 <p data-bbox="213 517 448 555">Agreement on the Conservation of Albatrosses and Petrels</p>	<p data-bbox="491 237 1402 280">Sixth Meeting of the Seabird Bycatch Working Group</p> <p data-bbox="628 297 1402 336"><i>Punta del Este, Uruguay, 10 - 12 September 2014</i></p> <p data-bbox="491 412 1402 454">Artisanal, small scale and subsistence fisheries</p> <p data-bbox="544 539 1350 622"><i>Marco Favero, Igor Debski, Tatiana Neves, Anton Wolfaardt</i></p>
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SUMMARY

One of the main results achieved during these years by ACAP was the development of best practice advice for the mitigation of seabird bycatch. Most of this advice generated to date applies to large (industrial) vessels, with not enough attention being paid to the characterisation of seabird bycatch in artisanal fisheries and how best to mitigate bycatch in these fisheries. SBWG5 noted that the Agreement has not adopted specific definitions for terms such as “artisanal”, “small scale” and “subsistence” fisheries, and agreed that would be useful to clarify these terms. The difficulties associated with the definition of artisanal, small-scale and subsistence fisheries are based in the dynamics of these fisheries and the fact that these terms are not mutually exclusive. There are no uniform standards to define artisanal fisheries, although in most cases the vessel size and engine power, degree of mechanisation, hold capacity, gross registered tonnage, mobility and geographical range are considered. These criteria vary according to national and/or international characteristics of the fisheries. Although there is a range of definitions for artisanal, small-scale and subsistence fisheries, most of the literature refers to the FAO fisheries glossary as standard definitions. A broad inclusion of these fisheries in the Advisory Committee and SBWG Work Programmes presents a challenge for the Agreement, given that the lack of mechanisation, vessel size or reduced capacity of crew makes the implementation of mitigation methods designed for industrial vessels difficult to transfer directly to smaller scale fisheries. Hence, there is a need to determine how ACAP can progress work and support Parties, Range States and International Organisations in developing mitigation strategies appropriate for artisanal and small-scale fisheries, as well as promoting adoption and implementation of best practices.

RECOMMENDATIONS

1. That the SBWG adopt the FAO terms and definitions for artisanal, small-scale, subsistence and recreational fisheries.
2. That the SBWG consider the merits and possible processes for further work in the identification of mitigation methods and the development of best practice advice for artisanal and other small-scale fisheries

Pesquerías artesanales, de pequeña escala y subsistencia

Uno de los principales resultados logrados por el ACAP durante los últimos años fue la creación de una serie de recomendaciones de mejores prácticas para la mitigación de la captura secundaria de aves marinas. La mayor parte de las recomendaciones emitidas a la fecha se aplica a los grandes buques (industriales), mientras que no se ha prestado la suficiente atención a la caracterización de la captura secundaria de aves marinas en las pesquerías artesanales ni al modo de mitigar la captura secundaria en dichas pesquerías. Durante la GdTCS5, se señaló que el Acuerdo no ha adoptado definiciones específicas para términos como "pesquería artesanal", "de pequeña escala" ni "de subsistencia" y se acordó en que sería útil aclarar dichos términos. Las dificultades asociadas a la definición de pesquerías artesanales, de pequeña escala y subsistencia se basan en la dinámica de tales pesquerías y en el hecho de que un término no excluye al otro. No hay normas uniformes para definir las pesquerías artesanales, aunque en la mayoría de los casos se utilizan como parámetros el tamaño de la embarcación y la potencia del motor, el grado de mecanización, la capacidad de bodega, el tonelaje de registro bruto y el área de distribución geográfica y movilidad. Esos criterios varían según las características nacionales y/o internacionales de las pesquerías. Si bien existe una serie de definiciones para pesquerías artesanales, de pequeña escala y subsistencia, la mayor parte de la bibliografía se remite al glosario de pesquerías elaborado por la FAO como las definiciones estándares. La amplia inclusión de este tipo de pesquerías en los Programas de Trabajo del Comité Asesor y del GdTCS presenta un desafío para el Acuerdo, dado que la falta de mecanización, el tamaño de las embarcaciones o la capacidad reducida de la tripulación dificultan la transposición de la implementación de los métodos de mitigación diseñados para buques industriales directamente a las pesquerías de menor escala. En consecuencia, resulta necesario determinar cómo el ACAP puede avanzar en su labor y dar respaldo a las Partes, a los Estados del Área de Distribución y a las organizaciones internacionales para diseñar estrategias de mitigación adecuadas a las pesquerías artesanales y de pequeña escala, así como impulsar la adopción e implementación de las mejores prácticas.

RECOMENDACIONES

1. Que el GdTCS adopte los términos y definiciones de la FAO para las pesquerías artesanales, de pequeña escala, subsistencia y pesca recreativa.
2. Que el GdTCS considere las ventajas y posibles procedimientos para seguir trabajando en la identificación de métodos de mitigación y la elaboración de recomendaciones de mejores prácticas para pesquerías artesanales y otras pesquerías de pequeña escala.

Pêches artisanales, de subsistance et petites pêches

L'un des principaux résultats enregistrés par l'ACAP au cours de ces dernières années est le développement de bonnes pratiques en matière d'atténuation des captures accessoires d'oiseaux marins. La plupart des bonnes pratiques données à ce jour s'appliquent aux grands bateaux (industriels) et ne tiennent pas suffisamment compte des spécificités des captures accessoires d'oiseaux marins dans les pêcheries artisanales et des meilleures méthodes d'atténuation des captures accessoires dans ces pêcheries. Le GTCA5 a indiqué que l'Accord n'a pas adopté de définitions précises pour les termes tels que « pêcheries artisanales », « petite pêche » et « pêcheries de subsistance » et a convenu de la nécessité de clarifier ces termes. Les difficultés liées à l'adoption d'une définition pour les termes « pêcheries artisanales », « petite pêche » et « pêcheries de subsistance » sont dues à la dynamique de ces pêcheries et au fait que ces termes ne s'excluent pas mutuellement. Il n'existe pas de normes uniformes de définition des pêcheries artisanales, bien que dans la plupart des cas il soit tenu compte de la taille du bateau et de la puissance de son moteur, du degré de mécanisation, de sa capacité de cale, du tonnage de jauge brute, de sa mobilité et de son aire géographique. Ces critères varient en fonction des caractéristiques nationales et/ou internationales des pêcheries. Bien qu'il existe une série de définitions des termes « pêcheries artisanales », « petite pêche » et « pêcheries de subsistance », la plupart des ouvrages considèrent comme définition standard les définitions du glossaire de la pêche de la FAO. Une intégration généralisée de ces pêcheries dans les programmes de travail du Comité consultatif et du GTCA constitue un défi de taille pour l'Accord, étant donné que le manque de mécanisation, la taille du bateau et la capacité réduite de l'équipage rendent la mise en œuvre de méthodes d'atténuation pensées pour les bateaux industriels difficiles à appliquer directement aux pêcheries de plus petite taille. Ainsi, il convient de déterminer la façon dont l'ACAP peut progresser dans ses travaux et soutenir les Parties, les États de l'aire de répartition et les organisations internationales dans le développement de stratégies d'atténuation appropriées pour les pêcheries artisanales et les petites pêches, ainsi que dans la promotion de l'adoption et de la mise en œuvre de bonnes pratiques.

RECOMMANDATIONS

1. Le GTCA est appelé à adopter les termes et définitions de la FAO concernant les termes « pêcheries artisanales », « petite pêche » et « pêcheries de subsistance ».
2. Le GTCA est également appelé à évaluer les avantages et les processus éventuels d'approfondissement des travaux en matière d'identification des méthodes d'atténuation et de développement des bonnes pratiques applicables aux pêcheries artisanales et aux autres petites pêches.

1. INTRODUCTION

Since the Agreement on the Conservation of Albatrosses and Petrels entered into force, the incidental mortality of seabirds in fisheries has played a core role in the Advisory Committee work programme, and in particular the agenda of the Seabird Bycatch Working Group. One of the main results achieved during these years was the development of best practice advice for the mitigation of seabird bycatch, including demersal and pelagic longline and trawl fisheries (<http://www.acap.aq/resources/bycatch-mitigation>). Although in general terms mitigation measures may be broadly applicable, most of the advice generated to date applies to large (industrial) vessels, less so to small vessels. Further, there has been very little consideration of how mitigation gear and methods developed for large vessels can be adapted for artisanal and other small-scale fleets. Hence, in part due to the number of high priority issues in the agenda, not enough attention has been paid to the characterisation of seabird bycatch in artisanal fisheries and how best to mitigate bycatch in these fisheries. Now that the best practice advice tailored to larger vessels is well established and developed, it is appropriate that greater attention be given to artisanal and other small-scale fisheries.

During the Fifth Meeting of the Seabird Bycatch Working Group in 2013 it was noted that ACAP has not adopted specific definitions or clarified the use of terms such as “artisanal”, “small scale” and “subsistence” fisheries, and it was agreed that it would be useful to prepare a document for SBWG6 to clarify these terms (AC7 Doc 14 rev 2). This is in part due to the lack of consistency in the definitions used in the literature, which vary between International Organisations (e.g. FAO, RFMOs) and national legislations and regulations. Such discrepancies were evident in a document presented to SBWG4 describing artisanal fisheries in South America and identifying those in which seabird bycatch might occur (see SBWG4 Doc 22).

The original comparison of industrial and artisanal fisheries proposed by Thompson in the 80's (and subsequently updated) shows the benefits offered by artisanal fisheries in contrast to the industrial ones in terms of catch relative to job creation, fuel consumption relative to catch, use of captures and bycatch, among others (Jacket & Pauli 2008). This comparison highlights for example that most of the artisanal fisheries production are used for human consumption and that production of fishmeal and fish oil is negligible. Importantly, this sector of the fishery is an important generator of employment compared with the industrial fishery (11 to 12 million vs. 1 to 2 million fishermen, respectively). However, artisanal fisheries are often poorly regulated and generally receive less attention than industrial fisheries, with very little effort directed towards monitoring and management. Artisanal fisheries are more difficult to investigate because they generally comprise a very large number of small boats, which frequently change both gear and target species. Moreover, given the small size of vessels and reduced crew it is almost impossible to task observers or researchers aboard. Consequently, official statistics on artisanal fisheries are sparse, and those that are available are generally inaccurate (Lewison et al. 2004, Chuenpagdee et al. 2006, Soykan et al. 2008). These features present a challenge for ACAP, not only in terms of understanding the complexity and dynamics of these fisheries in relation to seabird bycatch (and associated data gathering issues), but also in terms of identifying and promoting the development of bycatch mitigation strategies suitable for small boats with small crews, that are generally operating under severe economic constraints.

Recreational fisheries share some operational similarities with artisanal fisheries, as they are conducted by individuals or small groups of fishers, using small boats and a various gear

types. It is known that recreational fisheries pose risk of seabird bycatch; for example, in the north-eastern region of New Zealand alone it has been estimated that there are 4.8 million fisher hours of recreational line fishing from trailer boats per year with perhaps 11,500 bird captures (Abraham et al 2010).

2. DEFINING ARTISANAL AND SMALL-SCALE FISHERIES

The difficulties associated with the definition of artisanal, small-scale and subsistence fisheries are based in the dynamics of these fisheries and the fact that these terms are not mutually exclusive. Hence, the use of this terminology often differs and is not used consistently among Countries and regions. In addition to these ambiguities, in some cases the terms 'small-scale' and 'artisanal fishing' have been used as synonymous in legal texts. This has led more recently to the perception of these fisheries as a continuum from those primarily fishing for their own consumption to those selling part of the catch in the market but retaining a portion for local consumption, and even including those harvesting on a small-scale and almost exclusively for the market.

In general terms, there are some common features characterising artisanal and small-scale fisheries worldwide: (1) they are multi-target and use a range of gears and vessels, (2) present low levels of capital investment, (3) use a wide range of landing sites along the coast, (4) constitute an important source of employment, (5) trade is extremely dependent on intermediaries due to low capital committed and the limited power of fishermen to influence the market, and (6) fishery shows inadequate access to capital, credit sources and social welfare, among others. There are no uniform standards to define artisanal fisheries, although in most cases the vessel size and engine power, degree of mechanisation, hold capacity, gross registered tonnage, mobility and geographical range are considered in national legislations and international organisations. This 'cut off' criteria varies according to national and/or international characteristics of the fisheries. As an example of how countries differ in their definition of artisanal fisheries, Annex 1 includes those adopted by South American ACAP Parties (data extracted from a regional review in AC6 Doc 22).

Although there is a range of definitions for artisanal, small-scale and subsistence fisheries, most of the literature refers to the FAO fisheries glossary as standard definitions (<http://www.fao.org/fi/glossary/>). It is recommended that the Seabird Bycatch Working Group consider adopting the FAO definitions (included below) for use within ACAP:

2.1. Artisanal fishery

The term implies a simple, individual (self-employed) or family type of enterprise (as opposed to an industrial company), most often operated by the owner, with the support of the household. The term has no obvious reference to size but tends to have a connotation of relatively low levels of technology but this may not always be the case. In practice the definition varies between countries, from example from gleaning or a one-man canoe in poor developing countries to more than 20m trawlers, seiners or long-liners in developed ones. Artisanal fisheries can be subsistence or commercial fisheries providing for local consumption or export.

2.2. Small-scale fishery

Implies the use of a relatively small size gear and vessel. The term has sometimes the added connotation of low levels of technology and capital investment per fisher although that may not always be the case.

2.3. Subsistence fishery

A fishery where the fish caught are shared and consumed directly by the families and kins of the fishers rather than being bought by middle-men and sold at the next larger market. Pure subsistence fisheries are rare as part of the products are often sold or exchanged for other goods or services.

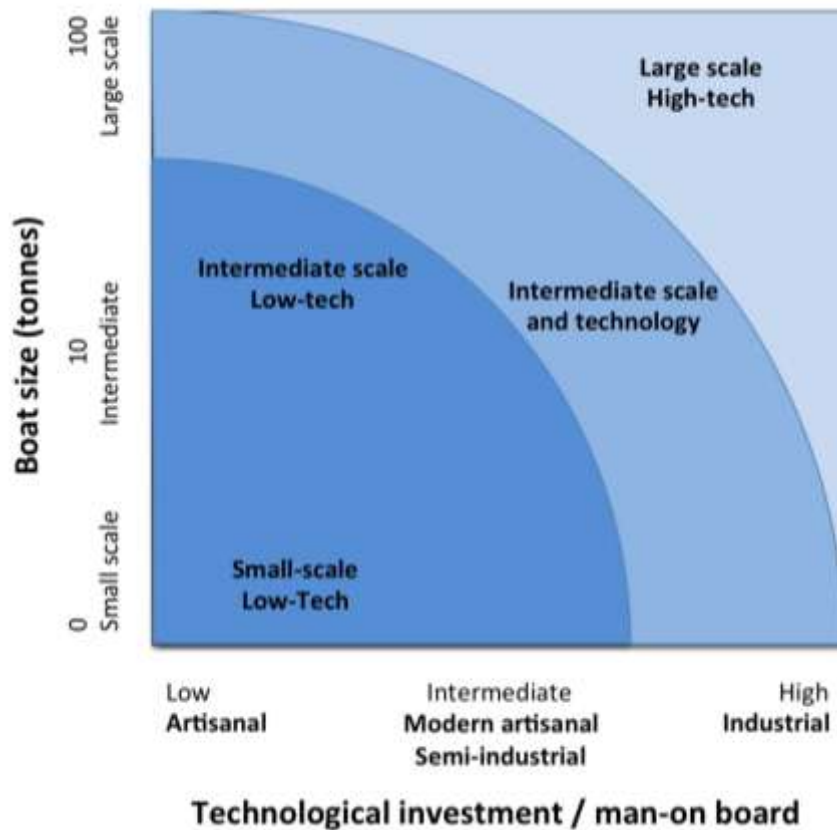


Figure 1. Graphic definitions of small-scale, artisanal and industrial fisheries as a function of vessel size and relative technological investment. Adapted from FAO Small-scale and artisanal fisheries at <http://www.fao.org/fishery/topic/14753/en>

2.4. Recreational fishery

Harvesting fish for personal use, fun, and challenge (e.g. as opposed to profit or research). Recreational fishing does not include sale, barter or trade of all or part of the catch.

Although these definitions are similar, from a technological point of view artisanal and small-scale are connected but have different concepts related to the size of the fishing unit (the scale) and to the level of technology (or “artisanality”). Subsistence and recreational fisheries are defined not by gear or technology, but the purpose of the fishing activity, i.e. whether for food or sport, and exclude commercial sale of the fish caught. For technologists the term “small-scale fisheries” automatically implies a relatively small vessel size and sometimes a low level of technology and capital investment per fisher. However, a 9m lobster fishing boat in the USA would be “small-scale”, but not artisanal if it makes use of advanced technology (e.g. inboard diesel engine, VHF radio, GPS, sonar). In contrast, a 7m “*fibra*” fishing midwater fish in Ecuador would also be “small-scale” as well as “artisanal” since it has a far

lower capital investment and no (or very little) technology involved. The same may occur with larger (some 20m in length) vessels; different levels of technology aboard would place the vessels into different categories (FAO 2005). In order to help determine whether a given fishery should be classified as small-scale, artisanal or industrial, FAO graphically combined both vessel size and degree of technology as metrics for scale and “artisanality”, respectively (Fig. 1).

3. CHALLENGES FOR THE AGREEMENT

The importance of developing and sustaining artisanal and small-scale fisheries has been increasingly recognised in terms of management and development policy. Although these fisheries provide more than 50% of the wild-caught seafood and employ a large number of fishermen compared with industrial fisheries, there are few studies addressing their impacts on the marine environment and non-target species including the bycatch of top predators (Allison & Ellis 2001, Shester & Micheli 2011). Since ACAP entered into force in 2004 and particularly since the creation of the Seabird Bycatch Working Group in 2007, one of the key areas of work has been on the development of seabird bycatch mitigation best practice advice aimed to decision makers, Parties and International Organisations managing fisheries overlapping in their distributions with species listed in Annex 1 (<http://www.acap.aq/resources/bycatch-mitigation>). More recently, ACAP also developed a framework to identify priority conservation actions at sea (as well as on land), combining information on vulnerability of seabird populations, fisheries as threats in terms of bycatch and the likelihood of success of taking management actions (MoP4 Doc 17). However, most of these efforts have focused on industrial fisheries and the methods used by industrial fisheries, with little attention paid to artisanal or small-scale fisheries.

There is a number of ACAP Parties that have substantial artisanal and small-scale fisheries, which in some cases are more important than industrial fisheries. A broad inclusion of these fisheries in the Advisory Committee (and SBWG) Work Program presents a challenge for the Agreement given their size, complexity, dynamics and other characteristics highlighted in this document. Although a number of fishing methods used by the industrial fisheries are also used by artisanal fisheries, the lack of mechanisation, size of vessels or reduced size and capacity of crew in these fisheries makes the implementation of mitigation methods designed for industrial vessels difficult to transfer directly to these smaller scale fisheries. Hence, there is a need to determine how the Agreement can progress work and support Parties, Range States and International Organisations in developing mitigation strategies appropriate for artisanal and small-scale fisheries, as well as promoting adoption and implementation of best practices. Given that artisanal and other small-scale fisheries are highly variable in their operating parameters, it may be more appropriate to provide advice on a range of possible mitigation methods that could be adopted according to the parameters of the vessel, rather than the more prescriptive style current provided for larger industrial vessels. This could be achieved by way of creating a “tool box” of mitigation methods. As a wide range of fishing gear is used in artisanal and other small-scale fisheries, providing method based advice separately for large industrial vessels and artisanal/small-scale fisheries may be the appropriate way forward. The Seabird Bycatch Working Group should consider these options in developing a position on how best to develop appropriate best practice advice for artisanal and other small-scale fisheries.

4. LITERATURE

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ANNEX 1. Criteria adopted by South American ACAP Parties to define their artisanal fisheries (data extracted from SBWG4 Doc 22).

	Definition	Notes
Argentina	Small vessels (or no vessel) intended to the capture, extraction and/or harvesting of living resources of the sea (Resolution FFC N°3/2000)	a) Homemade boats and factory made vessel, propelled by oars, sail or outboard motor, and b) internal motor boats < 10 m overall length. Simple techniques and a large handwork component. Boats not exceeding 10 t gross register. Contribution to national landings < 2%.
Brazil	Vessels < 20 t capacity (Superintendency for the Development of Fisheries)	An important part of the production attributed to the industrial fishing in fact comes from artisanal fisheries sold to industrial fleets
Chile	Fishing activity performed by a natural person using a ship < 18 m and 50 t of gross register (General Law on Fisheries and Aquaculture)	In 2008 the artisanal fishery accounted for 56% of the total catch
Ecuador	No records of a formal definition, although its basic characteristic is the manual (non mechanized) operation of the fishing gear	Three basic types: (a) shellfish collection with the help of rowing boats or sailboats, (b) coastal fishery using a range of boats, usually motorized; and (c) oceanic fishery operating with the support of larger (mothership) vessels
Peru	Boats < 30 t or 36.2 m ³ carrying capacity (General Law on Fisheries).	The work performed by individuals using small vessels or facilities, and simple techniques, with a predominance of handwork and, intended preferably for direct human consumption. Annual landings of 432,000 t in 2008
Uruguay	Vessels with a capacity < 10 gross register tonnage	The effort of the artisanal fleet is largely restricted to 7 nm.