

BLUEFIN YEAR PROGRAM (BYP) ACTIVITIES

Introduction

The Bluefin Tuna Year Program (BYP) Working Group reviewed the progress made under this program during 2007-2008 conducted by the BYP funded research projects. The current financial status was reviewed and the BYP funded research projects for 2008-2009 was discussed. The primary areas of research considered important by the Working Group are data mining of bluefin tuna purse seine catch and effort in Norway during 1950-1970, bluefin tuna larval survey, biological sampling for stock structure, ageing and maturity. While the above-mentioned activities are high priority of the BYP, it was also considered important to enhance the coordination for tagging and larval sampling. The Committee recommends the Commission to endorse the initiation of a large-scale Bluefin Research Program, given the amount and number of tasks that the scientists should address in order to meet the Commission's request. It should be noted that the BYP fund is seed money to start off the research subjects prior to the large-scale Bluefin Research Program. It is obvious that future funding levels need to be significantly expanded. In this sense, the Committee welcomed the recent research funds by the EU made available for bluefin research to the various EU members. The biological sampling under the BYP framework has contributed to obtain good results. Active and efficient coordination is also essential in order to bring high quality research results.

1. Financial report

The financial status of the BYP funds through October 1, 2008 was reviewed. With the expected 2008 Commission contribution of €4,588, the 2008-2009 BYP operating budget should be on the order of €30,000 (Table 1).

2.1 Western Atlantic

2.1.1 Biological sampling

A sampling program for bluefin tuna funded by BYP has continued since 2004 in North Lake, Prince Edward Island, Canada. Sampling was continued in 2008 with national funding. Fish are sampled for hard parts and DNA material for ageing and stock structure studies. The Gulf of St. Lawrence bluefin tuna fishery provides a unique opportunity to sample large bluefin since the fish are landed in the whole condition and dressed on the wharf.

2.2 Eastern Atlantic and Mediterranean

2.2.1 Biological sampling

The main objective of biological sampling within the BYP is to support research on stock structure by means of genetic analyses (tissue) and microconstituents analyses (otoliths); research on reproduction (gonads) and research on growth (spines, vertebrae and otoliths). Sampling in the eastern Atlantic as well as the whole Mediterranean was accomplished.

The IEO (Spain) has carried out a series of studies on the biological parameters of bluefin tuna in the western Mediterranean. Samples were taken for studies on reproduction (maturity and fecundity), age and growth (spines, otoliths), as well as for the study of stock structure (otoliths for micro-constituents) and genetics. The samples taken for each study are summarized in the following table:

<i>Mediterranean BFT (IEO- Spain)</i>	
Maturity sampling (gonads)	164
Genetic sampling (muscle)	307
Growth sampling (spines)	350
Otoliths sampling	49

For the 2007-2008 period, Turkey carried out specific research activities on bluefin tuna fisheries and biology.

As for the Italian biological sampling activities, more than 100 spines were collected from bluefin tuna caught in all the Italian fisheries in the Mediterranean.

2.2.2 Larval surveys

A tuna larval survey in the eastern Mediterranean was carried out in 2007 by Turkey. This survey in this area will continue in the coming years.

In addition, the scientific team TUNIBAL (IEO-Spain) engaged in different types of activities during the 2007. These activities include planning of future researches, larval bluefin surveys that address small-scale movements off the Balearic Sea and the presentation of TUNIBAL research results at different fora. Future research was contemplated within the 7th EU Framework for which a meeting was held in Sète, France, March 6-7, hosted by IFREMER. A multi-disciplinary project for bluefin (METROPOLIS) was designed and presented to the EU, in which importance of bluefin larval ecology study was strongly emphasized.

2.2.3 Review of ongoing tag recovery programs and related research activities in Contracting Parties

Regarding Croatian tuna tag recovery activity for the period 2007-2008 (November 2007-January 2008), two observers were hired for the purpose of better recovery of tag at the bluefin tuna harvesting sites near the growth-out rearing cages at different farming places (Drvenik-tuna, Kali-tuna, Marituna and Jadran-tuna). Much of the observer's attention was specifically paid to the medium and larger bluefin tuna specimens (captured in the Mediterranean and imported from other countries' catch quotas) because these large fish could have higher possibility of carrying tags. In total, they investigated approximately 12,000 medium and large bluefin ranging between 160 and 285 cm in fork length. Among these fish, observers found and recovered tags from three fish (one archival tag, one basal part of pop-up tag and one conventional tag). Furthermore, observers made an effort to recover tag recovery information provided last year by Marituna, which was reported but subsequently lost at the end.

Tagging activities of Italy in 2007-2008 were carried out by the University of Bari and 10 bluefin tuna (spawning size) were tagged using electronic satellite pop-up tags;

As regards to tuna tagging activities in Spain, a collaboration agreement for tagging was signed in collaboration with the Mediterranean Confederation for Responsible Recreational Fishing (Confederación Mediterránea para la Pesca Recreativa Responsable). The agreement contemplates to provide technical courses to learn how to tag fish for sport fishers by IEO staff. In turn, Confederation committed tagging and release contests. The development of the "Desafío Mediterráneo" (Mediterranean Challenge) contest, carried out at various ports along the Spanish Mediterranean coast, has resulted in the tagging of 275 bluefin tuna in the 50-130 cm (FL) size range. Besides, during the contests 33 internal electronic tags were placed as part of the activities foreseen in the MIGRATUN project, in which the University of Cadiz and the IEO participate, in collaboration with WWF-Adena. The tagging carried out during the "Desafío Mediterráneo" contests are considered to be of great interest since the tagging takes place in different areas and occasions and on tunas of different ages. This activity will continue in the future (SCRS/2008/188).

In addition, bluefin tuna electronic tagging was accomplished under the supervision of the IEO (Oceanographic Center of Malaga) in collaboration with the University of Bari and with the participation of the following companies: Tuna Graso, S.L., Pesquerías de Almadraba, S.L., and Taxon Estudios Ambientales, S.L. Fish caught by the Barbate (Cadiz) trap were tagged during feeding migration. In total, 9 fish were tagged, using various combinations of tag anchors. The estimated weight of the tagged fish varied between 77 and 188 kg. In addition, and jointly with AZTI, 144 internal tags were placed on yearling tuna in the Bay of Biscay (in the framework of the European Tuna Tagging Program).

From 2006 to 2008, EC-France conducted tagging on bluefin tuna in the Mediterranean. This was carried out within the framework of the DG MARE program to collect data, by deploying 11 pop-up electronic archival tags on fish weighing from 30 to 50 kg (for which we have little information on migratory routes) off Marseilles (northwestern Mediterranean) through sport fishing contests. Five other tags of the same type were deployed in the summer of 2008; four others will be placed this fall. EC-France has also assured scientific coordination of a conventional tagging program implemented by the recreational fishers from the Fédération Française de la Pêche en Mer (FFPM) (French Federation of Fishing at Sea) which was started in 2006 and has been actively continued

since then. This program, which is carried out in contact with the ICCAT Secretariat has resulted in the deployment of 400 conventional tags in 2007.

2.2.4 BFT ageing coordination

Atlantic bluefin tuna length distributions of baitboat fisheries, both in the Bay of Biscay and areas close to the Strait of Gibraltar, as well as trap catches from the Spanish Atlantic coast were converted to age distributions using age length keys from calcified structures. Relative abundance and mean size by age analyses were accomplished in search of an exceptionally abundant cohort in the last 20 years. Results showed a relationship between juveniles' fisheries in the Bay of Biscay and the Strait of Gibraltar (SCRS/2008/066).

New information (SCRS/2008/084) presented a novel approach for determining age and area of natal origin from the same otolith, allowing construction of area-specific growth curves. The preliminary results diverge considerably from the age-length relationship used by the SCRS for the western stock, and could have significant impacts for estimates of stock productivity (SCRS/2008/091). Estimated growth from age interpretations of juvenile bluefin tuna vertebrae was compared across two different cohorts. Analysis of covariance indicated that growth rates were the same between the two cohorts and future work was proposed for additional cohorts and age groups (SCRS/2008/168).

3. BYP Research Plan for 2008-2009

The following research plans are determined as BYP funded projects:

3.1 Data mining purse seine catch and effort for bluefin tuna in Norway during 1950-1970

Detailed purse seine catch and effort data for bluefin is quite important to investigate the CPUE during the 1950-1970, as this index will be used in the east Atlantic bluefin tuna stock assessment. Detailed logbook data are available and will be digitized.

3.2 Tuna larval survey in the eastern Mediterranean by Turkey

In order to determine the spatial distribution and abundance of tuna larvae, Turkey is planning a larval cruise in June 2009 in the eastern Mediterranean Sea. A commercial Turkish trawler is used and about 90 bongo net tows are scheduled. Turkey has undertaken bluefin larval survey during the past years. It is also essential to hold workshops and/or meetings with the purpose of establishing a common sampling strategy, methodologies, and solving taxonomic issues in the identification of bluefin larvae.

3.3 Biological sampling in Morocco

Biological samples and various size measurements data will be collected from fishes caught in the Moroccan Atlantic traps targeting the adults during the period from April to August. Biological samples include gonad, otolith, tissue, spine, liver and vertebrae. The sampling will be conducted with a frequency of 10 days per month, by two biologists and a technician, during the trap fishing season (May-June); a total of 20 sampling days will be spent in tuna traps.

3.4 Tagging coordination meeting

Various tagging activities are being conducted in the Mediterranean Sea as well as east Atlantic. In order to better exchange information and to coordinate these activities, some coordination meeting is necessary.

4. Other Research Plan for 2008-2009

In addition to these plans, various research projects are going to be executed utilizing other fund.

The TUNIBAL research team has submitted a project proposal under the Spanish Research Council (Spanish Ministry of Education) which contemplated a global study on the bluefin spawning habitat using the TUNIBAL survey series dating from 2001 to 2005.

4.2 The MIGRATUN project, which studies bluefin tuna migrations using electronic tags, will continue in 2008-2009. The National Plan of Basic Data for the Common Policy of the European Union is also expected to continue, and the preliminary results will be discussed at a meeting to take place soon in Sète (France).

4.3 In October 2008, EC-France will organize the final meeting of the tuna tagging group that has been carried out in the scope of the DG MARE data collection program (previous meetings on coordination of this program were held in Malta and in Crete in 2006 and 2007). The objective of this working group is to synthesize the major results obtained on bluefin tuna and swordfish in the framework of the European program and to develop a proposal for a new tagging program (which has been halted in 2008). The overall data obtained in the scope of this program should be transmitted to the ICCAT Secretariat through the Contracting Parties involved.

Table 1. Recommended 2008-2009 BYP contributions to bluefin research (€), balance at October 2, 2008.

<i>Project description 2008-2009</i>	<i>BYP Fund</i>	<i>Balance</i>	<i>Research Priority</i>
		14,566	
Anticipated 2009 Commission contribution	14,588	30,931	
Planned expenditures in 2008-2009			
1. Data mining for BFT catch and effort data in Norway during 1950-1970	15,000	15,931	1
2. Larval survey in the eastern Mediterranean Sea by Turkey	9,000	6,931	1
3. Biological sampling in Morocco	3,000	3,931	2
4. Tagging coordination meeting	1,500	2,431	3
Contingencies	2,431	0	