

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p>Sixth Meeting of the Seabird Bycatch Working Group <i>Punta del Este, Uruguay, 10 - 12 September 2014</i></p> <p>Seabird Bycatch Data Reporting by Parties <i>Anton Wolfaardt, Marco Favero, Wiesława Misiak, Igor Debski</i></p>
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SUMMARY

In order for ACAP to review and monitor levels and trends of incidental mortality of ACAP-listed species in relevant fisheries, a web-based reporting system has been progressively developed for the capture and use of fisheries and bycatch data from Parties and collaborating Range States. Currently, the data are provided at the level of the entire fishery or fleet. A previous review of the submitted data highlighted that the temporal and spatial resolution of the data currently provided are too coarse to enable useful assessments of seabird bycatch levels and trends. Consequently, at SBWG5 it was recommended that data should be provided at a spatial scale of at least 5x5 degrees grid-square for each quarter of the year. It was recognised that some Parties and Range States may not be in a position to easily comply with this recommendation in the short term. A questionnaire was sent to Parties to determine their ability to provide the data at this resolution and to solicit information on any challenges associated with meeting this request. The limited responses received are presented and discussed, and a call is made for Parties that have yet to respond to do so by SBWG6. An update of the bycatch and fisheries data submitted by Parties is presented, and shows that for many fisheries the data are incomplete, which hampers the possibility of conducting even a low level assessment of bycatch levels and trends of ACAP-listed species. Parties are urged to ensure that the data for fisheries under their jurisdiction are up to date, complete and accurate. The previous recommendation to improve the resolution of the submitted data is re-iterated, and some suggestions are presented for an interim approach to assessing bycatch of ACAP-listed species.

RECOMMENDATIONS

1. That Parties and Range States ensure that bycatch and fisheries effort data submitted to the ACAP Secretariat are up to date, complete and accurate.
2. That the SBWG re-iterate the recommendation made at SBWG5 that the resolution of bycatch and fisheries effort data provided by Parties and Range States be improved to a scale of 5x5 degree grid square and year quarter.
3. That Parties and Range States who have yet to provide feedback on whether they can submit data at the recommended resolution and on any challenges

relating to the submission of data at this recommended resolution (see Annex 3) do so as soon as possible, ideally by SBWG6.

4. That the SBWG provide feedback on how best to progress the process of improving the resolution of submitted data and on the interim approach identified in Section 3 of this paper.

Presentación de datos de las Partes sobre captura secundaria de aves marinas

A fin de facilitar el estudio y control del ACAP de los niveles y las tendencias de mortalidad incidental de las especies incluidas en el ACAP en las pesquerías correspondientes, se ha creado paulatinamente un sistema de presentación de datos por internet sobre captura y empleo de pesquerías y sobre captura incidental, que aportan las Partes y los Estados colaboradores del Área de Distribución. En la actualidad, los datos se suministran para la totalidad de la pesquería o flota. Una revisión anterior de los datos presentados destacó que la resolución temporal y espacial de los datos actualmente proporcionados era demasiado baja como para efectuar evaluaciones útiles sobre los niveles y tendencias de la captura secundaria de aves marinas. En consecuencia, durante la GdTCS5, se recomendó suministrar datos con una escala espacial de una cuadrícula de 5° x 5°, como mínimo, para cada trimestre del año. También se reconoció que algunas Partes y Estados del Área de Distribución pueden no estar en condiciones viables de cumplir con esta recomendación en el corto plazo. Se envió a las Partes un cuestionario para determinar su capacidad de suministrar datos con esta resolución y solicitar información sobre cualquier desafío asociado al cumplimiento de este requisito. Se presentan y evalúan a continuación las pocas respuestas recibidas, y se realiza un llamamiento a las Partes que aún no hayan respondido para que lo hagan antes de la celebración de la GdTCS6. Se incluye también una actualización de datos sobre pesquerías y captura secundaria provistos por las Partes. De allí se desprende que los datos sobre numerosas pesquerías están incompletos, lo cual obstaculiza la posibilidad de efectuar incluso una evaluación a grandes rasgos de los niveles y tendencias de captura secundaria de las especies incluidas en el ACAP. Se insta a las Partes que se aseguren de contar con datos actualizados, completos y precisos sobre las pesquerías que operen en su jurisdicción. Se reitera la recomendación anterior de mejorar la resolución de los datos suministrados, y se presentan algunas sugerencias para adoptar un enfoque provisorio de evaluación de captura secundaria de las especies incluidas en el ACAP.

RECOMENDACIONES

1. Que las Partes y los Estados del Área de Distribución se aseguren de presentar a la Secretaría del ACAP datos actualizados, completos y precisos sobre el esfuerzo pesquero y la captura secundaria.
2. Que el GdTCS reitera la recomendación elaborada durante la GdTCS5 donde se solicita que se aumente la resolución de datos de captura secundaria y esfuerzo pesquero suministrados por las Partes y los Estados del Área de Distribución, para que ésta sea de una cuadrícula de 5° x 5° y por cada trimestre del año.

3. Que las Partes y los Estados del Área de Distribución que aún no hayan enviado sus comentarios sobre si pueden presentar datos con la resolución recomendada y sobre cualquier desafío al respecto (remítase al Anexo 3) lo hagan tan pronto como les sea posible, preferentemente antes de la GdTCS6.
4. Que el GdTCS brinde comentarios sobre el mejor modo de avanzar con el proceso de mejorar la resolución de los datos suministrados y sobre el enfoque provisional identificado en la Sección 3 del presente documento.

Communication par les Parties des données relatives à la capture accessoire d'oiseaux de mer

Afin que l'ACAP puisse réexaminer et surveiller les niveaux et les tendances de la mortalité incidente touchant les espèces inscrites à l'ACAP dans les pêcheries concernées, un système de communication en ligne a progressivement été élaboré pour que les Parties et les États de l'aire de répartition partenaires puissent collecter et utiliser les données relatives aux pêcheries et à la capture accessoire. Actuellement, les données sont fournies au niveau de l'ensemble de la pêcherie ou de la flotte. Il était ressorti d'un précédent passage en revue des données fournies que la résolution temporelle et spatiale des données fournies actuellement était trop imprécise pour permettre d'évaluer correctement les niveaux et les tendances de capture accessoire d'oiseaux de mer. Par conséquent, il avait été recommandé lors du GTCA5 que les données fournies soient à l'échelle spatiale 5x5 degrés par case pour chaque trimestre de l'année. Toutefois, il avait été établi que certaines Parties et certains États de l'aire de répartition n'étaient pas en mesure d'appliquer cette recommandation à court terme. Un questionnaire avait été transmis aux Parties afin de déterminer leur capacité à fournir des données de qualité et de solliciter toute information concernant les éventuels obstacles rencontrés lors de l'application de cette recommandation. Les quelques réponses qui ont été reçues sont présentées et discutées, et les Parties qui ne l'ont pas encore fait sont appelées à envoyer leur réponse d'ici la tenue du GTCA6. Une mise à jour des données relatives aux pêcheries et à la capture accessoire soumises par les Parties est présentée et montre que les données sont incomplètes pour de nombreuses pêcheries, ce qui rend impossible toute évaluation, même superficielle, des niveaux et des tendances de capture accessoire des espèces inscrites à l'ACAP. Les Parties sont vivement priées de s'assurer que les données de pêcheries relevant de leur juridiction sont à jour, complètes et précises. Nous réitérons la précédente recommandation concernant l'amélioration de la résolution des données fournies, et présentons des suggestions concernant l'approche provisoire à adopter pour évaluer la capture accessoire d'espèces inscrites à l'ACAP.

RECOMMANDATIONS

1. Il est recommandé que les Parties et les États de l'aire de répartition s'assurent que les données relatives à la capture accessoire et aux pêcheries soumises au Secrétariat de l'ACAP soient à jour, complètes et précises.
2. Il est recommandé que le GTCA rappelle la recommandation faite lors du GTCA5 concernant la résolution des données relatives à la capture accessoire et aux pêcheries soumises par les Parties et les États de l'aire de répartition, qui doit

être d'une échelle spatiale 5x5 degrés par case pour chaque trimestre de l'année.

3. Il est recommandé que les Parties et les États de l'aire de répartition qui doivent encore faire part de leur capacité à soumettre des données à la résolution requise et faire part des obstacles rencontrés pour soumettre des données à la résolution requise le fassent dès que possible, idéalement d'ici le GTCA6.
4. Il est recommandé que le GTCA fournisse ses observations sur la meilleure façon d'avancer dans l'amélioration de la résolution des données soumises et sur l'approche provisoire identifiée à la section 3 du présent document.

1. BACKGROUND

The ACAP Action Plan calls on Parties 'to collect reliable, and where possible, verifiable data to enable accurate estimation of the nature and extent of albatross and petrel interactions with fisheries' (Action 4.2). The Action Plan also expects the Advisory Committee regularly to review and update data on the mortality of albatrosses and petrels in fisheries (5.1f), as well as data on the distribution and seasonality of fishing effort in fisheries that affect species listed in Annex 1 of the Agreement (5.1g). The development of a mechanism to achieve these objectives has been progressed in a phased manner (see MoP3 Inf 1 and AC5 Inf 10). The ACAP Secretariat developed a web-based reporting system for the provision of bycatch and fisheries data by Parties (see AC6 Doc 16, and SBWG4 Doc 25). The analysis and presentation of submitted data, including some of the difficulties and merits of centralising and managing these data in the ACAP database, was discussed at SBWG4. It was suggested that the data be investigated to determine what analyses could be undertaken and to provide recommendations on the best possible analytical approaches.

In response to this call, a review of bycatch data reported by Parties was conducted. The review, together with a number of recommendations relating to the resolution and minimum standards of data that Parties and Range States are requested to submit, was presented at SBWG5 (SBWG5 Doc 16). It was highlighted that bycatch and fisheries effort data are currently provided at a fishery (fleet)-wide scale, which limits the type of assessments that can be undertaken. One of the main constraints of the current data is that it is not possible to match bycatch rate data with an appropriate measure of fishing effort. Applying a bycatch rate from a particular area/time across a whole fleet much or some of which may not be interacting with the seabirds is not appropriate.

Consequently, at SBWG5 it was recommended that in order to meet the stated objectives, the resolution of bycatch and fisheries effort data that Parties and Range States report should be improved. Specifically, it was recommended that data should be provided at a spatial scale of 5x5 degrees grid square or finer, and per quarter year. If data are provided at this resolution, and to the highest possible taxonomic resolution, bycatch rate data could be scaled up to the fisheries being monitored to estimate usefully the total number of individuals (per species) killed annually in each fishery, or in certain areas of particular interest within a given fishery. This would serve as a useful indicator for ACAP that could be tracked over time to assess performance in relation to this component of the Agreement.

It was noted that some Parties might immediately be in a position to provide data at the recommended resolution, and even at a much finer scale. However, some Parties highlighted a few concerns in respect of how easy it would be to comply with this recommendation. These include concerns about data confidentiality (and how the data are presented), time-lags in the availability of the data, duplication with other data reporting requirements and the capacity and resource requirements to extract and report data in multiple formats to different organisations. It was agreed that it would be important to understand the nature of these constraints so that they can be addressed. It was also acknowledged that the process to improve the resolution of data submitted by Parties and Range States would need to be implemented progressively. The further development of the bycatch reporting and assessment mechanism should be sufficiently flexible to accommodate a range of data and this progressive approach.

2. PROGRESS SINCE AC7 AND RECOMMENDATIONS ON FURTHER ACTIONS REQUIRED

2.1. Submission and presentation of data

Annexes 1 and 2 provide a summary of the most recent fishing effort and seabird bycatch data submitted by Parties and Range States as part of their online implementation reporting process. Eleven Parties and one Range State provided or updated data since 2011, when the online reporting forms were first made available. In total, there are 94 fisheries included in the database. However, the level of information provided for each varies between Parties and fisheries, with important sections of the online forms not completed in some cases.

The tables in Annexes 1 and 2 provide a very simple characterisation of the domestic fisheries for which data have been provided, including observed levels of seabird bycatch and reported rates of bycatch. Although the current approach of providing fisheries effort and bycatch data at the level of the fishery or fleet would allow a very crude assessment of changes in bycatch rates over time for each fishery (and other factors for which information is provided, such as the percentage of effort observed), there are a number of limitations with such an approach. Bycatch rates vary spatially and temporally, as does the distribution of fishing effort. Increases or decreases in fishing effort and/or inter- or intra-annual shifts in the distribution of fishing effort cannot currently be equated to increases or decreases in risk to ACAP-listed species.

Therefore, spatial and temporal stratification of the reported data, as has been recommended (i.e. to report bycatch and fishing effort for each 5x5 degree square and year quarter), is required to provide more accurate and meaningful estimates of the number of seabirds killed each year. In order to break this down to the number of individuals of each ACAP-listed species, will require reliable species level information to be submitted.

2.2. Questionnaire regarding Parties' ability to provide data at the recommended resolution

Recognising that some Parties and Range States may have difficulties in providing the data at the recommended resolution (5x5 degree grid square, per quarter) in the short term, a brief questionnaire was sent intersessionally to Parties and members of the Seabird Bycatch Working Group. The main purpose of the questionnaire was to solicit information from Parties on their ability to provide data at the recommended resolution, and to understand the nature of any constraints that Parties may face, so that these can be properly considered and addressed. The questionnaire is included in Annex 3. Parties were asked if a number of listed constraints applied to them, and if so, to provide suggestions as to how these constraints could be addressed.

A total of two Parties (Spain and the UK) and one Range State (the USA) responded to the questionnaire. In all three cases, the bycatch and fisheries effort data are collected at the recommended resolution (or finer). For one of the respondents, data confidentiality constraints prevent the submission of fisheries effort data at the recommended resolution. In this case maps showing species-specific seabird interactions could be provided for the reporting period. Although the provision of maps could be used to illustrate seabird-fisheries interactions, if effort data were not provided, it would not be possible to link estimated bycatch rates with fishing effort and would thus preclude any reasonable assessment of

bycatch levels by ACAP. A time-lag in the availability of data was identified as a constraint by one of the three respondents, with a lag of about a year following the end of the fishing year.

Within and subject to these constraints, the respondents were willing in principle to provide the available data at the recommended resolution, and to investigate alternatives where the constraints preclude this, such as in the case of data confidentiality in respect of fishing effort data.

In response to the question about what can be done to work towards meeting the recommended spatial-temporal resolution of bycatch and fisheries effort data, the following responses were recorded:

- Thorough advanced consultation with organisations (better in person/phone than by email where possible). Including discussion of how the data will be used and if the necessary data can be obtained more efficiently.
- A clear reporting template and firm assurance that data reporting requirements will not change in the near future so that investment of time and money to develop data extraction methods is worthwhile.
- Sufficient lead in time (e.g. two months) to ensure the data aggregation methods can be developed.

These are all constructive and important points that should inform the further development of the bycatch data reporting and assessment process. It is recommended that those Parties and Range States that have not yet responded to the questionnaire do so as soon as possible indicating whether they are currently in a position to provide data at the recommended resolution, and if not, to elaborate on the reasons, and suggest ways of addressing these.

It is also recommended that Parties and Range States ensure that the fisheries and bycatch data they have provided to the Secretariat are up to date, accurate and complete. Sections of the form that have previously been left blank should be completed or at least include an explanation about whether the information required does not exist or is not yet available. The incomplete nature of the data that have already been submitted (at the level of fishery/fleet) means that even very broad-scale and low-level approaches to monitoring seabird bycatch are not possible. The incomplete nature of the submitted data is evident from Annexes 1 and 2, which show a substantial proportion of the data that should be provided is missing.

2.3. Using fine-scale bycatch and fisheries effort data from New Zealand to determine any changes that are required to the online reporting forms and database, and to provide an example of the type of assessment that is possible

In order to determine whether the ACAP database is easily able to capture fisheries effort and seabird bycatch data at a finer scale than the level of the entire fleet, and to investigate the sort of analyses that would be possible, New Zealand provided an example data extract at a scale of 1x1 degree square and per month for their mid water depth trawl fisheries. This data set was for the period October 2000 to September 2013, and contained summarised data on almost 500,000 trawls, 70,000 observed trawls and 4,500 observed seabird captures. This process confirmed that the basic architecture of the database is sufficient to receive and use data at this scale. The data inputting process did reveal some difficulties in using the web portal to upload the finer-scale data, but these should be reasonably easy to

resolve. The finer-scale nature of the data submitted permit a range of useful analyses, and to be more spatially and temporally explicit regarding the quantification of bycatch. It is beyond the scope of this paper to present numerous and detailed results, and Figures 1 to 5 serve to provide an illustration of the results from the New Zealand mid trawl fishery for 2011. Although these results are from a single year, and show the intra-annual variation in fishing effort and bycatch (see Figures 4 and 5), such an approach could easily be used to monitor inter-annual changes in these parameters. The figures also highlight the uneven distribution of fishing effort and bycatch, and the need to match more explicitly bycatch rates to fishing effort data. It must be noted that this data was extracted, summarised and reported here purely for illustrative and developmental purposes and rigorous validation was not applied. The same, validated, data is reported and made available by the New Zealand government for analytical analysis through the following website <http://data.dragonfly.co.nz/psc/> and this source should be used for any other purposes.

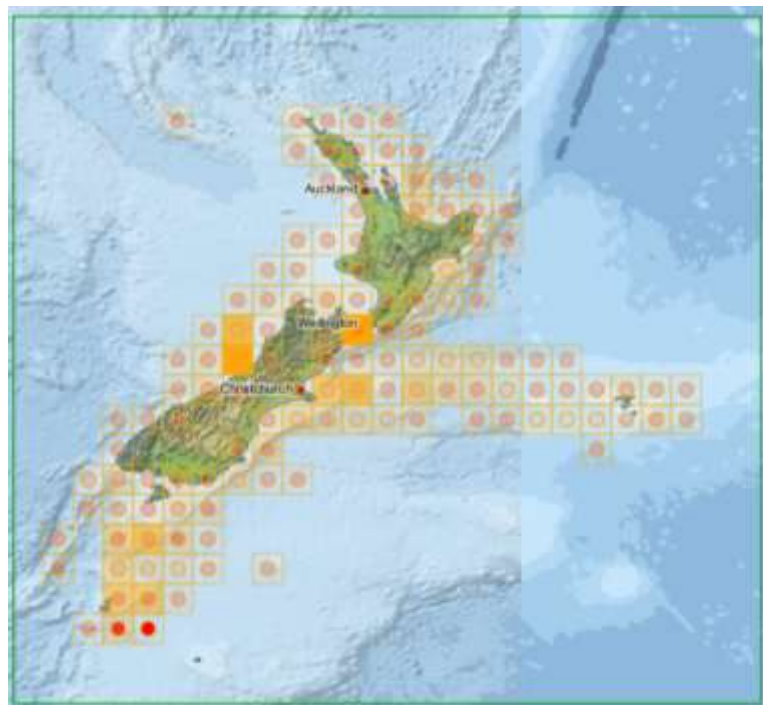


Figure 1. New Zealand middle depth trawl fishery effort (squares, number of tows) and bycatch rate (circles, rate based on total observed seabird captures per trawl observed) in 2011. Darker shading of squares or circles indicates higher effort or rate, respectively.

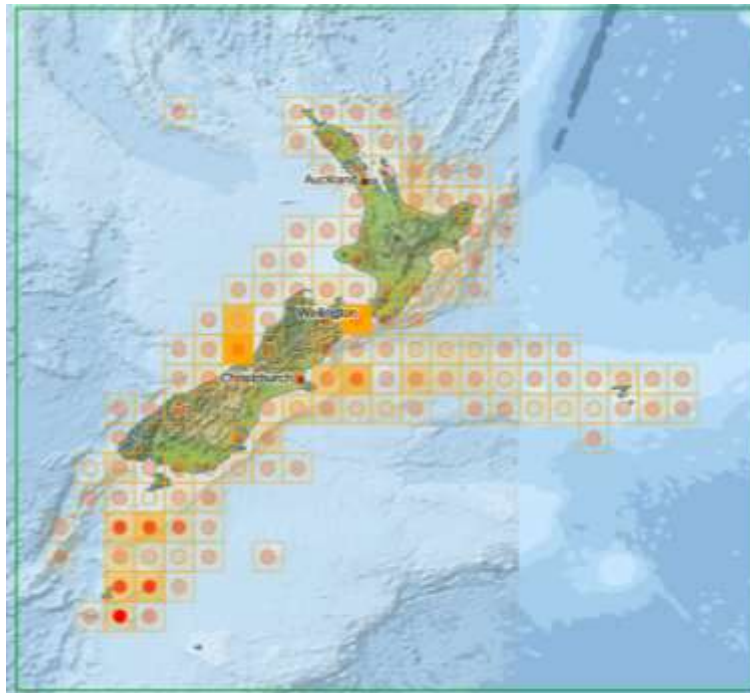


Figure 2. New Zealand middle depth trawl fishery effort (squares, number of tows) and total estimated bycatch (circles, estimation based on direct ratio extrapolation of total observed seabird captures per trawl observed) in 2011. Darker shading of squares or circles indicates higher effort or bycatch, respectively.

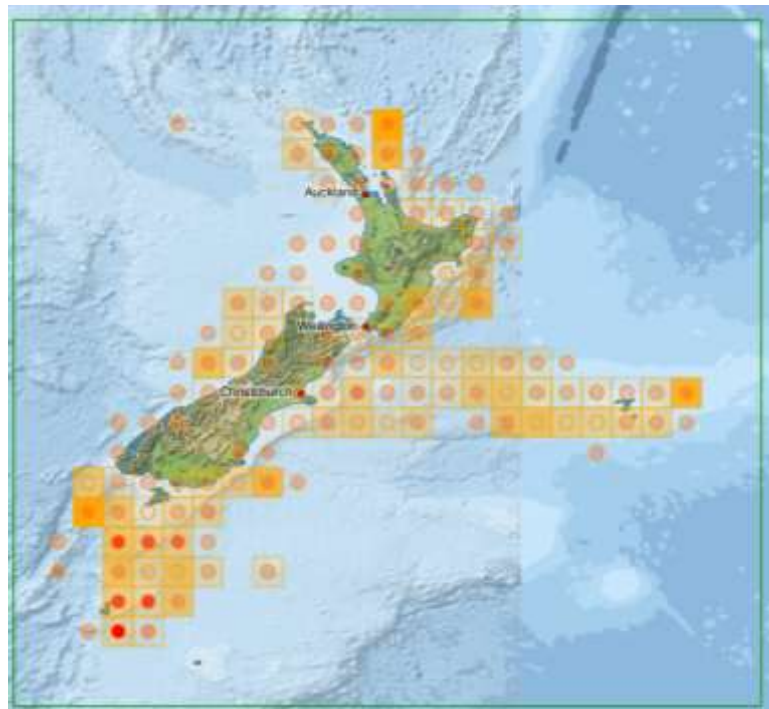


Figure 3. New Zealand middle depth trawl fishery observer coverage (squares, proportion of observed tows to total tows) and total estimated bycatch (circles, estimation based on direct ratio extrapolation of total observed seabird captures per trawl observed) in 2011. Darker shading of squares or circles indicates higher coverage or bycatch, respectively.

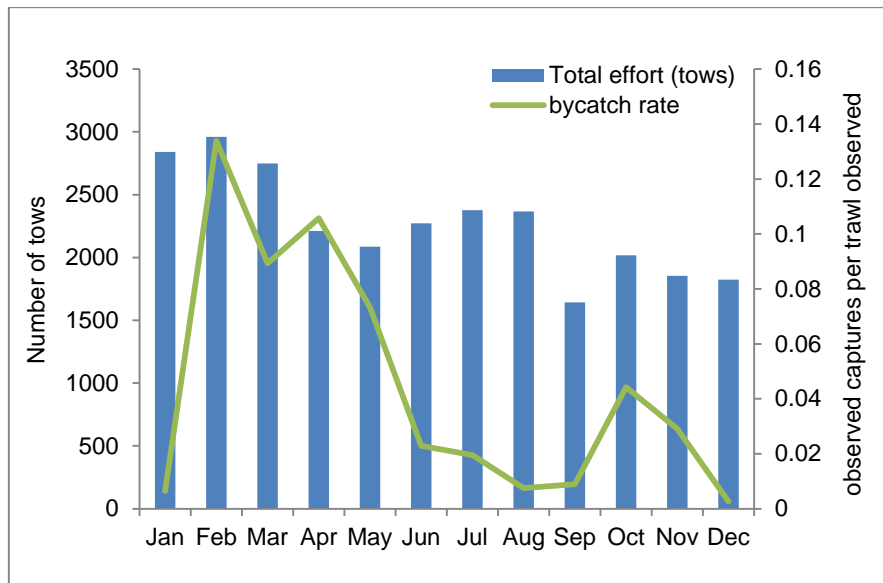


Figure 4. New Zealand middle depth trawl fishery effort (bars, total number of tows) and bycatch rate (line, rate based on total observed seabird captures per trawl observed) by month, 2011.

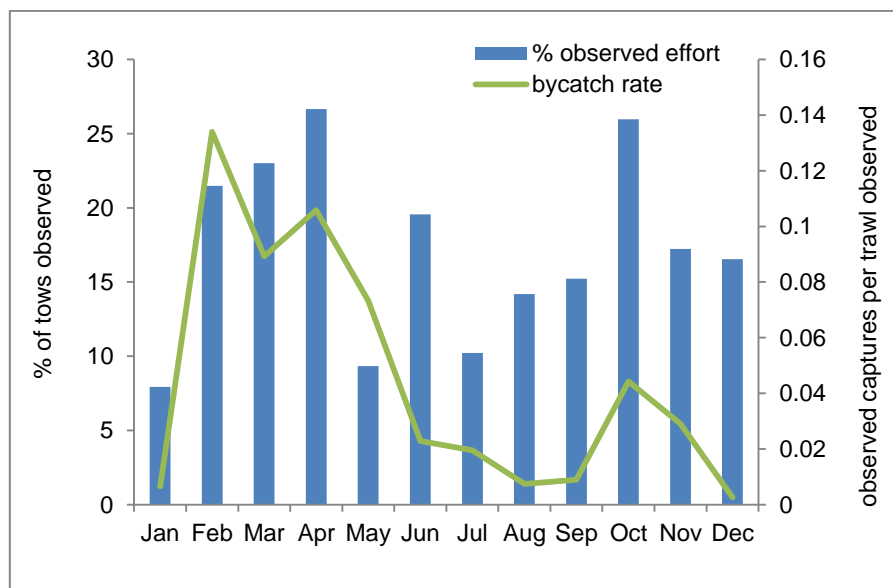


Figure 5. New Zealand middle depth trawl fishery observer coverage (bars, percentage of total tows observed) and bycatch rate (line, rate based on total observed seabird captures per trawl observed) by month, 2011.

3. INTERIM APPROACH

Acknowledging that some Parties have difficulties providing data at this resolution immediately, it is envisaged that the process will be implemented in a progressive manner. The development and adoption of minimum data standards (especially in respect of resolution) and bycatch assessment approaches is directly linked with the process to develop further seabird bycatch related indicators (see SBWG6 Doc 10), and it will not be possible to make much progress on the latter until we resolve the former.

In line with the progressive approach anticipated, those Parties that are currently able to provide data at the recommended resolution could be asked to do so. Those Parties that are only able to provide data at the level of the fishery/fleet could continue to do so until they are in a position to comply with the recommended resolution. It would be useful to understand the reasons for any difficulties regarding the submission of data at the recommended resolution so that these can be addressed if possible. It would be important to ensure that the online data forms and the database are set up to receive and handle data at these different resolutions, and that the forms, and data submission process, remain stable.

Such an interim approach could be used to conduct assessments based on the quality of data available for each fishery. For those fisheries with spatially and temporally explicit data, a higher quality assessment of bycatch could be undertaken, in which an estimate of total bycatch by area, time and fleet is provided. A lower-level assessment could be used for those fisheries for which only fleet-scale information is provided, acknowledging the limitations and assumptions in such an approach. Until there are sufficient data to estimate the number of birds killed annually in these fisheries, this could be supplemented by, for example, determining overlap of ACAP species with these fisheries to assess risk, acknowledging that the scale of the fishing effort data available will still limit the value of such an exercise. Although this approach is not ideal, it may present a mechanism for conducting some sort of assessment of bycatch in the short term, on the basis of available information. It must be stressed that this shouldn't be seen as a reason not to improve the resolution of data submitted by Parties and Range States. This interim approach will require that each fishery/fleet be assessed independently, using (different) approaches that would be informed by the quality and quantity of available data, and would make difficult an integrated approach in which the cumulative impacts of fisheries could be assessed using standardised data and methods.

Bycatch indicators can also be further developed under this approach. An indicator of bycatch data quality could distinguish between coarse and finer-scale data submitted by Parties, with an improvement in the resolution of data submitted, and the associated assessment methods, being measured and reported over time.

4. CONCLUSIONS

If ACAP's Advisory Committee and its Seabird Bycatch Working Group are 'to monitor levels and trends of incidental mortality of ACAP-listed species in relevant fisheries and to assess the implementation and effectiveness of bycatch mitigation measures in those fisheries' (MoP3 Inf 1 and AC5 Inf 10), there is an urgent need for some Parties and collaborating Range States to improve the quality and completeness of data provided. In order to conduct accurate assessments of bycatch levels and trends for ACAP-listed species, and to monitor how these change over time, bycatch and fisheries effort data should be provided at a spatial scale of at least 5x5 degrees grid square, and year quarter. We have demonstrated that the ACAP database is capable of being adapted to allow for this approach.

It is important to note that although the recommended data resolution will enable a finer assessment of the number of birds killed annually per fishery, and thus provide a useful tool for ACAP to track performance in reducing bycatch, it will not provide an indication of the impacts at the population level. Although the consequent population impacts of bycatch are important to assess, this should be seen as a longer-term goal to be pursued once the more

immediate priority of improving the data resolution requirements have been properly addressed.

Another issue that needs to be considered alongside improvements in the resolution of fisheries effort and bycatch data that Parties and Range States submit is the development and adoption of data access rules. Although the discussions regarding the provision of fisheries related data have been ongoing, the relatively aggregated and summarised level at which data have been submitted and presented so far, has not raised concerns regarding data confidentiality or sharing rules. However, with the increase in spatial and temporal resolution of data requested, adequate data access rules and protocols for disseminating and reporting bycatch and fisheries data will need to be developed and agreed on.

ANNEX 1. Annual fishing effort data that have been provided by Parties and Range states for the period 2010-2013. Data for some fisheries available from 2004.

Fishery		Gear	Effort Unit	2010	2011	2012	2013
ARGENTINA	Congeladores - Centolla y Centollon	Trawl - demersal					
	Congeladores - Merluza de Cola, Polaca y Merluza Negra	Trawl - demersal	observed sets				
	Congeladores - Merluza Hubbsi	Trawl - demersal	observed sets				
	Congeladores - Palangreros	Longline - demersal					
	Congeladores - Poteros	squid jig					
	Congeladores - Tangoneros	Longline - demersal	hauls				
	Congeladores - Vieira	Trawl - demersal					
	Costeros - Flota Amarilla de Rawson	Trawl - demersal					
	Costeros - Merluza Hubbsi	Trawl - demersal					
	Costeros - Pelagicas - Red de Media Agua	Trawl - pelagic					
	Costeros - Trampas	pots/traps					
	Costeros - Variado Costero	Trawl - demersal					
	Fresqueros Altura - Merluza Hubbsi	Trawl - demersal	observed sets				
	Rada o Ria - Merluza Hubbsi	Trawl - demersal					
	Rada o Ria - Merluza Hubbsi - Palangre	Longline - demersal					
Rada o Ria - Variado Costero	Trawl - demersal						
AUSTRALIA	Eastern Tuna and Billfish	Longline - pelagic	hooks set	7 874 863	6 761 856	6 548 363	6 756 421
	Gillnet, Hook & Trap - longline sector	Longline - demersal	hooks set	5 526 606	5 387 783	5 972 813	4 893 667
	Great Australian Bight Trawl Sector	Trawl - demersal	tows	3 160	3 832	4 130	4 391
		Trawl - pelagic					
	Heard Island & McDonald Islands - Longline	Longline - demersal	hooks set	3 391 050	4 423 500	4 449 825	6 729 650
	Heard Island and McDonald Islands - Trawl	Trawl - demersal	tows	1 004	652	859	708
	Macquarie Island - Longline	Longline - demersal	hooks set	277 050	983 950	1 095 640	1 327 410
	Macquarie Island - Trawl	Trawl - demersal	tows	0	0	0	
	South-East Trawl including Victorian Inshore Trawl	Trawl - demersal	tows	22 564	24 171	22 424	22 607
Trawl - pelagic							
Western Tuna and Billfish	Longline - pelagic	hooks set	619 220	358 442	635 426	609 995	

Fishery		Gear	Effort Unit	2010	2011	2012	2013
BRAZIL	Monkfish gillnet	gillnets/set nets	hauls		425	256	288 vessel days fishing
	Pelagic Longline Fishery - Industrial fleet	Longline - pelagic		4079846,33			4 127 780 hooks set (reported from logbooks)
	Pelagic Longline Fishery - Foreign-owned fishing boats rented by Brazilian fishing enterprises	Longline - pelagic	observed hooks (estimated by avg. no. hooks and no. of observed sets)		3 481 796		
CANADA	Commercial Pacific Halibut fishery (west coast of Canada)	no data	sets/tows				
	Commercial Pacific Salmon gillnet fishery	no data	sets (estimated by avg. no. sets and no. of boats)	76 960			
	Commercial Rockfish (west coast of Canada)	no data	sets/tows				
CHILE	Pesquería de arrastre fabrica merluza del sur (<i>Merluccius australis</i>) y congrio dorado (<i>Genypterus blacodes</i>)	Trawl - demersal	horas de arrastre			4235.9	2 964
	Pesquería de arrastre fabrica Surimero	Trawl - demersal	horas de arrastre			1475.7	1514.3
	Pesquería de arrastre hielero de merluza del sur y congrio dorado	Trawl - demersal	horas de arrastre			6345.03	2836.8
	Gillnets Swordfish Fishery	gillnets/set nets	trips with caught		373	282	316
	Pelagic longline	Longline - pelagic	hooks set	1 155 361	241 879	378 165	409 275
	Pelagic longline	Longline - pelagic	hooks	1 151 248	695 167	772 719	531 618
	Pesquería merluza del sur (<i>Merluccius australis</i>), flota palangre industrial.	Longline - demersal	hooks	13 470 940	8 998 633	12 126 123	7 812 059
	Tootfish's fishery, Bacalao de profundidad Industrial	Longline - demersal	hooks set, sets	13 946 627	16 253 890	15 241 473	16 802 703
ECUADOR	Artisanal demersal longline fishery in Santa Rosa	Longline - demersal	vessel days fishing	79		118	33
FRANCE	Pêcherie palangrière a la Legine Australe	Longline - demersal					

Fishery		Gear	Effort Unit	2010	2011	2012	2013
NEW ZEALAND	Deepwater trawl	Trawl - demersal	tows	6 041	3 926	3 349	1 983
	Demersal longline	Longline - demersal	hooks	19 021 sets	40 732 665	37 754 982	22 091 036
	Inshore trawl	no data	tows	56 364	48 710	50 809	37188
	Middle depth trawl	no data	tows	29 453	27 193	28 060	20 945
	Pelagic longline	Longline - pelagic	hooks	2817 sets	3 153 254	3 063 322	2 644 297
	Pelagic trawl	Trawl - pelagic	tows	2 061	3 128	3 068	2 056
PERU	Arrastre industrial	Trawl - demersal	trips with caught	1 789	1 785	1 235	1 662
	Cerco : Pesca industrial de cerco para anchoveta	purse sein nets	trips with caught		25 393	13 050	12 668
	Espinel artesanal	Longline - pelagic	hooks set				
	Redes agalleras a la deriva	no data	sets				
SOUTH AFRICA	Demersal Hake trawl offshore	Trawl - demersal					
	Demersal Shark Longline	Longline - demersal					
	Demersal Trawl OFFSHORE	Trawl - demersal	sets/tows	27 232			
	Hake INSHORE Trawl	Trawl - demersal					
	Hake Longline INSHORE	Longline - demersal					
	Hake Longline OFFSHORE	Longline - demersal					
	Patagonian Toothfish Longline	Longline - demersal	hooks		1 173 269	2 184 547	2 027 220
	Pelagic Shark Longline	no data					
	Tuna / Swordfish Longline (South African vessels only)	Longline - pelagic					
	Tuna Longline Fishery - Joint Venture Vessels only	Longline - pelagic	hooks set	3 545 078	4 215 391	2 657 034	3 155 156
SPAIN	Palangre de superficie dirigido a pez espada (WCPFC)	Longline - pelagic	observed hooks	81 020	51 530		
	Pesquería dirigida a especies demersales y pelágicas en zonas ICES (VI, VII, VIII y IX)	gillnets/set nets	observed sets	719	688	682	640
		Longline - demersal					
		purse sein nets					
		Trawl - demersal					
		Trawl - pelagic					
Palangre de fondo en el Mediterráneo español (excepto tunidos)	Longline - demersal	vessel days fishing	10 633	16 709	15 732		
Pesquería de arrastre dirigida a crustáceos en Atlántico Centro-Este	Trawl - demersal	hauls	33 400	17 300			

Fishery		Gear	Effort Unit	2010	2011	2012	2013
SPAIN	Pesquería de arrastre de fondo dirigida a la merluza en Atlántico Centro-oriental (CECAF)	Trawl - demersal	hauls	3 900			
	Palangre de superficie dirigido a pez espada O. Atlántico (ICCAT-ATL)	Longline - pelagic	observed hooks		88 310	134 736	
	Palangre de superficie dirigido a pez espada en océano Índico (IOTC)	Longline - pelagic	observed hooks	3 174 000 hooks	3 758 000 hooks	7 451	180 921
	Palangre de superficie dirigido a grandes pelágicos del Mediterráneo	Longline - pelagic	observed hooks		852 883	1 109 996	
	Palangre de Superficie Pacifico (IATTC)	Longline - pelagic	observed hooks		312 140	170 320	132 304
	Pesquería de Cerco Dirigida a Atunes Tropicales Océanos Atlántico, Índico y Pacífico	purse sein nets					
	Pesquería de Palangre de fondo en el océano Antártico (CCAMLR)	Longline - demersal	hooks	1 140 352	374 400	507 133	894 411
	Pesquerías lejanas arrastre gran altura norte	Trawl - demersal	observed sets			1 199	1 417
		Trawl - pelagic					
Pesquería de arrastre de gran altura en Atlántico Sudoeste (ATSW-MALVINAS)	Trawl - demersal	observed sets		1 161	659	987	
UNITED KINGDOM	Bluenose/Bluefish (<i>Hyperoglyphe antarctica</i>) - Tristan da Cunha	Longline - demersal	hooks set	0	0	0	0
	Demersal longline fishery for Patagonian toothfish (<i>Dissostichus eleginoides</i>) - Falkland Islands [Islas Malvinas] ¹	Longline - demersal	hooks hauled	2 169 068	2 809 250	2 104 836	
	Demersal longline fishery for Patagonian toothfish - South Georgia [Islas Georgias del Sur] ¹	Longline - demersal	hooks set	13 479 391	9 770 560	10 020 088	10 377 303
	Finfish demersal trawl fishery - Falkland Islands [Islas Malvinas] ¹	Trawl - demersal	vessel days fishing	3 772	3 548	3 505	
	Finfish pelagic trawl fishery - Falkland Islands [Islas Malvinas] ¹	Trawl - pelagic	vessel days fishing	69	49	3	
	<i>Illex argentinus</i> jig fishery - Falkland Islands [Islas Malvinas] ¹	squid jig	vessel days fishing	4 684	8 417	7 634	
	<i>Loligo gahi</i> demersal trawl fishery - Falkland Islands [Islas Malvinas] ¹	Trawl - demersal	vessel days fishing	1 970	1 899	1 956	
	Trawl fishery for Antarctic krill (South Georgia) [Islas Georgias del Sur] ¹	Trawl - pelagic	tows	414	3004	2 497	3 271

Fishery		Gear	Effort Unit	2010	2011	2012	2013
	Trawl fishery targeting Icefish (<i>Champscephalus gunnari</i>) in CCAMLR 48.3 (South Georgia) [Islas Georgias del Sur] ¹	Trawl - pelagic	tows	14	97	281	153
Uruguay	Arrastre de fondo (Merluza común <i>M. hubbsi</i>)	Trawl - demersal					
	Palangre de fondo (Merluza Negra)	no data					
	Palangre pelagico	Longline - pelagic					
USA	Alaska demersal longline	Longline - demersal	hooks set				
	Alaska Demersal Groundfish Trawl	Trawl - demersal					
	At-Sea Hake Trawl (Motherships & Catcher Processors; U.S. West Coast)	Trawl - demersal	hauls				
	Limited Entry Sablefish-endorsed Fixed Gear (U.S. West Coast)	pots/traps	landings of target species (mt)				
	Open Access Fixed Gear (U.S. West Coast)	no data	landings of target species (mt)				
	Pacific halibut (Alaska)	Longline - demersal	hooks hauled	64 764 498	55 707 464		
	Hawaii-based Pelagic Longline, Deep Set	Longline - pelagic	hooks set	31 891 124	40 719 827	44 061 911	
Hawaii-based Pelagic Longline, Shallow Set	Longline - pelagic	hooks set	1 828 529	1 611 395	1 418 843	1 000 084	

¹ “A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur y Islas Sandwich del Sur) and the surrounding maritime areas”.

ANNEX 2: Bycatch data for latest fishing year available, as reported by Parties and Range States. Note that “ID’ed Albatrosses caught” and “ID’ed ACAP Petrels caught” is the minimum number, as unidentified albatrosses or petrels are not included in these columns.

	Fishery	Year	Annual Effort	Annual Effort Unit	Observed effort	Observed effort Unit	% observed	Observed bycatch rate	total birds caught (annual)	estimated/ observed	ID’ed Albatrosses caught	ID’ed ACAP Petrels caught
ARGENTINA	Congeladores - Merluza de Cola, Polaca y Merluza Negra	2012			137	sets hauled		0.0949	13	Observed	11	0
	Congeladores - <i>Merluza hubbsi</i>	2010			171	sets hauled		0.2105	36	Observed	31	2
	Congeladores - Palangreros	2012			230 875	hooks		0.065	15	Observed	15	0
	Congeladores - Tangoneros	2012			1 709	sets hauled		0.0059	10	Observed	1	0
	Costeros - Flota Amarilla De Rawson	2012			647	sets hauled		0.0232	15	Observed	0	0
	Costeros - Pelagicas - Red De Media Agua	2012			18	hooks		1	18	Observed	2	0
	Fresqueros Altura - <i>Merluza hubbsi</i>	2012			349	sets hauled		0.0401	14	Observed	6	0
	Rada O Ria - <i>Merluza hubbsi</i> - Palangre	2009	1 427						not recorded		not recorded	not recorded
AUSTRALIA	Eastern Tuna and Billfish	2013	6 756 421	hooks set	424 946	hooks	6.3	0	0	Observed	0	0
	Gillnet, Hook & Trap - longline sector	2013	4 893 667	hooks set	640 316	hooks	13.1	0.0687	44	Observed	3	9
	Great Australian Bight Trawl Sector	2013	4391	tows	0	tows	0		0	Observed	not recorded	not recorded
	Heard Island & McDonald Islands - Longline	2013	6 729 650	hooks set	6 729 650	hooks	100	0.0001	1	Observed	0	0
	Heard Island and McDonald Islands - Trawl	2013	708	tows	708	tows	100	0.0028	2	Observed	1	0
	Macquarie Island - Longline	2013	1 327 410	hooks set	1 327 410	hooks	100	0	0	Observed	0	0
	Macquarie Island - Trawl	2009	174	tows	174	tows	100	0	0	Observed	0	0
	South-East Trawl including Victorian Inshore Trawl	2013	22 607	tows	761	tows	3.4	0.0618	47	Reported caught (by fisher/other)	15	0
Western Tuna and Billfish	2013	609 995	hooks set	0	hooks	0		0	Observed	not recorded	not recorded	

Fishery		Year	Annual Effort	Annual Effort Unit	Observed effort	Observed effort Unit	% observed	Observed bycatch rate	total birds caught (annual)	estimated/observed	ID'ed Albatrosses caught	ID'ed ACAP Petrels caught
BRAZIL	Monkfish gillnet	2013	288	vessel days fishing					not recorded		not recorded	not recorded
	Pelagic Longline Fishery - Industrial fleet	2013	10 369	vessel days fishing (reported from logbooks)	7 468	total hooks		0.0028	20	Estimated from observer	19	2
	Pelagic Longline Fishery - Foreign-owned fishing boats rented by Brazilian fishing enterprises	2011	3 481 796	observed hooks (estimated by avg. no. hooks and no. of observed sets)					623	Estimated from observer	198	143
CANADA	Commercial Pacific Halibut fishery (west coast of Canada)	2009	5 854	sets/tows	630	sets/tows	10.8	0.1889	111	Reported caught (by fisher/other)	11	0
	Commercial Pacific Salmon gillnet fishery	2010	76 960	sets (estimated by avg. no. sets and no. of boats)	1 112	sets hauled	1.4	0.0567	63	Reported caught (by fisher/other)	0	0
	Commercial Rockfish (west coast of Canada)	2009	4 749	sets/tows	487	sets/tows	10.3	0.191	92	Reported caught (by fisher/other)	0	0
CHILE	Pesquería de arrastre fabrica merluza del sur (<i>Merluccius australis</i>) y congrio dorado (<i>Genypterus blacodes</i>)	2013	2 964	horas de arrastre	241.9	horas observadas		1.2154	294	Estimated from observer	281	3
	Pesquería de arrastre fabrica Surimero	2013	1514.3	horas de arrastre	5.1	horas de arrastre		0.1961	1	Estimated from observer	1	0
	Pesquería de arrastre hielero de merluza del sur y congrio dorado	2013	2836.8	horas de arrastre	24.6	horas de arrastre		0.6504	16	Estimated from observer	11	4
	Gillnets Swordfish Fishery	2013	316	trips with caught	9	trips		0	0	Estimated from observer	not recorded	not recorded
	Pelagic longline	2013	409 275	hooks set	176 235	hooks	43.1	0.0057	1	Estimated from observer	1	0
	Pelagic longline	2013	531 618	hooks	348 813	hooks	65.6	0.0086	not recorded	Estimated from observer	2	1

	Fishery	Year	Annual Effort	Annual Effort Unit	Observed effort	Observed effort Unit	% observed	Observed bycatch rate	total birds caught (annual)	estimated/ observed	ID'ed Albatrosses caught	ID'ed ACAP Petrels caught
	Pesquería merluza del sur (<i>Merluccius australis</i>), flota palangre industrial	2013	7 812 059	hooks	91 578	hooks	1.2	0.0218	2	Estimated from observer	0	0
	Tootfish's fishery, Bacalao de profundidad Industrial	2013	16 802 703	hooks set	428 806	hooks	2.6	0.0163	0	Estimated from observer	4	0
ECUADOR	Artisanal demersal longline fishery in Santa Rosa	2013	33	vessel fishing days	0	trips			0	Observed	not recorded	not recorded
FRANCE	Pêcherie palangrière a la Legine Australe	2012							220	Estimated from extrapolation controleur _ calendrier CCAMLR	not recorded	not recorded
NEW ZEALAND	Deepwater trawl	2013	1 983	tows	178	tows	9	0.0112	2	Observed	1	0
	Demersal longline	2013	10 667	sets	125	sets hauled	1.2	0.016	2	Observed	0	0
	Inshore trawl	2013	37 188	tows	211	tows	0.6	0.0047	1	Observed	1	0
	Middle depth trawl	2013	20 945	tows	7 183	tows	34.3	0.0805	578	Observed	176	251
	Pelagic longline	2013	2 427	sets	233	sets hauled	9.6	0.1159	27	Observed	26	1
	Pelagic trawl	2013	2 056	tows	1 930	tows	93.9	0.0275	53	Observed	14	25
PERU	Arrastre industrial	2013	1 662	trips with caught					0	Estimated from anecdotal	not recorded	not recorded
	Cerco : Pesca industrial de cerco para anchoveta	2013	12 668	trips with caught					not recorded		not recorded	not recorded
	Espinel artesanal	2010				total hooks			not recorded	Estimated from observer	not recorded	not recorded
	Redes agalleras a la deriva	2009	294 652	sets					not recorded		not recorded	not recorded

	Fishery	Year	Annual Effort	Annual Effort Unit	Observed effort	Observed effort Unit	% observed	Observed bycatch rate	total birds caught (annual)	estimated/observed	ID'ed Albatrosses caught	ID'ed ACAP Petrels caught
SOUTH AFRICA	Demersal Trawl OFFSHORE	2010	27 232	sets/tows	260	sets/tows	1	0	not recorded	birds detected during audit scaled to total fishing effort	not recorded	not recorded
	Patagonian Toothfish Longline	2013	2 027 220	hooks	1 061 719	total hooks		0	12	Observed	2	10
	Tuna / Swordfish Longline (South African vessels only)	2010			158 345	total hooks		0.0001	19	Observed	8	1
	Tuna Longline Fishery - Joint Venture Vessels only	2013	3 155 156	hooks set	3 155 156	total hooks	100	0.0001	220	Observed	4	218
SPAIN	Palangre de superficie dirigido a pez espada (WCPFC)	2011	51 530	observed hooks					2	Observed	2	0
	Pesquería dirigida a especies demersales y pelágicas en zonas ICES (VI, VII, VIII y IX)	2013	640	observed sets					not recorded		not recorded	not recorded
	Palangre de fondo en el Mediterráneo español (excepto tunidos)	2012	15 732	vessel days fishing					not recorded		not recorded	not recorded
	Pesquería de arrastre dirigida a crustáceos en Atlántico Centro-Este	2011	17 300	hauls					not recorded		not recorded	not recorded
	Pesquería de arrastre de fondo dirigida a la merluza en Atlántico Centro-oriental (CECAF)	2010	978	vessel days fishing					not recorded		not recorded	not recorded
	Palangre de superficie dirigido a pez espada O. Atlántico (ICCAT-ATL)	2012	134 736	observed hooks					not recorded		not recorded	not recorded
	Palangre de superficie dirigido a pez espada en océano Índico (IOTC)	2013	180 921	observed hooks					13	Observed	13	0
	Palangre de superficie dirigido a grandes pelágicos del Mediterráneo	2012	1 109 996	observed hooks					326	Observed	0	15
Palangre de superficie Pacífico (IATTC)	2013	132 304	observed hooks					0	Observed	not recorded	not recorded	

Fishery	Year	Annual Effort	Annual Effort Unit	Observed effort	Observed effort Unit	% observed	Observed bycatch rate	total birds caught (annual)	estimated/observed	ID'ed Albatrosses caught	ID'ed ACAP Petrels caught	
Pesquería de Palangre de fondo en el océano Antártico (CCAMLR)	2013	609 720	observed hooks					0	Observed	not recorded	not recorded	
Pesquerías lejanas arrastre gran altura norte	2013	1 417	observed sets					0	Observed	not recorded	not recorded	
Pesquería de arrastre de gran altura en Atlántico Sudoeste (ATSW-MALVINAS)	2013	987	observed sets					0	Observed	not recorded	not recorded	
UNITED KINGDOM	Bluenose/Bluefish (<i>Hyperoglyphe antarctica</i>) - Tristan da Cunha	2008	219 634	hooks set	78 288	hooks	35.6	0.5109	40	Observed	0	0
	Demersal longline fishery for Patagonian toothfish (<i>Dissostichus eleginoides</i>) - Falkland Islands [Islas Malvinas] ¹	2012	2 104 836	hooks hauled	87 064	hooks	4.1	0	0	Observed	not recorded	not recorded
	Demersal longline fishery for Patagonian toothfish - South Georgia [Islas Georgias del Sur] ¹	2013	10 377 303	hooks set	3 383 509	hooks	32.6	0.0003	1	Observed	0	1
	Finfish demersal trawl fishery - Falkland Islands [Islas Malvinas] ¹	2012	3 505	vessel days fishing	102	fishing days	2.9	0.3137	32	Observed	29	3
	Finfish pelagic trawl fishery - Falkland Islands [Islas Malvinas] ¹	2012	3	vessel days fishing	3	fishing days	100	0	0	Observed	not recorded	not recorded
	<i>Illex argentinus</i> jig fishery - Falkland Islands [Islas Malvinas] ¹	2012	7 634	vessel days fishing	81	fishing days	1.1	0	0	Observed	not recorded	not recorded
	<i>Loligo gahi</i> demersal trawl fishery - Falkland Islands [Islas Malvinas] ¹	2012	1 956	vessel days fishing	42	fishing days	2.1	0	0	Observed	not recorded	not recorded
	Trawl fishery for Antarctic krill (South Georgia) [Islas Georgias del Sur] ¹	2013	138	vessel days fishing	78	fishing days	56.5	0	0	Observed	not recorded	not recorded
	Trawl fishery targeting Icefish (<i>Champsocephalus gunnari</i>) in CCAMLR 48.3 (South Georgia) [Islas Georgias del Sur] ¹	2013	153	tows	153	tows	100	0.0131	2	Observed	0	2

Fishery		Year	Annual Effort	Annual Effort Unit	Observed effort	Observed effort Unit	% observed	Observed bycatch rate	total birds caught (annual)	estimated/ observed	ID'ed Albatrosses caught	ID'ed ACAP Petrels caught
Uruguay	Palangre pelágico	2007							403	Estimated from observer and logbook	343	60
	Alaska demersal longline	2013							3352	Estimated from observer and landings data	386	0
	Alaska Demersal Groundfish Trawl	2013							464	Estimated from observer and landings data	0	0
	At-Sea Hake Trawl (Motherships & Catcher Processors; U.S. West Coast)	2009	1 872	hauls	1 863/47%	hauls sampled/percent of catch sampled on sampled hauls			0	Observed	0	0
USA	Limited Entry Sablefish-endorsed Fixed Gear (U.S. West Coast)	2009	1 889	landings of target species (mt)	8.7	percent of landings		0	0	Observed	not recorded	not recorded
	Open Access Fixed Gear (U.S. West Coast)	2009	938	landings of target species (mt)	2.70%	percent of landings			0	Observed	not recorded	not recorded
	Pacific halibut (Alaska)	2013							50	Estimated from observer and landings data	50	0
	Hawaii-based Pelagic Longline, Deep Set	2014							not recorded	Observed	not recorded	not recorded
	Hawaii-based Pelagic Longline, Shallow Set	2013	1 000 084	hooks set	100%	hooks	100	0.076	76	Observed	74	0

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ANNEX 3: Fine resolution bycatch and fisheries effort data reporting to ACAP

Party:

1. Able to provide seabird bycatch and fisheries effort data at the recommended spatial-temporal resolution (5x5 degree grid square, per quarter, or finer): Yes/No
2. Unable to provide seabird bycatch and fisheries effort data at the recommended spatial-temporal resolution (5x5 degree grid square, per quarter year – or finer), due to:

Reason	Yes/ No	Details
Data confidentiality		
Time-lags in the availability of data		
Capacity and resources to extract and report data in multiple formats to different organisations		
Data not collected at the recommended resolution		
Data not compiled at the recommended resolution		
Other (please provide details)		

3. What can be done to work towards meeting the recommended spatial-temporal resolution of bycatch and fisheries effort data?