INTER-AMERICAN TROPICAL TUNA COMMISSION
COMISIÓN INTERAMERICANA DEL ATÚN TROPICAL

73RD MEETING

LANZAROTE (SPAIN)
20-24 JUNE 2005

DOCUMENT IATTC-73-17

PROGRAM AND BUDGET FOR FISCAL YEAR 2007 (OCTOBER 1, 2006-SEPTEMBER 30, 2007)

Requested research budget FY 2007	US$	5,336,109
Agreed research budget FY 2006	US$	5,182,908
Change	US$	**153,201**

1. PREFACE

In this document the proposed research program and estimates of expenditure for FY 2007 are presented, by project and specific budget objects, in US dollars.

Consistent with last year's presentation, the paper reflects the cost of the observer program, how it is funded jointly by the IATTC and the Agreement on the International Dolphin Conservation Program (AIDCP), and how other AIDCP costs are funded.

Past expenditure reductions required deferred replacement of vehicles and equipment. The recommended budget includes some replacements.

Expected regular operations expenditure in FY 2005 is $5,110,547, with an expected total deficit for the year of $280,004.

The budgets proposed for FYs 2006 and 2007 were made assuming inflation will increase general costs by 3% and salaries by 4%.

The costs of the IDCP exceeded its income during 2000-2004. At their meeting in June 2003, the Parties to the AIDCP approved a plan to cover all of the costs of the IDCP. In the event the 2004 revenue was not sufficient to avoid a further deficit. At the time of writing, the revenue for the the AIDCP this year has been $1,964,635, compared to a forecast expenditure of $2,209,781.

Before 2003, the Commission has had sufficient cash reserves to carry its operations into the new financial year without receiving member contributions at the beginning of the year. This is no longer the case, and in 2003, the Commission amended its financial regulations to require member contributions to be paid by 1 November of each financial year. Not all members are in compliance with this rule. Of the $1,913,208 in total contributions outstanding, $1,636,348 are from the current year.

2. INTRODUCTION

The IATTC was established in 1950 by a Convention between the governments of the Republic of Costa Rica and the United States of America, and is open to membership by other governments. The Convention mandates that the populations of tunas, tuna-like fishes, and other kinds of fish taken by tuna-fishing vessels in the eastern Pacific Ocean (EPO) be maintained at levels of abundance that can support maximum yields on a sustained basis and provided for a program of investigation as a basis for management of the fisheries. Acquiring the information necessary to determine those levels of stock abundance requires a broad-based, comprehensive research program, which includes the collection of

detailed data on the fisheries that take those species, and ancillary biological and environmental data.

The members of the Commission share the joint expenses of the research program. The Convention provides guidelines for determining budget contributions by the member governments. Each member's contribution is based on the proportion of the catch of tunas from the EPO taken by vessels of member nations that is utilized by that member nation. "Utilized" is understood to mean tuna eaten fresh or processed for internal consumption or export. Thus tunas landed by a member nation and subsequently exported round or as loins are not included in computing that nation's contribution, but those that are exported canned are so included. These contributions have been calculated from statistics compiled by the IATTC staff for calendar years before the budget period in question. In February 2004, the Finance Working group proposed that these data be provided by the members themselves, and that tuna caught by longlines and exported whole and frozen would be counted towards the utilization of the catching country, not the importing country.

To accomplish the variety of research required to meet its objectives, the Commission maintains an internationally recruited scientific staff. Most are situated at La Jolla, but others are assigned to field offices in Manta and Playas (Ecuador), Ensenada and Mazatlán (Mexico), Mayaguez (Puerto Rico), Panama (R.P.), and Cumaná (Venezuela), and at a laboratory in Achotines (R.P.).

Fundamental to the Commission's work are basic data on the fishing activities of vessels, the catches they make, and the sizes of fish comprising the catch. These data are used to assess the impact of fishing on the abundance of the stocks being exploited. A large share of the Commission's research budget goes to this activity. A comprehensive program of placing logbooks aboard vessels based in the EPO is maintained, and the data on fishing effort and catch by time and location are extracted from these logbooks when the vessels return to port. In addition to the collection of basic statistical data, samples of the lengths of the fish in the catch are routinely taken when the fish are unloaded from the vessels. This length-measurement program is essential to studies of growth and size composition, which, in turn, are necessary for assessment of the effects of fishing on the various stocks.

The catch and fishing effort data are used to describe the distribution, by area and time, of fishing effort and the catches of each species. To manage the stocks of fish taken by tuna-fishing vessels in the EPO, the staff formulates models that can provide assessments of the impact of fishing on the stocks. This requires an understanding of the biology of the fish. Therefore, the research program provides for studies of stock structure, growth, rates of mortality and natality, times and locations of spawning and recruitment, the rates of mixing of fish among areas, behavior and physiology of the fish, effects of the environment on the abundance and distribution of the fish, and the relationships of tunas with other organisms in the ecosystem.

To manage fish stocks it is necessary to understand the relationships of fish in one area of the fishery to those in other areas, so that any management measures can be applied to all members of the stocks of fish being exploited, wherever they occur. The staff has used several approaches to study the relationships of fish of different areas. Mark-and-recapture experiments are used widely in fisheries science to provide estimates of characteristics such as growth, mortality, movements, and mixing. Extensive tagging of yellowfin or skipjack is not recommended at this time. However, increases in purse-seine catches of bigeye tuna has put additional pressure on bigeye stocks which previously had been exploited mainly by the longline fishery which took large bigeye. Accordingly, Japan has made a commitment to provide funds for a multi-year tagging program. The initial pilot bigeye tagging project during 2000 was followed with additional tagging thru 2004. For 2005, funding was obtained from Japan of $204,294, and Chinese Taipei of $10,000. Additional funds will be sought for this work in future years. This is shown separately in Table 1.

The study of the early life history of fish is vitally important in determining the dynamics of a fishery. Because of the low density of the larvae and the enormous areas in which they occur, this research is most effective when complemented by rearing larval and juvenile fishes in the laboratory, which makes large

numbers of specimens available for study. Tuna are being reared at the Commission's Laboratory at Achotines, Panama, through the early life stages, and the characteristics of growth and mortality are being investigated. The annual operating costs for the laboratory, including the local staff are about $320,000, and the project includes four full-time equivalent head office staff.

Tunas are pelagic during all stages of their lives, and changes in the ocean environment affect their apparent and real abundance. An understanding of how oceanic conditions change and how the tunas respond to their changing environment is necessary for the most efficient management of the stocks. Oceanographic, physiological, and behavioral studies are long-term, time-consuming, and expensive. Comprehensive programs of this nature are beyond the Commission's means, and efforts in this direction are therefore of a cooperative nature. The Commission's oceanographic studies are conducted on a limited scale, and rely on publicly available data.

The tuna fishery in the EPO is better documented than any other tuna fishery and, in particular, the dynamics of the yellowfin stock in the EPO are better understood than are the dynamics of most other stocks of tuna. Accordingly, the IATTC's research program in the EPO has set the standards and formed the basis for study and comparison in other parts of the world. Also, the yellowfin resource has been alternately underfished and overfished on two occasions in the past, which makes it unique among tuna fisheries and rare among all marine fisheries. It would obviously be a terrible loss to interrupt this series of data. Furthermore, it appears that after a long period up until 1998, during which the fishing effort was generally lower than the levels that would produce the maximum sustainable catches, the purse-seine fleet has increased to a level at which management measures for both yellowfin and bigeye are routinely necessary.

At its 34th meeting in 1977 the Commission directed the staff to formulate a dolphin research program that would include, *inter alia*, monitoring population sizes and mortality incidental to fishing through the collection of data aboard tuna purse seiners, aerial surveys, tagging dolphins to study their movements and abundance, analyses of indices of abundance of dolphins, and gear and behavioral research and education.

To assess the status of dolphin populations, the Commission instituted an observer program for tuna vessels of the international fleet. The observers, among other things, count the dolphins that are killed or seriously injured during fishing operations and collect data that are used to estimate the relative abundance of the various species and stocks of dolphins. The budget for the research program provides funding for observers on 30% of the fishing trips of large purse-seine vessels.

Information obtained through the observer program and other surveys, coupled with logbook data gathered for the tuna studies described earlier, is being used to assess the effects of fishing on both the tuna and dolphin populations.

To meet its objective of making every reasonable effort to avoid the needless and careless killing of dolphins, the Commission's Tuna-Dolphin Program includes study of the design, development, and implementation of fishing gear and techniques that will reduce the mortality of dolphins taken in association with tunas. This program also includes workshops to pass on information to fishermen about the use of fishing techniques and gear that have proven effective in reducing dolphin mortality.

In 1999 the AIDCP, which formalized and expanded the 1992 La Jolla Agreement, came into force. The Commission has two principal functions under the IDCP: the IATTC observer program covers the majority of fishing trips made by purse-seine vessels over 363 t carrying capacity (the others are covered by the respective national programs), and the IATTC staff acts as secretariat to the IDCP. As noted above, the IATTC dolphin research program provides for 30% coverage of the trips made by these larger vessels. The remaining cost of the coverage required by the AIDCP, along with certain other costs associated with the IDCP, is met by the assessments paid by these vessels based on their individual carrying capacities.

Since the initiation of the program, the information collected by the observers has included records of the

catches and bycatches of tunas and other species. Because it is difficult to allocate the costs of the observer program, the costs of all data collection by observers and research associated with bycatches have been included in the Tuna-Dolphin Program. In 1997 the Commission established a Working Group on Bycatch, whose objectives recognized the need to ensure the sustainability of the stocks of all target and bycatch species. International standards require the consideration of ecosystems in fisheries management, and the information gathered by the observer program and the work of the Working Group on Bycatch are important contributions to that end.

Table 1 shows the FY 2004 (actual), 2005 and 2006 (estimated), and 2007 (recommended expenditure, by project and income. Table 2 shows total expenditure by budget objects. In Table 2, the total expenditure for externally funded projects is combined in a separate category, and not allocated into budget objects.

3. PROGRAM DESCRIPTION BY PROJECT[1], FY 2007

PROJECT A **708,050**

Administrative and other costs jointly chargeable to all projects

The costs of administration and bookkeeping and various expenses of the headquarters, such as some of the costs of printing, translation, library, postage, etc., not easily allocated to individual research projects, are allocated and accounted for under this heading. Includes the costs of work related to the Commission's fisheries management policies and costs associated with meetings.

404,715 All or part of the gross salaries of administrative personnel, including the Director, two fisheries policy and management staff, Executive Officer, Administrative Assistant, secretary to the Director, one bilingual secretary, the computer systems and web page management staff, and a translator.

81,823 Meeting expenses, travel to and from Commission meetings and travel of administrative staff.

PROJECT C **1,079,259**

Collection, compilation, and analysis of catch statistics and logbook data

Statistical records of the tuna fishery, obtained directly from the fishing fleet and processing plants, provide the data base for measuring the effects of fishing on the abundance of the stocks, and hence are of paramount and continuing importance to the Commission's program.

673,325 Gross salaries for 11 full-time equivalent headquarters staff.

PROJECT D **1,870,610**

Investigations of the biology, life history, vital statistics, population structure, and behavior of tunas and billfishes

This project consists of several important studies, which are designed to increase the available knowledge of the life history of the tunas and billfishes of the EPO. Such knowledge, along with catch and effort data, is used to formulate models for evaluating the effect of fishing on the abundance of the stocks. The project has several important objectives, which can be grouped into the following categories:

1. Investigation of biology and behavior.
2. Determination of the important features of the early life history of the fish and the factors that affect the recruitment of young fish to the exploitable population.
3. Stock assessment and the description of the dynamics of the populations of tunas and other fishes in

[1] Only the main items are listed under each project; other items are office costs, insurance, taxes, etc.

the EPO.

4. The development of models of ecosystems, including tuna, in the EPO.
5. Studies of some of the species of billfishes taken by commercial and recreational fisheries in the EPO.

Data for these types of research are obtained from the examination of tunas and billfishes at ports of landing, the analysis of information from vessel logbooks, studies conducted at sea on research and fishing vessels, and laboratory experiments.

1,171,147 Gross salaries of 13 headquarters full-time equivalents (FTEs), divided among the following areas of research:

	FTE
Biology and behavior	2
Tuna early life history	4
Stock assessment of tunas and billfish	6
Ecosystems inhabited by tuna	1

320,000 Fuel, fish food, and other supplies, and salaries for 20 locally-contracted staff, for the Achotines Laboratory.

PROJECT E **21,681**

Investigations of the oceanic circulation and other aspects of chemical and biological oceanography and their relationship to the populations of tunas and billfishes

Fishing success depends on the abundance and behavior of tunas, which in turn are influenced by oceanographic conditions. Oceanographic information forms a vital part in the assessment of stocks. However, in recent years, this project has operated on a much-reduced scale, without permanent scientific staff and using publicly-available data.

17,927 Gross salary of less than one full-time equivalent.

PROJECT F **189,894**

Tuna tagging and recovery to study movements, rates of intermingling of stocks, mortality, and growth

Tuna tagging experiments yield knowledge on movements, population structure, growth, mortality, behavior, and availability and vulnerability to capture of tunas in various areas of the fishery at various times.

Current activities include tagging of bigeye tuna, the maintenance of the tagging data base and collection of information on fish tagged by other organizations which are returned to IATTC personnel in ports at which they are stationed.

Additional voluntary funding is being sought for bigeye tagging for FY 2004-2006. The projected expenditure and funding for this is shown separately in Table 1.

125,535 Gross salary of two full-time equivalents.

PROJECT H **640,618**

Tuna-Dolphin Program (excluding observer costs)

In keeping with the objectives of the Commission's dolphin investigations and the major areas of research outlined in the introductory statement, this program has been grouped into the following major areas of activity, summarized below.

1. Participation in the planning, execution, and analysis of scientific surveys.
2. Studies of indices of dolphin abundance, using data collected by observers on purse seiners.
3. Keeping abreast of gear and behavioral research and evaluating new concepts aimed at reducing dolphin mortality, organizing gear workshops, identifying, developing, and preparing recommendations for the adoption of dolphin-saving technology, and furnishing advice and assistance to fishermen to ensure that their dolphin-saving gear is working properly.
4. Staff support for the IATTC portion of the observer program.
5. Studies of bycatches of tunas and other species incidental to fishing for tunas.

384,711 Gross salaries for 5 headquarters full-time equivalents.

PROJECT I **2,753,324**

Observer program costs

Direct costs of observers and the costs of administering the program. The funding for this project is divided between the IATTC and AIDCP in the proportions of 30% and 70%.

1. Collection of dolphin data aboard purse seiners by observers. The scientific objective is to have these observers aboard enough trips of Class-6 purse seiners equipped to fish for tunas associated with dolphins to ensure that the estimates of the total dolphin mortality derived from the data collected are statistically reliable.
2. Collection of fishery or biological data by observers on catches and discards of tunas and associated species. These data supplement data collected from vessel logbooks.

The information is also used to monitor compliance with rules established by the IATTC and AIDCP.

896,046 Gross salaries for 11 headquarters full-time equivalents.
1,585,345 Observer compensation, taxes, travel, and equipment.

PROJECT J **458,575**

Other AIDCP costs

Providing logistic and administrative support for the IDCP, the secretariat role for the International Review Panel (IRP), and the cost of crew seminars and trial sets.

361,902 Gross salaries for 3 headquarters full-time equivalent administrative staff.

OTHER SPECIAL PROJECTS **30,854**

This category includes projects funded by from extrabudgetary sources. During FY 2005 these included studies of purse-seine bycatch mitigation funded by the US Department of State; a project to mitigate the effect of longline fishing on marine turtles in coastal countries, funded by the World Wildlife Fund, the US National Oceanic and Atmosphere Administration, The Ocean Conservancy and the US Western and Central Pacific Management Council; two contracts funded by the Pelagic Fisheries Research Program of the University of Hawaii, one dealing with modeling of protected species and the other with trophic structure of communities including tuna; and joint projects with the University of Miami at the Achotines Laboratory. The projects include support for 2 temporary scientific staff.

4. EXPLANATION OF OBJECT CLASS ESTIMATES, FY 2007

Salaries (01) **3,771,736**

The permanent scientific, administrative, clerical, and technical personnel required to carry out the duties of the Commission.

Social Security (02) **258,950**
US social security taxes on employees.

Retirement Plans (03) **383,952**
The IATTC's pension plan is administered by the International Fisheries Commissions Pension Society (IFCPS) in Ottawa, under a deposit administration plan that provides level funding over periods of approximately three years. The administrative costs of the IFCPS are expected to increase in the future and a reduced return on the pension funds invested has required a higher funding by the Commission for the plan. During FY 2002 a defined contribution plan was introduced for new employees in place of the existing defined benefit plan.

Group Insurance (04) **337,004**
California Workmen's Compensation, life, disability, medical, dental and accident insurance. The costs of insurance, particularly medical insurance, are currently rising much faster than the rate of inflation.

Rents, Utilities, Maintenance (05) **138,679**
Rent and utilities for the Commission's offices and laboratories and maintenance costs for Commission property.

Materials and Supplies (06) **109,943**
Includes office supplies, and the costs of other supplies for the Achotines Laboratory.

Equipment and Property (07) **191,525**
The major items in this category are computers and other office machines and vehicles.

Postage (08) **29,013**
Includes mail and courier services.

Printing and Duplication (09) **34,848**
The prompt publication of research results is a necessary and important part of the IATTC's scientific program.

Travel and Subsistence (10) **233,389**
Travel and subsistence costs incurred by IATTC staff members. Does not include observer travel and other associated costs, which are accounted for under Observer Costs (13).

Contractual Services (11) **533,418**
Legal and professional fees (e.g. auditing), contracts with short-term specialists, casual labor costs, computer charges, and simultaneous interpretation services. Also included in this category are costs related to permanent field office staff as well as related taxes and benefits.

Direct AIDCP Costs (12) **89,351**
Direct costs associated with the IDCP such as trial sets, dolphin-safe certification and staff travel for AIDCP meetings.

Observer Costs (13) **1,585,345**
Wages and related taxes, travel, training and other expenses for observers.

Taxes, Insurance, and Licenses (14) **16,926**
Insurance and licenses for Commission vehicles, insurance and taxes on real property, and the cost of permits.

Miscellaneous (15) **7,931**
Dues, subscriptions, interest, bank and finance charges, losses (or gains) on currency exchange, and similar miscellaneous costs.

Other Special Projects (16) **30,854**
Various costs to carry out research as defined by contractual agreement with outside funding sources.

TABLE 1. Comparative figures, in US$, by project, FY 2004-2007.
TABLA 1. Cifras comparativas, en US$, por proyecto, AF 2004-2007.

EXPENDITURE – GASTOS					
FY-AF	**2004** (actual--reales)	**2005** (estimated--estimados)	**2006** (recommended--recomendados)	**2007** (recommended--recomendados)	Change from--Cambio de FY/AF 2006
REGULAR OPERATIONS—OPERACIONES REGULARES					
A Administrative expenditures Gastos administrativos	726,960	681,852	685,042	708,050	23,008
C Collection and analysis of catch statistics Recolección y análisis de estadísticas de captura	1,049,183	1,039,326	1,044,188	1,079,259	35,071
D Biology of tunas and billfishes Biología de atunes y peces picudos	1,720,575	1,801,397	1,809,824	1,870,610	60,786
E Oceanography Oceanografía	22,085	20,879	20,976	21,681	705
F Tuna tagging Marcado de atún	173,666	182,868	183,723	189,894	6,171
H Tuna-Dolphin Program (excluding observer costs) Programa Atún-Delfín (excluye costos de observadores)	622,499	616,915	619,801	640,618	20,817
I IATTC observer costs (30%) Costo de observadores de la CIAT (30%)	720,240	767,310	801,075	825,997	24,922
Total regular operations **Total operaciones regulares**	5,035,206	5,110,547	5,164,629	5,336,109	171,479
SPECIAL PROJECTS—PROYECTOS ESPECIALES					
Bigeye tagging project – Proyecto de marcado de patudo	240,020	205,190	250,000	-	<250,000>
Externally funded research contracts — Contratos de investigación financiados de otras fuentes	176,575	54,006	29,955	30,854	899
Subtotal:	416,595	259,196	279,955	30,854	<249,101>
AIDCP—APICD:					
I Observer costs(70%)—Costos de observadores(70%)	1,680,559	1,790,391	1,869,175	1,927,327	58,152
J Other costs of AIDCP—Otros costos del APICD	396,697	419,390	435,734	458,575	22,841
Subtotal:	2,077,256	2,209,781	2,304,909	2,385,902	80,993
Total special projects **Total proyectos especiales**	2,493,852	2,468,977	2,584,864	2,416,756	<168,108>
TOTAL	**7,529,058**	**7,579,524**	**7,749,494**	**7,752,865**	**3,371**

TABLE 1. (continued)
TABLA 1. (continuación)

INCOME – INGRESOS					
FY-AF	**2004** (actual--reales)	**2005** (estimated--estimados)	**2006** (recommended--recomendados)	**2007** (recommended--recomendados)	Change from--Cambio de FY/AF 2006
REGULAR OPERATIONS—OPERACIONES REGULARES					
National contributions--Contribuciones nacionales	4,493,456	5,016,321	5,182,908	5,336,109	153,201
Interest & miscellaneous—Intereses y misceláneos	17,745	15,000	15,000	15,000	-
Total regular operations **Total operaciones regulares**	4,511,201	5,031,321	5,197,908	5,351,109	153,201
SPECIAL PROJECTS—PROYECTOS ESPECIALES					
Bigeye tagging–Marcado de patudo	269,144	204,294	250,000	-	<250,000>
Externally funded research contracts— Contratos de investigación financiados de otras fuentes	231,698	94,350	29,955	30,854	899
Subtotal:	500,842	298,644	279,955	30,854	<249,101>
AIDCP—APICD:					
Vessel assessments--Cuotas de buques					
Vessels with observers—Buques con observadores	1,824,941	1,914,635	2,207,660	2,385,902	178,242
Other vessels—Otros buques	27,704	50,000	-	-	-
Subtotal:	1,852,645	1,964,635	2,207,660	2,385,902	178,242
Total special projects **Total proyectos especiales**	2,353,487	2,263,279	2,487,615	2,416,756	<70,859>
TOTAL	**6,864,688**	**7,294,600**	**7,685,523**	**7,767,865**	**82,342**

TABLE 2. Comparative figures, in US$, by budget object, FY 2004-2007.
TABLA 2. Cifras comparativas, en US$, por categoría presupuestal, AF 2004-2007.

		EXPENDITURE – GASTOS			
	FY-AF	**2004**	**2005**	**2006**	**2007**
	Category - Categoría	(actual—reales)	(estimated—estimados)	(recommended—recomendados)	(recommended—recomendados)
1	Salaries Sueldos	3,415,466	3,522,536	3,638,206	3,771,736
2	Social security Seguro social	234,490	241,841	249,782	258,950
3	Pension plan Plan de pensiones	341,578	358,584	370,359	383,952
4	Group insurance Seguro colectivo	317,861	316,658	326,464	337,004
5	Rents, utilities, maintenance Alquileres, servicios públicos, mantenimiento	159,232	130,718	134,640	138,679
6	Materials and supplies Materiales y pertrechos	123,232	103,632	106,741	109,943
7	Equipment and property Equipo y bienes raíces	180,042	261,253	186,821	191,525
8	Postage Correo	40,531	27,348	28,168	29,013
9	Printing and duplication Imprenta y duplicado	38,714	32,848	33,833	34,848
10	Travel and subsistence Viajes y viáticos	227,898	219,991	226,591	233,389
11	Contractual services Servicios por contrato	502,030	502,798	517,882	533,418
12	AIDCP direct costs Costos directos del APICD	60,032	84,351	86,748	89,351
13	Observer costs Costos de observadores	1,418,174	1,494,340	1,539,170	1,585,345
14	Taxes, insurance, licenses Impuestos, seguros, licencias	23,353	15,954	16,433	16,926
15	Miscellaneous Miscelánea	29,831	7,476	7,700	7,931
16	Externally funded research contracts Contratos de investigación financiados de otras fuentes	416,595	259,196	279,955	30,854
	TOTAL	**7,529,058**	**7,579,524**	**7,749,494**	**7,752,865**