

**REPORT OF THE ELECTRONIC BLUEFIN TUNA CATCH DOCUMENT (EBCD)
WORKING GROUP**

ICCAT Secretariat, Madrid
27-28 January 2011

1. Introduction

2. The EU provided a brief overview of Recommendation 10-11 and proposed implementation schedule of the eBCD system

The EU recalled that the objective of the e-BCD is already reflected in the Rec. 10-11: implement the BCD with an electronic support. For a centralized system, it should be decided whether to outsource the system or have it at the Secretariat (ownership and management). Any decision will entail the amendment of Rec. 09-11.

3. Japan provided a brief re-cap on the eBCD Working Group meetings that took place in the margins of the ICCAT Annual Meeting

Japan recalled the general agreement of the Working Group to install an electronic system and the need to work further together.

4. The Secretariat updated the Working Group on further developments of the Secretariat's electronic BCD system

The Secretariat informed the participants of the expertise needed (in particular for the security issues and the back-up) as well as of the additional work which would require additional human resources within the Secretariat to coordinate the implementation of the e-BCD (integration of current data base). The Secretariat considered that in order to implement the new system it would need external assistance (development and maintenance).

The Secretariat also made a presentation illustrating the traceability complexities of BFT especially in the farming sector (i.e. mixed catches from different BCDs to one cage).

Methodologies to compare the harvested weight with the weight at the size of capture/caging were discussed. Although it was reminded that there is no Recommendation that provides a basis to prevent fish from different catch origins (i.e.: fishing operations identified by its unique BCD number) being mixed in the same cage, except in the case of carry-over and of different CPC origins. It was confirmed that the system would compare harvested weights with the respective captures and/or cagings. This was further discussed under agenda item 5.

The Secretariat presented a possible draft web form for eBCD data input.

5. Brainstorming discussions based on the procedures and issues raised at each step in the BCD chain

5a. ICCAT BCD (eBCD ID generation)

Numbering: every eBCD will receive an auto-generated number as soon as a catch is entered into the system by an operator (vessel, trap or representative). This unique number will continue to exist throughout process. At generation, the eBCD will be in the status "pending validation", and only after CPC validation will it become "final". After this stage, the catch information cannot be altered by the operator. The CPC Authorities however should be able to edit and delete this information if needed.

Number format: the BCD number generated by the eBCD system will stay in the same format, although the dash between the CPC country code and year will be removed (CCYY-123456). The structure would be: “CC”= {ISO-1366 alpha2 country code system}; “YY” = “the last 2 digits of the catching year”; “123456”= “BCD number with 6 digits having always the “zeros” filled in.

When a catch is split, the 'new' sections of the BCD will obtain a new sub-number formed by the original BCD number, a dash, and two letters and a two-number index (e.g. CCYY-123456-CG02, and in the case of harvesting CCYY-123456-CG02-HA01). The following codes could be used for: trade TD, transshipment TS, caging CG, Harvesting HA, etc.

In the case of 'grouped BCDs' (refer to section 5f), a new BCD number could be generated using the farm CPC code. Such BCDs must be generated no later than the date of caging to which the catches and BCDs relate.

The system should keep internally all the BCD links and be able to provide a graphical representation of all related BCDs, either in the form of a flowchart or schematic.

JFOs: in case of catches originating from JFOs, each participating vessel must complete a BCD. This could be done through a designated “JFO” button, assisting in the completion of all BCDs in same JFO, and ensuring that the sum of the allocated catches does not exceed the total weight caught under each fishing operation. The system would be more efficient if there was the facility for BCDs to be ‘grouped’ where the BCD catch entry from the catching vessel would reference all vessels receiving an allocation under the JFO.

The group recommends this in an effort to enhance the functionality of the system and traceability, however this does not constitute an amendment to Recommendations [09-11], [06-07] or [10-04].

5b. Catch information

Regional Observer: the eBCD should allow the observer to sign digitally in the system at the time of capture, caging and harvesting. The observer weight estimate should also be visible on the eBCD [in accordance with the tolerance levels in Recommendation [10-04]. The system will also not allow validation of the farming and/or harvesting section if the number and/or weight estimation by the observer is outside of that margin of tolerance.

As provided under Recommendation 10-04, CPC 'catching' Authorities need to be able to update the quantities reported in the catch section of the BCD following the conclusion of investigation(s) of >10% discrepancy between reported and observed catch no./weight and reported and observed caged no./weight(+ record of mortality).

In the event that internet access is interrupted on a fishing vessel, the observer has no access or the vessel does not have the facility, the system should allow the information to be entered by representative of the observer (observer provider) on shore.¹

Tagging: it should be possible to enter all tag numbers and weights inside the eBCD system (e.g. with a designated button "Tagging input"). In this case, the CPC validation of the catch section is not necessary, so the system should skip this.

By-catch, sport and recreational fisheries given the more distributed nature of these catches, a representative from the CPC (e.g. port authority) and / or the fishing vessel master should be able to register the catch in the eBCD system. By-catch and recreational vessels may not necessarily be in the ICCAT record of vessels, hence will need to be held in a separate vessel list which is automatically generated by the system to allow the entry of by-catch into the system and the required eBCD validation. There could also be a link with the designated port when by-catch is entered into the system.

CCSBT (SBF): a check box for Southern bluefin tuna “CCSBT (SBF)” is needed. Only Catch information and Trade information would be entered.

¹ The same flexibility should be considered for the fishing captain or master.

5c. Trade information for live fish trade

Covered under 5b and 5d.

5d. Transfer information

There was a reluctance to omit coverage of multiple transfers in the BCD. There was a discussion on the role of both the BCD and the ITD (ICCAT Transfer Declaration) the BCD had the objective to demonstrate 'traceability' and the ITD is a record of 'authorisations'. Hence since the catching vessel master has to fill in sections 2, 3 and 4 at the time of capture should allow completion of these sections prior to the validation of section 2 and 3. The master of the tug(s) would then complete a repeated section 4 at the time of each subsequent transfer. If no internet access is available at the tug vessel, this input can be undertaken prior to caging by the tug master / representative or farm operator.

The items "number and weight of dead fish" should be in the system, indicating the dead fish during the transfer from seine net to transport cage.

There was a recommendation by the group to prohibit the 'splitting' of catches before caging/farming in an effort to enhance the functionality of the system and traceability, however this does not constitute an amendment to Recommendations [09-11], [06-07] or [10-04].

5e. Transshipment information

"Position" is no longer necessary since transshipment at sea is prohibited.

This section should allow multiple entries in the case of split/partial transshipments by creating a partial transshipment button.

5f. Farming information

The "number and weight of dead fish" included in section 4 only refers to the time of capture and first transfer. It is therefore necessary to include the same fields in the farming section where mortality from subsequent transfers and caging can be recorded. Apart from control aspects this would also contribute to more precise growth estimates.

In light of the new definitions of 'transfer operations' under Recommendation [10-04] subsequent versions of sections 3, 4 and 6 would need to be completed if fish is moved from one farm to another.

As under Point 5b. if following an investigation the no./weight at the time of caging is more than 10% higher than the no./weight at the time of capture, the catching CPC will decide on the final quota uptake before amending the no./weights in section 2. An alert should be created by the system for quantities in excess of the individual quota of the catching vessel and sent to the farm CPC authorities (in preparation for the release procedures provided under Recommendation 10-04).

If fish are moved from one cage to another within the same farm, a new section 6 should be completed to allow the entry of the new cage number.

For catches originating in the same CPC [but not necessarily caught on the same date], related BCDs can be grouped into one BCD. The 'Grouped BCD' will be issued a new number and the system will contain the references to the originating BCDs and associated catches and transfer. BCD Grouping must be undertaken on catches caged on the same date and into the same cage [same cage number] and generated following validation of section 6. The 'Group BCD' [from Section 6 onwards] will then be treated as one BCD and the system will alert the farming CPC in case that the number of fish harvested is more than that of the caged fish.

Current Recommendations already provides for the physical separation of carry-over from other catches. However, to improve the traceability within the farms it was also discussed to group BCDs related to carry-over in the same way. There was however no agreement due to the expected complexity of this issue (e.g. grouping group BCDs).

Consequently the group recommended different catches and associated BCDs from the same CPC can be grouped together into one BCD prior to caging. This does not however constitute an amendment to Recommendations [09-11], [06-07] or [10-04].

5g. Harvesting information

As in point 5b, a digital secure signing procedure must be developed that allows the BFT-ROP observer to sign in the system.

Lots harvested from BCDs will generate a BCD designation with the two-number index as per point 5a (e.g. CCYY-123456-HA02).

5h. Trade information

As it stands in the paper based BCD programme, an importing CPC can only change CPC of destination not the exporter. It should however be possible in the system for an importer/buyer and/or importing CPC authorities to reset its attribution in the workflow, thus giving back access in the system to the BCD to exporter. As a result, an exporter/seller is able to change the recipient of the BCD/consignment to another importer/buyer.

The list of registered/designated importers should be accessible in the system (e.g. with a drop down box) (such a system exists in the CCAMLR system). For this reason CPC Authorities would need to submit a list to the Secretariat and update on any changes.

Once selected email alerts would be sent to importers concerning the forthcoming consignment facilitating the conclusion of commercial agreements between exporter/importer.

Transportation documentation does not need to be (scanned) associated with a BCD and stored in the system since it only has legal 'value' in hard copy form (although further legal confirmation of this may be required). This is also applicable to trade information for live fish trade.

6. Agreement on the technical design and architecture of the system

Security: The security should be at the database level [system] and not in the BCD item itself. Meaning every login/user should have a password (and not each BCD). The system would dictate on which login/user could have access to a specific BCD or which sections of BCDs.

The login/users rights should be grouped in roles, so that each role combined with the read/write permissions of the different data objects would define the security policy. By this way the 'access rules/rights' could be defined with the required detail (e.g. vessel operator can only access sections 1-4 of its own vessel; validators can only access BCDs of its own flag state; etc.).

The Secretariat will draw up a first matrix of 'access roles'. Examples of roles are vessel master, trap operator, vessel representative, port authority, CPC validators, importer/buyer, exporter/seller, regional observer, CPC administrator, farm operator etc.

This is a complex procedure, for this reason it was suggested to convene a small Task Force to develop the 'access roles' for each actor.

Workflow: The main workflow functionality should be in the eBCD system itself. As soon as a user logs in, he/she will see receive a list of actions that are needed.

On top of this, the system should notify (using emails and based on a predefined list of actions issued after each event) the next actor(s), so they are reminded that follow-up action is needed on their part. These notifications should not contain passwords, only the [list of] BCD numbers that they need to treat.

Non-compliance: Such email alerts can also be sent when the system detects potential non-compliance (e.g. catch is entered in excess that a vessel individual quota). Any non-treatment would also allow the

system to generate a report of such non-compliance to CPC Authorities and/or the Compliance Committee.

Accounts: In order that all access to the system and changes are tracked in detail, every user should have a user/login account. There could be a maximum of:

- 3 accounts per vessel/trap/farm
- 1 per regional observer
- Unlimited (20?) for CPC Authorities (which can designate a series to port authorities).

Subscription: The system could provide two different methods of subscribing new user accounts.

1. There should be a subscription page where an actor provides his/her credentials, and choice of password. The CPC Authorities would then need to validate this account based on the correct allocation of the actors specific 'roles'. Some parts of the subscription form would have non-public elements (e.g. permit number).

2. CPCs shall send to the ICCAT Secretariat or upload directly into the system the [a list of] of entitled users and their respective roles. On storage, the system will automatically generate the user logins and passwords and put that information at the disposal of the authorised CPC users.

The subscription process [including the sending of the lists if option 2.] that includes complete user lists of CPCs authorities, vessels, traps, farms, port authorities should be completed in good time before the fishing seasons (by perhaps 1 March). In accordance with the appropriate Recommendations, amendments and edits should still be possible during the fishing season(s).

Password: the [first] password will be generated automatically by the system, after which the user will be allowed to change it. The password should meet some minimum requirements, e.g. be 8 characters long and contain at least one capital, one small letter and one number. There should be a "lost password" procedure, for which the CPC Authorities could be needed to validate or confirm. Passwords will also expire and will need to be periodically changed (every 3-12 months).

A secondly level of security could be used for the more important actions, such as validations (e.g. a new window would be open requesting users to re-enter the same password or different password before submitting) (e.g. internet banking transfer protocols).

Signatures: On top of the login/password security, the system should provide a second layer of security for administrators, validating persons and observers. For administrators and validators, a secure system should be created with possibly security certificates or tokens. For the regional observers a less heavy procedure is required; they could provide a security code as signature.

Tracking: The system should log all the events (who/when/what login access) and track all the transactions (changes in data), so that every edit can be traced back to the editing account, person and date/time.

Business rules: The system will have a set of automatic validation rules that limit the input of certain data or in other cases generate warnings (e.g. unrealistic entries). It must however not prevent the entry of potentially non-compliant information. In such cases alerts will be sent as per 'non-compliance section' above.

Architecture: The system should be very reliable and provide 24/7 availability to potentially hundreds of simultaneous users.

A feasibility study would best illustrate whether the most cost effective and technical capable solution would be to host the system physically at the Secretariat's premises, or hosted by an IT service provider. Main issues to address: network bandwidth and reliability, power reliability, backup, failover solutions, redundancy protocols and synchronisation procedures.

Interface: the eBCD system should facilitate information coming from electronic logbooks. An interface would therefore be needed to allow the eBCD system to 'communicate' with CPC users (web-service approach).

7. Implementation plan and scope of the eBCD system

It was agreed that a feasibility study before the Commission annual meeting would best illustrate whether the most cost effective and technical capable solution would be to host the system physically at the Secretariat's premises, or hosted by an IT service provider. Main issues to address: network bandwidth and reliability, power reliability, backup, failover solutions, maintenance, redundancy protocols and synchronisation procedures. The Secretariat informed that currently in the premises of the Secretariat secure electricity and ADSL line support could not be provided, requesting substantial upgrades of the IT infrastructure at the ICCAT Secretariat.

8. Technical development and budgetary issues including outsourcing and tendering

Elements of development of the eBCD system as well as the user management system would need to be outsourced (confidentiality aspects). The Secretariat would account for the project follow-up, as well as the redesign of the current database system that will be linked to eBCD system (ICCAT record of vessels, ICCAT record of traps, ICCAT record of farms, ICCAT record of ports, VMS, JFO database...).

The feasibility study could not be performed by the Secretariat itself due to budgetary constraints and committed budget lines under their fiscal budget.

Not all data from the current BCD database should be migrated. Only BCDs that have sections to be completed (carry-overs, frozen BFT) will be copied to the new system. These BCDs will be manually encoded. A proposal would have to be presented to the Commission concerning a cut date between the old and the new system.

In order to get an idea on the project costs, a call for Qualification of Interest or Expression of Interest could be launched. The candidates who prove that they have the technical capacity to finalize the project would then go to the tendering procedure. This would also provide the Secretariat with conceptual ideas and methodologies that they could use to develop an operational prototype prior to the 2011 ICCAT Annual Meeting.

The Secretariat would need to receive the source code of any outsourced development work. If this system would be re-used by other RFMOs, it could even be envisaged to request the development as open source.

A question arose on how CPCs would pay for the system. Would only those CPCs active in the E-BFT fishery pay, only importing CPCs or shared between all CPCs. Alternatively as in CCAMLR a 'user funded system' [for recurring costs] could be envisaged where costs are reclaimed by charging a certificate fee (e.g. 200 Euros) on issuance / import.

The way forward²:

1. Prepare a paper with the description of the skeleton of the system (flows of the system, triggering system of notification, security, etc.),
2. Add an agenda item on the e-BCD for the meeting of the WG of the Future of ICCAT (16 to 20 May 2011) to discuss the consequences of a new system (budget, amendment to Recommendations, etc.) and to be able to prepare the basis for a call for tender,
3. Include before June 2011 an estimate budget in the proposal for the ICCAT budget 2011-2013 that would take into account the development and the maintenance of the e-BCD system,

² This was prepared based on the agreement in the first working group meeting in January 2011 and does not reflect further discussions by the group in July 2011.

4. On the basis of an estimate of the Secretariat, request voluntary funds to cover expenses regarding the Feasibility Study, a working prototype and other initial needs until a budget is adopted for this project by the Commission.
5. Prepare a document for the annual meeting presenting the work undertaken by the eBCD Working Group.