CCSBT-ESC/0709/08

11. Data Exchange

Purpose

To prepare the data exchange requirements for 2008 and to report on outcomes of intersessional discussion on three data issues that was conducted after SC11.

Draft data exchange requirements for 2008 are provided in Attachment A. These requirements are based on the 2007 data exchange requirements, with some changes where the Secretariat considered appropriate. Changes from the 2007 requirements (apart from minor editorial style changes and incrementing the year) are tracked within the attachment.

During SC11, the Data Exchange Group agreed that the Data Manager should lead intersessional discussion on the following three issues:

1. Provision of catch and effort data in both raised and unraised forms.
2. Improving the provision of data concerning non-retained catches.
3. Confirmation or revision of the method for calculation of the CPUE input data for New Zealand by the Secretariat.

Intersessional discussion was conducted on these issues, but there was no consensus on the first issue. Attachment B provides a synthesis of the intersessional discussion on this issue.

Attachment C provides a synthesis of the intersessional discussion on the second issue. From this discussion, it seems that it will be impractical for all Members to meet the full data provision requirements for the non-retained catch data in the foreseeable future due to a combination of not collecting these data from fishers, insufficient observer coverage for raising data, or SBT discards being too rare for sensible raising. It was thought that there would be increased compliance with these requirements for the 2007 data exchange, but this does not seem to have occurred.

In relation to the third issue, it was agreed that the calculations to be used by the Secretariat for the subsequent release of the CCSBT data CD should be conducted using the same data selection and raising method that the Secretariat used when providing these data for the 2006 data exchange. Further work was also to be conducted in relation to raising the New Zealand charter fleet data. In this respect, New Zealand has progressed examination of its historical data and has adjusted the allocation of catch to its charter and domestic fleets during 1995.

Prepared by the Secretariat

Attachment A

Draft Data Exchange Requirements for 2008

The following table shows the data that are to be provided during 2008 and the dates and responsibilities for the data provision.

Catch effort and size data should be provided in the identical format as that were provided in 2007. If the format of the data provided by a member is changed, then the new format and some test data in that format must be provided to the Secretariat by 31 January 2008 to allow development of the necessary data loading routines.

Data listed in the following table should be provided for the complete 2007 calendar year plus any other year for which the data have changed. If changes to historic data are more than a routine update of the 2006 data or very minor corrections to older data, then the changed data will not be used until discussed at the next SAG/SC meeting (unless there was specific agreement to the contrary). Changes to past data (apart from a routine update of 2006 data) must be accompanied by a detailed description of the changes.

Type of Data to provide[1]	Data Provider(s)	Due Date	Description of data to provide
Raised Length Data	New Zealand	16 Nov 07	Revised raised length data for 1995 to incorporate the reallocation of 23.681t from the New Zealand charter fleet to the New Zealand domestic fleet[2].
CCSBT Data CD	Secretariat	31 Jan 08	An update of the data (catch effort, catch at size, raised catch and tag-recapture) on the data CD to incorporate data provided in the 2007 data exchange and any additional data received since that time, including: • Tag/recapture data (*The Secretariat will provided additional updates of the tag-recapture data during 2008 on request from individual members*); • Reallocation of 23.681t in 1995 from NZ charter fleet to domestic fleet and update of associated raised data sets (raised/official catch, catch at size/age, CPUE Inputs, MP/OM Data)[2]; • Updated Indonesian catch estimates from IOTC[3], and update associated raised catch at age and MP/OM data; and • If agreed at SC12, incorporate Japan's revised fishing effort data for areas 14/15 into Japan's catch and effort data[4]. Update the CPUE inputs file and MP/OM data accordingly (the latter is due to removal of 3 cells that previously had 31 SBT).
Total catch by Fleet	all members and cooperating non-members	30 Apr 08	Raised total catch (weight and number) and number of boats fishing by fleet and gear. These data need to be provided for both the calendar year and the quota year.
SBT import statistics	Japan	30 Apr 08	Weight of SBT imported into Japan by country, fresh/frozen and month. These import statistics are used in estimating the catches of non-member countries.

[1] The text "**For MP/OM**" means that this data is used for both the Management Procedure and the Operating Model. If only one of these items appears (e.g. **For OM**), then the data is only required for the specified item.
[2] See Data Exchange Update e-mail dated 16 May 2007.
[3] See Data Exchange Update e-mail dated 13 June 2007.
[4] See Data Exchange Update e-mail dated 14 June 2007.

Type of Data to provide[1]	Data Provider(s)	Due Date	Description of data to provide
Mortality allowance (RMA and SRP) usage	all members (& Secretariat)	30 Apr 08	The mortality allowance (kilograms) that was used in the 2007 calendar year. Data is to be separated by RMA and SRP mortality allowance. If possible, data should also be separated by month and location.
Catch and Effort	all members (& Secretariat)	23 Apr 08 (New Zealand)[5] 30 Apr 08 (other members, South Africa & Secretariat)	Catch (in numbers and weight) and effort data is to be provided as either shot by shot or as aggregated data (New Zealand provides fine scale shot by shot data which is aggregated and distributed by the Secretariat). The maximum level of aggregation is by year, month, fleet, gear, and 5x5 degree (longline fishery) or 1x1 degree for surface fishery. *It was noted that with the implementation of two new statistical areas (areas 14 and 15), that catch and effort data should be provided with all fishing effort in these new areas regardless of whether SBT were caught (as is done for areas 1-10).*
Historical effort for areas 14 and 15)	~~All members who have fished in areas 14 and 15~~ Taiwan, Korea	~~As soon as possible before SAG8, but see footnote~~[6] ~~if this is not possible~~ 30 Apr 08	The complete historic time series for areas 14 and 15 of all Members needs to be revised to provide full fishing effort in areas 14 and 15. This was to be provided as part of the 2007 data exchange (before SAG8) by all Members who had fished in areas 14 and 15. However, at the time this paper had been prepared, only Japan had provided this information.
Non-retained catches	All members	30 Apr 08	The following data concerning non retained catches will be provided by year, month, and 5*5 degree for each fishery: • Number of SBT reported (or observed) as being non-retained; • Raised number of non-retained SBT taking into consideration vessels and periods in which there was no reporting of non-retained SBT; • Estimated size frequency of non-retained SBT after raising; • Details of the fate and/or life status of non-retained fish.
Research and 'other' mortalities	All members	30 Apr 08	Research mortalities prior to 2001 and any other forms of mortalities up to 2006 that have not been provided as part of the data exchange. Data should be provided at 5*5 by month resolution if available, but otherwise at the best available resolution. This due date was set at SC11. Therefore as at 30 April 2008, Members will have had nearly 20 months to comply with this requirement.
RTMP catch and effort data	Japan	30 Apr 08	The catch and effort data from the real time monitoring program should be provided in the same format as the standard logbook data is provided.

[5] The earlier date specified for New Zealand is so that the Secretariat will be able to process the fine scale New Zealand data in time to provide aggregated and raised data to members by 30 April.

[6] ~~If it is not possible to provide a revised historic time series before SAG8, Members must provide 2 versions of the 2005 and 2006 catch and effort data for areas 14 and 15 in their catch and effort data update. One version must contain effort for areas 14 and 15 compatible with the data provided in the past and the other version must contain full effort for areas 14 and 15.~~

Type of Data to provide[1]	Data Provider(s)	Due Date	Description of data to provide
NZ joint venture catch and effort data at 1*1 spatial resolution	Secretariat	30 Apr 08	Aggregated New Zealand catch and effort data, to 1*1 degrees of resolution instead of 5*5 degrees. The Secretariat will produce and provide these data to Japan only for use in the $W_{0.5}$ and $W_{0.8}$ CPUE indices produced by Japan. *Other members may request approval from New Zealand to be provided with access to these data for necessary analyses.*
Raised catch data for AU, NZ and KR catches	Australia, Secretariat	30 Apr 08	Aggregated raised catch data should be provided at a similar resolution as the catch and effort data. Japan and Taiwan do not need to provide anything here because they provide raised catch and effort data. New Zealand does not need to provide anything here because the Secretariat produces New Zealand's raised catch data from the fine scale data provided by New Zealand. Similarly, the Secretariat will be calculating and providing the raised catch data for Korea (based on raising Korea's catch effort data to its total catch).
Observer length frequency data	New Zealand	30 Apr 08	Raw observer length frequency data as provided in previous years.
Raised Length Data	Australia, Taiwan, Japan, New Zealand	30 Apr 08 (Australia, Taiwan, Japan) 7 May 08 (New Zealand)[7]	Raised length composition data should be provided[8] at an aggregation of year, month, fleet, gear, and 5x5 degree for longline and 1x1 degree for other fisheries. Data should be provided in the finest possible size classes (1 cm). A template showing the required information is provided in Attachment C of CCSBT-ESC/0609/08.
RTMP Length data	Japan	30 Apr 08	The length data from the real time monitoring program should be provided in the same format as the standard length data is provided.
Raw Size Data	Korea	30 Apr 08	Raw length/weight measurement data should be provided by Korea instead of raised length data because Korea does not yet have a suitable sample size to produce raised length data. *However, Korea is encouraged to improve its sample sizes of length frequency data in the future.*
Indonesian LL SBT age and size composition	Australia	30 Apr 08	Estimates of both the age and size composition (in percent) is to be generated for the spawning season July 2006 to June 2007. Length frequency for the 2007 calendar year and age frequency for the 2006 calendar year is also to be provided.
Direct ageing data	All members	30 Apr 08	Updated direct age estimates (and in some cases revised series due to a need to re-interpret the otoliths) from otolith collections. Data must be provided for at least the 2005 calendar year (see paragraph 95 of the 2003 ESC report). The format for each otolith is: Flag, Year, Month, Gear Code, Lat, Long, Location Resolution Code[9], Stat Area, Length, Otolith ID, Age estimate, Age Readability Code[10], Sex Code, Comments.
Tag return summary data	Secretariat	30 Apr 08	Updated summary of the number tagged and recaptured per month and season.

[7] The additional week provided for New Zealand is because New Zealand requires the raised catch data that the Secretariat is scheduled to provide on 30 April.

[8] The data should be prepared using the agreed CCSBT substitution principles where practicable. It is important that the complete method used for preparing the raised length data be fully documented.

[9] M1=1 minute, D1=1 degree, D5=5 degree.

[10] Scales (0-5) of readability and confidence for otolith sections as defined in the CCSBT age determination manual.

Type of Data to provide[1]	Data Provider(s)	Due Date	Description of data to provide
Catch at age data	Australia, Taiwan, Japan, Secretariat	14 May 08	Catch at age (from catch at size) data by fleet, 5*5 degree, and month to be provided by each member for their longline fisheries. The Secretariat will produce the catch at age for New Zealand using the same routines it uses for the CPUE input data and the catch at age for the MP.
Total Indonesian catch by month and % of Indonesian LL catch that is SBT	IOTC/ Secretariat	15 May 08	The Secretariat is to liaise with the IOTC to obtain the required data for 2007.
Global SBT catch by flag and by gear	Secretariat	22 May 08	Global SBT catch by flag and gear as provided in recent reports of the Scientific Committee.
Raised catch-at-age ~~(ages 0 – 30)~~ for the Australia surface ~~and Indonesia spawning ground~~ fisheries~~.~~ **For OM**	Australia	24 May 08[11]	These data will be provided for July 2006 to June 2007 in the same format as previously provided.
Raised catch-at-age for Indonesia spawning ground fisheries. **For OM**	Secretariat	24 May 08	These data will be provided for July 2006 to June 2007 in the same format as on the CCSBT Data CD. In the past, Australia has provided these data (see tracked changes immediately above). However, since the Secretariat is maintaining the Indonesian catch estimates, it would be sensible for the Secretariat to provide the raised catch at age based on the Indonesian age composition percentages provided by Australia.
Total catch per fishery each year from 1952 to 2007. **For MP/OM**	Secretariat	31 May 08	The Secretariat will use the various data sets provided above together with previously agreed calculation methods to produce the necessary total catch by fishery data required by both the Management Procedure and the Operating Model.
Catch-at-length (2 cm bins) and catch-at-age proportions **for OM**	Secretariat	31 May 08	The Secretariat will use the various catch at length and catch at age data sets provided above to produce the necessary length and age proportion data required by the operating model (for LL1, LL2, LL3, LL4 – separated by Japan and Indonesia, and the surface fishery). The Secretariat will also provide these catch at length data subdivided by sub fishery (e.g. the fisheries within LL1).
Catch at Age **for MP**	Secretariat	31 May 08	Cohort slicing by month of the 5*5 raised length data provided by members. The data used is the data for LL1 fisheries only. For LL1 fisheries where raised length data are not available (i.e. Korea, Philippines, Miscellaneous), the Secretariat will use Japanese length frequency data as a substitute in the same manner as conducted when producing the length frequency inputs for the operating model. ~~It was noted that these data would not~~These data are unlikely to be required in 2008. However, in accordance with past practises,~~it was decided that~~ these data should be produced to ensure that they are readily available in case they are required in the future.

[11] The date is set 1 week before 31 May to provide sufficient time for the Secretariat to incorporate these data in the data set it provides for the OM on 31 May.

Type of Data to provide[1]	Data Provider(s)	Due Date	Description of data to provide
Global catch at age	Secretariat	31 May 08	Calculate the total catch-at-age in 2007 according to Attachment 7 of the MPWS4 report except that catch-at-age for Japan in areas 1 & 2 (LL4 and LL3) is to be prepared by fishing season instead of calendar year to better match the inputs to the operating model.
CPUE input data	Secretariat	31 May 08	Catch (number of SBT and number of SBT in each age class from 0-20+ using proportional aging) and effort (sets and hooks) data[12] by year, month, and 5*5 lat/long for use in CPUE analysis.
Tag releases / recoveries and reporting rates. **For OM**	Australia	31 May 08	The RMP tag/recapture data for the period 1991-1997 will be updated for any changed/new data in the database.
CPUE series. **For OM**	Australia / Japan	15 Jun 08	5 CPUE series are to be provided for ages 4+, as specified below: • Nominal (Australia) • Laslett Core Area (Australia) • B-Ratio proxy (W0.5) (Japan) • Geostat proxy (W0.8) (Japan) • ST Windows (Japan) • The number of 1*1 degree fished squares in each 5*5 degree square[13] (Japan) The operating model uses the median of these series.
Aerial survey index	Australia	31 Jul 08	Estimates from the 2007/08 fishing season.

[12] Data restricted to months April to September, SBT statistical areas 4-9, and the Japanese, Australian joint venture and New Zealand joint venture fleets.

[13] Provision of these data is necessary if Members require the Secretariat to verify calculation of the ST Windows CPUE series.

Attachment B

Synthesis of Intersessional discussion concerning
Provision Catch and Effort Data in both Raised and Unraised Forms

Secretariat's Initial Message (9 Nov 2006):
At present, some Members provide catch and effort data in raised form (Japan and Taiwan) and some provide it in unraised form (Australia, New Zealand and Korea). Those who provide the data in unraised form also provide raised catch data (not effort) to the same resolution (Australia), or get the Secretariat to calculate and provide raised catch data on their behalf (New Zealand and Korea).

My understanding of this issue is that when only raised catch and effort data is provided, it is not possible to know how much weight to give that data because the size of the original (unraised) sample is not known. So, I think this is mainly an issue about understanding the degree of raising by Japan and Taiwan and how this changes over time. I vaguely recollect some other problems being mentioned with raised catch effort data, but I do not recollect the details.

The agreed format for catch and effort data in the CCSBT database included a field called "Scaling Factor", the description for this field was:

> "The amount by which a sample weight was multiplied to determine the Weight_Retained. Must be >=1 (1 if no scaling was required), or null if unknown."

If this field was completed to indicate the degree to which the catch was raised, then at least part of this issue would have been addressed. However, this field has not been populated in data provided to the Secretariat.

I propose that our discussion on this issue proceeds as follows: (a) Those Members who would like to have provision of catch and effort data in both raised and unraised forms should provide the initial comments. Please provide your comments by 30 November. I suggest that your comments describe what you think is needed (e.g. would populating the "Scaling Factor" field I mentioned above be sufficient?) and expand/correct my comments above regarding why this is needed. (b) Once we have these comments/proposals, I will ask the other Members to add their comments to the proposal(s). I would like these comments by 5 January. (c) I will then decide how to proceed from there.

Subsequent Comments from Members:

Date	Member	Member's comment
30/11/06	Australia	We think that provision of the data in the form that it is held in, prior to raising by Japan and Taiwan, would be useful. We consider that this would be more useful than just providing scaling factors, particularly if scaling happens together with other bits of processing in one procedure. (Note: the scaling factor option is misnamed (at least) for the Japanese catches which are in numbers not weight.). You also asked for some comments on why these data are useful/needed. These data would be useful for understanding when and where the 'monitored' catches were taken; and in comparison with raised catches, should show where and when the main uncertainties (in the sense of variance) lie. It should also provide a basis for determining appropriate relative weightings for different pieces of data in a modelling context. Whether raised or unraised data should be used depends on what it is being used for, and at the moment it is particularly hard to specify that exactly for each piece of data. This is due to the much larger uncertainty in total catch and cpue data, and by implication, the fact that we would have to revise how the assessment (operating) model can be re-formulated/ improved. The issue of whether to raise data or not is of course pretty central to the whole CPUE standardisation process which is also currently in a state of flux.

		In a broader sense, we consider that a higher priority should be placed on Japan providing further data regarding the historic catch issues identified in the Japanese Market Review, particularly insofar as they would have or could have affected the CPUE. As to the Australian data, effort data submitted essentially covers all effort undertaken, thus there is no need for raising of Australian effort data (logbook coverage is close to 100%). Catch data is raised on the basis of data in the Australian quota monitoring system being more accurate than the logbook data
9 Feb 07	New Zealand	New Zealand provides operational level catch and effort data to the Commission and have 100% logbook coverage of our fleets. We agree with Australia that unraised data should be provided to the Commission and details of how it is to be raised should be clearly documented. It noting this, NZ would be concerned if any member needed to do any major raising of their data.
15 Feb 07	Taiwan	In respect of intersessional data discussion for provision of catch and effort data in both raised and unraised forms, in general, we do not oppose to provide unraised data. However, since the process of our SBT data collection is different from other species, if it can be reached consensus on this issue, we can just provide SBT data.
6 Mar 07	Japan	There is uncertainty if provision of un-raised data will improve the quality of stock assessments. Furthermore, Australian surface fisheries and SBT farming use about a half of the TAC set by the CCSBT, and Australia refuses to provide the CCSBT members with access to growth rates data during farming. Under such circumstances, it is impossible for Japan to provide the CCSBT with un-raised data of Japanese LL, which uses less than 30% of the TAC. Therefore, Japan is not a position to provide un-raised data to the CCSBT at this moment.
9 Mar 07	Australia	Australia has provided accurate catch data in relation to its surface and longline fisheries. These data are independently verified by independent observers and catches are confirmed through other mechanisms including the use of catch disposal records and fish receiver records. Growth rate data for southern bluefin tuna fattened in farms is not relevant to the stock assessment process as the size frequency distribution of the Australian surface fishery catch is estimated before the fish are put into farms. Japan is correct in stating that the current Japanese TAC for southern bluefin tuna represents about 30% of the TAC, however, our the most recent data indicates that historical Japanese catches over the past decade or more were, in some years, in excess of 100% of the global TAC as agreed at the CCSBT and 200% or more of the Japanese TAC. Therefore, a full understanding of the size frequency distribution of the Japanese longline catch is essential to ensure accuracy of any future stock assessment.

Attachment C

Synthesis of Intersessional discussion concerning Improving the Provision of Data concerning Non-Retained Catches

Secretariat's Initial Message (9 Nov 2006):
The 2006 data exchange was the first time that there was a formal requirement to provide data on non-retained catches. I have attached a summary ("NonRetained Catch Summary.doc") of the data provided during the 2006 data exchange and how these data complied with the specified data provision requirements. Unfortunately, no Member fully complied with the specified requirements and the type of data and length of historic time-series provided varied between members.

The non-retained catch data requirements for the 2007 data exchange are the same as for the 2006 data exchange.

For discussion on this issue, I would first like comments from each Member as to whether you can provide the specified information for the 2007 data exchange. If you do not think you can provide all the specified information for the 2007 data exchange, please indicate what you expect to be able to provide and when you expect to be able to provide the remaining components of the specified information (the highlighted cells in the attached non-retained catch summary indicates, for each Member, where the requirements have NOT been met). Please provide your comments by 30 November. I will then circulate these comments and ask whether Members have further comments or suggestions considering the data that is likely to be provided.

Subsequent Comments from Members:

Date	Member	Member's comment
18/11/06	New Zealand	Intends to provide data that meets the actual requirements.
30/11/06	Australia	In relation to the non-retained data, we would certainly like to see improved reporting from all members. The Australian data sent previously complied with CCSBT requirements to the extent possible with the available data. Recently there has been additional observer coverage and we are hopeful of complying fully with requirements but further examination of these observer data is required before we can be certain of this.
30/11/06	Taiwan	According to our catch report record, the discard catches were rare. It is inappropriate for us to use such data to raise number of SBT in which there was no reporting and to estimate size frequency of SBT after raising. Therefore, we could only provide non-retained catch data collected by vessels.
7/12/06	Japan	As we have been told in SC in this couple of years, Japanese logbook sheet has no column to record the number of fish non-retained. Therefore, Japanese catch and effort data has no information of the fish non-retained and we can not provide data of non-retained catches. However, virtually, Japanese fishermen do not release SBT even it was small. We can confirm this by the scientific observer data that all of SBT caught have been retained unless it was severely damaged by such as sharks.

Summary of non-retained catch data provided by Members in the 2006 data exchange

Cells with yellow highlighting indicate where information provision did not meet the requirements.

Requirements of data to be provided (as specified in the 2006 Data Exchange Requirements)	Australia	Japan	New Zealand	Taiwan	Korea
Data provided at year*month*5x5 resolution	Yes	No non-retained catch was reported by fishers in 2004 and 2005. No other information nor Observer information was provided	No year only	No information was provided by Taiwan	Korea has no data on non-retained catches
Number of SBT Reported (R) or Observed (O) as being non-retained	R , O		R, O		
Raised number of non-retained SBT taking into consideration vessels and periods in which there was no reporting of non-retained SBT	No		Yes		
Estimated size frequency of non-retained SBT after raising	No		No		
Details of fate and/or life status of non-retained fish	Yes (life status)		Yes (alive/dead)		
Historic time series of data to be provided in addition to data for 2005	2002+	2004+	1989[14]+		

[14] For observed catches. For reported catches, the supplied time series commences in 2004.