

**ICCAT ENHANCED RESEARCH PROGRAM FOR BILLFISH
EXECUTIVE SUMMARY**

(Expenditures/Contributions 2007 & Program Plan for 2008)

Summary and Program objectives

The original plan for the ICCAT Enhanced Research Program for Billfish (IERPB, SCRS 1986) included the following specific objectives: (1) to provide more detailed catch and effort statistics, and particularly size frequency data; (2) to initiate the ICCAT tagging program for billfish; and (3) to assist in collecting data for age and growth studies. Efforts to meet this goal have continued through 2006 and are highlighted below. During the 2005 and 2006 Billfish Working Group meetings, the Working Group requested that the IERPBF also focus its objectives to accomplish age and growth estimates for adult marlin, as well as evaluate habitat use of adult marlin using electronic tags. The Working Group believes that these data will facilitate use of more sophisticated models for billfish assessments.

The ICCAT Enhanced Research Program for Billfish, which began in 1987, continued in 2007. The Secretariat coordinates the transfer of funds and the distribution of tags, information, and data. The General Coordinator of the Program is Dr. David Die (USA); the East Atlantic co-Coordinators were Mr. Paul Bannerman (Ghana) and Mr. T. Diouf (Senegal), while the West Atlantic Coordinator is Dr. Eric Prince (USA). The billfish tagging database is maintained at the NMFS Southeast Fisheries Science Center (Miami, Florida) and at the ICCAT Secretariat.

This program has provided continued support to the improvement of fishery and biological data on billfish since its inception in 1986. Over the last few years financial support to the program has been eroding and compromising its ability to reach its objectives. It is imperative that all parties provide financial and in-kind support to the program so that the program continues to deliver the useful data and knowledge it has produced to date. This is especially critical because the largest portion of billfish landings is now coming from Parties that depend on the support of the program to collect fishery data and biological samples.

2007 Activities

The following is a summary of the activities of the program; more details of activities conducted in the western Atlantic can be found in SCRS/2007/144. Four observer trips onboard Venezuelan longline vessels were completed in 2007; although this represents less than half of what had been planned for 2007 this activity provided uninterrupted continuation to the biological sampling program of this fleet that was initiated in 1991 with funds from the IERPBF. Sampling of Venezuelan artisanal catches also continued in Margarita Island and in the central coast of Venezuela. Biological samples from both the pelagic longline and artisanal Venezuelan fisheries has provided large numbers of spines and gonads for age, growth and reproductive studies of blue and white marlin. Notably, this program recovered 70 tagged billfish just in the first six months of 2007.

Brazil continued the collaborative program with US institutions that started in 2005 and that during 2007 focused on testing the performance of circle hooks on board commercial vessels, tagging with pop-up satellite tags and collection of age spine samples for age and growth studies. In Bermuda the program continued to support collaborative activities that during 2007 continued to collect biological materials from its billfish tournaments.

A review of billfish statistics in Ghana, Senegal and Côte d'Ivoire initiated in 2006 needs to be completed, but was enhanced by the activities of the ICCAT data fund in West Africa. Improvements on catch records from these Parties are reflected in the Task I tables for billfish and hopefully will continue so that accurate records are available for the upcoming sailfish assessment.

Documents that were produced with the benefit of direct support of the IERPBF were SCRS/2007/100, SCRS/2007/114, SCRS/2007/121 and SCRS/2007/144.

2008 Plan and activities

The highest priority for 2008 is to support improvement in the statistics of artisanal fisheries Atlantic wide and estimation of relative abundance indices of sailfish for these fisheries. Other important activities include the support for the continuation of the monitoring of the Venezuelan and Brazilian longline fleet through an observer

program, collection of conventional tags and the collection of biological samples. All these activities depend on successful coordination and the resources required to support them. Details of activities to be carried out in 2008 are provided below and the detailed budget for these is included in **Table 4**.

Shore-based sampling

Sampling of artisanal and small scale fisheries to support the estimation of catch and effort statistics will be focused on fleets that are contributing the largest parts of the catch and/or those that have traditionally provided the higher quality data in the past, to ensure the preservation of uninterrupted time series of catch and relative abundance indices.

West Atlantic

Sample will be conducted on the landings on the following fleets: billfish tournaments from Bermuda, billfish tournaments off southeastern Brazil, in Fernando de Noronha Island and other locations off northeastern Brazil, longline fleets landing in Venezuela, Uruguay and Brazil, and the gillnet fleet operating in central Venezuela.

Eastern Atlantic

Monitoring and sample collection will be supported for the gillnet fisheries of Ghana, Côte d'Ivoire and Senegal as well as the recreational fishery off Senegal. This will complement improvements made with the support of the ICCAT Data Improvement Program.

At-sea sampling

West Atlantic

Continued support will be provided to the sampling made onboard the Venezuelan and Brazilian vessels that have been supported in the past by this program and support will start to sampling of longliners from Uruguay.

Critical habitat of billfish using pop-up satellite archival tags

Several on-going projects are evaluating habitat use and critical habitat needs of blue and white marlin using pop-up satellite archival tag technology. These projects are independently funded but will require the support of the program to facilitate its coordination.

Tagging

The program will need to continue to support the recovery and conventional tagging conducted by program partners.

Age and growth

The collection of biological samples for age and growth studies was, over the last two years, largely supported by an externally funded program, that is due to be completed in 2007, however there is a need to continue collection of samples from fleets not covered by the current program.

Coordination

Training and sample collection

Program coordinators need to travel to locations not directly accessible to them to promote the program and its data needs. These include travel of the coordinators from the east to western African Parties, and travel to the Lesser Antilles and South America by the general coordinator and the coordinator from the west. Strong coordination between activities of the IERP and the data ICCAT improvement project in West Africa will continue to be required.

Program management

Management of program budget is done by the program coordinators with the support of the Secretariat. Reporting is also the responsibility of the coordinators. Parties that are allocated budget lines for program

activities need to check with the respective program coordinators for the East and West for approval of expenditures before the work is carried out and need to invoice ICCAT to obtain allocated funds. Allocation of funds to the program only happens at the end of the each year.

2007 Budget and Expenditures

This report presents a summary of the contributions and expenditures for the ICCAT Enhanced Research Program for Billfish during 2007. The 2007 budget recommended by the Billfish Working Group for IERPBB was €49,950. The only new contribution made to the IERPBB during 2007 was an allocation of €20,000.00 from the regular ICCAT budget. Carry over funds left from previous years were €1,343.60, thus total funds available for 2007 were €21,343.60 (**Table 1**). As a consequence some of the activities of the program were not carried out. To date, expenditures during 2007 were €3,548.42 and are detailed in **Table 2**.

In-kind contributions to the Program continued to be made during 2007. Since 1996, the FONAIAP (Venezuela) and since 1997, the *Instituto Oceanográfico* (University of Oriente) has provided personnel and other resources as in-kind contributions to the at-sea sampling program, thereby reducing the amount of funds needed for this activity from the ICCAT billfish funds. Also, the program coordinator traveled to Venezuela and to Senegal to oversee IERPBB funded work. Travel cost for these trips were absorbed by the U.S. National Marine Fisheries Service, the University of Miami and the ICCAT data fund and JDIP project, and as such represented an in-kind contribution to the Billfish Program for 2007. The Department of Environmental Protection of Bermuda also contributed in-kind contributions by providing personnel and other resources used for assessing habitat preferences and reproductive biology of Atlantic blue marlin caught in the recreational fishery. Ghana and Senegal provided in-kind contributions by supporting the time spent by Mr. Bannerman and Mr. T. Diouf (Senegal), the co-coordinators for the eastern Atlantic.

2008 Budget and requested contributions

The summary of the 2008 proposed budget, totaling €47,650 is attached as **Table 3**. The Working Group requests that the Commission maintain its contribution of €20,000 for 2008 to cover the most critical parts of the 2008 IERPBB (see **Table 4**), including funding for monitoring of catches of longliners in Venezuela, Brazil, Uruguay and the artisanal fleets of the Caribbean and West Africa. The requested contribution from ICCAT and voluntary contributions of €27,650 from other sources will be necessary to carry out the entire Program Plan in 2008.

The consequence of the Commission failing to make the requested contribution of €20,000 will be to stop or reduce program activities for 2008 including: (1) eliminating important at sea observer initiatives in Venezuela, Uruguay and Brazil; (2) eliminating coordination travel; (3) Eliminating sampling of artisanal fleets in the western and eastern Atlantic (4) eliminating sampling to obtain hard parts for age and growth analysis; (6) Eliminating conventional tagging activities, including distribution of tag recovery incentive rewards.

Conclusion

The IERPBB has been credited for major improvements in the data supporting the last two ICCAT assessments of billfish. If the IERPBB program were to be terminated due to lack of funds, essential research and monitoring activities that are now supported by the program will suffer and the Working group will be in a difficult position to address the needs of the Commission. Although considerable benefits will accrue from various outputs of the ICCAT data improvement program, the IERPBB is the only program that exclusively focuses on billfish. By having this focus it is in the best position to ensure that the research and monitoring activities not covered by the ICCAT data improvement program are given some minimal resources. The IERPBB is an important mechanism towards completing the goal of having the highest quality information to assess billfish stocks.

Table 1. Summary budget for 2007 for the Billfish Program.

| <i>Source</i> | € |
|----------------------------------------------------------------|-----------------|
| Balance at start of Fiscal Year 2007 | 1,343.60 |
| Budget recommended by the Working Group | 43,150.00 |
| Income (allocation from ICCAT Regular Budget) | 20,000.00 |
| <u>Expenditures (estimate, for details see Table 2)</u> | - 21,148.42 |
| BALANCE | 195.18 |

Table 2. Detailed 2007 Budget & Expenditures (as of September 28, 2007).

| | € |
|-----------------------------------------------|-------------------|
| Balance December 31, 2006 | 1,343.60 |
| Income | 20,000.00 |
| Contribution from the Commission | 21,343.60 |
| Expenditures | -13,548.42 |
| Venezuela 1-3 qtr. | -5575.00 |
| Brazil 1 semester | -1,875.00 |
| Côte d'Ivoire | -2,000.00 |
| Senegal | -2,000.00 |
| Ghana 1 semester | -2,000.00 |
| Bank charges | -98.42 |
| Balance as of Sept 28, 2007 | 7,795.18 |
| Funds obligated until end of 2007 | |
| Venezuela 4 th Qtr. | -3,000.00 |
| Brazil 2 nd Semester | -3,000.00 |
| Ghana 2 nd Semester | -500.00 |
| Tag reward | -1,000.00 |
| Bank charges | -100.00 |
| Total obligated | -7,600.00 |
| Total estimated expenditures | -21,148.42 |
| Estimated balance December 31, 2007 | 195.18 |

Table 3. 2008 Summary budget of the ICCAT Enhanced Research Program for Billfish.

| <i>Source</i> | € |
|-----------------------------------------------|------------------|
| Balance at start of Fiscal Year 2008 | 195.18 |
| Budget recommended by the Working Group | |
| Income (Allocation from ICCAT Regular Budget) | 20,000.00 |
| <u>Other contributions</u> | <u>27,650.00</u> |
| Expenditures (see Table 2) | -47,650.00 |
| BALANCE | 195.18 |

Table 4. Detailed 2008 Budget & Expenditures.

| | <i>Amount (€)</i> |
|--------------------------------------------|-------------------|
| STATISTICS & SAMPLING | |
| <i>West Atlantic shore-based sampling:</i> | |
| Venezuela | 5,000 * |
| Barbados | 1,000 |
| St. Maarten, Netherlands Antilles | 1,000 |
| Brazil | 2,000 |
| Others | 2,000 |
| <i>West Atlantic at-sea sampling:</i> | |
| Venezuela | 6,000 * |
| Uruguay | 2,000 * |
| Brazil | 5,000 * |
| Others | 2,000 |
| <i>East Atlantic shore-based sampling:</i> | |
| Dakar, Senegal | 3,000 * |
| Ghana | 3,000 * |
| Côte d'Ivoire | 3,000 * |
| Others | 2,000 |
| TAGGING | |
| Tag reward | 1,500 |
| Lottery rewards | 500 * |
| Outreach | 1,000 |
| AGE AND GROWTH | |
| Collection of hard parts | 1,000 |
| Mailing | 300 |
| COORDINATION | |
| Coordination travel | 6,000 |
| Mailing & miscellaneous-East Atlantic | 100 * |
| Bank charges | 250 * |
| GRAND TOTAL | 47,650 |

* Highest priority to be funded mainly by requested ICCAT contribution.

Authorization of all these expenditures depends, on sufficient funds being available by ICCAT and from other contributions.