

 <p data-bbox="213 517 456 555">Agreement on the Conservation of Albatrosses and Petrels</p>	<p data-bbox="501 241 1401 280">Fifth Meeting of the Seabird Bycatch Working Group</p> <p data-bbox="858 300 1401 338"><i>La Rochelle, France, 1-3 May 2013</i></p> <p data-bbox="703 414 1182 452">ACAP Bycatch Indicators</p> <p data-bbox="587 479 1305 517">(to be read in conjunction with SBWG5 Doc 16)</p> <p data-bbox="528 600 1369 638"><i>Igor Debski¹, Anton Wolfaardt² & Wiesława Misiak³</i></p> <p data-bbox="491 663 1018 701">¹ <i>Department of Conservation, New Zealand</i></p> <p data-bbox="491 701 1075 739">² <i>Vice-convenor, Seabird Bycatch Working Group</i></p> <p data-bbox="491 739 719 777">³ <i>ACAP Secretariat</i></p>
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SUMMARY

A suite of Pressure, State and Response indicators have been identified to measure the effectiveness of the Agreement in relation to bycatch.

The further development of these indicators requires consideration of a number of factors outlined in this paper. In particular the level of detail of bycatch data reported and available is crucial, and this relates to the review of bycatch data reporting also being considered by the Working Group (SBWG5 Doc 16). Once the Group has agreed these matters, appropriate indicators can be identified, and should be back-cast to the establishment of the ACAP, to the extent possible, so that a baseline can be established from which to monitor change.

RECOMMENDATIONS

1. That the Seabird Bycatch Working Group agree on the level of detail desired for bycatch information reporting before finalising appropriate Pressure indicator(s).
2. That the choice and development of appropriate Pressure indicator(s) would be best progressed as part of any work to develop a bycatch data assessment framework (SBWG5 Doc 16).
3. That State and Response indicators are developed in light of any work to develop a bycatch data assessment framework (SBWG5 Doc 16).

Indicadores de captura secundaria del ACAP (para leer junto con el SBWG5 Doc 16)

Se han identificado una serie de indicadores de Presión, Estado y Respuesta para medir la efectividad del Acuerdo en relación con la captura secundaria.

Para un mayor desarrollo de estos indicadores, es necesario tener en cuenta una serie de factores que se describen en el presente documento. En particular, es fundamental el nivel de detalle de los datos sobre la captura secundaria que se informan y están disponibles, y esto se relaciona con el análisis del informe de datos de captura secundaria que también está analizando el Grupo de Trabajo GdTCS5 Doc 16). Una vez que el Grupo haya acordado estas cuestiones, se podrán identificar los indicadores adecuados y se deberán analizar retrospectivamente hasta el establecimiento del ACAP, en la medida de lo posible, de manera tal que se pueda establecer una línea inicial a partir de la cual monitorear el cambio.

RECOMENDACIONES

1. Que el Grupo de Trabajo sobre Captura Secundaria de Aves Marinas acuerde sobre el nivel de detalle deseado para la presentación de información sobre la captura secundaria antes de definir los últimos detalles de los indicadores de Presión adecuados.
2. Que se avance más con la elección y el desarrollo de indicadores de Presión adecuados como parte de cualquier trabajo para desarrollar un marco de evaluación de los datos de captura secundaria (GdTCS5 Doc 16).
3. Que los indicadores de Estado y Respuesta se desarrollen en la luz de cualquier trabajo para desarrollar un marco de evaluación de datos de captura secundaria (GdTCS5 Doc 16).

Indicateurs de l'ACAP pour les captures accidentelles (à lire conjointement avec SBWG5 Doc 16)

Une série d'indicateurs de pression, d'état et de réactivité ont été identifiés pour mesurer l'efficacité de l'Accord en matière de captures accidentelles.

Pour développer ultérieurement ces indicateurs, il convient de prendre en considération un certain nombre de facteurs présentés dans ce document. Le niveau de précision des données disponibles en matière de captures accidentelles est particulièrement important. Ce facteur est lié à l'examen des données sur les captures accidentelles également envisagé par le Groupe de travail (GTCA5 Doc 16). Dès que le Groupe se sera accordé sur ces thèmes, des indicateurs appropriés pourront être développés. Le Groupe devrait tenir compte, dans la mesure du possible, des origines de l'ACAP afin qu'une ligne directrice permettant de superviser les changements puisse être créée.

RECOMMENDATIONS

1. Il est recommandé que le GTCA s'accorde sur le niveau de précision souhaité s'agissant des données en matière de captures accidentelles avant d'adopter un(des) indicateur(s) de pression approprié(s).
2. Que le choix et le développement d'indicateur(s) de pression approprié(s) s'inscrivent dans le cadre de l'élaboration d'un système d'évaluation des données portant sur les captures accidentelles (GTCA Doc 16).

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| <p>3. Que les indicateurs d'état et de réactivité soient développés dans le cadre de l'élaboration d'un système d'évaluation des données portant sur les captures accidentelles (GTCA5 Doc 16).</p> |
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1. BACKGROUND

At SBWG4 a system of bycatch indicators to measure the effectiveness of the Agreement was discussed. Based on this the Advisory Committee recommended the following suite of indicators should be further developed ([AC6 Report Rev 1](#) Section 17):

State (S)

- 1) Availability of data for definition of at-sea ranges of ACAP species
- 2) Availability of bycatch data relevant to ACAP species

Pressure (P)

- 1) Bycatch rates and levels of ACAP species

Response (R)

- 1) Implementation of seabird bycatch mitigation within EEZs
- 2) Engagement with RFMOs on seabird bycatch issues
- 3) Research and development for effective seabird mitigation measures

At SBWG4 there was also discussion on the review of bycatch data provided by parties, and the group recommended the establishment of an intersessional group to determine what analyses could be undertaken, and provide recommendations on the best possible analytical approaches ([AC6 Doc 14 Rev 4](#) SBWG Report). The findings from this intersessional work are reported in SBWG5 Doc 16, which contains recommendations clearly relevant to the development of bycatch indicators.

2. DEVELOPMENT OF INDICATORS TO DATE

2.1. State (S) indicators

2.1.1. S1: Availability of data for definition of at-sea ranges of ACAP species

The formulation of one or more indicators to reflect the progressive acquisition of at-sea range data will now be considered by PCSWG with assistance from BirdLife International.

2.1.2. S2: Availability of bycatch data relevant to ACAP species

A summary of the extent and type of bycatch data submitted by Parties and collaborating non-Parties is attached as Annex 1 (Table 1 and 2). Rather than choose detailed indicators based on the current reporting framework, consideration should be given to the bycatch data

assessment options provided in SBWG5 Doc 16. Dependent on the decisions of the group, an indicator on the extent of reporting by tier could be developed and used to demonstrate the extent to which data is available for input into the preferred tier of assessment.

2.2. Pressure (P) indicators

2.2.1. P1: Bycatch rates and levels of ACAP species

The robust estimation of bycatch rates is sensitive to protocols of data collection and analysis, and often requires extensive observation of fisheries by trained, independent observers. In terms of developing an indicator for ACAP species, reliable identification of bycaught birds is required. As ACAP species will generally form only a subset of seabird bycatch in any fishery, this will further complicate the robust estimation of comparable capture rates across fisheries. The type and extent of bycatch information currently available is variable (see Annex 1), and thus no simple metric of bycatch rate would likely provide an adequate indicator.

Consideration should be given to the bycatch data assessment options provided in SBWG5 Doc 16. The purpose of developing such a framework is to allow the measurement and monitoring of the success of the Agreement. Developing suitable indicator(s) would normally form part of the work of developing a framework. The group should consider whether the use of risk based indicators arising from an appropriate bycatch data assessment framework would best meet the requirements for Pressure indicators.

2.3. Response (R) indicators

2.3.1. R1: Implementation of seabird bycatch mitigation within EEZs

A summary of the of seabird bycatch mitigation data submitted by Parties and collaborating non-Parties is presented in Annex 2 (Table 3). Information on all the mitigation measures employed in each fishery for the years reported is also available, however the number of potential mitigation measures is extensive (Table 4), and so is not easily presented in this document.

As well as the use/non-use of mitigation, a number of factors should be considered in developing suitable indicators, including:

- 1) to what extent does the mitigation conform with ACAP recommended best practice?
- 2) to what extent is the use of mitigation independently verified or monitored?
- 3) is the mitigation mandatory or otherwise required to be used across the fishery in question, or is use voluntary and/or used by part of the fleet only?

Although the database forms go some way towards capturing this information with regards to monitoring and the mandatory nature of the measures, to obtain further clarity may require a more structured and targeted reporting template, in particular regarding ACAP recommended best practice.

In addition, the level of risk posed by fisheries to ACAP species should also be considered. Consistent use of robust mitigation methods in high risk fisheries, where bycatch levels may

be substantial, is more important than use of mitigation in fisheries where seabird bycatch has been shown to be minimal. Consideration should be given to the bycatch data assessment options provided in SBWG5 Doc 16, as, dependent on the decisions of the group, this may provide a risk based framework in which the use of mitigation can be reported.

2.3.2. R2: Engagement with RFMOs on seabird bycatch issues

Reports from ACAP Observers, and from other observers to ACAP, for each RFMO meeting observed, are prepared for the Advisory Committee. These reports summarise the discussion and decisions made by RFMOs relevant to seabird bycatch issues, and provide the opportunity to describe and measure engagement. Possible indicators that could be reported on for each RFMO include:

- 1) to what extent is seabird bycatch data collected and reported, and to what extent does the collection conform to the ACAP data collection requirements for RFMOs?
- 2) has a Conservation Management Measure for seabird bycatch been developed and implemented and to what extent does it conform to ACAP recommended best practice mitigation?

In order to streamline the collection and reporting of such indicator information a template for Observer reports from RFMO meetings to ACAP could be developed to prompt for information relevant to the indicators.

2.3.3. R3: Research and development for effective seabird mitigation measures

At each SBWG meeting a range of papers are presented on research to develop effective seabird mitigation measures. Publications are also reported by Parties in their AC Reports. The number of research projects reported to the group and/or by Parties, by fishing method, could form a simple indicator on the extent of active research. However, the success of the Agreement will in part require that research is focussed in areas where the potential benefit to ACAP species is highest. More useful would be an indicator of the extent to which research undertaken responds to the research priorities identified by the SBWG. Alternatively, as for R1, consideration should be given to the bycatch data assessment options provided in SBWG-5 Doc 16, as, dependent on the decisions of the group, this may provide a risk based framework in which the use of mitigation can be reported.

3. FURTHER WORK RECCOMENDED TO FINALISE INDICATORS

Following discussion on SBWG5 Doc 16, agreement on a desirable level of bycatch data to be reported to ACAP, and consideration of the factors and alternatives identified in this paper the SBWG will be in a position to develop and recommend to the AC a suite of bycatch indicators. Once the indicators are agreed, it would be useful to receive information from Parties (and others) back-cast to the establishment of ACAP, to the extent that the information is available, so that a baseline can be established from which to monitor change.

ANNEX 1

Table 1. Summary of the extent and type of annual bycatch data submitted by Parties and collaborating non-Parties. Total number of fisheries in the database = 81.

	Number of Parties /Range States Reporting	Number of fisheries reporting annual bycatch (including 0)	% total fisheries	Number of fisheries where bycatch was:								
				Estimated from anecdotal	Estimated from birds detected during audit scaled to total fishing effort	Estimated from birds detected during EM audit scaled to total fishing effort	Estimated from extrapolation controleur – calendrier CCAMLR	Estimated from observer	Estimated from observer and landings data	Estimated from observer and logbook	Observed caught	Reported caught (by fisher/other)
2004	9	38	53				1	7		2	28	
2005	10	40	54				1	7		1	31	
2006	10	41	57		1	1	1	5		1	32	
2007	10	45	57		1	1	1	4	1	1	36	
2008	9	50	64	1	1	1	1	6	1		39	
2009	9	48	62		1	1	1	5	1		38	1
2010	9	41	53				1	1	1		37	1
2011	7	31	47				1	1	1		28	
2012	5	19	23				1				18	

Table 2. Summary of the extent and type of bycatch data at species or taxa grouping level submitted by Parties and collaborating non-Parties. Total number of fisheries in the database = 81.

	Number of Parties /Range States Reporting	Number of fisheries reporting bycatch by species	% total fisheries	% of fisheries where annual bycatch >0	Number of fisheries where bycatch was:							
					birds detected during audit scaled to total fishing effort	Estimated from anecdotal	Estimated from observer	Estimated from observer and landings data	Estimated from observer and logbook	Estimated from other (please specify)	Observed caught	Reported caught (by fisher/other)
2004	6	23	28	105			5		2		18	
2005	8	26	32	96			5		1		21	1
2006	7	23	28	92	1		4		1		21	1
2007	8	27	33	96	2		2	2	1	1	26	2
2008	7	33	40	97	2		2	2			30	2
2009	8	32	39	100	2	1	4	2		1	25	3
2010	7	28	34	90			3	2			27	1
2011	5	15	18	88			1	2			12	
2012	4	8	10	80			1				7	

ANNEX 2

Table 3. Summary of the of seabird bycatch mitigation implementation data submitted by Parties and collaborating non-Parties. Total number of fisheries in the database = 81.

Mitigation Year	Number of fisheries where mitigation measures required	Number of fisheries with mitigation compliance monitored	Number of fisheries with mitigation effectiveness monitored	Number of fisheries with only 1 mitigation measure	Number of fisheries with 2 mitigation measures	Number of fisheries with 3 or more mitigation measures
2004	13	14	14	3	3	8
2005	13	14	14	3	3	8
2006	18	19	19	6	2	11
2007	21	22	22	7	1	15
2008	23	26	25	6	2	19
2009	23	25	24	9	2	16
2010	23	25	24	8	2	16
2011	23	25	23	7	2	17
2012	18	19	17	5	1	14

Table 4. Mitigation measures reported across all fisheries and years.

Mitigation measure	
1	weighting 8kg.
2	Additional trawl restrictions implemented in relation to Maui's dolphin management
3	Adoption of shooting and hauling procedures to minimise the time the net is on the surface with slack mesh
4	Area/seasonal closure
5	As 2006
6	As 2008
7	As 2012
8	Available at www.fishinfo.co.nz/Docs/VMP%20v4.0%20.pdf
9	blue-dyed bait
10	brickle curtain
11	Brickle curtains
12	Catch limit of 20 seabirds per season
13	Cleaning of nets prior to shooting
14	El Cosejo Federal Pesquero estableci ³ medidas de mitigaci ³ n en la pesquer ³ a de palangre demersal
15	Every effort should be made to ensure that birds captured alive are released alive and hooks are removed
16	For midwater trawl, night setting
17	For midwater trawl, seasonal closures
18	Integrated weight line

19	line shooter, minimum 45g weight within 1m of hook
20	Line weighting
21	Mandatory trawl restrictions implemented in relation to Hector's/Maui's dolphin management
22	Mandatory use of approved bird scaring devices during trawling (warp scarer / tori line / bird baffler)
23	minimisation of lighting to reduce seabird collisions with boats
24	minimised lighting to reduce risk of seabird collision with boats
25	minimum 45g weight within 1m of hook
26	Night setting
27	Night setting is required in the absence of line weighting
28	Night setting south of latitude 30 degrees South
29	No discarding during setting
30	Non-frozen bait
31	Offal cannot be discharged from the same side as the line during hauling.
32	Offal discharge prohibited during setting
33	Offal fully retained/mealed
34	Offal minced and discarded after operations cease
35	Prohibition of discharge during shooting and hauling if tori lines not in use
36	Prohibition of net monitor cables
37	Prohibition of offal dumping during shooting and hauling of gear
38	Requirement that hooks be removed from offal and bycatch before dumping
39	Requirement that offal discharge position is located on the opposite side of the vessel to the hauling station
40	Seasonal closures
41	side setting with line shooter >1m forward of stern and bird curtain during setting and 45g weight within 1m of hook
42	Spatial closures related to Hector's dolphin threat management
43	strategic discard of bait/offal
44	The use of a Bird Exclusion Device to discourage birds accessing bait during hauling
45	The use of strops to bind the net for shooting
46	These weighting regimes are variable depending on gear type (backbone thickness).
47	Tori lines
48	Tori lines (autolongline only)
49	Tori lines are required to be used for all sets by any vessel over 7m. Tori line specification is varied depending on whether vessels are over or under 20m.
50	Twin Tori lines
51	Vessel management plans developed for all vessels >28m in this fishery. These deal with offal management practices, reporting requirements (with taxa specific trigger points for bycatch events)
52	Vessel management plans developed for all vessels in this fishery. These deal with offal management practices, reporting requirements (with taxa specific trigger points for bycatch events)
53	Vessels must use net binding, and consider adding weight to the codend
54	Weight of 60g placed at no more than 2 meters from the hook
55	www.fishinfo.co.nz/Docs/VMP%20v4.0%20.pdf