Appendix 5

ICCAT ATLANTIC-WIDE RESEARCH PROGRAMME FOR BLUEFIN TUNA (GBYP) ACTIVITY REPORT FOR 2013 (EXTENSION OF PHASE 3 AND FIRST PART OF PHASE 4)

1. Introduction

The Atlantic-wide Research Programme for Bluefin Tuna was officially adopted by SCRS and the ICCAT Commission in 2008, and it started officially at the end of 2009, with the objective to:

a) Improve basic data collection, including fishery independent data;
b) Improve understanding of key biological and ecological processes;
c) Improve assessment models and provision of scientific advice on stock status.

The total budget of the programme was estimated at about 19 million Euros in six years, with the engagement of the European Community and some other Contracting Parties to contribute to this programme in 2009 and in the following years. The initial year had a budget of 750,000 Euros, the second phase had a total budget of 2.502.000 Euros (against the original figure of 5,845,000 Euros and a revised figure of 3,476,075 Euros), while the third phase had a budget of 1,925,000 Euros (against the original figure of 5,845,000 Euros and a revised figure of 4,417,980 Euros), The fourth phase has a budget of 2,500,000 Euros (against the original figure of 5,195,000 Euros and a revised figure of 3,792,000 Euros).

Phase 1 and Phase 2 activities were jointly committed by the European Community (80%), Canada, Croatia, Japan, Libya, Morocco, Norway, Turkey, United States of America, Chinese Taipei and the ICCAT Secretariat, while in Phase 3 contributions have been requested to China, Algeria, Korea and Tunisia. In Phase 4 the ICCAT Secretariat included also Egypt, Albania, Syria and Iceland among the funders. Some CPCs never provided their contribution. Several private entities provided funds or in kind support; the detailed list is available on http://www.iccat.int/GBYP/en/Budget.htm.

The GBYP activity is supported by a twin programme carried out by NOAA-NMFS, which is focusing the research activities on the western Atlantic Ocean.

2. Coordination activities

Phase 3 activities officially ended on January 19, 2013. Phase 4 officially initiated on 21 January 2013 and will be completed by 20 January 2014.

Six Calls for Tenders were issued in Phase 3, signing a total of 8 contracts. A total of 14 deliverables (periodic reports) were produced in the framework of the EC Grant Agreement. A total of 6 Calls for tenders were issued in the first part of Phase 4, providing 16 contracts so far. The administrative and desk workload behind all coordination duties was extremely heavy. In the last part of Phase 3 and in the first part of Phase 4 of GBYP, the coordination staff participated officially in 14 meetings in various countries. The detailed report is available in document SCRS/2013/144.

A mid-term review of ICCAT-GBYP was carried out in Phase 4 and the report is available on SCRS/2013/178.

3. Steering Committee

The members of the Steering Committee are the Chair of SCRS, Dr. Josu Santiago, the BFT-W Rapporteur, Dr. Clay Porch, the BFT-E Rapporteur, Dr. Jean-Marc Fromentin, the ICCAT Executive Secretary, Mr. Driss Meski, and an external expert, Dr. Tom Polacheck, who was duly contracted.

The activity of the Steering Committee included continuous and constant e-mail contacts with the GBYP coordination, which provided the necessary information. In the last part of Phase 3 and in the first part of Phase 4 the Steering Committee held two meetings (December 12-14, 2012 and September 28-29, 2013), discussing various aspects of the programme, providing guidance and opinions. The SC reports are available on http://www.iccat.int/GBYP/en/scommittee.htm.

4. Data mining and data recovery

The data mining and data recovery activity continued following the objectives recommended by the Steering Committee. A complete and detailed overview of the data recovered so far is now available (see the document SCRS/2013/073 and SCRS/2013/169. Task II data collect by GBYP are now on the ICCAT BFT data base.

In Phase 4, one Call for tenders was issued so far, but contracts are still to be released at the moment of this report. The market and auction data provided to GBYP as a donation in kind will be analysed in the last part of Phase 4.

5. Aerial survey

A study for assessing the feasibility of a large-scale of an aerial survey was conducted in the last part of Phase 3, under the Modelling tasks. This study was extremely important for taking a decision about the activities in Phase 4 and it was decided to carry out an extended survey if a sufficient number of permits will be available.

ICCAT-GBYP issued a Call for tenders and four contracts were awarded. A training course for pilots, professional spotters and scientific observers was held at the Secretariat on 6 June 2013. The survey was conducted in most of the Mediterranean areas thanks to the cooperation of various ICCAT CPCs, but permits were not available for Algeria, Libya, Albania, Montenegro and Syria air spaces. Besides several operational difficulties and constraints and thanks to the strong cooperation of the four Companies in charge of the survey, finally it was possible to get all final reports.

The aerial survey data have been analysed, providing an external contract, and the final report was recently made available (see http://www.iccat.int/GBYP/en/asurvey.htm). The data collected in Phase 4 confirmed the validity of the approach adopted in Phase 1 and 2 and showed an increasing abundance of spawners in most of the areas. At the same time, this last survey was extremely useful for better planning future aerial surveys.

6. Tagging

Thanks to the tags acquired in previous Phases, it was not necessary buying additional conventional tags in Phase 4, while it was necessary to buy a total of 9,845 applicators for double-dart conventional tags and 35 mini-PATs, for carrying out the activities in Phase 4.

6.1 Conventional tagging activity

The tagging activity in Phase 3 was partly reported during the SCRS and the Commission meeting in 2013, because it was completed during the extension period. The final report of the tagging activity is on http://www.iccat.int/GBYP/Documents/TAGGING/PHASE%203/GBYP_TAGGING_FINAL_REPORT_PHASE_3.pdf. The tagging activity in Phase 3 faced several operational problems, mostly due to causes of "*force majeure*" (bad weather, lack of fish at the surface in the selected areas, fishery technical accidents, etc.).

The tunas conventionally tagged in each area in Phase 3 are as follows: 3413 in the Gulf of Biscays (41% double tagging), 1489 in the area of the Strait of Gibraltar (80.4% double tagging); 313 in the Western Mediterranean, including the opportunistic tagging by sport fishers (27.8% double tagging), and 97 in the central Mediterranean Sea. It total, 7,995 conventional tags were implanted, on 5312 bluefin tunas.

The tagging activity in Phase 4 was defined by the Steering Committee on 12-14 December 2012, including tagging by baitboats for juveniles and tentative tagging by purse-seiners for juveniles, by purse-seiners for adults and in traps for adults, in various areas onf the Atlantic and the Mediterranean. The Call for tenders was issued on March 6, 2013 and 5contracts were awarded to four Consortia and one Company.

Even in this fourth year the field activity had some problems, mostly caused by the high level of technical difficulties. At the moment on which this report was set-up, the tagging activity was completed in the Moroccan traps (258 tagged fish, with 46.9% double tagging), in the Sardinian traps (207 tagged fish, with 3.4% double tagging), in the Tyrrhenian Sea by PS (70 tagged fish) and in the Adriatic Sea by PS (1,169 tagged fish, with 41.1 double tagging). Additional 2,579 tunas have been tagged so far in the Bay of Biscay (51.8 % double tagging) and 265 tunas have been tagged in the Strait of Gibraltar (45.7% double tagging); in both areas the activity is still going on.

6.2 Electronic tagging activity

The tagging activities in Morocco, which were conducted thanks to the support of the Moroccan Fishery Authorities, were carried out with a cooperative agreement of the tuna industry, the Moroccan tuna traps, the INRH and the WWF-MedPO.
The electronic tagging activities conducted in Morocco in Phase 2 and 3 (37 adult bluefin tuna were tagged) were submitted to SCRS and the Commission in 2012 and the report is available on http://www.iccat.int/GBYP/Documents/TAGGING/PUBLICATIONS/SCRS-12-143_ICCAT-GBYP_Pop-up_Tagging.pdf. Two further documents were presented during the meeting in Tenerife in May 2013 (SCRS/2013/XXX). Other 7 tunas were electronically tagged in Phase 4 in Morocco.

The results provided by these tags are showing that only a variable percentage of the bluefin tuna spawners arriving in spring to the Moroccan coasts are entering into the Mediterranean Sea, while the others move to various Atlantic areas. Some of the tagged tunas went also to very far areas from where bluefin tuna was not noticed since decades. These results are clearly showing the great interest in going on with electronic tagging activities in the future Phases of GBYP, in order to provide inputs for a more realistic management of the bluefin tuna stocks and populations.

Other 71 mini-PATs have been implanted so far on juveniles in the Bay of Biscay and in the Straits of Gibraltar in Phase 3 and Phase 4, and the results are progressively coming to GBYP. Several premature detachments have been noticed, even if the anchors were improved in Phase 4.

In the last part of Phase 3, it was possible also to implant 38 internal archival tags and so far no one was recovered.

6.3 Tag awareness and tag reporting campaign

According to the recommendations provided by the Steering Committee in all meetings, the GBYP continued the tag awareness campaign, for the purpose of improving the tag recovery and reporting rates. .Thousands of awareness material in 12 languages (posters and stickers) was produced in Phase 3 and distributed im many countries. The details are on http://www.iccat.int/GBYP/en/AwCamp.asp. The tagging awareness campaign is coupled by a tag rewarding campaign strongly recommended by the Steering Committee, including high rewards, special T-shirts and increased annual lottery prizes. It is also considered very important to provide immediate feedback to the tagging teams and the tag recovery person, informing both of them about the history of each tag and this work is continuously carried out by GBYP.

For improving information and awareness about the tagging programme, ICCAT-GBYP is developing contacts with various stake-holders organizations and with journalists. Information on GBYP is now present on various web pages, while some articles on the press have been promoted.

Meetings with ICCAT ROPs were also organized every year, for informing them about the ICCAT-GBYP tag recovery activity and for asking them to pay the maximum attention to tags (including natural marks) when observing harvesting in cages or any fishing activity at sea.

A total of 95 conventional tags, 10 mini-PATs, 3 archival tags and 1 commercial tag from bluefin tunas have been reported to ICCAT-GBYP up to the date, showing a substantial improvement of the total number of reported tags (see detail on document SCRS/2013/177).

7. Biological and genetic sampling and analyses

The activities carried out in Phase 2 and in the first part of Phase 3 have been already reported to the SCRS and the Commission in 2012. All activities for the biological studies in Phase 3 are now available on http://www.iccat.int/GBYP/Documents/BIOLOGICAL%20STUDIES/PHASE%203/Bio_Consortium_FinalReport_GBYP_Phase3.pdf.

An SCRS meeting was organized in May 2013 in Tenerife for reviewing the bluefin tuna biological parameters and the report is available on http://www.iccat.int/Documents/Meetings/Docs/2013-BFT_BIO_ENG.pdf. The results are also on documents SCRS/2013/074, SCRS/2013/080, SCRS/2013/089, SCRS/2013/94, all presented at the Tenerife meeting.

In total, 4,759 bluefin tunas have been sampled in Phase 2 and 3, providing 3,113 otoliths, 2521 spines, 626 gonads, 4,395 muscles/fins, for a total of 10,655 biological samples. 44% of the samples were already analysed so far.

The first results, that can be still considered preliminary, are extremely interesting and very promising:

- genetic analyses shows that there are possibly several sub-population components of the eastern Bluefin tuna stock, including two components in the Mediterranean Sea, but results need to be confirmed by a larger number of samples, extending the sampling to areas which have not been sampled;
- microchemistry analyses showed that stock components are well separated; mixing in the Mediterranean Sea is minimal, but the presence of important percentages of bluefin tuna from different areas in central-North Atlantic and in Atlantic Morocco needs to be much more investigated and checked at least in two other years before having more solid results
- Age-length key (ALK) was improved, using most of the samples; a larger number of samples and cross-checked results are essential for getting more robust correlations.

Samplings are continuing in Phase 4, carried out by all institutions already engaged in tagging activities in the various areas. A call for tenders for both sampling and analyses was issued in 6 March 2013, receiving one offer from a large Consortium of 13 entities and 7 sub-contracted entities, belonging to 13 countries.

8. Modelling approaches

In Phase 3, the activity included the Risk Assessment and two studies to Support the Stock Assessment (a: Statistical conversion of catch-at-size to catch-at-age; b) Data Imputation). Furthermore, it was decided to add a study on the use of Aerial Survey data. Two Calls for tenders and 4 contracts were released in Phase 3. The final reports are available on http://www.iccat.int/GBYP/en/modelling.htm .

A Call for tenders was issued in Phase 4, including three activities: a) quantitative risk assessment, b) a study on statistically based stock assessment methods and, c) development of biological hypotheses for the use within MSE. Two contracts were awarded and the results should be available at the end of Phase 4.

In Phase 4, two meetings were held on modeling: a first one in May 2013 in Tenerife for preparing a first discussion draft document (see: http://www.iccat.int/GBYP/Documents/MODELLING/PHASE%204/tenerife_Modelling.pdf, and http://www.iccat.int/GBYP/Documents/MODELLING/PHASE%204/Tenerife_gbyp-modelling_draft_proposal.pdf) and a second in July in Gloucester, where a detailed planning of bluefin tuna modeling activities have been agreed for the submission to SCRS.

9.0 Legal framework

ICCAT adopted the Rec. 11-06 in its meeting in Istanbul on November 2011, which allows for a “research mortality allowance” of 20 t of bluefin tuna by year for GBYP and for the use of any fishing gear in any month of the year in the ICCAT Convention area for GBYP research purposes. For implementing the recommendation, the ICCAT Secretariat is releasing a circular in each year of GBYP activity.

A total of 61 ICCAT-GBYP RMA certificates have been issued in Phase 3, using a total of 4,332.8 kg of bluefin tuna. A total of 29 ICCAT-GBYP RMA certificates have been issued so far in Phase 4, using 3,530.4 kg of bluefin tuna in 2013 (provisional data).

9. Cooperation with ROP

The GBYP coordination, together with the ICCAT Secretariat, is maintaining and improving the contacts with the ROP observers, for strengthening the cooperation and providing opportunities. The ROPs observers are engaged for directly checking bluefin tuna at the harvesting for improving the tag recovery and reporting and for noticing any natural mark. Specific form were provided to ROPs.

10. GBYP web page

The ICCAT-GBYP web page, which was created in the last part of Phase 1, is usually regularly updated with all documents produced by GBYP; in some cases, due to the huge workload, some sets of documents are posted all together. The updating also includes the budget page, where all contributions (monetary of in kind) are regularly listed, to ensure full transparency. The ICCAT-GBYP web page was recently fully revised and improved.

11. Following activities

The GBYP Steering Committee, the mid-term review and the various GBYP meetings provided a list of recommendations on various issues; several of them are essential for fulfilling the duties. Further recommendations will be provided this year by SCRS and then will be forward to the Commission.

In addition, GBYP considers essential better defining the following points:

a) Evolution of the Atlantic-Wide Research Programme for Bluefin Tuna: according to the current situation, which demonstrated the impossibility to reach the funding level approved by the ICCAT Commission for the various years of the GBYP and, as a consequence, the impossibility to carry out the various activities as originally planned, and the need to have a sufficient number of years for obtaining the necessary results, a programme revision is now necessary, finding the right balance among funding possibilities, research needs and duration. The funding system shall be better defined and improved, in order to ensure the regular development of the activities.

b) Data recovery and data mining: Task II data will be finally included in the ICCAT BFT data base; the few conflicting Task I data must be revised as soon as possible by the concerned CPCs and national scientists. Market and auction data shall be revised and made available to scientists as soon as possible.

c) Aerial survey: it is considered essential continuing the survey on spawning aggregations in selected areas, for providing a trend to be used in models; the prediction model using the SST data should be further developed.

d) Tagging: electronic tagging should be strongly improved, while conventional tagging should be carried out taking advantage of the experiences in Phase 4. The tag awareness activity shall be firmly continued, improving media communication.

e) Biological and genetic sampling and analyses: sampling should be continued, covering the less sampled areas; the analyses of the available samples should be improved; age analyses should be cross checked for validation.

f) Modelling: new additional efforts should be devoted for finding the best approaches for using fishery independent data and innovative approaches for better quantify uncertainties. The proposed plan should be adopted and enforced as soon as possible.

For GBYP Phase 5, the Steering Committee recommended the following activities:

1. Data recovery: it will continue at a much lower intensity, but the analytical work will be more intense. A dedicated intersessional meeting will be necessary.
2. Use of trade and observers data: to be developed.
3. Biological and genetic sampling and analyses: it will be necessary to complete the analyses of the samples already collected and stored, developing sampling in the areas where it was not possible to sample so far.
4. Conventional tagging: it is necessary to ensure a continuation of the activities, while the strategy will be better defined according to the results in Phase 3. Furthermore, scientific tag recapture activities must be carried out.
5. Tag awareness and recovery: must be further reinforced, through the effective support and assistance of national scientists
6. Modelling approaches: more effort will be required in the following years, before the next assessment.

If sufficient budget will be available, then the following activities will be also considered:

7. Pop-up tagging of pre-spawning adults.
8. Pop-up tagging of juveniles
9. Internal archival tagging.

GBYP will continue encouraging and supporting additional research activities carried out by various CPCs.