

DEVELOPMENT OF AN ATLANTIC-WIDE ARCHIVAL TAG RECOVERY PROGRAM UNDER THE AUSPICES OF ICCAT

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SUMMARY

During the ICCAT Tuna Symposium in Ponta Delgada, Azores, June 10-18, 1996, a special evening session (see Annex 4 to the Symposium Report) was held as a follow up to issues related to Agenda Item 4 (stock structure). A paper presented during the stock structure session by Dr. Barbara Block indicated that 10 medium and giant bluefin tuna had been successfully equipped with archival tags in March, 1996, as a result of a joint study conducted by Stanford University, Monterey Bay Aquarium, and the National Marine Fisheries Service, off Hatteras, North Carolina, U.S.A. Following the success of this pilot study, plans for a full-scale research program are in place to implant as many as 200 archival tags into mature western Atlantic bluefin tuna in March, 1997. This information stimulated formation of an ICCAT Archival Tag Working Group which concluded that development of an Atlantic-wide archival recovery program under the auspices of ICCAT was now appropriate. Working Group recommendations included appointment of regional coordinator (Dr. Eric Prince in the western Atlantic, Dr. Jose Cort in the eastern Atlantic) and initiating this program by sending a letter of inquiry to ICCAT tagging correspondents.

RÉSUMÉ

Un document présenté par le D^r Barbara Block au cours du Symposium Thon ICCAT (10 au 18 juin 1996, Ponta Delgada, Açores), lors de la session consacrée à la structure du stock - point 4 de l'Ordre du Jour - (voir Annexe 4 au rapport du Symposium) indiquait que des marques-archives avaient été posées sur 10 thons rouges de l'Atlantique de tailles moyenne et grande, en mars 1996, au large d'Hatteras, Caroline du Nord, Etats-Unis, dans le cadre d'une recherche menée conjointement par l'Université de Stanford, le *Monterey Bay Aquarium* et le *National Marine Fisheries Service*. Après le succès de cette recherche pilote, on prévoit la mise en place, en mars 1997, d'un programme de grande envergure destiné à poser des marques-archives sur 200 thons rouges matures de l'Atlantique Ouest. Ces informations ont encouragé la constitution d'un Groupe de Travail ICCAT sur les marques-archives qui a conclu qu'un programme de récupération des marques-archives à l'échelle de l'Atlantique pouvait être élaboré sous les auspices de l'ICCAT. Les recommandations de ce Groupe de Travail prévoient le recrutement de coordinateurs régionaux (le D^r E. Prince pour l'Atlantique Ouest et le D^r J. Cort pour l'Atlantique Est). L'une des premières activités de ce programme consistera à contacter par courrier les correspondants marquage de l'ICCAT.

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RESUMEN

Durante el Simposio ICCAT sobre Túnidos, en Punta Delgada (Azores, 10-18 de junio, 1996), se celebró una sesión especial por la tarde (véase el Anexo 4 al Informe del Simposio), para continuar los temas relativos al punto 4 del Orden del día (Estructura de stock). Un documento presentado por la Dra. Barbara Block durante la sesión sobre estructura de stock indicaba que se habían equipado con éxito a 10 ejemplares de atún rojo atlántico de tamaño medio y gigante con marcas archivo en marzo de 1996, resultado de un estudio conjunto llevado a cabo por Stanford University, Monterey Bay Aquarium, y National Marine Fisheries Service, frente a Hatteras, Carolina del Norte, EE.UU. A continuación del éxito de este estudio piloto, se están desarrollando planes para llevar a cabo un programa de investigación a toda escala e implantar tantas como 200 marcas archivo en ejemplares de atún rojo maduro del Atlántico oeste, en marzo de 1997. Esta información estimuló la formación de un Grupo de Trabajo ICCAT sobre Marcas Archivo, que concluyó en la idoneidad de desarrollar ahora un programa de recuperación de marcas archivo en todo el Atlántico, bajo los auspicios de ICCAT. Las recomendaciones del Grupo de Trabajo incluían el nombramiento de coordinadores regionales (el Dr. Eric Prince en el Atlántico oeste, y el Dr. José L. Cort en el Atlántico este), e iniciar este programa mediante el envío de una carta-encuesta a los corresponsales de marcado ICCAT.

Progress in Developing an Archival Tag Recovery Program in the Atlantic Ocean

As indicated in the report of the Archival Tag Working Group (Annex 4 to COM/SCRS/96/16), one of the first steps in developing a viable archival tag recovery program in the Atlantic was to query ICCAT tagging correspondents in order to: advise them of the program, request information on primary landing sites, and request their input on how to modify a reward poster and conduct the program in their particular locations. This inquiry was considered a vital first step because differences in cultures often require a customized approach to incentive awards for return of tags. In other words, an incentive program that works in one country may not necessarily work in other countries.

Initial plans were to have the letter of inquiry (Appendix 1) drafted and sent to all ICCAT tagging correspondents (see mailing list, Appendix 2), numerous Non-ICCAT countries, and other international management organizations (i.e. FAO) by mid-July, 1996. In addition to distributing the letter of inquiry, the ICCAT Secretariat provided a draft reward poster (Appendix 3) translated into the three ICCAT languages. However, due to the unusual large number of ICCAT intercessional meetings in 1996, this letter and accompanying documents was not distributed until late September, 1996. To date, four responses have been received by the program coordinators (Canary Islands

[Spain], Taiwan, Italy, and CARICOM which represents numerous Caribbean island countries). Therefore, the preliminary survey results and short response time did not allow for a detailed evaluation of the results at this time. Although this has somewhat delayed progress to this point, we anticipate that in the next few months the response level will be adequate to initiate the archival tag recovery plans at the local level such that these plans will be in place by the beginning of the western and eastern Atlantic fishing seasons in 1997.

The western Atlantic program coordinator has had preliminary discussions with the Chairman of the SCRS concerning the need for funding to promote recovery of archival tags, particularly in the eastern Atlantic. One alternative approach in the Mediterranean Sea, where so many Non-ICCAT member countries participate in the fishery for bluefin tuna, is to offer a smaller reward for each tag and hire people to look over the catch for tags during the fishing season. In the western Atlantic, the U.S. National Marine Fisheries Service is considering paying a substantial reward but it is uncertain at this point what incentive will work best in the eastern Atlantic. These questions will hopefully be clarified as a more complete response to the letter of inquiry becomes available.

- Appendix 1. Letter of inquiry to ICCAT tagging correspondents concerning the ICCAT Atlantic Archival Tag Recovery Program.
- Appendix 2. Mailing list for letter of inquiry to ICCAT tagging correspondents.
- Appendix 3. Draft reward poster for recovery of archival tags.

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CONSERVATION OF ATLANTIC TUNAS

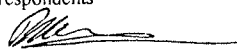
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COMISION INTERNACIONAL PARA LA
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23 September 1996

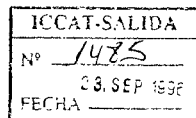
TO: ICCAT Tagging Correspondents
FROM: ICCAT Secretariat 
SUBJECT: Archival Tags

As it is hoped to include the comments on this circular in a document which will be presented to the forthcoming SCRS in October 1996, it would be greatly appreciated if all Correspondents could respond with their input as soon as possible, preferably either by fax or e-mail, to Dr. E. Prince, Miami (details below).

The ICCAT Secretariat would like to alert all ICCAT tagging correspondents that a research team from the USA has, for the first time, implanted data logging ARCHIVAL tags into the body cavity of medium and giant bluefin tuna. Archival tags are "state of the art" electronic data-logging devices that provide location estimates by measuring light intensity through a light sensor. In addition, the tag measures pressure and provides information on depth, water temperature and body temperature of the fish. This information is collected on a daily basis and stored in the tag for up to seven years, but the fish has to be recaptured and the tag returned in order to gain access to the data. This research was carried out on bluefin tuna caught off Hatteras, North Carolina, in the western Atlantic Ocean in March 1996. It is expected that this program will expand and also be conducted in the eastern Atlantic in the future.

As a result of this research, ICCAT is developing an enhanced Atlantic-wide recovery program for archival and conventional tags from highly migratory species, particularly from bluefin tuna. This enhanced recovery effort will be administered by ICCAT and conducted as part of the Bluefin Year Program. We are writing to you to inform you of this program and ask that each correspondent respond to the following:

- (1) Please identify primary landing sites in your specific location where medium and giant bluefin tuna are landed in significant numbers. Please be as specific as possible in terms of the exact location (country, city, offloading port) and fishery;
- (2) How would you suggest we modify the enclosed reward poster (this version is designed for the western Atlantic) to best respond to local needs? For example, in which language would you want the poster? How many posters would you need in your area? Are the procedures for return of the tags clear? Is the poster too long or too short? Are there any critical issues not addressed by the poster?;



(3) What would be the best incentive reward to ensure good response from fishermen in your area? For example, if a reward of US\$1,000 is not considered a good incentive to return these tags, what kind of incentive would you suggest instead? Would, for example, a jacket with an embroidered logo be better?

(4) Would it be feasible to hire someone locally to examine the catch of bluefin tuna (medium or giant) for archival and conventional tags during the fishing season? If so, how much money would be required for this? Would it be more productive to reduce the reward for return of archival tags to US\$ 500 and spend the remaining \$ 500 on hiring someone to look over the catch for tags?

We realize that this initial inquiry is likely to raise more questions than it answers. Therefore, please provide us with any additional information and questions, or identify uncertainties so that an effective recovery program can be designed for your area. Archival tags are extremely valuable and the information we expect to gather from them will help to answer critical questions about the life of bluefin tuna.

All responses to this circular should be sent to:

Dr. Eric Prince
Southeast Fisheries Centre
NMFS
75 Virginia Beach Drive
Miami, Florida 33149
USA

TEL: +1-305-361 4248 FAX: +1-305-361 4219 E-MAIL: Eric.Prince@noaa.gov

BLUEFIN TUNA TAGGING CORRESPENTS 1996

MEMBER COUNTRIES/PAYS MEMBRES/PAISES MIEMBROS

CANADA	Dr. J.M. Porter
E. GUINEA	Director General de Aguas y Pesca
ESPAÑA	Dr. J.L. Cort, Sr. D.J.M. de la Serna Ernst, Srta A. Delgado de Molina, Sr. D.J. Mejuto, Srta. V.Ortiz de Zárate
FRANCE	M. B.Liorzou, L. Antoine
JAPAN	Mr. T. Itoh, Mr. N. Miyabe
KOREA	Dr. Jang Uk Lee, Mr. D.Y. Moon
LIBYA	The Director M.R.C. , M. N.K. El-Kebir
MAROC	M. A. Srour
PORTUGAL	Mr. E. Monteiro, M. J.A. Gil Pereira, Sta L. Ferreira de Gouveia
U.K. (Bermuda)	Mr. J. Barnes
U.S.A.	Dr. E. Prince, Dr. J. Powers, Dr.S. Turner, M. Terceiro
URUGUAY	Sra O. Mora
SCRS CHAIRMAN	Dr. Z. Suzuki

NON MEMBER COUNTRIES/ PAYS NON MEMBRES/PAISES NO MIEMBROS

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GREECE	The Director General I.O.F.R., Mr. G. Tserpes, Mr. S. Tselàs
HONDURAS	Director Departamento de Caza y Pesca
ITALY	Mr. G. De Metrio, Mr. A. Di Natale, Direttore Generale della Pesca Marittima, Ms L. Orsi Relini, Dott. C. Piccinetti, Mr. P. Addis. G. Cavallaro
MALTA	Mr. A. Meilak
MEXICO	Dr. G. A. Compeán Jiménez, Dña M.A. Murillo Correa
PANAMA	Director Dirección de Consular y de Naves
TAIWAN	C.C. Hsu, T.Y. Tsay, S.K. Chang
TUNISIE	M. le Directeur Général des Pêches. M. le Directeur de l'INSTOP. M. A. Hattour
TURKEY	Dr. I. Oray

ORGANIZATIONS/ORGANISATIONS/ORGANIZACIONES

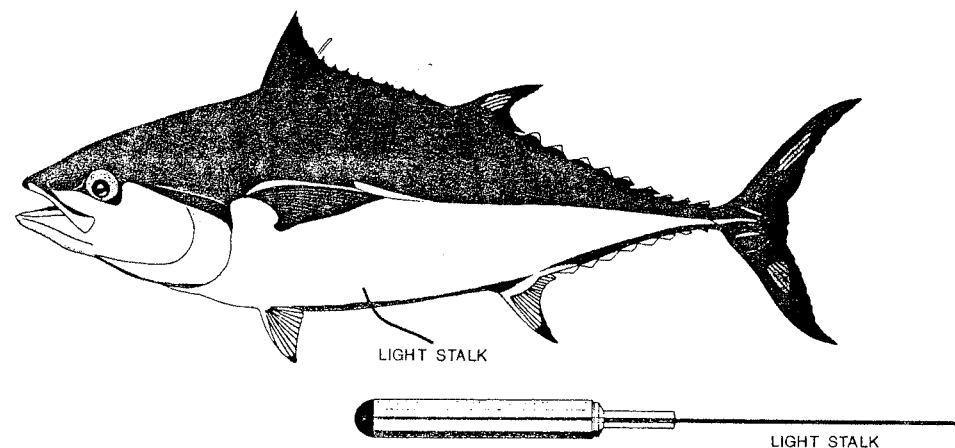
CARICOM	Dr. S. Singh-Renton
FAO	Mr. J. Majkowski
GFCM	The Secretary GFCM
IATTC	Dr. J. Joseph
ICES	The Secretary General

\$1,000 REWARD

OFFERED
FOR



ARCHIVAL TAGS FROM ATLANTIC BLUEFIN TUNA¹



What are archival tags? Archival tags are "state of the art" electronic data-logging devices that provide location estimates by measuring light intensity through a light stalk. They also measure pressure and provide data on depth, water temperature, and body temperature of the fish. This information is collected on a daily basis and stored in the tag for up to seven years.

How do you determine that a bluefin tuna has an archival tag? Archival tags are implanted in the body cavity of the tuna and only the light stalk protrudes out of the stomach. However, these specially equipped bluefin tuna also carry unique external conventional streamer tags, with two-tone coloration, to help fisherman recognize these fish and return the archival tags. The external tags are placed about an inch off the dorsal midline on each side of the fish. On the white portion of the streamer tag it says "electronic tag inside stomach" and on the green or orange side it says "Big \$\$\$ reward".

What to do if you catch a bluefin tuna with an archival tag? If legally taken, confirmed archival tagged fish should be brought aboard the boat. **DO NOT REMOVE THE ARCHIVAL TAG BY PULLING THE EXTERNAL LIGHT STALK IN THE STOMACH CAVITY.** To remove the archival tag, make a small incision in the area of the stomach and remove the archival tag (with the light stalk attached) by hand. Do not attempt to clean the tag, simply cover it and in the west Atlantic call the National Marine Fisheries Service. During business hours call 1-800-437-3936 or (305) 361-4248, on weekends, or at night call Dr. Eric Prince COLLECT at (305) 598-0944. In the east Atlantic, call the International Commission for the Conservation of Atlantic Tunas, Madrid, Spain, at 34-1-579-3352 or your local fisheries conservation agency. Instructions will be provided regarding where and how the tag should be mailed. After verification of the tag, arrangements will be made regarding payment of the \$1,000.

Size of bluefin tuna carrying archival tags. Medium (135-310 lbs) and Giant bluefin tuna (310 lbs and up) have been equipped with archival tags. \$1,000 will be paid for each tag that is properly removed from legally caught Atlantic bluefin tuna and returned.

¹ This experimental research program is being conducted jointly by Stanford University's Tuna Research and Conservation Center and NMFS.