

**REPORT OF THE CARICOM FISHERIES RESOURCE ASSESSMENT AND MANAGEMENT PROGRAM
(GFRAMP)**

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SUMMARY

Nominal catch statistics for large pelagic species are presented for the period 1988-1992. In 1993, the Program's Pelagic and Reef Fishes Resource Assessment Unit examined the use of various hard parts for the ageing of blackfin tuna (*Thunnus atlanticus*). Age validation of observed growth rings on blackfin tuna vertebrae and otoliths will be undertaken during 1993-1994. Some research on the use of fish aggregating devices by local fishers was conducted. The Program participated in and presented a working document at the Working Group Meeting to Evaluate the Status of Yellowfin Tuna, which was held in Tenerife during 3-9 June, 1993. As a result of this meeting, collection of data on yellowfin length frequencies in CARICOM landings is scheduled to begin in late 1993.

RESUME

Les statistiques de capture nominale de grands pélagiques sont présentées pour la période 1988-92. En 1993, la Pelagic and Reef Fishes Resource Assessment Unit du Programme a examiné l'emploi de diverses pièces dures pour la détermination de l'âge du thon à nageoires noires (*Thunnus atlanticus*). La validation de l'âge des anneaux de croissance sur les vertèbres et otolithes de thons à nageoires noires sera entreprise en 1993-94. Quelques recherches ont été menées sur l'utilisation de dispositifs de concentration de poissons par les pêcheurs locaux. Le Programme a pris part au Groupe de travail sur l'Évaluation de l'Albacore de l'Atlantique à Ténériffe les 3-9 juin 1993, et y a présenté un document de travail. Suite à cette réunion, il est prévu que le recueil de données sur les fréquences de longueur de l'albacore dans les débarquements de la CARICOM débute fin 1993.

RESUMEN

Se presentan estadísticas nominales de captura de especies de grandes pelágicos para el período 1988-1992. En 1993, el "Pelagic and Reef Fishes Resource Assessment Unit" del Programa, estudió el uso de varias partes duras para determinar la edad del atún aleta negra (*Thunnus atlanticus*). En 1993-1994 se emprenderá la validación de la edad por medio de anillos de crecimiento observados en vértebras de atún aleta negra y en otolitos. Los pescadores locales realizaron investigaciones sobre el uso de dispositivos de agregación de peces. El Programa participó en la reunión del Grupo de Trabajo sobre Evaluación del Rabil Atlántico (Tenerife, 3-9 de junio, 1993), en la cual presentó un documento de trabajo. Como resultado de esta reunión, se ha programado para finales de 1993 la recogida de datos sobre frecuencias de talla del rabil en los desembarques de CARICOM.

INTRODUCTION

At present, twelve Caribbean countries participate in the CARICOM Fisheries Resource Assessment and Management Program (CFRAMP). The fisheries in these countries are largely artisanal, with recent developments in small-scale industrial longlining (Mahon and Singh-Renton, 1992). Of participating countries, only five are active in fishing large pelagics: Trinidad and Tobago, Grenada, St. Vincent and the Grenadines, Barbados and St. Lucia. This document briefly reports on the annual large pelagic landings of these five countries for 1988 to 1992, and CFRAMP's activities in large pelagic research for the period 1992/1993.

LARGE PELAGIC CATCHES

Table 1 provides landing statistics for large pelagics, as recorded by the respective countries. As noted in table 1, categories can include more than one species, and may represent a different group of species for each country. To avoid this problem in future, CFRAMP is continuing efforts to standardise fishery data collection systems in all participating countries. It should be noted that the landing statistics reported for Trinidad include local and foreign industrial longline landings at the island's trans-shipment port, as well as landings from the inshore hook and line and gillnet fisheries.

ACTIVITIES FOR 1992/1993

During 1992/1993, CFRAMP continued to develop and enhance fishery data collection and licensing and registration systems and fishery management plans in participating countries. CFRAMP participated in the meeting of the Working Group to Evaluate Atlantic Yellowfin Tuna and presented a working document on yellowfin catch and effort data for several Caribbean islands (Mahon *et al.*, 1993).

The Program conducted an interview study to investigate the use of fish aggregating devices (FADs) by local fishermen. The results of this study were not available at the time of writing this report, and so will have to be presented in CARICOM's national report for 1994.

In addition, a preliminary study investigating the use of various hard parts for ageing of blackfin tuna was undertaken. The results of this study were presented for consideration by the Working Group for Small Tunas (Neilson *et al.*, 1993). They indicate that the vertebra and otolith are the most reliable hard parts for ageing blackfin tuna. A more extensive study is now being conducted to attempt validation of growth rings observed during initial trials.

Research proposals have also been developed to address various aspects of large pelagic fish stock assessment and to support ongoing ICCAT activities in the region. Implementation of these proposals should begin during the period 1994-1996, pending approval by participating countries. Proposals include:

- (a) age and growth studies of several large pelagic species including yellowfin tuna, blackfin tuna, king mackerel and wahoo,
- (b) collection of biological data (length, age, maturity) on the species mentioned in (a),
- (c) tagging of billfishes, tunas and tuna-like species, carried out in collaboration with the ICCAT Billfish Tagging Program,
- (d) additional tagging of migratory pelagics with emphasis on more localised species such as blackfin tuna and wahoo.

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Table 1. Commercial landings (mt, rounded to the nearest 0.1 mt when data were sufficiently precise) of large pelagic fish species by some CARICOM countries, 1988-1992.

		1988	1989	1990	1991	1992	
Barbados	yellowfin tuna	<i>Thunnus albacares</i>	236	62	89	108	179
	skipjack tuna	<i>Katsuwonus pelamis</i>	3	9	11	14	5
	billfish unsp.		333	88	70	88	151
	wahoo (includes king mackerel)	<i>Acanthocybium solandri</i> and <i>Scorberomorus cavalla</i>	332	80	51	92	81
	Total, Barbados		904	239	221	302	416
	Grenada	yellowfin tuna	<i>Thunnus albacares</i>	215.3	235.0	302.9	354.4
skipjack tuna		<i>Katsuwonus pelamis</i>	21.9	10.6	12.9	14.3	17.2
blackfin tuna		<i>Thunnus atlanticus</i>	125.4	76.7	167.5	111.3	83.4
bigeye tuna		<i>Thunnus obesus</i>				37.0	14.3
Spanish mackerel		<i>Scorberomorus maculatus</i>	0.2	0.6	1.9	0.2	0.1
wahoo		<i>Acanthocybium solandri</i>	78.2	32.7	30.9	43.7	59.4
Atlantic sailfish		<i>Istiophorus albicans</i>	113.5	97.8	124.5	180.4	177.1
blue marlin		<i>Makaira nigricans</i>	20.6	22.9	29.9	38.5	29.6
swordfish		<i>Xiphias gladius</i>	55.5	5.1	0.5	1.1	1.8
Total, Grenada			630.7	481.5	671.1	778.9	722.9
St. Lucia		yellowfin tuna	<i>Thunnus albacares</i>			57.6	49.3
	skipjack tuna	<i>Katsuwonus pelamis</i>			37.0	51.2	39.3
	blackfin tuna	<i>Thunnus atlanticus</i>			16.6	14.2	13.4
	tuna unsp.				33.9	56.1	44.5
	Atlantic bonito	<i>Sarda sarda</i>			2.7	3.2	2.8
	wahoo	<i>Acanthocybium solandri</i>			77.4	43.4	108.2
Total, St. Lucia				225.2	217.4	265.7	
St. Vincent and Grenadines	yellowfin tuna	<i>Thunnus albacares</i>	0.1	0.6	19.6	23.9	17.3
	skipjack tuna	<i>Katsuwonus pelamis</i>	16.5	28.2	29.0	27.4	12.8
	blackfin tuna	<i>Thunnus atlanticus</i>	18.5	15.3	37.9	10.6	6.6
	bigeye tuna	<i>Thunnus obesus</i>		0.0	0.3	0.0	1.2
	wahoo	<i>Acanthocybium solandri</i>	4.4	3.7	28.0	32.5	17.8
	Atlantic sailfish	<i>Istiophorus albicans</i>			1.8	0.6	1.1
	blue marlin	<i>Makaira nigricans</i>		0.5	0.4	0.3	0.5
	swordfish	<i>Xiphias gladius</i>		0.0	3.3	0.0	2.5
	Total, St. Vincent and the Grenadines		39.5	48.3	120.3	95.3	60.0
	Trinidad and Tobago	yellowfin tuna	<i>Thunnus albacares</i>	0.8	10.0	302.7	540.1
skipjack tuna		<i>Katsuwonus pelamis</i>	1.0				
bigeye tuna		<i>Thunnus obesus</i>	1.0	18.9	56.7	263.2	
bluefin tuna		<i>Thunnus thynnus</i>	0.1	0.1			
albacore		<i>Thunnus alalunga</i>		0.2	1.9		247.5

Table 1 (cont). Commercial landings (mt, rounded to the nearest 0.1 mt when data were sufficiently precise) of large pelagic fish species by some CARICOM countries, 1988-1992.

		1988	1989	1990	1991	1992
Trinidad and Tobago (cont)	tunes unsp.	1229.3	3110.4	3537.9	50.6	4428.1
	blue marlin		0.9			
	black marlin		25.5	1.8		
	marlin unsp.	74.0	18.8	15.6	7.1	
	Atlantic sailfish	23.7	9.5	5.6	2.6	2.2
	spearfish	9.7	6.7	1.0		
	swordfish	42.0	79.1	65.9	71.0	562.4
	kingfish	752.0	541.0	424.3	656.6	
	carite	2704.2	2864.1	2470.8	2748.6	
	wahoo				117.8	
	Total, Trinidad and Tobago	4837.6	6685.2	6884.2	4457.6	5240.2

Interpretative Notes:

Blanks signify that no data are available.

Barbados: Landings of skipjack tuna include an unknown fraction of blackfin tuna. Landings of yellowfin tuna include an unknown fraction of bigeye tuna. Landings of wahoo are mostly *A. solandri*, but also include king mackerel *S. cavalla*. Billfish includes blue marlin, white marlin, sailfish and swordfish. Unknown quantities of frigate tuna (*A. thazard*) are also caught.

Grenada: Prior to 1991, bigeye tuna and blackfin tuna were reported together as blackfin tuna. Grenada Fisheries Division estimates that reported blackfin tuna landings actually comprised 50% blackfin, 20-25% bigeye and the balance made up of bullet and frigate tunas.

St. Vincent & Grenadines: Landings are from Kingstown market only. However, most landings of pelagic fish are made at that port.

Trinidad & Tobago: Two fisheries sectors contribute to total landings: the industrial fishery and the inshore fishery (see SCRS /93/29). The 'Tunes Unspecified' category in 1991 and 'Sailfish' in 1992 contain the inshore fishery component only.