Project proposal for enhancing education on and implementation of Ecologically Related Species seabird measures within CCSBT fisheries- for 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 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*". The second 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.

Development of project concept

An initial outline of this 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
	• BirdLife International

[1]Excluding EU

	• 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.GEF project impact will focus on Indonesia and South Africa, as well as enhancing capacity across the CCSBT Members through sharing of best practice. These fishing entities have asked for support in the form of a 'training-the-trainer' approach. South Africa has an existing system of education and outreach to its domestic and foreign-licensed fleets but this would benefit from further enhancement, particularly in relation to its domestic fleet.

Indonesia established a National Plan of Action for Seabirds (NPOA-S) at the end of 2016 and began its implementation in 2017. However, there has been no assessment to date of the current level of implementation of the NPOA-S. It is Indonesia's priority to assess the current status of NPOA-S implementation and to develop a strategic action plan for further improvements, including in education of the fishing industry.

At least two three-day workshops are planned in Indonesia; the first will aim to complete a gap analysis between current implementation of the NPOA-S and RFMO Conservation Management Measures (CMM) and Best Practice standards, as well as the development of a strategic action plan to improve implementation. The workshop will be attended by representatives of the Indonesian Government, Research Institute, universities, fishing industry, and relevant NGOs.

Dissemination of information on the current implementation of the NPOA-S and the future action plan needs to be widely conveyed to relevant longline industry stakeholders, as Indonesia does not yet have an established system of outreach and education to its fishers. Therefore, the second workshop will aim to raise national awareness of seabird bycatch mitigation measures, by disseminating details of the NPOA-S, RFMO requirements for seabirds, and the details of the action plan aimed at improving implementation of the NPOA-S. The workshop will also be used as an opportunity to solicit feedback from fisheries stakeholders regarding the current extent of seabird bycatch mitigation implementation at sea and obstacles encountered.

Additional workshops will deliver resources to bolster Indonesia's capacity to deliver outreach and education, and to enhance South Africa's 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 will also be conuducted in both Indonesia and South Africa.

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 South Africa and Indonesia.

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

2. Capacity-building to enhance monitoring

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

a) Observer training onseabird 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 Indonesia and South Africa, as well as enhancing capacity across the CCSBT Members through sharing of best practice.

Indonesia has 80 fisheries observers, of which 10 are assigned to longline tuna vessels operating in the Indian Ocean (the IOTC Convention Area and the CCSBT Statistical Area). Indonesia's Observer Program has two agencies; the National Observer Program focusses on monitoring compliance, and the Scientific Observer Program (led by the Research Institute Tuna Fisheries, Bali) collects data for scientific purposes and to comply with reporting obligations of tuna RFMOs. As the NPOA-S was only introduced in 2017 there are several topics yet to be progressed on the observer training curriculum, including seabird bycatch mitigation.

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

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 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 individual CCSBT Members, with a GEF-project focus on South Africa and Indonesia. 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.

Indonesia has a well-established VMS system on vessels 30 GT and above and on all vessels operating on the high seas. The VMS system has been used in the past to mainly monitor vessel activity to combat IUU. A 4-5-day workshop will train VMS data officers, logbook data officers and scientists in using and analyzing VMS data to assess the implementation of night setting for scientific and/or compliance purposes. Following the workshop observers will be deployed on board vessels to collect specific data to test the accuracy of using VMS for night setting detection, and a system to monitor night setting will be established. Indonesia are also willing to conduct trials of new mitigation measures (hook shielding devices), if appropriate.

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.

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.

Indonesia will provide a national report/data exchange for updating the global seabird bycatch risk assessment. This activity will be conducted by several experts from the VMS section, Fishing Port and scientists to analyse and collaborate those data into an integrated reporting system.

CCSBT Members

Budget:

Outline of budget:

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	$250K (total cost is ~$310k USD for three years but some costs will covered by co-funding).
2. Education and outreach to industry	$80K $20K per year for 4 years. Based on estimate of $5K per year to SA including materials; and $10K per year Indonesia for train-the-trainer approach and materials; $20K for sharing of expertise across CCSBT Members
3. Observer/compliance-officer training	$80K $20K per year for 4 years Based on estimate of $5K per year to SA including materials; and $10K per year Indonesia for train-the-trainer approach and materials; $20K for sharing of expertise across CCSBT Members
4. Technical innovation - National-based workshops,	$275K

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<tr><td></td><td><table>
<tr><td>technical innovation experts, materials</td><td>Estimate comprised of:
CCSBT Members initial workshop ($15K); National Workshops (South Africa, Indonesia x 8 each during project @ $10K) $160K; Consultant time for support for technical innovation (150 days over project at ~$350 per day) $52.5K; Travel support for sharing of expertise $20K; Materials $25K

Total 272.5K</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>$50K</td></tr>
<tr><td>Sub-total for project</td><td>$735K</td></tr>
<tr><td>10% contribution to Program communication and coordination</td><td>$73.5K</td></tr>
<tr><td>Total project request to GEF</td><td>$808K</td></tr>
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<tr><td>Co-financing:</td><td>External funding is being sought from grant making foundations (including the David and Lucile Packard Foundation) to support activities related to CCSBT Members that are not eligible for GEF funds. However, co-financing or self-funding by CCSBT Members where viable is also being sought. In total co-funding of approximately $500K USD is required.</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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