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The Bycatch Mitigation Information System

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SUMMARY

This report describes the Bycatch Mitigation Information System (BMIS), an online resource for fisheries managers, scientists, fishers and the general public. It includes a brief discussion of how the BMIS supports the work of ACAP. Further development of the database is outlined.

The BMIS can be accessed via the Western and Central Pacific Fisheries Commission (WCPFC) website at: http://bmis.wcpfc.int/index.php

Annex 1 contains screen shots of the BMIS.

RECOMMENDATIONS

Recommend ACAP continue to support the BMIS and provide scientific advice where requested.

Sistema de Información sobre Mitigación de la Captura Secundaria

Este informe describe el Sistema de Información sobre Mitigación de la Captura Secundaria (SICS, por sus siglas en inglés), un recurso en línea para los administradores de pesquerías, científicos, pescadores y el público en general. Incluye un breve análisis de la manera en que el BMIS apoya el trabajo del ACAP. Se explica un mayor desarrollo de la base de datos.

Se puede acceder al BMIS a través del sitio web de la Comisión de Pesca para el Pacífico Centro-Occidental (WCPFC) en: http://bmis.wcpfc.int/index.php

El Anexo 1 incluye capturas de pantalla del BMIS.

RECOMENDACIONES

Se recomienda al ACAP que continúe apoyando al BMIS y brinde asesoramiento científico cuando se lo solicite.

Le Système d'information sur l'atténuation des captures accidentelles

Le présent rapport décrit le Système d'information sur l'atténuation des captures accidentelles (BMIS), une ressource accessible en ligne et destinée aux responsables de pêcheries, aux scientifiques, aux pêcheurs ainsi qu'à toute autre personne. Ce rapport démontre brièvement le soutien qu'apporte le BMIS aux travaux de l'ACAP. Il présente également le développement ultérieur de la base de données.

Le BMIS est accessible par le biais du site internet de la Commission des pêches pour le Pacifique occidental et central (WCPFC) : http://bmis.wcpfc.int/index.php

L'Annexe 1 contient des captures d'écran du BMIS.

RECOMMANDATIONS

Il est recommandé que l'ACAP continue à soutenir le BMIS et à délivrer des conseils scientifiques le cas échéant.

1. DATABASE DESCRIPTION

1.1. Audience

The Bycatch Mitigation Information System (BMIS) is an online resource for fisheries managers, scientists and fishers, as well as anyone with an interest in bycatch issues. The database was conceived as a project of the Western and Central Pacific Fisheries Commission (WCPFC) to centralise information on the mitigation and management of bycatch in the Western and Central Pacific Ocean (WCPO) and make it readily available. The BMIS has been developed and managed by the Secretariat of the Pacific Community (SPC). Through SPC's supporting role in fisheries management in the Pacific, the BMIS is promoted among Pacific Island fisheries managers and observer coordinators.

The BMIS can be accessed via the WCPFC website at: http://bmis.wcpfc.int/index.php

In the context of the BMIS, "bycatch" mainly refers to those species of special interest**, such as seabirds, sharks and marine turtles, that are incidentally caught in WCPO fisheries targeting highly migratory species, including tuna and billfish. Much of the information in the BMIS is relevant to bycatch mitigation in similar oceanic fisheries around the world.

***marine mammals to be addressed as resources allow*

1.2. Content

Different types of information in the BMIS are grouped into sections. These sections include references (scientific and technical literature), technical mitigation methods, decisions by WCPFC and other management bodies, and a list of target and bycatch species. Links to other websites and documents of interest and an RSS feed are also features of the database.

The **references** section focuses on seabird, shark and turtle bycatch mitigation methods relevant to the longline, purse seine, pole and line and troll tuna fisheries of the WCPO.

Reference types include peer-reviewed papers in scientific journals, meeting papers (including papers submitted to meetings of the WCPFC and its subsidiary bodies), project reports, fact sheets, and official guidelines from the WCPFC or other Regional Fisheries Management Organisations (RFMOs). The full citation and abstract are listed for each reference. Pdfs are made available where copyright allows.

BMIS descriptions of **mitigation methods** summarize the latest knowledge on bycatch reduction methods. For example, there is a discussion of bait size and condition and how this affects bait availability to predatory seabirds. Descriptions may contain notes on cost, ease of deployment, need for further research and compliance issues.

The BMIS also houses links to WCPFC **decisions** (Resolutions and Conservation and Management Measures) and those of other tuna RFMOs that refer to and/or require the use of particular mitigation methods to protect seabirds, sea turtles or sharks.

In addition, it is possible to search a list of target and bycatch **species** recorded in the WCPO Observer Database. Only those species that have been noted as 'caught by gear' are included. Scientific and common names, as well as Species Identification Codes, are tabulated.

The **links** tab is the place to find useful websites and documents. Links are grouped by theme - Seabirds, Sharks, Turtles, Gear, General, Identification and Handling, Bycatch Databases, Asia Pacific, Research, RFMOs and Videos. For example, the theme 'Identification and Handling' provides a long list of resources to help identify seabirds, turtles or sharks, and ways to handle them. Among other linked documents are International Plans of Actions for seabirds and sharks, SPC's Longline terminal gear identification guide and FAO's guidelines to reduce sea turtle mortality in fishing operations.

An **RSS feed** can be accessed via the Home page. Subscribers are notified of significant changes to the BMIS (such as updates to CMMs) and bycatch mitigation news.

"Google Translate" is embedded in the website, enabling BMIS users to translate text into many different languages. From traffic analysis data for May-June 2012, users translated BMIS pages into 29 different languages, though pages were predominantly read in English. Most popular languages for translation were Spanish, French, Portuguese, Japanese, Chinese, Italian and German.

2. SUPPORT FOR REDUCING SEABIRD BYCATCH

2.1. In general

The BMIS supports the mitigation and management of seabird bycatch by providing easy access to a broad range of information relevant to fisheries policy makers and managers, fishers and others involved in fisheries management such as observer coordinators. Hopefully it also builds the capacity of the general public to be more informed in the debate about bycatch issues.

The database holds seabird decisions (regulations, conservation measures etc) for all tuna Regional Fisheries Management Organisations (tRFMOs), literature on seabird bycatch mitigation and management, descriptions of mitigation methods (based primarily on Birdlife International Bycatch Mitigation Factsheets and SBWG documents, including summary

advice statements), links to seabird identification and handling guides, and links to the FAO International Plan of Action - Seabirds and National Plans of Action.

2.2. Promotion of ACAP and BI bycatch mitigation and management material

Birdlife International Bycatch Mitigation Factsheets are accessible via both the Reference and Mitigation Methods sections of the BMIS. Descriptions of seabird mitigation methods largely rely on these excellent factsheets, as well as ACAP SBWG documents and summary advice statements. SBWG documents and mitigation summary advice statements are also accessible via the Reference section of the database.

2.3. Adoption of tRFMO conservation and management measures

The BMIS is a valuable reference and educational tool which helps to build understanding of bycatch issues among those involved in tuna and billfish fisheries and thereby assist in the adoption of appropriate tRFMO decisions, e.g. resolutions and conservation and management measures (CMMs).

The following scenario is an example of what is possible:

A Pacific Islands fisheries manager plans to attend a WCPFC meeting to discuss revisions to a Conservation and Management measure that requires fishers to adopt new line weighting options. Using the BMIS, the manager can check which, if any, other tRFMOs have passed similar measures (in the Decisions section), read those measures to see what has been implemented, then move to the Mitigation Measures section and read the description/ explanation of the pros and cons of line weighting (and be referred to explanations of techniques under development such as safe leads and integrated weight hook pods). The manager can then conduct a targeted search in the References section for documents discussing seabirds and line weighting - some references the manager will be able to access directly via the BMIS or an embedded link; abstracts and citations are provided for other documents.

In another example of improving the implementation of tRFMO decisions, the BMIS provides a resource for observer trainers and debriefers. While observer coordinators have their own manuals for training observers, the BMIS holds more detailed information on aspects of bycatch management that are relevant to their work.

3. FURTHER DEVELOPMENT OF THE BMIS

A primary objective of further development of the BMIS is to support information sharing and collaboration globally, among oceanic tuna fisheries managers (from country level to RFMO level), scientists, industry and other stakeholders.

3.1. Recognition and resourcing - Kobe III, GEF

To date the BMIS has been funded by the WCPFC. However, long-term funding solutions are needed, particularly in light of the goal to expand the scope of the BMIS. Support for this expansion was gained through the Kobe III process, with the Bycatch Joint Technical Working Group recommending that it meet "to develop a centralized bibliographic bycatch database that includes information on mitigation, bycatch conservation and management

measures adopted by the RFMOs and past assessments undertaken by RFMOs. BMIS to be modified to accommodate additional RFMO information."

Ideally, other tuna RFMOs would contribute to BMIS maintenance and development, though this is not likely in the short term. Consequently funding for the BMIS has been sought through other avenues. We expect, though are not assured of, funding under the Global Environment Facility (GEF) bycatch project (under Component 4: Reducing Ecosystem Impacts of Tuna Fishing). If successful, the BMIS will be completely redeveloped. GEF funding would be available in late 2013/early 2014. Interim funding is being provided by the International Sustainable Seafood Foundation (ISSF).

3.2. Centralisation of tuna RFMO mitigation and management information

There are significant benefits and efficiencies to be gained from a single bycatch mitigation and management database for tRFMOs (as there is for agencies such as ACAP and BI, by providing an avenue for information to flow between tRFMOs and other stakeholders). In brief:

1. Support for Decisions/Regulations - A bycatch database consolidates information useful for demonstrating the science behind regulations. The BMIS includes reviews of existing knowledge (including differing viewpoints) about mitigation methods and their application. 'Virtual links' are made between these reviews and regulations. Compiling useful information is time consuming and often difficult, which leads to point (2) below.
2. Avoid duplication - It saves time and money to centralise information that supports the bycatch mitigation and management responsibilities of tuna RFMOs.
3. Avoid confusion - With a 'one-stop-information-shop' for bycatch mitigation and management in oceanic tuna/billfish fisheries, it is easier for potential users of this information to find what they are looking for.
4. Coordination - A central database provides another avenue for tuna RFMOs (and other stakeholders) to coordinate on bycatch issues, including research into bycatch mitigation measures. It provides an avenue for consideration of potential conflicts between species groups in using particular mitigation methods. It also presents opportunities for discussion of potential cross-species benefits (*e.g. hook pods with LEDs, benefiting not only seabirds but sea turtles by setting hooks to be released below 40m - turtles spend most of their time in the top 40m of the water column - and manipulating pulse frequency or light colour to make lights invisible to turtles*).
5. Cost - Substantial resources are required to maintain a bycatch database. Costs can be shared among tuna RFMOs (funding issues are discussed in 3.1 above).
6. Bycatch statistics and reporting - The issue of seabird (and other species) bycatch data collection, collation and analysis is an area of intense interest (as evidenced by SBWG documents from earlier years). A redeveloped BMIS offers a venue for presenting tRFMO summary bycatch statistics.

4. CONCLUDING REMARKS

The BMIS is a useful reference and educational tool for fisheries managers and policy makers, scientists, fishers and the general public.

Your feedback on the BMIS and reference contributions are very welcome. You can contact the database manager via the website or via email - larissaf@spc.int

ANNEX 1

Screen shots from the BMIS

http://bmis.wcpfc.int/index.php