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# DIRECTORATE FOR FOOD, AGRICULTURE AND FISHERIES FISHERIES COMMITTEE

## USING TRADE AND MARKET INFORMATION TO ASSESS IUU FISHING ACTIVITIES

This document has been prepared by Anna Willock of TRAFFIC International.

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For further information, please contact:

Carl-Christian SCHMIDT (E-mail: carl-christian.schmidt@oecd.org)

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# USING TRADE AND MARKET INFORMATION TO ASSESS IUU FISHING ACTIVITIES<sup>1</sup>

#### Introduction

- 1. Fisheries commodities generally represent around 25% of the total value of wildlife products in world trade and, after timber, are the most valuable. In 2000 fisheries products were estimated to have an export value of USD 55.2 billion (Anon., 2002a). Due to the nature of the activity reliable estimates of the value of fisheries product in trade derived from illegal, unregulated and unreported (IUU) fishing activity, are difficult to obtain. However in relation to general wildlife trade, globally, wildlife smuggling is estimated to be worth USD 6 billion to USD 10 billion a year, ranking third behind narcotics and arms smuggling (Anon., 2003a).
- 2. Analysis of the trade in wildlife products, and in some cases the control of that trade, has long been recognised as a valuable tool contributing to the sustainable use of such resources. The most widely known and well-established regime for the regulation of international trade in wildlife is the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), which entered into force in July 1975. With 164 current Parties and over 30 000 species listed in the three Appendices to the Convention CITES represents the most broadly co-ordinated attempt to use international trade as a complement to other management efforts to ensure the sustainability of wildlife. There are several commercially exploited aquatic species of significance in international trade currently listed in the CITES Appendices however no marine species taken in a large-scale, industrial commercial fishery have yet been listed in CITES.
- 3. There is also a growing number of documentation and labelling laws and schemes seeking to control and/or identify the source of marine fisheries products in trade, including those concerned with food safety and quarantine. In addition there has been a growth in eco-labelling schemes underpinned by private organisations, such as the Marine Stewardship Council (MSC), that are designed to enable consumers to identify product from well-managed fisheries and sustainable fisheries in the market place. In the case of the MSC the extent of IUU fishing activity in a fishery seeking certification is recognised as a factor impacting on the health of stocks and taken account of in the decision whether or not to grant certification.
- 4. Of particular importance in relation to the growth in trade and market related interventions in fisheries to combat IUU fishing are moves by regional fisheries management organisations (RFMOs) to implement catch certification and documentation schemes as a complement to other management controls. For the most part, these measures are a response to the inability of traditional management measures and international law to effectively deal with sustainability issues and, in particular, the threat to sustainability of stocks posed by IUU fishing. Trade-related measures introduced by RFMOs are broadly aimed at either gathering information on the source, extent and parties to trade as the basis for other actions to be taken (e.g., the International Commission for the Conservation of Atlantic Tunas' catch certification scheme) or

<sup>&</sup>lt;sup>1</sup> This paper has been prepared by Anna Willock, Senior Fisheries Advisor, TRAFFIC International.

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as a direct attempt to prevent product derived from IUU fishing activities from entering trade (e.g., Commission for the Conservation of Antarctic Living Marine Resources' catch documentation scheme).

- 5. Given the extent to which fisheries products are present in international trade knowledge of the trade and the market for those products is almost a prerequisite to good management, with the ability to shed light on issues such as the source of product, extent and nature of demand, and substitute products. In this respect, regardless of whether used as a direct regulatory measure or as a means of gathering information on trade in a fisheries product, trade and market analyses have the potential to make a significant contribution to reducing the threat posed by IUU fishing.
- 6. TRAFFIC is the world's largest international wildlife trade monitoring organisation with eight regional offices and 22 national offices. TRAFFIC has undertaken a number of analyses of the international trade in and markets for various fisheries products and such analyses have provided valuable information that can be used by governments, nationally, regionally and/or internationally, in developing measures to combat IUU fishing.

## 7. This paper:

- a) briefly outlines the different methods used to undertake analyses of trade and market information
- b) identifies the range of information on IUU fishing that may arise from trade and market analyses
- c) discusses the key ingredients for trade and market analyses to be able to contribute to assessing IUU fishing activity
- d) provides a number of issues for further consideration including recommendations designed to increase the utility of these forms of analysis in assessing IUU fishing activity

#### Methods used in analyses of trade and market information

- 8. There are a number of different methods used in the analyses undertaken by TRAFFIC; the main ones being analysis of trade data, market surveys and field research. Such methods must be combined with extensive literature searches and research into any regulatory measures and policies in order to ensure that data derived from trade and market research is placed in its correct context. In applying these methods, some activities may be undertaken that are beyond the normal scope of government, for example, covert market surveys in other countries. Both informal and formal sources of information may be obtained however if interventions are to be subsequently made by governments on the basis of the analyses these must have a strong, factual underpinning.
- 9. It is extremely important to have the best available information so that certain interpretive decisions can be taken when checking trade data. TRAFFIC is very careful to give a conservative estimate when estimating overall trade as there are always inconsistencies when cross checking export, import and re-export data. For example when comparing data from different sources it is important to verify that comparisons are being made between the same types of products. Some countries' codes may reflect fish quantities that have been converted to live weight whereas other sources of data may be for such products as head and gutted, gutted, and fillets. Such data can not be compared unless this information is known and reliable conversion factors used to convert processed product to live weight equivalents.
- 10. In general statistics such as those from FAO underestimate the amount of trade occurring, the quality of this data being dependent on the quality of data its members provide. There are, however, examples where trade statistics at a country or global level may overestimate trade. For example, this occurred in the past with the trade data available for Hong Kong on import of shark fin (Anon., 1996). As

shark fins were being imported in to Hong Kong and then re-exported to mainland China for further processing and then re-imported back into Hong Kong, the overall effect was for fins derived from the same animal to be counted twice in imports into Hong Kong. Legitimate industry is often an extremely important advisor in the interpretation of trade information.

11. Further, even where a country has customs codes for a species it may still be reported under a variety of names – particularly where there may be tariff or tax incentives to do so – therefore care needs to be taken to either use pricing information or intelligence from legitimate industry to correctly identify the species in question or otherwise omit that data from the analyses. When done properly, these forms of analyses will more often provide a minimum estimate of the level of international trade in a species and, in most cases, will be an underestimate.

## What useful information can be derived from trade & market analyses?

12. In providing assessments of a range of different IUU activities trade and market information can assist in providing the potential basis for intervention across this range.

# i) Comparison between estimated catch and level of trade

- 13. Collating national import, export and re-export data can provide an estimate of the total volume of a particular species in international trade. This may then be compared with the global reported, or estimated, catch of that species. Where the volume of a species in international trade is higher, one of the explanations is that such product has been derived from illegal or unreported activities. Knowledge of the fishery is then likely to provide an indication as to whether this is likely to be the case. Where a species may be actively managed throughout only part of its range, gaps between trade volume and reported catch may indicate that part of the product derived from an unregulated fishery. While this does not fall within the definition of IUU under the FAO International Plan of Action it may identify areas where harvest is of concern and so require active management or where unregulated harvest may undermine trade-related measures for that part of a stock or species that is managed.
- 14. The assessment of the international trade in Patagonian Toothfish *Dissostichus eleginoides* undertaken by TRAFFIC in 2001 (Lack and Sant, 2001) is an example of this type of trade analysis. International trade data for Patagonian Toothfish was analysed to determine whether it was possible to use this data to verify the extent of IUU fishing for toothfish and, if so, how the level of international trade compared with estimates of total catch. This analysis, undertaken prior to the implementation of the Commission for the Conservation of Antarctic Marine Living Resources' (CCAMLR) catch documentation scheme (CDS), showed that IUU fishing may have accounted for half the toothfish in international trade in the year 2000. Comparison of international trade data also indicated that the level of IUU catch may have been four times that estimated by CCAMLR.
- 15. In the case of the Patagonian Toothfish trade analysis, catch estimates were available from CCAMLR however for other species, particularly those that may be harvested from high seas areas not under the mandate of an RFMO, FAO catch estimates may provide the main point of comparison with trade data. For example, in relation to Orange Roughy *Hoplostethus atlanticus* a comparison of available international trade information and FAO estimates of global catch indicated that the latter substantially underestimated the actual global catch of Orange Roughy (Lack *et al.*, 2003). FAO has itself recognised that its database underestimates the actual catch of Orange Roughy (Anon., 2003b) with the trade analysis then confirming that this was indeed likely to be the case and that the underestimate may be as high as 30% in some years. While not solely indicative of the level of IUU fishing activity for Orange Roughy such comparisons of global catch and trade provide valuable insights into the potential level of harvest of species and add weight to calls for such stocks to be brought under management arrangements.

# ii) Identify discrepancies between export and import figures for a product

- 16. Discrepancies between export figures and import data may indicate that product is circumventing official trade routes in the country of origin. One of the reasons for this circumvention may be that the product has been illegally obtained.
- 17. For example, in the case of the sea cucumber species *Isostichopus fuscus*, harvested from Ecuador's Galapagos Islands, a comparison between export data from Ecuador and import data from the major import destinations was undertaken. This analysis revealed that the level of exports was likely to significantly underestimate the actual level of trade, with imports of dried sea cucumbers from Ecuador into Hong Kong and Taiwan over the period 1998 to 2002 exceeding the reported exports by at least 10% and in some years by 25% (Willock *et al.*, in press). Of further interest in the trade analyses of *I. fuscus* is the fact that exports from Ecuador were reported during years when the fishery was closed to all commercial harvest. Illegal harvest of the species from the Galapagos is widely recognised by the Ecuadorian Government as the major threat to sustainability of the fishery and the trade comparison contributes data on the extent of the illegal harvest and the need for greater co-ordination between fisheries management and customs authorities as well as with importing countries.

## iii) Identify countries engaged in trade in a certain product

- 18. Trade analysis can assist in identifying those countries that are engaged in the international trade of a fisheries product and the level of that engagement. This information can be utilised by RFMOs or national governments to identify trade flows in a particular fisheries product (and potentially IUU product) and which countries' co-operation is required to effectively manage a species.
- 19. CCAMLR, ICCAT and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) have all used information gathered through trade and market analyses to pinpoint countries from which co-operation is required. In most cases, countries trading in a fisheries product that are not members of the relevant RFMO will be unaware of any issues relating to IUU fishing activity. Therefore identifying countries engaged in the trade of a species where IUU fishing is a problem provides the opportunity to liaise with those countries and seek their co-operation in limiting market access by IUU-caught fish. Invitations to become a party to the relevant RFMO or co-operate in trade-related measures as a co-operating non-party are two types of actions taken on the strength of this information. Both ICCAT and CCSBT have also used information on the source of product in trade to identify countries from which their members should not accept imports.

# iv) Identify routes/avenues for disposal of IUU product

- 20. Gathering information on the export, import and re-export of a particular species can provide information on the routes IUU product takes in order to circumvent national management measures, including those relating to trade. This information may provide evidence of the avenues for disposal of product, 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.
- 21. The case of the abalone species *Haliotis midae* illustrates this point. *H. midae* is one of three species of abalone endemic to South Africa and is the only species commercially harvested within the country, with over 90% of the catch exported. The main threat to the species, and the future of the fishery based on it, is illegal harvesting (Hauck and Sweijd, 1999). A recent analysis of import data from the major importer, Hong Kong, revealed imports of the South African endemic abalone from four other States, including a land-locked country (Willock *et al.*, in press). Given there is no export of the species into these countries from South Africa, exports from these four countries are likely to consist of abalone

smuggled across borders. Consideration is reportedly being given by the South African Government to avenues through which the co-operation of importing countries can be secured to address this illicit trade (Willock *et al.*, in press).

## V) Evidence of adherence to regulatory measures

- 22. Market surveys can be a useful tool by which to gain a snapshot of the nature of the fisheries product in trade and allow an assessment of the presence or absence of certain forms of IUU product. More detailed surveys over a period of time can provide a more robust assessment of the extent to which IUU product occurs in the market place. For example, surveys of major European markets for Swordfish *Xiphias gladius* and Atlantic Bluefin Tuna *Thunnus thynnus* revealed the presence of substantial quantities of undersized specimens of both species, in contravention of ICCAT management measures (Raymakers and Lynham, 1999).
- 23. Assessment of information from market surveys can provide independent verification of an enforcement problem and the extent of that problem. Measures can then be developed to respond to such problems.

#### Main ingredients of robust trade and market analyses

24. There are two essential ingredients in ensuring that analyses of trade and market information are sufficiently robust to be used to assess IUU fishing activity, and indeed to be a useful contribution to the management of fisheries in general. These two ingredients, access to data and ability to interpret the data, are similar to other crucial areas of fisheries management, particularly stock assessment. Issues relating to each factor are discussed below.

## i) Access to data

Access to reliable data at a level enabling analysis is the main barrier to the use of trade and market information to assess IUU fishing activity. In most cases species- and product-specific customs codes will not be available for the species of interest with many grouped into generic categories such as 'crustaceans' or 'shark'. Another common practice is to identify certain species, such as 'Bigeye Tuna' and 'Yellowfin Tuna' and then have all other tuna species falling into a category classified as 'Other – not Bigeye or Yellowfin'.

- 25. Where customs codes are available for a species these are often only in place in a limited number of the countries potentially engaged in its trade. Fortunately, those countries with detailed customs codes in place are most likely to be the ones most heavily engaged in trade, both as exporters and importers. For example, New Zealand is the major exporter of Antarctic Toothfish *Dissostichus eleginoides* and is one of only two countries with separate export codes for this species and Patagonian Toothfish. The only other country with separate customs codes for the two toothfish species is the US: a major importer of these species (Lack, 2001). Under such circumstances information on trade between the major trading partners can provide at least a minimum estimate of the global trade in a species.
- 26. Limited transparency and public availability of trade information and access to markets can also reduce the potential of these tools in assessing IUU fishing activity. Of particular concern is the fact that some of the world's largest importers, exporters and re-exporters have little transparency in their trade figures. For example, China advised CCAMLR that in the first nine months of 2002 it had processed and re-exported nearly 15% of the total global catch of toothfish yet no trade data is available (Anon., 2003c).
- 27. There is reasonable transparency with regard to products in international trade however it is often difficult to access reliable information on domestic trade and consumption. Where IUU-caught fish is traded and consumed domestically, information on which to assess the level of IUU fishing activity may be

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difficult to obtain. In such cases market surveys may provide some indications of domestic trade however where a product is consumed in high volumes and available from a range of sources surveys may not be feasible. In cases where part of the catch landed into a country is consumed locally and the rest exported trade data will only be available for the exported component, which may assist in providing estimates of local consumption where data on landings is also available.

## ii) Ability to interpret data

- 28. Access to reliable data is clearly a crucial element in assessing IUU fishing activity. Also crucial is the ability to correctly interpret that data.
- 29. It is essential to marry good information about the relevant fishery from which the product has been derived with trade or market data 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.
- 30. 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 there will be import data that will then enable identification of the exporting State.
- 31. In this regard, the most effective contributions from trade and market analyses are often achieved where there are strong links with governments, relevant RFMOs and legitimate fishing industry. As noted, close liaison with the latter is particularly useful in assisting in the interpretation of processed product.
- 32. A further aspect of interpreting trade data in particular is the presence of perverse incentives that may result in illegal trade in a product that does not result from IUU fishing. Many countries have complex import and export taxes and tariffs that do not apply uniformly across all fisheries products such that some products attract higher taxes where for others there may be no tax. This provides incentives to mis-report trade in certain fisheries products. For example, in relation to shark fin trade between Hong Kong and mainland China, Hong Kong is a duty-free port however mainland China imposes high tariffs on imported shark fins. This resulted in a close match between import and export data on trade in fins from mainland China to Hong Kong but large discrepancies in data for trade from Hong Kong to mainland China with one explanation being that traders sought to under-report imports to Mainland China to avoid tariffs (Clarke, in press).

## Issues for further consideration

# a) Adoption of species- and product-specific customs codes

33. The Harmonised Commodity Description and Coding System (HS) seeks to co-ordinate customs codes internationally. In relation to fisheries products an argument often raised against the introduction of detailed codes is that this would be overly cumbersome for national customs authorities. However where the sustainability of a species in international trade is threatened by IUU fishing the introduction of customs codes enabling more accurate assessment of trade could be treated as a priority for action. In the case of Orange Roughy, for example, concerns about the sustainability of catches from unmanaged stocks, particularly those taken in unregulated high seas areas, have been held for a number of years. With management regimes for unmanaged high seas areas likely to be some years away the introduction of trade codes for Orange Roughy by the major trading countries would serve to complement catch reporting to FAO and assist in providing a more accurate estimate of catch.

34. Improved co-ordination of product-specific codes between countries engaged in the trade of a species would greatly assist in reducing scope for the introduction of errors through converting processed weights to live weight. In the case of toothfish, for example, the major exporting country of Chile has very detailed product codes however its major trading partner, the US, has much less detailed codes. While co-ordination of customs codes through the HS is preferable, there remains scope for countries to choose to implement more detailed codes for certain products where these do not exist through the HS. Where relevant, RFMOs could provide a useful point of co-ordination for species under their mandate.

# b) Greater transparency in national trade data and that collected under RFMO schemes

- 35. As noted, some official trade and market data is difficult or, in some cases, even impossible to obtain. Where such data concerns major trading nations this significantly limits the value of trade and market information in efforts to assess IUU fishing activity.
- 36. Greater transparency is required with regard to trade data and market information, including that collated by RFMOs under catch certification and documentation schemes. Further, such information needs be made available in sufficient detail to enable comparison with data compiled from customs agencies.

# c) Increased awareness of trade dynamics by fisheries management agencies especially where IUU is considered to be a threat

- 37. For many fisheries harvest for international trade is the primary driver. This is particularly the case in many developing countries where higher valued fish species, such as the larger pelagic tunas, are exported to earn valuable foreign revenue. 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 product by fisheries management agencies, with efforts commonly directed at managing the resource from the point of harvest to the wharf. In part this is 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.
- 38. 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.

# d) Increased engagement by RFOs and government in global fisheries trade issues especially when using trade-related measures as part of their management strategy

- 39. Despite the increasing use of trade-related measures in the conservation and management of fisheries, specifically to combat IUU activity, moves to co-ordinate the application of such measures has occurred only recently, through a series of FAO expert consultations. Increased co-ordination and, where appropriate, a higher degree of standardisation between the different schemes is to be encouraged.
- 40. Of particular relevance is the interpretation of World Trade Organisation (WTO) rules in respect to fisheries trade-related measures. This is a sensitive issue and one that remains open to debate, with "...interaction between trade measures adopted by RFMOs and WTO rules containing possibilities for both conflict and compatibility" (Tarasofsky, 2003). More concerted efforts should be directed towards ensuring that trade measures implemented in support of the sustainable development and exploitation of fisheries resources are recognised and supported under the WTO.

## e) Increased engagement by legitimate industry

41. As noted, engagement by legitimate industry greatly contributes to trade and market analyses as it strengthens ability to interpret data and gather intelligence on product movement as well insight into IUU operations. This engagement strengthens the ability of government and other organisations to monitor trade, interpret data and gather reliable data on trade routes, prices and sources of product, which in turn should benefit legitimate industry if such information can be used to reduce or eliminate the threat posed by IUU fishing.

## f) The potential for increased co-ordination between fisheries agencies and CITES

- 42. CITES, as the international instrument with the mandate to monitor and regulate international trade in wildlife products, has well-established processes that may readily complement and strengthen broader fisheries management objectives. CITES may provide a range of conservation benefits to marine fish species that are or may be threatened by demand for international trade particularly where this threat arises from IUU fishing. In broad terms, such benefits can include:
  - providing support to national, bilateral and multilateral fisheries management measures
  - providing a tool to combat IUU fishing, where this targets fish that primarily enter international trade
  - providing a standardised global monitoring system for application of trade-related measures to marine fish (Anon., 2002b)
- 43. A number of countries have already sought to use the provisions available under CITES to assist in combating IUU fishing for a particular species. The most recent example is the listing of the sea cucumber species *I. fuscus* in Appendix III of CITES by Ecuador in order to gain international support for its national efforts to combat illegal harvest for international trade.
- 44. The increased consideration of trade-related measures also highlights the need for strengthened co-operation between CITES and the FAO, as well as, potentially, between CITES and individual RFMOs.

# g) Limitations of trade and market analyses

- 45. While trade and market analyses can contribute to the assessment of IUU fishing there are a number of limitations to this contribution.
- 46. One obvious limitation is that trade and market analyses, by their very nature, only provide data on the valued and retained component of the catch. Therefore the impact of IUU fishing on non-target species and the broader marine environment can not be directly assessed through trade and market data. Another limitation is that this data does not indicate where catch was taken and so sheds little light on, for example, particular stocks that may be subject to greater IUU fishing.
- 47. Trade and market information can not, of itself, identify product derived from IUU fishing unless analysed in conjunction with other information; for example, the presence of product in trade during periods when the corresponding fishery is closed.

## **Conclusions**

48. Analysis of the trade in wildlife products has long been recognised as a valuable source of information contributing to the sustainable use of natural resources. Such analysis can provide a direct point of intervention as well as guide interventions at other points of the management system.

- 49. In the context of IUU fishing, analysis of trade and market information is a potentially powerful tool to assess these activities and so assist efforts to combat them. In broad terms, contributions from trade and market analyses may include:
  - increasing the understanding of the nature, scope and extent of IUU activity
  - providing independent verification of the extent of a known IUU problem
  - assessing the effectiveness of an existing trade- and/or market-related measure
  - demonstrating that a problem exists that may not have been previously documented or identifying that demand for a species in international trade is a key driver for IUU activity
- 50. As with other data and statistics, including those relating to estimates of catch and fishing effort for example, trade and market information is unlikely to provide absolute results in terms of quantities of a fisheries product in international trade. However, with care taken in its interpretation, such data may form a valuable source of information to assist in assessing IUU fishing and therein contribute to reducing and eliminating this global threat to sustainable fisheries.

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