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REPORT OF THE WORKING GROUP ON BYCATCH

1. Introduction

The Bycatch Working Group (BWG) met to discuss progress on bycatch issues since ScC16, to review the gillnet study report (UNEP/CMS/Inf.10.30) and associated draft Resolution 10.14, and agree further work on bycatch matters.

2. Progress on Bycatch Councillor Work Program

The Bycatch Councillor provided a report on progress in implementing the Bycatch Councillor's Work Program since ScC16, which is provided below:

As previously noted in reports of the BWG to the Scientific Council there is a high workload associated with addressing the bycatch issue, and the complexities associated with this threat. The Appointed Councillor needs strong support from others if significant progress is to be made. The Work Program is ambitious and progress remains slower than planned due largely to the high workload of the Appointed Councillor, the Scientific Officer and other CMS personnel working on bycatch issues. Nonetheless, some significant advances have been made with respect to Work Program Items 2, 3, 4, 5, 6 and 9, in particular through working with CMS's daughter Agreements ACAP, ACCOBAMS and ASCOBANS. Most of my work has focussed on seabird bycatch issues, and this situation is expected to continue for some time.

Work with FAO and relevant RFMOs (Work Program Items 2, 9)

FAO and RFMOs have direct management responsibility for most of the global high seas fisheries. The Scientific Council has previously agreed that attendance at key meetings of these bodies is essential to influence adoption of mitigation strategies and implementation of independent observer programs, which are considered necessary for improving knowledge of bycatch issues.

Representing ACAP the Appointed Councillor for Bycatch attended meetings of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) IMAF Working Group (Incidental Mortality Arising from Fishing Working Group) in October 2011, and the Indian Ocean Tuna Commission (IOTC) later that month (WPEB – Working Party on Ecosystems and Bycatch).

Bycatch of seabirds and marine mammals in CCAMLR fisheries continues to be extremely low, with the exception of seabird bycatch in the French EEZs of the Kerguelen Archipelago and Crozet Island. The total extrapolated seabird mortalities due to interactions with fishing gear

during longline fishing for Patagonian toothfish in the Convention Area in 2010/11 were estimated to be 220 which consisted of 82% white-chinned petrels (*Procellaria aequinoctialis*), 12% grey petrels (*P. cinerea*), 4% northern giant petrels (*Macronectes halli*) and 2% other species. While these figures represent a substantial decrease in that observed a few years ago, they are still higher than that seen elsewhere in Antarctic fisheries, and could be reduced further if France adopted the full set of mitigation measures recommended by CCAMLR, particularly extending the period the fisheries are closed.

Good progress was made at the IOTC WPEB where ACAP highlighted the importance of line-weighting used in conjunction with night-setting and bird-scaring lines (BSL) as being the most effective way of significantly reducing seabird bycatch in pelagic tuna fisheries. Use of these three measures in combination represents best-practice mitigation when vessels are operating in high risk areas. The WPEB accepted this advice and has recommended to the IOTC Scientific Committee and Commission that the a revised seabird conservation measure incorporating this advice be adopted and applied to all vessels fishing in waters south of latitude 25 degrees South. This area is where seabirds are most at risk from interactions with fishing vessels. If the IOTC revises their existing seabird measure according, it will lead to a huge reduction in bycatch for at least 7 CMS listed species in the Indian Ocean. In a flow on effect, it is also likely that a similar measure will be adopted in other ocean basins, as tuna fishing fleets are looking to adopt consist mitigation approaches globally, or at least in the southern hemisphere where bycatch risk for albatrosses and petrels is greatest.

Particularly important is the strong working relationship that has now been established between ACAP, BirdLife International, bycatch mitigation scientists and Japanese fisheries managers, who are working collaboratively to refine mitigation measures for pelagic longline gear. Such collaborative arrangements are the most effective way of significantly reducing bycatch in any fishery, and serve as a model for other taxonomic groups and fisheries.

At the SC16 I reported that in 2010 the joint Tuna Commissions (tRFMO) had agreed to establish a joint technical Working Group, consisting of 2-3 participants from each tRFMO who could seek the assistance of expert advice from IGOs and NGOs to facilitate cooperation and coordination between the tRFMOs on bycatch issues. This working group held their first meeting in La Jolla, USA on July 11, 2011. The meeting discussed a range of bycatch issues impacting on each tRFMO, and agreed a provisional list of research priorities which include:

1. Sea turtle bycatch mitigation and distribution
2. Post-release survival of sharks, manta and devil rays, sea turtles, and seabirds
3. Best practices for handling and release techniques of all taxa listed above
4. Shark bycatch mitigation, primarily in longlines and also purse seines and gillnets
5. Seabird bycatch mitigation in artisanal fisheries
6. Sorting grids for small fish, tunas and other species
7. Economic benefits of reducing bycatch
8. Multi-taxa impacts of bycatch mitigation measures
9. Assess impacts of gillnets/driftnet fishing on bycatch species
10. Rate of marine mammal depredation and its relation to bycatch in longline fisheries
11. Review of Ecological Risk Assessment methods
12. Research to improve life history parameters, including biological parameters on all bycatch species.
13. Evaluate the feasibility of video and other electronic monitoring and technology.
14. Pursue observer coverage and adequate sampling of artisanal fisheries

Many of these issues are critical to the management and reduction in bycatch of CMS listed marine fauna. The participation of NGOs and IGOs was restricted at this first meeting to ACAP and BirdLife International, but attendance at future meetings by other IGOs will be possible. The working group is intending to work electronically to a large extent, but in view of the importance

of the tuna RFMOs to CMS listed species, it is recommended that CMS and other daughter agreements seek observer status at the Tuna RFMOs Joint Technical Working Group in order to contribute to the work of the group.

Work closely with CMS daughter agreements (Work Program Item 3)

I continue to work with the ACAP Secretariat on a part time basis which has ensured frequent contact with a range of people actively working on seabird bycatch mitigation measures. I currently convene ACAP's Seabird Bycatch Working Group (SBWG), which has made significant progress since its formation in building relationships with relevant RFMOs and developing best scientific advice on technical mitigation for seabird bycatch. The ACAP Secretariat remains keen to work closely with CMS, particularly with a view to sharing the costs of representing both ACAP and CMS at relevant meetings of RFMOs and other organisations.

Database of relevant scientific literature (Work Program Item 6)

A bibliographic database on published references to bycatch and mitigation research continues to be regularly updated to assist the work of the Bycatch Working Group and the Scientific Council. An updated copy of the Endnote file and associated references (pdf files) have been lodged with the Secretariat. This product is continually updated and references relevant to bycatch of marine mammals, turtles, sharks and seabirds, together with references on the biology of some of these taxonomic groups. Most of the references contained in the database relate to seabirds and seals, reflecting my current work areas, and I would appreciate electronic transmission of relevant research papers from daughter Agreements and Scientific Counsellors for other taxonomic groups to ensure the coverage is more comprehensive. I would be delighted if members of the Scientific Council with a particular interest in bycatch of small cetaceans, turtles and sharks were prepared to cover the literature on these groups and contribute to building the database.

3. Study on Impact of Gillnet Fishing on Migratory Species, & Res.10.14: Gill Net Bycatch

On the recommendation of the Council, two planned reviews dealing with the impact of global gillnet fisheries on migratory species, and bycatch mitigation measures for gillnet gear, were combined and commissioned following SC16. This desk-top study, financed with the support of Australia and the United Kingdom, was conducted by Sextant Technology Ltd. (New Zealand) and contained in UNEP/CMS/Inf.10.30.

The Working Group discussed the report received and recommended that it required appropriate review by the SC Council and others. In view of the recent submittal of the report, they recommended that the report be reviewed intersessionally, ideally within the next couple of months. Working Group members and other Scientific Councillors are requested to provide comments on the Gillnet Review to the CMS Secretariat by end of January 2012 (Heidrun Frisch), so that these can be coordinated for response by the consultant.

Resolution10.14: Gill Net Bycatch was reviewed by the Group and a number of changes made, principally to remove an over-reliance on the Gillnet Study (UNEP/CMS/Inf.10.30) because it has not been peer-reviewed at this stage. Amended draft Resolution10.14 is recommended for endorsement by the Scientific Council and consideration by COP10.

4. Briefing on Key Intersessional Activities of the CMS Family

Briefings on key intersessional activities of the CMS Family were provided by members of the Working Group, as appropriate. A brief summary of relevant activities is provided below:

Activities of the CMS Secretariat

Heidrun Frisch

As part of the Small Grants Programme and thanks to a voluntary contribution from Finland, a survey project in Cameroon had been financed. A detailed report was contained in ScC17/Inf.10. One of the objectives was to conduct a preliminary evaluation of anthropogenic threats to dolphins and whales in the country, with emphasis on fisheries-related mortality. Evidence of regular bycatch was found in the surveyed ports. Fresh carcasses obtained from such catches and from strandings are utilized in the villages, primarily as food item. Related to this, discarded nets were also found to be a significant problem, with large quantities of various types of abandoned, lost or discarded nets found on open shores and around ports. Details on both threats and related recommendations are included in the project report.

Activities of ACAP

ACAP Secretariat

The Working Group noted (*UNEP/CMS/Inf.10.18.06*) which provided an update on ACAP activities. Work by the ACAP Advisory Committee's Seabird Bycatch Working Group was a response to the need to develop and maintain a program of work to address this threat. Over the last three years much of the Seabird Bycatch Working Group's work has focussed on identifying best practice mitigation advice for industrial fishing gear types, principally demersal and pelagic longline, and trawl gear. Collection of fisheries bycatch data, and engagement with RFMOs, particularly the tuna RFMO's, were also priority issues.

Activities of ACCOBAMS

Marie Christine Grillo-Compulsione

An International Workshop on bycatch was organised, (17-18 September 2008, Rome Italy) in collaboration with the General Fisheries Commission for the Mediterranean and Black Sea (GFCM) as part of a project for the "*Assessment and mitigation of the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS Area*". On this occasion a Protocol for data collection on bycatch and depredation in the ACCOBAMS Region was prepared and ACCOBAMS Parties presented data on bycatch.

In accordance with the recommendations of the Contracting Parties, the Secretariat endeavoured to strengthen coordination and collaboration with the Secretariat of the GFCM. In this context, the Secretariat attended relevant technical meetings organised within the framework of GFCM, in particular the meetings of the GFCM's Scientific Advisory Committee (SAC) and its Subcommittee on Marine Environment and Ecosystems (SCMEE). As results of this participation, the GFCM identified bycatch in cetaceans as one of the main issues to be addressed to mitigate the impact of fishing activities on endangered species

Much of the work of ACCOBAMS focuses on depredation issues, principally associated with gillnet fisheries. This is because the level of depredation being experienced is high and while cetaceans are not always entangled, their activities often lead to targeted persecution by fishers.

Activities of ASCOBANS

Heidrun Frisch

In 2010 the Advisory Committee (AC) created a time-bound **Bycatch Working Group**. This Working Group was re-established at the AC18 Meeting in May 2011 and new terms of reference were agreed. The Group will support approaches to address the bycatch problem within fisheries fora; report to the AC on relevant projects, scientific studies and alternative gear experiments, national initiatives, work of other fora such as OSPAR, EC, ICES and HELCOM and prepare an overview of problem areas (geographical and fishery type) and the status of knowledge of the problem, monitoring and mitigation measures in place to identify gaps. The CMS Appointed Councillor for Bycatch is a member of this correspondence working group.

ASCOBANS also funded a bycatch-related project aiming at making data of frequency and location of bycatch in the wider Baltic Sea area easily accessible, entitled: Development of a co-

ordinated reporting system and HELCOM/ASCOBANS database on Baltic Sea harbour porpoise sightings, by-catches and strandings. The final report of the project is available on the ASCOBANS website (http://www.ascobans.org/pdf/ac17/AC17_6-09_ProjectReport_HELCOM_Porpoise_Database.pdf). Harbour porpoise data can there also be related to a wide range of other spatial information on environmental and anthropogenic factors.

Activities of Dugong MOU

Donna Kwan

Incidental capture in small scale artisanal and subsistence net fisheries is the largest threat to dugong populations over most of its range in South West Indian Ocean, North West Indian Ocean, South Asia and South East Asia. However little reliable information exists which documents these impacts. In response to this situation, the Secretariat with the assistance of a group of specialists, has designed a standardised interview survey protocol based on the original method developed by the Duke/Project GLOBAL Rapid Bycatch Assessment. This protocol has been reviewed by a multi-disciplinary group of experts and has been developed to interview fishers and other key informants to identify 'dugong risk areas' or 'trouble spots', where the number of dugongs and the threats to their survival are high.

The UNEP/CMS Dugong Standardised Survey Tool currently contains a questionnaire, data upload file, project manual and data analyses protocols are currently being developed. The Tool is designed to be a low cost, low-tech method to collect information on the spatial distribution of dugongs and their habitats as well as the key threats to dugong populations – it also contains similar survey questions on marine turtles and cetaceans. The Dugong Standardised Survey Tool may be an important tool for addressing shared conservation synergies across species of interests to CMS including dugongs, West African manatees, marine turtles and inshore cetaceans. Since 2010, the Tool has been used to conduct over 2400 interviews in 16 dugong range states. This information will be used to put together national, regional and global picture of hotspots that require management interventions – to be reported to the Second Signatory State Meeting scheduled for late 2012.

Three pilot projects have been selected to be developed on the basis of expression of interests submitted to the Dugong MOU Secretariat - these include Bazaruto Archipelago, Mozambique; Western Province, Papua New Guinea and Gulf of Mannar (India & Sri Lanka). The pilot projects will trial the application of a Management Tool Kit of advisory, financial incentive and conservation tools which includes include low technology, low cost rapid assessment questionnaires, financial incentives, gear modifications, and monitoring methodologies. Subject to available funding, the pilots will be extended to other range states.

The Secretariat is also actively fund-raising through a GEF regional concept proposal for GEF-eligible range states with available STAR Biodiversity allocations, aimed to develop sustainable financing and market opportunities, while delivering livelihood improvement and economic opportunity in exchange for dugong and seagrass conservation. In addition, a Dugong, Seagrass and Coastal Communities Initiative aimed at private/industry donors will be launched in early 2012. Funds raised will be directed to implementation of the priority pilot projects described above as well as the extension/up-scaling to all interested Dugong MOU range states.

5. Review of Work Program for Bycatch Councillor

The Work Program was reviewed and updated, and is attached for the endorsement of the Scientific Council.

6. Approaches to Mitigation

A report was received on the results of a Friends of CMS (German NGO) funded project on the development of an alternative to pingers that uses porpoise warning calls to alert porpoises to a

danger, inducing them to investigate their environment. Currently employed pingers produce sounds resulting in disturbance or harassment of harbour porpoises. Porpoises maintain a large safety distance of several 100 metres to pinger-equipped nets. As a consequence, besides being excluded from fishing grounds, porpoises cannot establish a connection between the sound and the threatening nets. The newly designed Porpoise Alerting Device (PAL) generates click trains matching alarm calls recorded during porpoise communication. Results of initial tests done on both captive and unhabituated wild porpoises are very promising and a miniaturized PAL was developed for further field tests, for which funding is currently being sought. The Working Group noted with satisfaction the progress made with this initiative, and urged Parties or NGOs to give consideration to supporting further field testing of the PAL.

The Working Group also noted that development of mitigation devices and operational approaches is a complex process that involves, in simple terms, an extensive period of research and development to bring an idea from an initial concept to a stage where it can be tested in a working fishery. The Bycatch Councillor informed the Group that through involvement with a charitable trust established in New Zealand, the Southern Seabird Solutions Trust, he was aware of the R&D work carried out on two mitigation devices for pelagic longline gear that had taken the proponents over six years and between USD 500,000 to 1.0 million to develop the ideas to a stage where they were suitable for trialing at sea in a working fishery. The field testing stage is a critical component in the mitigation development pathway, as good ideas need to be tested in an experimental environment, to assess their capacity to mitigate bycatch, and to maintain or improve catch of target species. Unfortunately, it is at this stage that these ideas seem to languish because of lack of funds. The Working Group agreed that adoption of a mitigation device is unlikely to proceed until empirical evidence is available to demonstrate its efficacy in commercial fisheries. In many cases the cost to carry out such work is considerably less than that expended on getting a concept to the testing stage. It was agreed that there would be considerable benefit to CMS in achieving its mandate if it was able to assist developers at this stage, either through provision of funding from the Small Grants Programme, or providing funds from the use of Voluntary Contributions or other sources. The Working Group recommends that CMS calls for the submission of proposals to test well-developed mitigation ideas within the near future, and seeks to fund appropriate proposals from either the Small Grants Programme or other sources, such as voluntary contributions from Parties, NGOs or others.

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WORK PROGRAM 2011-2013 FOR BYCATCH COUNCILLOR AND BYCATCH WORKING GROUP

	Topic/Task	Timeframe	Detail
1	Maintain a small informal correspondence group of interested parties and technical experts to assist the Scientific Councillor	Ongoing	A small working group will be maintained to ensure thorough coverage of faunal groups and access to technical expertise on mitigation techniques and application. Membership of the correspondence group will be expertise based and may comprise members not directly involved with the CMS Scientific Council. The working group will assist the Scientific Councillor on Bycatch in implementing the Work Program.
2	Work closely with other international competent bodies such as FAO and relevant RFMOs	Ongoing Secretariat to request observer status at meetings of key RFMOs & FAO COFI	Implementation dependent upon funding to attend meetings, & availability/ willingness of Bycatch Working Group members or CMS daughter agreements to coordinate action for relevant RFMOs. FAO & RFMOs have direct management responsibility for global high seas fisheries. Attendance at key meetings of these bodies is essential to influence adoption of mitigation strategies and implementation of independent observer programs, necessary for improving knowledge of bycatch issues. Support of this work through collaborative arrangements with CMS daughter agreements is highly desirable, to contain costs and share workload. Priority RFMOs/groups are: Joint Tuna RFMO Bycatch WG, CCAMLR, IOTC, WCPFC. Selection of these is based on known seabird, turtle and shark bycatch issues, and the potential to influence change in fishing practices. Other RFMOs to be considered, dependent upon success in other fora, emerging issues, and availability of travelling funds, are: CCSBT, ICCAT, IATTC, General Fisheries Commission for the Mediterranean and Black Sea (GFCM). Adoption of mitigation strategies by

	Topic/Task	Timeframe	Detail
			RFMOs may lead to flow-on effects to EEZ fisheries of RFMO members.
3	Work closely with CMS daughter agreements and other relevant conservation bodies	Ongoing	ACAP, ACCOBAMS, ASCOBANS, Waddensea Seals, Marine Turtles Africa, Marine Turtles IOSEA, Pacific Islands Cetaceans, IWC Bycatch Group
4	Risk assessments. Continuously review and utilise available information on the at-sea distribution of migratory species to assess overlap with fishing operations and hence the risk of bycatch in fishing regions	Ongoing	Fishing regions include RFMO areas of competence, and national EEZs. Risk assessments carried out biennially by the Commission for the Conservation of Antarctic Marine Living Resources provide an excellent model.
5	Review information on mitigation measures for fishing methods known to impact migratory species	Ongoing. Highly desirable to work with CMS daughter agreements to achieve efficiencies.	Concise reviews of current knowledge on mitigation measures to reduce seabird bycatch in longline and trawl fishing have been produced by ACAP, but do not exist for other faunal groups or fishing methods. Work with fishery managers and RFMOs is required to comprehensively assess fishing techniques and gear used in EEZ and high seas fisheries, to identify those elements that have been shown to reduce or eliminate by-catch mortality of migratory species. Products of review are described in Item 8 (below) Initial work should focus on pelagic longline methods for seabirds and turtles. Ensure mitigation methods developed for one taxonomic group do not lead to bycatch of other taxa.
6	Maintain a database of relevant scientific literature on bycatch	Ongoing	Maintain the bibliographic database on published references to bycatch and mitigation research to assist the work of the Bycatch Working Group and the Scientific Council
7	Bycatch webpage	Ongoing	Update page on the CMS website providing information on CMS activities to ameliorate the impacts of bycatch on migratory species. <u>Implementation by the Secretariat required.</u>
8	In consultation with CMS daughter agreements, develop products to assist RFMOs and other relevant international	Ongoing	These could include: observer programme designs including protocols for the collection of bycatch data, analytical methods for assessing bycatch, best-practice mitigation measures

	Topic/Task	Timeframe	Detail
	and national bodies in reducing bycatch.		
9	Develop materials and guidelines to assist CMS representatives attending RFMO & other relevant meetings to maximise effective participation and consideration of issues relevant to the minimisation of bycatch	Ongoing	These could include technical information to be delivered through: concise reports that are based on sound, scientifically supported peer-reviewed papers presentations and submission of relevant papers to meetings to support the information being conveyed, together with active participation at meetings; workshops with industry to progress uptake of mitigation in particular building relations with fishers, national fisheries managers, RFMO Secretariats and UN FAO officials
10	Assist in the preparation, adoption and implementation of FAO NPOA-Seabirds and FAO NPOA-Sharks	Ongoing	This may include: encourage adoption of best practice guidelines for IPOA-Seabirds by FAO COFI providing assistance to Parties and Range States in the development of NPOA-Seabirds and FAO NPOA-Sharks.
11	Provide report to Scientific Council on Bycatch Councillor activities	SC 16	Provide a report to 18th meeting of the Scientific Council on the activities of the Bycatch Councillor during the inter-sessional period