

ICCAT ATLANTIC-WIDE RESEARCH PROGRAMME FOR BLUEFIN TUNA (GBYP)
GBYP STEERING COMMITTEE MEETING
Madrid 4-5 September 2010
MEETING REPORT

The GBYP Steering Committee meeting was held at the ICCAT Secretariat on 4 and 5 September 2010, with the participation of Dr. Driss Meski, Dr. Tom Polacheck, Dr. Gerald Scott and Dr. Antonio Di Natale (GBYP Coordinator). Dr. Laurence Kell and Dr. Mauricio Ortiz (ICCAT Secretariat) have been invited to the meeting. Dr. Clay Porch joined the Steering Committee on 5 September in the evening. Dr. Meski was nominated chair of the meeting and he welcomed all the participants. After a short introduction, the Agenda was approved with some minor additions (GBYP-2010 Annex 1) and the Coordinator was invited to present his report on the activities carried out in 2010.

The Steering Committee stressed the relevance of the Atlantic-Wide Research Programme for Bluefin Tuna (GBYP) in order to get fishery independent data.

1. Summary and Revision of the activities in 2010

1.1 Coordination activity – Review of the project activities and procedures

The Coordinator provided a summary report of all the activities carried out so far, including the followings:

- a) Coordination activity (internal organization, meetings, monitoring);
- b) Aerial Survey (aerial survey design, emergency adaptation, aerial survey activities, total cost).
- c) Data Recovery (first call for data recovery, second call for data recovery, third call for aerial survey data elaboration, fourth call for west Atlantic data recovery, total cost).
- d) Tagging design advancement (details and cost);
- e) Steering Committee meetings.

The detailed report is attached as GBYP-2010 Annex 2.

1.2 Definition of the GBYP Publication Policy, Editorial and Data Use Rules.

The Coordinator presented the GBYP Publication Policy, Editorial and Data Use Rules (GBYP-2010 Annex 3) officially adopted on March 15, 2010, which are also in agreement with the ICCAT publication rules already enforced and which take into account the scientific needs of the Programme.

1.3 Budget implementation

The Coordinator presented the pre-closing budget at September 3, 2010, which takes into account the incomes (contributions and extra incomes), all the costs already paid and the cost engagement till October 2010 (GBYP-2010 Annex 4).

The Steering Committee discussed in details all the activities carried out since the beginning of the GBYP activities, expressing its appreciation for the strong support provided by the ICCAT Secretariat and the Coordinator's extensive efforts in completing all the activities included in this first year program besides of the very short time available and the various operational difficulties.

The Steering Committee discussed in some detail the aerial survey design with particular focus on ensuring that design is robust to future changes in the spatial distribution of spawning aggregations as a result of environmental variability and increases in the spawning biomass. The Steering Committee emphasized that in its view that the primary objective of the aerial survey is to provide a long term relative index of the spawning stock that can be used in the stock assessment. The Steering Committee noted that it had previously expressed its view that the first year survey needed to be considered as pilot one, which would provide important data for refining the original design and that experience from other fisheries indicated that developing a stable and robust design often required several years. In this regard, it is critical to ensure to the extent possible that any large changes in the index in the future reflects actual changes in abundance and not simply large shifts to or from areas in which no survey is occurring. The Steering Committee recommended that the spatial coverage used in the first year survey be reviewed to ensure that it was adequate to provide a long term robust index. It expressed its view that consideration should be given to the trade-off between enlarging the survey areas and/or the number of areas to improve robustness and decreasing effort in each area by either increasing distances between tracks or decreasing the number of replicates. It was decided to better examine the data from this first year trials as soon as they will be elaborated and available and then evaluate the various design options. This would allow for an examination of the potential bias/variance trade off between the total area surveyed and the precision (CV) of the estimates from reduced effort in each area, The Steering Committee also recommended consulting with specialists in aerial surveys design around the world to further improve the survey in the future. The further details for the near future were discussed under a different item of the agenda.

The Steering Committee noted with regrets the problems created by the lack of cooperation for the aerial survey. Fight permits were not released by some CPCs, preventing the survey to be conducted accordingly with the survey design and the related scientific and statistical needs. The Steering Committee strongly supports the need to propose a recommendation to SCRS and the Commission for CPCs to more actively support and cooperate with the GBYP, with the purpose to limit as much as possible the practical problems encountered during the first year. It recommended that both the ICCAT Executive Secretary and the GBYP Coordinator continue to work together to inform CPCs about the research needs and make the necessary arrangements at the beginning of the year.

As concerns the tagging design, the Steering Committee, after having examined the only bid presented, decided to invite the tender to discuss about possible modifications of the proposal, and that it should be limited to conventional and PIT tagging in the Eastern Atlantic and the Mediterranean. This reflects the need to prioritize the tagging activities in light of the objectives of the GBFY taking into account funding constrains in 2011. The electronic tagging will be included for 2012 if the budget permits. The Steering Committee will also propose the tender to include in the offer the organizations of two 1-day workshops with the major tuna trap owners and tuna purse seiner companies, with the purpose to identify the best possible strategies for tagging, particularly large fish. The tender should also include consultation (possibly through a workshop) with tagging experts on what would be the best and most feasible approach for actually inserting the tags on large fish that were to be released from purse seiners or tuna traps. The tender should also include the provision of a tagging manual of the proposed procedures to be used for tagging and release of fish from the three gear types (bait boat, purse seiner and traps) and for different size fish. Discussions with the proposer were held on 8 September in Madrid. It was the opinion of the Steering Committee that the actual US BFT Programme could cover the needs for the Western Atlantic, while

the electronic tagging will be discussed under a different item of this agenda. The Steering Committee recommends a strict collaboration between GBYP and the US BFT Program, in order to get the best possible results.

The Steering Committee also requested the GBYP Coordinator to make a presentation of the Programme also during the Bluefin Tuna Assessment meeting.

2. Status of the GBYP – Review of General Planning

2.1 Discussion

The Steering Committee considers that the GBYP general planning for the first year was strictly followed and expressed its satisfaction with the large amount of work accomplished so far. The Steering Committee noted that the GBYP is multi-year programme and the potential value of the data to be obtained is dependent upon continuity in the activities over its multi-year time span. The Steering Committee discussed the implications of the uncertain situation of the multi-year budget of the GBYP coming out from the different figures available in various documents (particularly the detailed document prepared for the Commission meeting Marrakesh in 2008 and the presentation by SCRS chair to STACFAD in 2009). The Steering Committee recommends that the ICCAT Secretariat as a matter of urgency issue a circular to all CPCs, reminding the GBYP agreed needs and asking for a clear identification of the contribution to be expected from each CPCs concerned. This information is crucial for planning of effective future activities and effective utilization of the funds received.

The Steering Committee also stresses the fact that the ICCAT observers have critical role in the long term success of the program, particularly with respect to the estimation of tag reporting rates and improving the overall return of rate of tags from recaptured fish. The observers also have a potentially important role in the collection of biological samples for the GBYP. The Steering Committee recommended that the ICCAT Secretariat explore the possibility of improving the operational part of the observer's contract with MRAGG, taking into account these needs. It was also recognized that direct *liaison* between the observers and the individual coordinating the tagging and biological sampling aspects of the GBYP is important both to ensure consistency in the information collected and to ensure that the objectives and needs of the program are appreciated by the observers.

2.2 Priorities and functions of the Steering Committee

The discussion about the priorities and functions of the Steering Committee were mostly focused based on the experience from the first year of activity. The Steering Committee was very helpful in more precisely focus all the various issue and was essential for several decisions to be taken. At the same time, it is clear that it is not always possible to communicate with everybody, because of the various activities carried out by the members. It was decided that it should be likely to pay for the time and for the engagement and this will constitute an additional budget item within the Coordination. At the same time, it was decided to propose the Commission to have a larger Steering Committee, including two external members, to improve the functionality, taking into account more broad views and experiences.

2.3 Contacts and agreements with other CPCs or entities

The Steering Committee confirmed the need to enlarge the cooperation with other CPCs, entities, industry and NGOs, with the purpose to have a larger cooperation and support of the GBYP activities. It encouraged the GBYP Coordinator to increase the number of contacts and propose possible MOUs with industries and NGOs interested in cooperating and contributing to the GBYP, either with funds or in kind support.

Planning of activities for 2011-2012

Being aware of a possible substantial budget reduction for 2011, the Steering Committee used a reduced budget figure for planning the GBYP activities in 2011, but maintained a total budget figure for the period 2011-2012 close to the budget presented top STACFAD in 2009.

a) Coordination

The Steering Committee, on the basis of the activities already carried out and taking into account the increasing activities in the following years, concluded that there was a need for more support for coordination.

a1) need for support staff (TORs)

After this first year of the GBYP activity, it is clear that the amount of working time required by the various activities is much higher than the total working time of the Coordinator, in particular due to administrative activities (preparation of the contracts, controls, administrative correspondence, etc.). The ICCAT Secretariat is currently covering the internal administration duties (secretariat, registrations, accountability, translations, publication of Calls for tenders on the web page, preliminary data analysis to support the Call, etc.), but the administrative activities proper of the GBYP require a further support, particularly in view of the following years developments. The Steering Committee recommended hiring an administrative support (G2-1), and hiring two new professional figures to support the growing scientific activities and to ensure a constant monitoring and reporting of the main research activities. The professionals to be hired should be a P1 (mostly for the aerial survey monitoring and for helping in improving the tag reporting) and a P2 (mostly for monitoring the tagging activities and the biological sampling).

Furthermore, a lump sum for the two external members of the Steering Committee shall be included in the budget, together with increased costs for travels and for the logistic needs of the support staff. The Secretariat overhead shall be increased considerably, taking into account the total budget and the translations and secretary increasing workload caused by the GBYP.

a2) budget

The budget for Coordination is Euro 586,075.00 (including G2, P1&P2 salaries and Steering Committee allowances) in 2011 and 592,696.50 Euro (including G2, P1&P2 salaries and Steering Committee allowances) in 2012

b) Aerial Survey

b1) Objectives: survey on spawners only or also on aggregations of juveniles?

The first aerial survey (2010) was conducted only on spawning aggregations. The Steering Committee recommended that the surveys should continue for the following years

concentrating on spawning aggregations, with the purpose to develop a long term index of the spawning biomass/abundance for use in the stock assessment. Based on experience, aerial surveys are able to provide estimates of relative abundance over time which are useful to detect trends. The Steering Committee noted that it is important to have clarity on the objective of the survey in terms of relative or absolute abundance as this has large implications for the survey design. The Steering Committee discussed the following general questions:

- i. Should the aerial surveys be conducted also on juvenile aggregations? However, this would entail substantial increases in costs and it was not specified in the general Programme. There are also additional methodological and design complications in being able to develop a meaningful aerial survey for juvenile. For these reasons, the Steering Committee did not recommend that the aerial survey be extended to cover juveniles, particularly in light of the limitations in funding. It noted that some countries are requesting funds from other sources to carry out surveys on juvenile aggregations.
- ii. Should aerial surveys be extended to the Gulf of Mexico spawning grounds? They are included in the Programme approved in Marrakech, but the current budget is limited. The Steering Committee considered that such surveys were of lower priority than other activities planned given the overall objectives of the GBYP. Such surveys may be eventually conducted in 2011 and 2012 under the US BFT budget, possibly in strict collaboration with GBYP.

The Steering Committee recommended that future aerial surveys should continue to focus on spawners aggregations, leaving CPCs the freedom to complementary conduct aerial surveys on juveniles or adult surveys in additional areas.

b2) survey strategy and importance of the two alternatives in terms of timing of the survey: having simultaneous surveys in all areas or having area dependent time periods. ?

The Steering Committee discussed about the alternative possibilities. There are arguments both in favour and against. Having good environmental data series that can be used to define spawning periods is important for being able to define area dependent time periods. Also information on the extent that individual fish move between spawning areas is important if an area time dependent approach were to be adopted. Otherwise, a common period should be defined taking into account the total period of spawning in all of the areas to develop a robust design.

b3) intercalibration: specifications.

The Steering Committee noted that in aerial surveys for developing relative abundance indices it is important to be able to standardized the results from different areas and survey platforms for observer and plane effects related to school size and fish size estimates and sighting efficiencies. In terms of sighting efficiency, the main issue in terms of the application of line transects theory to the aerial survey sighting data is differences in probability of detecting schools directly on the track line (the $g(0)$ estimate). This is both dependent upon the characteristics of the plane and differences in observer ability. The Steering Committee noted that this is one reason to attempt to utilize only a single type of aircraft, if possible. Further, planes with a propeller at the front of the plane can be problematical because of the problem in detecting schools in front of the plane. Use of such planes should be avoided if at all possible.

The Steering Committee had decided not to carry out the intercalibration exercise for such purposes in the first year because of the short timeframe available for develop and implement the survey. Instead it recommended that such calibration experiments be conducted in 2011. This involves bring all aircrafts and observers involved in the survey in the same place so that direct comparisons of the estimates of school size and fish size can be made on the same schools by the various observers and the pilots. The problem of how to conduct calibration experiments for differences in sighting efficiencies is a more difficult one to design and needs to be developed and implemented if possible.

The Steering Committee decided to support the Coordinator's request to organize a 2 days training course at the ICCAT Secretariat before the 2011 survey, to improve the consistency among all the staff in implementing the survey protocols. The Steering Committee also recommended hiring a professional figure (P1) within the GBYP Coordination staff to help ensure the consistency of the survey implementation in the various areas. This should involve direct monitoring of the field activities. This includes participating in some flights of each of the survey teams during the course of the annual survey as well as frequent liasoning with the survey personal in terms of implementation issues. The budget for this professional figure is included in the Coordination one.

b4) need to meet some CPCs for preliminary information and agreements

The Steering Committee recognized the need for the ICCAT Executive Secretary and the GBYP Coordinator to hold dedicated meetings well in advance of the surveys and on site with the CPCs in which the surveys are to be conducted and the local Fishery, Civil Aviation and Military Authorities to explain the permit necessities and the scope of the GBYP. It was recommended to provide opportunities for a direct participation in the aerial surveys for local scientists. A recommendation will be forwarded to SCRS and the Commission for providing the necessary support.

b5) issues of secondary sightings

The Steering Committee noted that the occurrence of secondary sightings (i.e. schools that are detected after the plane left the track line to confirm the sighting as adult bluefin and estimate the quantity and size of fish) was common in some of the areas. The number detected could constitute a significant percentage of the total sightings and biomass detected during the survey and this percentage is likely to increase if the spawning stock increases. The Steering Committee noted that how best to deal with these secondary sightings both in terms of the data collection and their incorporation into the overall index is not a straightforward problem. However, it is important that standardized protocols be developed for distinguishing primary and secondary sightings during the surveys. The question of secondary sightings is one question that should be considered by the Workshop proposed under b7 below.

b6) use of an adaptive survey design

As discussed above, two issues with the survey are that the timing and location of spawning in the Mediterranean can vary among years depending upon environmental and other unknown factors and that spawning schools can be highly aggregated. The Steering Committee considered two possible “adaptive” survey strategies for dealing with these issues. The first was having an adaptive time/area window for the survey which would be determined each year based on available environmental data at the beginning of the earliest date for a survey (e.g. wait until the surface temperature was above a certain level in a specified percentage of the total area to be surveyed). The other alternative would be to conduct the survey as a truly adaptive survey in which the amount of survey effort was re-allocated during the course of the survey to allow for the concentration of effort in the higher density areas while ensuring a wide overall coverage. The Steering Committee recommended that consideration should be given to both of these but this needs to be done taking into account the underlying assumptions and ensuring that such designs would be able to provide a robust long term index. The Coordinator mentioned the issue of the difficulty in terms of contracts and flight permits for this adaptive survey design. The Steering Committee considered that this question should be considered by the proposed Workshop in b8 below.

b7) need to adapt the survey design

As noted above, the Steering Committee considered that the first year’s survey to be in many ways a pilot experiment and that there was a need to modify the design based on the information gained in the first year experiment. The Steering Committee considered that the first year survey was successful in this regard and what was learned from the first year experience provides a good opportunity to improve the design. The Steering Committee underlined the importance of ensuring that the design was robust to fluctuations in spatial and temporal distribution of spawning. Consideration needs to be given to enlarging the areas and to find the best balance between the total flight time allowed for by the budget and the number of replicates and the distance between transects. The Steering Committee recommended the GBYP Coordinator to organize a workshop between late January and early February 2011 to improve the current survey design, taking into account the 2010 results and with the focus on a design that is robust for the long term detection of changes in abundance. Prior to the workshop, analyses should be prepared on long term variability in the environmental conditions in the Mediterranean during the spawning season and, for this reason, it was recommended to immediately acquire at least surface temperature data in the last ten years, in a format which is compatible with a GIS software. Additionally, calculations should be performed on how the CV of the survey indices are likely to be affected by changing the distance between transects and the number of replicates based on the data collected during the first year’s survey. The GBYP recommended that these analyses be conducted by the contractor in charge of analyzing the aerial survey data. The Steering Committee also recommended the design workshop include both individuals with first hand knowledge of aerial sighting of adults in the Mediterranean and experts in the design, implementation and analysis of line transect aerial surveys.

b8) budget

The budget for the aerial survey in 2010 was clearly not sufficient to cover the full need of the survey design and the survey design itself was not included. The budget was increased

taking into account the major cost of fuel and flight hour occurred in the first year. The budget figures are 605,000.00 Euros for 2011 (including intercalibration, workshop and training course) and 463,080.00 Euros in 2012.

c) Tagging strategy

c1) objectives and alternative strategies

The tagging activities are considered among the most important of the GBYP as well designed and implemented tagging experiments can provide direct estimates of fishing, natural, mixing and/or abundance for incorporation into the stock assessments. The Steering Committee was aware that the time constraints of the first year were a strong limit for advertising the call for the tagging design and that now is necessary to restudy the tagging strategy. Without a serious and parallel activity to improve the tagging recovery rate and allow for the estimation of reporting rates from at least the major fisheries, even the best possible design will not be able to provide quantitative estimates of mortality, mixing and/or abundance. The Steering Committee endorsed the Coordinator's proposal to include the communication and awareness strategy within the overall design of the tagging experiment. The Steering Committee emphasised the importance of having ICCAT observers in each farm cage and scientific observers in traditional trap at the times of harvest because these observers provide the best opportunity for a complete monitoring of the catches in terms of tag recovery and thus for estimation of reporting rates for a large fraction of the current catches.. The rewards to be provided for return of tags needs careful consideration with suitable adaptation depending on the local situations. The purpose of the rewards is to provide sufficient incentive to ensure high reporting rates. The Steering Committee noted the importance of direct contact with fishermen and the quick provision of reward for motivating them to return tags. The Steering Committee recommended that an individual (P2) with previous experience in tagging experiments be included in the coordination part of the GBYP whose primary responsibility would be to undertake the required liaison work for tag recovery activities. The activity of this person, who will act in strict contact with the GBYP Coordinator, would also entail liaison activity with the ICCAT observers in the farms and traps with respect to data collection required for the tagging experiments. The work of this scientist would entail extensive travel in various countries and the development of the local contacts to improve the reporting system.

c2) conventional tagging strategy (juveniles, pre-spawners, spawners)

The Steering Committee recommended as discussed above that the tagging experiments focus mostly on conventional and PIT tagging in the Eastern Atlantic and the Mediterranean. Ideally the tagging should attempt to cover all the different age classes and conditions, possibly taking advantage also of available fish in traps to be released because of the quota and availability of purse seiners for tagging fish after the close of the fishing season. For smaller fish, pole and line techniques are well known to provide an efficient method with minimal tagging related mortality. With respect to the tagging of large fish, the Steering Committee noted the procedures and methods for the efficient tagging of large number of individuals with conventional and/or PIT tags are not well developed. Developing appropriated techniques will be an important part of the current research program. The Steering Committee recognized the importance of have an individual with extensive knowledge of tuna tagging having the role to monitor the implementation of the tag release

component of the tagging experiment according to the agreed protocols and recommended that such a person (P2) be recruited as part of the coordination activities of the GBYP.

c3) pop-up tagging strategy

Pop-up tagging was originally planned for the second year of the GBYP. The Steering Committee noted that pop-up tags are still presenting several technological limits and the success rate is still low. This is particularly true with respect to achieving long term attachments, which are important relative to the main objectives of the GBYP. Also, the GBYP is facing budget constraints in the second year. For these reasons, the Steering Committee recommended delaying deployment of electronic tags to the third year of GBYP (2012), contingent on sufficient funds be available.

c4) implanted archival tagging

The Steering Committee decided not to recommend the implanted archival tagging at this stage due to budget constraints, low return rates and the potential data they can provide relative to the main objectives of the program during its life.

c5) PIT tagging strategy

The Steering Committee discussed the possibilities and additional information coming from the PIT technology and noted that that further developments might be necessary. It strongly recommended that the use of PITs should be included in the tagging program because of their potential to improve recovery rates and more importantly for their ability to provide quantitative estimates of reporting rates from the farms and traps.,. For this reason, the Steering Committee decided to include PITs in the tagging strategy for 2011 and 2012. PIT detectors should be made available to all ICCAT observers in cages and to scientists monitoring the traps.

c6) budget

The total budget figure for tagging is estimated at 1,000,000.00 Euro (including the rewarding system) in 2011 and at 3,040,000.00 in 2012. The cost for the professional figure required (P2) and related travels is included in the Coordination budget.

d) Communication activities for tag recovery

d1) strategy and budget

This point was discussed within the previous issues and the budget is included in c6).

e) Eggs and Larval survey

e1) objectives

The objective of the eggs and larval survey should be to monitor the evolution of spawning success and the various possible changes in spawning areas in the Mediterranean and the Gulf of Mexico. Some surveys are already carried out in some areas. The Steering Committee decided to postpone the eggs and larval survey campaign by one year because of budget constraints and the priority provided for this activity, leaving 2011 for the survey design and developing the survey in 2012 and possibly in the following years. The design should take into account existing activities.

e2) strategy adaptation: Mediterranean and Gulf of Mexico?

The Steering Committee decided to postpone this decision to a next meeting, waiting for the development of the US BFT Program in the West.

e3) survey strategy and design.

See point e2).

e3) budget

The total budget figure for the eggs and larval survey design is set at 10,000.00 Euro in 2011 and at 670,000.00 Euro in 2012.

f) Biological sampling

The biological sampling is considered a high priority and the Steering Committee recommends that sampling commences as soon as possible. The strategy should be mostly focused on otoliths sampling for micro-constituents analysis in the first year. This will continue in the second year together with genetic sampling.

f1) sampling for age determination: objectives and strategy.

The Steering Committee considered that the objectives of this item are very clearly referred not only to better define the age-length or age-weight correlations for the stocks, but also to improve mixing rate estimates using micro-constituents analytical methodology. The sampling should also take advantage of the sampling opportunities in the Japanese markets and investigate cooperative analytical opportunities with CPCs research institutions already undertaking such work. The Steering Committee suggests identifying in advance some storage places for long term archiving of the samples, possibly in Government institutions able to ensure a long-term storage.

f2) genetic sampling: objectives and strategy.

The Steering Committee decided that it is necessary to get a genetic sampling design (including storage protocols) before going on with the genetic sampling and analysis. The sampling in 2011 should be limited at a minimal level, while it would be increased in 2012, possibly taking advantage of the biological sampling and then reducing the sampling costs.

f3) reproductive biology programme: objectives and strategy

The Steering Committee decided to postpone to the following years the studies on the reproductive biology.

f4) Growing in cages studies.

This issue was not originally included in the GBYP, but the FEAP presented a proposal that was considered as an interesting opportunity of cooperation with industry by the Steering Committee (see point 1). This proposal will be discussed, eventually may be restructured to align with high priority needs of and included in GBYP.

f5) budget

The total budget figure for the biological surveys is set at 1,020,000.00 Euro in 2011 and at 1,163,000.00 Euro in 2012 (pending the growth in cages proposal).

g) Data recovery and data elaboration

g1) data recovery call: strategy

The Steering Committee recommended continuation of the data recovery and data retrieval exercise, particularly for very old data sets (before 1950) and for data concerning fisheries on juveniles. The Steering Committee also stressed the importance to get the data and analyses of these from the Japanese market (particularly from auction of individual fish). The Steering Committee also recommended that a specific call should be released for proposals to provide actual data on the small scale and recreational fishery on juveniles in the Mediterranean Sea,

allocating about 25,000 to 30,000 euro per year in the next two years, because the information on these fisheries is entirely missing in the ICCAT data base. These calls might imply also a job to be done in two years.

g2) VMS data elaboration: strategy

The Steering Committee agreed about the additional information on the most important fisheries which the analysis of the VMS data is potentially able to provide. An external contract (under a confidentiality agreement) could be released.

g3) Aerial survey data elaboration

The Steering Committee agreed about the need to analyse the aerial survey data at the end of each season and present the yearly data to SCRS. The Steering Committee recommends prolonging the contract to the same team contracted in 2010, with the objective to better use the first year experience. Environmental data analysis might corroborate the aerial survey data, trying to find better indices. See discussion on the needs for modification of the aerial survey design above, the proposed workshop and the required preparatory work for this workshop, including the sea surface temperature data elaboration.

g4) Budget

The total budget figure for the data recovery and data elaboration is set at 200,000.00 Euro in 2011 and at 200,000.00 Euro in 2012.

h) Modelling

Operating modelling was considered with a high priority by the Programme in all its versions. The activity was planned to be conducted in 2013, 2014 and 2015, but a revision of this schedule is considered necessary by the Steering Committee, particularly after the most recent analysis.

The total budget per year available for this item is 200,000 Euro and all the activities should be carried out with external contracts.

h1) objectives and strategy

According to the Programme agreed in Marrakech, the aim of this item would be “to invest in the development of methods to improve assessments that incorporate information on mixing and to simulation test management procedures in the face of uncertainty about mixing”. The SCRS 2009 improved the objectives, stating that the aim will be to “Improve the assessment models and provision of scientific advice on stock status through improved modelling of key biological processes (including growth and stock-recruitment), further developing stock assessment models including mixing between various areas, and developing and use biologically realistic models for more rigorous management option testing”. The Coordinator suggests considering also the development or use of models able to take into account the most relevant oceanographic variables, which are able to considerably modify the distribution of bluefin tuna in various areas and, then, to impact on the CPUE and other indices, including fishery-independent ones. The Steering Committee agreed that it is necessary to anticipate this item as much as possible, because of the complex work to be done and suggested to organise a modelling workshop in 2011 (taking advantage of the Working Group on Stock Assessment Methods) and then to begin the modelling activities in 2012. The Steering Committee considers these two years as the transition to a more adequate modelling approach.

This activity needs a strict cooperation between the Secretariat scientific staff and the external contractor(s). The additional Secretariat workload should be taken into account.

h2) budget

The total budget figure for the data modelling is set at 40,000.00 Euro in 2011 and at 200,000.00 Euro in 2012.

i) Milestones and deliverables

i1) milestones – yearly SC and SCRS review and approval

The Steering Committee activity needs to be planned in advance, together with the procedures for the consultation. The Steering Committee agrees to plan a meeting per year, before the SCRS plenary, with the purpose to review the activity done and to agree about the activities and the budget proposal for the following year. The meeting should be always of 2 days.

After the Steering Committee meeting, the GBYP Coordinator will be able to prepare the official GBYP annual report for the SCRS, for the official approval.

Extra Steering Committee meetings may be eventually called as needed, after a previous consultation. The Steering Committee shall be consulted every time there is a substantive issue not fully specified in the annual plan or an issue that should be discussed before taking a decision. The Steering Committee shall be immediately informed about all the Calls for Tenders and the selection of the proposals and eventually consulted on these.

i2) deliverables – GBYP summary reports, GBYP detailed reports, sub-programme reports by tenders, products, PowerPoint presentations, WEB info.

The Steering Committee agreed that the GBYP Coordinator shall annually provide the following deliverables:

- The annual GBYP activity report for the Steering Committee.
- An annotated agenda for the Steering Committee meeting (restricted circulation).
- The Steering Committee annual report.
- The annual GBYP detailed report (after the SC review) as SCRS document.
- The annual GBYP summary report for the inclusion in the SCRS Report and to be presented to the ICCAT Commission. After the approval, the summary report should be available on the web page.
- The reports provided by each contractor, as SCRS documents.
- The contractors shall provide also individual PowerPoint presentation to SCRS.
- The PowerPoint presentation concerning the annual GBYP summary report and the next year activity, to be presented to SCRS and the ICCAT Commission. After the approval, the summary report should be available on the web page.
- An annual planning of the GBYP activities, to be distributed to the SC in December.
- A GBYP institutional PowerPoint, to present the Programme in various for a, when required or necessary, to be updated according to the advancements.

j) Other issues

The Steering Committee also examined the unsolicited proposal for a detailed growth study of juvenile bluefin tuna in Malta. The Steering Committee appreciated the high percentage of

contribution by the industry in the proposal. The Steering Committee decided to take the opportunity of the presence of the responsible of this proposal during the following bluefin tuna assessment meeting to meet him and discuss the proposal with the purpose to get a broader view of bluefin tuna growth rates in cages and possibly to release tagged fish including ones with PIT tags.

The Steering Committee recommended that the GBYP Coordinator to include a lump sum for "Contingencies" in the annual budget, to eventually cover unexpected costs of a complex programme like this. The Contingencies were set at 15,000 Euro in 2011 and 20,000 in 2012.

Due to the need to discuss two proposals to better define the next activities and agree about the final text of the meeting report, the Steering Committee, including Dr. Jean-Marc Fromentin, agreed to meet again during the intervals of the coming ICCAT Bluefin tuna assessment meeting, with the following calendar: September 7, lunch time, meeting with IEO for the tagging design; September 8, in the morning, meeting with FMAP for eventually restructuring the proposal; September 8, dinner time, meeting of the Steering Committee to revise and approve the meeting report. In case of additional issues, further meetings should be decided *ad horas* during the Bluefin tuna assessment meeting.

ICCAT GBYP				
PHASE 2 (2010-2011) AND PHASE 3 (2011-2012) BUDGET				
ALLOCATION	Amount (€)			
	2010-2011	total 2010-2011	2011-2012	total 2011-2012
Coordination		586075,00		597796,50
Coordinator's salary and benefits	142100,00		144942,00	
Suppor staff salary and benefits (G2-1, P1 and P2)	218900,00		223278,00	
Contracts for external Steering Committee members	60000,00		61200,00	
Travel and subsistence	100000,00		102000,00	
Computer hardware and software	10000,00		10200,00	
Consumables and supplies	5075,00		5176,50	
ICCAT Secretariat overhead	50000,00		51000,00	
Data mining, data retrieval and data elaboration (external contracts)		200000,00		200000,00
Data mining and data retrival exercise (including data collection on juveniles from small scale and recreational fisheries, VMS and environmental data elaboration)	187000,00		185000,00	
Aerial survey data elaboration.	13000,00		15000,00	
Aerial surveys		605000,00		463080,00
Aerial surveys (external contracts)	450000,00		459000,00	
Survey design revision and adaptation (external contract)	4000,00		4080,00	
Intercalibration exercise (direct costs including aircraft and external staff)	100000,00		0,00	
Training course (direct costs, including external experts)	21000,00		0,00	
Workshop on aerial survey (direct costs, including travels and subsistence for external experts)	30000,00		0,00	
Tagging		1000000,00		3040000,00
Conventional and PITs tagging (external contracts)	510000,00		2400000,00	
PITs readers	80000,00		10000,00	
Electronic tagging (external contracts)	0,00		480000,00	
tags	60000,00		20000,00	
Tags recovery, tags reporting and rewards (partly external contracts)	300000,00		100000,00	
various	50000,00		30000,00	
Biological sampling (external contracts)		1020000,00		1163000,00
Hard parts sampling (including travels for samplers)	300000,00		400000,00	
Genetic sampling (including design)	70000,00		100000,00	
Analysis of samples	600000,00		612000,00	
other costs	50000,00		51000,00	
Eggs and larval sampling (external contracts)		10000,00		670000,00
Eggs and larval sampling design	10000,00			
Eggs and larval survey			600000,00	
Sorting, species identification labour, etc.			70000,00	
Modelling		40000,00		200000,00
Workshop on modelling approaches	40000,00			
Modelling trials (mostly external contracts)			200000,00	
Contingencies		15000,00		20000,00
Total budget		3.476.075,00		6.353.876,50