

Fisheries trade data analysis – a tool in tackling illegal fishing and related trade

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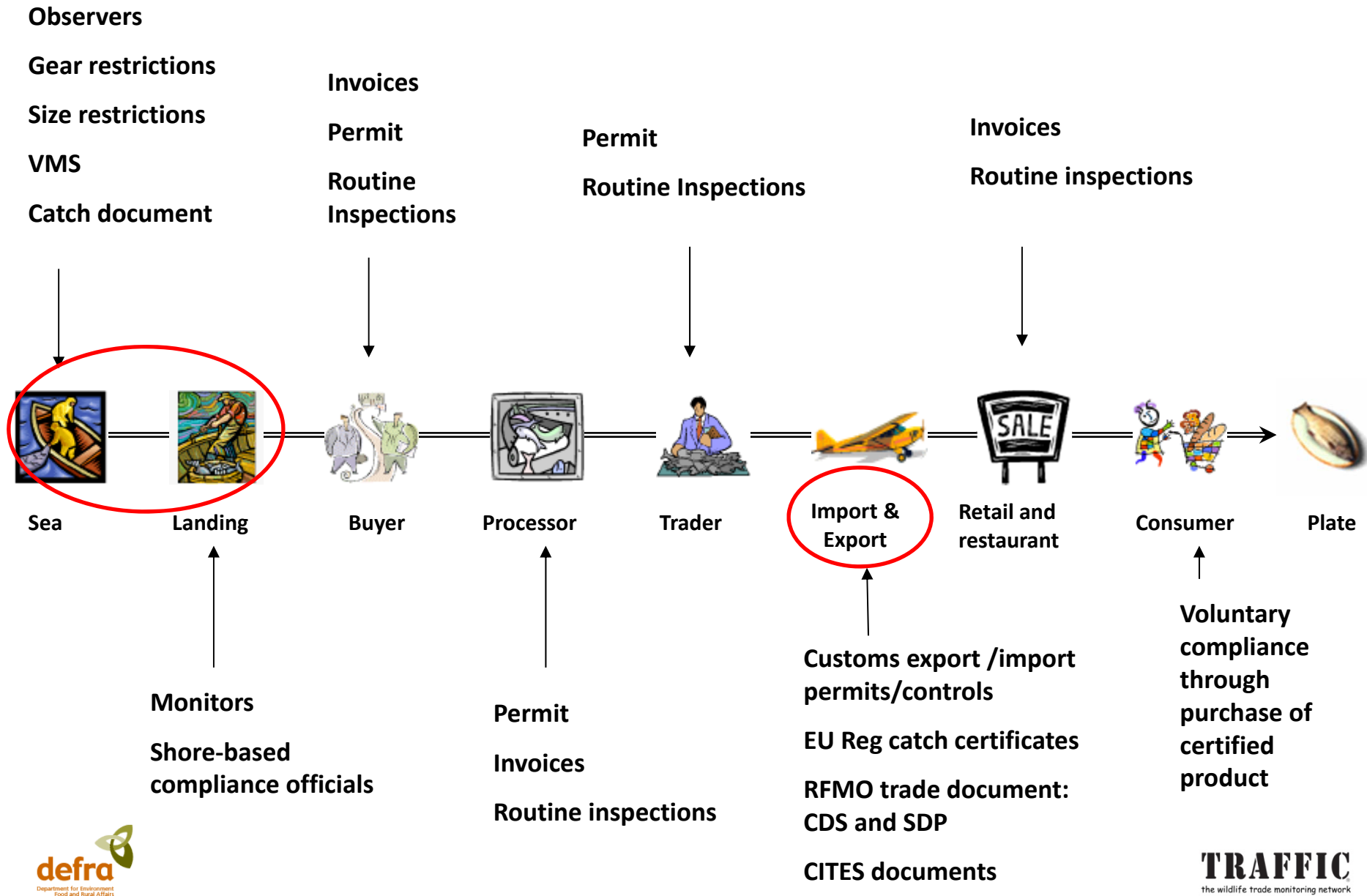


Key Objectives of this session

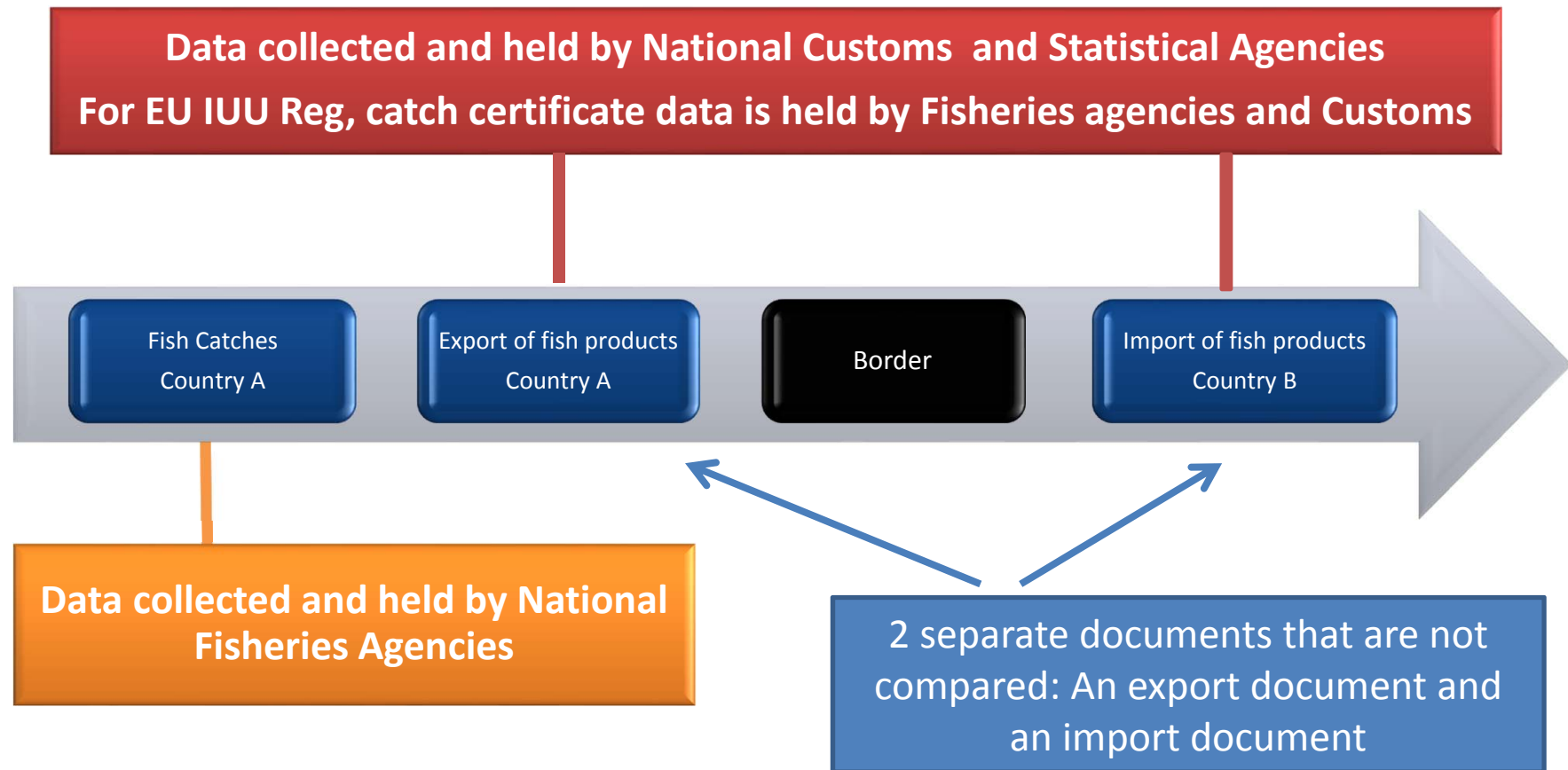
- Explain how trade data analysis can assist in tackling illegal fishing –using examples
- Provide an overview of TRAFFIC's trade data analysis user's guide.



What is trade data?



What data do we need for fisheries trade data analysis?



Trade Codes

- In international trade, codes are used to identify, classify, and record data for every product.
- Though there are many international trade coding systems, the **Harmonized Commodity Description and Coding System** (otherwise known as the Harmonized System, **HS**, or **HTS**) is generally the most applicable and available for fish/seafood trade. Eg: **030378**
- While the system specifies that only the first six digits will be internationally standardized, countries wanting to track product trade more accurately can add further digits to create codes of eight or ten digits.
- HS codes are updated every 5 years. Most recent changes came into effect in 2012, including many new codes for fish products

How do we get the data?

- **Trade data:** Is almost all free and easily available over the internet! Some data has to be purchased but this is only the case for a few countries and costs are generally very reasonable
- **Catch data:** Depends on how good systems are for recording catch data. **NB:** Where there is no or poor catch data, good quality import data can provide a very useful proxy figure. Trade analysis can provide an indication of catch volumes (legal and illegal) – for that proportion of catch that is exported.

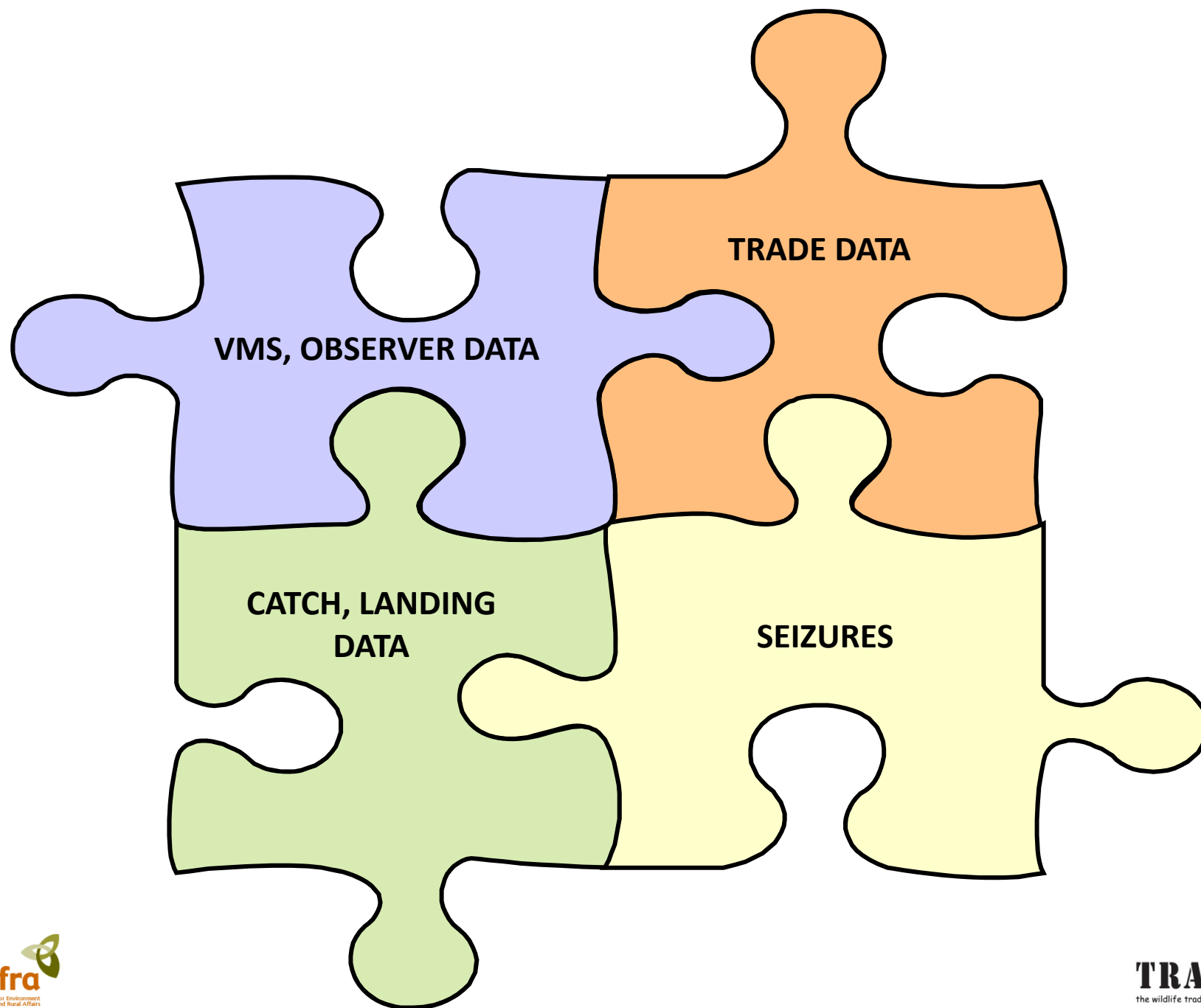
Key advantages to trade data analysis

- Relatively inexpensive – largely desk-based, most data are available on the internet at no cost.
- Depending on the fish product, one can get a good understanding of trade dynamics in a short space of time.
- Web-sites are increasingly user-friendly and facilitate sourcing and extraction.
- Once baseline data has been sourced and extracted, updating is very quick and can become integrated into routine monitoring activities.
- Builds relationships with other State agencies that can assist with different set of tools, strategies and resources. E.g. Customs and 'Inland Revenue'.



How can trade data analysis assist efforts to combat IUU fishing?

- **Increase the understanding** of the nature, scope and extent of IUU fishing activity.
- **Provide independent verification** of the extent of a known IUU fishing problem.
- **Assess the effectiveness** of an existing trade- and/or market-related measure.
- **Demonstrate that a problem exists** that may not have been previously documented.



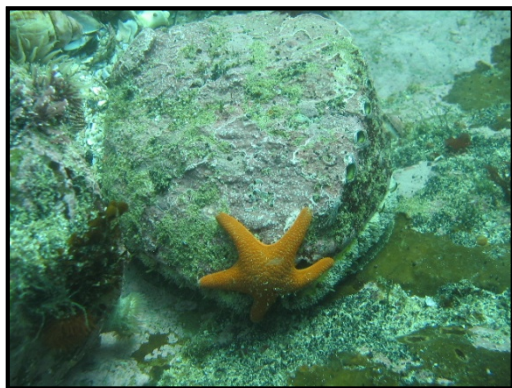
WHAT USEFUL INFORMATION CAN BE DERIVED FROM TRADE ANALYSES?



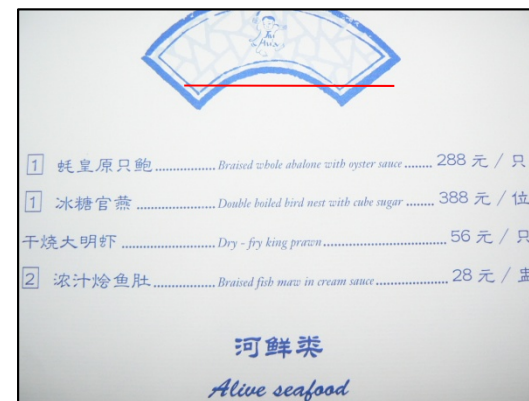
Abalone poaching and illegal trade

- The African species that is traded (*Haliotis midae*) is found **only in South Africa**. No other commercially harvested or traded species out of the region (1 small *H.midae* farm in Namibia). Close to 100% exported to Asia.
- Commercially harvested through a wild capture fishery and from a number of mariculture operations. (Fishery closed in 2008)
- High value product, easy to access and found along an extensive area of the South African coastline.
- Syndicated criminal networks involved, links to drug trade.
- Illegal harvest and trade far greater than legal harvest and trade.
- Massive loss of revenue to South Africa – unknown, but estimates range from ZAR500 million to ZAR1 billion (USD 70 -140 million) per annum.

Identifying discrepancies between export and import figures for a product

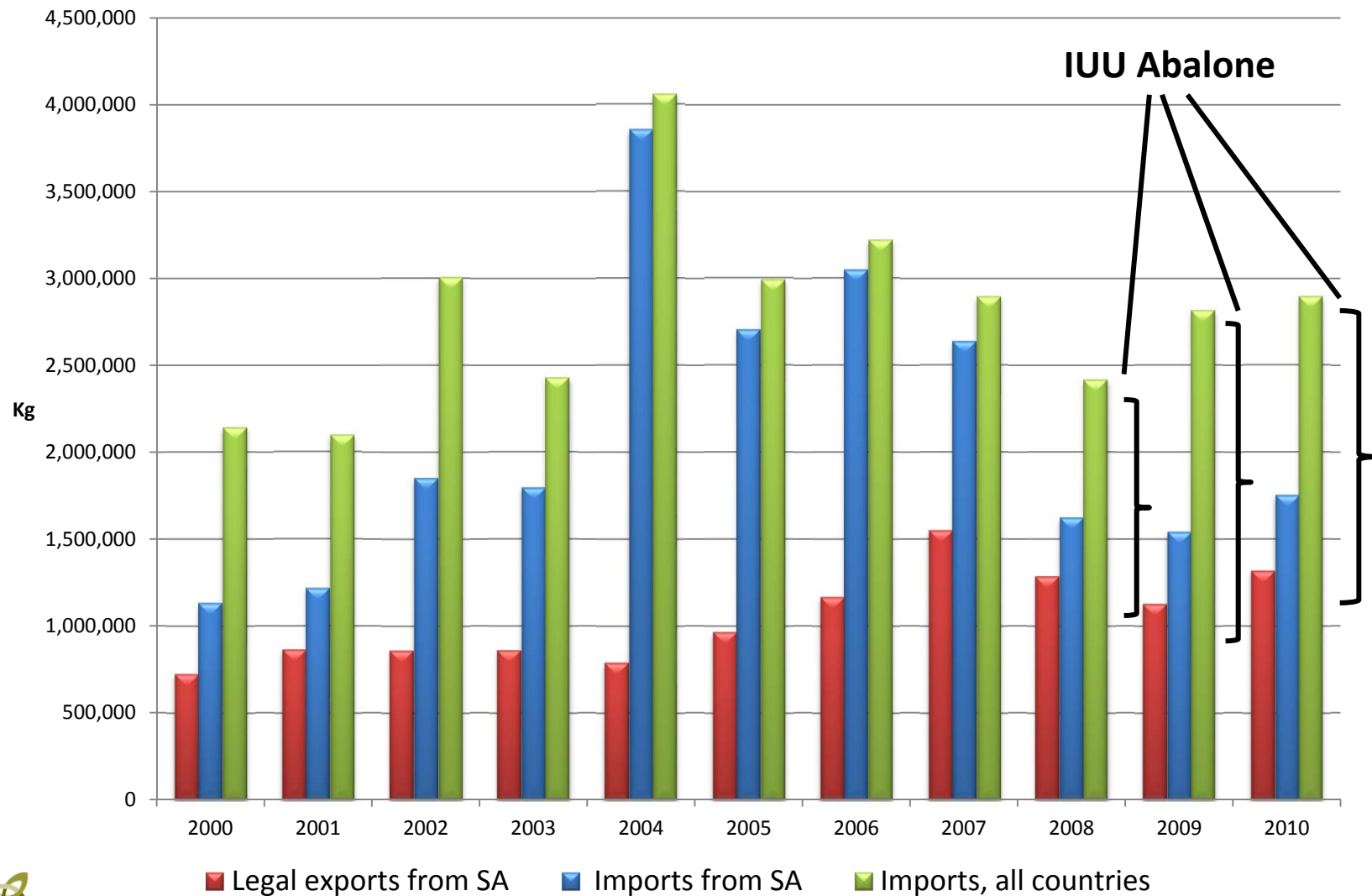


Credit: Angus Mackenzie



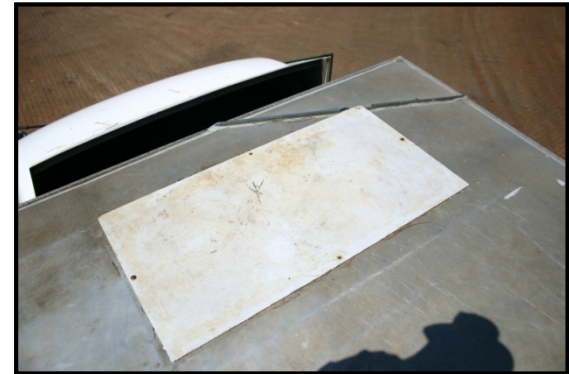
- TRAFFIC examined customs import data for key importing States - Hong Kong, Japan, Taiwan, China and Singapore. Looked at imports not only from South Africa but also for other East and Southern African countries.
- South African Customs trade captured at inadequate level of resolution to identify abalone in trade, therefore comparison done with legal harvest, mariculture and export of confiscated abalone (almost all abalone harvested and farmed is exported).

How trade data analysis can assist in determining volumes of IUU poached product: Abalone imports into Asian countries from Southern Africa



Identifying routes for the disposal of IUU product

- Provide evidence of the trade routes used in getting IUU fish products from the point of landing to final market destinations,
- Identify 'hot-spots' (such as porous borders) through which illegally obtained product passes and,
- Provide information on the role of other States in illicit trade as a step towards securing their co-operation.



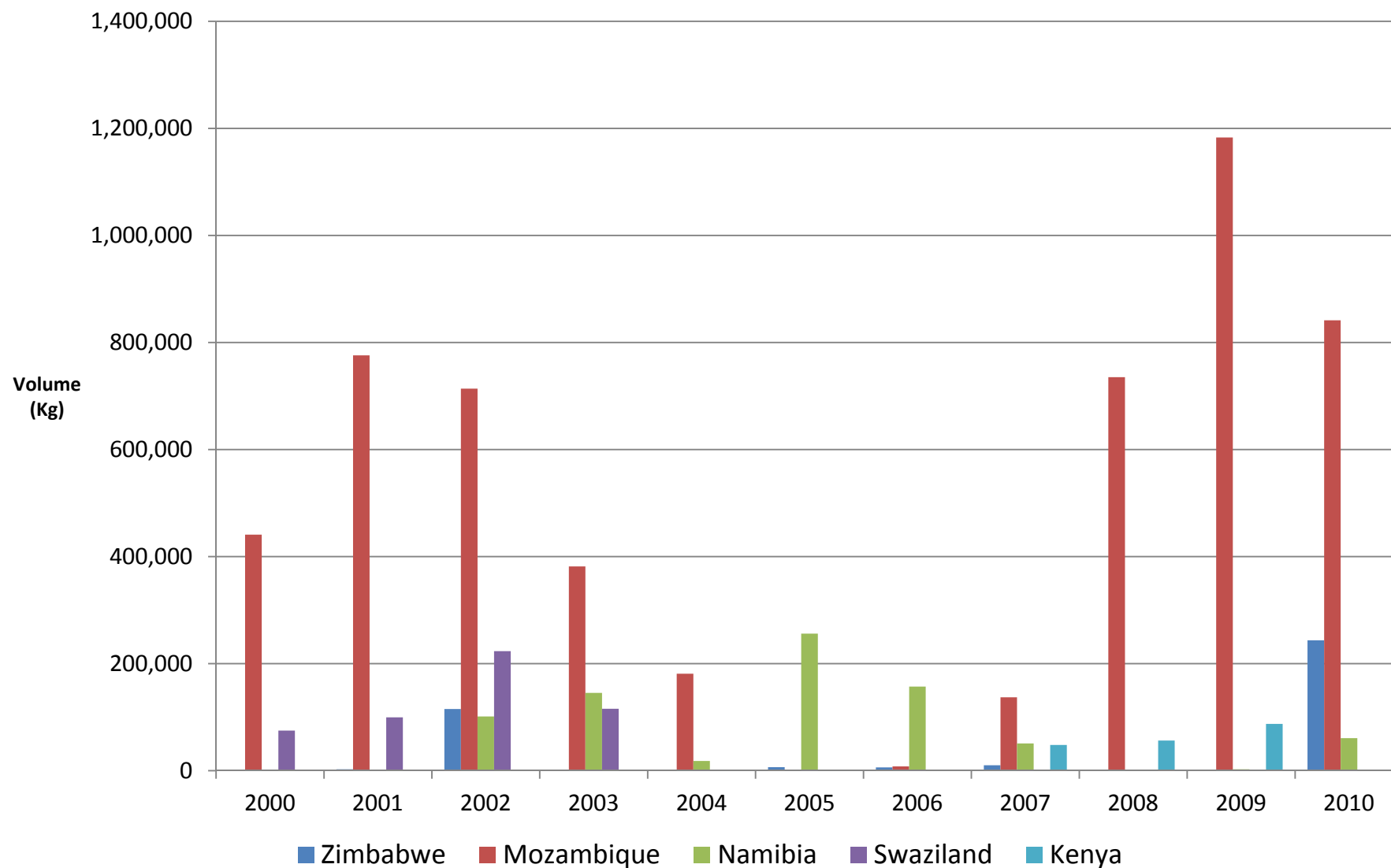
Identifying trade routes for IUU product

Dried abalone imports into Hong Kong from East and Southern Africa, 2000 -2008

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Hong Kong ex South Africa	49,137	19,617	71,571	73,180	257,171	156,910	171,927	116,848	31,988
Hong Kong ex Namibia	0	0	5,586	10,023	1,636	25,364	15,731	5,105	0
Hong Kong ex Zimbabwe	0	0	2,250	0	229	676	615	1,014	0
Hong Kong ex Mozambique	32,097	62,503	44,131	21,348	8,316	12	820	8,626	72,233
Hong Kong ex Swaziland	350	1,435	10,803	11,398	0	0	0	0	0
Hong Kong ex Kenya								4,810	5,633

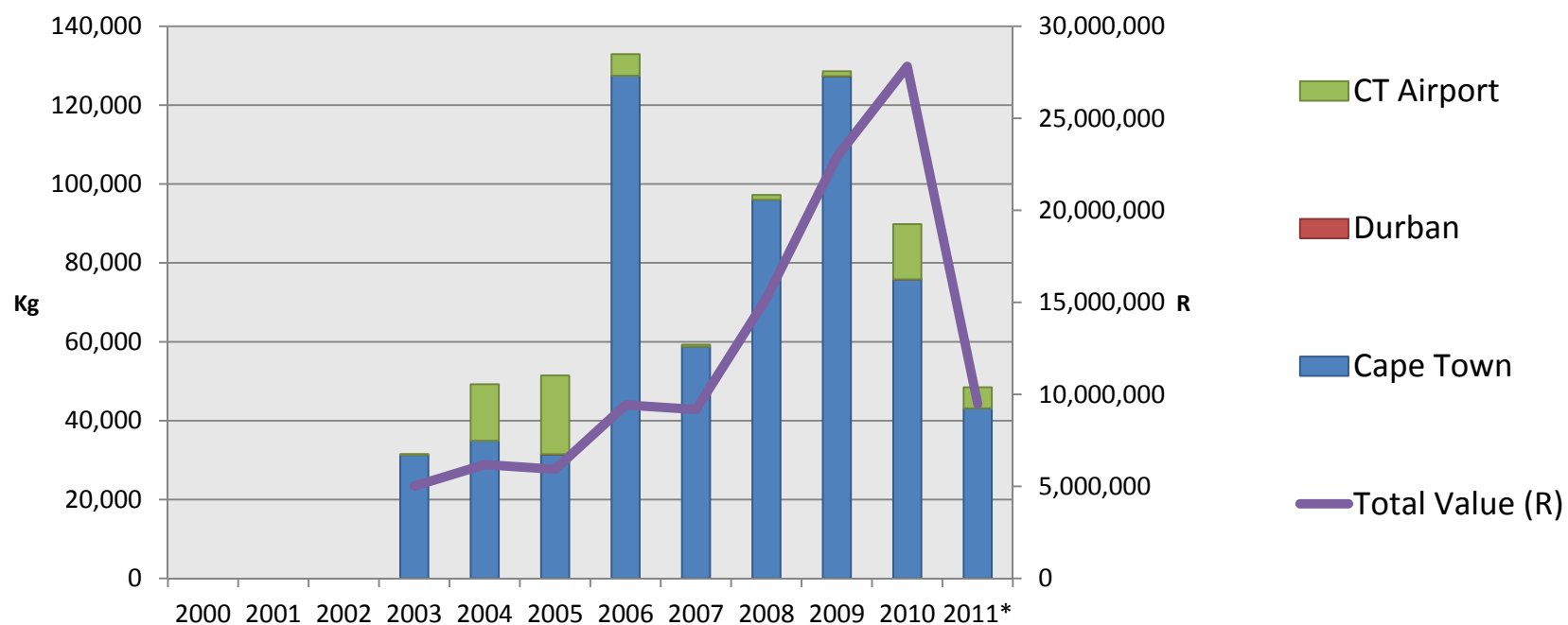


Imports of abalone into Hong Kong and Taiwan from East and Southern African countries, excluding South Africa; 2000 - 2010



Analysing ports data (part of Customs data) to focus compliance efforts

Quantities of shark fin exported through the ports of South Africa, and the total value of exports

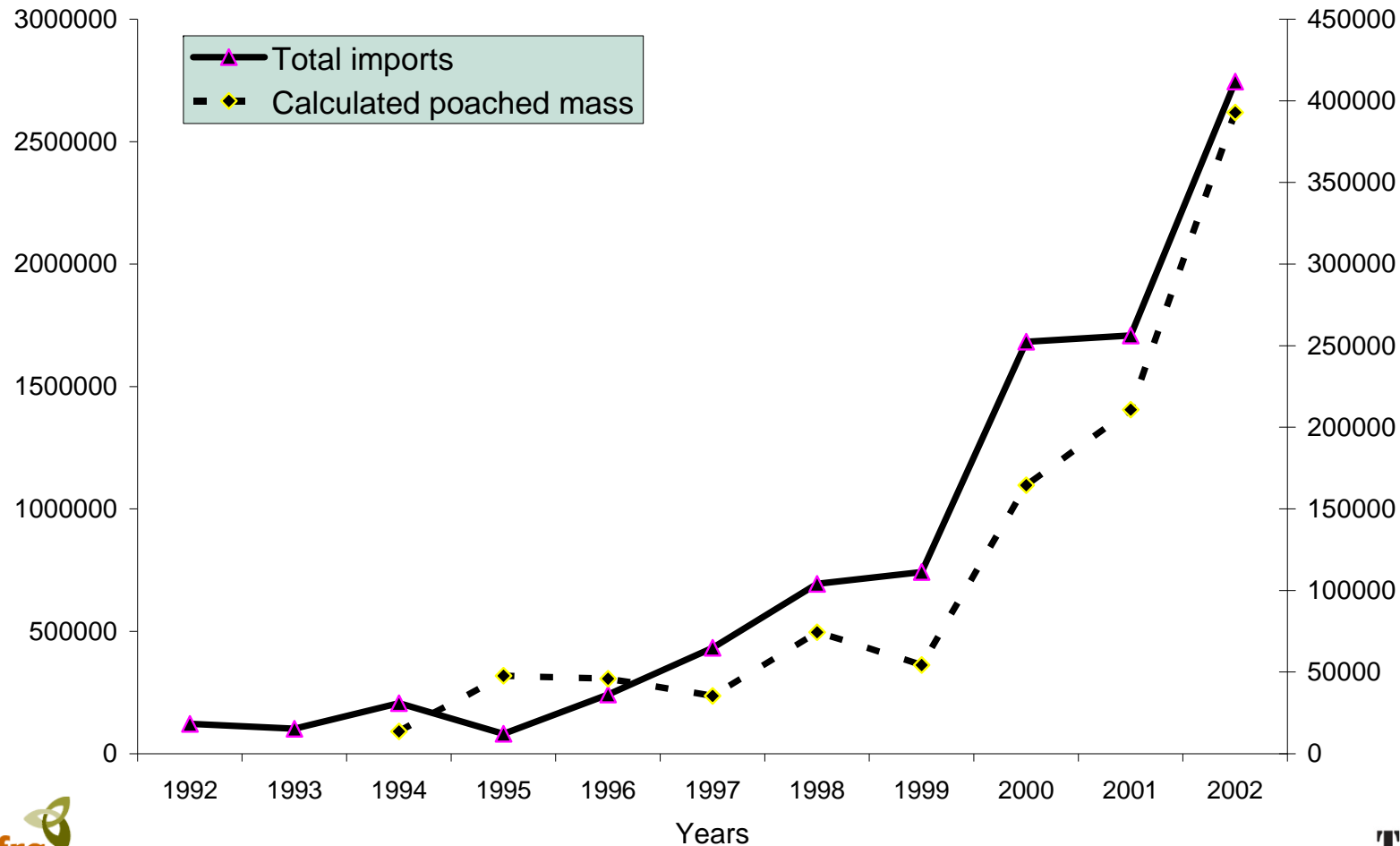


Source: South African Revenue Services

* Data not complete for 2011

Ground-truthing estimates of illegal harvest

Comparing Hong Kong imported data and that of confiscated number of abalone as whole mass (kg)



Abalone imports into Hong Kong, Japan, Taiwan, Singapore and Mainland China from South Africa, Mozambique, Swaziland, Namibia, Kenya and Zimbabwe for the period 2000 to 2008

Live, fresh or chilled abalone	kg 2000Q	kg 2001Q	kg 2002Q	kg 2003Q	kg 2004Q	kg 2005Q	kg 2006Q	kg 2007	kg 2008
Japan ex ZA	83,223	135,935	127,239	128,542	122,222	122,461	105,396	89,970	60,138
Hong Kong ex ZA	146,029	142,060	160,870	172,394	180,108	127,306	184,661	255,895	206,669
Hong Kong ex MZ	0	0	375	400	190	0	0	0	259
Hong Kong ex NA	0	0	254	0	0	0	0	0	0
Taiwan ex ZA	12,580	1,699	5,145	7,693	8,486	13,881	28,060	44,393	58,436
China	1,400	17,873	13,642	9,628	8,407	43,285	51,563	1,496	
TOTAL	243,232	297,567	307,525	318,657	319,413	306,933	369,680	391,754	325,502

Frozen abalone	kg 2000Q	kg 2001Q	kg 2002Q	kg 2003Q	kg 2004Q	kg 2005Q	kg 2006Q	kg 2007	kg 2008
Japan ex ZA	1,231	14,740	12,560	18,303	3,352	26,402	18,150	0	0
Hong Kong ex ZA	144,878	92,876	89,557	94,925	184,304	83,669	49,229	58,021	44,600
Hong Kong ex MZ	40,034	50,326	89,267	55,956	32,635	0	0	17,006	4,184
Hong Kong ex NA	0	0	15,117	9,388	640	860	0	0	0
Hong Kong ex SW	23,838	28,443	38,495	587	0	0	0	0	0
Hong Kong ex ZW	0	916	30,965	200	0	0	0	0	0
Taiwan ex ZA	20	0	466	1,030	0	510	615	3,025	885
Taiwan ex NA	0	0	0	1,713	0	0	0	0	0
China ex ZA	0	536	21,772	0	0	0	215	225	
TOTAL	210,001	187,837	298,199	182,102	220,931	111,441	68,209	78,277	49,669
X3 to get to whole mass	630,003	563,511	894,597	546,306	662,793	334,323	204,627	234,831	149,007

Dried abalone	kg 2000Q	kg 2001Q	kg 2002Q	kg 2003Q	kg 2004Q	kg 2005Q	kg 2006Q	kg 2007	kg 2008
Japan ex ZA	0	0	0	0	0	0	0	0	0
Hong Kong ex ZA	49,137	19,617	71,571	73,180	257,171	156,910	171,927	116,848	31,988
Hong Kong ex NA	0	0	5,586	10,023	1,636	25,364	15,731	5,105	0
Hong Kong ex ZW	0	0	2,250	0	229	676	615	1,014	0
Hong Kong ex MZ	32,097	62,503	44,131	21,348	8,316	12	820	8,626	72,233
Hong Kong ex SW	350	1,435	10,803	11,398	0	0	0	0	0
Hong Kong ex KE								4,810	5,633
Taiwan ex ZA	84	41	0	60	0	434	34	8,197	681
China ex ZA	0	0	0	0	0	0	0	0	0
TOTAL	81,668	83,596	134,341	116,009	267,352	183,396	189,127	144,600	110,535
Multiplied by 10 to get to whole mass	816,680	835,960	1,343,410	1,160,090	2,673,520	1,833,960	1,891,270	1,446,000	1,105,350

Canned abalone	kg 2000Q	kg 2001Q	kg 2002Q	kg 2003Q	kg 2004Q	kg 2005Q	kg 2006Q	kg 2007	kg 2008
Japan ex ZA	0	0	0	0	0	0	0	0	0
Hong Kong ex ZA	113,198	100,120	114,154	99,402	101,190	123,420	189,043	174,131	180,217
Hong Kong ex MZ	0	0	1,100	0	0	0	0	0	0
Hong Kong ex NA	0	0	0	0	0	5,865	0	2,244	0
Taiwan ex ZA	0	0	306	1,295	20	0	0	0	0
China ex ZA	0	0	0	0	0	0	0	0	0
Singapore ex ZA								29,077	28,997
TOTAL	113,198	100,120	115,560	100,697	101,210	129,285	189,043	205,452	209,214
Multiplied by 4 to get to whole mass	452,792	400,480	462,240	402,788	404,840	517,140	756,172	821,808	836,856

TOTAL - ALL	2,142,707	2,097,518	3,007,772	2,427,841	4,060,566	2,992,356	3,221,749	2,894,393	2,416,715
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Creating Increased awareness of trade dynamics by fisheries management agencies where fisheries and related trade are not closely monitored

Exports of shark products from South Africa to Australia 2001 to 2005

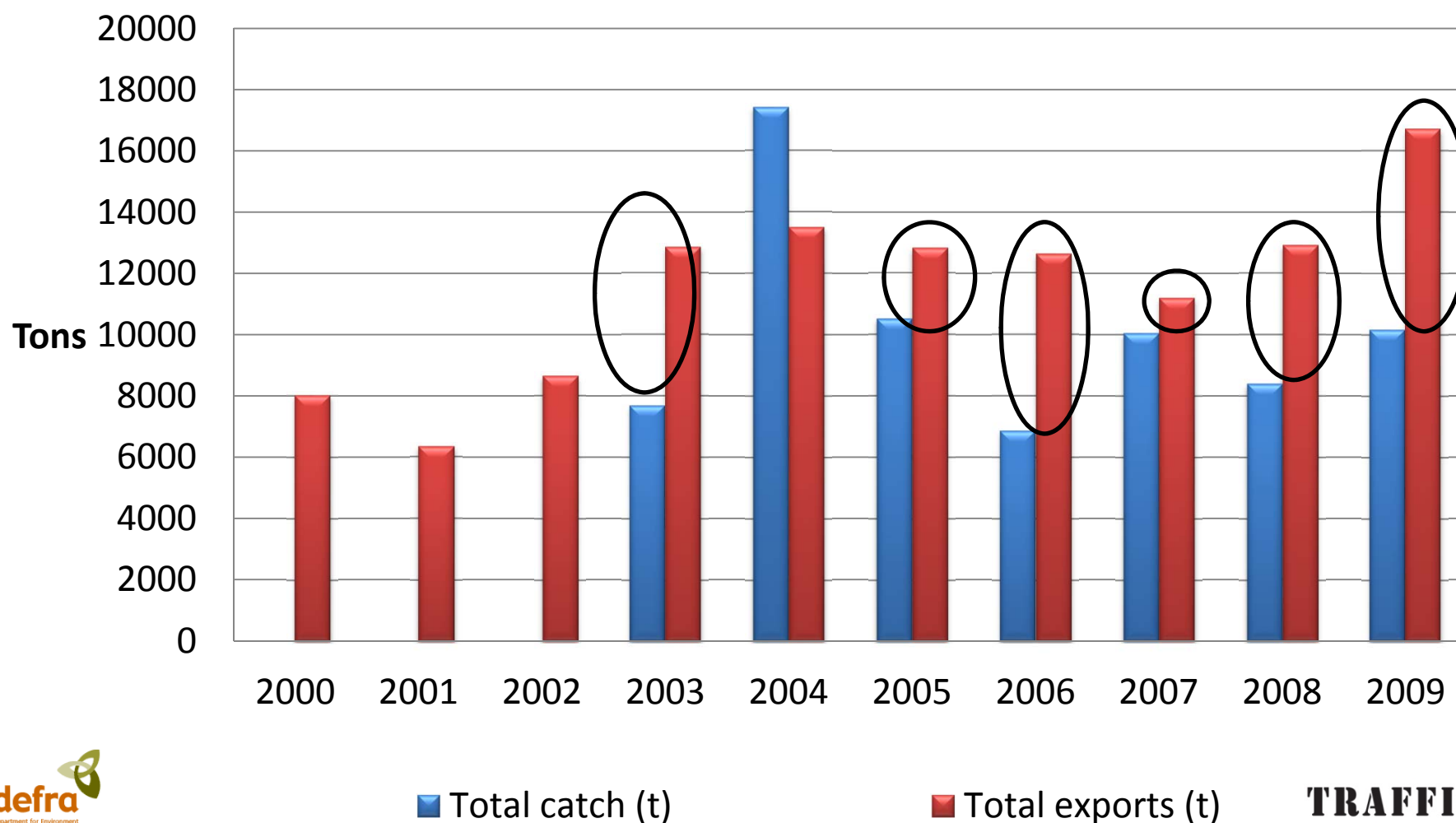
Year	HS Description	Mass (kg)	Value (USD)	USD/kg
2001	Dogfish, shark, other	37 133	44 868	1.2
2002	Dogfish, shark, other	79 741	460 872	5.78
2003	Dogfish, shark, other	97 307	932 948	9.59
2004	Dogfish, shark, other	79 552	405 449	5.1
2005	Dogfish, shark, other	50 217	145 015	2.89

Australian imports of shark products from South Africa 2001 to 2005

Year	HS Classification	Mass (kg)	Value AU\$'000	AU\$ per kg
2001	Dogfish and other sharks, fresh or chilled	23 265	207.25	7.02
2001	Dogfish and other sharks, frozen	124 523	698.21	4.42
2002	Dogfish and other sharks, frozen	9 203	32.20	2.76
2003	Dogfish and other sharks, frozen	0	0	0
2004	Dogfish and other sharks, frozen	0	0	0
2005	Dogfish and other sharks, frozen	0	0	0

Identifying discrepancies requiring further investigation

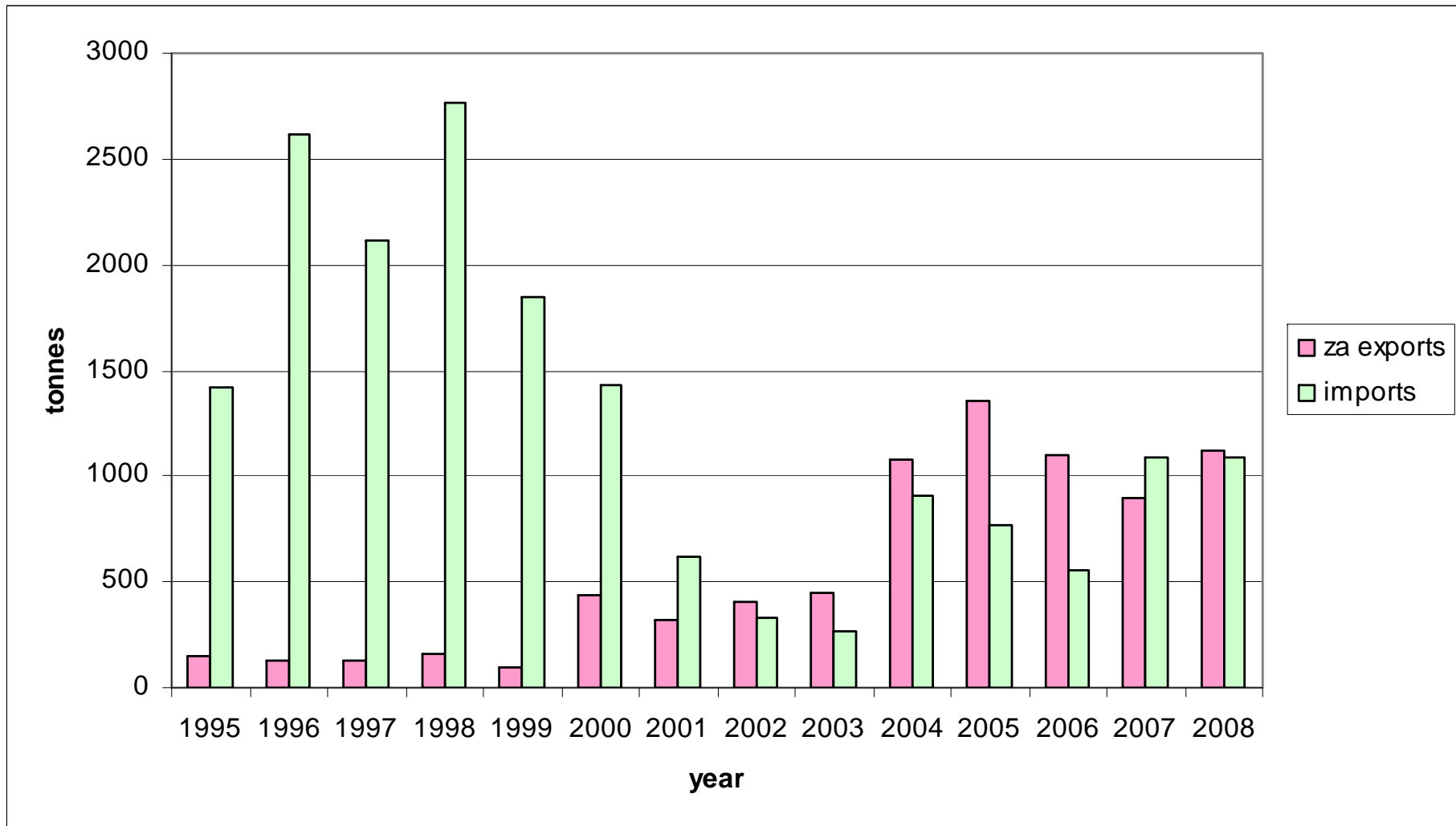
Squid landings vs. Exports (tonnes) 2003-2009



The best set of circumstances for trade data analysis

- **Export of a product or products associated with a species or taxa, where the exports are not comprised of numerous heavily processed products.** Export volumes need to be worked back (with conversion ratios) to a whole mass to be able to compare with landing data and the more processing that takes place, the harder this becomes.
- **Export of products where either the exporting country or the importing countries use trade codes that provide a sufficiently accurate description of the product.** If much, or all of the trade, falls into a generic catch-all category like 'frozen fish, other' then the analysis becomes almost impossible to do.
- **Ability to consult with industry:** There are sometimes legitimate reasons for import and export discrepancies or trade and catch discrepancies and consultation with industry and government can reveal this so optimally one wants to do the analyses with the capacity to be able to have these discussions.
- **Export of a product where there is limited domestic consumption**

Frozen Sharks: Trade balance - South Africa recorded exports and global recorded imports from SA: 1995 - 2008



A few more reasons why you should carry out fisheries trade analysis ...

- IUU fishing activity is often very dynamic, moving areas of operation, points of landing and transit countries, and levels of at-sea transshipment in response to management interventions. Therefore the trade routes for a product may change considerably with little warning. However the markets for product are less likely to vary in the short-term, particularly high value species (often the target of IUU fishing) which often have limited or specialist market niches. Unless the product is landed directly into the consumer country after being caught there will be import data that will then enable identification of the exporting State.
- Despite the importance of trade as a driver for harvest, including by IUU operators, there is usually poor understanding of the dynamics of trade demand for fisheries products by fisheries management agencies, with efforts commonly directed at managing the resource from the time of harvest to the point of landing. This is partly due to the fact that fisheries management at the national level is almost always undertaken by a separate agency to that which manages national exports, imports and Re-exports, with limited communication between the two.
- Increased awareness of the trade and market dynamics for products from a fishery can assist national authorities in better targeting management resources and may result in the identification of areas where complementary trade-related measures can add value to existing management efforts.

Limitations of trade analysis

- Trade data analysis does not capture information on fisheries products that have mistakenly or intentionally been misdeclared, or where fisheries products are captured under a basket or catch-all non specific category e.g. 'fish, frozen, other'.
- Can only provide data on the valued and retained component of the catch. Impact of IUU fishing on non-target species and the broader marine environment can not be directly assessed through trade and market data.
- Trade data does not indicate where catch was taken and so sheds little light on, e.g.: particular stocks that may be subject to greater IUU fishing.
- It is important to combine trade or market data with good information about the fishery from which the product has been derived, otherwise there is significant potential to misinterpret that data. Such factors as the dynamics of the industry, levels of catch, transshipment and processing practices, and the management measures will all potentially effect interpretation of trade and market data.



Bait

TRAFFIC'S GUIDE TO SOURCING AND ANALYSING FISHERIES TRADE DATA

- Overview of why one should analyse fisheries trade data and an explanation of the information that can be derived from such analyses.
- [Explanation of how to analyse fisheries trade data.](#)
- Definitions and acronyms + scroll over pop ups of many terms and acronyms.
- [Links to country sites for 24 countries in Africa, Asia, Europe, North and South America and Australasia](#)
- Short tables providing a snapshot of the data that can be found at each site.
- [Detailed 'click by click' explanations for accessing and extracting data for each site \(for those less experienced in web-browsing and data extraction\)](#)
- Links to 6 meta-data sites containing trade data for various economic regions or in some cases all countries reporting trade (e.g.: FAO, Eurostat)
- [Development of manual and training funded by Defra.](#)



Using the Guide

- Guide has been developed in an html format and will accordingly open in your chosen web browser.
- You will need to switch between the guide and the sites that you are accessing to carry out your data searches. Different users will have their own preferences for making this process use-friendly. Options include:
 - Toggling between the guide and the websites you are searching.
 - Splitting your screen so that you can see both the guide and the website.
 - Using two separate screens – e.g. your laptop or PC screen and a separate monitor. This is probably the most user-friendly option.
 - Printing out the relevant pages of the Guide. Note that each section of the guide has a print icon in the top right hand corner.

Summary Tables

- In order to provide users with a summary of the information they can expect from a particular website, a table is provided for each website, which contains a breakdown of the information that can be found at that website.
- Users can quickly determine whether that website provides the data they are interested in.
- Note that not all categories are filled in, in all of the tables.





defra
Department for Environment
Food and Rural Affairs

This guide is intended to assist in the analysis of trade data for fish and fish products in international trade. It explains how such analyses can be used, provides comprehensive advice on the sourcing and extraction of data and gives guidance on data analysis. To start using the guide [click here](#).




Summary Tables

United States 	
United States Department of Agriculture Foreign Agricultural Service (USDA FAS) 	
Home Page	http://ffas.usda.gov/default.asp Under 'browse by Subject' select 'Market and Trade Data' and click on 'Statistical Market Information'. Under 'Import & Export Data' click on the 'U.S Trade Reports' link.
Direct link to Database-specific Searches	http://ffas.usda.gov/fassearch.asp Under 'Import & Export Data' click on the 'U.S Trade Reports' link.
Direct link to U.S Trade Reports	http://ffas.usda.gov/ustrade/
Source of Data	Department of Commerce, U.S. Census Bureau, Foreign Trade Statistics.
Classification of Goods	Depending on your search criteria, results are provided in HS-2, HS-4, HS-6 or HS-10. BICO, FAS or FATUS.
Time Period covered	1989 onwards. According to the release calendar there appears to be an approximate two and a half month delay from a particular month's trade to the date of release of that particular month's trade data, e.g. December 2008 data scheduled to be released in mid February 2009.
Value	US\$ or thousands of US\$, depending on your search criteria.
Volume	Kilogrammes
Value Basis	Exports - <input type="radio"/> F.A.S. <input type="radio"/> Export Value (Excluding Exports to Canada) Imports - Customs Value Imports (<i>Website, TIPS</i>)
Import/Export/ Re-exports	Import, Export or <input type="radio"/> Re-export <input type="radio"/> figures are available. <input type="radio"/> Re-exports <input type="radio"/> are not included in Export figures and can be searched separately.
Result Format	Table
Constraints	
Comments	User manual can be accessed at: http://www.fas.usda.gov/ustrade/USTManual.asp?QI=
Relevant terms/definitions	

Web-sites that don't open

- Website development is an on-going process and most of the departments or companies hosting trade data websites are continuously going through a process of improvement and enhancement. This means that the URL or web address for a site may change at some point in the future and clicking on a hyperlink in the Guide will bring up an 'error' or 'site not found' message. What is more likely is that you will see a message noting that the website address has changed and you will be directed to a new site.
- Should you not be directed to the new website, use your preferred search engine (e.g. Google) and type in the name of the site as used in the Guide (e.g. Australian Bureau of Statistics).

Definitions of acronyms, words and terms

- The Guide contains definitions of a number of the acronyms, terms and words used in the Guide. These can be accessed through the 'Introduction' section of the Guide and they are also included as 'pop-ups' throughout the Guide, wherever they are used. The relevant acronym or word will appear underlined, in blue font and will have a small speech bubble icon next to it.
- For example: 
- Clicking on the word or the icon will bring up the definition, which can be closed by clicking on the 'x' in the top right hand corner of the definition.

Getting the guide to work!

- The Guide has an auto-run function. This means it should automatically start when you insert the CD in your laptop or PC.
- If that doesn't happen, go to 'My computer' and click on the CD drive folder.
- Once all of the files and folders are displayed, double click on 'index.html'

TRAFFIC's Guide to Sourcing and Analysing Fisheries Trade Data

Introduction

Africa

America

Asia


Australasia


Australia

New Zealand

Europe

International

New Zealand 

Statistics New Zealand 

Home page	http://www.stats.govt.nz/ Select 'Economy' on the left of your screen, click on 'Exports and imports', click on the 'Exports and imports - Infoshare' link provided under 'Tables' to the right of your screen.
Direct link to Export and Imports	http://www.stats.govt.nz/economy/exports-and-imports/default.htm
Direct link to Infoshare	http://www.stats.govt.nz/infoshare/
Source of Data	New Zealand Customs Service.
Registration/Subscription	N/A
Classification of Goods	HS-2, HS-4, HS-6, or HS-10
Time Period covered	Monthly, quarterly or annual statistics from January 1988 onwards. Data is released between three to five weeks following the month of collection. A release calendar can be downloaded at:
Value	NZ\$
Volume	Kilogrammes in most cases.
Value Basis	Imports: CIF or VFD Exports: FOB
Import/Export/Re-exports	Figures for Import, Export, Re-export as well as Export and Re-exports are available.
Result Format	Table, with the option of saving the table in other formats.
Constraints	
Comments	
Relevant terms/definitions	


Once you have accessed the direct link to Infoshare at: <http://www.stats.govt.nz/infoshare/>, expand the Imports and exports folder by clicking on the + to the left of the folder. Select 'Exports - Commodities by country', the following page will be displayed:


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TRAFFIC's Guide to Sourcing and Analysing Fisheries Trade Data

Introduction

Africa


South Africa


Mauritius

America

Asia

Australasia

Europe

International

Once you have selected this search option, the following will be displayed:

SELECT CODE

03019900 OTHER... (KG)
03020000 FISH FRESH OR CHILLED (EXCL. FISH FILLETS AND OTHER FISH MEAT OF HEADING NO. 0304)... (KG)
03021000 SALMONIDAE (EXCL. LIVERS & ROES)... (KG)
03021100 TROUT (SALMO TRUTTA, ONCORHYNCHUS MYKISS, ONCORHYNCHUS CLARKI, ONCORHYNCHUS AGUIABONITA, ONCORHYNCHUS...)
03021200 PACIFIC SALMON (ONCORHYNCHUS NERKA, ONCORHYNCHUS GORBUSCHA, ONCORHYNCHUS KETA, ONCORHYNCHUS TSCHAWYTT...)
03021900 OTHER... (100KG)
03022000 FLAT FISH (PLEURONECTIDAE, BOTHIDAE, CYNOGLOSSIDAE, SOLEIDAE, SCOPHTHALMIDAE AND CITHARIDAE) (EXCL. L...)
03022100 HALIBUT (REINHARDTIUS HIPPOGLOSSOIDES, HIPPOGLOSSUS HIPPOGLOSSUS, HIPPOGLOSSUS STENOLEPIS)... (100KG)
03022200 PLAICE (PLEURONECTES PLATESSA)... (100KG)
03022300 SOLE (SOLEA SPP)... (100KG)
03022900 OTHER... (100KG)
03023000 TUNAS (OF THE GENUS THUNNUS), SKIPJACK OR STRIPE-BELLIED BONTITO (EUTHYNNUS (KATSUWONUS) PELAMIS) (EXC...)
03023100 ALBACORE OR LONGFINNED TUNAS (THUNNUS ALALUNGA)... (100KG)
03023200 YELLOWFIN TUNAS (THUNNUS ALBACARES)... (100KG)
03023300 SKIPJACK OR STRIPE-BELLIED BONTITO... (100KG)
03023400 BIGEYE TUNAS (THUNNUS OBESUS)... (KG)
03023500 BLUEFIN TUNAS (THUNNUS THYNNUS)... (KG)
03023600 SOUTHERN BLUEFIN TUNAS (THUNNUS MACCOYI)... (KG)
03023900 OTHER... (100KG)
03024000 HERRINGS (CLUPEA HARENGUS, CLUPEA PALLASII) (EXCLUDING LIVERS AND ROES)... (100KG)

SELECT CODE

Use the scroll bar to locate the relevant HS-8 commodity you wish to search, click on the commodity and then click on submit. Note – you are only able to search one commodity at a time.

Result:

03037100.SARDINES (SARDINA PILCHARDUS, SARDINOPS SPP., SARDINELLA (SARDINELLA SPP.), BR

DATE	199201	199202	199203	199204	199205	199206	199207	199208	199209	199210	199211	199212	199301	199302	199303	199304	199305	199306	199307	199308	1
Export Quantity	0	0	0	0	4388	5170	600	500	16725	3925	912	1090	585	406	35380	55230	46172	1342	46	0	
Export Rand Value	0	0	0	0	4388	3619	1378	1000	17294	4177	4856	4354	4678	5255	21541	33234	27743	12860	776	0	
Import Quantity	8000	5000	9290	27500	9290	0	7000	14920	18021	26481	15505	8025	17578	26625	14528	9634	1000	5730	0	8190	
Import Rand Value	42240	21478	31963	109256	29472	0	28070	68183	77165	121044	79071	32650	74868	102683	61843	53077	4782	23753	0	43354	

(3.6) *Detailed monthly Export/Import on 8 digit level* [Direct link: <http://www.dti.gov.za/econdb/raportt/probba.asp>]

Provides data for a selected month in a particular year (from January 2000 onwards), for the Imports or Exports of a selected commodity (HS-2, HS-4, HS-6 or HS-8). Results are provided for the relevant countries applicable to your search in value (ZA Rand) and in volume (in hundreds of Kilogrammes).

Once you have selected this search option, the following will be displayed:

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Trade analysis exercise

- **The scenario:** You've been reading about the Hout Bay fishing case and want to look at exports of rock lobster to the US for the period 1999 onwards.
- **Step 1:** Obtain data from one of the US websites that shows rock lobster **imports** from South Africa into the US for the period 1999 - 2009. See if you can get both volume and value data. Extract the data to a MS Excel spreadsheet.
- **Step 2:** Obtain data from a South African website that shows rock lobster **exports** from South Africa to the US for the same period (1999 - 2009). Again, try and obtain both volume and value data. Extract the data to your MS Excel spreadsheet.
- **Step 3:** Compare the two data sets

Web address for the user's guide

<http://www.fisheries-trade-data.org/>

