



**DIRECTORATE FOR FOOD, AGRICULTURE AND FISHERIES  
FISHERIES COMMITTEE**

Cancels & replaces the same document of 16 April 2004

**ESTIMATION OF UNREPORTED CATCHES BY ICCAT**

**19-20 April 2004**

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*This paper has been submitted to the IUU Workshop, 19-20 April 2004.*

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**JT00162293**

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## ESTIMATION OF UNREPORTED CATCHES BY ICCAT<sup>1</sup>

### Introduction

1. The objective of this contribution is to provide a brief overview of the process used currently by the International Commission for the Conservation of Atlantic Tunas (ICCAT) to estimate "unreported" catches. Because the presentation is given at a workshop on Illegal, Unreported and Unregulated (IUU) fishing, it is useful to emphasize that the scope of the presentation is limited to the first "u" in the acronym (i.e, unreported). ICCAT's scientific body, the Standing Committee on Research and Statistics (SCRS) carries out the estimation of unreported catches that is referred to in this presentation. It is up to the Commission itself to decide if any particular unreported catch is evidence of IUU fishing or not.

2. The estimation of unreported catches at ICCAT during the last decade has been closely associated with international trade data. For some species like bigeye tuna (BET), trade data have been reported directly to ICCAT by some Contracting Parties. For bluefin tuna (BFT), which is the basic case study in this presentation, the trade data have been collected through a system known as the BFT Statistical Document Program (SDP).

### The Statistical Document Programs

3. The SDP at ICCAT started in 1992 when it was established for frozen bluefin products (the dates in this paragraph refer to the year when the measures<sup>2</sup> were adopted; they generally went into force the following year). In 1993 the bluefin SDP was extended to fresh products, and in 1997 it was amended to also keep track of re-exports. More recently, in 2003, the bluefin SDP was amended again to add information about farmed products and to link the catch information to ICCAT's list of large-scale vessels authorized to fish in the Convention Area (the list is one of the multiple tools used by ICCAT to combat IUU fishing). In 2001, SDPs were also established to track imports and re-exports for bigeye and swordfish. In addition to the actions above, ICCAT has adopted several other measures related to the validation, interpretation and implementation of the SDPs.

4. The ICCAT SDPs collect information on the flag and characteristics of the capture vessel, the area or Ocean of catch and the type and amount of product being traded. They are validated by authorized government officials. Customs officials from Contracting Parties should not authorize the importation of the relevant products (bluefin, bigeye or swordfish) unless they are accompanied by a properly validated statistical document. Twice a year, Contracting Parties should submit summary reports to the ICCAT Secretariat informing about the imports that occurred during the preceding 6-month period.

### Case study: Atlantic bluefin tuna

5. According to the SDP data received by the Secretariat, 50% to 60% of the catch of Atlantic bluefin is traded internationally. Considering that not all importing countries may report back to the

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<sup>2</sup> ICCAT Recommendations and Resolutions can be downloaded from <http://www.iccat.es> or can be requested from the ICCAT Secretariat.

Secretariat, the actual proportion of the catch that is traded is probably higher. Most of the international trade in bluefin tuna goes to Japan.

6. The ICCAT catch database contains a special code called NEI (for "not elsewhere included") which, for the purpose of this contribution, represents unreported catches. NEI codes may be assigned to individual flags by adding a numeric code (e.g., NEI-105); this procedure distinguishes between the unreported catch that is attributed to a country and the catch that is reported by that country.

7. The calculation of NEI (unreported) bluefin tuna catch follows the formulation:

$$NEI = A - B - C - 0.8 D$$

where

A = Catch reported to ICCAT

B = Imports to USA

C = Imports to Japan from wild fish

D = Imports to Japan from farming

8. When the NEI values thus calculated are negative, they are taken as estimates of unreported catch.

9. A factor of 0.8 is applied to farmed products to allow for a 25% gain in weight from fattening in the farms ( $1/1.25=0.8$ ). In addition, all product types are converted into round weight (live weight) using the following factors:

Belly meat from wild tuna X 10.28 = round weight

Dressed weight X 1.25 = round weight

Fillets X 1.67 = round weight

Gilled and gutted weight X 1.16 = round weight

Other products X 2.0 = round weight

10. A conversion factor is not applied to belly meat products from farmed bluefin in order to diminish the possibility of double counting, as bellies are usually shipped separately from other products from the same fish.

11. The application of the above formula is not fixed over time; it is adapted to current practices. For example, when applied to estimate NEI catches from individual countries, the data are often aggregated among gears or among areas because the biannual SDP summary reports are not very accurate with respect to gear or area specifications. Another example of adaptability is the calculation of "NEI-combined" catches in which data from nine Mediterranean and east Atlantic countries are pooled together in order to reflect current practices of "fishing for farming" and fattening.

12. The result of the procedure described above to data from 1994 to 2002 suggests that 1% to 5% of Atlantic bluefin catches may go unreported. These estimates, however, are uncertain due to several factors

such as: (1) the application of average conversion factors that may be imprecise, (2) the possibility of double-counting through the application of conversion factors to different products from the same fish, (3) the possibility that the SDP for bluefin has not been fully implemented by all importing countries, and (4) the use of highly aggregated data from the biannual reports which does not allow for the validation of details by contrasting individual statistical documents. Despite these uncertainties, the use of SDP data to infer unreported bluefin tuna catches is seen as a very a useful tool.

### **Other species**

13. The ICCAT statistical document programs for bigeye and swordfish are at relatively early stages of implementation and have not been used for estimating unreported catches of these species. However, it is likely that the SDP data will be used for this purpose in the near future.

14. In the past, the SCRS has obtained NEI catch estimates for bigeye tuna based on trade information provided by Japan, following a similar approach to that described above for bluefin. The estimates so obtained suggest that unreported catches were in the order of 5%-10% in the early 1990s, rose to over 20% of the total catch in the late 1990s, and then declined to reach levels around 5% today. This latter decline in the magnitude of unreported Atlantic bigeye catches is attributed to the effectiveness of various tools used by the Commission to combat IUU fishing, such as positive and negative vessel lists, trade sanctions, etc.

### **Concluding remarks**

15. ICCAT has used trade data, especially from its Statistical Document Programs, to estimate unreported catches for bluefin tuna and other species. The exact magnitude of these estimates is uncertain due to multiple assumptions and levels of aggregation that are necessary during computation. Nevertheless, the estimates have been very useful to identify countries that have not properly reported catches to the Commission.

16. The Statistical Document Programs at ICCAT do not operate in a vacuum. They are part of a "toolbox" used by the Commission to document IUU fishing activities. This toolbox includes multiple regulations such as vessel lists, transshipment sighting reports and trade sanctions. The interpretation and application of this toolbox has adapted to changes in the fishery and reporting practices, as is evidenced by the multiple amendments made to the SDPs.