



First Workshop of the Conservation Working Group
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Agenda Item 5

DRAFT DEFINITION FOR THE TERM “BYCATCH”

(Prepared by the Secretariat)

Introduction

1. In its Terms of Reference (TOR) the Conservation Working Group (CWG) was given the task of developing a definition of the term “bycatch” for the purposes of the Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU).
2. Since many species of elasmobranch can be harvested in a sustainable manner, a general prohibition of catch and bycatch is not intended by the Signatories¹. It is therefore crucial to define bycatch for the purposes of the MOU in order to avoid misinterpretations of measures contained in the Conservation Plan and the Programme of Work. In addition, a clear understanding of the term is a key prerequisite for the communication of the objectives and aims of the MOU in relation to other organizations, such as the CMS Family, CITES, FAO, Regional Fisheries Bodies and Regional Seas and Action Plans.
3. According to Alverson et al. (1994)², the definition of bycatch differs among countries as well as among researchers and common definition is elusive. The FAO (2011)³ underlines that it is not possible to develop a standard international definition of bycatch because of the very diverse nature of the world’s fisheries, historical differences in how bycatch has been defined nationally, different functional interpretations of bycatch, that include catch that a fisher did not intend to catch but could not avoid doing so, or regulatory interpretations of bycatch in fisheries management plans, which may not coincide.
4. This document aims to provide an overview of existing definitions under the most relevant treaties and instruments, responsible for, or having an impact on, the conservation and management of species listed in Annex 1 to the MOU.

1 Signatories have agreed that “Sharks should be managed to allow for sustainable harvest where appropriate, through conservation and management measures based on the best available scientific information.” (Sharks MOU paragraph 8)

2 Alverson, D. L., Freeberg, M. H., Murawski, S. A. and Pope, J. G. (1994) A global assessment of fisheries bycatch and discards. FAO Fisheries Technical Paper 339, 235 pp.

3 FAO (2011). International guidelines on bycatch management and reduction of discards. (<http://www.fao.org/docrep/015/ba0022t/ba0022t00.pdf>)

Furthermore, an analysis of the meaning of bycatch under CMS is given, based on the nature and overall objective of the Convention, on which the MOU is based. Suggestions are made for possible definitions to be considered by the CWG.

Provisions of the MOU regarding bycatch

5. The MOU refers to bycatch in a number of places. In the preambular text of the MOU, Signatories express their concern “about the significant mortality of sharks, including those listed on Appendices I and II of the Convention from a range of impacts and threats including target fisheries, [and] fisheries by-catch, ...”.

6. The Conservation Plan (adopted at MOS1 and revised at MOS2) calls for the development of “*programmes to monitor directed shark fisheries and shark bycatch, including programmes such as vessel monitoring systems, inspections and on-board observer or monitoring programmes*” in Activity 4.2. In addition, under the heading “Bycatch”, Activity 5.1 calls for the development and/or use of “*selective gear, devices, and techniques to ensure that the take of sharks in fisheries is sustainable and appropriately managed and that mortality of non-utilized catches is minimized to the greatest extent possible*”.

7. The direct juxtaposition of the two terms “directed shark fisheries” and “shark bycatch” in the preamble and under Activity 4.2 of the Conservation Plan, suggests that bycatch refers to all non-targeted species, that are caught in fisheries. If “targeted” were interpreted as an action based on the planning and expectation to catch a certain species, this definition would therefore include all species not initially envisaged to be caught. In particular, with regard to fully protected species, such as CMS Appendix I species, this would be of significant importance, as the intention to catch these animals would be legally prohibited for CMS Parties. Signatories to the Sharks MOU, although not legally bound to CMS and, bearing in mind that the MOU is legally non-binding, have agreed to “*prohibit the taking of species listed in Appendix I of the [CMS] Convention in accordance with Article III of the [CMS] Convention*” (Sharks MOU paragraph 13 i and Conservation Plan Activity 4.3).

Definition and provisions of CMS regarding bycatch

8. The fact that the MOU is an agreement in accordance with Article IV (4) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), leads to the assumption that definitions and the overall nature and objective of the Convention shall also be applicable to the MOU, or should at least have a guiding character. However, bearing in mind that Signatories to the MOU are not necessarily Parties to the Convention, this view may not be shared.

9. CMS refers to “bycatch” of marine species in several Resolutions, information documents and publications⁴. Although bycatch is routinely defined as “the incidental capture of a non-target species in fisheries” by the Convention’s Scientific Councillor for bycatch (B. Baker pers. Comm.), this definition has never been formally adopted by CMS Parties.

4 [UNEP/CMS/Resolution 10.14](#): Bycatch of CMS-listed Species in Gillnet Fisheries
[UNEP/CMS/Resolution 09.18](#): By-Catch
[UNEP/CMS/Resolution 06.02](#): By-catch

10. Activities related to bycatch under CMS traditionally focused on the conservation of marine cetaceans, turtles, dugongs and sea turtles, most of which are included in CMS Appendix I. Given the overall goal of the Convention and taking into account regulations under Article III paragraph 5 of the Convention, such species shall not be “taken”.

Definitions for “bycatch” by a selection of relevant Global and Regional Fisheries-related Bodies and Organizations

Food and Agriculture Organization (FAO)

11. In their International Guidelines on Bycatch Management and Reduction of Discards (2011)³, the FAO provides a number of examples for certain parts of the catch, that may fall under bycatch in different fisheries, countries and regions:

- a) Part of the catch that should not have been caught, inter alia, because of detrimental ecological and/or economic consequences;
- b) Species and sizes not specifically targeted in a fishery;
- c) Species that are protected, endangered or threatened;
- d) Juvenile fish;
- e) Organisms for which there is no intended use;
- f) Pre-catch mortality;
- g) Catch through ghost fishing.

12. The report concludes, based on a literature review, that “bycatch” has customarily been used to identify (1) species retained and sold, (2) species or sizes and sexes of species discarded as a result of economic, legal or personal considerations, and (3) non-targeted species retained and sold, plus all discards.

Regional Fisheries Management Organizations (RFMOs)

A. Indian Ocean Tuna Commission (IOTC)

13. The IOTC defines bycatch in its Glossary of Scientific Terms, Acronyms and Abbreviations⁵ as all species, other than the 16 species listed in Annex B of the IOTC Agreement, caught or interacted with by fisheries for tuna and tuna-like species in the IOTC area of competence. Thereafter, a species affected by bycatch includes those non-IOTC species which are:

- a) retained (byproduct),
- b) incidentally taken in a fishery and returned to the sea (discarded); or
- c) incidentally affected by interacting with fishing equipment in the fishery, but not taken.

⁵ Indian Ocean Tuna Commission (IOTC). (2015). Glossary of Scientific Terms, Acronyms and Abbreviations. (https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjR8OnO7NfPAhVDrxoKHfSIBFkQFggcMAA&url=http%3A%2F%2Fwww.iotc.org%2Fsites%2Fdefault%2Ffiles%2Fdocuments%2Fscience%2FIOTC_Glossary_of_terms_SCIENCE_11_December_2015.pdf&usq=AFQjCNGk--uvN5fgmg2JBrLUMMvB4YWWog&sig2=7MCaYQwRalG44nIhmAnL7g)

B. International Commission for the Conservation of Atlantic Tunas (ICCAT)

14. ICCAT provides a definition for bycatch on its website, according to which “bycatch is the unintentional or incidental capture of non-target species during fishing operations.”⁶

C. Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)

15. In their explanation of terms⁷, CCAMLR makes a distinction between target catch, incidental catch, discarded catch and bycatch:

- a) Bycatch: Total fishing mortality excluding that accounted directly by the retained catch of target species. This definition includes that which die as a result of interaction with the fishing gear, even if they do not leave the water and could include fish that die as a result of "ghost fishing" - capture of fish in the water by lost or abandoned fishing gear;
- b) Target catch: The catch of a species or group of species which is primarily sought in a fishery;
- c) Non-target catch: All catch other than the target catch. Non-target catch is typically referred to as bycatch when it refers to fish and marine invertebrates and as incidental mortality for seabirds and marine mammals;
- d) Incidental catch: Retained catch of non-targeted species;
- e) Discarded catch (usually shortened to discards): That portion of the catch dumped at sea (dead) as a result of economic, legal or personal considerations.

D. The Baltic Marine Environment Protection Commission (HELCOM)

16. HELCOM defines bycatch on its website⁸, as “unwanted catch, [which] is the action of catching other species than the ones targeted by fishing.”

E. Other RFMOs

17. Definitions used by the Western & Central Pacific Fisheries Commission (WCPFC), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) and the Inter American Tropical Tuna Commission (IATTC) could not be found.

Academic References

18. Following the definition of Hall (1996)⁹, bycatch “is that part of the capture that is discarded at sea, dead (or injured to an extent that death is the result)”, whereby capture means all that is taken in the gear. Hall further divides capture into three components:

- a) the portion retained because it has economic value (catch),
 - i. *target catch* (primary and secondary target species)

⁶ ICCAT Bycatch species. (<http://www.iccat.int/en/bycatchspp.htm>)

⁷ CCAMLR. *Explanation of terms*. Retrieved from <https://www.ccamlr.org/en/organisation/explanation-terms#B>

⁸ HELCOM. (n.d.). *Bycatch*. Retrieved from <http://helcom.fi/action-areas/fisheries/ecosystem-effects/bycatch/>

⁹ Hall, M. A. (1996) On bycatches. *Review of Fish Biology and Fisheries* 6, 319±352.

- ii. *non-target catch* (including other species caught incidentally but retained because of their economic value).
- b) the portion discarded at sea dead (bycatch), and
- c) the portion released alive (release).

Discussion and Proposed Definition

19. As can be seen from the selection above, definitions for the term “bycatch” vary significantly across different fisheries related entities. However, the majority of definitions deal with bycatch more or less as incidental catch of non-targeted species that is being released or discarded inter alia because of legal reasons or retained and utilized as a welcome “byproduct”.

20. For the purpose of the Sharks MOU, the Secretariat would suggest to use a very simple definition, based on the objectives of the MOU and in line with the agreed activities, that were agreed in the MOU text and Conservation Plan and which are related to the handling of bycatch. This definition should take into account the fact that under the Sharks MOU, catch of sharks and rays, although not initially intended, is accepted, if they are used in a sustainable manner.

21. As pointed out in paragraph 7 of this document, the MOU text itself provides some guidance on the definition, by distinguishing between targeted and non-targeted species, suggesting that the latter should be regarded as bycatch.

22. To this end, the Secretariat suggests to define bycatch for the purpose of the Sharks MOU as:

All catch of species and age classes of species (including those not taken on board) and species negatively impacted by the interaction with the fishing gear, that were not targeted (=incidentally/accidentally caught) in fisheries operation, regardless of later treatment. I.e. bycatch may be discarded, released or retained and utilized as byproduct, in accordance with economic, legal and other relevant requirements.

Action requested:

The CWG is requested to:

- a) Review and discuss the draft definition for the term “bycatch” as suggested by the Secretariat in this document; and to
- b) Agree on a definition to be submitted to the Advisory Committee at their 2nd Meeting.