak in mid-summer, and should remain relatively high throughout the year.

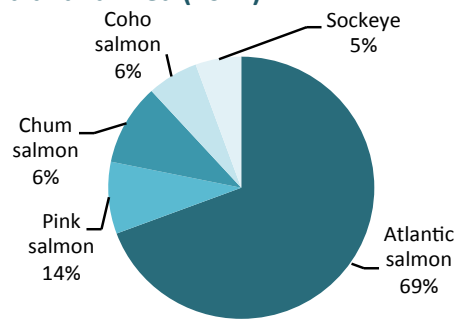
SALMON

GLOBEFISH HIGHLIGHTS

Algal bloom mortalities in Chile have salmon prices climbing even higher

News in the salmon sector for 2016 has so far been dominated by reports of a massive algal bloom in southern Chile that had killed some 27 million fish by 10 March. Compounded by an expected drop in production in Norway where growth is currently limited by sea lice issues, the supply shock has drive up previous depressed Chilean farmed salmon prices. At the same time, already high Norwegian prices have been pushed even further upwards, whereas growth did occur in Asia and Latin America..

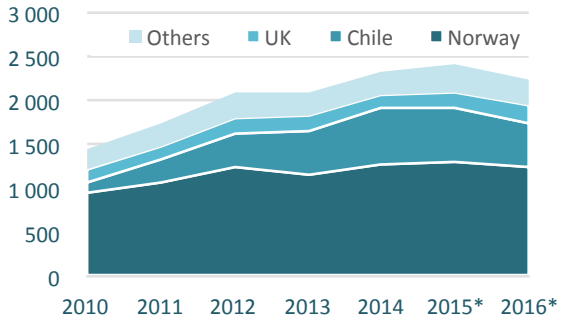
Salmon production by species, both wild and farmed (2014)



Source: ***FAO***

Top global producers of farmed atlantic salmon

Unit: 1 000 tonnes



Source: *FAO* (until 2014) (*) Estimate

Norway

According to a recent Nordea market report, total Norwegian production of Atlantic salmon is forecast to fall by some 5% in 2016, to approximately 1.18 million tonnes. A major factor behind the drop is the difficulties of the industry in controlling sea lice at farms, for which standard treatments are becoming less effective. Although the number of lice per fish is lower than it was previously, the cost of keeping these numbers down is higher and the Norwegian government is restricting licensing of new farms based on strict sea lice limits.

The recent events in Chile and the expected negative growth in Norway has inevitably seen prices jump to exceptionally high levels in early 2016, following the end-of-year spike due to already tightening supply in the latter half of 2015. As of week 9 of 2016, the NASDAQ salmon index was at NOK 61 per kg for fresh whole Atlantics, around NOK 24 higher compared with the same week of 2015. These near-record prices are being maintained by a now very limited supply of fish and strong demand in the EU and the USA, with the EU forced to pay more to compete with the USA's recent currency advantage.

This price hike has seen the value of Norwegian salmon exports in the first two months of 2016 rise by 17% year-on-year to NOK 8.4 billion (144 860 tonnes of fish, -2% in quantity), which follows an already strong year of export performance in 2015. The EU market continues to absorb large volumes of salmon despite spiking prices, buying a total of 110 000 tonnes of fish worth NOK 6.2 billion in the first two months of the year, representing a 2% drop in volume and a 19% increase in value. The Norwegian krone has weakened versus the euro over the last two years, allowing exporters to more easily pass on higher prices to buyers, although in the USA this effect has been even more prominent. A strong US dollar has driven the value of Norwegian salmon exports to the USA up by 25% to NOK 473 million in the first two months of 2016, and volume up by 6% to 5 920 tonnes. Other markets in the Middle East as well as in East and Southeast Asia are also showing strong demand growth, with Eastern Europe the only region suffering a drop in imports.

Three critical factors, including biomass levels being lower than they were during the last two years at Norwegian farms, currency trends continuing to favour Norwegian exporters and Chilean supply taking a heavy hit, mean that the industry can expect the current price level to be more than temporary. This forecast is reflected in an average forward price at FishPool of NOK 57 per kg for the remainder of the first two quarters of 2016. Although producer bottom lines will certainly benefit, despite increasing biological costs, exporters and processors will be wary of the risks of increased volatility and margin squeezes due to resistance further down the supply chain.

Trout

In contrast to the sharply reduced salmon supply, farmed Norwegian trout is much more plentiful, and export volumes have more than doubled year-on-year in January and February 2016. For February, the NSC reported exports of 6 081 tonnes worth NOK 288 million, with prices for fresh whole picking up despite the volume increase. Poland, the USA, Belarus and Japan have all shown exceptional growth over the last three years or so, and the trout industry is also optimistic about demand prospects on Western European markets on the back of large marketing investments.

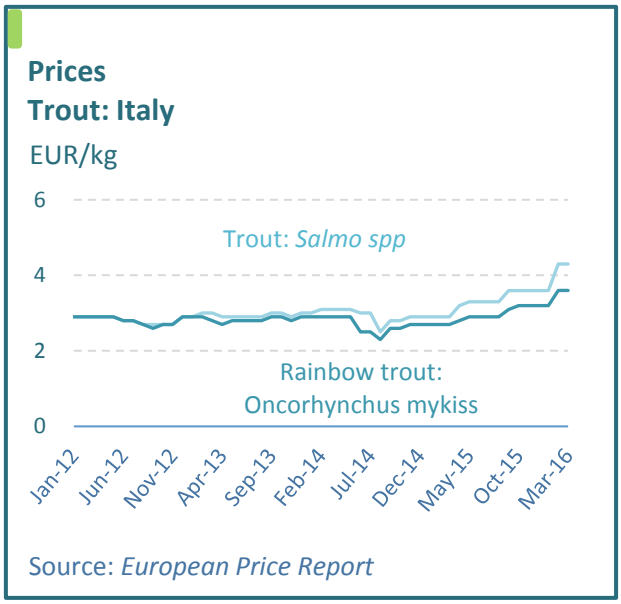
Norwegian exports of salmon (by product)

	2010	2011	2012	2013	2014	2015
	(1 000 tonnes)					
Fresh	618.0	685.4	828.9	796.0	824.9	872.3
Frozen	50.6	50.9	50.4	44.7	44.2	35.3
Fresh fillets	66.9	55.2	66.8	69.2	77.0	81.2
Frozen fillets	44.7	44.3	46.7	44.4	48.0	46.4
Total	**782.5**	**837.6**	**994.9**	**956.5**	**996.3**	**1 037.4**

Source: *Norwegian Seafood Council*

Chile

The drop in salmon prices by almost USD 2.20 per kg was the main trend in Chilean exports in 2015. According to figures from the Central Bank, salmon and trout shipments totaled USD 3 507 million in 2015, 20% less than in 2014. This total export value for Chile is the lowest level since 2012, when it totaled USD 2 874 million.



Source: *European Price Report*

A central factor that influenced the drop in salmon prices was the sharp depreciation of some currencies in major export markets, such as Russia and Brazil, the increase in Canadian production and the shift in exports from Norway to the USA due to the Russian import ban. All of these factors caused an oversupply in the US market and as a result, a significant negative impact on prices for the Chilean industry. With overall significantly less revenue, increases in volume terms failed to compensate.

Chilean exports of salmon (by product and destination)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Frozen	Japan	69.6	98.6	111.7	91.8	97.1	111.0
	Russia	2.1	2.3	5.8	31.2	50.5	56.6
	USA	8.8	14.9	19.3	29.9	32.2	31.2
	Others	35.4	53.2	72.1	107.2	123.7	118.6
	Subtotal	**115.8**	**169.0**	**208.8**	**260.2**	**303.5**	**317.5**
Fresh	USA	20.5	40.7	73.5	82.3	95.2	101.2
	Brasil	24.0	24.2	50.5	59.4	73.3	80.6
	Argentina	2.9	10.0	4.5	5.8	6.1	7.9
	Others	1.7	6.2	3.7	4.1	9.0	11.4
	Subtotal	**49.1**	**81.0**	**132.3**	**151.7**	**183.6**	**201.1**
	Total	**170.9**	**254.9**	**347.4**	**417.6**	**491.1**	**523.5**

Source: *Chile Customs* (small shares of product type like canned, salted not included)

The big news for 2016 is the algal bloom crisis in southern Chile, which has killed up to an estimated 20% of the country's farmed salmon. On 18 March 2016, the Chilean government reported that the phenomenon had begun to recede along with fish deaths.

It is estimated that salmon farmers have had production losses of around 100 000 tonnes, worth USD 800 000 million. The abnormally warm weather and lack of rain were identified as the contributing factors that led to the algal bloom. As mentioned above, the decline in supply of Chilean salmon has led to a global increase in prices, which Reuters reports is reflected in a price increase of 25% to USD 10 per kg in early March in Miami.

UK exports of salmon (by product & destination)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Fresh	USA	25.4	31.3	31.2	38.4	41.4	30.0
	France	21.4	18.4	18.9	17.7	25.3	28.2
	China	0.0	3.7	6.1	9.5	13.4	11.3
	Others	13.2	17.3	22.1	26.6	23.2	15.7
	Subtotal	**60.1**	**70.7**	**78.3**	**92.2**	**103.3**	**85.2**
Fresh fillets	USA	1.8	5.8	0.6	0.1	1.0	2.1
	Ireland	1.3	1.6	2.0	1.6	1.5	1.2
	France	1.8	1.1	1.1	1.1	0.9	0.6
	Others	2.9	3.0	3.6	3.6	3.1	1.9
	Subtotal	**7.8**	**11.5**	**7.3**	**6.4**	**6.5**	**5.8**
Frozen	France	2.4	1.5	1.3	1.4	1.6	5.1
	Viet Nam	0.1	0.0	0.2	0.1	0.2	2.4
	Ireland	0.2	0.2	0.1	0.1	0.0	1.3
	Others	3.7	4.2	6.3	4.9	5.7	6.5
	Subtotal	**6.4**	**5.9**	**7.9**	**6.5**	**7.5**	**15.3**
	Total	**83.5**	**97.1**	**101.6**	**112.9**	**125.1**	**114.9**

Source: *Her Majesty's Revenue & Customs*
(small shares of product type like canned, salted not included)

UK

As the Norwegian krone weakened 28% and 7% against the US dollar and the euro respectively in 2015, the British pound weakened by 8% and strengthened by 10% for the same currencies. Particularly in times of high prices, these currency developments put British exporters at a distinct disadvantage in competing with the Norwegian industry in the US and EU markets after the Russian embargo. Affected also by biological challenges, the Scottish farmed salmon industry underperformed in 2015 compared with its Norwegian counterpart, but in 2016 is hoping to avail from further improvements in the price situation, stabilizing exchange rates and expected higher domestic production to boost revenues.

In the UK domestic market, market research firm Nielsen reports a 4.5% increase in smoked salmon sales in 2015 and a 12% increase in volume, to GBP 264 million and 11 837 tonnes respectively. This segment is expanding in both size and product range, and is increasingly controlled by discount retailers.

Markets

The USA will remain the most hotly contested market in the salmon sector in 2016, with the EU already dominated by Norway, the Russian embargo still in force and the Brazilian market beset by economic problems including high inflation and depressed consumer confidence. With the current shortage situation and the accompanying price level, the continuing strength of the US dollar will be an important factor in maintaining demand. Meanwhile, it remains to be seen to what extent import growth in emerging markets in South Africa, the Middle East and East Asia will be slowed by the prices that must now be paid to secure product.

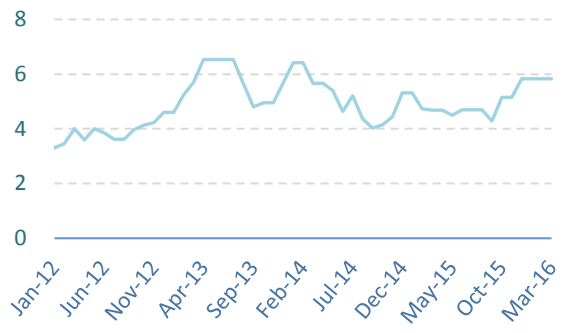
France

Indications on the French market are for growing consumer confidence and strong underlying demand, despite the high prices and the long-term impact of negative publicity relating to Norwegian farmed salmon in 2013. In volume terms, France imported some 3% more salmon products in 2015 compared with the previous year. The increase in imports of fresh whole Atlantics and fresh fillets from Norway after a period of significant decline suggests that the image of salmon has improved amongst French consumers, but the relative strength of the euro versus the krone was also likely an important factor.

Prices

Salmon: France

EUR/kg



Fresh, gutted, HO, 3-6kg/pc, origin: Norway

Source: *European Price Report*

French imports of salmon (by product)

	2010	2011	2012	2013	2014	2015
	(1 000 tonnes)					
Fresh whole	111.1	109.3	122.1	111.0	104.3	107.8
Fresh fillets	10.6	12.0	19.3	19.5	17.9	19.6
Frozen fillets	21.0	20.6	19.2	22.7	23.2	20.4
Smoked	7.4	7.8	9.3	8.7	7.8	8.5
Total	**162.8**	**165.2**	**175.6**	**168.3**	**158.6**	**163.3**

Source: *DNSCE* (small shares of product type like canned, salted not included)

Germany

German imports of fresh salmon levelled off in 2015 after strong growth the previous year, while the smoked salmon segment returned to positive growth. The German fresh salmon segment has seen significant increases recently on the back of a concerted effort by the industry to develop convenience products that are easy to prepare and sold increasingly through large discount retail chains. As with all other markets this year, however, German buyers will have to come to terms with fewer fish and higher prices.

Japan

The algal bloom that has seen massive mortalities in Chilean farms has affected all species, including farmed coho, the vast majority of which is sold in frozen form to the Japanese market. According to SalmonEx, the reduction in coho supply will be 24%, or around 37 000 tonnes. Although there was a strong recovery in import volumes in 2015, to around 200 000 tonnes, reports from the country point to poor domestic harvests and low inventories that will likely see importers turn to wild sockeye from Russian and Alaska to cover shortfalls.

German imports of salmon (by product)

	2010	2011	2012	2013	2014	2015
	(1 000 tonnes)					
Fresh	49.9	51.7	44.9	48.9	64.9	61.0
Frozen	5.9	5.4	5.1	9.9	10.2	8.7
Smoked	32.8	35.7	34.5	39.1	38.6	41.8
Fresh fillets	8.2	6.9	7.3	8.8	11.6	13.9
Frozen fillets	33.4	31.7	26.7	32.9	36.8	28.8
Total	**134.7**	**137.4**	**128.7**	**153.6**	**177.5**	**166.7**

Source: Germany Customs (small shares of product type like canned, salted not included)

USA

The USA imported 345 000 tonnes of salmon during 2015 worth USD 2 714 million. Compared with 2014, these figures represent an increase of 9% and a decrease of 7%, respectively.

Chile was the main salmon supplier during this period, exporting a bit over 133 000 tonnes, which demonstrated a 1% increase compared with the 132 487 tonnes shipped the previous year. In value terms, a decrease of 18% was registered (USD 1 155 millions). Canada was the second top supplier, exporting 91 000 tonnes to the USA, worth USD 595 million. Norway showed a significant increase in its share of the fresh segment to the USA.

After approving genetically engineering salmon as safe to eat in late 2015, the US Food and Drug Administration banned the import of such products in January 2016 until final guidance is issued regarding labelling requirements.

Japanese imports of salmon (by product and origin)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Fresh	Norway	18.0	19.7	26.4	19.4	18.4	19.4
	Australia	1.3	1.7	1.2	0.8	0.4	1.0
	UK	0.4	0.6	0.6	0.6	0.4	0.3
	Others	1.1	1.0	1.0	2.0	1.5	1.5
	Subtotal	**20.8**	**23.0**	**29.2**	**22.8**	**20.7**	**22.2**
Frozen	Chile	71.3	94.0	111.6	94.7	75.9	91.1
	Russian Fe	24.9	28.3	24.9	34.5	28.2	32.2
	USA	22.8	16.6	9.7	4.7	7.6	20.5
	Others	9.3	4.2	2.7	4.0	3.4	2.2
	Subtotal	**128.3**	**143.1**	**148.9**	**137.9**	**115.1**	**146.0**
	Total	**149.4**	**166.6**	**200.2**	**183.2**	**168.3**	**200.7**

Source: *Japan Customs* (Total including fillets)

For US exports, there was an increase of 23% in volume terms and 12% in value terms in 2015 over 2014.

Outlook

The total financial loss for the Chilean salmon sector resulting from the algal bloom is estimated to be somewhere between USD 500 million and 1 billion. For an industry already struggling with debt and cash flow problems due to high costs and market challenges, this is expected to force through mergers and restructuring or disappearance of smaller players, although share prices for many large Chilean companies have been driven upwards recently by positive price expectation.

For other producers, and particularly Norwegian producers, who are now well established in almost all major markets, the net 6.8% decrease in global salmon supply and the sharp upturn in prices will be a huge boost to revenues and margins. However, this same price trend, together with the rising costs of treating diseases in pen farming, is increasing the attractiveness of land-based ventures that could take advantage of the supply gap.

US imports of salmon (by product and origin)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Fresh fillets	Chile	21.5	43.0	67.5	80.8	92.4	97.3
	Norway	22.7	8.3	3.7	5.9	10.7	17.2
	Canada	6.8	5.0	4.9	6.3	3.7	6.2
	Others	6.5	13.2	10.8	11.8	14.3	11.7
	Subtotal	**57.5**	**69.5**	**86.9**	**104.8**	**121.1**	**132.4**
Frozen fillets	China	11.6	8.8	8.5	7.8	37.9	32.8
	Chile	38.2	37.0	30.4	33.3	29.7	29.9
	Norway	5.6	11.5	20.6	27.8	10.0	9.0
	Others	5.3	5.2	3.4	4.0	4.3	4.1
	Subtotal	**60.7**	**62.5**	**62.9**	**72.9**	**81.9**	**75.8**
Smoked	Netherlands	1.2	1.3	1.7	1.9	2.3	2.2
	Chile	1.8	2.6	2.5	2.2	1.5	1.4
	Others	1.4	0.9	1.0	1.1	1.3	2.1
	Subtotal	**142.2**	**150.7**	**152.6**	**159.7**	**154**	**142.5**
	Total	**234**	**240.3**	**280.8**	**297.6**	**316**	**344.7**

Source: *NMFS*

Russian imports of salmon (by product and origin)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Fresh	Faroe Islands	0.0	1.9	7.6	2.3	13.2	20.2
	Norway	71.0	95.3	123.2	99.8	47.3	0.0
	Others	1.8	1.2	0.2	0.1	0.1	0.0
	Subtotal	**72.8**	**98.4**	**131.0**	**102.2**	**60.6**	**20.2**
Frozen	Chile	2.0	2.4	5.5	30.8	50.5	55.9
	Faroe Islands	0.2	0.2	0.1	0.0	0.8	3.5
	Belarus	0.0	0.0	0.0	2.0	2.8	0.6
	Others	14.3	15.7	20.8	21.8	13.6	0.3
	Subtotal	**16.5**	**18.3**	**26.4**	**54.6**	**67.7**	**60.3**
	Total	**89.3**	**116.8**	**157.4**	**157.0**	**129.0**	**82.9**

Source: *Federal Customs Service of Russia*

(small shares of product type like canned, salted not included)

SMALL PELAGICS

GLOBEFISH HIGHLIGHTS

Reduced supplies of small pelagics for human consumption

Global supplies of small pelagics will increase slightly (+4%) in 2016, but this is entirely due to strong growth in supplies of anchovies. Supplies of Atlantic mackerel and Atlantic herring are expected to decline. As a result, prices may increase.

Kontali Analyse AS (Kontali) recently predicted that there will be less pelagic fish available for human consumption in 2016 than in 2015. The main reasoning being that lower catches of species like mackerel and herring are expected. Although one expects a solid (+5%) increase in landings of anchoveta, most of this catch is destined for reduction to fishmeal and fish oil. Capelin, which is also used for reduction purposes, will have a lower quota in 2016 as well, but this is also a popular species for human consumption, especially in Japan, and it is therefore expected that less capelin will be diverted for reduction purposes.

Mackerel

After Atlantic mackerel reached a record for landings in 2014, Kontali reports that landings have declined in 2015, and a further decline is expected in 2016.

With a downward trend in global supplies of Atlantic mackerel expected, there will be a corresponding increase in prices, especially for Norwegian products, though this also has to do with the fluctuations in exchange rates. Greenland and the Faroe Islands are strengthening their positions in the main markets.

German imports of small pelagics (by product and origin)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Frozen mackerel	Netherlands	5.4	5.3	5.4	3.0	3.5	8.7
	UK	1.9	7.6	9.4	10.1	7.2	4.7
	Ireland	4.9	3.6	2.6	3.2	2.7	2.2
	Others	12.6	16.1	10.9	8.5	13.6	8.2
	Subtotal	**24.8**	**32.6**	**28.3**	**24.8**	**27**	**23.8**
Frozen herring fillets	Norway	17.6	17.0	13.7	5.9	8.3	5.4
	Ireland	0.5	0.7	1.7	3.2	2.2	3.1
	Denmark	1.7	1.7	5.1	4.4	3.2	2.8
	Others	2.7	3.5	10.7	5.9	5.1	3.8
	Subtotal	**22.5**	**22.9**	**31.2**	**19.4**	**18.8**	**15.1**
	Total	**47.3**	**55.5**	**59.5**	**44.2**	**45.8**	**38.9**

Source: *Germany customs*

Trade

Norwegian mackerel exports fell by 11.7% by volume and 7.4% by value, indicating that prices went up. There were setbacks in the major markets. Exports to Japan declined by 17% to 60 300 tonnes, and to China by almost 40% to 49 000 tonnes. Exports to Nigeria were also down, while exports to the Netherlands increased from 35 900 tonnes in 2014 to 48 000 tonnes in 2015. On a positive note, figures for January and February indicate that Norwegian pelagic exports are bouncing back in 2016.

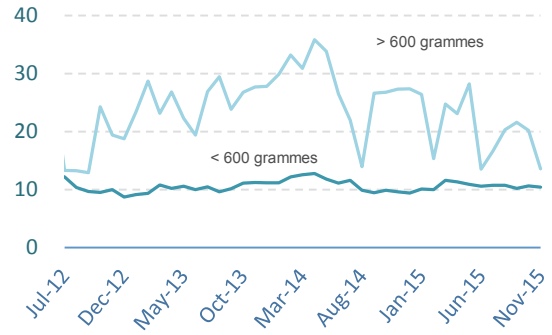
Supplies to the EU market from Norway, Iceland, the Faroe Islands and Greenland have grown quite dramatically in recent years, from about 20 000 tonnes in 2008 to over 160 000 tonnes in 2014. In 2015, there was a decline in mackerel imports to roughly 146 000 tonnes. However, the main supplier, Norway, registered increased shipments in both 2014 and 2015 period after showed a declining import trend for mackerel to Asian markets. In 2014, total shipments from Norway, the EU, Iceland and the Faroe Islands reached over 240 000 tonnes, while in 2015 shipments from these suppliers dropped to just over 175 000 tonnes. Norway is also the dominant supplier to Asian markets.

The African markets for mackerel have been slightly up and down. Shipments from Norway, the EU, Iceland and the Faroe Islands peaked in 2014 at almost 300 000 tonnes, then dropped back to slightly over 250 000 tonnes in 2015. The main supplier of mackerel to African markets was the EU.

The Russian ban on imports from several western countries has had a damaging effect on the mackerel trade. Firstly, total Russian imports have declined markedly, from almost 110 000 tonnes in 2013 to under 60 000 tonnes in 2015. Secondly, some of the previously largest suppliers - especially Norway and Ireland - have all but disappeared from Russian trade. Imports to a great extent have been taken over by the Faroe Islands, and to a lesser extent by Greenland

German imports of frozen mackerel declined from 27 000 tonnes in 2014 to 23 800 tonnes in 2015 (-11.9%). The Netherlands became the largest supplier, pushing the Faroe Islands and the UK to fourth and second place on the list of the largest suppliers (Source: *Kontali*).

Export prices
Frozen mackerel: Norway
NOK/kg



Source: *Norwegian Seafood Council*

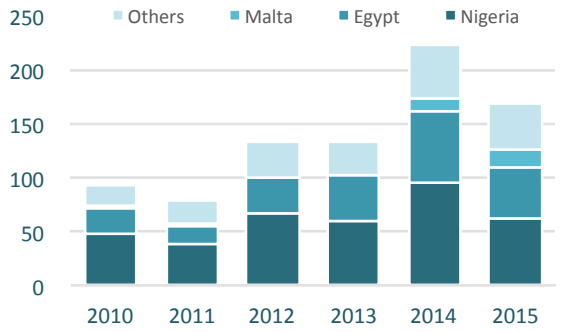
Prices

Prices for frozen Atlantic mackerel have fluctuated a great deal in 2015, actually beginning prior to 2015 when a major drop was registered in the middle of 2014. However, it is mainly prices for larger sizes (>600 g) that have varied, while smaller sizes (<600 g) have been quite stable, although on a slightly declining trend since April 2015. For 2016, it is expected that mackerel prices will climb moderately again due to declining supplies.

Herring

Supplies of Atlantic herring are relatively stable as of this writing, after they experienced a drop in 2014. The expected trend is for reduced global supplies in 2016, with corresponding pressure on prices. Indeed, total Atlantic herring supplies of just under 1.5 million tonnes are predicted for 2016, as compared with about 1.8 million tonnes in 2013. Looking at more recent years, in 2014 and 2015, Atlantic herring supplies dropped to between 1.55-1.6 million tonnes. 2016 quotas are expected to be under 1.5 million tonnes.

Top importers of frozen herring from the Netherlands
Unit: 1 000 tonnes



Source: *Eurostat*

Bad weather influenced the North Sea herring fishery in the beginning of the year, but large amounts of herring have been registered by vessels covering the area. At the end of January, Norwegian purse seiners reported good catches along the Norwegian coast. The catch doubled compared to the same time in 2015. (Source: *FiskeribladetFiskaren*)

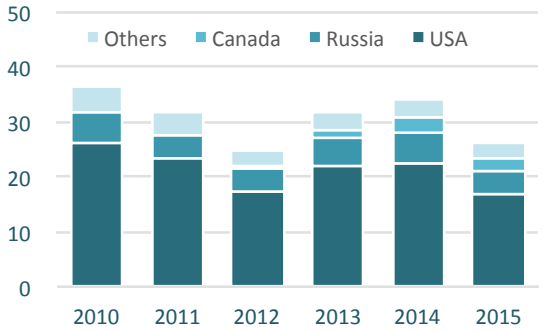
Trade

Norwegian herring exports fell 28% by volume and 12% by value. Again, there were significant reductions in shipments to the major markets: exports to Ukraine fell by 28% to 25 300 tonnes, while exports to Lithuania fell by 38.6% to 15 900 tonnes. In contrast, there was a massive increase in exports to Egypt (+268%) and to Kazakhstan (+87%).

During the first two months of 2016, Norwegian herring exports increased by 59.4% by volume and mackerel exports increased by 36% by volume. At the same time, prices for both species increased. Norwegian fob export prices for herring were up by

18%, and mackerel export prices were up by almost 3% during this period (Source: *Norwegian Seafood Council*).

Top exporters of fresh and frozen herring to Japan
Unit: 1 000 tonnes



Source: *Japan Customs*

Supplies of frozen herring to the EU market from the major suppliers (Norway, Iceland and the Faroe Islands) were reduced in 2014 and 2015. In 2011, supplies from these countries reached almost 90 000 tonnes, then dropped to about 87 000 tonnes in 2013, and to under 50 000 tonnes in 2015. The main supplier has been Norway, which in 2015 accounted for roughly 80% of shipments from these three countries. There has been a similar development for supplies of frozen herring fillets from these three suppliers (Source: *Kontali*).

Dutch exports of frozen herring fell by 24% in 2015 compared with 2014. There were large reductions in shipments to the two largest markets, Nigeria (-33.9%) and Egypt (-30.6), and a dramatic decline in shipments to China (-68.8%).

German imports of frozen herring fillets dropped in 2015, by almost 20% to 15 100 tonnes. This is less than half of the volume imported in 2012, when imports of this product stood at 31 200 tonnes.

Japanese imports of fresh and frozen herring in 2015 fell by almost 23%, from 34 100 tonnes in 2014 to 26 300 tonnes in 2015. The main supplier, the USA, saw the largest reduction (-25%).

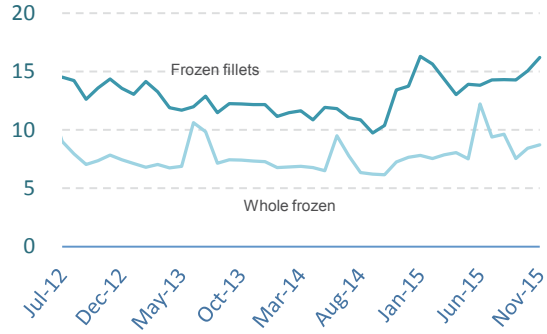
African imports of frozen herring from Europe (the EU, Norway, Iceland and the Faroe Islands) have been relatively stable at around 150 000 tonnes over the past five years. There was a marked increase in trade in 2014, when shipments from Europe jumped to over 200 000 tonnes, but then fell to just over 140 000 tonnes in 2015

The Russian embargo continues to have a serious effect on Atlantic herring trade, but the main suppliers are finding other markets. The Faroe Islands and Greenland have taken over part of this trade from Norway and Ireland, but total Russian imports of frozen herring have been reduced by over 60%. Imports of herring fillets were reduced from about 40 000 tonnes in 2014 to just over 15 000 tonnes in 2015 (Source: *Kontali*).

Prices

Herring prices in Europe have firmed as a result of lower catches in the North Sea. Demand for herring, both from consumers and from processors, is currently strong, and consequently prices have increased. Prices for frozen herring fillets, which have been on a declining trend from the beginning of 2012, have demonstrated massive growth since the end of 2014. However, part of this development is caused by the weakening of the Norwegian krone against other currencies (the prices reported in the graphs are in NOK).

Export prices
Frozen herring: Norway
NOK/kg



Source: *Norwegian Seafood Council*

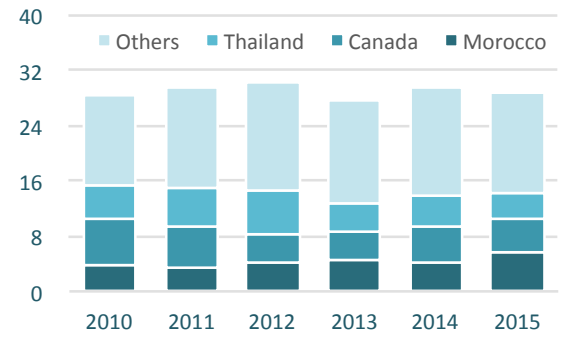
The average Norwegian fob export prices for herring (all product forms) increased by 22.2% in 2015. This trend continued into 2016. During the first two months, the average fob export price for herring increased by 18.3% (Source: *Norwegian Seafood Council*).

The North Atlantic Seafood Forum in Bergen, Norway reported that in some markets, high herring prices are becoming a problem. Processors claim they cannot increase prices to consumers in spite of higher raw material prices, as consumers would just not accept these price hikes.

Anchovy and Sardines

This year's strong El Niño off the west coast of South America may create long-term problems for the anchovy fishery. Fishers have reported low landings and a high share of juveniles. Consequently, scientists fear that the long-term viability of this fishery, which is the world's largest, may be in danger. Adding to the issue is the serious disagreement about the size and status of the stocks. Peru's Marine Research Institute, Imarpe, estimates that the resource has sunk as low as 3.38 million tonnes, while the fishing industry itself, using a different method of estimating the biomass, claims that the stocks amount to 6.8 million tonnes. Peru's anchovy quota for the 2016 season was set at 1.1 million tonnes, and by mid-January, 85% of this quota had already been caught.

Top exporters of canned sardine to USA
Unit: 1 000 tonnes



Source: *NMFS*

Despite movements to promote the utilization of anchovies for direct human consumption (DHC) in Peru, has gone down dramatically. In 2011, as much as 250 000 tonnes went for processing into products for human consumption in Peru, but in 2014, this number had been reduced to just 40 000 tonnes. A number of Peru's 200 processing plants have been forced to close down due to the low raw material supply (Source: *Undercurrent News*).

The California sardine fishery continues to face significant problems. A new assessment by federal authorities showed that the sardine population off California was one third lower in the first quarter of 2016 than the same time period last year, in spite of the fact that the fishery was closed for the entire 2015 season. Consequently, it is highly unlikely that this fishery will open at all in 2016.

Trade

Imports of canned sardines into France fell by 10% in 2015 compared with 2014. Shipments from both of the main suppliers, Morocco and Portugal, fell by 15.3% and 9.5%, respectively.

US imports of canned sardines were more or less stable in 2015, declining only slightly to 28 800 tonnes (-2.4%). Morocco climbed from third supplier in 2014 to becoming the leading exporter in 2015, accounting for 5 600 tonnes or 19.4% of total US canned sardine imports. Canada dropped from first to second place on the list of the largest suppliers.

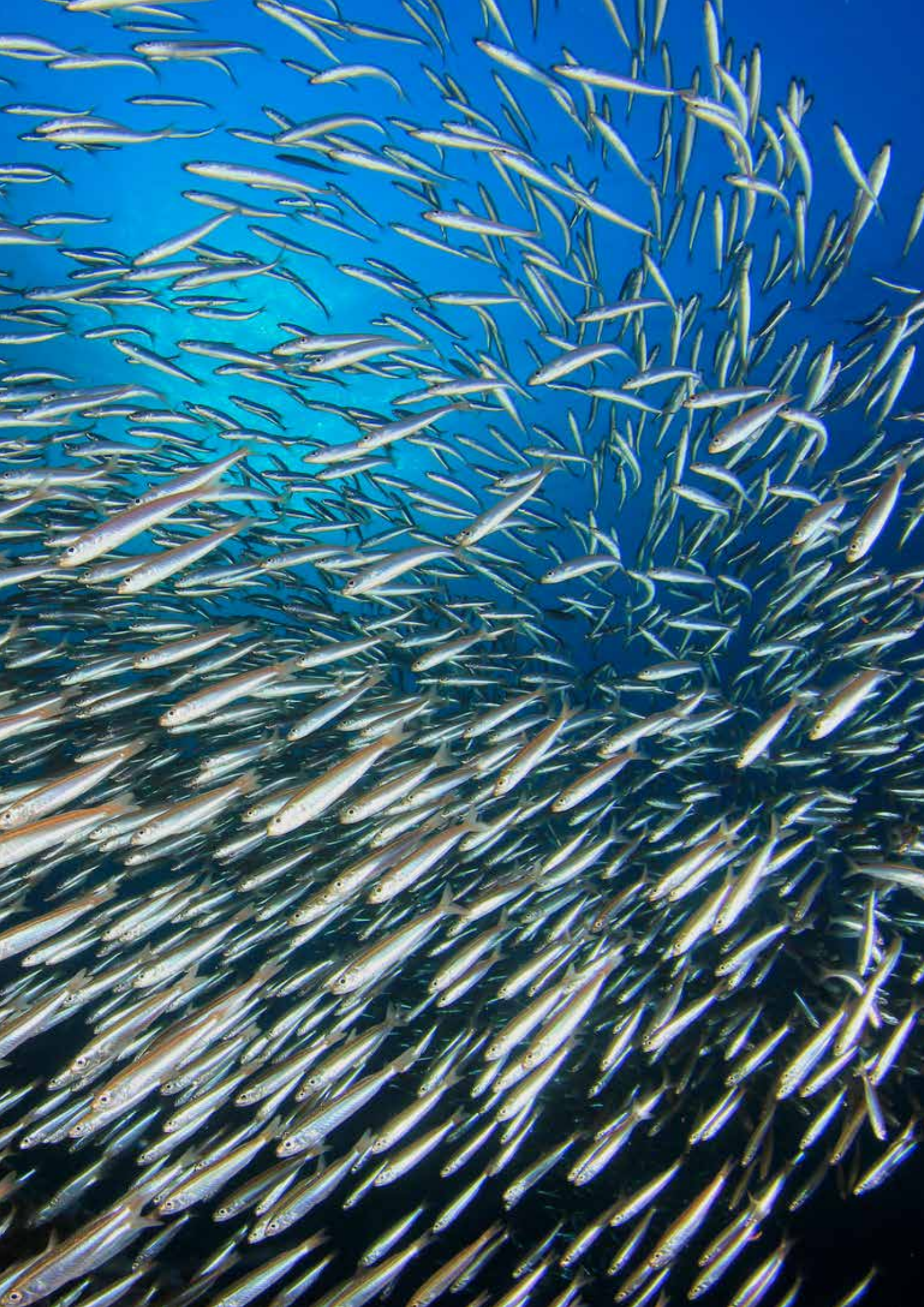
Norwegian exports of small pelagics (by product and destination)

		2010	2011	2012	2013	2014	2015
		(1 000 tonnes)					
Frozen mackerel	Japan	80.5	74.7	48.2	53.0	72.7	60.3
	China	51.0	56.9	48.0	52.3	80.8	49.0
	Netherlands	5.9	10.8	18.4	8.7	35.9	48.0
	Others	127.6	96.9	148.6	129.2	197.1	187.6
	Subtotal	**265.0**	**239.3**	**263.2**	**243.2**	**386.5**	**344.9**
Frozen herring	Ukraine	69.5	55.9	58.3	33.8	35.2	25.3
	Lithuania	22.7	22.8	26.1	35.8	25.9	15.9
	Egypt	22.6	16.3	15.3	10.9	3.4	12.5
	Others	333.3	185.9	105.4	121.5	73.0	44.9
	Subtotal	**448.1**	**280.9**	**205.1**	**202.0**	**137.5**	**98.6**
	Total	**713.1**	**520.2**	**468.3**	**445.2**	**524.0**	**443.5**

Source: *Statistics Norway*

Outlook

In 2016, a 4% total increase in supplies of small pelagics for human consumption is expected. However, all of this growth comes from the estimated increases in landings of anchovetas, provided the season is "normal". Most of the anchoveta landings will go for reduction to fishmeal/oil as usual, therefore landings of small pelagics for human consumption are expected to be reduced by about 5%. There will be a strong demand for both mackerel and herring, and consequently prices will come under further pressure, though fluctuations in currency exchange rates may give a confused price picture. The main suppliers will continue to search for new markets to replace Russia.



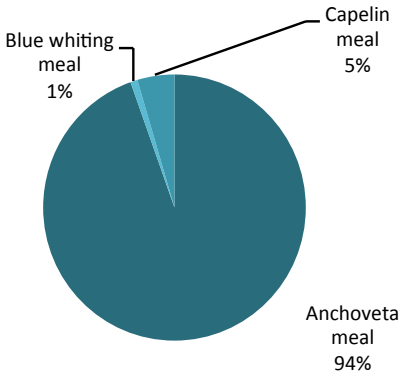
FISHMEAL & FISH OIL

GLOBEFISH HIGHLIGHTS

The supply situation eased somewhat in 2015, prices excepted to be relatively lower in the short-term

In 2015, the market demand for fishmeal and oil was eased somewhat when the second fishing season in Peru resumed (November 2015-January 2016), though a TAC of only 1.1 million tonnes was set. According to the Ministry of Production in Peru, 98% of this total second fishing season quota was fulfilled, amounting to roughly 1.08 million tonnes.

Fishmeal production by species* (2013)

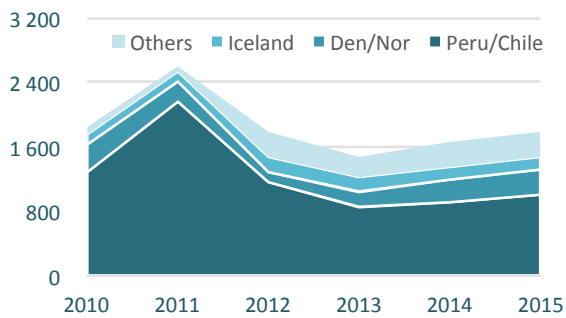


Source: ***FAO***
*Refers to direct fishmeal production, excluding waste

Production

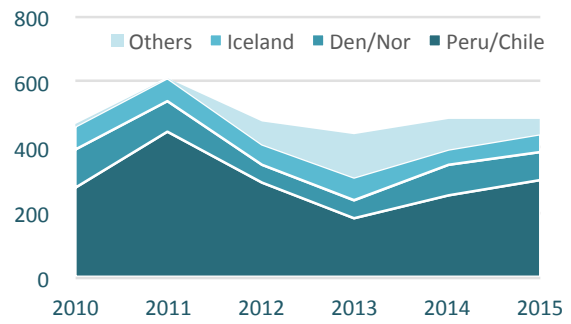
With a strong El Niño expected to wreak havoc on anchovy stocks in 2016, the Ministry of Production recently formalized the start of the first industrial anchovy fishing season in the northern-central area to begin on 9 April, a month earlier than normal in order to minimize impacts on production. The northern-central area is the most important area for anchovy catch, accounting for 90% of the total landed. The TAC for indirect human consumption was set at 2.58 million tonnes for the first fishing season of 2015, which is 41% more than the landings of the same season in 2014, though the 2014 TAC was more or less the same. In addition, the fishing

Top global producers of fishmeal
Unit: 1 000 tonnes



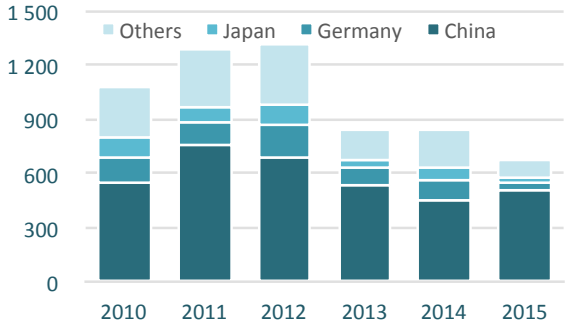
Source: *IFFO,* Den/Nor refers to Denmark and Norway

Top global producers of fish oil
Unit: 1 000 tonnes



Source: *IFFO,* Den/Nor refers to Denmark and Norway

Top importers of fishmeal from Peru
Unit: 1 000 tonnes



Source: *Produce*

season has been extended for one month until 31 July, in order to allow the fleet to capture the volume allocated.

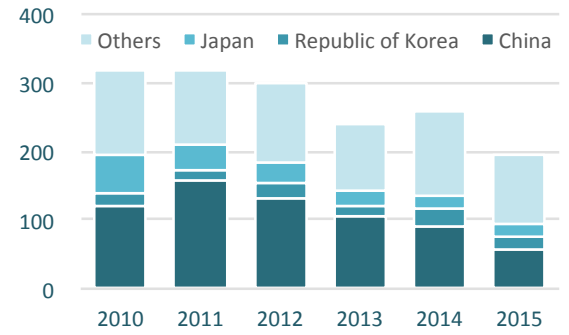
Globally, total fishmeal production was around 1.8 million tonnes for 2015, a 7.5% increase compared with 2014, with Peru/Chile accounting for 56% of this total. The production of fish oil in 2015 remained stable, amounting to 484 000 tonnes. Since 2013, Denmark and Norway have increased their contribution to worldwide supplies.

Exports

Meal producers are increasingly revising their formulas to substitute with more vegetable meal in order to reduce their dependence on fishmeal, particularly after Peru's cancellation of the second fishing season in 2014. Although Peru has registered higher production quantities in 2015, exports were still quite lackluster, demonstrating around a 20% decline, to total only 673 200 tonnes. Exports to all major countries fell significantly with the exception of China, where exports increased. Chile saw the same declining export trend in 2015, which further confirms the market transition from merely relying only on South American production to more diversified sourcing.

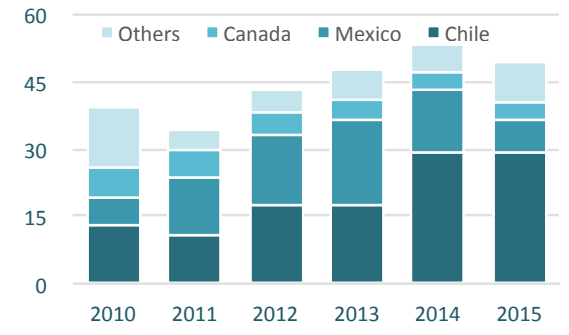
In the case of fish oil, Peru only exported 93 500 tonnes in 2015, a mere 70% of the amount exported in 2014. This volume is the lowest exported in the past six years, with Denmark absorbing more than half of the total volume. Chilean exports of fish oil dropped by 6%, with Japan and Viet Nam significantly increasing their imports, while Denmark's imports from Chile substantially declined. Landings from the Gulf menhaden fishery in the USA declined by almost half, which resulted in a drop of 32% in US fish oil exports.

Top importers of fishmeal from Chile
Unit: 1 000 tonnes



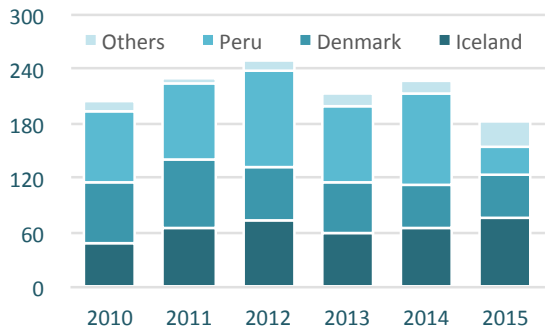
Source: *Boletín de Exportaciones del IFOP*

Top exporters of fishmeal to the USA
Unit: 1 000 tonnes



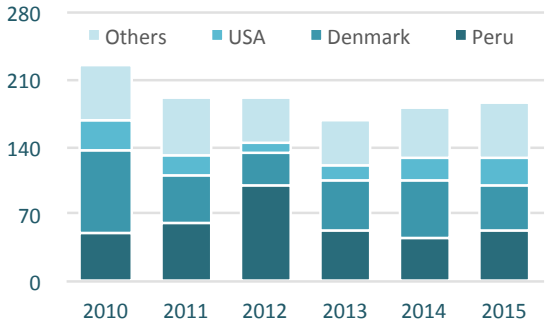
Source: *NMFS,* excluding solubles

Top exporters of fishmeal to Norway
Unit: 1 000 tonnes



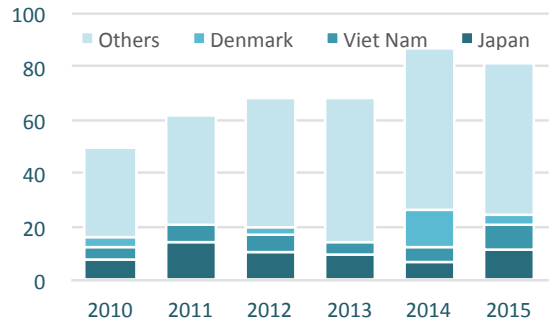
Source: *Statistics Norway*

Top exporters of fish oil to Norway
Unit: 1 000 tonnes



Source: *Statistics Norway*

Top importers of fish oil from Chile
Unit: 1 000 tonnes



Source: *Boletín de Exportaciones del IFOP*

Markets

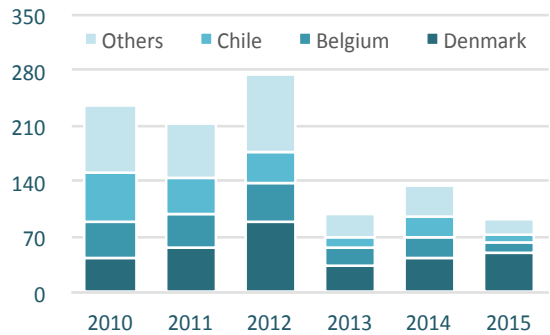
In 2015, China, the largest global importer, absorbed 1.03 million tonnes of fishmeal, which is more or less stable with 2014. Peru remained the largest provider. However, there is a clear tendency towards China diversifying its sourcing, due to the volatile availability of Peruvian anchoveta coupled with a rapidly expanding local aquaculture and terrestrial farming sector.

Norwegian imports of fishmeal from Peru dropped by 67.7% in 2015 compared with 2014, though not surprisingly as Nordic countries have taken the lead in meeting the demand gap.

Prices

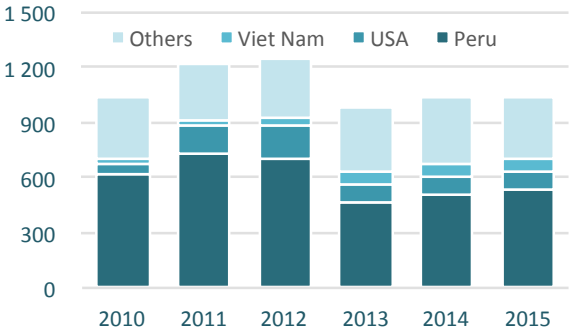
Prices for fishmeal and fish oil have both responded significantly to the supply shortage resulting from the 2014 low anchovy catch in Peru. After achieving record high prices in late 2014, prices for fishmeal

Top importers of fish oil from Peru
Unit: 1 000 tonnes



Source: *Produce*

Top exporters of fishmeal to China
Unit: 1 000 tonnes

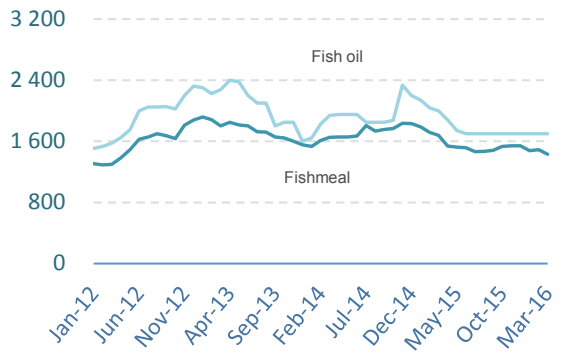


Source: *China Customs*

Prices

Fish oil and fishmeal: Europe

USD/tonne



Source: *Oil World*

and fish oil have gradually rationalized to USD 1 500 and 1 700 per tonne respectively, which were attributable to the high quota set for the first Peruvian fishing season in 2015, the highest since 2013. More so, catches of jack mackerel and sardines in Chile and blue whiting, capelin, and sand eels in Europe, have filled the demand and supply gap to a certain extent, further supporting the price normalization. In addition, waste from the fish processing industry is extensively used for fishmeal production.

Starting around 2012, the price dynamics of soy oil and fish oil have been diverging in opposite directions, with the biggest price differentiation recorded in December 2014. Rabobank reports that the upward sloping oscillating price line is expected to continue, with the peaks marked by short-term supply changes, but displaying long-term price support. This trend, already seen in fish oil, will become more apparent in the larger fishmeal market in the near-term. Nevertheless, in the second half of 2015, this diverging trend has slowed, with prices keeping in parallel for now. It will be interesting to witness how the market will evolve under the complex global situation in 2016.

Outlook

In the short term, the market demand in 2016 will be met somewhat due to strong Peruvian catches in 2015. In addition, Enfen (Peru's national institute for El Niño) reported that the El Niño strength would be moderate through the first half of 2016, which will help lessen an impact on landings during this time. With these expectations, it should be safe to conclude that in the coming months, the fishmeal and oil market will be relatively firm in terms of availability and relatively lower prices can be expected.

As usual, the long-term outlook is far from secure, as the market strictly follows the meteorological trend marked only by its volatility. Climate change is strongly driving the biomass to move south to cooler waters, which makes anchoveta increasingly difficult to capture. Furthermore, a high prevalence of anchovy juveniles in the second fishing season of 2015 in Peru foreshadowed major issues for feed supply in the future. Though there have been a wide variety of efforts to shift formulas, fishmeal and fish oil remain irreplaceable in the aquaculture sector.

With respect to prices, the long-term upward trend is irreversible in view of the supply gap. In an optimistic situation, the European market may be able to help fill the expanding supply gap, though to what extent is not clear.

FOCUS ON

El Niño

El Niño is a naturally occurring phenomenon characterized by the abnormal warming of sea surface temperature in the central and eastern equatorial Pacific Ocean. On average, it occurs every two to seven years and can last up to 18 months. During El Niño episodes, normal patterns of tropical precipitation and atmospheric circulation are disrupted, triggering extreme climate events around the globe.

Learn more on El Niño and FAO response to this phenomenon on the FAO dedicated website

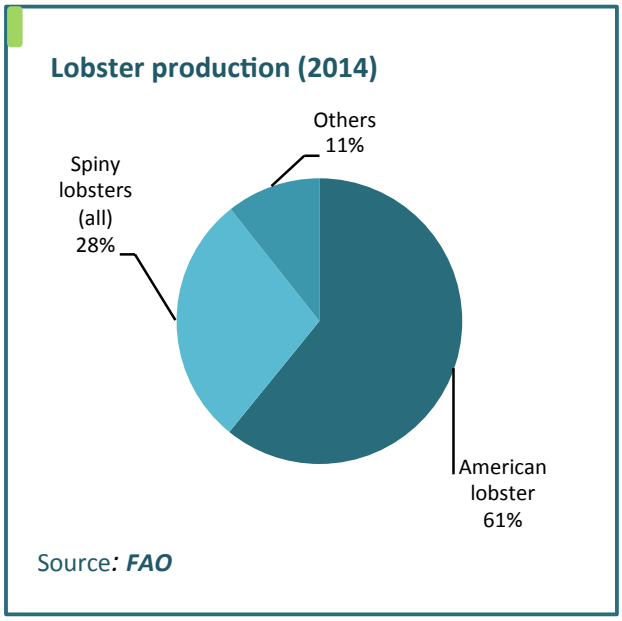
www.fao.org/el-nino/en/

LOBSTER

GLOBEFISH HIGHLIGHTS

Strong supplies but weakening demand in China and Europe

As of this writing, supplies of lobster are strong, and it is expected that the New England lobster season will peak early in 2016. Consequently, prices may come under pressure. A weaker demand in China due to difficulties in the Chinese economy is further affecting prices negatively.



Supplies

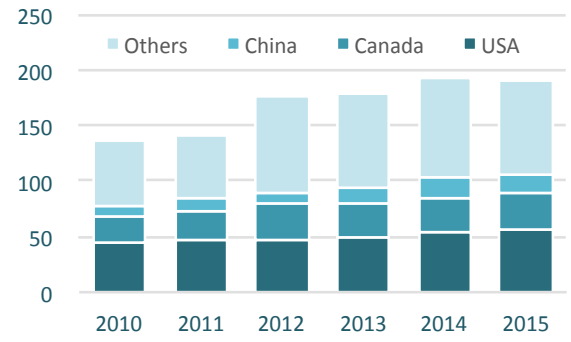
In 2015, global lobster landings reached 160 000 tonnes. Estimates from 2013 demonstrate that almost 55% of total global landings are comprised of American lobster (*Homarus americanus*). In 2015, this share was probably even higher. Thus, American lobster is dominating the world lobster market.

In terms of American lobster, the industry in Maine is worried about a possible early shedding season this year. When this occurred in 2012, the lobsters began shedding their hard shells to grow new ones at the beginning of the season in June with this lasting until autumn. As a result, prices dropped dramatically. Early shedding is thought to be a result of warmer water, and there are signs this year that water temperatures have been rising in the spring. Also with early shedding, catches go up, thus the lobster season may peak early and affect prices negatively.

International trade

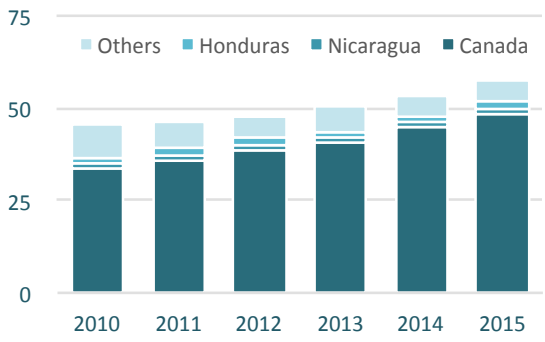
In 2015, global trade of lobsters declined slightly compared with 2014. Total imports went from 193 300 tonnes in 2014 to 190 000 tonnes in 2015. The largest importer was the USA, with imports increasing. Canada registered a slight decline in imports, while the third largest importer, China, increased its import volume by 3.3%. Other large

Top global exporters of lobster
Unit: 1 000 tonnes



Source: *Eurostat*

Top exporters of lobster to the USA
Unit: 1 000 tonnes



Source: *NMFS*

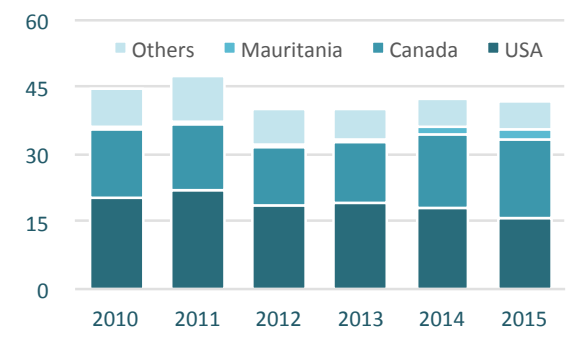
importers include Italy, France and Spain.

While US imports of lobster increased in 2015, US exports declined by 4.3%. About 55% of US exports go north across the border to Canada, but in 2015 this trade declined by 3.5%. US exports to the EU also declined, by 10%. Exports to China, on the other hand, increased by 5.4%.

EU lobster imports declined very slightly in 2015, from 42 200 tonnes in 2014 to 41 900 tonnes in 2015 (-0.7%). While the USA shipped slightly less to the EU, Canada shipped slightly more.

The EU market for American lobster has been stagnant for some years, with the exception of the UK. While all of the main European countries have shown a decline in imports of American lobster (*Homarus* spp.), the UK has registered steady growth in imports of this product. The main reason for this development seems to be greater market exposure. Several restaurants and retailers are now

Top exporters of lobster to the EU
Unit: 1 000 tonnes



Source: *GTIS*

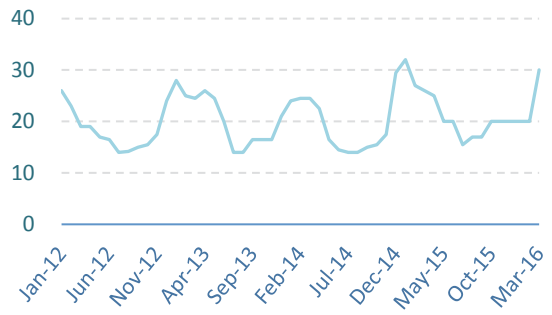
RECENT NEWS

EU considers import ban on live American lobster

Several European countries are considering imposing an import ban on live American lobster. Norway and Sweden have already banned such imports under their invasive species control laws.

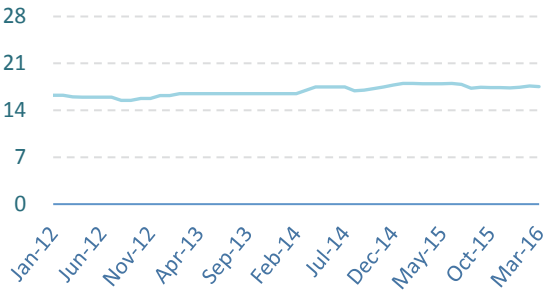
In the Baltic Sea, several American lobsters have been found in recent years. It is not known how these specimens have found there way to these areas, but as a result, Sweden and Norway have requested that the EU rule American lobster (*Homarus americanus*) to represent an invasive species threat. American and Canadian scientists criticize this proposal, saying that the American lobster does not pose a threat of carrying diseases that could affect the European lobster. US senators have asked President Obama to resist the EU efforts to ban imports of live American lobsters. As of this writing, the matter remains unresolved.

Prices
European lobster: Europe
EUR/kg



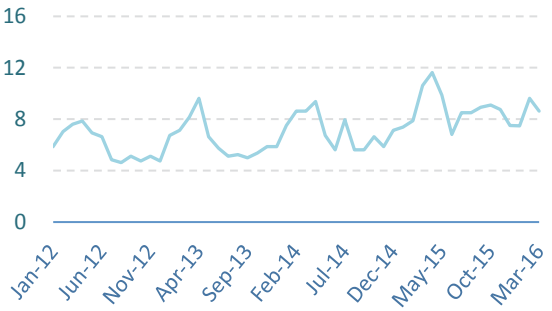
live, origin: Ireland; 400-600, 600-800 gr/pc
Source: *European Price Report*

Prices
lobster tails: USA
USD/lb



EXW prices of frozen lobster tails
(8-10 oz/pc), origin: Brazail
Source: *INFOFISH Trade News*

Wholesale Prices
American lobster: USA
USD/lb



1-1/2 lb live, NY wholesale price
Source: *INFOFISH Trade News*

offering American lobster in various forms, and consequently, the market has expanded (Source: *SeafoodNews.com*).

Chinese demand for lobster grew in 2014-2015. Though this growth was expected to continue, an increase has not occurred, mainly due to the slowdown in the Chinese economy. This slowdown, coupled with significant increases in supply, have pushed Chinese prices down during the first quarter of 2016. In addition, it is expected that the New England lobster season will be earlier this year due to warmer waters in the region, and that will subsequently put extra pressure on prices.

Prices

Food service and restaurants have undergone a shift in how they use lobster, and this is having a dramatic impact on prices. In the past, lobster meat and lobster tails were priced at approximately the same level, as restaurants were used to handling both types of the lobster body. However, this is changing as foodservice companies have entered the trade as suppliers of raw material/semi-processed products to restaurants, and are using more lobster meat than lobster tails. This is due to the fact that most restaurants today do not handle live lobsters, as they would rather use the convenience of ready to prepare lobster meat. There is also a lack of processing capacity to deal with the lobster tails, and thus prices for lobster meat have skyrocketed over the past year. Currently, the price of lobster meat is often more than USD 10 above the price of lobster tails (Source: *Urner Barry*).

Outlook

The outlook for the 2016 season is not overly optimistic, although supplies will be strong. Prices will come under pressure, especially for American lobster. The proposed EU ban on imports of live lobster is still unresolved. However, as the ban would only affect live lobster exports, it would have a limited effect on trade. Prices for lobster tails and live lobster may decline.

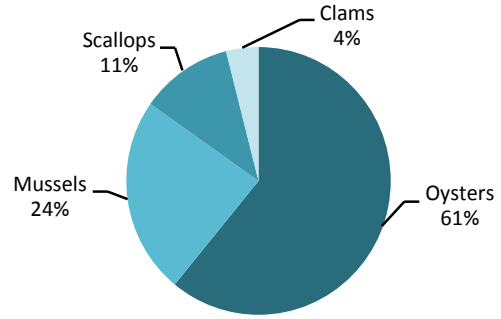
BIVALVES

GLOBEFISH HIGHLIGHTS

EU market imports less bivalves

The world bivalve market was impacted by currency changes, including the relatively lower value of the euro against the US dollar. EU countries reported lower bivalve imports, particularly the Spanish mussel processing industry, which moved away from expensive imports back to domestic products.

Bivalve production by selected species, both wild and farmed (2014)



Source: ***FAO***

Mussels

World

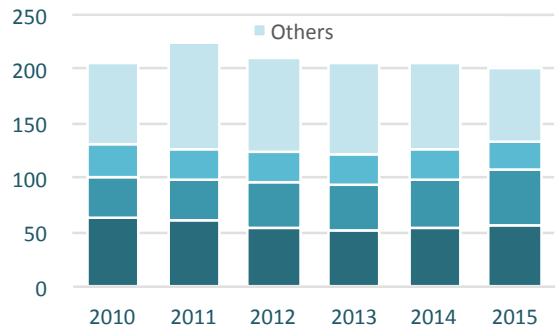
World imports/exports of mussels

		2014	2015
		(1 000 tonnes)	
IMPORTS	France	53.5	56.5
	Italy	44.1	51.9
	Malaysia	1.9	43.9
	Others	187.7	163.3
	Total	**287.2**	**315.6**
EXPORTS	Chile	64.2	69.7
	Spain	50.2	58.2
	Netherlands	53.8	55.4
	Others	142.3	132.5
	Total	**310.5**	**315.7**

Source: *GTIS*

For 2015, Chile was again confirmed as the number one exporter of mussels with 69 700 tonnes exported, increasing its volume by 8.6% or 5 500 tonnes, due to strong levels of production. According to the Undersecretariat of Fisheries and Aquaculture of Chile, 2015 mussel production totalled 283 300 tonnes, demonstrating nearly 20% growth compared with 2014. In contrast, New Zealand production was poor in 2015 and exports of green lipped mussels declined by 15.8%.

Top exporters of mussels to the EU
Unit: 1 000 tonnes



Source: *EUROSTAT and Customs*

Europe

EU imports of mussels in 2015 totalled 200 000 tonnes, which is the lowest volume they have been in the past six years, 10 000 tonnes less than the average import volume from 2010-2014.

France, the EU's largest market, recorded stable imports in 2015 when compared with the 2010-2014 average at 56 5000 tonnes, while Italy, the second largest importer, demonstrated a remarkable increase in import volumes (+28%) compared with the average volume imported in the 2010-2014 period. Portugal, though a very minor market, recorded significant growth as well. Otherwise, all EU markets declined rather sharply: the Netherlands by 49%, the UK and Germany by 19% each, and Spain and Belgium by 10% each. This severe reduction in imports can be explained by the sluggish economy as well as increasing prices, with the average price jumping from EUR 7.90 per kg in 2010 to EUR 14.00 per kg in 2015.

World imports/exports of oysters

		2014	2015
		(1 000 tonnes)	
IMPORTS	USA	10.2	11.8
	Japan	6.6	9.9
	France	6.3	6.4
	Others	33.2	34.5
	Total	**56.3**	**62.5**
EXPORTS	Republic of Korea	9.3	12.7
	France	14.5	12.6
	China	8.5	10.5
	Others	21.2	20.7
	Total	**53.4**	**56.5**

Source: *GTIS*

Oysters

2015 was an interesting and dynamic year for international trade of oysters. Imports by the top two global markets, the USA and Japan, increased by 15.9 % and 49% respectively, due to declining domestic landings and growing consumer demand.

In France, another important market though only a moderate player on the international market, domestic production increased slightly compared with previous years, when juveniles suffered from the herpes type of virus, OsHV-1. This increase in supplies in 2015 was reflected in the December retail price, down by 5% compared with the price in December 2014.

Australia

In February 2016, Tasmania (Australia) Pacific oysters were hit by a disease that resulted in local government prohibiting the movement of Pacific oysters and banning imports of seeds. Fortunately, the native, flat oysters Ostrea angasi were not affected by the virus.

RECENT RESEARCH

Impact of climate change on bivalves

In early 2016, NOAA scientists published the results of a multispecies assessment of how US marine fish and invertebrate species cope with the effects of global climate change. The study indicates that species such as scallops, which are considered "specialists", meaning they use a limited range of prey and habitats, are more likely to be vulnerable to climate change (Source: *www.research.noaa.gov*).

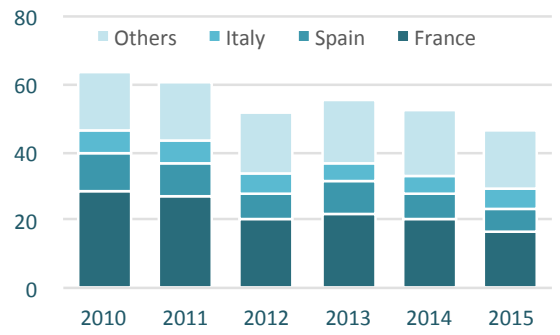
In a new study, published in February 2016, the University of Glasgow demonstrated the impacts of ocean acidification on mussels. Their research found that in conditions reflecting the projected ocean acidification mussels produce more calcium carbonate and their shells become harder and less elastic, (Source: *www.gla.ac.uk/research/news/headline_443599_en.html*)

World imports/exports of scallops

		2014	2015
		(1 000 tonnes)	
IMPORTS	China	29.7	56.4
	USA	27.5	22.4
	France	20.3	17.0
	Others	81.8	77.8
	Total	**159.3**	**173.6**
EXPORTS	China	38.0	35.2
	UK	11.1	11.8
	USA	12.0	10.2
	Others	62.7	52.7
	Total	**123.8**	**109.8**

Source: *GTIS*

Top exporters of scallops to the EU
Unit: 1 000 tonnes



Source: *EUROSTAT and Customs*

UK

According to the UK Shellfish Association of Great Britain, sales of oysters are expanding by 10% per year. The Association reported that 2 500 tonnes of oysters are harvested annually in the UK, totalling an estimated 25 million shellfish.

Scallops

In terms of supplies, in 2015 Chilean production of scallops declined by 30.9% compared with the year before, to total 2 700 tonnes of *Argopecten purpuratus*. Peru also reported a poor harvest for 2015, with exports at 6 200 tonnes, which is only half of the total 2014 exports.

World trade in scallops increased in 2015, though only due to Chinese growth. In 2015, Chinese imports of scallops nearly doubled compared with 2014 (+90% or +26 800 tonnes), to total 56 400 tonnes. At the same time, Chinese exports declined by 7.4%, reflecting the increase in China's purchasing power and the booming demand of Chinese consumers for expensive food items, such as scallops.

When removing China from the global scallop trade picture, world imports of scallops have considerably declined in 2015 compared with 2014, by 9.7% or 9 500 tonnes. The USA, the second largest importer, reported a 16.1% decline in import volume down to total 22 400 tonnes. In 2015, EU imports of scallops dropped by 27% compared with 2010 down to 46 400 tonnes, the lowest volume recorded since 2010.

France, the largest single market for scallops in the EU, reported a 16.1% decline in imports to total 17 000 tonnes in 2015. Looking at French import trends over a longer-term, imports decreased by 28% in 2015 compared with the yearly average in the period from 2010-2014. France also reports a declining market share; in 2010 France alone was responsible for 44% of total EU scallop imports, whereas in 2015, its market share dropped to 36%. Spain, the second largest scallop market in the EU, also reports shrinking market share.

Clams, cockle, ark shells

According to preliminary figures, global international trade of clam, cockles and such like shells, did not change much in 2015 compared with 2014. However, the situation varies greatly by country. In Japan, there was a significant increase in imports.

World imports/exports of clams/cockles/ark shells

		2014	2015
		(1 000 tonnes)	
IMPORTS	Japan	65.8	74.8
	Republic of Korea	73.0	70.4
	Spain	31.0	31.1
	Others	84.4	78.6
	Total	**254.1**	**255**
EXPORTS	China	154.9	157.2
	Republic of Korea	11.7	11.8
	Portugal	8.8	10.9
	Others	68.8	61.8
	Total	**244.1**	**241.7**

Source: *GTIS*

Outlook

In March 2016, the EU lifted a nearly twenty-year ban on imports of scallops from China. This ban was established in July 1997 due to the presence of *vibrio parahaemolyticus* found in large-sized *pectinidae Patinopecten yessoensis*, a bacterium prone to cause gastrointestinal illness in humans. This species was highly appreciated in the EU before the ban, so it will be interesting to see how this will impact international scallop trade moving forward. For the time being, it is only one company that is approved to export to the EU, so the impact will be limited period.

CRAB

GLOBEFISH HIGHLIGHTS

Lower supplies and somewhat higher prices depending on market

A significant reduction in supplies is expected for 2016 due to a lower snow crab quota in Alaska along with Russia's push to crack down on illegal crab fishing. Consequently, snow crab prices on the Japanese market are forecasted to rise, while in the US market a more stable situation is predicted.

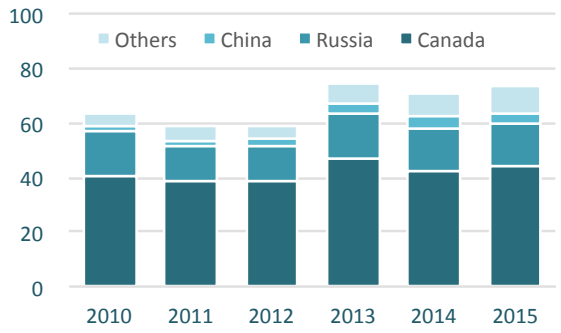
Supplies

With only one tanner crab processing plant left in Alaska, which by law cannot process more than 30% of the total volume, a significant amount of this species may be left unprocessed, unless regulators come up with a regulation change. The California dungeness crab fishery is still closed due to high occurrences of domoic acid in the crabs caught. California crabbers are now pushing for changes in the regulations so that they can resume the fishery.

The Russian Federal Agency of Fisheries (Rosrybolovstvo) has approved a quota of 41 500 tonnes of snow crab to be caught in the Russian Far East in 2016. This is slightly higher than 2015, when the quota was 39 500 tonnes. At the same time, Russian authorities are introducing incentives to assure that more of the snow crab caught in Russian waters is sold on the domestic market. Currently, most of the catch is exported.

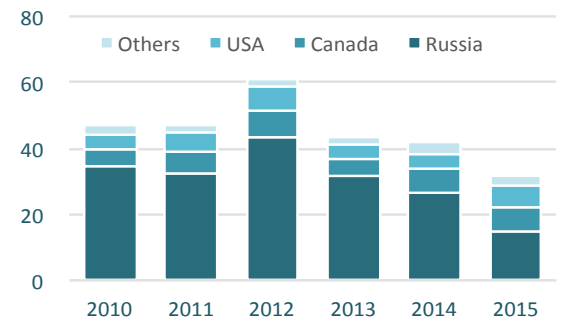
In recent years, snow crab has become a popular target for Norwegian crab fishermen. At the North Atlantic Seafood Forum (NASF) in March in Bergen, Norway, it was estimated that Norwegian catches of snow crab might increase rapidly, from 200 tonnes in 2013 and 9 800 tonnes in 2015 to as much as 50 000 to 75 000 tonnes within ten years. New investments will be needed, particularly to enable the fleet to land the crab live for on-shore processing (Source: *NASF*).

Top exporters of crab to the USA
Unit: 1 000 tonnes



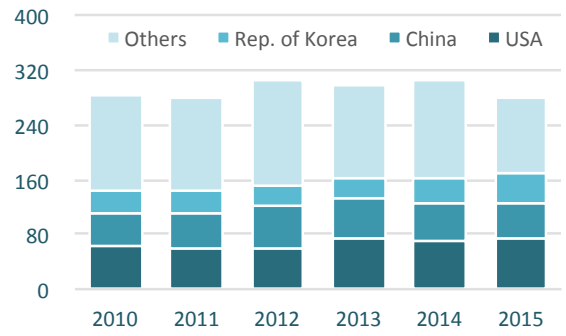
Source: *NMFS*

Top exporters of crab to Japan
Unit: 1 000 tonnes



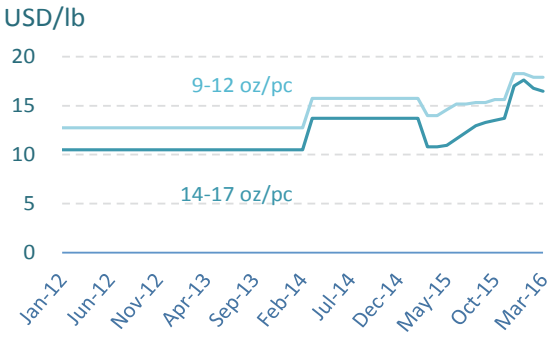
Source: *Japan Ministry of Finance*

Top global importers of crab
Unit: 1 000 tonnes



Source: *GTIS*

Prices
Crab*: USA, Japan



*Claw and sections, red, EXW Yew York
Source: *INFOFISH Trade News*

International trade

Overall, international trade in crab declined by 8.6% in 2015 compared with 2014. Most exporters registered a decline in their shipments, except for the USA, which had a slight (+3.2%) increase, and the Republic of Korea, which posted significant growth (+28.4%). Taiwan Province of China had a massive reduction in shipments, which went from 63 100 tonnes in 2015 to just 39 500 tonnes in 2016 (-37.4%).

Japan imported almost 20% less crab in 2015 compared to 2014, with total volume going from 44 200 tonnes to 35 500 tonnes. Most of this reduction was accounted for by a 45.5% decline in Russian crab exports to Japan, while the USA shipped some 35.4% more crab to Japan in 2015.

US imports increased slightly, with only minor changes for the most important suppliers. Russia registered just a very acute decline (-1.9%), while exports from China remained stable.

US imports of swimmer crab from Asia have increased steadily over the past three years. Significantly higher shipments from both Indonesia and China have created an oversupply situation, resulting in lower prices.

Prices

Prices for snow crab have been high recently, but observers at North Atlantic Seafood Forum in March thought they had now hit the ceiling in some markets, in spite of the lower quotas for snow crab in Alaska. Russia's recent push to deter illegal crab fishing has made supplies tighter, which is also contributing to high prices. This has greatly affected Japan, where demand is strong. As a result, Japanese buyers are actively trying to secure supplies from both Alaska and Canada to substitute lower shipments from Russia.

Outlook

The fight against illegal crab fishing in Russia has led to a decline in supplies, and this coupled with lower snow crab quotas in Alaska is bringing total crab supplies down. Consequently, one would expect prices to increase, but apparently this will vary from market to market. Prices are expected to rise in Japan, while stabilization or even a slight decline is more likely in the USA. Quotas for red king crab in the Barents Sea will increase, but with relatively modest growth, which will have a limited effect on prices. Furthermore, the Barents Sea crab is not a major factor on the US market.

Catch Documentation Schemes: Practices and applicability in combating IUU fishing

Introduction: IUU fishing and CDS systems

Illegal, unreported and unregulated (IUU) fishing is not a simple challenge. What act or action constitutes IUU fishing, and what does not? In general, IUU fishing is often complex, making it difficult to define. Owing to its multi-dimensional, illegal and concealed nature, IUU fishing is also difficult to quantify. We do know however, that IUU fishing is systemic in many fisheries worldwide, and it has been shown that the weaker the governance of a country, the likelier and more serious the incidence of IUU fishing. IUU fishing is one of the key challenges to be overcome in order to achieve sustainably managed fisheries.

Catch documentation schemes (CDS) are market-related measures that have been developed specifically to combat IUU fishing. An official definition is as follows:

"A system that tracks and traces fish from the point of capture through unloading and throughout the supply chain. A CDS records and certifies information that identifies the origin of fish caught and ensures they were harvested in a manner consistent with relevant national, regional and international conservation and management measures. The objective of the CDS is to combat IUU fishing by limiting access of IUU fish and fishery products to markets."

This positions a CDS as a market-based Monitoring, Control and Surveillance (MCS) tool, which can be applied by Regional Fisheries Management Organisations (RFMO), individual countries, or regional economic blocks, such as the EU.

Existing CDS schemes

There are two fundamentally different types of CDS in operation today. The first type, which covers the initial CDS that were developed and deployed, are so-called multilateral schemes and have been put in place by RFMOs.

This first type of CDS in existence includes:

- A CDS covering two species of Toothfish (or Chilean Seabass) harvested in Antarctic waters, introduced in 2000 by the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- A CDS covering Atlantic Bluefin tuna, introduced in 2008 by the International Commission for the Conservation of Atlantic Tunas (ICCAT)
- A CDS covering Southern Bluefin tuna, introduced in 2010 by the Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

While the CCAMLR CDS may now claim to be reaching "adulthood", both tuna CDS are still fairly recent.

The second type of CDS is the unilateral type, which is put in place by a single country (or union of countries). There is only one single such scheme in existence today, the EU's Catch Certification

Scheme introduced in 2008 through the so-called EU IUU Regulation, and implemented as of January 2010. The EU CDS covers all marine wild caught fish (with some minor exemptions) traded by non-EU countries into the EU market.

The USA is in the process of developing its own CDS, most details of which remain to be revealed. However, it would appear that it will differ markedly from the EU scheme, in that it will only target "at-risk" fisheries, and thus the US CDS is unlikely to apply to all wild capture seafood imported into the USA.

Multilateral versus unilateral schemes and implications

The design of the two models is fundamentally different. RFMO CDS are based on RFMO rules, which have the standing of international law. They are technically understood to embody multilateral environmental agreements (MEAs). RFMO CDS, once in place, must be followed and complied with by any and all parties participating in the fishing, the processing and the trading of these resources. This means that an RFMO CDS is applied to the entire stock or species under the RFMO's management mandate, and certificates issued under the scheme must accompany all products along all supply chain stops, all the way into end-markets. Through this mode of action, the entire stock covered by the CDS benefits from the protection conferred by the scheme. The CDS is therefore an integral management tool within the suite of conservation and management measures put in place by the RFMO to manage the fishery.

In contrast, the unilateral CDS regulates primarily what may enter into an end-market, not how or what comes out of a fishery. Based on national law, the unilateral CDS can only propose rules for those products that enter its market. Compliance with rules is established by looking backwards into the supply chain by trying to determine whether products have been harvested in accordance to national, regional or international rules, at the point in time when products arrive at the border. This back-tracing process implies that verifiable traceability in these systems must be very solid in order for the back-tracing to be meaningful and achievable. Unilateral schemes do not cover all fish harvested in any given fishery, only the fraction traded into (or through) their market.

A sanctioning procedure is also enshrined within the EU IUU Regulation, and this procedure has received most attention since its first use towards the end of 2012. This is the so-called "identification procedure", through which the EU Commission may identify any non-EU country as "non-cooperating". This status may be conferred to any country for any perceived shortcoming in living up to its international obligations – specifically from a flag State perspective – including (but not limited to) non-compliance with the EU CDS. This process is now widely referred to as the EU's "yellow and red card system". A country stands warned at receiving a yellow card, and if no satisfactory change occurs within a specified period of time, it may be red carded. The red card implies that a trade embargo on seafood products from such a country – in its capacity as a flag State – is enacted, and that no products originating from its vessels may be exported to the EU anymore. This procedure is technically separate from the CDS, and a large number of countries that have been yellow carded to date have not been identified for any established shortcoming in complying with the CDS rules.

Evidence for impacts of CDS systems on IUU fishing

In the ICCAT and CCSBT Bluefin tuna fisheries where CDS systems were implemented, IUU fishing related chiefly to endemic underreporting by otherwise legal operators. Ten years ago, many researchers thought that both Atlantic and Southern Bluefin tuna species were evolving at the edge of stock collapse. The amounts of underreporting by regular ICCAT Members were sometimes estimated to exceed by more than triple the official allocated quota.

It is thought that the endemic underreporting in both Bluefin fisheries has been scaled back to the largest extent since the coming into force of the two

tuna CDS. Strong scientific evidence that the IUU catch of the Eastern Atlantic Bluefin stock dropped sharply after 2008, and that catches fell in line with TACs has been provided by ICCAT's Standing Committee on Research and Statistics in late 2014. While other novel management and control measures were also introduced in ICCAT and CCSBT before and since CDS introduction, the CDS is the most effective enforcement mechanism capable of directly targeting and eliminating underreporting.

In CCAMLR, IUU fishing for Toothfish in the Convention Area by non-licensed "pirate" vessels was the most pressing issue, and IUU incidence in the late nineties was estimated to exceed official catches by more than double before the putting in place of the CDS.

In 2015, the Coalition of Legal Toothfish Operators (COLTO) estimated the fraction of IUU catch to be 6% of the total annual harvest, crediting the CDS as one of a mix of effective enforcement actions instrumental in achieving this result.

If the EU IUU Regulation was effective in eliminating IUU fish from entering its market, important changes in trade patterns would likely have occurred since its entry into force. Some analysts believe that up to a third of imports – an estimate of how much IUU fish was entering the EU at the time of launching its CDS – would have been substituted by either similar products from other sources, or some product categories would have been gradually substituted for other categories altogether.

Based on the analysis of trade statistics and discussions with EU traders and Member States authorities, a study commissioned by the EU Commission published in 2014 found that no significant impact on trade in relation with the IUU Regulation could be detected. This finding suggests that the expected effect of the CDS may have remained elusive, and that levels of illegal fisheries products similar to previous levels continue to enter the EU market.

With regards to red carding third countries, some believe that the potential for positive impact is possibly greater than that of the current CDS. This is especially true for countries that are generally understood to be a part of the IUU fishing problem and that export significant amounts of seafood to the EU market. If lenient flag States amongst major producer countries can be coerced into becoming more responsible through trade restrictive measures, the overall impact could be important. In recent years, the potentially positive impacts of improved flag State performance through EU action have been highlighted by a number of NGOs, researchers and the EU Commission itself, though little conclusive evidence as to these impacts exist at the present time.

To date, 20 countries have formally been yellow carded by the EU, 4 of which have had trade sanctions imposed (red card). Thailand is the most important processing nation that remains under a yellow card, and for which the yellow card status was extended by another six months in early 2016. Overall, out of the 20 countries yellow carded to date, 8 countries had no established seafood trade with the EU at the time of yellow carding. It is unclear how trade measures applied in this way can effectively contribute to reducing the importation of IUU-derived fisheries products into the EU – which is the stated objective of the EU IUU Regulation. Of the three countries currently red carded, two were not trading seafood into the EU prior to their identification. Within the first group of eight yellow carded countries, no issue of non-compliance with the EU CDS has been raised. In this group, all raised issues related to other perceived failures of the flag State to honor its responsibilities under international fisheries law.

Conclusions

Ultimately, the putting in place of unilateral CDS that denies IUU products market access will imply that third countries must make important investments to abide with new – and now multiplying – unilateral frameworks. As a result, instead of making changes, third countries may instead increasingly sell questionable products to more lenient and accommodating market States. This unintended consequence highlights the inherently multilateral nature of IUU fishing, supply chains and global trade.

Therefore, in terms of sustainable resource management, direct positive impacts of unilateral CDS may only be achieved – potentially – for resources where the market operating the CDS also controls the largest share of the import market for a specific resource.

Multilateral CDS, on the other hand, are full-fledged fisheries management tools applying to entire stock units, and which, if well designed and consistently applied, have shown to be capable of largely eliminating given forms of IUU fishing, and contributing directly (and measurably) to stock recovery – or stock protection from IUU fishing – in a relatively short time.

It is hence of essence that the international community vigorously pursue discussions on how to expand multilateral CDS systems as a means to effectively combat IUU fishing – in line with positions advocated in both the Code of Conduct and the IPOA-IUU – with the understanding and supporting evidence that multilateral challenges are tackled most successfully through multilateral approaches and solutions.

The views expressed herein do not necessarily reflect the views or policies of FAO

EVENTS

GLOBEFISH HIGHLIGHTS

A workshop to celebrate the new partnership between GLOBEFISH and CAPPMA

On the occasion of the Asia-Pacific Aquaculture Expo 2016, in Xiamen, China, GLOBEFISH and CAPPMA will co-organize the Sustainable Aquaculture Production and Trade Workshop.

CAPPMA, the China Aquatic Products Processing and Marketing Alliance, has recently joined the ranks of GLOBEFISH as a new partner.

The first outcome of this collaboration is the Sustainable Aquaculture Production and Trade Workshop, which will take place in Xiamen, China on 26 May to discuss relevant issues regarding sustainable aquaculture production in order to meet rising food demand and boost local economies.

The workshop will address several aspects of the aquaculture sector, to which China contributes 62% of the world's production, and will underline the importance of sustainable growth for the aquaculture and fisheries sector in general, within the framework of the FAO Blue Growth Initiative.

The workshop will take place during the biggest event exclusively dedicated to the aquaculture industry chain in China, the Asia-Pacific Aquaculture Expo 2016 (APA Expo 2016).

10:30-11:00	Opening ceremony Representative Aquaculture Branch, Bureau of Fisheries, Ministry of Agriculture Mr. Jiansan Jia, Deputy Director, Fisheries and Aquaculture Policy and Resources Division, FAO *Mr. Cui He* Secretary General, China Aquatic Products Processing and Marketing Alliance (CAPPMA)
11:00-11:30	**Global Fish Production, Trade, Demand and the Role of GLOBEFISH** *Dr. Audun Lem*, Deputy Director, Fisheries and Aquaculture Policy and Resources Division, FAO
11:30-12:00	**Introduction of Chinese Fisheries and Aquaculture Situation and Future** TBD
12:00-12:30	**Dynamic Development of Chinese Aquaculture Calls for Improved Aquaculture Sector Statistics Structure and Public Accessibility** *Mr. Xiaowei Zhou*, Fishery Statistician-Aquaculture, FAO
14:00-14:30	**Spatial Planning and Ecosystem Approach to Aquaculture** *Dr. Jose Aguilar-Manjarrez*, Aquaculture Officer, FAO
14:30-15:00	**Improving the technical and economic performance of aquaculture: perspective from bio-economic model** *Dr. Junning Cai*, Aquaculture Officer, FAO
15:30-16:00	**Global Sustainable Seafood Initiative (GSSI)** *Mr. Herman Wisse*, Project Manager, GSSI

The Exposition will be held from 26-28 May 2016 at Xiamen City, Fujian Province, China, which produces 1/20 of the aquatic products in the world.

The APA Expo 2016 is meant to be a platform where professional stakeholders of the aquaculture sector can meet to discuss global and regional market trends, discover the latest innovations in the technology industry and possess direct means to promote trade.

As usual, several meetings, fora and discussions will take place during the APA Expo 2016. Besides the Sustainable Aquaculture Production and Trade Workshop, co-organized with FAO GLOBEFISH, several activities have been planned and are offered for free to the exhibitors:

- Global Aquaculture Summit 2016
- Re-circulating Aquaculture Systems Forums
- "Fresh Leading by e-Road" Cold Chain & Logistics public Welfare Training
- BAP for Shellfish Promotion Meeting
- Business Matching Meeting Buyers
- Promotion Meetings for Exhibitors

The 2015 event attracted more than 12 000 seafood professionals, who visited the show and attended the conference, thus making APA Expo the most important aquaculture event in China.

Looking forward to an even more successful APA Expo in 2016 dedicated to sustainability!

Come to visit GLOBEFISH at Booth A-101!

For more information please visit the APA Expo 2016 website: http://en.apaexpo.com.cn

FOCUS ON
CAPPMA

CAPPMA was founded in 1994 as a national non-profit organization under the umbrella of the Ministry of Agriculture and consists of 1 700 members, including seafood producers, processors, distributors, suppliers, and institutions for fisheries research and education, as well as relevant social entities that provide various services for seafood processing and marketing.

The objective of CAPPMA is mainly to improve the self-discipline mechanisms among members in their business operations, to standardize and maintain seafood market orders, to protect the members' legal rights, to coordinate relationships among internal enterprises and international parties, and to upgrade technologies and management in the seafood industry to ensure sustainable fisheries development.

Further information: www.cappma.org/en

Tuna 2016 Bangkok - Social responsibility towards global sustainability

In only a few weeks, the world's leading tuna industry experts will convene in Bangkok from 23-25 May for the global Tuna 2016 Conference, held at the Shangri-La Hotel.

Organizers invite all tuna stakeholders worldwide to attend the Tuna 2016 conference.

More than 600 delegates are expected to attend the event, with participants given the opportunity to hear from over 30 experts in the tuna sector, addressing the current factors driving the global tuna industry.

The Chairman of Tuna 2016, Mr. Adolfo Valsecchi, notes thats:

"During the three days of the conference we will have the unique opportunity of jointly looking at ourselves in the mirror and sharing a global picture about what we have done in the last four years as a serious business sector. Stakeholders will address challenging questions, such as

– how can we provide clearer, more evidence-based answers to the environmental and social expectations of our consumers? This is expecially pertinent, as the tuna industry faces too much controversial communication, which ultimately may damage the credibility of the entire sector."

Valsecchi goes on to state that :

"In the last four years, the tuna industry has made measurable progress in terms of scientific research and methods that are capable of supporting more sustainable tuna fisheries in the oceans. However, so far the tuna industry has not shared this progress with all stakeholders. The Tuna 2016 conference will provide this significant opportunity."

The distinguished speakers include: **Audun Lem**, FAO; **Feleti P Teo**, Western and Central Pacific Fisheries Commission; **Guillermo Compean Jimenez**, Inter-American Tropical Tuna Commission; **Yugraj Singh Yadava**, Bay of Bengal Programme; **Chanintr Chalisarapong**, Thai Tuna Industry Association; **Transform Aqorau**, Parties to the Nauru Agreement (PNA); **Jesse Marsh**, International Seafood Sustainability Foundation (ISSF); **Kwang Se-Lee**, Silla Co Ltd, Korea; **Somboon Siriraksophon**, SEAFDEC; **Faustino Velasco**, Satlink SL, Spain; **Dave Melbourne**, Bumble Bee Foods, USA; **Henk J C Brus**, Sustunable BV, Netherlands; **Dario Chemerinski**, IBCO, Brazil; **Adel Fahmy**, Gulf Food Industries, UAE; **Shirlene Maria Anthonysamy**, INFOFISH; **Peter Redmayne**, The Seafare Group, China; **Martin Purves**, The International Pole and Line Foundation (IPNLF); **Prabhash Subasinghe**, Global Seafoods (PVT) Ltd, Sri Lanka; **Francisco Blaha**, International Fisheries Advisor, New Zealand; **Thue Barfod**, Maersk Line, Hong Kong; **Allan Anderson**, Peco Controls, USA; **Luigi Giannini**, Federpesca Italy; **Paolo Bray**, Friend of the Sea; **Bill Holden**, Marine Stewardship Council (MSC); **Oliver Knowles**, Greenpeace, New Zealand; **Michael Crispino**, The Pew Charitable Trust; **Mark Berman**, Earth Island Institute (EII); **Eugene Lapointe** IWMC World Conservation Trust Fund, Switzerland; **Simrin C Singh**, ILO, Thailand and **Mark Roberston**, Potomac Global Advisers LLC, USA.

Sponsors of the event include *Swire Shipping*, Singapore, silver sponsor, and the *Technicas Hydraulicas*, Spain, bronz sponsor. Opportunities are still available to be valuable partners of the event by becoming platinum and gold sponsors.

Registration remains open for the conference, though is filling up quickly. There are a few exhibition booths that are still available, though expect to sell out soon. The exhibition will be a great opportunity to expose the products, services and innovations to a pertinent audience.

INFO POINT

TUNA 2016

Date: 23 - 25 May 2016

Venue: Bangkok, Thailand

Web: infofish.org/v2/index.php/tuna-2016

E-mail: info@infofish.org

Information: Mr Zaini Tel. (603) 8064 9299

Jointly organized by

INFOFISH

TTIA
สมาคมอุตสาหกรรมทูน่าไทย
Thai Tuna Industry Association

Department of Fisheries

In collaboration with

Food and Agriculture Organization of the United Nations

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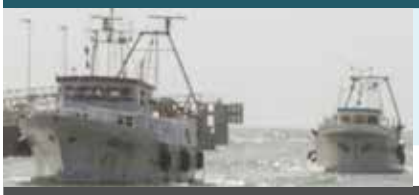
FISH AND FISHERY PRODUCTS STATISTICS[1]



	Capture fisheries production		Aquaculture fisheries production		Exports			Imports		
	2013	2014	2013	2014	2013	2014 estim.	2015 estim.	2013	2014 estim.	2015 estim.
	Million tonnes (live weight equivalent)				USD billion					
ASIA	**50.3**	**52.4**	**61.8**	**64.8**	**54.0**	**56.8**	**51.7**	**44.2**	**45.2**	**42.0**
China[2]	17.4	18.2	43.0	44.9	22.2	23.6	21.7	12.9	13.5	13.3
of which China. Hong Kong SAR	0.2	0.2	0.0	0.0	1.1	1.0	0.7	3.8	3.6	3.5
& Taiwan Province of China	0.9	1.1	0.3	0.3	1.8	1.8	1.6	1.0	1.2	1.2
India	4.6	4.7	4.6	4.9	4.6	5.6	4.8	0.1	0.1	0.1
Indonesia	6.1	6.4	4.0	4.3	3.8	4.2	3.7	0.4	0.3	0.4
Japan	3.6	3.6	0.6	0.7	2.0	1.9	1.9	15.3	14.7	13.4
Republic of Korea	1.6	1.7	0.4	0.5	1.8	1.7	1.5	3.6	4.3	4.4
Philippines	2.3	2.4	0.8	0.8	1.2	1.0	0.8	0.2	0.3	0.4
Thailand	1.7	1.7	1.0	0.9	7.0	6.6	5.6	3.2	2.7	2.5
Viet Nam	2.8	2.9	3.2	3.4	6.9	8.0	8.0	0.9	1.3	1.3
AFRICA	**8.4**	**8.6**	**1.6**	**1.7**	**5.6**	**5.6**	**5.4**	**5.7**	**5.9**	**6.0**
Ghana	0.3	0.3	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.3
Morocco	1.3	1.4	0.0	0.0	1.8	1.9	1.9	0.2	0.2	0.2
Namibia	0.5	0.4	0.0	0.0	0.8	0.7	0.7	0.0	0.1	0.1
Nigeria	0.7	0.8	0.3	0.3	0.3	0.1	0.1	1.2	1.3	1.3
Senegal	0.5	0.5	0.0	0.0	0.3	0.4	0.4	0.0	0.0	0.0
South Africa	0.4	0.6	0.0	0.0	0.5	0.6	0.6	0.4	0.4	0.4
CENTRAL AMERICA	**2.0**	**1.8**	**0.4**	**0.4**	**2.5**	**2.7**	**2.5**	**1.6**	**2.0**	**1.8**
Mexico	1.6	1.5	0.2	0.2	1.1	1.2	1.1	0.8	0.9	0.8
Panama	0.2	0.2	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1
SOUTH AMERICA	**10.3**	**8.5**	**2.1**	**2.4**	**13.7**	**15.5**	**12.8**	**3.7**	**3.8**	**3.5**
Argentina	0.9	0.8	0.0	0.0	1.5	1.6	1.5	0.2	0.2	0.2
Brazil	0.8	0.8	0.5	0.7	0.2	0.2	0.2	1.5	1.6	1.3
Chile	1.7	2.1	1.0	1.2	4.9	5.9	4.7	0.4	0.4	0.4
Ecuador	0.5	0.6	0.3	0.4	3.6	4.3	3.6	0.1	0.1	0.1
Peru	5.9	3.6	0.1	0.1	2.7	2.9	2.4	0.2	0.2	0.3
NORTH AMERICA	**6.0**	**5.8**	**0.6**	**0.6**	**10.7**	**11.0**	**10.9**	**20.8**	**23.3**	**21.4**
Canada	0.8	0.8	0.2	0.1	4.3	4.5	4.6	2.8	3.0	2.7
United States of America	5.2	5.0	0.4	0.4	6.0	6.1	5.9	18.0	20.3	18.7
EUROPE	**13.5**	**13.7**	**2.8**	**2.9**	**46.9**	**49.8**	**44.7**	**58.3**	**61.8**	**54.3**
European Union [2]	5.0	5.5	1.2	1.3	29.8	32.2	29.3	50.9	54.4	48.8
of which Extra-EU	"	"	"	"	5.7	5.9	5.2	26.8	28.2	25.6
Iceland	1.4	1.1	0.0	0.0	2.3	2.1	2.0	0.1	0.1	0.2
Norway	2.1	2.3	1.2	1.3	10.3	10.8	9.0	1.3	1.4	1.2
Russia	4.3	4.2	0.2	0.2	3.6	3.7	3.6	3.4	3.0	1.8
OCEANIA	**1.2**	**1.3**	**0.2**	**0.2**	**2.9**	**3.1**	**2.9**	**2.0**	**2.2**	**2.0**
Australia	0.2	0.2	0.1	0.1	1.0	1.1	1.1	1.6	1.7	1.4
New Zealand	0.4	0.4	0.1	0.1	1.2	1.2	1.1	0.2	0.2	0.2
WORLD [3]	**92.1**	**92.8**	**69.4**	**72.9**	**136.2**	**144.3**	**130.9**	**136.3**	**144.4**	**131.0**
World excluding Intra-EU	"	"	"	"	**112.1**	**118.0**	**106.8**	**112.2**	**118.2**	**107.8**
Developing countries	68.1	68.3	65.2	68.5	73.8	78.6	70.7	37.6	40.3	38.4
Developed countries	24.4	24.5	4.2	4.4	62.3	65.8	60.2	98.7	104.1	92.6
LIFDCs	11.8	12.1	7.1	7.6	7.6	8.6	7.9	3.8	3.5	3.5
LDCs	10.1	10.4	3.2	3.3	2.5	2.5	2.4	1.3	1.4	1.4
NFIDCs	20.2	18.5	4.7	5.0	10.0	10.3	9.1	4.7	4.9	5.2

[1] Production and trade data exclude whales. seals. other aquatic mammals and aquatic plants. Trade data include fish meal and fish oil.

[2] Including intra-trade. Cyprus is included in Asia as well as in the European Union. Starting with 2013 data. EU includes Croatia.

[3] For capture fisheries production, the aggregate includes also 32 358 tonnes in 2012 and 83 275 tonnes in 2013 of not identified countries, data not included in any other aggregates. Totals may not match due to rounding.

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PRICE REFERENCE (INCOTERMS 2010)

CFR	Cost and Freight
CIF	Cost, Insurance and Freight
CIP	Carriage and Insurance Paid To
CPT	Carriage Paid To
DAT	Delivered at Terminal
DAP	Delivered at Place
DDP	Delivered Duty Paid
EXW	Ex Works
FCA	Free Carrier
FAS	Free Alongside Ship
FOB	Free on Board

PRODUCT FORM

C&P	Cooked and Peeled
FAS	Frozen at Sea
H&G	Headed and Gutted
HOG	Head on Gutted (salmon)
IQF	Individually Quick Frozen
IWP	Individually Wrapped Pack
PBI	Pinbone In
PBO	Pinbone Off
PD	Peeled and Deveined
PTO	Peeled Tail On
PUD	Peeled, Undeveined

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