

 <p data-bbox="213 533 456 573">Agreement on the Conservation of Albatrosses and Petrels</p>	<p data-bbox="491 237 1406 277">Sixth Meeting of the Seabird Bycatch Working Group</p> <p data-bbox="628 297 1406 338"><i>Punta del Este, Uruguay, 10 - 12 September 2014</i></p> <p data-bbox="491 412 1401 562">Implementing electronic monitoring systems as a means of independently monitoring seabird bycatch during fishing operations</p> <p data-bbox="772 584 1118 624"><i>Jonathon Barrington</i></p>
---	--

SUMMARY

Australia is implementing electronic monitoring systems in its Commonwealth-managed fisheries. A considerable range of electronic monitoring system trials, evaluation and pilot project activities have been undertaken by Australia in recent years. The results of these activities have been used to assist in the design and implementation of electronic monitoring, as a potentially cost-effective alternative to onboard observers. Electronic monitoring is presently being considered by the Australian Government as an additional approach to independent monitoring under the proposed revised Threat Abatement Plan for the incidental catch (or bycatch) of seabird during oceanic longline fishing operations.

Australian experience indicates that electronic monitoring relies on properly formulated legislative arrangements that provide an incentive to fishing operators to ensure the effective operation of electronic monitoring equipment, accurate recording of seabird bycatch in logbooks, while protecting the privacy and commercial value of data that are collected. As well, it is important that any decision to introduce electronic monitoring should be made on a fishery by fishery basis, taking into consideration the attributes of each fishery.

RECOMMENDATIONS

It is recommended that:

1. ACAP continues to examine the benefits and limitations of electronic monitoring systems in independently monitoring fishing operations, particularly for domestic and high seas fisheries and domestic and distant water fishing fleets.
2. ACAP considers whether to establish best practice guidelines concerning the design, development, implementation and evaluation of electronic monitoring systems.

Implementación de sistemas de monitoreo electrónico como medio de control independiente de captura secundaria de aves marinas durante maniobras de pesca

Australia está implementando sistemas de monitoreo electrónico en sus pesquerías federales. Además, el país ha efectuado una serie considerable de pruebas, evaluaciones y actividades de proyectos piloto de estos sistemas durante los últimos años. Se han utilizado los resultados de dichas actividades para asistir en el diseño e implementación del monitoreo electrónico como medio de posible rentabilidad y alternativo a la presencia de observadores a bordo. En la actualidad, el monitoreo electrónico se encuentra bajo consideración del Gobierno australiano como un enfoque adicional de control independiente, de conformidad con el Plan revisado de reducción de amenazas para la captura incidental (o secundaria) de las aves marinas durante maniobras de pesca con palangre oceánico.

La experiencia australiana indica que el monitoreo electrónico depende de iniciativas legislativas debidamente formuladas que brinden a pescadores el incentivo necesario a fin de asegurar una operación efectiva del equipo de monitoreo electrónico, un registro preciso de la captura secundaria de aves marinas en libros de a bordo, así como también la protección de la confidencialidad y del valor comercial de los datos recopilados. Asimismo, resulta importante señalar que la decisión de incorporar el monitoreo electrónico debe ser específica para cada pesquería tomando en cuenta las características de cada una.

RECOMENDACIONES

Se recomiendan las siguientes acciones:

1. que el ACAP continúe estudiando los beneficios y limitaciones de los sistemas de monitoreo electrónico como métodos de control independiente de actividades pesqueras, en particular, para las pesquerías nacionales y de alta mar y los buques que operan en aguas nacionales y distantes; y
2. que el ACAP considere la posibilidad de fijar directrices sobre mejores prácticas con respecto al diseño, elaboración, implementación y evaluación de los sistemas de monitoreo electrónico.

Mise en œuvre de systèmes électroniques de suivi dans le but de suivre de façon indépendante les captures accessoires d'oiseaux de mer durant les opérations de pêche

L'Australie met actuellement en place des systèmes électroniques de suivi dans les pêcheries gérées par le Commonwealth. De très nombreux essais de système électronique de suivi, d'évaluation et de projets pilotes ont été entrepris par l'Australie ces dernières années. Les résultats de ces activités ont été utilisés pour aider à la conception et à la mise en œuvre du suivi électronique, qui pourrait potentiellement s'avérer plus rentable que la présence d'observateurs à bord. Le gouvernement australien considère actuellement le suivi électronique comme une approche complémentaire au suivi indépendant dans le cadre du projet révisé du Plan d'élimination des menaces liées à la capture accidentelle (ou accessoire) d'oiseaux de mer durant les opérations de pêche palangrière dans l'océan.

Le cas de l'Australie montre que le suivi électronique repose sur des dispositions législatives claires qui incitent les opérateurs de pêche à garantir le fonctionnement effectif de l'équipement de suivi électronique, à répertorier précisément les espèces capturées accessoirement dans des journaux de bord tout en protégeant le caractère privé et commercial des données collectées. En outre, la décision d'introduire un système de suivi électronique dans une pêcherie doit impérativement être prise au cas par cas, en prenant en considération les spécificités de chaque pêcherie.

RECOMMANDATIONS

Il est recommandé que :

1. L'ACAP poursuive son examen des avantages et des limites des systèmes électroniques de suivi pour le suivi indépendant lors d'opérations de pêche, en particulier dans le cas des pêcheries intérieures et hauturières et des flottilles de pêche hauturière.
2. L'ACAP examine la possibilité d'élaborer des lignes directrices relatives aux meilleures pratiques en matière de conception, d'élaboration, de mise en œuvre et d'évaluation de systèmes de suivi électronique.

1. CONTEXT

Australia is implementing electronic monitoring systems in its Commonwealth-managed fisheries. Electronic monitoring is based on a video recording system involving cameras positioned on a fishing vessel enabling fishing operations (including setting and hauling) to be recorded, and where the recordings are subject to independent viewing by an Australian Fisheries Management Authority (AFMA) scientific observer for compliance and auditing purposes.

Electronic monitoring is a form of independent monitoring. Independent monitoring involves using an AFMA scientific observer or other independent observer approved by AFMA and/or an electronic monitoring system approved by AFMA to independently monitor and record fishing activities including seabird bycatch.

2. BACKGROUND

A range of electronic monitoring system trials, evaluation and pilot project activities have been undertaken by Australia in recent years. These include:

- a. Trials of longlines to target gummy shark in Southern and Eastern Scalefish and Shark Fishery (SESSF) waters off South Australia (Knuckey et al, 2014).

The following is the summary description of the trial by Knuckey et al (2014):

'The Australian Fisheries Management Authority (AFMA) in conjunction with the gillnet sector of the SESSF, has developed a formal Sea Lion Management Strategy which came into force on 30 June 2010 to reduce and monitor interactions between ASLs and gillnets used in the SESSF. Under the Strategy, AFMA implemented long-term management measures including formal fisheries closures (covering 6,300 km²) around all 48 colonies, increased independent monitoring of fishing activity (i.e. from 2.4% to 11%) and adaptive management arrangements for further closures to respond to further ASL interactions.'

- b. Evaluating the use of onboard cameras in the shark gillnet fishery in South Australia (Lara-Lopez et al (2012).

The following is the summary description of the evaluation by Lara-Lopez et al (2012):

'Implementing cost effective management arrangements and services are critical for an economically sustainable fishing industry. This report describes the trial of electronic monitoring systems in a Commonwealth managed shark gillnet fishery in waters off the coast of South Australia. The trial demonstrated that electronic monitoring is able to provide high quality, in season data on interactions with Australian sea lions and other protected species. The data collected during the trial has helped improve AFMA's understanding of the extent of these interactions and has led to significant changes in the way these interactions are monitored and managed by AFMA. AFMA has gained a greater understanding of the capabilities of electronic monitoring for collecting different types of information, how these capabilities can be influenced by equipment setup and monitoring approach, and how these factors affect the costs of monitoring. A cost benefit analysis has indicated that electronic monitoring is capable of delivering significant cost-efficiencies where monitoring requirements exceed approximately 10% coverage.'

- c. Electronic onboard monitoring pilot project for the Eastern Tuna and Billfish Fishery (Piasente et al, 2012).

The following is the summary description of the pilot project by Piasente et al (2012):

'Implementing cost effective management arrangements and services is critical for an economically sustainable fishing industry. This report describes the trial of electronic monitoring systems in the Eastern Tuna and Billfish Fishery (ETBF). The electronic monitoring systems functioned reliably on ETBF vessels during the trial and data collected was of sufficient quality and level of detail to meet many of AFMA's current onboard monitoring requirements. The report outlines how sensor and image data provides an independent record that can be used to implement a sampling regime to randomly check the accuracy of the daily fishing logbook record. The results of the electronic monitoring trial show that significant savings over onboard observers are possible. Based on these findings, the further development and implementation of an electronic monitoring program will assist the ETBF in a number of areas including: - More cost-effective and strategic fishery monitoring and assessment processes, - More efficient and cost-effective management arrangements such as streamlined quota monitoring and reconciliation practices, - Greater industry ownership of resource management and stewardship, including simplified regulations, and - Risk based and targeted compliance operations by AFMA, underpinned by audit processes.'

The results of these activities have been used to assist in the design and implementation of electronic monitoring, as a potentially cost-effective alternative to onboard observers.

3. REGULATORY CONSIDERATIONS

Legislative prescriptions have been introduced to facilitate implementing electronic monitoring systems. The *Fisheries Legislation Amendment Act 2013* (Cth) introduced a range of amendments to the *Fisheries Management Act 1991* (Cth) and *Fisheries Administration Act 1991* (Cth).¹ These establish a framework for electronic monitoring of fishing and fishing-related activities undertaken by Commonwealth fishing concession and scientific permit holders, for the purposes of data collection and compliance monitoring. They provide AFMA with express powers to give directions to Commonwealth fishing concession and scientific permit holders about electronic monitoring of fishing and related activities. Associated amendments include: offences of preventing or hindering the operation of electronic monitoring equipment or modifying, damaging or destroying electronic monitoring data; provisions to allow evidentiary certificates to be issued to minimise challenges to the use of electronic monitoring data in court proceedings; a provision to clarify that a direction about electronic monitoring can apply where a boat is in a state or territory fishery, or incidentally records fishing activity under a state or territory issued licence; and provisions dealing with the disclosure of electronic monitoring data.

¹ *Fisheries Legislation Amendment Act 2013* (Cth) is available on the internet at <http://www.comlaw.gov.au/Details/C2013A00027/Download>

Electronic monitoring data are collected and stored in accordance with AFMA's Information Disclosure Policy. This policy means that AFMA will only disclose electronic monitoring data where it is required by law and that AFMA will take steps to ensure the commercial value of information is protected. Once analysed, the video footage files are retained by AFMA for a minimum of six months. AFMA is required to destroy video files once six months has elapsed, providing the files: are not required for an investigation or as evidence in a matter, or are not subject to a request for access under the *Archives Act 1983* (Cth), the *Freedom of Information Act 1982* (Cth) or any other relevant Act.

The explanatory memorandum for the legislation explains that the amendments place limitations on the prohibition on interference with privacy and the right to work; however, those limitations are reasonable, necessary and proportionate. Article 17 of the *International Covenant on Civil and Political Rights* (ICCPR) prohibits unlawful or arbitrary interferences with a person's privacy. The prohibition may be engaged because the legislation implements a scheme for electronic surveillance of fishing and related activities, which may incidentally include personal information. In turn, this information could be stored, used and disclosed by AFMA and access by individuals to this information may be regulated. Under the ICCPR, the right to privacy can be limited, provided the limitation is not unlawful or arbitrary. The limitation on the right to privacy is lawful, being authorised under a number of laws including the *Fisheries Management Act 1991* (Cth), and is not arbitrary, because it is consistent with the provisions, aims and objectives of the ICCPR and is reasonable in the particular circumstances. Article 6 of the *International Covenant on Economic, Social and Cultural Rights* (ICESCR) protects the right of every person to have the opportunity to gain a living by work which s/he freely chooses or accepts. The right to work is engaged by the legislation because it incorporates offences, the penalties for which could affect a person's ability to work as chosen. The right to work can be subjected to limitations that are compatible with the nature of the rights and solely for the purpose of promoting general welfare in democratic society. Under the legislation, the imposition of penalties for offences committed would be a proportional limitation on the right to work and would not be overly restrictive or of unlimited duration. Furthermore, the imposition of penalties is consistent with the promotion of the welfare of society, both in terms of redressing criminality and promoting the protection of fisheries resources, and is necessary to meeting AFMA's legislative objective of ensuring the ecologically sustainable exploitation of fisheries resources.

4. PROPOSED APPROACH TO REVISED THREAT ABATEMENT PLAN CONCERNING OCEANIC LONGLINE FISHING OPERATIONS

The Australian Government is considering a proposal to adopt a revised Threat Abatement Plan for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations (revised Seabird TAP). If approved, the revised Seabird TAP would allow AFMA to independently monitor fishing activities through the use of AFMA scientific observers or other independent observers approved by AFMA and/or electronic monitoring systems approved by AFMA. Video footage collected as part of independent monitoring using an electronic monitoring system would be subject to independent auditing. AFMA would ensure that auditing results in accurate reporting by fishing operators of hooks set, seabird interactions and the effectiveness of mitigation measures.

The decision to introduce electronic monitoring will be made on a fishery by fishery basis, having regard to the fishery-specific monitoring requirements of, as well as the costs and benefits to, each fishery. It is expected that fishing concession holders will meet the costs of purchasing and installing electronic monitoring equipment. Fisheries are expected to use either electronic monitoring or observers, or a combination of the two, according to the most cost-effective option for achieving the required level of monitoring.

Criteria will continue to apply under the revised Seabird TAP to measure performance of the threat abatement plan. These require a management response unless the seabird bycatch in all fishing areas, seasons and fisheries is less than prescribed bycatch rates (either 0.05 birds per 1000 hooks or 0.01 birds per 1000 hooks). Seabird bycatch occurs where a seabird is observed caught during longline fishing. This is number of seabirds reported caught by an AFMA scientific observer or other independent observer approved by AFMA on board the fishing vessel and/or reported in the logbook records by the fishing operator where longline fishing is subject to independent monitoring using an electronic monitoring system approved by AFMA. The accurate recording of seabird bycatch in logbooks is supported by the auditing arrangements for and legislation governing electronic monitoring.

5. PRIORITY CONSIDERATIONS UNDER THE AGREEMENT

Any approach to implementing electronic monitoring should underpinned by effective legislative requirements. The legislative framework should be designed to ensure that where fishing operations are subject to independent monitoring using an electronic monitoring system, fishing operators will have an incentive to accurately record seabird bycatch events in their logbooks. This can be achieved where: (a) the video footage collected through electronic monitoring is subject to auditing, (b) fishing operators do not know whether and to what extent their fishing operations are being audited, (c) significant penalties apply in circumstances where the auditing identifies seabird bycatch that has not been entered into the vessel's logbook.

Any legislation concerning independent monitoring of fishing operations using electronic monitoring systems should be sensitive to human rights considerations affecting fishing operators and fishing concession holders, particularly concerning the privacy and commercial value of data that are collected.

Any decision to introduce electronic monitoring should be made on a fishery by fishery basis, having regard to the fishery-specific monitoring requirements of, as well as the costs and benefits to, each fishery. Although independent monitoring of fishing operations can be achieved by direct (such as observers) or indirect means (such as electronic monitoring), careful consideration should be given to the range of activities occurring onboard fishing vessels that are to be monitored, and what type of independent monitoring is, on balance, the most cost-effective.

Consideration should be given to the attributes of each fishery is deciding whether electronic monitoring may be beneficial to independent monitoring. For example, distant water fishing fleets may be absent from the flag state jurisdiction for months at a time, requiring significantly larger video footage storage capabilities on board each vessel, and limiting opportunities for retrieval of video footage—particularly where transshipments occur at sea or in ports beyond the jurisdiction of the flag state.

6. REFERENCES

- Knuckey I, Ciconte A, Koopman M, Hudson R and Rogers P (2014). Trials of Longlines to Target Gummy Shark in SESSF Waters off South Australia. FRDC Project 2011/068. Fishwell Consulting
Available on the internet at:
<http://frdc.com.au/research/final-reports/Pages/2011-068.aspx>
- Lara-Lopez A, Davis J and Stanley B (2012). Evaluating the use of onboard cameras in the Shark Gillnet Fishery in South Australia. FRDC Project 2010/049. Australian Fisheries Management Authority
Available on the internet at:
<http://frdc.com.au/research/final-reports/Pages/Evaluating-the-use-of-onboard-cameras-in-the-Shark-Gillnet-Fishery-in-South-Australia.aspx>
- Piasente M, Stanley B, Timmiss T, McElderry H, Pria M and Dyas M (2012). Electronic onboard monitoring pilot project for the Eastern Tuna and Billfish Fishery. FRDC Project 2009/048. Australian Fisheries Management Authority
Available on the internet at:
<http://frdc.com.au/research/final-reports/Pages/Electronic-onboard-monitoring-pilot-project-for-the-Eastern-Tuna-and-Billfish-Fishery.aspx>