

ICCAT ATLANTIC-WIDE RESEARCH PROGRAMME FOR BLUEFIN TUNA (GBYP)
REPORT OF THE MEETING OF THE GBYP STEERING COMMITTEE
Madrid, June 27-29 and July 1, 2011

1. Opening of the meeting

The GBYP Steering Committee (SC) meeting was held at the ICCAT Secretariat on June 27-29, 2011, with an audio conference on the last day from 2:00 to 5:00 pm, with the participation of Messrs. Pilar Pállaes (ICCAT Assistant Executive Secretary), Josu Santiago, Tom Polacheck, Jean-Marc Fromentin, Clay Porch (the latter two through the audio conference). Messrs. Laurence Kell, Juan Antonio Moreno, Mauricio Ortiz, M'Hamed Idrissi (GBYP Assistant Coordinator) and Antonio Di Natale (GBYP Coordinator) from the ICCAT Secretariat also attended the meeting. Due to the work to be carried out in the same days at the ICCAT Working Group on Stock Assessment methods, the meeting was divided into several sessions, organised *ad horas*, including some meetings during lunch and dinner time. A coordination meeting was held between the Chair of the SC and the ICCAT Secretariat on July 1, with the participation of Messrs. Driss Meski, Pilar Pállaes, Josu Santiago, Juan Antonio Moreno and Antonio Di Natale.

Dr. Santiago was nominated to chair of the meeting and he welcomed all the participants. After a short introduction, the Agenda, which had been circulated previously, was discussed and it was proposed to merge the two main parts (Report on 2011 Activities and Plans for 2012), by issue, and the GBYP Coordinator was asked to provide the details of these reports.

2. GBYP Coordination

2.1 Assistant Coordinator

The GBYP Coordinator informed again that the GBYP Assistant Coordinator was hired in March, following a call for applications and the deliberation of the Selection Committee. Mr. M'Hamed Idrissi was then formally introduced to the SC. His appointment has resulted in a more efficient coordination structure and helped with the very large workload involved in implementing the GBYP as noted in previous meetings of the SC. Nevertheless, the GBYP Coordinator reported that the workload he and his Assistant face on a daily-basis continues to be quite intense and this situation also affects other ICCAT Secretariat staff; in that it has increased substantially the Secretariat's workload, particularly in the early part of the year when a large amount of the GBYP activities are concentrated. The Coordinator reported that there has been a substantial additional activity, not previously anticipated, due to requirements imposed by some recent contributors to the GBYP in terms of reports and deliverables. This overload of duties, imposed by the structure of the GBYP Programme have been acknowledged and recognized by the SC members, who expressed appreciation for the dedication and efforts in fulfilling the GBYP duties.

2.2 Administrative staff

The SC stressed the fact that a GS3 position was included in the plan and in the budget for Phase 2, in order to help with the increasing amount of administrative work and to reduce dependence on the ICCAT Secretariat for many GBYP administrative duties. The SC strongly reiterated the critical need for this position and recommended that the ICCAT Secretariat fill this position as a matter of urgency and as soon as possible.

2.3 Data analysis staff

Due to the need for data entry resulting from the huge amount of data collected under the GBYP Data Recovery and mining activity, the SC recommended that support should be provided by the GBYP to the ICCAT Department of Statistics and that a support staff person for this purpose be hired as soon as possible, initially under a temporary contract, in order to provide the data to SCRS. The Coordinator informed that funds were available for this under the Data Recovery component of the GBYP budget (under the sub-chapter "Data analysis" in Phase 2) and the SC confirmed that this was correctly identified. As concerns the position, it was not clear if it required a GS3 or a P1 level qualification, and the SC was not able to resolve this issue at this time. The Coordinator was requested to define the profile required, working in agreement with the ICCAT Secretariat.

The SC recommended that this position should be extended with a regular contract in Phase 3 to ensure that all that data recovered will be available for analyses by the SCRS.

2.4 Other matters about Coordination

The SC decided to send a brief note to the ICCAT Executive Secretary about some issues concerning the staffing situation at the Secretariat for the GBYP and the current salary levels.

2. Publications policy

The Coordinator presented the updated version of the “ICCAT-GBYP Publication Policy, Editorial and Data Use Rules”. The draft was discussed on the first day of the meeting and was recommended for subsequent adoption by the SCRS. The final version is attached to this report (Annex 1) and will be posted on the ICCAT-GBYP web page.

3. Data mining and recovery

3.1 Calls for Tenders

The results of the first Call for Tenders issued in 2011 were presented to the SC. All contracts issued were dedicated exclusively to data on tuna traps, and the data recovered under this Call have already been received by the ICCAT Secretariat in the due format. The SC acknowledged the work done, which is considered a true data mining exercise because most of the data date well back in time (from the XVI century on) and the effort to recover them from difficult or not easily accessible archives was extraordinary and enabled creating one of the most important databases currently available on a single fishery. The SC considered the Symposium on the Trap Fishery for Bluefin Tuna, held in Tangier on May, a huge success, both in terms of participation and the number and quality of the scientific papers presented. The SC was also informed about the second Call for Tenders for tuna data, which also included some additional trap data sets. These will be available later this year.

3.2 Data elaboration needs

The SC considered that the amount of data collected in Phase 1, i.e., those already collected in the first part of Phase 2, and those that are due to arrive at the Secretariat in the second part of Phase 2, constitute a very large amount of data, which will require careful work for their proper inclusion within the ICCAT database, even though all data were provided in the format required. This work will be substantial in terms of workload and time, as pointed out by the ICCAT Statistical Department. As such, the SC considers the request for external support is well justified (see section a3 above). The SC noted that this need was already well identified in the original multi-year budget of GBYP, which was recommended during the SC meeting on September 4-5, 2010.

3.3 Budget reduction

The SC considered that the amount of data already recovered by the GBYP though the data calls in Phase 1 and Phase 2 possibly represents a majority of the recoverable data existing on the bluefin tuna fishery. Work in the near future should focus on any potential sources of data which are not yet covered. Taking this fact into account, the SC recommends that this item (“Data mining and data recovery”) should have a reduced budget in Phase 3 compared to that in the annual budgets in Phases 1 and 2.

3.4 Excluding data of the year

The SC discussed the limits to be adopted in the data recovery policy, particularly taking into account the discussions raised after some proposals in Phase 2. It was recognised that although the ICCAT rules are very precise for Task I data, they do not define a minimum level of sampling for Task II data by fishery. This fact makes it problematical to precisely define the policy to be adopted for GBYP data recovery. The Coordinator provided some examples of data sets which are collected and provided according to the general rules under Task II, which are not very useful for scientific purposes. It was very clear that GBYP cannot pay for data that are or have been collected under national sampling schemes by ICCAT CPCs to fulfill their Task II obligations. It was also clear that many data are not usually provided to ICCAT even though they may be collected. This is because these data sets are collected by various entities at their own expense and for various purposes. The SC recommended that a reasonable policy for GBYP would be to limit the data recovery to data collected in

previous years, excluding the data of the year in course. This policy would thus make a clear distinction between data recovery (which is a legitimate task under this part of the GBYP, and assuming the costs for the collection of fishery data in real time which is the responsibility of the CPCs (such as Task II). The SC also recommended that the focus in these cases should be on the last two decades, and particularly for those data which could be directly used for stock assessment purposes, such as CPUE or Task II data for fisheries poorly represented in the ICCAT bluefin tuna database. At the same time, the Steering Committee recommended the GBYP Coordinator to contact the Convener of ICCAT Sub-Committee on Statistics in order to initiate an exercise among all CPCs for establishing a minimum level of sampling for the provision of Task II data on bluefin (eventually this exercise could be extended to all species under the competence of ICCAT) and for eventually defining, in agreement with the scientists concerned, a minimum level of sampling coverage to be officially adopted by the ICCAT.

3.5 Promoting data mining from the eastern Mediterranean

The Symposium on tuna trap fisheries, held by ICCAT/GBYP in May 2011 revealed that significant achievement has been accomplished in terms of historical data recovery from different areas of the Mediterranean. However, it was also clear that data from the many tuna traps that existed in historical times in the eastern Mediterranean are still missing. No bids were received by the GBYP for the recovery of these data. It was proposed that this gap might be filled by exploring the Ottoman archives, specifically for the fishery in the Bosphorus for its relevance to bluefin tuna movements between the Black Sea and the Mediterranean Sea. Two possible ways to carry out this work would be either through a new call for tenders in Phase 3 or by sponsoring a Ph.D. student, fluent in the Turkish Ottoman language to do the work (eventually through a MOU with a local University). The SC confirmed the potential high value of these data sets and asked the Coordinator to identify the best strategy for filling this gap.

3.6 Recovery of environmental data sets from trap fishery archives

The SC recognized the value of additional environmental data, as was revealed during the Symposium in Tangier. This could help in better standardising the historical trap data, help explain fluctuations in trap catch and to provide an important trap CPUE series for the assessment. The SC recommended that the Coordinator prepare a specific provision for this need in Phase 3, after preliminary investigations indicated that there were sufficient years of such data to make such an exercise worthwhile.

3.7 SST data

The SC was informed that SST data, as they were obtained in Phase 1, are available for ten years up to 2010; these data sets were used for the elaboration of the aerial survey data, providing interesting correlations. Updated data at the appropriate spatial and temporal scales are now required before the elaboration of the aerial survey data collected in Phase 2. The SC agreed on the need for the SST data and recommended that the Coordinator try to acquire a free data set from the provider (CLS) or, if this fails, to buy the 2011 SST data from the same provider.

4. Aerial survey

4.1 General information

The SC was informed on the activities in Phase 2 and the many difficulties encountered so far. The planning was correctly done, following all the previous suggestions and recommendations from the Aerial Survey Workshop in February 2011, and subsequent recommendations adopted by the SC. The Call for Tenders was released according to the identified requirements and three companies were awarded contracts. The recommended training course was done successfully, with important participation. The survey was initiated according to the delay agreed by the SC, but there was some very serious problem with the implementation in area 6 (eastern Mediterranean):

- Syria denied the permit following the same policy it adopted in Phase 1.
- Turkey did not release the permit although the aircraft was already in a Turkish airport, in spite of the prior commitment of the Turkish Authorities. The Company was not able to get the permit even after the ICCAT Secretariat's official intervention and this prevented surveying this extremely important area in the eastern Mediterranean.

- In GBYP area 3CM (southern-central Mediterranean), the political situation in Libya prevented any survey being conducted in these waters.
- It was impossible to survey a portion of 20 miles in the southern part of area 3CM, even if it was clearly outside the No-Fly zone.
- The aircraft operating in GBYP area 2 (southern Tyrrhenian Sea) had various mechanical problems, including an emergency landing due to one engine that stopped working; the Coordinator checked the annual maintenance certificates of the aircrafts and the visit was regularly passed just before beginning the GBYP survey so these problems were difficult to explain.

The SC was informed in detail of the concerns about the current situation and as well as the recommendation to carry out a comprehensive synoptic survey in Phase 3, both in terms of difficulties of obtaining the flight permits from some ICCAT CPCs and from countries which are not members of ICCAT, and from a budgetary point of view. A comprehensive survey will need a substantially larger budget allocation than was provided for the aerial survey in Phases I and II.

To better explain the situation, a map was provided on the distribution of air spaces in the Mediterranean area (air space of 23 nations), which also highlighted the difficulty to get some permits because of the current geopolitical situation. A second copy of the same map was provided, where roughly it was likely to obtain flight permits (**Figure 1**): green indicates the areas where flight permits are likely to be granted without particular problems, the areas in yellow are those where obtaining flight permits may present difficulties or where, according to the present political situation, it is not clear whether or not it will be difficult to get these permits; the areas in orange are those where it is highly unlikely that any flight permit will be issued for various reasons. The map also shows the areas where bluefin tuna spawning activity is unlikely to occur, according to knowledge on the reproductive biology, the ethology of this species and the usual oceanographic situations, which do not provide the basic conditions for spawning. In total, the green area was estimated to be around 60% of the total surface of the Mediterranean Sea (2,5 million km²).

4.2 Discussion

The SC acknowledged the importance of the work carried out by the GBYP staff to implement the survey as recommended and the effort to follow the situation daily. In spite of these efforts, the SC expressed its concern about the situation encountered in 2011 and the possible implications for 2012. In particular, the SC was concerned about the lack of cooperation by some CPCs in allowing the aerial survey to be conducted in their flight zones within the time frame required. The SC discussed in depth the various issues that arose during the aerial survey in 2011. The major issue of concern was ensuring that the survey could achieve a minimum acceptable level of spatial coverage and the implications for the survey if this could not be achieved. A minimum level of coverage was considered to be one in which trends in the survey over time would be robust to possible changes in the spatial distribution of spawners (e.g., a considerable change in the survey index could be interpreted as a change in abundance and not confounded by a change in distribution). Some members of the SC considered that the best course of action may be to suspend the survey until such time as there is a reasonable likelihood that flight permits can be obtained over a sufficient area of the Mediterranean so the survey is robust to fluctuations in the spatial distribution of spawners (i.e., availability bias). They noted that the surveys conducted under Phase I and II should provide valuable information on how to conduct a large-scale survey but that the data provided to date are difficult to interpret, in themselves, as two time points in a relative abundance index. Others considered that even if only limited spatial coverage will be possible in 2012 (e.g., the green area of **Figure 1**), the survey should be continued. All members of the SC recognized that the general methodology is very promising with respect to being able to provide a fishery independent index as requested by the Commission. The SC considered that a properly designed and implemented aerial survey should be able to provide such an index if the spatial coverage issue could be resolved. However, it also recognized that there are still a number of technical problems to be solved (e.g., calibration among spotters of school size, fish size and detectability). The SC emphasized that for the aerial survey to be worthwhile there needed to be a commitment for the survey to be conducted over a long period of time (ideally indefinitely) and beyond the current lifespan of the GBYP (e.g., a minimum of 6-10 years' data is likely to be required before any significant trend can be detected, and the number of years depends on the CV achievable).

In any case, besides the serious geo-political problems affecting the survey, it was clear that a preliminary analysis is necessary to identify the minimum acceptable area of coverage, the best trade-off between distance between transects and number of replicates, an appropriate stratification by area and the required number of replicates in different areas to ensure that a reasonable level of precision will be achieved for the overall survey (particularly those where the survey was conducted in Phases 1 and 2). Some members of the SC noted the

difficulty of setting a minimum acceptable area of coverage without having any data, much less a time series for assessing the amount of temporal variation, from a number of the areas that have not been surveyed by the aerial survey. Thus, it is very difficult to evaluate whether or not these areas need to be included in order to achieve a robust design. The SC stressed the absolute importance to survey the eastern Mediterranean area, due to the hypothesised presence of a locally distributed sub-population and because substantial a number of spawners are found in this area. The Libyan area, for which data are missing since the beginning of the activity, was also identified as an important area to be surveyed as spawners are thought to occur in this area.

The SC also discussed the desirability of having one single type of aircraft doing the survey, possibly one with more powerful engines and particularly with a longer range compared to the aircrafts actually used to date. A longer range aircraft was seen as particularly desirable in conducting a comprehensive survey as it would reduce the total number of flying hours required by substantially reducing the amount of transit time and other logistic problems. The Coordinator reported that almost all bids received in Phase 1 and Phase 2 included either the Partenavia P68 or the Cessna 337 Skymaster, because these are the aircrafts that have been used for tuna spotting in the past in the Mediterranean; more powerful aircrafts would have greater autonomy and would entail less risk, but would also incur in much higher costs and the availability of such aircraft for this work in the Mediterranean area is unknown. An endeavor to undertake an exploratory investigation will be attempted before the next SCRS in 2011, to provide an overview of the possibilities and the related costs.

4.3 Decisions regarding aerial surveys

After a long and complex discussion, the SC recommended the following:

- a. **Informing the Commission of the serious difficulties encountered**, particularly those due to the lack of collaboration by some ICCAT CPCs since it is essential that all CPCs concerned better cooperate with the GBYP aerial survey and are conscious of the serious implications linked to this lack of cooperation, from a scientific as well as from an economic point of view.
- b. **Extending the contract provided in Phase 1 for the aerial survey data elaboration and analysis**, thereby avoiding a new Call for Tenders, taking into consideration the good work done by the Contractor. In this way, GBYP would have the same analysis for the data collected in Phase 2, including the analysis of the individual capacity of the observers (after the requested rotation procedure) and the different effects of the flat windows used in Phase 1 vs the bubble windows adopted in Phase 2 (as defined during the Workshop in February and the Training Course in May, 2011). The correlation between sightings and SST shall be analysed again, including the 2011 data. The contract shall be extended and enlarged for the purpose of obtaining the necessary information to present the scenario(s) to the SCRS and then the Commission. This part of the contract shall include: (a) advice on the minimum area required to have a meaningful comprehensive synoptic aerial survey design that can be used to provide a time series of relative abundance index taking into account the data from 2010 and 2011 (i.e., to ensure that a time series of such surveys would provide a robust index of abundance and not be confounded by changes in the spatial distribution of spawners); (b) the trade-off between distance between transects and the number of replicates to define the basic survey design; (c) a stratification scheme to define the areas where higher coverage (either in terms of closer line spacing or more replicates) would result in a more efficient design; (d) estimated of the required number of replicates (coverage) to achieve different levels of precision; (e) estimates of the flight time required to be able to establish the budget figure for Phase 3. Due to the particularity and the complexity of the Mediterranean, the possibility to elaborate more than one scenario should be provided.
- c. **Organizing a second ICCAT-GBYP Workshop** in early 2012 (possibly late January of early February). Before the Workshop, two short-term contracts should be awarded to specialists in aerial surveys on marine animals, for the purpose of providing: 1) a revision of the GBYP Aerial Survey Protocol, taking into account the first two years of experience and the forms that have been used so far; the contract should include a procedure for the calibration (rotating the crew, excluding the pilots, from one area to the other); and, 2) a preliminary assessment of the aerial survey scenario adopted by the SCRS and the Commission for Phase 3. The reports shall be delivered before the Workshop and discussed during the Workshop. A Steering Committee meeting (see point 11 of this report) will be organized immediately after the Workshop to provide recommendations for the aerial survey strategy for Phase 3 and possibly for the following years and also to define the minimum feasibility requirements for the use of aerial surveys to estimate the trends in bluefin SSB. In planning for Phase 3, contingencies in the activities and budget should allow for the possibility of suspending the survey if it seems unlikely that it cannot be conducted

(due to the geo-political situation) satisfying the minimal spatial coverage required for the results to be able to provide a reliable relative abundance index.

- d. **Organizing a second Training Course for the Aerial Survey crew in 2012** after the Workshop and prior to the Aerial Survey, as soon as it will be possible from an administrative point of view, in order to provide updated procedures to the crew and to agree on the rotation procedures with the companies under contract.
- e. **Informing all the CPCs concerned by the Aerial Survey**, as soon as the final design is approved and immediately after contracting the company(s), recalling the ICCAT endorsement of the Aerial Survey method to provide fishery-independent data for the assessment, the consequent engagement of each CPC, and requesting the maximum support and cooperation for the GBYP aerial survey activities.

5. Tagging activity

5.1 Report.

The SC was informed about the most recent developments concerning the new Call for Tenders (08/2011) released by ICCAT. The last day for submitting the bids is July 1, 2011 and consequently the bid(s) shall be examined after the SC meeting. The previous Call for Tenders (07/2011) received only one bid, which was not awarded because was not fulfilling the requirements.

In accordance with the tagging design, the outputs of the GBYP Operational Meeting on Tagging and the previous decision by the Steering Committee in February 2011, the tagging activity in Phase 2 shall be concentrated only on juvenile bluefin tuna, up to age 3, while opportunistic tagging on larger tuna could be conducted only as an additional activity.

5.2 Discussion on the activity.

Taking into account the previous proposal received by the GBYP, the SC discussed the best approach for the evaluation of the next bid(s). The various components were discussed in depth, particularly the constraint imposed by the budget and agreed during the Operational Meeting on Tagging in February 2011, to limit the total number of tagged fish to 5000, with 40% double tagging (using the conventional single barb spaghetti tags as the reference and two different types of double barb spaghetti tags for the 40% double tagging). Furthermore, the SC agreed on the possibility to eventually contract a Consortium (as it was proposed by the first bid), without any exclusion of private companies or entities, since the tagging activity implies an important component of vessel activity and high related costs. Of course, the structure of the Consortium shall be well-established, transparent, and with a clear identification of the budget allocation and responsibility of each Member. The main objective is to carry out tagging as long as possible during the entire time period allowed by the terms of reference, taking into account that there are often unfavourable weather conditions in the Mediterranean, particularly from the second part of August on and in Autumn. Also, all tagging is to be done by trained scientific technicians and not by commercial fishermen alone. There is also a need to balance between statistical objectives and operative ones on the field. A question was raised about whether to use purse seiners or baitboats to achieve the objectives (e.g, mortality rate added to area effect) and the Coordinator will ask for clarifications in case the bid(s) include the two gears.

5.3 Decisions on the activity in Phase 2.

The following points shall be included in the Technical Annex to the Contract to be eventually awarded:

- a. In order to diversify the bluefin tuna schools to be tagged as much as possible, it is recommended that a maximum of 100 individuals per school be tagged, noting that it is possible to locate and tag several schools per each day of the activity when conditions are favourable. A higher limit could possibly be allowed in case of a lower presence of schools in each area and a short amount of time remaining for tagging, after first contacting the GBYP Coordinator. This provision modifies the previous request to limit the tagging to 300 individuals per school. The final report shall include very detailed information about the tagging activity by school, day and area.
- b. All areas where the tagging activity is proposed shall be clearly identified by maps to confirm the possible maximum coverage of the areas identified in the tagging design. The contractor will be required to spread the tagging effort throughout the identified area to the extent possible. The final report shall

include a precise map showing the tracks where searching for schools was conducted, and including the position of each tagging activity by area.

- c. Taking into account the need to ensure appropriate use of the funds for tagging and the desirability of tagging the largest number of fish possible, the contract must specify one of the following two options in case the 5000 fish are tagged before the maximum total number of days at sea included in the bid(s): (a) continue the tagging activity as much as possible, increasing the number of tagged fish up to the availability of tags provided by ICCAT-GBYP, or (b) terminate the tagging activity, discounting the remaining number of days at sea from the final invoice. Option (a) is the one recommended by the SC, and the GBYP Coordinator is requested to be ready to provide the additional tags to the Contractor. The Contractor shall inform the GBYP staff in real time on the state of the activity, particularly when the total of 5000 tagged fish is close to being reached.
- d. The contractor(s) must provide video footage and photos of the tagging activity, to be used by GBYP for promoting the tagging awareness campaign on the media.

The SC also discussed the issue of the impossibility to use the PIT tags in Phase 2, due to the Japanese Sanitation Law which was explicitly requested by the Japanese Delegation to ICCAT. The SC considered that further clarification and interpretation of the Japanese domestic law should be discussed with the Japanese Delegation. The SC also underlined the unique possibility to use the observers provided by the ICCAT ROP in all cages and the national observers in cages that have a high possibility to recover recaptured tags and to estimate reporting rates. To better support the discussion with the Japanese Delegation and for a clarification of the actual situation, the SC recommended that a short time contract for 5000 Euros should be awarded by ICCAT to a specialist to prepare a report for the SCRS, providing an overview of the PIT tag used for various species world-wide, with particular attention to any potential health problems, the reported problems and the new technologies available on the market.

The SC again strongly supports the need to carry out a GBYP pit tagging activity in 2012.

5.4 Tag Awareness and tag Reward strategy and policy.

The Coordinator reported the discussions to define the terms of reference of a possible call for tenders concerning the awareness campaign for tag recovery and reporting and the various ideas provided at the ICCAT Secretariat level. The SC discussed this extremely important issue at length. The SC re-iterated discussions at previous meetings on the need for a strategy to ensure that the actual reporting rate of recovered tags was high and that there were data collection methods in place to be able to actually estimate the reporting rate for at least some of the major fisheries that catch juvenile bluefin. It noted that without the latter the information content of the data collected under the tagging program will be limited (in particular with respect to the estimation of mortality rates). The need for an effective strategy to ensure high recovery rates of recaptured tags was highlighted by the low number of tags recovered in previous tagging experiments where fishing mortality rates were considered to be relatively high (~5% in the NE Atlantic and about 1% in the Mediterranean). Low recovery rates and lack of estimates of reporting rates will negate the efforts made for tagging fish. The strategy must be devoted primarily towards increasing the awareness of all fishermen of the program and encouraging them to return tags, but also other stakeholders. The publicity at every possible level about the GBYP tagging activity and the rewarding strategy shall be a high priority for the GBYP, and should build upon the initial networking already initiated by the GBYP Coordinator which was able to provide some preliminary positive results in terms of tag recoveries. It was noted that the budget does not allow for the possibility of a traditional-type commercial publicity campaign (e.g., TV, radio and newspaper advertising) and the SC questioned whether such an approach would be a cost effective strategy in any case. Alternatives were identified and the SC recommended the following points with respect to the promoting the returning of tags:

- a. Urgently define the terms of reference and issue a Call for tenders for the purpose of providing the GBYP the following tools:
 - A logo for the ICCAT-GBYP tagging reporting campaign;
 - A slogan to be used for communication purposes;
 - A draft for an attractive poster to be used for disseminating the awareness in several places (two types: a small one in A4 and a large poster size);
 - An attractive design for a reward T-shirt (to be printed on a high quality manufactured shirt).
 - The tender(s) should take into account the fact that the campaign is targeting people of various cultures, education and origin, and who live in a multitude of coastal States. The slogan should be

attractive in all languages (French, Spanish, English, Arabic, Portuguese, Italian, Greek, Turkish and Japanese). Small changes may be needed to adapt the message to the various languages.

- b. A proactive role shall be undertaken by the GBYP staff. They should be empowered to visit personally the most important places where bluefin tuna fisheries are active with the purpose to directly contact the local community of fishers and empower a liaison strategy with the various stakeholders for improving the reporting rate in all places.
- c. The direct and regular contact with the individual stakeholders is considered essential to ensure that high levels of reporting rates are achieved by the awareness campaign and a quick turnaround time in the provision of rewards is also considered essential for achieving good cooperation. In this regard, it was recommended that a tag return liaison individual be identified in each major landing or processing location. This person would be responsible for visiting vessels requesting any recovered tags and providing rewards on the spot. These individuals may be drawn from local fishery research or data collection organizations or in some cases specific persons may be contracted. In all cases, agreements should be established on the role and activities to be undertaken and funds (if any) required. Cages (about 25 active ones), traps, long-lines, baitboats and small scale fishermen shall be the main target in terms of gear, while the main areas to be contacted (besides the sites where cages and traps are based) are the Bay of Biscay, the Azores, S. Portugal, Morocco (W coast and Gibraltar area), Algeria (main ports), Tunisia (main ports), Libya (when possible), Turkey (main Mediterranean ports), Crete, Adriatic ports, Sicilian ports (mostly in the area of Marsala and Catania), S. France (Sete and Marseille), Spanish Mediterranean ports. The visits identified under paragraph 5.4.b. above should be conducted in cooperation with the local research institutes, and with the purpose to establish a local tag return *liason* person who will be in charge of directly interacting with fishers. In addition, a specific contact should be set-up with the Research Institute for Far Seas Fisheries in Shimizu (Japan), to develop better awareness on Japanese longliners engaged in the tuna fishery in the Mediterranean and to provide rewards to longline fishermen in Japan. This role shall also imply continuing the contacts with the ICCAT-ROP. This “communication” role should be vested mainly by the GBYP Assistant Coordinator and, depending on the time availability, also by the Coordinator.
- d. A proactive role shall be attributed mainly to the GBYP Coordinator to develop the necessary contacts with all the various stakeholders organizations at higher level, including the national fishers associations, various advisory bodies where tuna stakeholders are concerned, the RFMOs operating in the ICCAT Convention area (CGPM, CECAF, etc.), taking all the best opportunities to participate in local meetings to disseminate the awareness about the tagging activity. Contacts with national organizations in USA, Canada and South American countries shall be maintained.
- e. A standard letter should be developed to send to each tag returner which thanks him\her for their cooperation and which provides detail on the recovered tag fish (e.g. time at liberty, distance moved, growth) and some general information on the tagging program results. This letter should be provided to the tag returned when providing the reward if possible or as soon as possible thereafter.
- f. The administrative GBYP staff identified under the previous point 5.4.b. should improve the GBYP responding capability on tagging, taking care of the correspondence on GBYP tagging queries, providing the rewards for the recovered tags and taking care of all GBYP tagging duties at the Secretariat level, acting under the responsibility of the GBYP Coordinator and in strict contact with the ICCAT Statistical Department in charge of following all the ICCAT tagging issues.
- g. The GBYP staff shall create written material to be freely used by newspapers, magazines, journals, radio and television companies in articles for promoting the GBYP awareness campaign on tagging. All available video and photo material can be used for this dissemination activity. These materials should be previously circulated among the Steering Committee for comment and possible revision. The GBYP will also proactively contact appropriate media to encourage broadcasting and publication of these materials, particularly local media in ports with active bluefin fisheries.
- h. The reward strategy shall be the following: either a special T-shirt (the design or colour preferably would be changed every year) for each spaghetti tag recovered and reported, or a monetary reward of

50 Euros (due to the administrative constraints linked to the annual budget rules and particularly for the part of funds provided by the EC Grant, the SC recommends to possibly use pre-paid cards. Their use might be limited to European countries, in which case the usual ICCAT reward method will be adopted for paying the rewards in other countries; high value rewards (1000 Euros) shall be provided for the recovery of any electronic tag; a special GBYP lottery with a high value prizes (500 or 1000 Euros) should be conducted to further promote the return of tags. As concerns the dissemination of knowledge about the GBYP rewards, the SC recommends establishing direct contact with cage and trap owners, with the purpose to discuss with them in order to clearly identify to whom the rewards should go. The GBYP Coordination will explore the best means to distribute the rewards in the various countries, either through local research Institutions or any other governmental body which would facilitate the money transfer or a local stock of T-shirts.

With respect to the estimation of reporting rates, the SC identified two possible strategies that might be feasible for some of the current juvenile fisheries:

- Comparison of recovery rates from portions of a fishery with and without observers. In this case, it is assumed that observers actually recover 100% of the tags from the catch they observed. It is essential in this situation to ensure that observers are observing the catch at the point a fish is landed to ensure that tags have not been removed. It is also important to know the portion of the catch that was observed and the portion not observed (ideally in terms of the number and size distribution of the fish).
- Seeding of tags into the catch prior to their being processed. In terms of the current fisheries, this seems only possible in the farm fish situations where fish could be tagged either at the time of transfer into grow-out cages or at some time prior to actual harvesting operations. Seeded tagged fish should be double tagged with similar tags as used for tagging wild fish so fishers cannot identify which tags are seeded or from wild fish. This approach seems most promising for the juvenile fish farms in Croatia.

The SC recommended that both of these approaches be explored and implemented to the extent possible. The first of these will require developing close and good working relationships with the observers and ensuring that the appropriate data are collected and made available for analyses of reporting rate.

The SC reiterated previous comments that the tag promotion and estimation of reporting rates were essential components of the tagging program and of equal importance as the tagging activity, itself. These require substantial efforts and funds to be effective and should be in place at the same time when tagging activities commence. In this regard, the SC recommended that the above activities needed to be implemented as a matter of urgency, otherwise much of the value from the first year of tag will likely be lost.

5.5 Decisions on the activity in Phase 3.

The SC was informed on the electronic tagging activity carried out in a tuna trap in Morocco. This activity was recommended by the GBYP Operational Meeting on tagging in February 2011, mostly with the purpose of calibrating the data from the aerial survey and for a better understanding of the tuna movements coming from this part of the Atlantic. The tagging of 13 tunas in this area for the first time was possible thanks to the continuous mediation work by the GBYP staff and the kind cooperation of the General Directorate for Fisheries in Morocco, the INRH, the WWF Mediterranean Programme, the IEO-Malaga, the Fuentes Group and the Moroccan Trap Association. The SC acknowledged the GBYP staff for this very important step and the difficult work to set-up the agreement among so many different stakeholders, which is very promising for future activities. After this first trial, the SC decided the following points concerning the tagging activity on Phase 3 of the GBYP:

- a. The conventional tagging activity shall be continued under the same tagging design scheme, possibly covering larger areas;
- b. Electronic tagging (using miniPATs) shall be initiated. Depending on the budget available, between 50 to 100 tags should be deployed, sharing the tags between pre-spawners in various areas and post-spawners only in the eastern Mediterranean.
- c. PIT tags should be also implanted, according to the previous discussion in the last paragraph of point 5.3; the PIT tagging should eventually be able to provide reliable estimates of the reporting rates and, in this regard, an experiment should be conducted in 2-3 cages, where PITs will be implanted in 10 fish which

are also tagged with conventional tags at the beginning of the caging season, to estimate the reporting rates by the ROP observers.

- d. A second GBYP Operational Meeting on Tagging shall be organized in early 2012 for the purpose of refining the field activities in 2012 considering the experience in 2011.
- e. Promotional and awareness activities shall be continued and possibly improved in GBYP Phase 3, with a particular attention to the direct contacts with stakeholders in various locations.

6. Biological sampling

6.1 Report.

The SC was given an update on the decision of the Evaluation Committee on the Call for tenders to conduct the GBYP biological sampling. The Committee decided to award this contract for the biological sampling including analysis to a Consortium of 13 Institutions. This was the only bid received from the Call for Tenders. The Consortium covers a large number of countries and organizations with various competences, thus ensuring a good base for the development of the activity. The contract was difficult to setup because it involves many Parties. The contract will likely be finalized soon. The SC was informed on the practical difficulties which are implicitly created by the current bluefin tuna management and control rules, which potentially prevents the biological sampling of some portions of the catch, particularly on age 0 fish and at the end of the fishing season, once the quota was exhausted by CPCs. The lack of any Commission decision on these problems should be resolved.

6.2 Discussion.

The Chair of the Steering Committee, Dr. Santiago, decided not to take part in any discussion about the biological sampling activity in Phase 2 because his institute (AZTI) is the coordinator of the tendering Consortium. For a similar reason, Dr. Fromentin decided not to take part in any discussion on this point, because he is personally participating (on behalf of IFREMER) in the tendering Consortium. The discussion continued without the participation of Drs. Santiago and Fromentin. The SC endorsed the choice to award the Consortium and acknowledged the positive stimulation provided during the GBYP Operational Meeting on Biological Sampling in February 2011. The SC noted that widespread agreement and cooperation among scientists can better face the challenges of this type of activity.

6.3 Decisions on activity in Phase 2.

The SC recommended that the following points be included in the Technical Annex to the Contract:

- a. It shall be mandatory to preserve the biological samples collected under the GBYP contract in one or two places agreed by the Coordinator of the GBYP (to be communicated by the Consortium), according to international standards, for future uses and analysis. This is particularly relevant for the hard parts, where similar storage sites already exist in USA or Europe.
- b. The contractors must provide video footage and photos of the biological sampling activity, to be used by GBYP for dissemination purposes.

6.4 Legal framework of the biological sampling.

The issue pointed out by the GBYP Coordinator in the last part of point 6.1 was very seriously considered by the Steering Committee. The lack of a specific provision to be able to deal with this directly affects the effectiveness of the GBYP biological sampling. After a very careful analysis of the existing regulations and the solutions adopted by some RFMOs or CPCs, the Steering Committee decided that GBYP shall require the SCRS to promote a recommendation to be forwarded to the ICCAT Commission for establishing a “**Research Mortality Allowance**” of a maximum of 20 t per year (including minimum size derogation) for GBYP research purposes (tagging and sampling), following the precedent established by the CCSBT.

It is recommended that this issue be reported to the SCRS and then to the Commission for consideration. If recommended, the GBYP Coordinator, the SCRS Chair and the ICCAT Executive Secretary should help in presenting this essential need to the various CPCs and promote their support.

6.5 Discussion on the activity in Phase 3.

The SC noted the need for a GBYP Operational Meeting on Biological Sampling in February 2011, following the recommendation adopted by the SC. However, the procedural time required to release the various Calls for tenders and to complete all the procedures by ICCAT caused extensive delay at the beginning of the field activities. This was particularly serious because several fleets exhausted their quota in May-June. This experience was very educative. After this first year, the Steering Committee decided the following points concerning the biological sampling activity on Phase 3 of the GBYP:

- a. The biological and genetic sampling activity shall be continued under the same sampling design scheme, possibly covering larger areas;
- b. A second GBYP Operational Meeting on Biological and Genetic Sampling shall be organized in early 2012, for the purpose of better refining the field activities in 2012 considering the experience in 2011.
- c. The Call for tenders for the biological and genetic sampling and analysis shall be released by ICCAT in early 2012, for the purpose of allowing the field activity starting in March 2012. If the work done by the contractor in Phase 2 is considered satisfactory, the SC recommended extending the previous contract for efficiency reasons and with the possibility of negotiating extensions to more areas.

7. Modeling

7.1 Development of operating models.

Dr. Kell informed the SC about the initial part of this GBYP activity, the two short-term contracts provided to Dr. Cooke and the Imperial College, and the work done during a working meeting in Sete, which resulted in the presentation provided at the ICCAT Working Group on Stock Assessment Methods. An overview of what is being done by the Working Group on Assessment Methods has been brought to the SC meeting. The SC encourages developing more powerful tools in terms of operating models (MSE) within the framework of the management strategies evaluation adopted by ICCAT. The short-term contracts established on this issue should be able to achieve the objectives.

7.2 Discussion on the activity in Phase 3.

The SC recommended organising two workshops in 2012, i.e.:

- a. To review the risk analysis and agree on the sources of uncertainty needed to be considered within a robust management advice framework and how knowledge obtained from data collected under the GBYP can help provide such a framework. This workshop should be organized in early 2012.
- b. A smaller technical group that will conduct management strategy evaluations of alternative scientific advice frameworks to be held before the bluefin tuna assessment meeting.

It is essential that outside expertise (possibly a scientist with experience in fisheries management issues in other RFMOs) be contracted to assist in these workshops, due to the large workload that will be placed on the Secretariat and SCRS. If an operating model is developed as part of this work, this will likely require an independent person to develop the code and undertake the actual conditioning.

The Steering Committee discussed that the updating of the bluefin tuna assessment in 2012 was requested by the Commission. In order to evaluate the performance of the recovery plan, the assessment should be limited to the new data sets used in the previous assessments (e.g. Task I and II data). The Steering Committee strongly agreed with this because the new data recovered by GBYP and how they can be incorporated into an appropriate advice framework need to be fully evaluated before being used within a new assessment framework; i.e., under GBYP-SAM which will take several years.

8. Funding of GBYP activities

8.1 Institutional funding.

Even if the GBYP was officially adopted by the Commission as a 6 year plan, the experience of the first two years shows that CPCs have serious problems to ensure a multi-year budget; consequently, funds are agreed

every year at the Commission meeting and provided later. This system creates a management problem of the GBYP, because multi-year activities are fragmented into 1-year contracts, with the consequent bureaucratic problem of releasing new contracts every year. At the same time, the SC notes that it is very difficult to properly plan the activities in the following year and then establish a budget when the budget figure is not available at least before the end of November. The available budget is essential for making strategic choices and decision, which are able to dramatically change or affect the various activities. This fact is particularly relevant when a certain activity needs additional funding to fulfill the requirements established by the Commission (e.g.: the aerial survey for spawning aggregations), because the lack of sufficient funding might cause the complete cancellation of a certain activity. The SC is aware that all CPCs are conscious of this additional and important difficulty the GBYP has to live with, but this causes a huge amount of additional workload for the Coordination, because it is necessary redefining each year programme in a very short time. The SC is also aware of some new domestic rules for providing funds abroad which are creating additional problems for activities similar to GBYP and recommends the Commission to consider long-term funding sources.

8.2 Clarification about the additional funding from various entities.

The SC discussed about the possibility for GBYP to receive funds from various entities different from the CPCs (i.e.: industry, privates, NGOs, etc.), in application of the SCRS provision in 2008 endorsed by the Commission. The SC, noting that additional funds have been already received by the GBYP, either in goods or in money in Phase 1 and in Phase 2, reiterates to seek for other funding sources. The SC also discussed the proposal made in 2010 by the SCRS Chair, to have a special provision by ICCAT of a specific GBYP quota, to be used for funding the programme. This would be a mechanism to ensure ongoing funds for supporting the critical research needs for stock assessment purposes (e.g. biological sampling, aerial surveys, tagging) that will not cease when the 6 year time span for the GBYP is over. This quota should be at least 1% of the total TAC and should be used to ensure a minimum budget for the activities. The SC recommended raising again this possibility with SCRS for eventual re-submission of the idea to the Commission.

9. Extension of the SCRS protocol for invited scientists to GBYP

In the absence of protocol to finance scientists to participate to meetings or other GBYP activities, the SC recommends extending in principle and adapting the SCRS protocol also to GBYP (which states 15 days delay), for all invited scientists, but eventually maintaining the freedom to invite specialists or any necessary person on a shorter advice in exceptional cases.

10. Conflict of interest

The SC adopted the rules for those cases when a potential conflict of interest might arise. It was decided that a specific Declaration of Interest must be signed by each member of the SC having even potential interest in some issues to be discussed in any given meetings dealing with these (see ANNEX 2).

The SC decides to adopt the following rule:

“Members of the ICCAT GBYP Steering Committee or external experts invited to a Steering Committee meeting shall act independently of ICCAT CPCs or stakeholders. Accepting the role in the ICCAT GBYP Steering Committee, they automatically commit themselves to act in the public interest. Members of the ICCAT GBYP Steering Committee or external experts invited to a SC meeting shall declare at each meeting of the Steering Committee, Selection Committee and Working Groups to which they participate in their function any specific interest which might be considered prejudicial to their independence in relation to specific items on the agenda. The declaration shall be done on the “declaration form” attached.

The Members of the GBYP Steering Committee or external experts invited to a SC meeting having any specific direct or indirect interest in specific arguments to be discussed in a Steering Committee meeting shall not participate to the discussion on this specific argument and this shall be officially recorded on the meeting report.

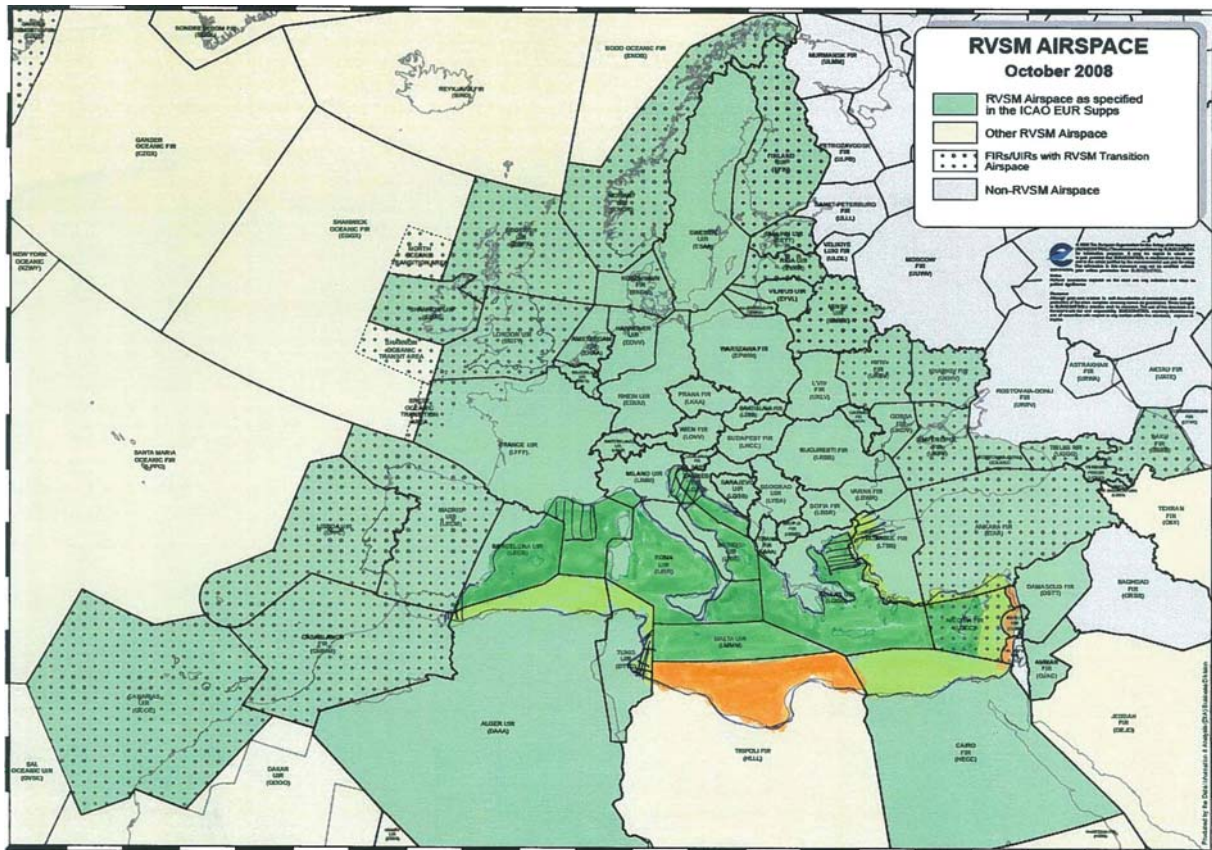
The signed declarations shall be officially recorded by ICCAT and kept among the annual record of the GBYP Steering Committee.”

11. Other issues

Another meeting of the Steering Committee should be possibly organized before the Commission Meeting, for defining the final revision of the Programme in Phase 3. Alternatively, in case it will not be possible, a Steering Committee meeting should be organized between January and February 2012.

The Steering Committee meeting was adjourned on July 1, 2011, at 12:15.

Figure 1 – Map of the air spaces in the Mediterranean area, showing various possible levels of difficulties for obtaining the flight permits for the GBYP aerial survey.



ICCAT Atlantic-Wide Research Programme for Bluefin Tuna (GBYP)
Publication Policy, Editorial and Data Use Rules
(2011 edition)

The ICCAT Atlantic Wide Research Programme for Bluefin Tuna (GBYP) is an international research, co-funded by the European Union (80%), several ICCAT CPCs, the ICCAT Secretariat and by other entities (<http://www.iccat.int/GBYP/en/Budget.htm>).

The publication policy concerning the results obtained by the various research projects carried out within this programme must follow the rules included in the contract between the ICCAT and the funders and those rules will be mandatory for all the participants to the GBYP. The acceptance of a contract provided by the GBYP will automatically imply the acceptance of the “Publication Policy and Editorial Rules” here detailed:

- 1) Ownership of the results of the Programme (GBYP), including industrial and intellectual property rights, and of the reports and other documents relating to it shall be vested by the ICCAT.
- 2) The result of each action carried out within the Programme (GBYP) and all the scientific results obtained by these actions shall be presented to the ICCAT-SCRS at the first opportunity.
- 3) The scientific results of actions carried out within the Programme (GBYP), after the presentation to the ICCAT/SCRS, can be published, entirely or partly, on the ICCAT *Collective Volume of Scientific Papers*, the *Aquatic Living Resources* journal with which ICCAT has a special publication agreement or in other scientific journals. The authors who wish to publish these results in other scientific journals shall previously require a permit to ICCAT. ICCAT, following the spirit of this scientific programme, encourages the authors engaged in research action within the Programme (GBYP) to disseminate their results, particularly in international scientific journals.
- 4) Each report or article concerning the results obtained within the actions of the Programme (GBYP) must include the following text:

“This work was carried out under the provision of the ICCAT Atlantic Wide Research Programme for Bluefin Tuna (GBYP), co-funded by the European Union (grant SI2/585616), by several other ICCAT CPCs, the ICCAT Secretariat and by other entities (see <http://www.iccat.int/GBYP/en/Budget.htm>). The contents of this paper do not necessarily reflect the point of view of ICCAT or of the other funders, which have not responsibility about them, neither do they necessarily reflect the views of the funders and in no ways anticipate the Commission’s future policy in this area.”

- 5) Any publication based on data collected by the GBYP must include the following text:

“Data (or eventually: “A part of the data”) used in this paper were obtained under the All the data collected under the provision of the ICCAT Atlantic Wide Research Programme for Bluefin Tuna (GBYP), co-funded by the European Union (grant SI2/585616), by several other ICCAT CPCs, the ICCAT Secretariat and by other entities (see <http://www.iccat.int/GBYP/en/Budget.htm>). The contents of this paper do not necessarily reflect the point of view of ICCAT or of the other funders, which have not responsibility about them, neither do they necessarily reflect the views of the funders and in no ways anticipate the Commission’s future policy in this area.”

- 6) All the data collected under the Programme (GBYP) shall be used only for scientific purposes and according to the ICCAT rules (see also SCRS/2009/122). Any other use of these data should be specifically authorised by ICCAT.

**MEMBERS OF THE ICCAT GBYP STEERING COMMITTEE
DECLARATION OF INTERESTS (MEETING: XXXXX)**

Name:

Position: Member of the ICCAT GBYP Steering Committee

External invited expert

In accordance with the decision adopted by the ICCAT GBYP Steering Committee on June 27-30, 2011, I hereby notify the ICCAT that I have the following economic or ethical interests¹ which might be considered prejudicial to my independence:

Direct interest (for example related to employment, contracted work, investments, fees, etc.):

Indirect interests e.g. grants, sponsorships, or other kind of benefits such as gifts, invitations and honorariums.

Interests deriving from the professional activities of the applicant or his/her close family members:

¹ Links which could be considered interests might include:

- one's job (university, institute, public service, enterprise)
- being a member of a board of directors, board of management or any other supervisory body within a company, association, ICCAT CPC administration, non-governmental organization, governmental organization, etc.
- having carried out scientific research or provided an expert opinion at the request of a company, public service, ICCAT CPCs administration, non-governmental organization, governmental organization etc., concerned about an issue to be discussed in the Meeting.

Any membership role or affiliation that you have in organizations/bodies/club with an interest in the work of the ICCAT GBYP:

Other interests or facts that the undersigned considers pertinent as a member of an independent Steering Committee:

Declaration

I declare that the information provided above is true and complete.

I shall immediately and explicitly inform the ICCAT of any specific interest² concerning any question submitted to the Steering Committee on the occasion of the meeting at which the relevant question is to be examined by the Committee.

Done at _____ on _____

Signature

² See previous footnote 1: a special interest could, in particular, comprise any prior activity concerning the subject of the question.