Project proposal for enhancing education on and implementation of Ecologically Related Species seabird measures within CCSBT fisheries- for non-FAO funding.

CCSBT/BirdLife International

Background

Members of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), with support from BirdLife International and the CCSBT Secretariat, have developed this project proposal for enhancing the implementation of Ecologically Related Species (ERS) conservation measures in CCSBT fisheries. The project proposal includes outreach, training and further development of systems to verify onboard implementation of the ERS measures. The proposal has been developed in response to a recommendation from the 2018 meeting of CCSBT's Compliance Committee (CC13 paras 101 and 111).

CCSBT Members include some that are eligible to receive funds from the Global Environment Facility (GEF) and and others that are not eligible to do so. Therefore, in order to deliver CCSBT-wide implementation, the project has been developed with the purpose of seeking two streams of external funding. This proposal is intended to secure other (non-GEF) externally-sourced funding that matches the GEF funds, and serves to support activities of CCSBT Members that are not eligible to receive funding from the GEF.

The other proposal is a project concept within the FAO-GEF Common Oceans 2 project proposal "*Sustainable management of tuna fisheries and biodiversity conservation in the areas beyond national jurisdiction*", in particular Project Component 3 "Reducing environmental impact of tuna fisheries" and its Project Outcome "*Appropriate mitigation techniques are widely and effectively applied to minimize impacts to bycatch species*".

Development of project concept

An initial outline proposal was discussed at the meeting of the CCSBT Ecologically Related Species Working Group (ERSWG13) in early 2019. The proposal was further developed by an intersessional group involving CCSBT Members, BirdLife International and the CCSBT Secretariat. An updated proposal outline was submitted to the meeting of the CCSBT Compliance Committee and CCSBT Commission meeting in October 2019 and was approved and adopted as Attachment 12 in the CCSBT Commission meeting report.

Project Concept

Partners	• CCSBT Members[1]: ○ Japan ○ Fishing Entity of Taiwan ○ Republic of Korea ○ South Africa ○ Indonesia ○ New Zealand ○ Australia

[1]Excluding EU

	• BirdLife International • Agreement on the Conservation of Albatrosses and Petrels (ACAP) • Ocean Outcomes
Links to other programmes of work	• Activities underway in each of the five tuna RFMOs to reduce seabird bycatch • Activities underway by each of the CCSBT Members to improve implementation of seabird bycatch mitigation measures • Activities underway by each of the CCSBT Members which will benefit from additional access to resources, increasing knowledge-sharing and a collaborative working approach between CCSBT Members • Work/Discussions underway on Electronic Monitoring (EM) systems for broader purposes (not only seabird bycatch) in other RFMOs
Objective	To reduce seabird bycatch in CCSBT fisheries through educational outreach, capacity-building, and technical innovation to enhance the implementation and monitoring of the functional deployment of seabird bycatch mitigation measures by CCSBT Members.
Rationale/ Global Environmental Benefits	**Rationale/Environmental benefits:** Albatrosses are the most threatened group of seabirds in the world. Fifteen of the 22 albatross species are considered threatened with extinction on the IUCN Red List. Bycatch in pelagic longline fisheries globally is a key conservation threat to these species in both domestic fisheries and Areas Beyond National Jurisdiction (ABNJ). Successive meetings of CCSBT's Ecologically Related Species Working Group (ERSWG) have confirmed that the level interaction between seabirds and Southern Bluefin Tuna (SBT) fisheries has remained at a high level and is a significant concern. Observational data reveal that the pelagic longline fleets belonging to CCSBT Members (in relation to both their CCSBT longline fleets and their fleets operating in other tuna RFMOs) represent 80-90% of total longline fishing effort overlapping with albatrosses in Areas Beyond National Jurisdiction (ABNJ) in the Southern Hemisphere. Binding requirements for seabird bycatch mitigation are in place in all five of the tuna RFMOs. These impose strict requirements to use mitigation measures to reduce the bycatch of seabirds, particularly albatrosses. Through its *Resolution to Align CCSBT's Ecologically Related Species measures with those of other tuna RFMOs* (2019), CCSBT obligates its Members to use the seabird bycatch mitigation measures for longline fisheries that are required by the IOTC, WCPFC and ICCAT. These requirements are set out in: • IOTC Resolution 12/06 On reducing the incidental bycatch of seabirds in longline fisheries; • WCPFC Resolution 2018/03 Conservation and Management Measure to mitigate the impact of fishing for highly migratory fish stocks on seabirds • ICCAT Recommendation 07-07 on Reducing Incidental By-Catch of Seabirds in Longline Fisheries; • ICCAT Supplemental Recommendation 11-09 on Reducing Incidental By-Catch of Seabirds in ICCAT Longline Fisheries The CCSBT ERSWG has advised that the effective implementation of bycatch mitigation measures should be further promoted. In 2018, CC13 agreed that

	CCSBT Members, BirdLife International and the Secretariat should work together to develop a project involving both outreach/education and verification of compliance in the proper use of seabird bycatch mitigation measures, and to seek external funding for that proposal (CC13 paras 110-111). The first global assessment of seabird bycatch in tuna fisheries operating south of 20°S, the Spatially Explicit Fisheries Risk Assessment, estimated that ca. 36,000 seabirds were bycaught each year (based on 2016 data) (CCSBT-ERS/1905/23).The assessment identified data gaps, and sources of bias and uncertainty in the data that were available (concerning observer data, seabird density distribution data, fishing effort data, and deployment of mitigation measures) that affected the estimate of the number of seabirds that were bycaught each year. With legal and technical aspects in place, effective implementation of bycatch mitigation measures requires: (1) further education and outreach to industry, (2) capacity-building among onboard observers and compliance officers, and (3) development of systems to monitor vessel-level implementation of seabird bycatch mitigation approaches. CCSBT Members include those with important global longline fleets, which operate within CCSBT fisheries and also the jurisdictions of the other tuna RFMOs (WCPFC, IOTC, ICCAT, IATTC). The project approach is that progress among CCSBT Members will also lay important groundwork for future progress to be made in seabird bycatch reduction in the other tuna RFMOs.
Existing Baseline and Proposed Increment:	**Existing Baseline:** The Global Seabird Bycatch Assessment provides a global assessment of seabird bycatch associated with tuna fisheries operating south of 20°S. This work was completed through collaborative work under the first Common Oceans project and used 2016 observer data combined with a range of analytical approaches (CCSBT-ERS/1905/23) to estimate seabird bycatch in pelagic long-line fisheries. The report estimated that approximately 36,000 seabirds (mostly albatrosses) are bycaught per year south of 20°S. This suggests that global tuna fisheries (cumulatively) are responsible for the highest ongoing bycatch of albatrosses worldwide, and are a driver of the continued decline of nine of the 22 species of albatross. **Proposed increment:** The proposed metrics of change will be evaluated annually in the national reports to CCSBT and in a final assessment at the end of the project timeframe. The proposed metrics are: a) demonstrated regulatory required compliance of seabird bycatch mitigation measures, verified by data obtained from adequately trained observers, port inspections and/or electronic monitoring; b) bycatch identification to species level for at least 90% of reported bycatch (seabirds) that may be achieved through observer identification OR from photographs or feather samples taken on board for later identification, and c) a reduction of estimated captures, excluding cryptic mortality fully taking into account the compatibility of estimation methodology with the previous estimation.
Context (i.e. any activities already underway)	The seabird bycatch element of the FAO Common Oceans ABNJ Tuna 1 project, coordinated by BirdLife International, conducted jurisdictional awareness-raising about the required use of seabird bycatch mitigation measures. This has occurred across a number of CCSBT Member fleets, along with observer training. This work (the seabird bycatch component of the FAO Common Oceans ABNJ Tuna 1

	project) has also provided support for enhancing collaborative efforts undertaken to derive the global seabird bycatch estimate for the area south of 20°S. Pilot studies conducted elsewhere, and by RFMO members, have investigated the application of vessel-based cameras for Electronic Monitoring of compliance with seabird bycatch measures. Australia already have 100% Electronic Monitoring observer coverage on their SBT longline vessels. New Zealand is currently conducting limited trialling of a prototype of an Electronic Automated Reporting System (EARS). The system uses a combination of sensors for detecting use of bird-scaring lines, Radio-Frequency Identification Devices (RFIDs) for detecting use of line weights, and GPS data for detecting vessel position and use of night setting, with the aim to confirm proof of concept for a low-cost monitoring unit for high seas vessels. In South Africa BirdLife's Albatross Task Force team are currently trialling a bird-scaring line use sensor. An analysis by BirdLife/Global Fishing Watch using Global Fishing Watch's data (CCSBT-CC/1810/Info03) described a new method for independent monitoring of fishing where night setting is employed. There is potential for this method to be extended by CCSBT Members to analyse their own VMS data. This project will support the innovation and further development of tools for national analyses of VMS data. The 2018 and 2019 meetings of CCSBT's Compliance Committee and Commission recommended that CCSBT Members, BirdLife International and the CCSBT Secretariat develop a proposal to secure external funds to enhance education and efforts to verify vessel compliance in the proper use of seabird bycatch mitigation measures and thereby actively encourage full implementation of these measures across CCSBT fisheries. BirdLife International, through its Albatross Task Force, engages with pelagic longline, demersal longline and trawl fleets in South Africa, Brazil, Argentina, Namibia and Chile to support fleets to reduce seabird bycatch. Ocean Outcomes (O2) works with commercial fisheries and the seafood industry to develop and implement solutions towards more sustainable fisheries. O2 can faciliatate the incorporation of the improvements envisaged under this project, into a formal Fisheries Improvement Project (FIP) for interested fleets. Importantly, a FIP would provide market-based incentives for companies undertaking improvements, while actively seeking additional funding to reduce the costs associated with implementing new technologies.

Technical Approach:

The project will engage with CCSBT Members to deliver four key elements relating to seabird bycatch and its mitigation: 1) educational outreach, 2) capacity-building of observers and compliance officers, 3) technological innovation to automate remote monitoring systems; and 4) update the global seabird bycatch risk assessment. These actions will help enable CCSBT Members to enhance and monitor the degree of implementation of the seabird bycatch mitigation measures that are required under the existing tuna RFMO seabird Conservation and Management Measures (principally the use of night setting, branch-line weighting and bird scaring lines, and potentially, hook-shielding devices), and evaluate progress towards the goal of reducing seabird bycatch.

CCSBT Members are responsible for ensuring full implementation of Conservation Management Measures, including those for seabird bycatch mitigation, and currently have systems to implement CMMs. This project does not aim to duplicate efforts already taken by CCSBT Members or to create inconsistency with such efforts, rather the aim is to enhance efforts and improve implementation of seabird bycatch mitigation measures. Also, sufficient consultation with relevant flag Member authorities in terms of global COVID-19 pandemic will be conducted for the project implementation.

1. Education and outreach to industry

The project approach will be to enhance existing national systems for education and outreach to the fishing industry (as opposed to one-off expert-led interventions), through consultation with relevant flag Member authorities and participating fleets. Educational information on the requirements for vessels to use seabird bycatch mitigation measures, handling and safe release of seabirds, seabird identification, and practical advice and guidance on the installation, deployment and proper use of the technical bycatch mitigation measures will be provided to training staff, captains and crew. This will facilitate vessel-level implementation of the required seabird bycatch mitigation measures, and bolster national education and outreach programmes to ensure that benefits will continue beyond the lifespan of the project.

The project impact will focus on the Republic of Korea, Japan, and the Fishing Entity of Taiwan, as well as enhancing capacity across all CCSBT Members through sharing of best practice. The CCSBT Members named have existing systems of education and outreach to their fleets but would benefit from further enhancement. Workshops will deliver resources to bolster the named CCSBT Members capacities to deliver outreach and education, and to enhance national programmes by "training-the trainers" on the requirements for vessels to use seabird bycatch mitigation measures, and practical advice and guidance on the installation, deployment and proper use of the technical bycatch mitigation measures, and how to convey this information to the fishing industry.

In addition, this work will improve CCSBT Member outreach and education programmes as a whole through facilitating the sharing of expertise and experience across CCSBT Members using a train-the-trainers approach, and through direct sharing of expertise and experience between CCSBT Members.

Summary of project activities for education and outreach element:

1. External expert(s) visit each CCSBT Member to provide educational information to the agency responsible for outreach on the requirements for vessels to use seabird bycatch mitigation measures, and practical advice and guidance on the installation, deployment and proper use of the technical bycatch mitigation measures. Each Member has at least 1-2 workshops to train-the trainers
2. Each Member then implements the information into their outreach programme for industry
3. Members hold education and training events with industry and report back the effectiveness of the sessions and where necessary further support is given by the experts.
4. Members share information with each other on their experiences and lessons learned

Japan agree with the 'train the trainer' approach described above. The level of involvement by industry and fishers in Japan is dependent on the COVID-19 pandemic sitation. The Fisheries Agency of Japan (FAJ) is interested in officially participating in a training programme (e.g. workshops) to obtain the latest information. However, the FAJ's capacity is limited; the officials are implementing corrective actions for seabirds in CCSBT, whilst coping with other work requiring unusual operations due to COVID-19. Therefore time and resources allocated by the FAJ are dependent on the situation of the COVID-19 pandemic during the project period.

2. Capacity-building to enhance monitoring

The project will, through consultation with relevant jurisdictional authorities, support:

a) Observer training on seabird bycatch mitigation measures, rates of seabird bycatch and seabird identification.

b) Training compliance officers in key ports to increase capacity to monitor the presence of and compliance with seabird bycatch mitigation measures onboard fishing vessels.

The approach will be, through consultation with relevant flag Member authorities, to support enhancement of existing jurisdictional systems for training (as opposed to one-off expert-led interventions), so that impact will continue beyond the lifespan of the project.

The project capacity building elements will focus on the Republic of Korea, Japan, and the Fishing Entity of Taiwan, as well as enhancing capacity across the CCSBT Members through sharing of best practice.

Workshops will be undertaken using a "train the trainer" model to ensure that the Observer Program curriculum is updated to be comprehensive in regard to seabird bycatch mitigation, and that improvements to training will be long-term. Focus will be given to data collection, recording and reporting by observers on vessels and by compliance officers in port.

Summary of project activities for the capacity building to enhance monitoring element:

1. External expert(s) visit each CCSBT Member to provide educational information to the agency(ies)_ responsible for observer/compliance officer training to ensure that the Observer/Compliance Officer Program curriculum is updated to be comprehensive regarding seabird bycatch mitigation and seabird ID. Each Member has at least 1-2 workshops to train-the trainers
2. Each Member then implements the information into their observer programme
3. Members hold training events with observers and report back the effectiveness of the sessions and where necessary further support is given by the experts.
4. Members share information with each other on their experiences and lessons learned

Japan agree with the 'train the trainer' approach and the Fisheries Agency of Japan are interested in officially participating in a training programme (e.g. workshops) to obtain the latest information, but the time and resources allocated by the FAJ are dependent on the situation of the COVID-19 pandemic during the project period.

New Zealand also has concerns around COVID-19 and the ability to travel and have suggested that training may be better provided in an electronic or e-learning manner rather than a specific "event". What members learn from this project could be implemented into members' training. New Zealand has capability in this area and is therefore not interested in partaking in this element of the project. However, New Zealand could share information with other members on experiences and lessons learned.

3. Innovate automated systems to enable fishery managers to monitor automatically vessel-level implementation of seabird bycatch mitigation measures

The project approach will, through consultation with relevant flag Member authorities, involve the fishing industry, fishery managers, and technology innovators to enhance jurisdictional development of systems to enable remote-monitoring of the use by fishing vessels of the required seabird bycatch mitigation measures.

This component of the project will consider how best to integrate the automated systems developed into broader Electronic Monitoring (EM) systems under discussion in other RFMOs, including IOTC and

WCPFC, as well as from the experience of CCSBT Members currently using or trialling EM to monitor seabird bycatch. Previous EM of fishing operations work using onboard cameras has demonstrated effectiveness to independently monitor the implementation of seabird bycatch mitigation measure requirements, when the systems are established with seabird bycatch mitigation in mind. In addition, there is potential for alternative technologies that can operate with lower data requirements that may be more feasible in certain fishery conditions (e.g. where there are extended trips at-sea), or which can enhance existing or planned camera-based systems. This component of the project will consider how best to integrate automated systems developed into broader EM systems under discussion and/or being trialled in other RFMOs.

In addition to cameras, measures with potential for further development include:

- Use of tamper-proof sensors on bird-scaring lines to detect deployment, tension (hence likely aerial extent) and time of use.
- Use of VMS or AIS data to automate monitoring of use of night-setting (potential for concept and initial AIS analysis presented in CCSBT-CC/1810/Info03).
- Use of tamper-proof sensors on winches to monitor time of set and haul.
- Use of RFID tags to detect use of line weights.

Among CCSBT Members, Australia has already established a 100% Electronic Monitoring system for its domestic pelagic longline fisheries. New Zealand has developed an early stage version of an EARS, which is designed to detect and remotely report on the use of seabird bycatch mitigation through monitoring the use of tori lines, line weighting, hook shielding device and night setting. In 2020, New Zealand will undertake further device development and initial at-sea testing of EARS. A protoype device has been consolidated into a small watertight unit (IP68 specification) that transmits kb packets of data via satellite to minimize data transmission requirements. The EARS units will be deployed in limited trials in the domestic fleet as a proof of concept, with the view to expand the units as a low-cost solution for monitoring vessels in the high seas. Both Australia and New Zealand are willing to share information with other members on their experiences and lessons learned.

The project approach will be to support jurisdictional-led technical innovation through CCSBT Member-based workshops. These workshops will be informed by the sharing of expertise and experience across CCSBT Members, and other RFMOs. These approaches will initiate and advance progress toward the widespread use of EM for monitoring the use of bycatch mitigation measures for seabirds within all individual CCSBT Members. In addition, the sharing of experience and expertise across CCSBT Members, together with the regular reporting to/ and feedback from CCSBT meetings, will support development of a sufficiently consistent approach being taken across the CCSBT fishery. The project will also support further development and testing of non-camera technologies, using the outcomes of the pilot EARS project, and other initiatives.

The project will ensure that there is strong communication and interaction with work that is underway by Members of other RFMOs (in particular the West and Central Pacific Fishery Commission- WCPFC and the Indian Ocean Tuna Commission- IOTC) concerning EM systems more broadly, to ensure seabird elements are integrated into these EM technologies, and to avoid duplication and inconsistency and excessive burden on fishing vessels.

Sustainability of outcomes will be achieved via embedding the technical innovations for independent monitoring of fishing operations into existing jurisdictional programmes for EM and reporting. In addition, the project, through its project partners (in particular O2), will engage with fishing industry groups and supply chains to seek to embed seabird bycatch mitigation monitoring in a Fishery Improvement Plan, where possible, which could also provide funding for the EM equipment required, and create an incentive to industry to uptake EM.

Summary of project activities for the technical innovation element:

1. An inception workshop will be held for all Members to share experience and to hear from experts on how EM can be developed and implemented.
2. Expert(s) visit each CCSBT Member to hold a series of workshops to discuss in detail how each Member can begin to use or strengthen existing automated systems for monitoring. Each Member has at least 1 workshop per year.
3. Each Member develops a tailored plan for trialling (where appropriate) their chosen automated systems.
4. Members provide feedback to the other Members on progress, experiences and lessons learned
5. By the project end Members have developed an ongoing plan to continue to increase their capacity for EM.

Japan agree with holding an inception workshop to share information with Members. As with the other elements participation is dependent on the COVID-19 situation. Particularly as participation in Member-by-Member workshops will require intensive consultation with industry and other relevant organizations, which is challenging at this stage in terms of COVID-19 pandemic.

The possibility of holding the inception workshop remotely has been raised by New Zealand if travel is not possible.

4. Update global seabird risk assessment

The Spatially Explicit Fisheries Risk Assessment established a 2016 baseline of seabird bycatch in pelagic longline fisheries south of 20S. A repeat assessment is required in order to monitor progress against the project objective, i.e. to determine if the risk from fisheries to seabird populations has been reduced, particularly of threatened albatrosses. Considerations must be taken to ensure that 1) other factors that affect bycatch levels such as fishing areas, fishing effort, and improvements to observer data (which could lead to increased seabird bycatch detection) are accounted for, and 2) the estimation methodology is comparable to the previous ABNJ one where data of non-CCSBT Members were also utilized.

The project approach will be to repeat the Common Oceans 2016 spatially explicit seabird risk assessment by providing support to national scientists of tuna RFMOs to engage in analysis of their bycatch data through a workshop format similar to the Common Oceans' first estimate, and coordinated through CCSBT. With the assessment methodology already established under the Common Oceans 1 project (together with progress made on building the capacity of national scientists at analyzing their bycatch data, and forming and strengthening collaborations), the cost of the repeat assessment will be significantly lower than the cost under the Common Oceans 1 project.

New Zealand is currently completing an update of the Spatially Explicit Seabird Risk Assessment (SEFRA) that covers the spatial extent of the Common Oceans 2016 risk assessment, with some variation. Tracking and population data, along with improved spatial files from this assessment will be made available by New Zealand and other CCSBT Members for the Common Oceans global seabird risk assessment update.

Budget:	Outline of budget: To be discussed in online pre-Compliance Committee Meeting discussions.

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<tr><td>1. CCSBT project coordinator (new position in the CCSBT Secretariat at 50% time): project management, project coordination, convene and organise workshops and meetings, coordinate ongoing support for technical innovation; seek engagement with the private sector, lead reporting back to CCSBT</td><td>$60k (to make up the shortfall in coordinator costs in the GEF funding proposal)</td></tr>
<tr><td>2. Education and outreach to industry</td><td>TBC</td></tr>
<tr><td>3. Observer/compliance-officer training</td><td>TBC</td></tr>
<tr><td>4. Technical innovation
- National-based workshops, technical innovation experts, materials</td><td>TBC</td></tr>
<tr><td>5. Monitoring uptake of bycatch mitigation measures and reduced albatross bycatch (ideally 2024 and 2026, but at least one workshop in 2024 at $50K)</td><td>TBC</td></tr>
<tr><td>Sub-total for project</td><td>TBC</td></tr>
<tr><td>10% contribution to Program communication and coordination</td><td>TBC</td></tr>
<tr><td>Total project request to GEF</td><td>TBC</td></tr>
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<tr><td>Co-financing:</td><td>Co-financing from GEF is seeking $808k for this project</td></tr>
<tr><td>Next steps:</td><td>CCSBT Members, BirdLife International, and CCSBT Secretariat will review and endorse the project concept at the CCSBT Compliance Committee October 2020.</td></tr>
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