



EB-03-03

**AVANCES HACIA EL PLAN DE ACCIÓN SOBRE AVES MARINAS DE LA CIAT:
OPCIONES E IMPLEMENTACIÓN DE MEDIDAS DE MITIGACIÓN DE CAPTURA
INCIDENTAL**

**PROGRESS TOWARDS THE IATTC SEABIRD ACTION PLAN: BYCATCH MITIGATION OPTIONS,
MEASURES AND IMPLEMENTATION**

Melanie Hutchinson, Dan Crear, Shane Griffiths, Peggy Loor, Jon Lopez



Plan de Acción sobre Aves Marinas (2024)

Seabird Action Plan (2024)

1. El personal científico de la CIAT realizará una evaluación de las aves marinas para su presentación al GTECI en 2025, incluyendo, pero no limitado a:

- a. Comparación entre C-11-02 y medidas de mitigación en otras OROP.
- b. Actualización de [SAR-7-05b]: distribuciones espaciales de especies de aves marinas en el Área de la Convención de la CIAT, incluyendo cualquier punto geográfico crítico para estas especies, superposición con esfuerzo de pesca LL, y estados de conservación
- c. Visión general de las medidas de mitigación en uso por los CPC en el Área de la Convención de la CIAT conforme al párrafo 5 de C-11-02. Esto debería abarcar todas las CPC, incluyendo aquellas que puedan tener buques pescando en zonas donde no se requieren medidas de mitigación de captura incidental.
- d. Resumen de las tasas observadas y estimadas de captura incidental de aves marinas en el Área de la Convención de la CIAT, incluyendo información 12 geográfica en caso posible, notando que los datos son limitados.

1. IATTC Scientific Staff will conduct a seabird assessment for presentation at the EBWG in 2025, including but not limited to:

- a. Comparison between C-11-02 and mitigation measures in other tRFMOs.
- b. Update of [SAR-7-05b]: spatial distributions of seabird species in the IATTC Convention Area, including any geographic hotspots for these species, overlap with LL fishing effort, and conservation statuses
- c. Overview of mitigation measures in use by CPCs in the IATTC Convention Area as required in paragraph 5 of C-11-02. This should account for all CPCs, including any that may have vessels fishing in areas where bycatch mitigation measures are not required.
- d. Summary of observed and estimated seabird bycatch rates in the IATTC Convention Area, including geographic information where possible, noting that data are limited.

Revisión MCM y de la mitigación de las capturas incidental de aves marinas

EB-03-03 Bycatch mitigation options, measures and implementation

Contenido del EB-03-03:

1. Comparación de las medidas de mitigación adoptadas en otras OROP de túnidos
2. Revisión de los requisitos de mitigación, notificación y manipulación de aves marinas entre las CPC de la CIAT
3. Revisión de las opciones de mitigación de captura incidental de aves marinas y consejos de ACAP
4. Conclusiones y recomendaciones

EB-03-03 content:

1. Comparison of bycatch mitigation measures and implementation across tRFMOs
2. Review of seabird mitigation, reporting and handling requirements amongst the IATTC CPCs
3. Review of seabird bycatch mitigation options and ACAP advice
4. Conclusions and recommendations



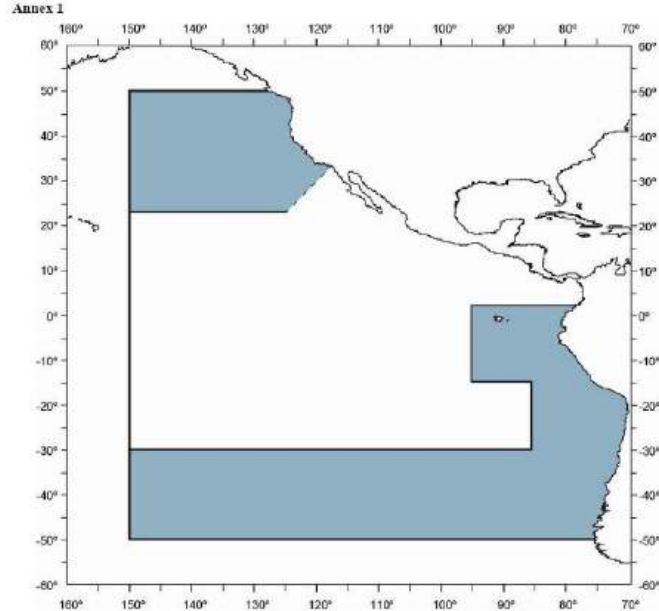
EB-03-03

PROGRESS TOWARDS THE IATTC SEABIRD ACTION PLAN: BYCATCH MITIGATION
OPTIONS, MEASURES AND IMPLEMENTATION

Melanie Hutchinson, Dan Crear, Shane Griffiths, Peggy Loo, and Jon Lopez

CIAT Resolución C-11-02

IATTC Resolution C-11-02



Areas⁴ (shaded) within the EPO in which the use of at least two mitigation measures for reducing seabird bycatch is required: north of 23°N (except in Mexican waters) and south of 30°S, plus the area bounded by the coastline at 2°N, west to 20°N-95°W, south to 15°S-95°W, east to 15°S-85°W, and south to 30°S.

Specifications require updating

⁴ RFMO Mitigation Measure Comparison

1. CPCs shall require their longline vessels of more than 20 meters length overall (LOA) that use hydraulic, mechanical, or electrical systems and that fish for species covered by the IATTC in the EPO:
 - North of 23°N (excluding specified Mexican waters),
 - South of 30°S, and
 - A defined area between 2°N and 30°S, bounded longitudinally between 95°W and 85°W.
2. Use at least two of the mitigation measures in Table 1, including at least one from Column A.
 - Vessels shall not use the same measure from Column A and Column B. Except tori lines which equates to using paired tori lines
 - Side-setting can only be applied in the area north of 23°N until research establishes the utility of this measure in waters south of 30°S. If using side setting with a bird curtain and weighted branch lines is counted as two mitigation measures.

Table 1: Mitigation measures

Column A	Column B
Side-setting with bird curtains and weighted branch lines ²	<i>Tori line</i> ³
Night setting with minimum deck lighting	Weighted branch lines
<i>Tori line</i>	Blue-dyed bait
Weighted branch lines	Deep-setting line shooter
	Underwater setting chute
	Management of offal discharge

Opciones de mitigación de las capturas accesorias de aves marinas en las OROP de túnidos

Seabird bycatch mitigation options across tRFMOs

Western Central Pacific Fisheries Commission (WCPFC)

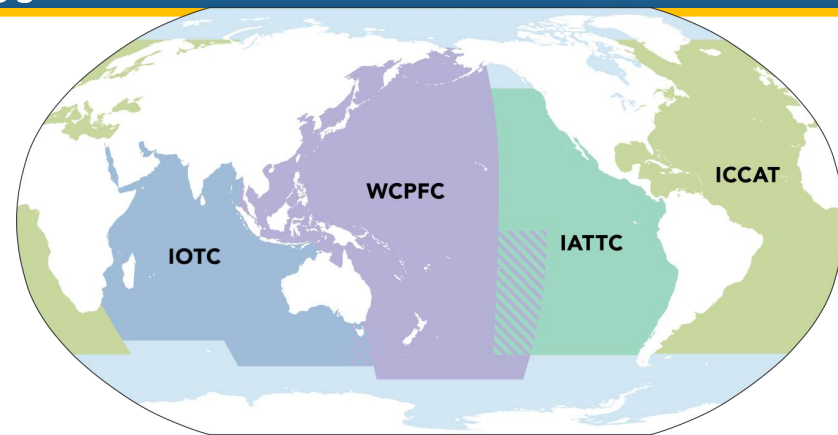
		North of 23°	
		Vessels > 24 meters LOA (use 2 options including 1 from A)	Vessels < 24 meters LOA (use 1 option from A)
South of 30° Must use 2 of the following 3 options:	25 – 30° S Must use 1 of the following 3 options:	A	B
		Side setting w bird curtain & weighted branch lines	Tori Line
		Night setting with minimum deck lighting	Blue dyed bait
		Tori Line	Deep setting line shooter
Night setting w/ min deck lighting; Tori lines; Line weighting; or hook shielding devices*	Night setting w/ min deck lighting; Tori lines; Line weighting; or hook shielding devices*	Weighted branch lines	Management of offal
		Hook shielding devices*	

WCPFC

Proposed updated mitigation options:

All vessels fishing South of 25°S to use either:

- a) These three measures in combination:
 - i. Weighted branchlines;
 - ii. Night setting
 - iii. Tori lines; or
- b) Hook-shielding devices; or
- c) An underwater bait setting device.



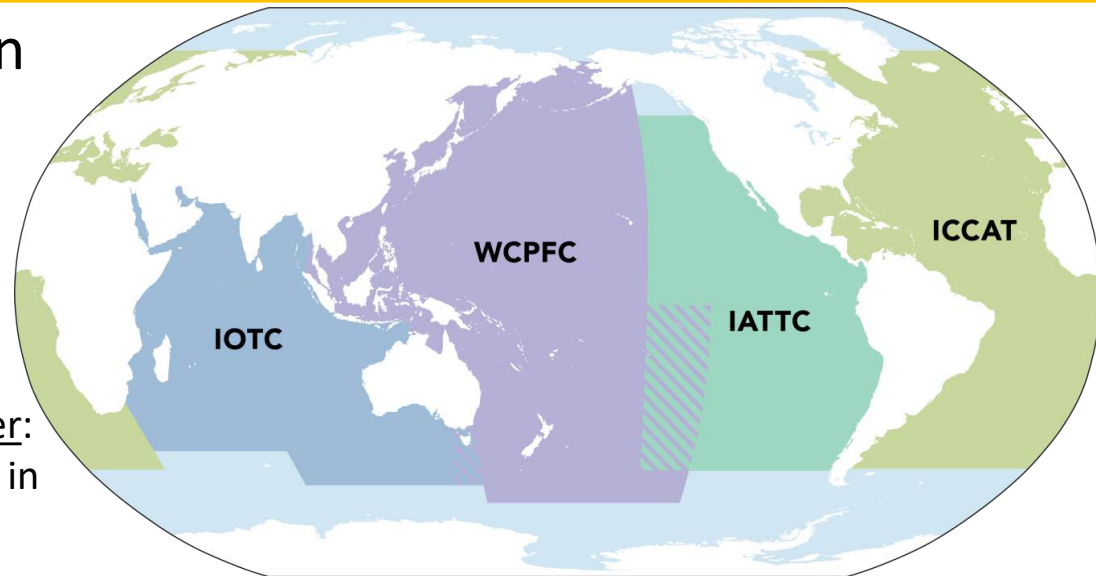
North of 25°S to use either:

Vessels > 24 LOA must use two options from Column A or one option from Column B.

Vessels <24 m must use at least one option from Column A or one option from Column B

Column A	Column B
Night setting with minimum deck lighting	Side setting with a bird curtain and weighted branch lines
Tori line	Hook-shielding devices
Weighted branch lines	Underwater bait setting device

Indian Ocean Tuna Commission (IOTC)

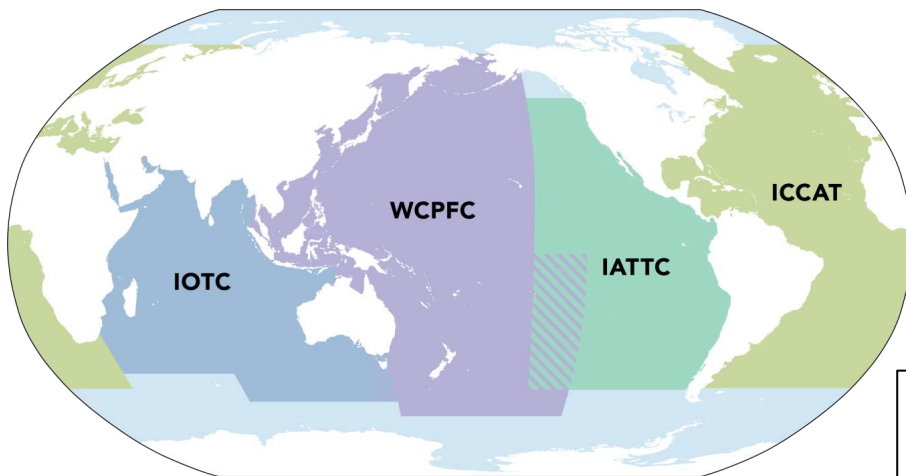


All vessels fishing South of 25°S to use either:

- a) Two of these three measures in combination:
 - i. Weighted branchlines;
 - ii. Night setting
 - iii. Tori lines; or
- b) Hook-shielding devices

Opciones de mitigación de las capturas accesorias de aves marinas en las OROP de túnidos

Seabird bycatch mitigation options across tRFMOs



All vessels fishing South of 25°S:

Two of these three measures in combination:

- i. Weighted branchlines;
- ii. Night setting
- iii. Tori lines

International Commission for the Conservation of Atlantic Tunas (ICCAT)

In the Mediterranean vessels are encouraged to voluntarily implement bycatch mitigation options

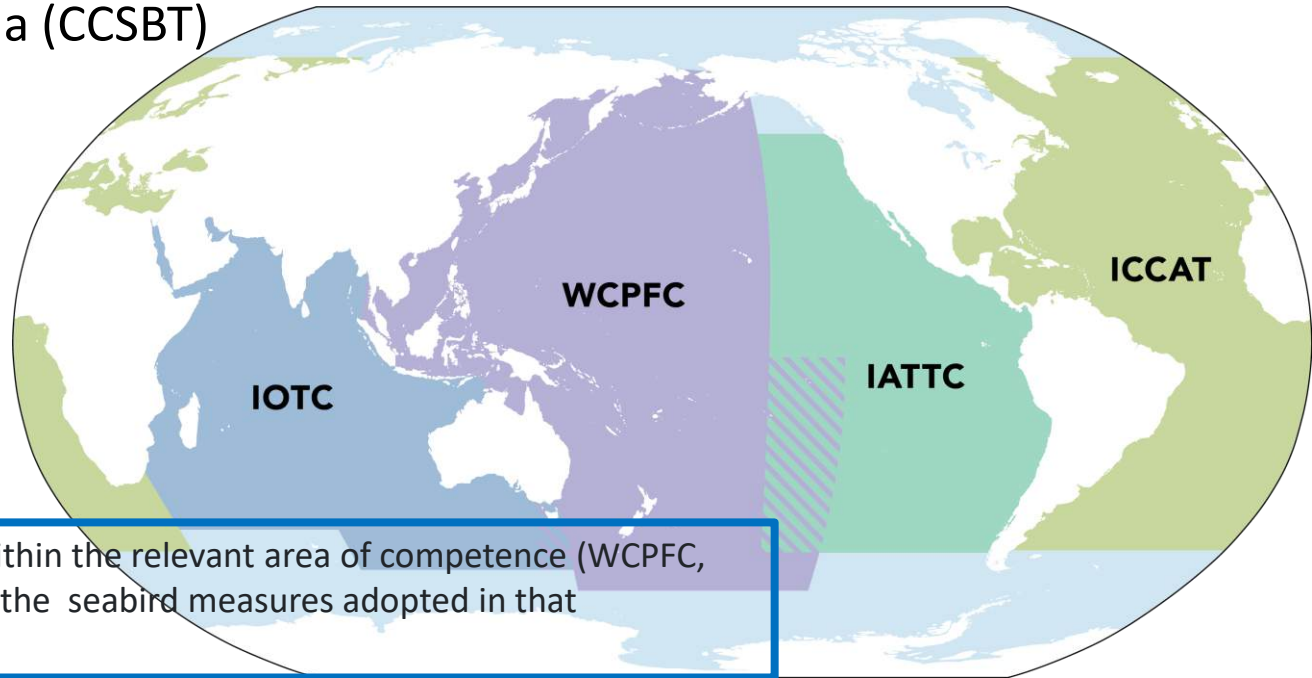
All vessels fishing 20°S to 25°S:

- Must carry and use Tori Poles
- Vessels are encouraged to use a second tori pole and bird-scaring line at times of high bird abundance
- Vessels targeting swordfish using monofilament longline gear may be exempted if night setting and using weighted branchlines (60g within 3m from the hook)

Opciones de mitigación de las capturas accesorias de aves marinas en las OROP de túnidos

Seabird bycatch mitigation options across tRFMOs

Commission for the Conservation of Tunas Southern Bluefin Tuna (CCSBT)



CCSBT members when fishing within the relevant area of competence (WCPFC, IOTC and ICCAT) must adhere to the seabird measures adopted in that convention area.

Revisión de las medidas de mitigación utilizadas en las CPC

Review of mitigation measures used across CPCs

Plan de Acción sobre Aves Marinas:

1.c. Revisión de las medidas de mitigación en uso por los CPC en el Área de la Convención de la CIAT conforme al párrafo 5 de C-11-02. Esto debería abarcar todas las CPC, incluyendo aquéllas que puedan tener buques pescando en zonas donde no se requieren medidas de mitigación de captura incidental.

Resolution C-11-02:

5. Las CPC informarán a la CIAT, antes del 1 de septiembre de 2011, y posteriormente cada año, de las medidas de mitigación, incluyendo las especificaciones técnicas pertinentes que planean utilizar los buques de su pabellón en la aplicación de la presente recomendación.

Seabird Action Plan:

1.c. Overview of mitigation measures in use by CPCs in the IATTC Convention Area as required in paragraph 5 of C-11-02. This should account for all CPCs, including any that may have vessels fishing in areas where bycatch mitigation measures are not required

Resolution C-11-02:

5. CPCs shall inform the IATTC, by 1 September 2011, and annually thereafter, of the mitigation measures that their flag vessels plan to employ in the implementation of this resolution.

Métodos de mitigación utilizados por los CPC para reducir las capturas accesorias de aves marinas

CPC reports on mitigation methods used for reducing seabird bycatch

Example CPC	Side-setting with bird curtains and weighted branch lines	Night setting with minimum deck lighting	Tori line	Weighted branch lines	Blue-dyed bait	Deep-setting line shooter	Underwater setting chute	Management of offal discharge	NPOA	Longliners (20+m) in RVR	Active Longliners (20+m)	Comments
2012	?	?	?	?	?	?	?	?		Yes	Yes	no report
2013	?	?	?	?	?	?	?	?		Yes	Yes	no report
2014			x (IATTC regs)					x (IATTC regs)		Yes	Yes	
2015	?	?	?	?	?	?	?	?		Yes	Yes	no report
2016			x (IATTC regs)					x (IATTC regs)	X	Yes	Yes	Update in 2016 to the 2001 NPOA

Reports September 2011 -2023 were reviewed for:

- List of mitigation measures used
- Required specifications for each measure
- Year National Plan of Action (NPOA) was published

Métodos de mitigación utilizados por los CPC para reducir las capturas accesorias de aves marinas

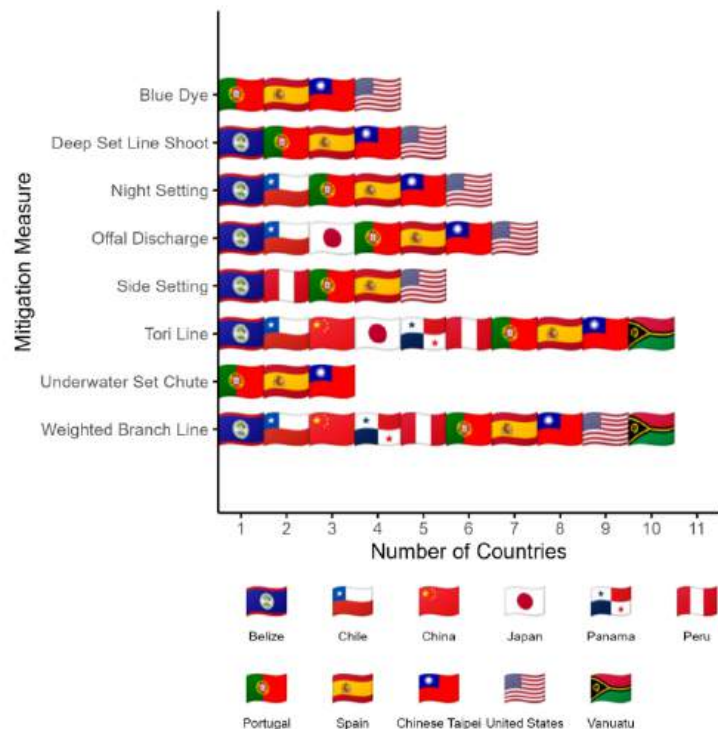
CPC reports on mitigation methods used for reducing seabird bycatch

Example CPC	Side-setting with bird curtains and weighted branch lines	Night setting with minimum deck lighting	Tori line	Weighted branch lines	Blue-dyed bait	Deep-setting line shooter	Underwater setting chute	Management of offal discharge	NPOA	Longliners (20+m) in VRL	Active Longliners (20+m)	Comments
2012	?	?	?	?	?	?	?	?		Yes	Yes	no report
2013	?	?	?	?	?	?	?	?		Yes	Yes	no fishing in the Resolution area
2014			x (IATTC regs)					x (IATTC regs)		Yes	Yes	
2015	?	?	?	?	?	?	?	?		Yes	Yes	no observer program
2016			x (IATTC regs)					x (IATTC regs)	X	Yes	Yes	Update in 2016 to the 2001 NPOA

- Vessel Register List to determine if CPCs had vessels > 20 m LOA
- Other communications were reviewed to determine if vessels were active and operating in the EPO
- Other comments also recorded (i.e., whether fishing occurred in the Resolution area or no observer program to monitor mitigation measures used).

Métodos de mitigación utilizados por los CPC para reducir las capturas accesorias de aves marinas

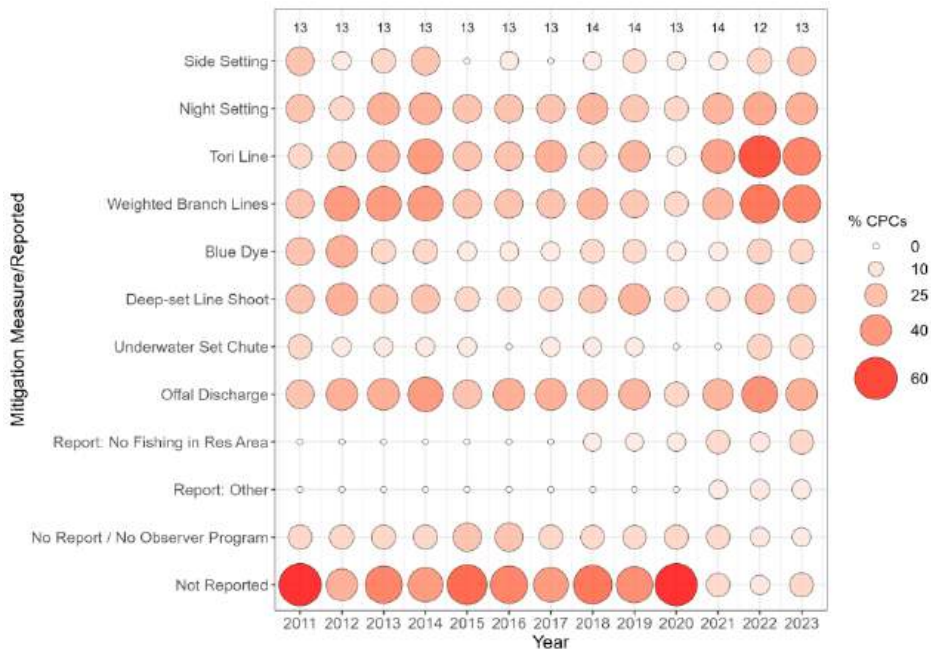
CPC reports on mitigation methods used for reducing seabird bycatch



- CPCs submitting a report for at least one year: Belize, Canada, Chile, China, Ecuador, El Salvador, Japan, Korea, Panama, Peru, Portugal (EU), Spain (EU), Chinese Taipei, United States of America, Venezuela, and Vanuatu
- For the majority of CPCs and reported years, the mitigation options in Resolution C-11-02 were cited.
- Most commonly used mitigation measures included: Tori lines, weighted branch lines, and management of offal discharge

Métodos de mitigación utilizados por los CPC para reducir las capturas accesorias de aves marinas

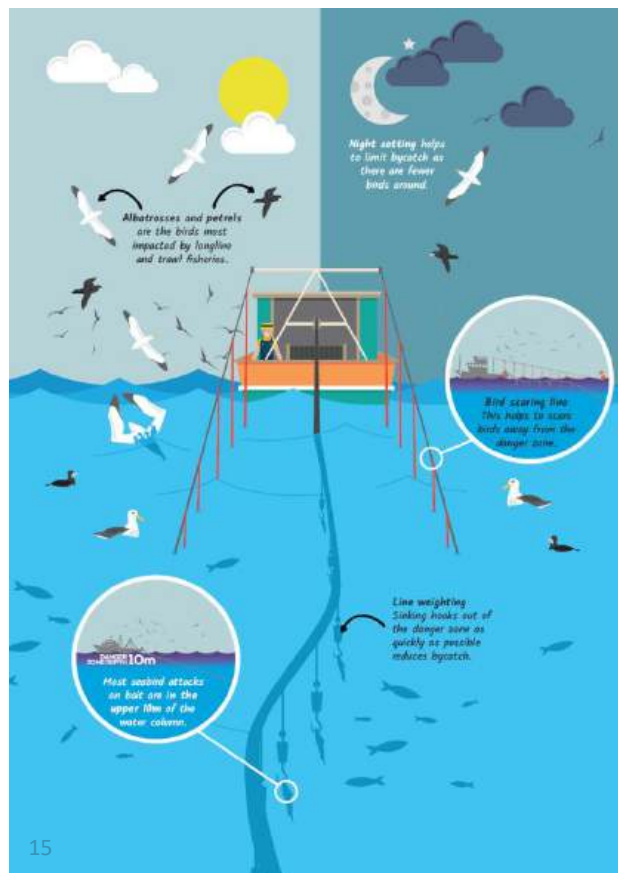
CPC reports on mitigation methods used for reducing seabird bycatch



- Mitigation options used over time
- Reporting nuances made interpretation difficult
 - Report format and content varied across and within CPCs over time
 - Specifications rarely conveyed
- A standardized reporting format for the requirements outlined in Resolution C-11-05 would be helpful

Revisión de las medidas de mitigación de la captura incidental de aves marinas

Review of seabird mitigation measures



Técnicas de mitigación recomendadas / Recommended mitigation techniques:

1. Dispositivos protectores de anzuelos / Hook shielding devices
2. Lances nocturnos con iluminación mínima en cubierta/Night setting with minimum deck lighting
3. Líneas espantapájaros (líneas *tori*)/ Bird scaring lines (Tori lines)
4. Brazoladas con pesos/Branchline Weighting
5. Dispositivo de colocación de cebo bajo el agua/Underwater bait setting device
6. Lances laterales/Side setting
7. Asesoramiento del ACAP sobre mejores prácticas/ACAP best practice advice

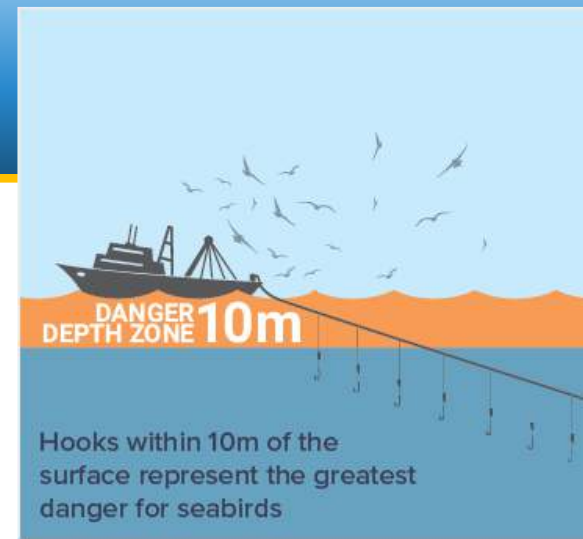
Técnicas de mitigación no recomendadas / Mitigation techniques not recommended:

1. Cebo de color azul/Blue dyed bait
2. Disparador de línea/Line shooter
3. Control de despojos/Management of offal discharge

Dispositivos protectores de anzuelos

Hook shielding devices

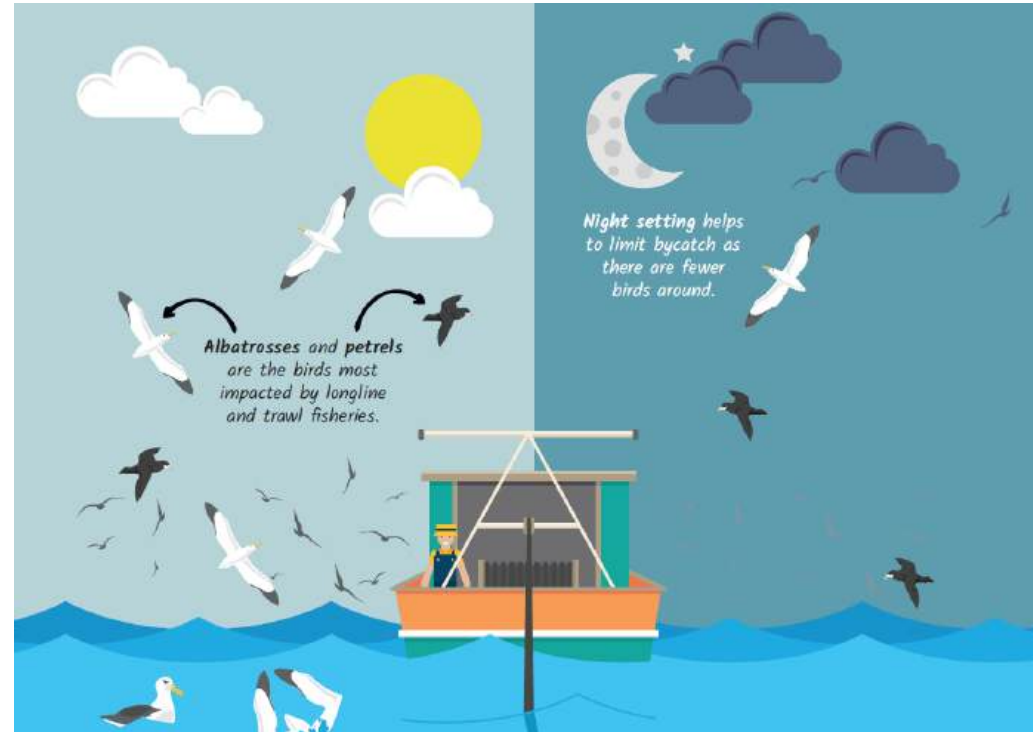
- Most seabird attacks on baits occur in the upper 10 m
- Hook shielding devices protect the point of the hook and barb until they are beyond the foraging depth of most seabirds
- Contain integrated weights to ensure rapid sink rates
- Approved as a standalone mitigation device by ACAP, WCPFC, IOTC



Lances nocturnos con iluminación mínima en cubierta

Night setting with minimum deck lighting

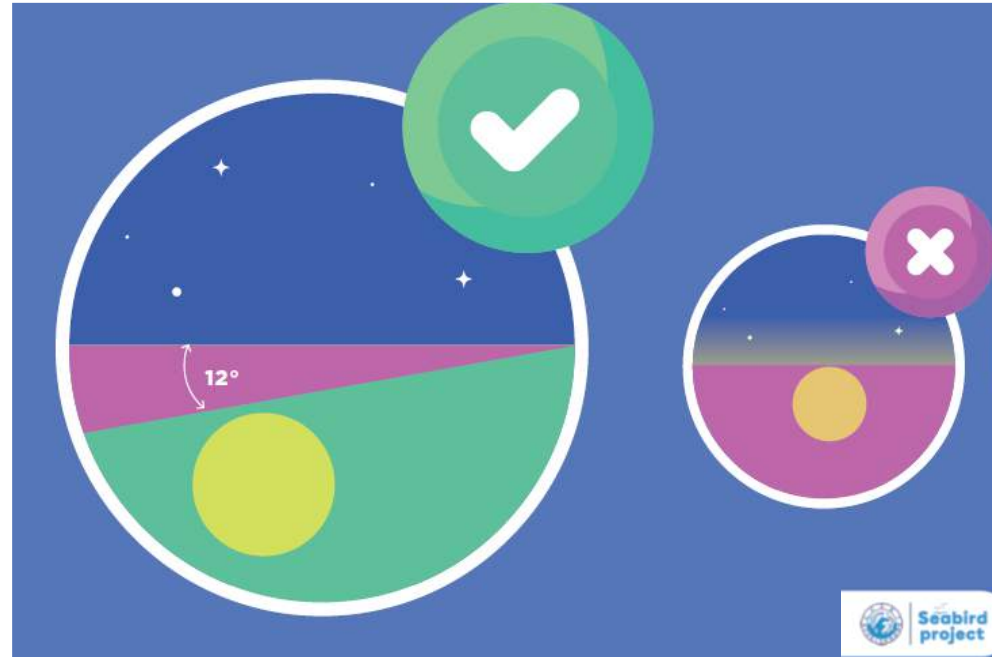
- Night setting limits interaction rates because there are fewer birds
- Not perfectly effective for night time foragers, during bright moons, and crepuscular periods so it should be used in combination with bird scaring lines and line weighting
- ACAP best practice advice = night setting + line weighting + bird scaring lines
- IATTC specifications for night setting require updating



Lances nocturnos con iluminación mínima en cubierta

Night setting with minimum deck lighting

- IATTC specifications for night setting require updating
- Current specs: 'No setting between local sunrise and one hour after local sunset.'
- Best practice: No setting between nautical dawn and nautical dusk
- Requires sun to be 12° below the horizon



Líneas espantapájaros (líneas Tori)

Bird scaring lines (Tori lines)

Bird scaring lines (BSLs) work by deterring diving seabirds from attacking baits sinking under the aerial extent of the line.

ACAP specifications:

- Vessels > 35 m LOA (simultaneous use of 2 BSLs, at least 8 m from water, aerial extent must be 100 m, brightly colored streamers)
- Vessels < 35 m LOA (2 streamer designs, at least 6 m from water, aerial extent of 75 m)

IATTC specifications:

Tori lines & Tori line (light streamer)

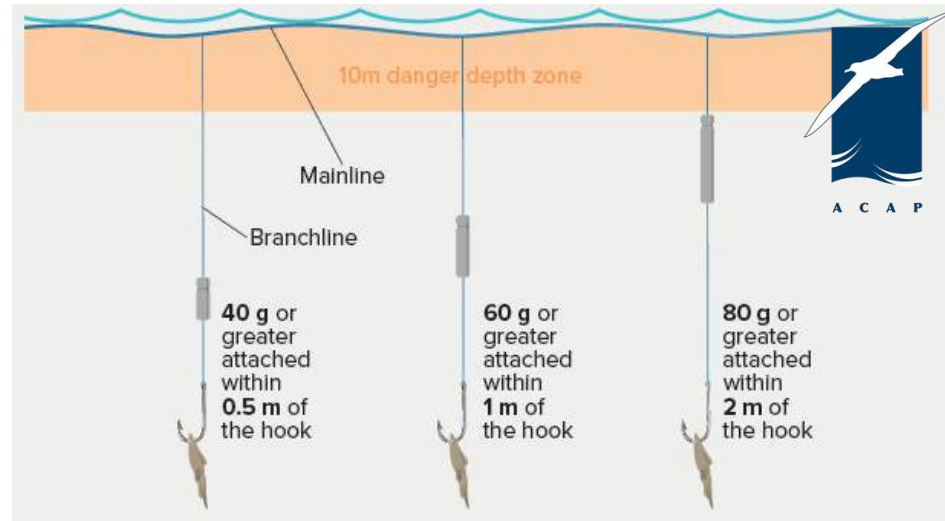
- Requires clarification & review



Brazoladas con pesos

Line weighting

- Line weighting helps sink baits out of the danger zone faster during setting
- Sink rates need to be 0.5 m/s to sink faster than seabirds can dive
- Not always perfectly effective and should be used in combination with bird scaring lines and night setting



Brazoladas con pesos

Line weighting

- Sink rate of bait depends on mass and the distance from the hook
- Weighting configurations that achieve 0.5m/s sink rate 
- IATTC weight specifications require review
- Review of WCPFC specs (same as IATTC) reveal relative improvements in bycatch rates of 52% (43-61%) in the southern hemisphere if weight configurations were updated to ACAP specifications (Fischer J, Bell J & Debski I. 2024)

- **40 g** or greater attached within **0.5 m** of the hook;
- **60 g** or greater attached within **1 m** of the hooks;
- **80 g** or greater attached within **2 m** of the hook.



SCIENTIFIC COMMITTEE
TWENTIETH REGULAR SESSION

Manila, Philippines
14 – 21 August 2024

Meta-analysis of standardised interaction rates reveals relative performance of seabird bycatch mitigation methods for pelagic longline fisheries in the light of the review of CMM 2018-03

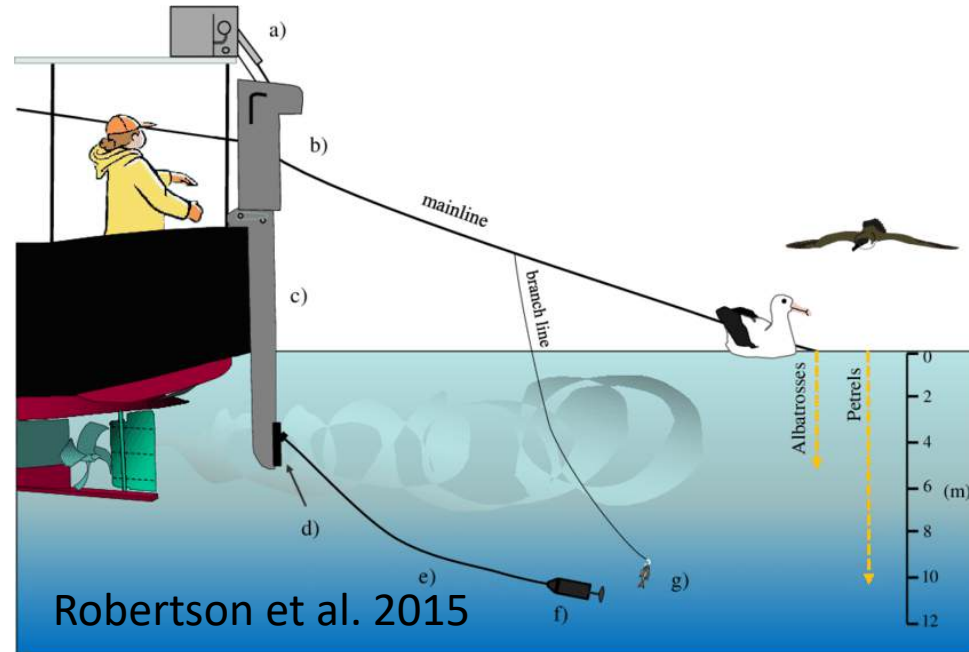
WCPFC-SC20-2024/EB-WP-11

Dispositivo de colocación de cebo bajo el agua

Underwater bait setting device

Device deploys baited hooks enclosed in a capsule, vertically down a track fitted to the fishing vessel's transom to eliminate any visual stimulus. The capsule is pulled underwater to a predetermined depth that can be adjusted in response to the dive capabilities of seabirds present.

ACAP – approved as standalone measure
Not currently approved for use in IATTC

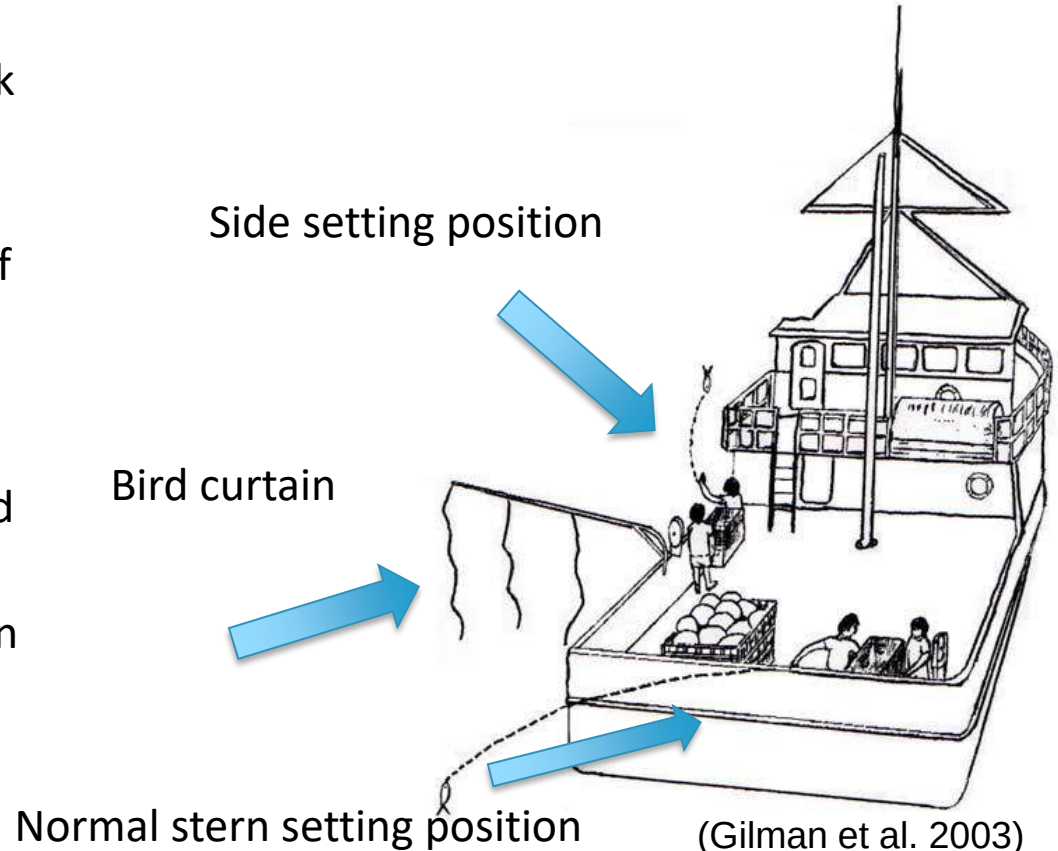


Lances laterales

Side setting

Side setting with bird curtains and weighted branchlines allow baits to sink beyond diving depths before they are behind the vessel

- Only available when fishing north of 23°N
- The IATTC specifications for setting position (distance forward of the stern) and the specifications for bird curtains still need to be developed
- ACAP cautiously recommends this in the Northern hemisphere only



Técnicas de mitigación no recomendadas

Mitigation techniques that are not recommended

- Disparador de línea/Line shooter
- Cebo de color azul/Blue-dyed bait
- Control de despojos/Management of offal discharge



Table 1: Mitigation measures

Column A	Column B
Side-setting with bird curtains and weighted branch lines ²	<i>Tori</i> line ³
Night setting with minimum deck lighting	Weighted branch lines
<i>Tori</i> line	Blue-dyed bait
Weighted branch lines	Deep-setting line shooter
	Underwater setting chute
	Management of offal discharge

Tabla 1: Medidas de mitigación

Column A	Column B
Lances laterales con cortinas de aves y pesos en las brazoladas ²	Líneas <i>tori</i> (espantapájaros) ³
Lances nocturnos con iluminación mínima en cubierta	Pesos en las brazoladas
Línea <i>tori</i> (espantapájaros)	Cebo de color azul
Pesos en las brazoladas	Disparador de línea de calado profundo
	Canalero de salida de despojos
	Control de despojos

Mejores prácticas de manipulación y liberación (MPML)

Best Handling and Release Practices (BHRP)

- No one measure or combination of options is perfectly effective – so ensuring fishers are trained in the use of approved BHRP will improve survival rates
- EB-03-06 provides seabird BHRP for fisheries under IATTC purview for CPCs to consider including in the seabird Resolution

COMISIÓN INTERAMERICANA DEL ATÚN TROPICAL
GRUPO DE TRABAJO SOBRE ECOSISTEMA Y CAPTURA INCIDENTAL

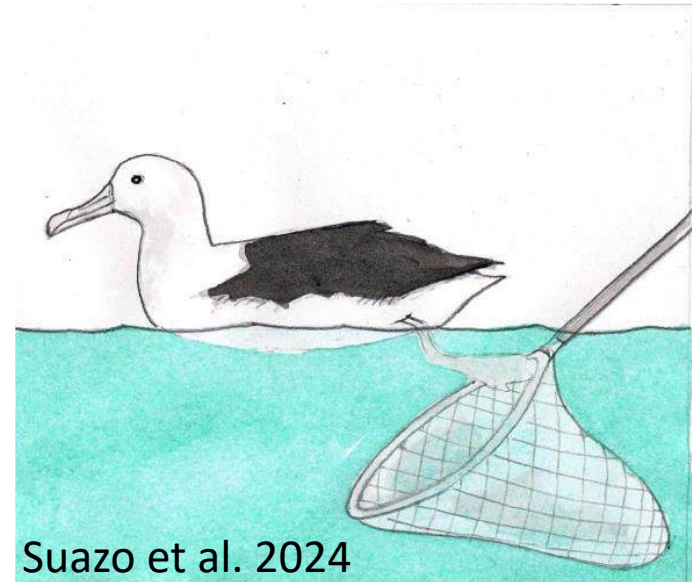
3ª REUNIÓN

La Jolla, California (EE. UU.)
26-27 de mayo de 2025

DOCUMENTO EB-03-06

DIRECTRICES SOBRE MEJORES PRÁCTICAS DE MANIPULACIÓN Y LIBERACIÓN DE
AVES MARINAS

Melanie Hutchinson y Jon Lopez



Conclusiones y recomendaciones

Conclusions and recommendations

Notificación de las técnicas de mitigación utilizadas por los CPC de la CIAT:

Debería desarrollarse y adoptarse un formato de notificación estandarizado para los requisitos descritos en la resolución [C-11-02](#) con el fin de ayudar a los CPC a cumplir con sus obligaciones de implementación de los requisitos de mitigación de captura incidental de aves marinas y proporcionar claridad sobre los aspectos científicos y de cumplimiento de las especificaciones técnicas y la eficacia de las medidas de mitigación utilizadas.

Reporting of mitigation techniques in use across IATTC CPCs:

A standardized reporting format for the requirements outlined in Resolution C-11-05 should be developed and adopted to better assist CPCs with meeting their obligations of implementing seabird mitigation requirements and to provide clarity for the scientific and compliance aspects of the technical specifications and efficacy of utilized mitigation measures.

Conclusiones y recomendaciones-Opciones de mitigación de la captura incidental de aves marinas

Conclusions and recommendations-Seabird bycatch mitigation options

Al pescar en áreas de alto riesgo de captura incidental de aves marinas (Anexo I, C-11-02), todos los buques deben utilizar al menos una de las opciones que se indican a continuación (A, B, C o D [solo puede aplicarse si se pesca al norte de 23°N]) siguiendo las especificaciones aprobadas para cada medida:

A. Para los buques grandes (>20 m), utilizar al menos dos de las siguientes medidas combinadas;

para los buques medianos y pequeños (<20 m), utilizar al menos una de estas medidas:

- i. Pesos en las brazoladas;
- ii. Lances nocturnos;
- iii. Líneas espantapájaros (líneas tori); o

B. Dispositivos protectores de anzuelos; o

C. Un dispositivo de colocación de cebo bajo el agua; o

D. Lances laterales con cortina de aves y pesos en las brazoladas⁴

Fuera de las áreas de alto riesgo de captura incidental de aves marinas, se recomienda a los CPC que empleen una o más de las opciones de mitigación de captura incidental de aves marinas enumeradas anteriormente (A-D).

While fishing in high-risk seabird bycatch areas (Annex I, C-11-02), all vessels must use at least one of the options below (A, B, C, or D [can only be applied if fishing North of 23°N]) following the approved specifications for each measure:

A. For large vessels (>20 m) use at least 2 of the following measures in combination, for medium and small vessels (<20 m), use at least 1 of these measures:

- i. Weighted branchlines;
- ii. Night setting;
- iii. Bird Scaring Lines (Tori lines); or

B. Hook-shielding devices; or

C. An underwater bait setting device; or

D. Side setting with a bird curtain and weighted branch lines⁴

Outside the high-risk seabird bycatch areas CPCs are strongly encouraged to employ one or more of the listed seabird mitigation options (A-D).

Conclusiones y recomendaciones

Conclusions and recommendations

Examen de las exclusiones y el alcance de la resolución C-11-02

La resolución [C-11-02](#) excluye ciertas áreas y pesquerías del empleo obligatorio de medidas de mitigación de la captura incidental de aves marinas (ver, por ejemplo, el Anexo I de la res. [C-11-02](#)). Del mismo modo, la resolución [C-11-02](#), que se refiere a la conservación de las aves marinas en general, parece centrarse principalmente en la reducción de los impactos de la pesca sobre los albatros y los petreles, mientras que otras especies como las pardelas (*Procellariidae*), las fregatas (*Fregatidae*), los charranes (*Laridae*), las aves del trópico (*Phaethontidae*) y los bobos (*Sula*) y sus hábitats pueden pasarse por alto ([EB-03-02](#)).

Por lo tanto, tomando en cuenta la experiencia e información recopilada en los 14 años transcurridos desde la adopción de la resolución [C-11-02](#), el personal de la CIAT recomienda a la Comisión:

Revisar la resolución [C-11-02](#), en particular su definición de las exclusiones espaciales y de pesquerías, así como el alcance de las especies abarcadas, y considerar actualizarla con miras a mejorar su claridad y los resultados deseados para la conservación de aves marinas en el Área de la Convención de la CIAT.

Examination of the exclusions and scope of C-11-02

Resolution C-11-02 excludes certain areas and fisheries from mandatorily employing seabird bycatch mitigation measures (see, for example, the Annex I in C-11-02). Similarly, Resolution C-11-02, which refers to seabird conservation in general, seems to mostly focus on reducing fishery impacts on albatrosses and petrels, while other species like shearwaters (*Procellariidae*), frigatebirds (*Fregatidae*), terns (*Laridae*), tropicbirds (*Phaethontidae*), and boobies (*Sula*) and their habitats may be overlooked (EB-03-02).

Therefore, taking into account the experience and information gathered in the intervening 14 years since the adoption of Resolution C-11-02, the IATTC staff recommends the Commission:

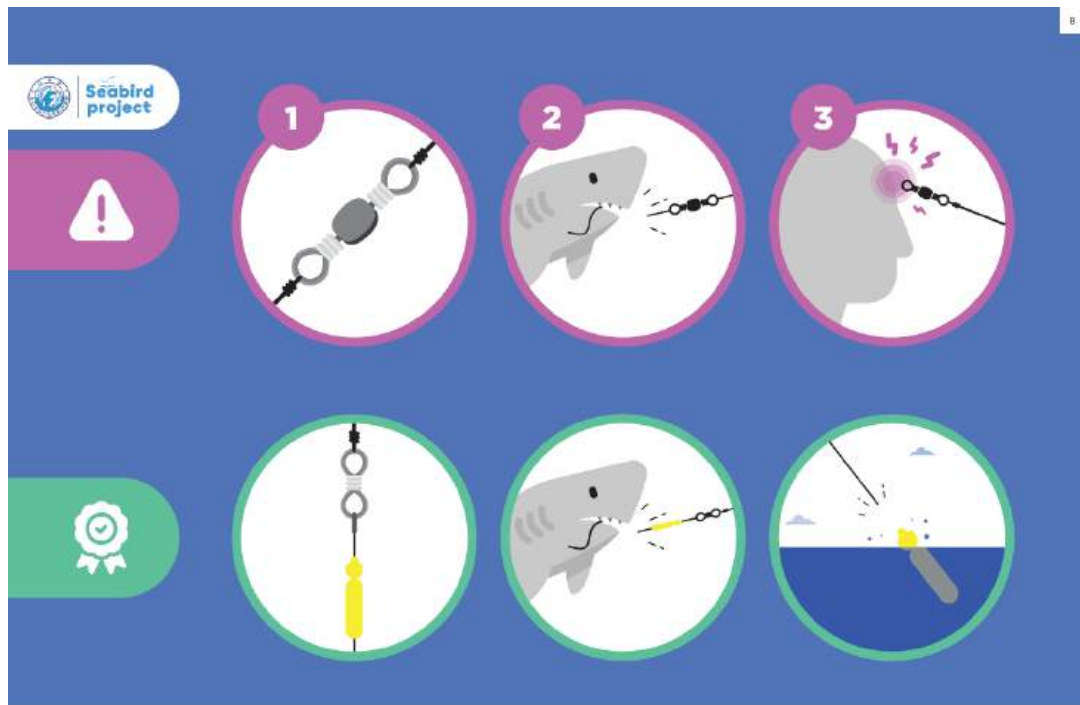
Review Resolution C-11-02, in particular its definition of the spatial and fisheries exclusions, as well as the scope of the covered species, and consider updating it with a view at improving its clarity and the intended seabird conservation outcomes in the IATTC Convention Area.

Preguntas – Questions?



Reducing the risk of injury from 'fly-backs'

- Solutions
 - Safe leads
 - Lumo leads



Examples of design elements for the bird curtain. Modified from Gilman et al. (2003) and Brothers and Gilman (2005).

