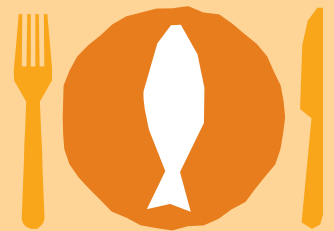
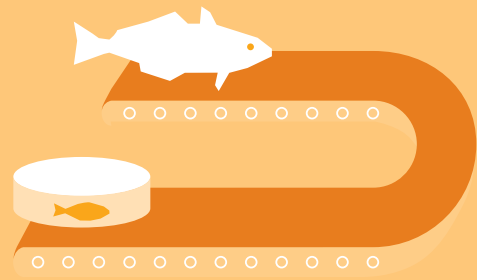




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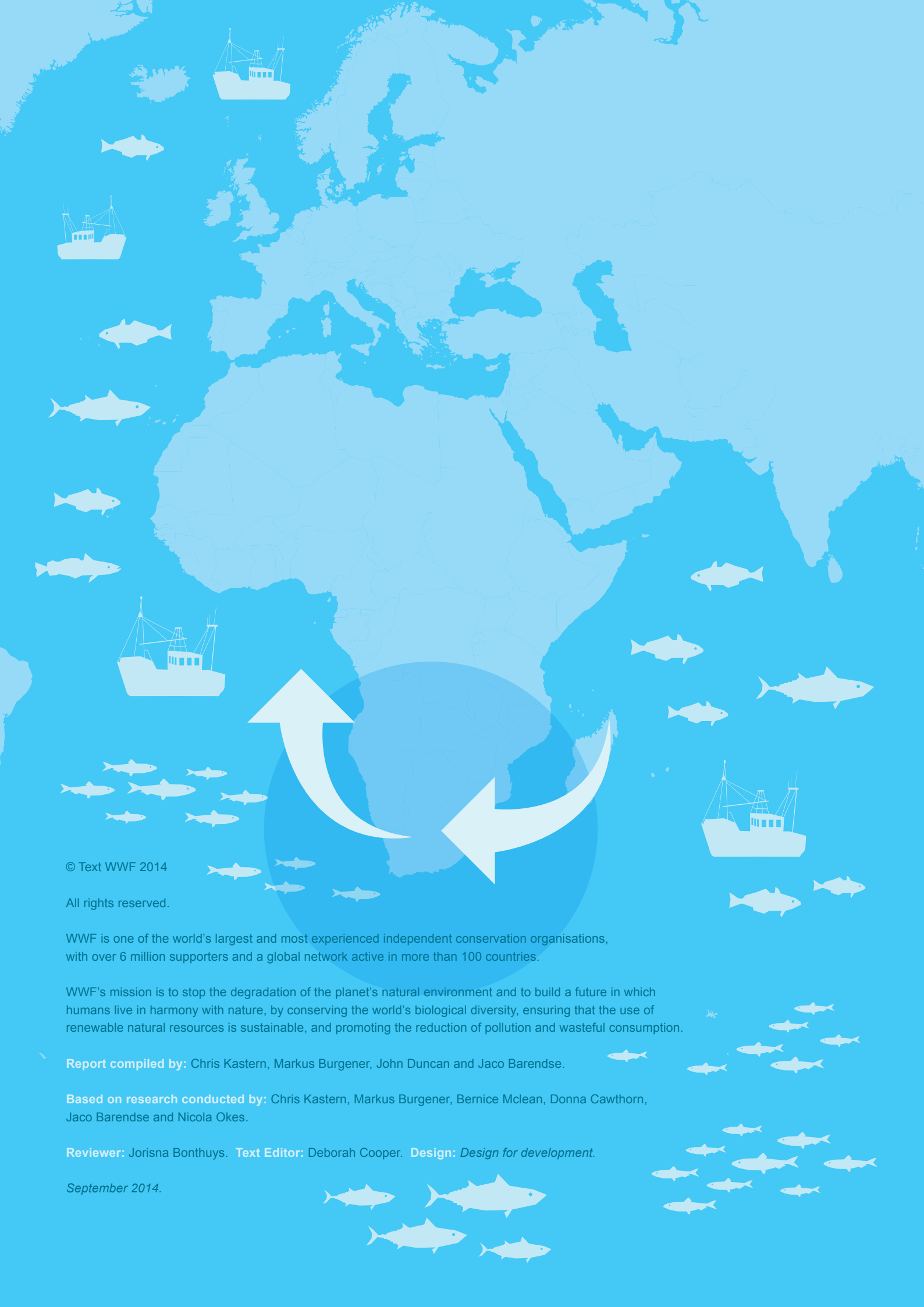
REPORT

2014



# FROM BOAT TO PLATE

Linking the seafood consumer and supply chain



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WWF is one of the world's largest and most experienced independent conservation organisations, with over 6 million supporters and a global network active in more than 100 countries.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

**Report compiled by:** Chris Kastern, Markus Burgener, John Duncan and Jaco Barendse.

**Based on research conducted by:** Chris Kastern, Markus Burgener, Bernice Mclean, Donna Cawthorn, Jaco Barendse and Nicola Okes.

**Reviewer:** Jorisna Bonthuys. **Text Editor:** Deborah Cooper. **Design:** Design for development.

September 2014.



## HOW BIG IS THE OCEAN? 71% OF THE EARTH'S SURFACE



## ARE THERE PLENTY MORE FISH IN THE SEA? WHY SHOULD WE CARE?

**“Seafood is a global rather than a local resource.  
Do you know what seafood species you’re eating?  
Have you asked where it comes from and how  
it was caught?”**

**WE SHOULD BE CONSUMING FISH FROM WELL-MANAGED  
FISHERIES OR AQUACULTURE OPERATIONS:**

**sustainable, legal, healthy fish stocks, with minimal  
impact on the ecosystem.**

**THE MORE WE KNOW, THE MORE WE ARE ABLE TO MAKE  
INFORMED DECISIONS:**

**about what we source, supply, sell or buy, as a link  
in the consumer and supply chain.**

# FOREWORD

South Africa's fishery sector is of significant commercial importance and many of its seafood products are valued on the international market.

*by Markus Burgener*  
Senior Programme Officer,  
TRAFFIC East/Southern Africa

**Complementary to this we have a wealth of resources, both along our coast and inshore, that are critical to the livelihoods and food security of local communities.**

**The pressure that many fish stocks are currently under and the increasing importance of marine resources in supplying a source of protein world-wide is evident. We need to know more than ever how everything is connected, from boat to plate: the status of the species, how our seafood is caught, where, and the path it has travelled to reach the end consumer.**

Ecological impact is one thing, but without transparency and adequate data to track trade throughout the seafood chain, WWF are not fully able to prioritise their work with industry. It is difficult to empower change when the roleplayers may not even know the species they're eating, or to implement procurement policies while not knowing what seafood it is they're trading. In order to better advise government, business and the consumer, there is a need for better trade data.

Twelve years ago, seafood sustainability was not a conscious consideration for most South African consumers, seafood suppliers or even conservation practitioners. Fishers and fisheries managers were concerned about the continuity of seafood supply, but many broader sustainability concerns, such as the conservation status of individual species, fisheries impacts on marine ecosystems and poor management of bycatch, were neglected. No-sale and threatened species were sold openly and consumers had no information to guide seafood choices. Retailers had few resources to understand seafood legalities, identify potential sustainability concerns or guide procurement.

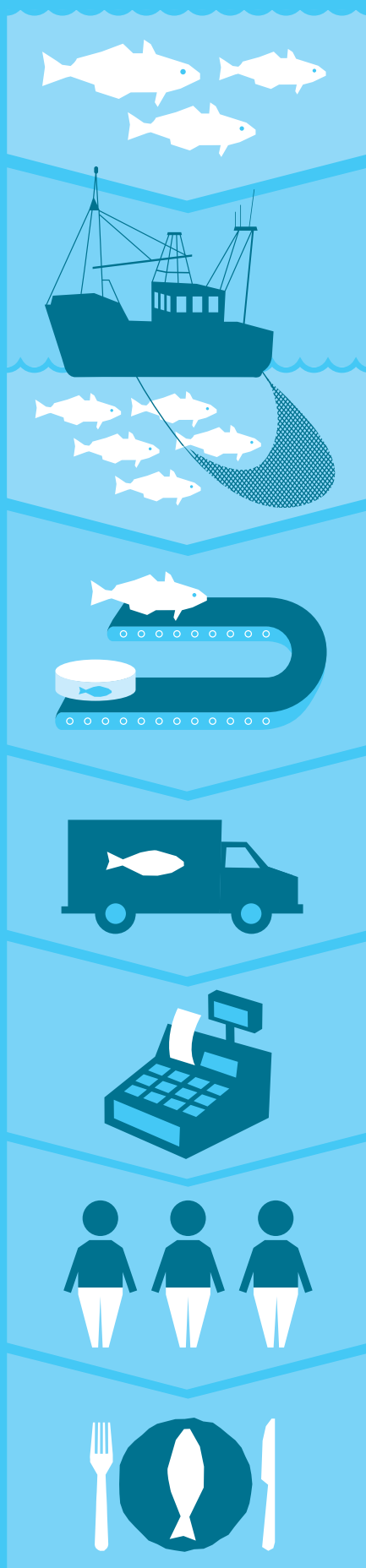
Founded in response, the South African Sustainable Seafood Initiative (WWF-SASSI) has been engaging with the seafood industry for over ten years and has now reached a threshold at which the programme is perceived to have gained significant traction both with South African consumers and major players in the seafood industry.

## **Seafood**

For the purpose of this report, seafood denotes any species of edible fish or shellfish sold for human consumption.

To date there has not been a comprehensive analysis of the trade dynamics of the South African seafood sector. This report highlights the major species traded, provides information on the sustainability of their origins and tracks the seafood's route to market. It also attempts to assess the extent of WWF-SASSI's impact in influencing seafood purchasing decisions, and in reducing illegal trade in the South African seafood industry.

**TRAFFIC**  
the wildlife trade monitoring network



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Linking the seafood consumer and supply chain

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# EXECUTIVE SUMMARY

**Tracking the movement of seafood products from “boat to plate” is a key requirement for achieving sustainable fisheries, securing a viable and legal seafood industry, and safeguarding the livelihoods of communities dependent on fisheries.**

Without adequate traceability systems to monitor trade it is challenging for seafood companies, consumers and governments to obtain reliable information about the catch and origins of fish products and their movement along supply chains. WWF-SA and TRAFFIC compiled this report to better understand the context within which seafood is bought and sold in South Africa.

Conducting the research underpinning this report revealed that the globalised nature of seafood trade and the resultant complexity of supply chains remain a global challenge when compiling accurate trade data. Seafood frequently travels vast distances, visits multiple countries and changes hands often, between traders, processors and distributors. During this process much product information is lost and the systems designed to track the movement of these products are not always adequate in terms of capturing relevant species data.

The relevance of the discussion on challenges analysing trade dynamics of products originating from beyond South African borders is highlighted by the finding that of the 312,753,261 kilograms of seafood consumed in South Africa in 2010, just over 50% was imported. Understanding the trade routes of these imported seafood products is critical to ensure that destination markets can reward legal and responsible fishers, consumers can make informed choices, and governments can successfully combat trade in illegal, unreported and unregulated (IUU) fish products and properly regulate trade.

The top five species identified as the key commercial species or species groups by volume for the retailers, fish shops, markets and restaurants interviewed were hake, prawns, calamari, kingklip and sole. Interestingly, the vast majority of calamari consumed in South Africa is imported, and the local catch is almost entirely exported due to the premium pricing that it attracts in foreign markets. Similarly, much of the hake consumed by South Africans between 2000 and 2010 was imported, with more than 95% of the imported volume coming from Namibia. In terms of prawns consumed in South Africa, 62% originated from India in 2010, with notable volumes also from Mozambique and Thailand.

The report indicates furthermore that the South African market is generally poorly equipped to meaningfully address seafood sustainability challenges. Of outlets interviewed, 57% indicated that they were not familiar with the laws applicable to seafood trade in South Africa and 46% had never been inspected by compliance officials. Interestingly, a quarter of the respondents stated that they used the WWF-SASSI consumer guide to determine which species were illegal to sell. This illustrates the impact that WWF-SASSI has in influencing seafood purchasing decisions of seafood vendors, and in particular in reducing the amount of trade in illegal species on the South African seafood market; one of the original objectives of WWF-SASSI when it was developed in 2004.

## SURVEYS AND METHODOLOGY

### SURVEYS



WESTERN CAPE  
GAUTENG  
KWAZULU-NATAL  
EASTERN CAPE



### OUTLETS



### RESTAURANTS



### FISH SHOPS MARKETS



### RETAILERS

## Who make up the links in the seafood trade chain?

**Which species are traded, where do they originate and how were they caught or farmed?**

**Has WWF-SASSI influenced seafood purchasing decisions, and reduced illegal trade on the South African seafood market?**

These and other questions were interrogated through research conducted between 2010 and 2012 by TRAFFIC East/Southern Africa for WWF-SA.

Surveys were conducted in four provinces: Western Cape, Gauteng, KwaZulu-Natal and Eastern Cape, with the primary focus on outlets (restaurants, fish shops and markets, and retailers) operating in the major urban centres of each province.

### 95 questionnaires were completed.

- Catch data from the Department of Agriculture, Forestry and Fisheries (DAFF), trade data from customs import and export figures for 2000-2010<sup>1, 2, 3</sup>
- and annual sales data from retailers and seafood suppliers were analysed.

Retailers, seafood shopholders and market vendors were interviewed. Surveys were made of on-shelf, in-freezer, pre-packaged products and fresh stock, and product sales lists.

- Restaurant menus and displays were monitored and questionnaires completed by proprietors, chefs and waiters.
- Consumer opinion and perception were canvassed.

**Survey findings highlight the relevance of accurate seafood trade data.**

**THIS REPORT CALLS FOR IMPROVEMENTS  
IN THE TRANSPARENCY AND CAPTURE  
OF SEAFOOD TRADE DATA.**

1. South African Revenue Service (SARS). 2010. [www.sars.gov.za](http://www.sars.gov.za).

2. South African Revenue Service (SARS). 2012. [www.sars.gov.za](http://www.sars.gov.za).

3. UN COMTRADE. 2012. [www.comtrade.org](http://www.comtrade.org).

## SEAFOOD TRADE IN SOUTH AFRICA

Fish trade is governed by complex multilateral and bilateral trade agreements, and negotiations at regional, national and international levels, in conjunction with consumer demand, determine the amounts of fish exported and imported. Following the change of government in 1994 and the lifting of international sanctions, the South African market opened considerably. In 2009 South Africa exported US\$75,547,408 of fish and fishery products worldwide. Imports of fish and fishery products into South Africa for 2009 were valued at US\$69,932,024 (TRAFFIC 2010).

## THE RANDS AND CENTS OF THE GLOBAL FISHERY

Fish remains among the most traded food commodities worldwide, worth almost US\$130 billion in 2012 and pointing to an increase for 2013. The aggregate FAO Fish Price Index reached a record high in October 2013.

The fisheries and aquaculture sector is also a source of employment and income, supporting the livelihoods of 10-12% of the world's population. In 2012, employment in the sector grew faster than the world's population, with almost 60 million people engaged in the primary sector, 90% small-scale fishers and 15% of them women. In post-harvest activities such as processing, women can account for up to 90% of workers.

Rising demand for fish and fish products, coupled with a growing human population, has placed increasing pressure on fish resources and the fisheries themselves (i.e., meeting market demand in the face of declining economically valuable fish stocks).

## THE STATE OF OUR OCEANS

**Global  
perspective:  
growing  
role of fish  
in feeding  
the world**

*“More people than ever before rely on fisheries and aquaculture for food and as a source of income, but harmful practices and poor management threaten the sector’s sustainability.*

*The rapid expansion of aquaculture, including the activities of small-scale farmers, is driving this growth in production. Fish farming holds tremendous promise in responding to surging demand for food which is taking place due to global population growth. At the same time, the planet’s oceans – if sustainably managed – have an important role to play in providing jobs and feeding the world.”*

- FAO<sup>4</sup>

4. FAO. 2014. *State of the World Fisheries and Aquaculture. Opportunities and challenges*. Available at: <http://www.fao.org/3/a-i3720e/index.html>.



# FAO'S 2014 EDITION OF THE STATE OF WORLD FISHERIES AND AQUACULTURE<sup>5</sup> REVEALS:



**GLOBAL FISHERIES AND  
AQUACULTURE PRODUCTION**  
2012 totalled  
**158 MILLION TONNES** –  
around 10 million tonnes  
more than 2010.



**FISH NOW ACCOUNTS FOR ALMOST  
17% OF THE GLOBAL POPULATION'S  
INTAKE OF PROTEIN**

In some coastal and island countries it can top 70%.

The share of fisheries production used by humans for food has increased from about 70% in the 1980s to a record high of more than 85% (136 million tonnes) in 2012.

Fish consumption per person has almost doubled since the 1960s to more than 19 kg (unprocessed weight) in 2012.



**FISHERIES AND AQUACULTURE  
SUPPORT THE LIVELIHOODS OF  
AN ESTIMATED 10-12% OF THE  
WORLD'S POPULATION**



**AN ESTIMATED 1.3 BILLION  
TONNES OF FOOD ARE LOST  
PER YEAR – ABOUT ONE-THIRD  
OF ALL FOOD PRODUCED**

This figure includes post-harvest fish losses, which tend to be greater in small-scale fisheries.

In small-scale fisheries, quality losses are often far more significant than physical losses. Improved handling, processing and value-addition methods could address the technical aspects of this issue. It would also be vital, however, to extend good practices, build partnerships, raise awareness, and develop capacity, relevant policies and strategies.

**2012**

**GLOBAL AQUACULTURE PRODUCTION  
MARKED A RECORD HIGH OF MORE  
THAN 90 MILLION TONNES**

including almost 24 million tonnes of aquatic plants. China accounted for over 60% of the total share.

Food chain traceability is increasingly a requirement in major fish markets, especially in the wake of recent scandals involving the mislabelling of food products. FAO provides technical guidelines on certification and ecolabelling which can help producers demonstrate that fish has been caught legally from a sustainably managed fishery or produced in a properly run aquaculture facility.



**90% OF FISHERS  
ARE SMALL SCALE**



**IT IS ESTIMATED THAT  
OVERALL, 15% ARE WOMEN**



Illegal, unreported and unregulated (IUU) fishing remains a major threat to marine ecosystems and also impacts negatively on livelihoods, local economies and food supplies.

5. FAO. 2014. State of the World Fisheries and Aquaculture. Opportunities and challenges. Available at: <http://www.fao.org/3/a-i3720e/index.html>.

# CATCH TO PRODUCTION

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What is it? Where is it from?  
How was it caught or farmed?



GLOBAL FISH PRODUCTION  
GROWTH CONTINUES TO OUTPACE  
WORLD POPULATION GROWTH



624,078 TONNES  
OF FISH WERE  
CAUGHT IN ALL  
SOUTH AFRICAN  
FISHERIES  
IN 2010



MANY LINEFISH  
SPECIES ARE IN  
DIRE STRAITS  
ECOLOGICALLY



HAKE IS BY FAR THE MOST  
VALUABLE FISH RESOURCE  
IN SOUTH AFRICA



THE WEST COAST ROCK  
LOBSTER FISHERY PROVIDES  
THOUSANDS WITH EMPLOYMENT



THE SMALL PELAGIC FISHERY  
(PILCHARD (SARDINE) AND  
ANCHOVY) IS THE LARGEST  
FISHERY IN SOUTH AFRICA  
IN TERMS OF VOLUME LANDED

# AQUACULTURE

## What is aquaculture?

Aquaculture or farming in water is the aquatic equivalent of agriculture or farming on land. Defined broadly, agriculture includes farming both animals (animal husbandry) and plants (agronomy, horticulture and forestry in part). Similarly, aquaculture covers the farming of both animals (including crustaceans, finfish and molluscs) and plants (including seaweeds and freshwater macrophytes). While agriculture is predominantly based on use of freshwater, aquaculture occurs in both inland (freshwater) and coastal (brackish water, seawater) areas.<sup>8</sup>

The aquaculture industry will undoubtedly experience substantial regional growth in the coming years, thus the challenges and lessons learnt globally about sustainable and responsible<sup>6</sup> aquaculture should be applied to any new aquaculture ventures in Southern Africa.

Historically focused on high value species such as abalone, mussels and oysters, the South African government has identified aquaculture as an area for expansion.



**It is estimated that South Africa contributes about 21% to global abalone production.**

*In 2008, South African mariculture (the farming of marine species) was comprised of:<sup>6</sup>*



**1,037 TONNES**

ABALONE



**227 TONNES**

OYSTERS



**737 TONNES**

MUSSELS



**11 TONNES**

PRAWN



**3 TONNES**

FINFISH



**1,834 TONNES**

SEAWEEDS

*“Aquaculture’s expansion helps improve the diets of many people, especially in poor rural areas where the presence of essential nutrients in food is often scarce. However, the [State of World Fisheries and Aquaculture] report warns that to continue to grow sustainably, aquaculture needs to become less dependent on wild fish for feeds and introduce greater diversity in farmed culture species and practices.*

*“For example, small-sized species can be an excellent source of essential minerals when consumed whole. However, consumer preferences and other factors have seen a switch towards larger farmed species whose bones and heads are often discarded”.<sup>7</sup>*

6. 2008 Aquaculture production data: Aquaculture production data for 2008 was sourced from the South African department of Agriculture, Forestry and Fisheries (DAFF), the agency responsible for the management of the South African aquaculture industry.

7. FAO. 2014. *State of the World Fisheries and Aquaculture. Opportunities and challenges*. Available at: <http://www.fao.org/3/a-i3720e/index.html>.

8. FAO. 2014. *Aquaculture*. Available at: [www.fao.org/aquaculture/en](http://www.fao.org/aquaculture/en).

# SEAFOOD ORIGINS AND PRODUCTION METHODS

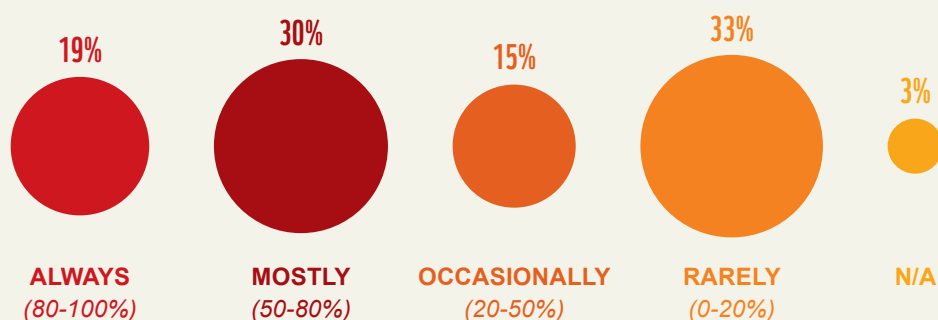
Survey respondents were asked if information on the country of origin – or province, in the case of fresh South African fish – and production method of their seafood was available to them. They were also asked whether they ever requested information of this nature.

## SEAFOOD VENDORS



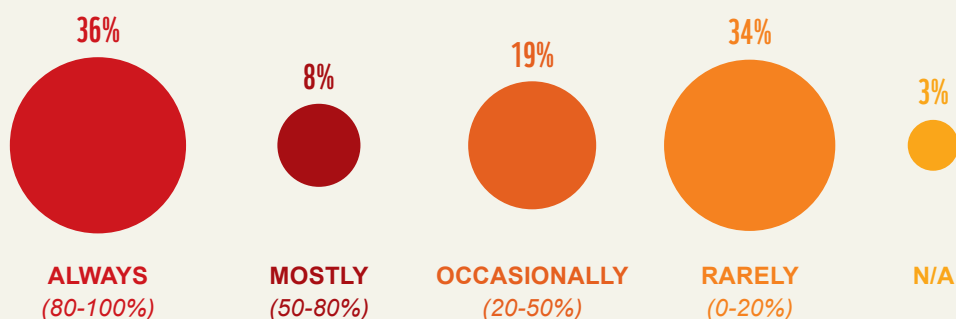
Provision of information by suppliers on the origin and production methods (farmed or wild capture) of the seafood they trade in

Question posed in survey: Are you provided with information on the origin (country, or for fresh fish, South African province) of the fish and the method of production (farmed or wild capture)?



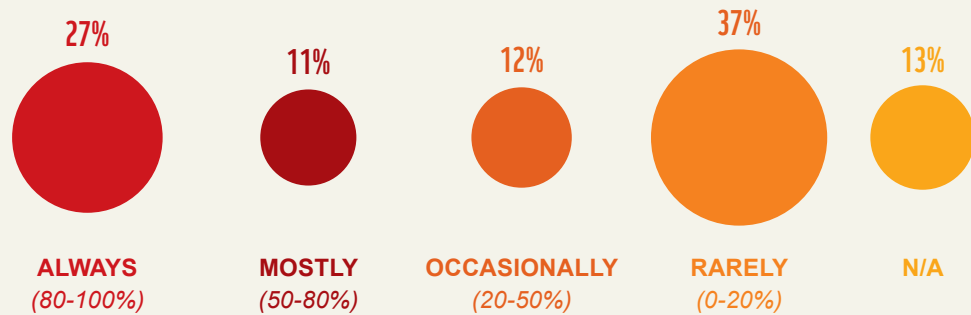
Requests for information by vendors on the origin and production methods (farmed or wild-capture) of the seafood they trade in

Question posed in survey: Where such information is not provided, do you ever request information on the origin of the fish and the method of production (farmed or wild-capture)?



### Awareness by vendors of capture methods (e.g. trawl, longline) for wild-caught fish

Question posed in survey: For wild-caught fish, are you aware of the capture method used (trawl, long-line etc.)?



### FISH SHOPS

were noted to be better informed about origin and capture method, especially those trading in fresh fish.



### IMPORTED PRODUCTS

Respondents relied predominantly on the information available on the packaging.

## CONCLUSION

These results indicate that for the majority of vendors, information on seafood origins, production and capture methods is not considered an important factor in their seafood marketing. It can also be assumed that this is because consumers in the main are not requesting this information.

# THE SOUTH AFRICAN SEAFOOD MARKET

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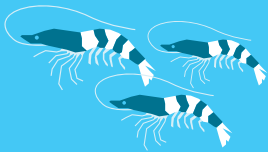
What are we trading? What are we eating?



IMPORTS FROM  
NAMIBIA AMOUNT  
TO 60% OF THE VALUE  
FOR LIVE, FRESH  
AND FROZEN FISH,  
FROM THE TOP TEN  
IMPORT COUNTRIES

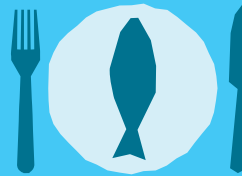


THE BULK OF OUR  
IMPORTED HAKE  
IS FROM NAMIBIA  
AND PRAWNS  
FROM INDIA



SEAFOOD CONSUMED IN SOUTH  
AFRICA IS DOMINATED BY  
PILCHARD (SARDINE) AND HAKE,  
MAKING UP AN ESTIMATED 70%

2010



ALMOST 50% OF THE  
SEAFOOD CONSUMED COMES  
FROM SOUTH AFRICAN  
FISHERIES, WITH THE REST  
BEING IMPORTED



SOUTH AFRICA  
IMPORTED AN  
AVERAGE OF  
10,300 TONNES  
OF SQUID PER YEAR BETWEEN  
2000 AND 2010, MAINLY FROM  
THE FALKLAND ISLANDS, SPAIN,  
CHINA, TAIWAN AND PERU

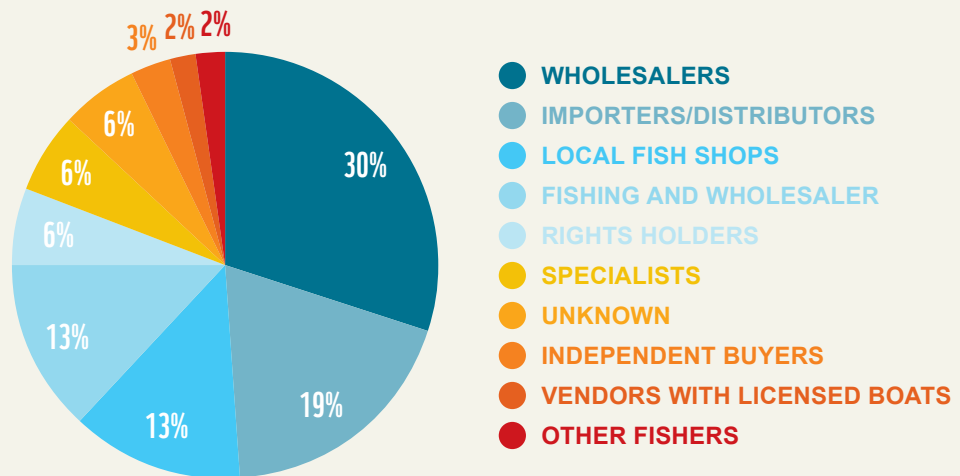
# SUPPLIERS

95 vendors participated in the seafood outlet survey.

## SEAFOOD SUPPLY SOURCES

All commercial rights holders were grouped together, as were non-commercial fishers (including subsistence, recreational, or unknown). Smaller traders who could not be categorised were tallied as “unknown”. “Other fishers” included non-commercial (i.e. subsistence and recreational) fishers. “Specialists” supply a specific type of seafood, e.g. lobsters or oysters. “Independent buyers” include regional “depots” that buy up linefish. Wholesalers and local fish shops are assumed to sell directly to the public, or have their own retail outlets, as opposed to importers/distributors.

Categories of seafood supply sources for vendors interviewed



## SEAFOOD SUPPLIER DYNAMICS IN THE FOUR TARGET PROVINCES



### SEAFOOD SUPPLIERS IDENTIFIED NATIONALLY

30%

WHOLESALE

19%

IMPORTERS AND  
DISTRIBUTORS

13%

LOCAL FISH SHOPS,  
AND FISHING AND  
WHOLESALE COMPANIES

### SOURCE OF SEAFOOD MOST FREQUENTLY DESCRIBED BY VENDORS PER PROVINCE

#### GAUTENG

1. WHOLESALE
2. LOCAL FISH SHOPS

Local fish shops ranked highest in Gauteng.

#### CAPE TOWN METRO

1. IMPORTERS/DISTRIBUTORS
2. FISHING AND WHOLESALE  
(Vertically integrated companies)

The greatest number of independent buyers were recorded in Cape Town Metro.

#### KWAZULU-NATAL

1. WHOLESALE
2. RIGHTS HOLDERS

Rights holders ranked highest in KwaZulu-Natal.

#### EASTERN CAPE

1. FISHING AND WHOLESALE  
(Vertically integrated companies)
2. WHOLESALE

In the Eastern Cape, the supply source is dominated by a small number of vertically integrated companies.

# SOUTH AFRICAN CATCH

Of the over 600,000 tonnes of fish caught in South African fisheries in 2010, more than 200,000 tonnes were anchovy and over 100,000 tonnes were pilchard (sardine).

Species caught in the small pelagic fisheries (anchovy, pilchard (sardine), round herring and horse mackerel) collectively account for the greatest volume of fish caught in South African fisheries. Cape hakes also represent a significant catch volume, being the third highest after anchovy and pilchard (sardine).

## Top ten species by volume (t) caught in South African fisheries 2010

Common name	Scientific name	Mass (t)
Southern African anchovy	<i>Engraulis encrasicolus</i>	217,042
Southern African pilchard (sardine)	<i>Sardinops sagax</i>	112,386
Cape hakes	<i>Merluccius capensis</i> , <i>M. paradoxus</i>	108,696
Whitehead's round herring	<i>Etrumeus whiteheadi</i>	88,574
Cape horse mackerel	<i>Trachurus capensis</i>	33,394
Snoek	<i>Thyrsites atun</i>	10,221
Cape Hope squid	<i>Loligo reynaudii</i>	10,068
Monkfish	<i>Lophius vomerinus</i>	7,816
Marine fishes nei*		4,927
Albacore	<i>Thunnus alalunga</i>	4,362

Source: Department of Agriculture, Forestry and Fisheries<sup>9</sup>

\* Not elsewhere identified

9. 2010: Catch data was sourced from the South African Department of Agriculture, Forestry and Fisheries (DAFF), the agency responsible for the management of all South African fisheries.



# CATCH AND INTERNATIONAL TRADE

International trade has a dynamic impact on the amount and value of marine resources available on the local market.

In 2010, 624,078 tonnes of fish were caught in all South African fisheries. 1,991 tonnes were produced through marine aquaculture operations.



## FISH

hake, snoek, tuna, kingklip, anchovy, pilchard (sardine), horse mackerel



## CRUSTACEANS

prawns, rock lobster, crabs



## MOLLUSCS

abalone, mussels, oysters



## OTHER MARINE INVERTEBRATES

sea cucumbers, jellyfish, sea urchins

## EXPORT VALUE



2010

**R3,312,577,303**

live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates

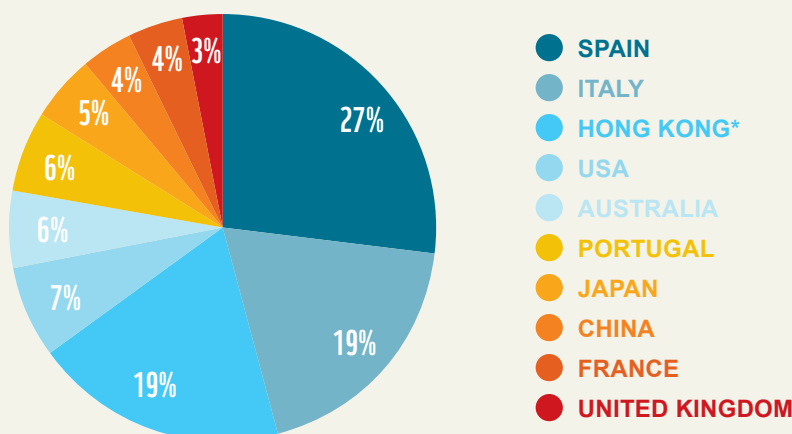
2010

**R279,812,565**

prepared or preserved fish, crustaceans, molluscs and other aquatic invertebrates



South African seafood exports by value (ZAR): live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates  
2010 – top ten importing countries



Source: UN COMTRADE. 2012. [www.comtrade.un.org](http://www.comtrade.un.org)

\* Hong Kong Special Administrative Region of the People's Republic of China

Trade data: South African export and import data was sourced from South African Revenue Service (SARS) for the period 2000-2010. SARS is the revenue and customs agency for South Africa, and among other revenue duties, SARS performs an important role in the regulation and monitoring of international and local trade. Part of their mandate is to police trade, collect duties and taxes, and to regulate the import and export of commodities.

## EXPORT VOLUMES



2010

**121,314,270 KG**

live, fresh and frozen fish,  
crustaceans, molluscs and other  
aquatic invertebrates

2010

**7,685,110 KG**

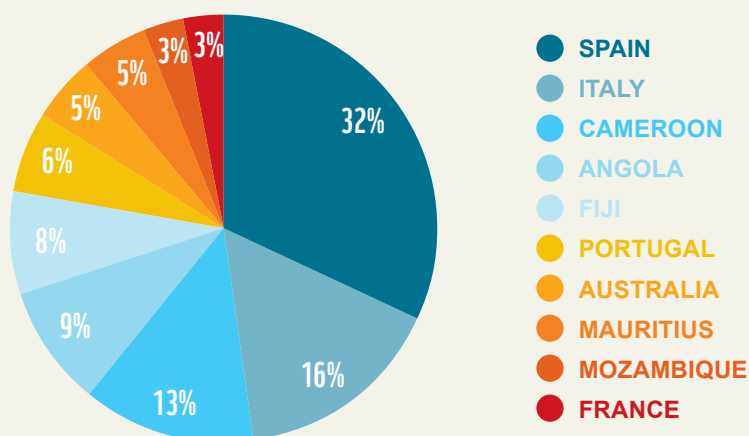
prepared or preserved fish,  
crustaceans, molluscs and other  
aquatic invertebrates

*Figures include freshwater fish and fish products as well as those from aquaculture facilities.*

The total volume for the top ten export categories in 2010 amounts to 90% of the volume of all exports of live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates from the country in that year, and 99% of all exports of prepared or preserved fish, crustaceans, molluscs and other aquatic invertebrates.



South African exports by volume: **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010 - top ten importing countries



Source: UN COMTRADE



## West Coast rock lobster (WCRL) catch

2003-2010

Landings of all rock  
lobster species

**2,996 TONNES  
PER YEAR**

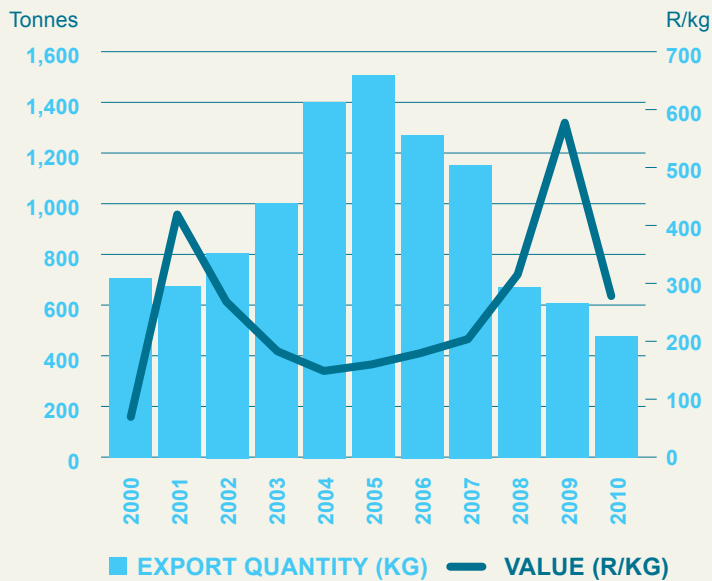
West Coast rock lobster

**MIN 70% OF LANDINGS;  
AVERAGE 2,439 TONNES  
PER YEAR**

The WCRL fishery consists of a recreational sector controlled by minimum size limits and bag limits, and a commercial TAC-regulated (total allowable catch) fishery operating mostly offshore. Commercial fishers can only land males of a specified minimum carapace length, and total volume of catch.

## Rock lobster exports

### Frozen rock lobster exports 2000-2010



Source: South African Revenue Service

#### 2008 and 2009

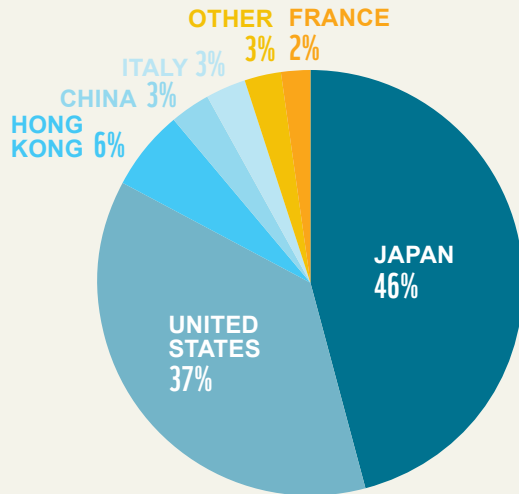
**Values rose substantially to just under R600 per kg (almost double the 2008 value) but dropped dramatically in 2010.**

*The reason for the significant price increase in 2009 is not known.*

#### Fresh or live rock lobster

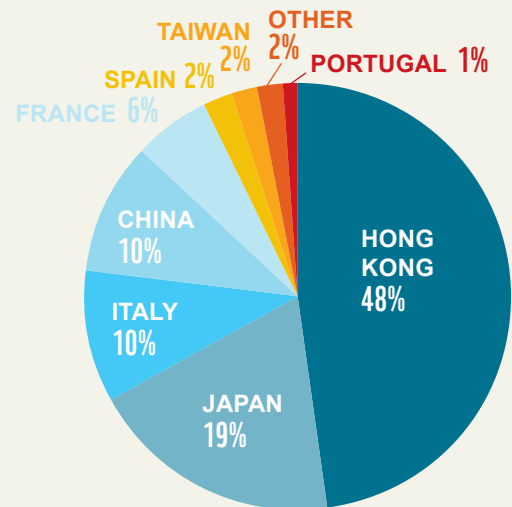
Products show an overall, though not consistent, increase in export quantity and value since 2000, and since 2008, have exceeded the volume of frozen rock lobster exports.

### Frozen rock lobster: Market destinations 2000-2010

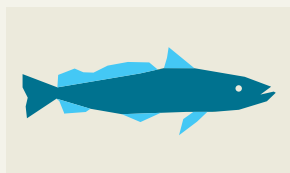


Source: South African Revenue Service

### Fresh rock lobster: Market destinations 2000-2010



Source: South African Revenue Service

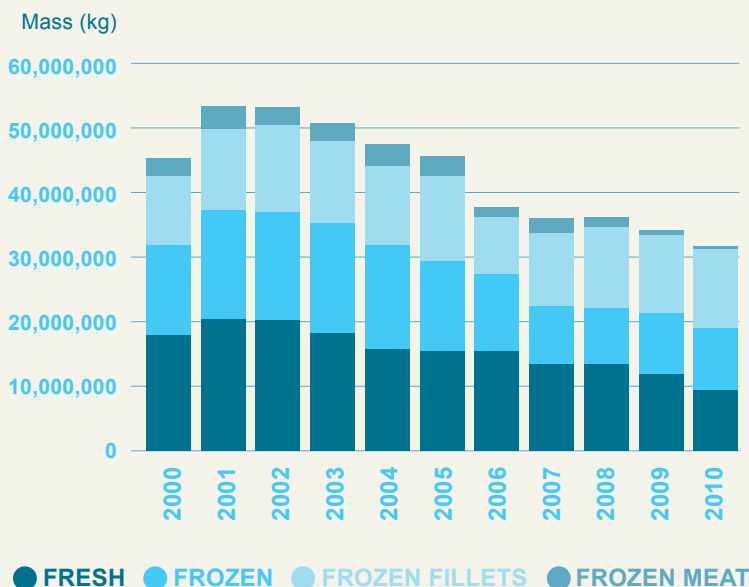


## Hake catch

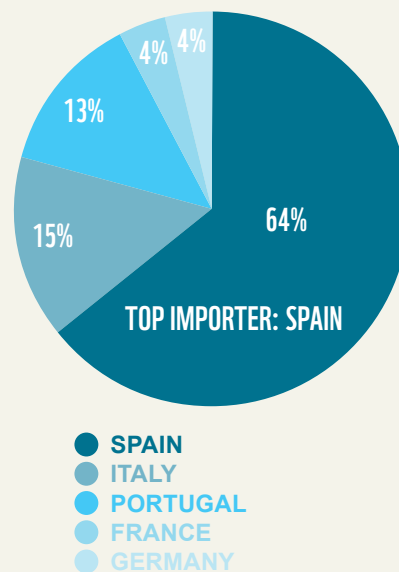
An average of 130,000 tonnes of hake is landed annually in South Africa from the trawl, longline and handline fisheries combined, with more than 90% of this catch coming from the hake trawl fishery. Within the trawl fisheries, the offshore fishery accounts for the majority of catches.

## Hake exports

Exports by mass 2000-2010



Top five EU importers by volume 2000-2010

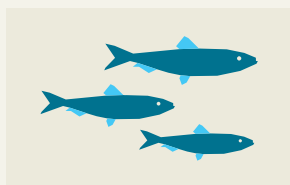


## NOTABLE

Some, but not all hake available on the local market, has been certified by the Marine Stewardship Council (MSC). South African trawled hake is MSC certified, which automatically places it on the WWF-SASSI Green-list.

### Main export markets for South African trawled hake:

Spain (frozen fish and fillets); France, Portugal, Italy, Australia and the USA (frozen fillets); and Germany, Spain and France (chilled, fresh hake). In the USA, South African hake is often marketed as “Cape capensis”.



## Pilchard (sardine) exports

2000-2010

Exports are less than 20% of the total pilchard (sardine) catch.

Export average:

**16,049 TONNES**

FROZEN

**603 TONNES**

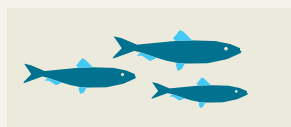
FRESH

**9,454 TONNES**

PRESERVED

Export destinations: Malaysia, Mauritius

Source: South African Revenue Services and UN COMTRADE (2010)



## Anchovy exports

2000-2010

Export average per year:

**90 TONNES**

**ANCHOVY BLOCKS AND DRIED  
ANCHOVY MAKE UP**

**86% OF ALL ANCHOVY EXPORTS**



Top Ten South African exports by volume (kg): **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010

Description	Mass (kg)
Fish, frozen, other	26,145,479
Fish fillets, frozen, other	17,476,362
Pilchard (sardine), frozen	16,017,645
Cuttlefish, squid, other	13,993,888
Fish, fresh or chilled, other	10,711,500
Hake, frozen	10,183,550
Albacore, frozen	6,651,520
Octopus, other	3,041,157
Fish flours, meals, pellets, fit for human consumption	2,751,804
Mackerel, frozen	2,023,534
<b>TOTAL</b>	<b>108,996,439</b>

Source: South African Revenue Service



Top ten South African exports by volume (kg): **prepared or preserved fish, crustaceans, molluscs and other aquatic invertebrates**  
2010

Description	Mass (kg)
Fish nes*, prepared or preserved, not minced	2,517,908
Pilchard (sardine), brisling, sprat prepared or preserved, not minced	2,023,518
Herring, prepared or preserved, not minced	1,212,434
Fish prepared or preserved, except whole, in pieces	886,806
Molluscs and shellfish nes*, prepared or preserved	427,375
Mackerel, prepared or preserved, not minced	324,514
Tuna, skipjack, bonito, prepared or preserved, not minced	205,899
Shrimps and prawns, prepared or preserved	53,222
Salmon prepared or preserved, not minced	13,921
Anchovy, prepared or preserved, not minced	11,326
<b>TOTAL</b>	<b>7,676,923</b>

Source: UN COMTRADE

\* Not elsewhere specified

## IMPORT VALUE



2010

### R1,616,973,540

live, fresh and frozen fish,  
crustaceans, molluscs and  
other aquatic invertebrates

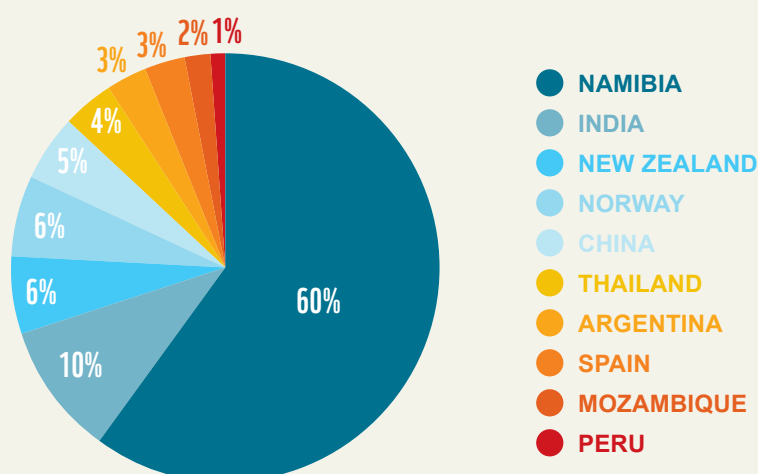
2010

### R987,252,428

prepared or preserved fish,  
crustaceans, molluscs and other  
aquatic invertebrates



South African seafood imports by value (ZAR): **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010 – top ten source countries



Source: UN COMTRADE



Top ten South African imports by value (ZAR): **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010

Description	Value (ZAR)
Fish, frozen, other	352,341,913
Shrimps, prawns	260,571,078
Hake, frozen	175,520,044
Mackerel, frozen	150,288,320
Fish fillets, frozen, other	146,654,590
Cuttlefish, squid, other	123,686,953
Fish meat, frozen	104,190,603
Salmon, fresh or chilled	47,999,321
Anchovy blocks	32,581,159
Fish, fresh or chilled	28,031,328
<b>TOTAL</b>	<b>1,421,865,309</b>

Source: South African Revenue Service

## IMPORT VOLUME



2010

**100,629,436 KG**

live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates

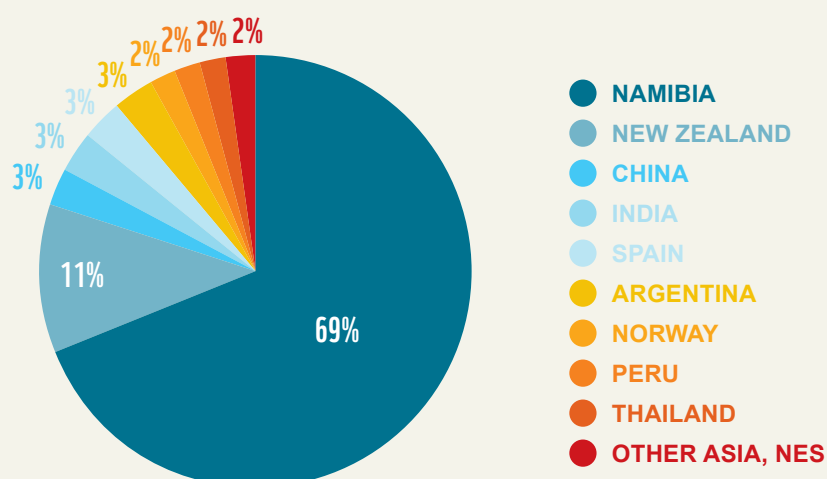
2010

**56,055,205 KG**

prepared or preserved fish, crustaceans, molluscs and other aquatic invertebrates



South African seafood imports by volume: **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010 – top ten source countries



Source: UN COMTRADE and Namibian Bureau of Statistics<sup>10</sup>

\* Not elsewhere specified



Top ten South African imports by volume (kg): **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010

Description	Mass (kg)
Fish, frozen, other	31,853,180
Fish meat, frozen	12,785,637
Mackerel, frozen	11,860,265
Hake, frozen	11,674,745
Cuttlefish, squid, other	7,794,740
Shrimps, prawns	6,050,348
Fish fillets, frozen, other	5,542,110
Salmon, fresh or chilled	1,567,826
Anchovy blocks	1,406,925
Anchovy blocks	1,121,200
Pilchard (sardine), frozen	1,095,801
<b>TOTAL</b>	<b>92,752,777</b>

Source: South African Revenue Service

10. Namibian Bureau of Statistics. 2012. <http://www.nsa.org.na>.



## South African seafood imports

South African seafood imports by volume: **live, fresh and frozen fish, crustaceans, molluscs and other aquatic invertebrates**  
2010 – top ranking source countries (89% of total volume)

**69%**

NAMIBIA

**11%**

NEW-ZEALAND

**3% EACH**

CHINA, INDIA,  
SPAIN, ARGENTINA



## Hake imports

2000-2010

South Africa imported hake from more than 15 countries:

**MORE THAN 95% OF HAKE IMPORTS  
CAME FROM NAMIBIA**

2007 ONWARD

Imports of hake from countries other  
than Namibia appear to be increasing:

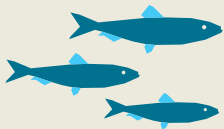
**ARGENTINA**

2002

**10 KGS**

2010

**ALMOST 1,000 TONNES**



## Anchovy imports

2007-2010

Import average:

**2,000 TONNES**

FROZEN ANCHOVY BLOCKS

Import origins:

US, Argentina, Norway

**15 TONNES**

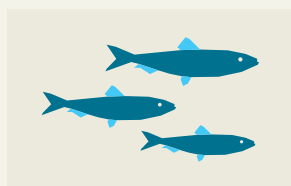
DRIED ANCHOVY

Import origins:

Chile, Argentina







## Pilchard (sardine) imports

2000-2010

Import average:

**796 TONNES**

FRESH AND FROZEN

Import origins:

Spain and Taiwan

**22,925 TONNES**

PRESERVED (CANNED)

Import origins:

Thailand

Source: South African Revenue Service



## Squid imports

Squid imports have remained fairly stable over the last decade.

2000-2010

Import average  
per year

**10,300 TONNES**

2003-2010

Import average  
per year

**11,300 TONNES**

2000-2010

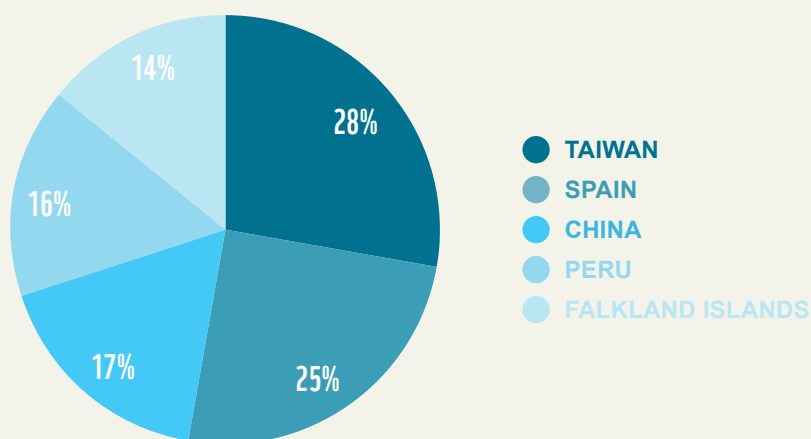
Average  
value

**R13 PER KG**

Source: UN COMTRADE and South African Revenue Service



## South African imports of frozen squid 2000-2010



Source: South African Revenue Service



## Prawn imports

Imports of frozen prawns, the largest by volume of the three traded forms, have increased more than three-fold from 2003 to 2010.

### Import average per year

2000-2010

**4,700 TONNES**

FROZEN

2003-2010

**37 TONNES**

LIVE

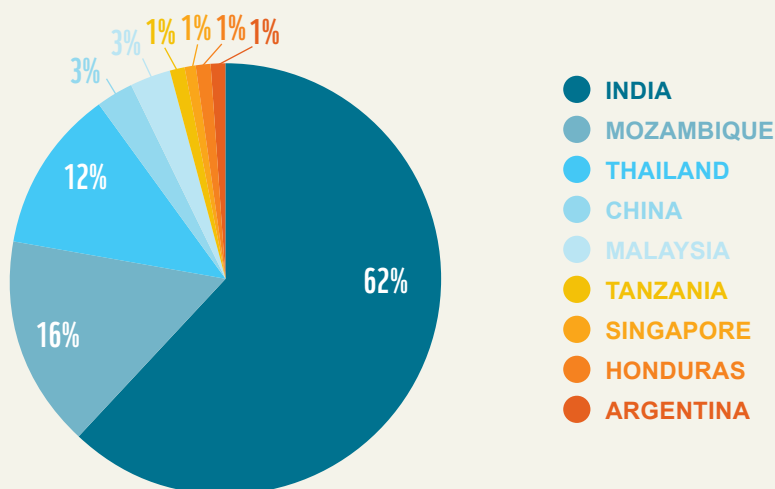
2003-2010

**1,900 TONNES**

PRESERVED



### South African imports of frozen prawns 2000-2010



Source: South African Revenue Service



## Tuna, canned imports

2000

Approximately  
**5,500 TONNES**

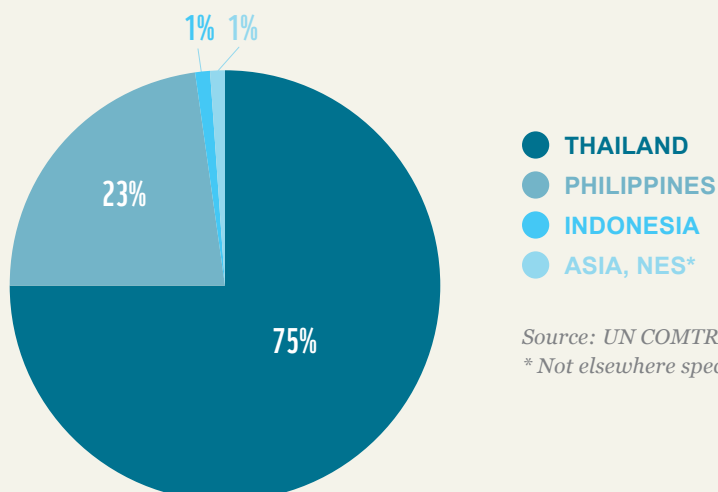
2010

Approximately  
**12,300 TONNES**

Imports increase of  
**MORE THAN 100%**



### South African imports of canned tuna 2000-2010



Source: UN COMTRADE

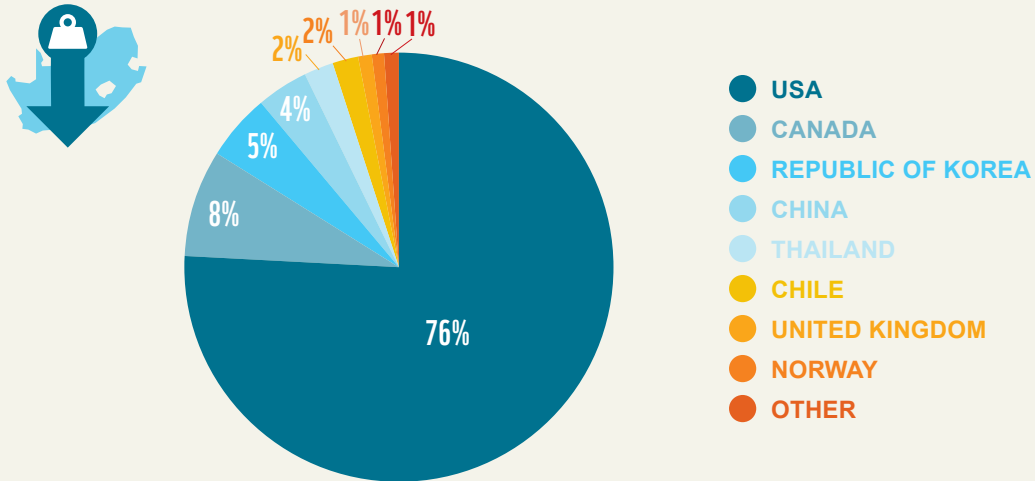
\* Not elsewhere specified



## Salmon, canned imports

Canned salmon imports into South Africa have experienced some fluctuations over the 2000-2010 period with an apparent trend toward increased import volumes.

South African imports of canned salmon 2000-2010



Source: UN COMTRADE

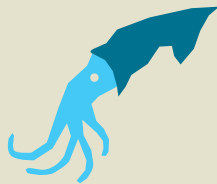
## Why are we importing the same seafood that we export?

### THE KEY FACTOR IS PROFIT

Where the value that a seafood species attracts in an offshore market is far greater than its value on the local market, the species is exported as the return is proportionally greater. To meet the local demand, a lower value substitute is then imported.

### EXPORT VOLUMES SOMETIMES EXCEED CATCH

In South Africa, some of the squid that is imported is subsequently exported. In the case of squid, the price for importing is much lower than what we can get from exporting, as the species of squid that we catch for export is highly valued in Spain and Italy. The squid (locally called calamari) that we eat in South Africa is almost all imported, coming predominantly from fisheries based in the Falkland Islands.



## SQUID TRADE BASICS<sup>11</sup>

Approximately

**9,200 TONNES LANDED PER YEAR**

2003-2010, DAFF

2000-2010

Exports

**9,700 TONNES PER YEAR**

2003-2010 average = 13,000 tonnes

Italy, Spain, Greece, Japan, Portugal account for 88%

Average value: **R34 per kg**

2000-2010

Imports

**10,300 TONNES PER YEAR**

2003-2010 average = 11,300 tonnes

Falkland Islands, Spain, China, Taiwan, Peru account for 76%

Average value: **R13 per kg**

11. Markus Burgener, in litt. to Deborah Cooper. 2014.

# MARKET TRENDS

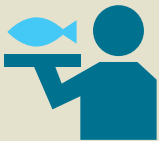
## DRIVERS OF SEAFOOD TRADE

Both seafood supply and demand appear to be driving seafood trade trends. Fish and seafood market trends in South Africa are largely influenced by market price, species availability, and ease of accessibility for consumers. Increasingly, market trends are influenced by consumer awareness programmes like WWF-SASSI, and eco-labels like the Marine Stewardship Council (MSC).



### Seafood demand

Demand for seafood in general appears to be stable or increasing for the majority of seafood vendors, with only a small number reporting a decline in demand. Some of the most traded species in our market are imported and from aquaculture operations. As such there is consistency in price and availability, facilitating stock and menu planning compared with local species that are often very inconsistent when it comes to price, availability and quality.



### RESTAURANTS



### SHOPS AND MARKETS



### RETAILERS

### Seafood availability

Feedback from restaurants and fish outlets indicates that most vendors are experiencing decreased availability of seafood. The increased supply of seafood, with specific mention of hake, was noted by some outlets. This appears to be attributed to the collapse of the hake export market as a result of the global economic downturn.

### Sustainable procurement

Key South African seafood supply chain role players (retailers, restaurants, markets, suppliers and fish shops), the media and consumers have the buying power and influence to uphold sustainability in what is caught and distributed on the local market. The recovery of our fish stocks needn't be at the expense of fishers' livelihoods. Healthy fish stocks mean a better deal for both marine ecosystems and those who rely on them. Supporting fisheries/farms that are engaged in credible time-bound improvement projects helps to drive positive change globally.

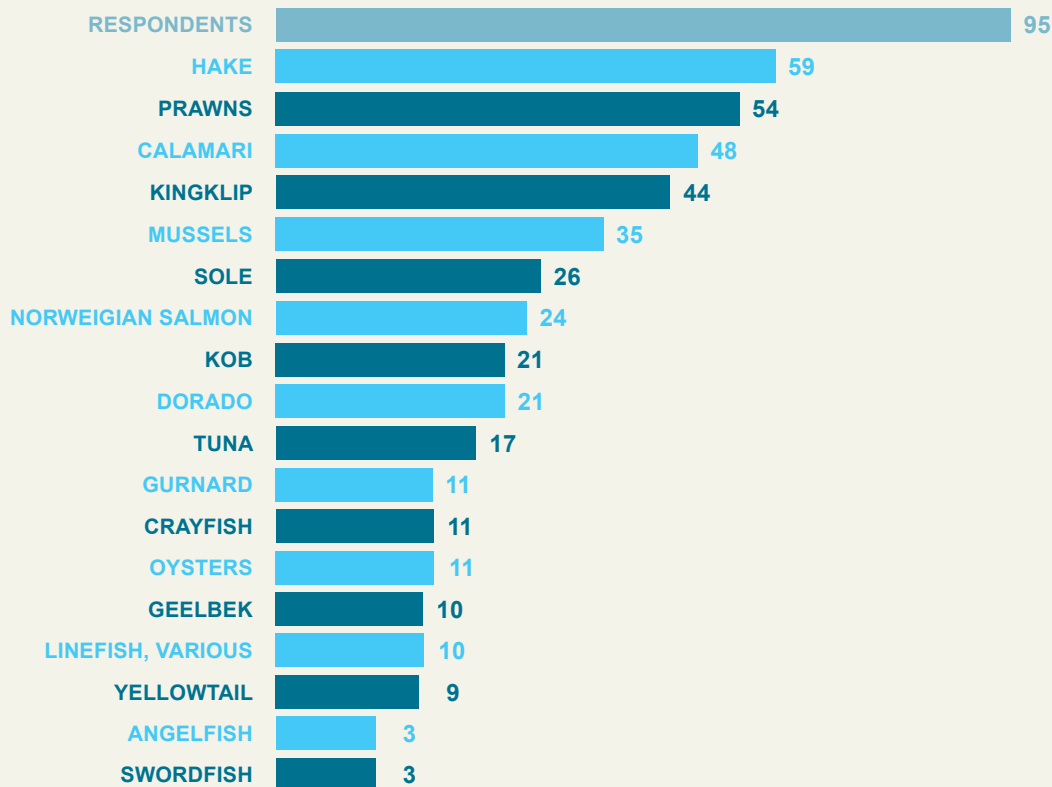
## SPECIES COMPOSITION

Surveys were conducted among 147 restaurants, fish shops and markets, and retailers, to determine species composition.

The majority of the outlets participated, with 95 responding in full.

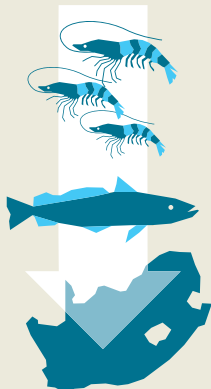
For retailers, only fresh seafood was considered due to the large number of frozen, canned, and value-added products from the same producers.

### Ranking of seafood species traded



Respondents: Eastern Cape, Gauteng, KwaZulu-Natal, Western Cape

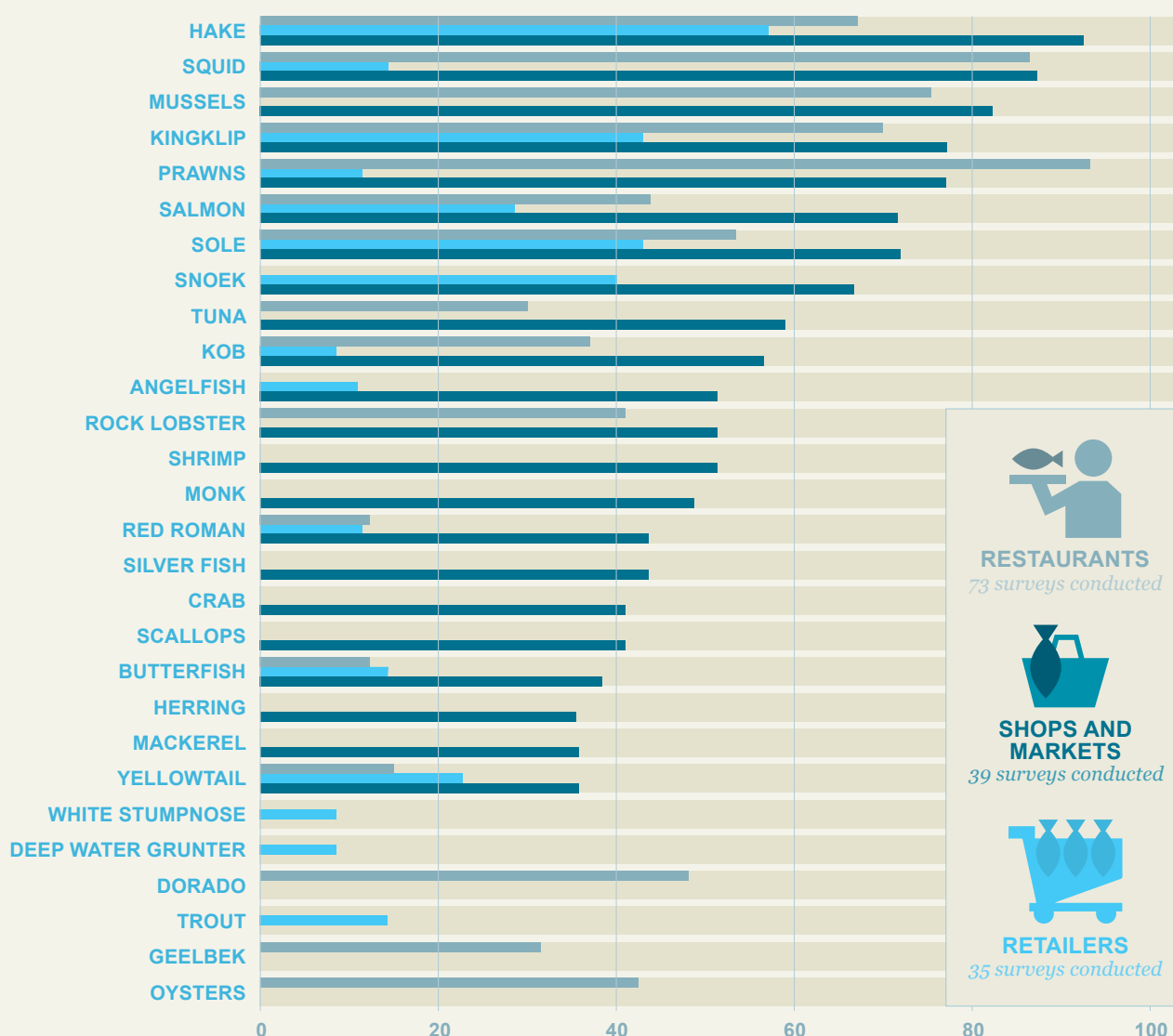
Note: Figures represent responses from 95 seafood vendors



**OF THE TOP TWO SPECIES TRADED ON OUR MARKETS IN SOUTH AFRICA, PRAWNS ARE MOSTLY IMPORTED, AND A LARGE AMOUNT OF THE HAKE.**

Much of our imported hake is from Namibia and some of our prawns are from Mozambique. Our importance as an import destination for these commodities is an opportunity for us to influence the environmental sustainability performance of the source fisheries.

Comparison of number of outlets stocking the highest ranking species traded, per outlet category



Please note: The majority of surveys conducted for retailers were specific to their fish counters and did not necessarily incorporate their frozen and canned ranges. Statistics based on the 147 surveys conducted.

**FOUND IN ALL THREE CATEGORIES, NAMELY RESTAURANTS, SHOPS AND MARKETS, AND RETAILERS** Hake, squid (calamari), kingklip, prawns, salmon, sole, kob, red roman, butterfish, yellowtail

**FOUND IN RESTAURANTS ONLY** Dorado, geelbek (Cape salmon), oysters

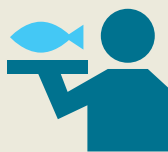
**FOUND IN SHOPS AND MARKETS ONLY** Shrimp, monk, silver fish (silvers), crab, scallops, herring, mackerel

**FOUND IN RETAILERS ONLY** White stumpnose, deep water grunter,<sup>12</sup> trout

### Why is the picture so different for restaurants, shops and markets, and retailers?

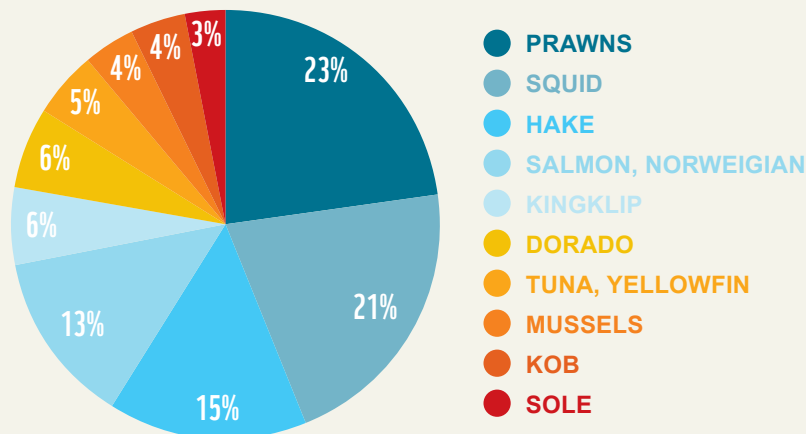
**Trade dynamics are closely linked to product price, and the socio-economic profiles of the different consumer groups.**

12. Species not certain, however there is a high probability of this being one of various species of gurnard (*Chelidonichthys* sp.). The Afrikaans common fish name “knorhaan” is often used to describe both spotted grunter (caught predominantly in estuaries) and various species of gurnard (caught predominantly in deep-sea fisheries); therefore the definition of “deep water grunter” may be the result of a direct translation of “diepwater knorhaan”.



## Restaurants

Breakdown of estimated volume of seafood traded by 62 restaurants in South Africa on a monthly basis – top ten products (representing 86% of total estimated volume traded)



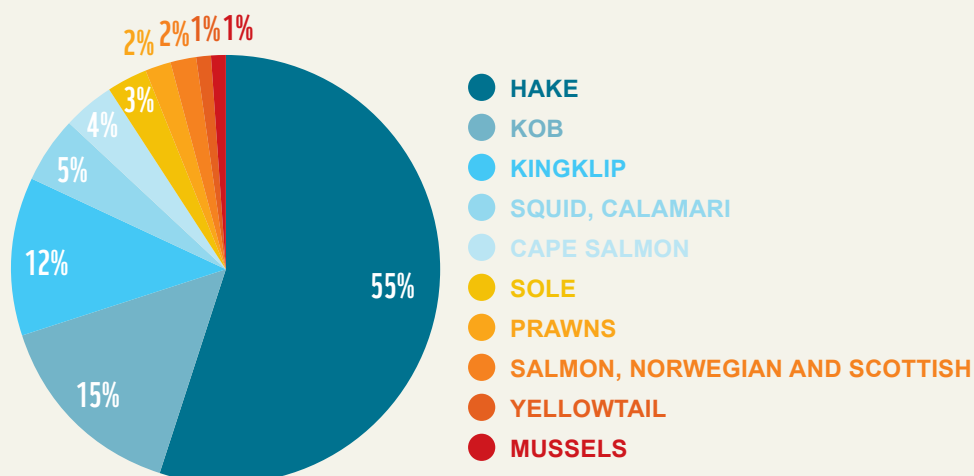
Menu composition: three (prawns, squid and Norwegian salmon) of these top four species and species groups (collectively making up 72% of the top ten), are comprised almost entirely of imported products and for the fourth (hake) there are known imports from Namibia and other countries.

*Volume and value figures for seafood products imported from Namibia are based on export figures for these products from Namibia as reported by the Namibian Bureau of Statistics. All other import figures are as reported by the South African Revenue Service or UN COMTRADE.*



## Fish shops

Breakdown of estimated volume of seafood traded by 10 small independent fish shops (including seafood markets surveyed) in South Africa on a monthly basis – top ten products (representing 95% of total estimated volume traded)



Fish shop dynamics are very different from those for restaurants. Hake comprises more than half (55%) of estimated volume, followed by kob and kingklip. Squid only comprises 5% and prawns 2% of estimated volume.

# SEAFOOD CONSUMPTION IN SOUTH AFRICA



2010

Total estimated seafood  
consumption in South Africa

**312,753,261 TONNES**

Dominated by



**PILCHARD (SARDINE) AND HAKE 70%**  
of estimated seafood consumption in the country

Followed by



**MACKEREL 14%**  
(canned, fresh and frozen)



**CANNED TUNA 4%**



**SNOEK 5%**



**PRAWNS 2%**

**ASSORTED LINEFISH SPECIES (EXCLUDING SNOEK),  
KINGKLIP, SALMON (CANNED, FRESH AND FROZEN)  
AND SQUID 1% EACH**



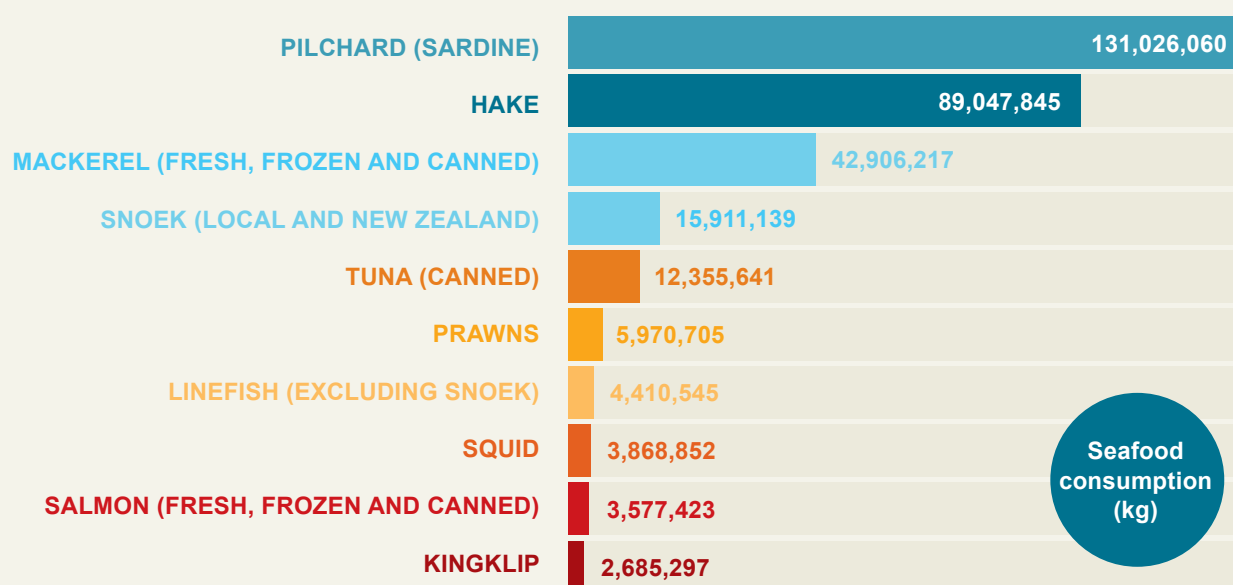
Consumption of  
locally caught seafood **50%**



Consumption of  
imported seafood **50%**



## Estimated seafood consumption (kg) in South Africa – top ten products 2010



	Catch (kg)	Export (kg)	Import (kg)
PILCHARD (SARDINE)	112,386,000	18,041,163	36,681,223
HAKE	108,696,000	31,322,900	11,674,745
MACKEREL (FRESH, FROZEN AND CANNED)	33,394,000	2,348,048	11,860,265
SNOEK (LOCAL AND NEW ZEALAND)	10,221,000		5,690,139*
TUNA (CANNED)			12,355,641
PRAWNS	66,190	145,833	6,050,348
LINEFISH (EXCLUDING SNOEK)	4,410,545		
SQUID	10,068,000	13,993,888**	7,794,740
SALMON (FRESH, FROZEN AND CANNED)		13,921	3,591,344
KINGKLIP	2,685,297		

Catch data – Department of Agriculture, Forestry and Fisheries

Imports and exports – South African Revenue Service,

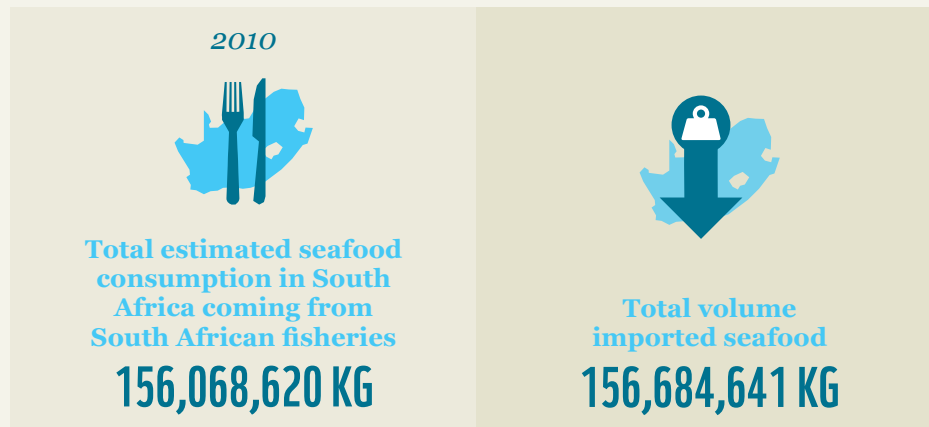
UN COMTRADE, Eurostat and Namibian Bureau of Statistics

\* This figure is an estimate based on the following: Reported catch of barracouta in 2010 was 28,450,694 kg (New Zealand Ministry of Fisheries, 2012). Statistics New Zealand notes that 25% of barracouta go to South Africa. There is limited domestic consumption. Until further information on exports is obtained, South African imports of New Zealand snoek have been estimated at 20% of catch in 2010: 5,690,139 kg.

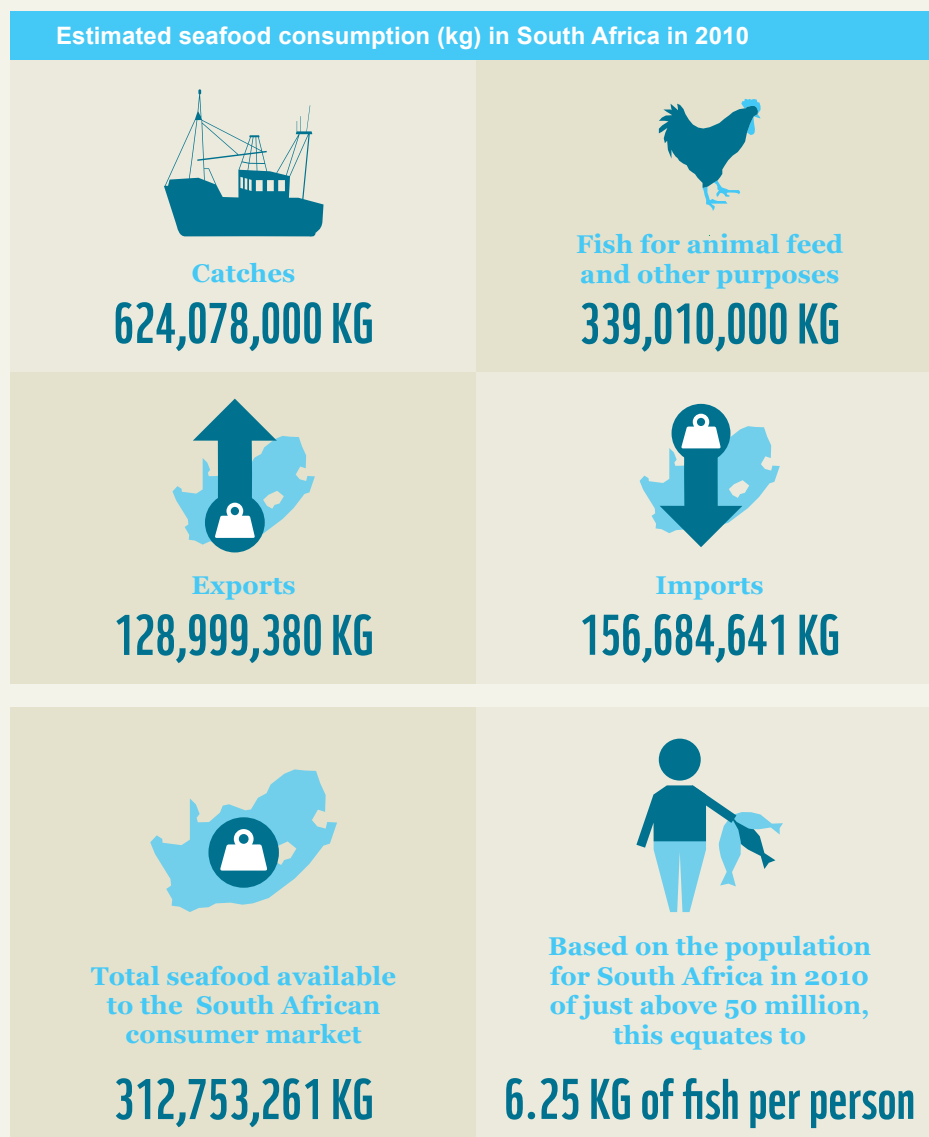
\*\* Exports of squid from South Africa exceeded catches of squid in South Africa for this period; this either indicates the possibility of IUU fishing or that a component of the imported squid product is being re-exported.

## CONSUMPTION OF DOMESTIC VERSUS IMPORTED SEAFOOD

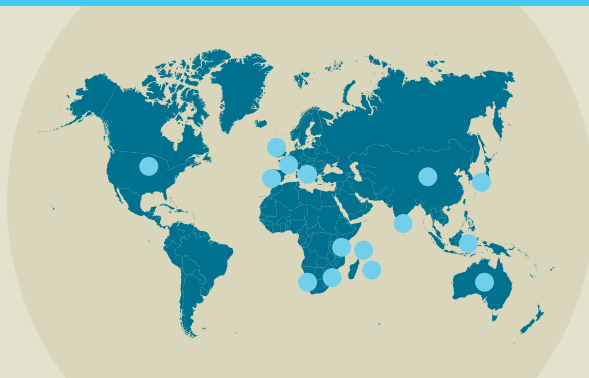
An estimated volume of consumption of seafood from South African fisheries in 2010 was determined by subtracting seafood exports, and fish for animal feed and other purposes, from total catches for that year.



Based on these figures, in 2010 approximately 50% of seafood consumed in South Africa was from fish caught in South African fisheries while approximately 50% was made up of imported seafood.



## Estimated seafood supply per person (kg/year)



Seychelles	61	Indonesia	21
Japan	61	Mauritius	20
Spain	45	United Kingdom	16
France	34	Namibia	13
United States	27	Tanzania	7
China	26	Mozambique	5
Italy	25	India	5
Australia	22		

2012

Capture fisheries and aquaculture supplied the world with about

**158 MILLION TONNES OF FISH**

Of this, 120 million tonnes was used as human food, providing an estimated supply per person of about 19 kg (live weight equivalent).

Average annual consumption of fish per person globally

**5.2 KG (PROCESSED WEIGHT)<sup>13</sup>**

13. FAO. 2014. *State of the World Fisheries and Aquaculture. Opportunities and challenges*. Available at: <http://www.fao.org/3/a-i3720e/index.html>.

# SUSTAINABILITY

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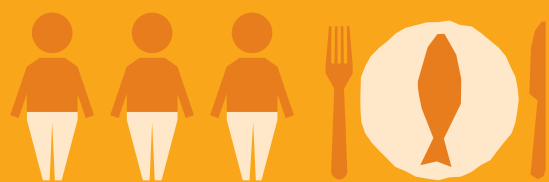
How do we positively transform seafood trade?



TO ENSURE ABUNDANT FISH STOCKS  
FOR THE FUTURE IT IS VITAL TO KEEP  
ECOSYSTEMS BALANCED AND HEALTHY



VENDORS CAN  
IDENTIFY SEAFOOD  
SUSTAINABILITY  
RISKS IN  
PROCUREMENT AND  
PASS ON PRODUCT  
KNOWLEDGE TO  
THEIR CUSTOMERS



CONSUMERS CAN ASK  
QUESTIONS WHEN ORDERING  
AND PURCHASING SEAFOOD

# COMPLIANCE AND ILLEGAL SEAFOOD TRADE

*“Fish is among the most traded food commodities worldwide ... fisheries and fish farming are playing an increasingly critical role for many local economies”.<sup>14</sup>*

## WHAT ARE WE DOING IN SOUTH AFRICA?

FAO advocates the responsible use of aquatic resources and habitat conservation to help boost the sector's contribution to food security, poverty alleviation and human well-being.

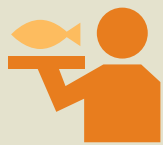
A Code of Conduct for responsible SA fisheries has recently been developed to help with promoting conservation in the local fishing industry. Based on the principles for a responsible fishery as espoused by FAO, this code of conduct serves as a generic template for local fisheries by outlining the approach to various issues such as pollution, habitat loss, bycatch, discarding of waste, and overfishing. Steering the seafood industry toward responsible fishing practises will, in turn, ensure the sustainable harvesting of marine resources in harmony with the environment.

## DRIVERS OF CHANGE IN THE SOUTH AFRICAN SEAFOOD SECTOR

Survey respondents indicated that improved monitoring and regulation of landings, suppliers and traders was the key driver for positive change in the South African seafood sector. Awareness by consumers, suppliers and restaurants was given as a driver of improved compliance. Socio-economic factors were ventured as the major driver behind negative changes, i.e. decreasing compliance, with particular reference being made to money or greed.

The most prevalent recommendation made for reducing illegal trade was increased or stricter monitoring of suppliers and restaurants by inspectors. Also noted were the need for stricter regulations and penalties and increased consumer awareness.

14. FAO. 2014. *State of the World Fisheries and Aquaculture. Opportunities and challenges*. Available at: <http://www.fao.org/3/a-i3720e/index.html>.



RESTAURANTS

SHOPS AND  
MARKETS

RETAILERS

Restaurants and seafood outlets were asked about their knowledge of South African legislation applicable to the trade in fish and fish products; their past, current and possible future trade practises with regard to no-sale species or purchases from recreational fishers; and their impressions of compliance within the South African seafood trade sector.

### Familiarity with the South African Marine Living Resources Act 18 of 1998 (MLRA)

#### 35% FAMILIAR

Respondents aware of the act but not of the specific provisions.

#### 8% NO CLEAR INDICATION

#### 57% NOT FAMILIAR

Respondents expect their suppliers to have knowledge of the relevant legislation.

Awareness of the laws applicable to seafood trade in South Africa appears to be low. It is encouraging that, based on comparisons with surveys conducted in 2002 and 2005 in Durban and Cape Town respectively, knowledge of the MLRA appears to have increased in Cape Town but it is a concern that the opposite is true of Durban. With regard to awareness of no-sale species, on the other hand, Cape Town results are worrying as they indicate the possibility of an increase in trade with recreational fishers, while results from Durban indicate a marked change for the better.

### NOTABLE

While declared knowledge of the MLRA and possession of the Regulations to the Act are poor, the relatively improved awareness of no-sale species indicates at least some knowledge of the reasons for the regulations, and the provisions of the MLRA.

### What is the MLRA?

#### FOR SEAFOOD DEALERS

**The Marine Living Resources Act (MLRA) and its amendments determine how we utilise our seafood resources. Key points relating to seafood dealers include the following:**

- Permits are needed for the harvesting, selling, importing or exporting of marine resources (Section 13(1)).
- Recreational fishers may not sell their catch (Section 20(1)).
- Specific regulations are in place for the management of certain species and fisheries, such as size and bag limits, closed seasons and no-sale species.
- The act allows for penalties of up to R2 million or five years' imprisonment for infringements.
- It is necessary to be in possession of the correct import permits for seafood from other countries. These are issued by the Department of Agriculture, Forestry and Fisheries (DAFF, Fisheries Division) and the International Trade Administration Commission of South Africa (ITAC).

### Ease of interpreting the MLRA by seafood buyers, sellers and importers

**16% EASY**

**21% UNSURE**

**63% UNABLE TO RESPOND**

Respondents did not have a copy of the act.

### Possession of the MLRA regulations

**6%**

of respondents had a copy of the regulations applicable to seafood dealers.

**94%**

of respondents stated that they either didn't have the regulations, or felt that the question was not applicable.

#### NOTABLE

Eight of the ninety five respondents answering "No" to this question appeared to confuse the MLRA Regulations with WWF-SASSI.

#### What constitutes illegal trade?

The MLRA outlines utilisation of seafood resources for legal trade and recreational fishing.

No-sale species are (1) species designated as non-commercial and thus reserved for recreational fishing, subject to the possession of a valid recreational angling permit, and daily bag limits, size limits and closed seasons. These species may not be sold; and (2) specially protected or prohibited species that may not be captured by anyone.

### Reasons for no-sale and recreational fisher provisions

**11%**

Not aware.

**23%**

Felt the question was not applicable.

**64%**

Aware of why the restrictions on the sale of recreationally-caught and no-sale species exist.

## Knowledge of no-sale species

Declared knowledge of no-sale species in terms of the MLRA was greater than knowledge of the act itself with 54% of respondents stating that they knew which fish are no-sale species, 9% indicating that they had some knowledge and 37% stating that they either didn't know (26%) or felt that the question did not apply to them (11%).



### NOTABLE

#### 26% OF RESPONDENTS

noted that they refer to the WWF-SASSI red list or materials to establish which are the no-sale species.

#### 8% OF RESPONDENTS

rely on suppliers to only sell legal seafood species.

## Current opportunities to purchase seafood from recreational fishers or to purchase no-sale species

YES %	15	52	84	29	80	62
NO %	85	48	16	71	20	38
	GAUTENG	DURBAN	CAPE TOWN METRO	SOUTHERN CAPE	EASTERN CAPE	ALL

Note: Responses of "Never" and "N/A" were tallied as "No".

Responses of "Occasionally" and "Frequently" were tallied as "Yes".

## Current opportunities to purchase seafood from recreational fishers or purchase no-sale species: a comparison with previous surveys in Durban and Cape Town

YES %	85	52	60	84	62
NO %	15	48	40	16	38
	DURBAN SURVEY 2002	DURBAN SURVEY 2011	CAPE TOWN SURVEY 2005	CAPE TOWN SURVEY 2011	CURRENT SURVEY

### CONCERN

#### 62% OF RESPONDENTS

in all regions surveyed are either offered seafood by recreational fishers or are in a position to purchase no-sale species. Comparisons with previous surveys reveal a significant improvement in Durban, but a concerning change for the worse in Cape Town.



## Willingness to purchase seafood from recreational fishers or to purchase no-sale species

### 22% OF RESPONDENTS

indicated that they would consider purchasing seafood from recreational fishers, or purchasing no-sale species. The majority of these respondents linked their decision to situations where they were unable to obtain the desired fish legally.

### 78% OF RESPONDENTS

stated that they would not buy no-sale species or purchase seafood from recreational fishers.

## Visits by compliance officials

FREQUENTLY %					
0	24	68	28	13	27
OCCASIONALLY %					
3	44	26	28	47	27
NEVER %					
97	32	6	44	40	46
GAUTENG	DURBAN	CAPE TOWN METRO	SOUTHERN CAPE	EASTERN CAPE	ALL

### 27% OF RESPONDENTS

reported frequent visits by compliance officials, with 8% noting one or more visits per month. 19% noted visits once every four months, or an unspecified number of “frequent” visits.

### 27% OF RESPONDENTS

noted occasional visits by compliance officials with approximately half of these occurring at a frequency of once or twice a year. The balance noted either visits varying between every two to nine years, or unspecified visits.

### 46% OF RESPONDENTS

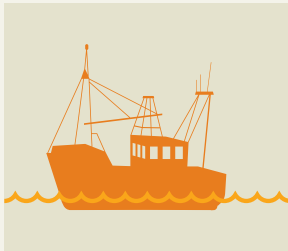
had never been inspected although a small number (in Gauteng) reported visits by officials from, among others, the Society for the Prevention of Cruelty to Animals (SPCA) and Council for Scientific and Industrial Research (CSIR). A 2006 survey of ten restaurants in Gauteng recorded no visits by compliance officials.

## CONCERN

Inspection levels are low, and in some instances the seafood vendor respondents surveyed recorded no inspections by compliance officials.



**As consumers have become sensitised to the environmental issues around seafood, businesses involved in the seafood industry have come under increasing pressure to ensure the sustainability of their operations, not just out at sea on the vessels but also throughout the supply chain.**



## WHAT CAN SUPPLIERS DO?

**Be well informed on the issues affecting seafood sustainability and develop the capacity to adequately address key focus areas.**

## IMPACTS AND SOLUTIONS

Over the last century, commercial fishing has dramatically altered our marine ecosystems in order to supply the world's demand for seafood.

To ensure that seafood will be available for future generations, suppliers need to understand not only how our fishing practises impact our marine ecosystems, but also how we can change fishing methods and seafood choices to prevent further damage and to allow recovery of the damaged ecosystems.

Businesses should be aware of the current concerns regarding the fishing and aquaculture industries to better inform the decisions they make when addressing seafood sustainability in their operations.

## Develop a good understanding of the following:

### OVERFISHING

The majority of the world's fisheries are either fully exploited or over exploited. However, with responsible fisheries management, declining resources can be turned around, benefitting everyone.

### FISHERIES ECOSYSTEM IMPACTS

In the past, fisheries management largely focused on individual management for each type of target fish. What this did not take into account was that harvesting a target fish can have significant impacts on other marine species, foodweb functioning, habitats such as the ocean floor, and on other vulnerable species like turtles or seabirds. Subsequently, as pressure on resources and the ecosystem increases, the shortcomings of this approach have become more obvious.

## ECOLOGICAL BALANCE

To ensure abundant fish stocks for the future it is vital to keep ecosystems balanced and healthy. It is therefore necessary to manage fishing activities within ecological limits, which means making sure that we only take out the volume of fish that will not jeopardise the delicate balance of a healthy ecosystem.

## ENVIRONMENTAL IMPACTS OF AQUACULTURE

Aquaculture is often touted as the solution to overfishing, however aquaculture operations are not without their environmental impacts.

Some aquaculture methods are better than others, for example the farming of mussels and oysters is seen as a good environmental seafood choice, as these animals are filter feeders and need no nutritional input.

Unless properly managed, farming of carnivorous finfish such as salmon, especially under intensive conditions (somewhat like cattle in a feedlot), can have impacts that are undesirable. This method of aquaculture can be associated with issues such as pollution, the escape of farmed fish, disease and parasite transfer to wild salmon populations.

### Key aquaculture impacts include:

## CHEMICAL INPUTS

Excessive use of chemicals, such as antibiotics, anti-foulants and pesticides.

## DISEASE AND PARASITES

Viruses and parasites can transfer between farmed and wild species.

## ESCAPES

Escaped farmed species can compete with wild fish and interbreed with local wild stocks.

## FEED

Aquaculture must responsibly source and reduce its dependency upon fishmeal and fish oil – a primary ingredient in feed – so as not to put additional pressure on the world's fisheries.

## NUTRIENT POLLUTION AND CARRYING CAPACITY

Excess food and fish waste increase the levels of nutrients in the water and have the potential to lead to oxygen-deprived waters that stress aquatic life.

## LAND CONVERSION AND DEGRADATION

Clearing of land for agriculture feed sources and facility establishment affects high conservation-value areas.



RESTAURANTS

SHOPS AND  
MARKETS

RETAILERS

## PROCUREMENT AND LABELLING

**A greater understanding of seafood products and where they come from enables businesses to measure changes in their seafood supply and to take action to improve the long-term sustainability of their procurement streams.**

Vendors need to continually familiarise themselves with the scientific and market names, and verify the origin, capture method and sustainability status of the seafood species they trade in. This also applies to the species used in processed seafood products. Vendors are then empowered to accurately identify seafood sustainability risks in procurement. They can take pro-active steps to reduce their exposure to these risks by changing their buying practises.

## WHAT CAN VENDORS DO?

**Seafood sustainability status can inform procurement criteria for environmentally responsible operations, taking into consideration the following:**

- Ensuring that all seafood on offer is legal.
- Offering seafood that is traceable to its origins.
- Not procuring unsustainable seafood species (a good start would be to avoid all WWF-SASSI Red-listed species).
- Phasing out unsustainable seafood products and replacing them with sustainable alternatives.
- Preferentially procuring sustainable seafood species or products.

WWF-SASSI recognises the Marine Stewardship Council (MSC eco-label) and the Aquaculture Stewardship Council (ASC) logo as the most credible on-package assurances of sustainable fisheries and responsible aquaculture practises. Look for these eco-labels on products as an assurance that you are buying fully traceable and sustainable seafood.



**To find out more please visit [www.msc.org](http://www.msc.org) and [www.asc-aqua.org](http://www.asc-aqua.org).**

As most seafood products on the South African market do not currently carry either of the above-mentioned eco-labels, it is important that seafood vendors verify seafood species information and then clearly label the seafood products that they are selling. This will enable consumers to effectively use the WWF-SASSI consumer seafood guide to make informed and environmentally responsible seafood choices.

**WWF-SASSI strongly advises seafood vendors to make sure that seafood product labels clearly indicate the following:**

- Market or common name for the species.
- Full scientific name of the species.
- Fishing method (e.g. trawl, longline, line-caught) or farming method used (e.g. pond culture, sea cages, rope and raft).
- Catch or production country of origin.





## WHAT IS WWF-SASSI?

SASSI is a WWF-SA initiative that works with consumers and retailers to ensure the sustainability of fish stocks in South Africa.

The colour-coded WWF-SASSI list categorises select South African and imported seafood species according to their conservation status, using a “traffic light” system.

### GREEN

Consumers are encouraged to choose from this group as it contains the best choices from the healthiest and most well-managed populations. These species can handle current fishing pressure.

### ORANGE

This group includes species that have associated reasons for concern, either because the species is depleted as a result of overfishing and cannot sustain current fishing pressure; the fishery that catches them may cause particularly severe environmental damage and/or has high bycatch; or the lifestyle of the species makes it vulnerable to high fishing pressure. Consumers are encouraged to think twice and consider the implications of these choices.

### RED

Seafood that is Red-listed should never be bought by consumers. This group includes both unsustainable species which are from collapsed populations or have extreme environmental concerns and/or lack appropriate management, and species that are illegal to buy or sell in South Africa (no-sale species), according to the MLRA.

The lists now include both wild-caught and farmed species of local and imported origins. Moreover, the list illustrates the complementary role that seafood awareness campaigns can play in promoting the more thorough eco-labelling process, by automatically placing all MSC certified products on the Green-list.

This can act as an awareness tool for consumers about the eco-label, but also an incentive to fisheries to try and achieve the highest recognition for seafood sustainability.



## WHAT CAN CONSUMERS DO?

Seafood consumers can use their buying power to influence key retailers. Buying “green” at each link in the supply chain can:

1

**REDUCE THE IMPACT ON OVEREXPLOITED AND HIGH IMPACT SPECIES.**

2

**PROMOTE MORE RESPONSIBLY AND SUSTAINABLY HARVESTED PRODUCTS.**



Some of our much-loved linefish species are showing signs of recovery, aided by consumer awareness and choices.

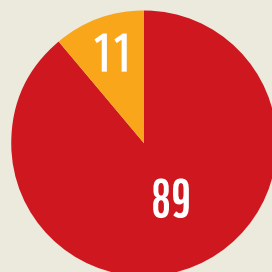
**Ask questions when ordering and purchasing seafood:**

What is it? Where is it from? How was it caught or farmed? You have a choice. Make it green.

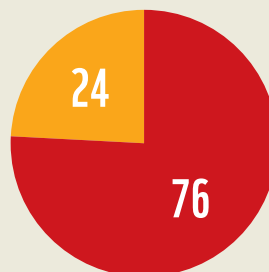


## AWARENESS OF WWF-SASSI

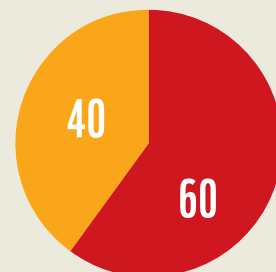
Percentage awareness of WWF-SASSI recorded within South African metropolises (Cape Town, Durban and Johannesburg) from research conducted between 2010 and 2014:



2010



2012



2014

**AWARE OF WWF-SASSI**

**NOT AWARE OF WWF-SASSI**

# DATA COLLECTION AND ANALYSIS

## CHALLENGES AND CONCLUSIONS

**There is a need for greater traceability of seafood products: from boat to plate.**

For suppliers, retailers, restaurant owners and those in the trade wanting to provide customers with information on the provenance of seafood products and the manner in which they were caught or farmed, information is often either hard or impossible to come by.

Consumer pressure combined with regulatory provisions on standard seafood labelling and more detailed information on imported seafood will lead to improved traceability. This, in turn, will empower consumers to make informed choices that favour products sourced from sustainable, well-managed fisheries.

### Need for accurate data and improvements in seafood trade data capture

It is important for the retail sector in South Africa to accurately track the volumes and seafood species types that they trade in. This will greatly improve the researcher's ability to compile a comprehensive analysis of the seafood retail market. Improved labelling practises can assist retailers in identifying which seafood species are contained in the seafood products that they sell. Greater understanding of the supply chain through a more detailed interaction with their suppliers will aid them in determining the origin of their seafood products from sometimes complex global seafood supply chains.

### Challenges

The biggest challenge compiling a detailed and comprehensive report stemmed from the absence of appropriate systems to provide this sort of data. The import and export data on seafood products entering and leaving the South African market does not, in many instances, adequately capture species or origin data, making it difficult to analyse and interpret the information generated.

The current tracking of imports of seafood is simply inadequate and more detailed descriptions need to be developed by SARS.

### Importance and relevance of data

To build mechanisms that incentivise improved practise in capture fisheries and aquaculture operations, it is important to be able to determine which stakeholders or stakeholder groups in the supply chain should be engaged to create a market pull. This can only be achieved through a better understanding of the seafood market trade dynamics: these, in turn, are underpinned by improved data collection.

100%  
RECYCLED



140

Number of species from  
12 key South African  
fisheries assessed  
by WWF-SASSI.

40%

of the target market are  
aware of WWF-SASSI.



1,500+

Number of people who have  
attended WWF-SASSI training  
since 2008.

200,000+

Number of requests for information  
on seafood sustainability status that  
WWF-SASSI have received since  
2006 through FishMS.



**Why we are here**

To stop the degradation of the planet's natural environment and  
to build a future in which humans live in harmony with nature.

[wwf.org.za](http://wwf.org.za)