



CCSBT-EC/1410/09

Report from the Extended Scientific Committee 拡大科学委員会からの報告

Purpose

目的

To consider the Report of the Nineteenth Meeting of the Scientific Committee (SC19), incorporating the Extended Scientific Committee (ESC).

第19回科学委員会会合（SC19）に付属する拡大科学委員会（ESC）報告書について検討する。

Introduction

はじめに

The Report of the Nineteenth Meeting of the Scientific Committee (SC19) is provided to this meeting as CCSBT-EC/1410/Rep02. The ESC Chair's presentation of this report is provided to this meeting as CCSBT-EC/1410/18.

第19回科学委員会報告書（SC19）は、CCSBT-EC/1410/18として本会合に提出されている。ESC議長による本報告書にかかるプレゼンテーションは、CCSBT-EC/1410/18のとおりである。

The ESC meeting provided advice to the Extended Commission (EC) for management of SBT and in relation to the CCSBT's Scientific research Program.

ESC会合は、SBTの管理及びCCSBTの科学調査計画について、拡大委員会（EC）に対する助言を行った。

(1) SBT Management Advice

SBTの管理に関する助言

The ESC conducted a full stock assessment for its September 2014 meeting and has provided the following SBT management advice to the EC:

ESCは、2014年9月の会合において全面的な資源評価を実施し、以下のとおり、ECに対してSBTの管理に関する助言を行った。

Current stock status

現在の資源状況

The stock remains at a very low state estimated to be 9% of the initial Spawning Stock Biomass (SSB) and below the level to produce maximum sustainable yield (MSY). However there has been some improvement since the 2011 stock assessment and fishing mortality is below the level associated with MSY. The total biomass of 10 year old SBT and above (B10+) relative to initial is estimated to be 7% which is up from the estimate of 5% in 2011. 資源水準は依然として低位であり、初期産卵親魚資源量（SSB）の9%と推定され、最大持続生産量（MSY）の水準を下回っている。しかしながら、2011年の資源評価以降いくらかの改善が見られ、漁獲死亡量はMSYの水準を下回っている。初期資源量に対する10歳以上のSBTの総資源量（B10+）の割合は、2011年の推定値である5%から上昇し、7%と推定された。

Exceptional circumstances

例外的状況

As detailed in Agenda Item 10.1 of the ESC report, it appears that significant levels of unaccounted mortality may have occurred which were not considered in the design of the Management Procedure (MP). If these levels are indeed true, they would amount to exceptional circumstances because the probability of rebuilding under the MP will be well below what was intended by the EC.

ESC 報告書の議題項目 10.1 で詳述されているように、管理方式 (MP) の設計時には考慮されなかった、相当程度の水準の未考慮死亡が発生している可能性がある。もしこうした水準が事実であるならば、MP の下での再建確率が EC が目標とする水準を大きく下回ることから、例外的状況にあることを意味している可能性がある。

The ESC also noted that continuing to follow the MP as proposed does lead to continued rebuilding in the short term even if the circumstances of the hypothesised additional unaccounted mortality are true. Hence, the ESC advised the EC to continue to follow the MP as formulated but, as a matter of urgency, to take steps to quantify all sources of unaccounted SBT mortality. If substantial levels of unaccounted mortality are confirmed, then there will be a need to retune the MP to achieve the EC's stated rebuilding objective. In addition, the ESC advised the EC to take steps to ensure adherence to its TACs.

また ESC は、仮定されている追加的な未考慮死亡量にかかる状況が真実であったとしても、引き続き MP に従えば、短期的には継続的な資源再建につながると考えられることに留意した。このため、ESC は、EC に対し、MP の結果に引き続き従うべきであるが、急を要する問題として、全ての考慮されていない SBT の死亡要因の定量化を進めるべきであると助言した。相当程度の未考慮死亡量が確認された場合には、EC が言明している再建目標を達成するため、MP を再調整する必要がある。さらに ESC は、EC に対し、TAC の順守を確保するための措置を講じるよう助言した。

MP TAC Recommendations

MP TAC 勧告

Based on the results of the MP operation for 2015-17 in 2013 and the outcome of the review of exceptional circumstances in Agenda Item 10.1 of the ESC report, the ESC recommended that there is no need to revise the EC's 2013 TAC decision regarding the TACs for 2016-17. The recommended annual TAC for the years 2016-2017 is 14,647.4 t.

2013 年に行った 2015-17 年に関する MP の結果、及び ESC 報告書の議題項目 10.1 における例外的状況のレビューの結果に基づき、ESC は、2016-17 年の TAC に関する 2013 年の拡大委員会の TAC 決定を修正する必要はないと勧告した。2016-2017 年の各年の勧告 TAC は 14,647.4 トンである。

Other Advice

その他の助言

The ESC recommended to the EC that a Research Mortality Allowance allocation of 5.95 t in 2015 be made to cover mortality associated with approved research projects.

ESC は、EC に対し、承認された調査計画に伴う死亡をカバーするため、2015 年に 5.95 トンの調査死亡枠を配分するよう勧告した。

The ESC drew attention to the suggestions made in **Attachment 5** of its report in regard to further possible initiatives to improve the estimation of any unaccounted mortality in the surface fishery, of catches by non-members, and of (unreported) catches by members by improved market monitoring. The ESC encouraged all countries to make their CDS data and information on market monitoring available to facilitate and improve analyses. However, any items related to the details of individual vessels are not required.

ESCは、市場モニタリングの改善を通じて表層漁業、非メンバーによる漁獲量、メンバーの（未報告の）漁獲量にかかる全ての未考慮死亡量の推定値を改善するために考え得るさらなるイニシアティブに関する報告書別紙5の提案への注意を喚起した。ESCは、全メンバー国に対し、分析を容易化及び改善することができるよう、市場モニタリングに関するそれぞれのCDSデータ及び情報を利用可能にすることを奨励した。しかしながら、個々の漁船の詳細情報に関する事項は何ら必要ではない。

The ESC updated the annual report on biology, stock status and management of SBT that it prepares for provision to FAO and the other tuna RFMOs.

ESCは、FAO及びその他のまぐろ類RFMOに提供するために作成されているSBTの生物学、資源状況、管理に関する年次報告書をアップデートした。

(2) Update of the Scientific Research Program

科学調査計画の更新

The ESC revised its Scientific Research Program (SRP) during its September 2014 meeting and provided a workplan for 2015 (**Attachment A**) together with an indicative workplan for 2015-2017 (**Attachment B**). Costs for the indicative workplan are provided in paper CCSBT-EC/1410/06. The ESC recommended that the EC note the following:

ESCは、2014年9月の会合において科学調査計画（SRP）を改正し、2015年の作業計画（別紙A）とともに2015-2017年の作業計画案（別紙B）を提出した。作業計画案上の費用は、CCSBT-EC/1410/06のとおりである。ESCは、ECが以下について留意するよう勧告した。

- The importance of the close-kin (CK) method for also potentially proving information on key uncertainties in the OM on the Indonesian fishery selectivity, fecundity, and adult mortality for use in the OM.
インドネシア漁業の選択性、繁殖力に関するOM上の主要な不確実性及びOMで使用される親魚死亡量に関する情報を提供し得る近縁遺伝子（CK）手法の重要性
- High priority items for 2015 are 1) further work on the genotyping approaches to inform decisions on the longer-term approach for CK, 2) an expert review workshop on the CK approaches, 3) gene tagging design study, 4) aging of otoliths and 5) continued collection of close-kin samples.
2015年において優先度が高いとされた以下の事項：1) CKにかかる長期的な手法の決定に資する遺伝子型決定手法に関するさらなる作業、2) CK手法に関する専門家レビュー作業部会、3) 遺伝子標識設計研究、4) 耳石年齢査定、及び5) 近縁遺伝子サンプル収集の継続。
- The costs of the SRP will increase over the three years of the program, but the ESC notes that the Performance Review of the CCSBT suggests that the CCSBT costs are extremely low compared to the value of the fishery and that the cost increase for the ESC's proposed 3 year research plan is well justified.
SRPにかかる費用は本計画の三年にわたって増加する見込みであるが、ESCは、CCSBTパフォーマンス・レビューが、CCSBTの費用は漁業の価値に対して極めて低く、ESCが提案した3年間の調査計画にかかる費用の増加は非常に正当なものであると示唆していることに留意している。

Proposed Workplan of the Extended Scientific Committee for 2015

Activity	Approximate Period	Resources or approximate budgetary implications ¹
Continuation of tag recovery efforts.	Tag recovery is continuous.	\$1,000 for tag rewards on the basis that few recaptures are expected to occur.
Provide SBT Stock Status report to the other tuna RFMOs.	Aug - Nov 14	No additional cost
Collation of information on unreported mortalities and categorising this information in accordance with OM "fleets"	Jan - Jun 15	Members
Proposed SRP activities for 2015 (<i>priorities for new CCSBT funded projects are shown in parentheses</i>): <ul style="list-style-type: none"> • Continued collection of close-kin samples (1) • Work on genotyping approaches to inform decisions on long-term approach (2) • Expert review workshop on long-term approach to genotyping • Design study for future gene-tagging studies (3) • Aging Indonesian otoliths² (4) • Scientific aerial survey 	Jan - Dec 15	<ul style="list-style-type: none"> • Close-kin: CCSBT (\$35,000) • Genotyping: CCSBT \$85,000 • Australia (CSIRO) • Design study: CCSBT (\$75,000) • Aging: CCSBT \$15,000 • Survey: CCSBT contribution up to \$800,000
Routine OMMP code Maintenance/Development	Jan-Jul 15	Australia / Consultant 5 days.
CPUE Webinar to review progress of the intersessional CPUE work.	Apr 15	Intersessional work by Japan, Australia, New Zealand, Taiwan, Korea and possibly Indonesia. Three panel days.
Develop requirements for MP review in 2017	Jan – Jul 15	Members
Standard Scientific Data Exchange.	Apr – Jul 15	No additional costs
Evaluation of possible changes in the OM structure	2 day technical W/S immediately prior to ESC (30-31 Aug)	Two panel members, 1 Secretariat staff
Extended Scientific Committee for the 21 st meeting of the Scientific Committee. The meeting will conduct its regular review of: fishery indicators; evaluation of MP meta-rules; specify requirements for the MP review in 2017; and review results of SRP activities.	5 day ESC 1-5 Sep (Incheon, Korea)	ESC Chair, full panel, full interpretation and 3 Secretariat staff.

¹ Where a Member is listed, it is assumed that the Member will cover any associated costs.

² If aging of these otoliths is deferred to 2016, it is assumed that \$30,000 would be spent in 2016 to age an additional year of otolith samples.

Three year workplan for projects to be funded by the CCSBT

(abbreviations: WS=Workshop, Sec=Secretariat Staff, Interp=Interpretation, Chair=ESC Chair, P=Independent Advisory Panel, IE=Invited Expert, P=Participants, Cat=Catering)

		Costs and/or resources required for projects to be funded by CCSBT		
		2015	2016	2017
1	ESC Meeting	5 days, Chair, full panel, full Interp, 3 Sec	6 days, Chair, full panel, full Interp, 3 Sec	6 days, Chair, full panel, full Interp, 3 Sec
2	OMMP Meeting		4 days, 3 Panel, OMMP consultant, Cat for 20 P, no Interp, No Sec	4 days, 3 Panel, OMMP consultant, Cat for 20 P, no Interp, no Sec
4	CPUE Webinar	3 Panel days	3 Panel days	3 Panel days
5	Routine OMMP Code Maintenance / Development	5 Consultant days	5 Consultant days	5 Consultant days
6	Evaluation of possible changes in the OM structure	2 day technical WS, immediately prior to ESC. 2 Panel, Cat for 20 P, no Interp, no Sec		
7	Continued close-kin sample collection ³	\$35,000	\$35,000	\$35,000
8	Scientific Aerial Survey ⁴	Up to \$800,000 ⁵	Up to \$800,000 ⁵	Up to \$800,000 ⁵
9	Aging Indonesian Otoliths ³	\$15,000 ⁶	\$15,000	\$15,000
10	Review of otolith sampling design & age estimation calibration		3 day WS in Bali ⁷ , 2 Interp (whispering), 1 IE ⁸ , Cat for 15 P, no Sec	
11	Design/feasibility study of gene tagging for providing absolute recruitment estimates ³	\$75,000		
12	Pilot gene tagging project for for providing absolute recruitment estimates ³		\$265,000	\$265,000
13	Preparatory work for expert review of which genotyping technique to use for further Close-Kin (see item 14): preliminary calculation of numbers of loci needed in different techniques; lab- and desk-based investigations of Dart genotyping results; preparation of report suitable for non-CCSBT ³	\$85,000		
15	Further locus development and validation (conditional on 13-14) ³		<\$230,000	
16	Process accumulated backlog of close-kin samples (4-6 years), then conduct annual processing for long-term time series. (conditional on 13-14) ³			\$250,000/year (~6 years to process backlog), then \$150,000/year for annual processing
17	Independent estimate of maturity schedule		3 day WS on maturity criteria in Bali ⁷ , Cat for 15 P, no Interp, no Sec + \$70,000 for otolith preparation & reading ³ + \$30,000 - 0.2 FTE for histology reading biologist ³	\$15,000 – 0.1 FTE for experienced statistician ³

³ This work would be conducted by CSIRO under contract to the CCSBT.

⁴ This work would be conducted by the Australian Department of Agriculture and its sub-contractors under contract to the CCSBT.

⁵ \$800,000 is the total cost for this survey. CCSBT is currently contributing \$100,000/year. Australia has paid the remaining amount but has requested full funding from CCSBT.

⁶ If aging of Indonesian otoliths is not funded in 2015, this will add an additional \$15,000 to this item for 2016.

⁷ Venue to be provided for free at Indonesia's Research Institute for Tuna Fisheries.

⁸ from Fish Ageing Services Pty Ltd, Australia.