

CRFM STATISTICS AND INFORMATION REPORT FOR 2014



CRFM Statistics and Information Report –2014

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CRFM Secretariat
Belize and St. Vincent and the Grenadines

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LIST OF ACRONYMS AND ABBREVIATIONS

AC	Aquaculture
ACP	African, Caribbean and Pacific states
ASC	Aquaculture Stewardship Council
BOT	British Overseas Territories
CARICOM	Caribbean Community
CIA	Central Intelligence Agency
CRFM	Caribbean Regional Fisheries Mechanism
CWP	Coordinating Working Party on Atlantic Fishery Statistics
ECCB	East Caribbean Central Bank
EEZ	Exclusive Economic Zone
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization of the United Nations
FRP	Fibreglass Reinforced Plastic
GDP	Gross Domestic Product
GRFP	Glass-fibre Reinforced Plastic
GRP	Glass Reinforced Plastic
JICA	Japan International Cooperation Agency
LOA	Length Overall
MCF	Marine Capture Fisheries
OECS	Organization of Eastern Caribbean States
SIDS	Small Islands Development States
TCI	Turks and Caicos Islands
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
WECAFC	Western Central Atlantic Fishery Commission
WWAP	World Water Assessment Programme

INTRODUCTION

The mission of the CRFM is “to promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region” (CARICOM Fisheries Unit, 2002). The members of the CRFM are: Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago and the Turks and Caicos Islands.

The fisheries of Member States are an important foreign exchange earner and a primary contributor to income, employment, food security and social and economic stability, especially in coastal communities.

CRFM Member States are required to collect, manage and appropriately use scientific data and information to inform the fisheries management planning and decision making process, and fulfil international reporting requirements. Thus, one of the main activities of the CRFM focuses on the enhancement of fisheries data collection systems in the participating Member States. Activities that have been undertaken to improve data collection systems and capabilities of Member States include: training, provision of computers, development of a fisheries database and technical support.

Although data collection systems have improved over the years, Member States still struggle with data collection issues mainly due to the challenge of limited human and financial resources available for data collection and management activities at the national levels. Notwithstanding the above mentioned constraints, Member States continue to collect and compile the best available data and information for planning and decision-making. It is in this context that the CRFM Statistics and Information Report has been compiled with the aim of providing, at the regional level, an information source for its Member States and other stakeholders to access the most up to date fisheries statistical information that are available from the CRFM Member States. It is hoped that the publication will provide Member States and stakeholders with a regional picture of the fishing fleet, fish production, number of fishers and employment in the sector and the economic importance of the fishery sector of the CRFM region.

This publication is primarily an update of the *CRFM Statistics and Information Report –2012* (Masters, 2013) with data for 2013 and 2014. In cases where data for 2013 and 2014 were not available at the time of publication, these data will be updated in subsequent publications.

METHODOLOGY

Data were collected from the Fisheries Divisions / Departments, the Statistical Departments and other relevant authorities in the CRFM Member States. These sources are considered the primary sources. The national reports of the Member States submitted to the CRFM are also regarded as primary sources of data. Where it was not possible to collect data from the primary sources, or where data gaps existed, literature searches were conducted and data and information obtained from sources, such as publications by the FAO, project documents, industry magazines, or statistical publications.

CHAPTER 1: THE FISHERIES RESOURCES OF THE CRFM REGION

1.1 Land area, coast line, continental shelf area and EEZ of CRFM Member States

The Member States of the CRFM are 14 sovereign Small Island Developing States (SIDS) and three British Overseas Territories (BOT) (Table 1). Most Member States have exclusive economic zones (EEZs) many times the land area (Table 2). The combined land area of CRFM Member States is 433,549 km² whereas the area of the combined EEZ is 2,046,948 km². Some Member States are still negotiating delimitation issues with neighbouring States.

Table 1: CRFM Member States and their affiliations

INDEPENDENT COUNTRIES	OVERSEAS TERRITORIES
1. Antigua and Barbuda (SIDS, CARICOM, OECS)	Anguilla (OECS Associate Member, CARICOM Associate Member)
2. Bahamas (The) (SIDS, CARICOM)	Montserrat (CARICOM, OECS)
3. Barbados (SIDS, CARICOM)	Turks and Caicos Islands (CARICOM Associate Member)
4. Belize (SIDS, CARICOM)	
5. Dominica (SIDS, CARICOM, OECS)	
6. Grenada (SIDS, CARICOM, OECS)	
7. Guyana (SIDS, CARICOM)	
8. Haiti (SIDS, CARICOM)	
9. Jamaica (SIDS, CARICOM)	
10. St. Kitts and Nevis (SIDS, CARICOM, OECS)	
11. St. Lucia (SIDS, CARICOM, OECS)	
12. St. Vincent and the Grenadines (SIDS, CARICOM, OECS)	
13. Suriname (SIDS, CARICOM)	
14. Trinidad and Tobago (SIDS, CARICOM)	

Table 2: Land area, coast line, continental shelf area and EEZ of CRFM Member States

Member State	Land area (km ²)*	Coast line (km)*	Continental shelf area (km ²)**	EEZ (km ²)**
Anguilla	91	61	2 109	92 178
Antigua and Barbuda	443	153	3 710	107 914
Bahamas	10 010	3 542	108 265	629 293
Barbados	430	97	407	186 107
Belize	22 806	386	9 431	35 995
Dominica	751	148	286	28 626
Grenada	344	121	2 292	26 158
Guyana	196 849	459	51 978	135 900
Haiti	27 560	1 771	5 082	112 025
Jamaica	10 831	1 022	13 401	263 283
Montserrat	102	40	145	7 582
St. Kitts and Nevis	261	135	788	10 201
St. Lucia	606	158	811	15 484
St. Vincent and the Grenadines	389	84	2 082	36 314
Suriname	156 000	386	55 700	128 318
Trinidad and Tobago	5 128	362	21 136	77 502
Turks and Caicos Island	948	389	7 395	154 068
Totals	433 549	9 314	285 018	2 046 948

Source: (*) Central Intelligence Agency; accessed 7 March 2012.

(**) Sea Around Us. (2009).

1.2 Categories of fishery resources of the CRFM Member States

The fisheries resources of the CRFM Member States can be found in:

- Inland waters¹ and or freshwater systems² (rivers, ponds, lakes, etc.)
- Aquaculture³ systems (systems used for farming aquatic animals)
- Marine waters⁴ (including the territorial sea, EEZ and high seas)

¹ Inland waters; may be used to refer to lakes, rivers, brooks, streams, ponds, inland canals, dams, and other land-locked (usually freshwater) waters(FAO, 2002-2013).

² Freshwater ecosystems include lakes, rivers, ponds, streams, groundwater, springs, cave waters, floodplains, as well as bogs, marshes and swamps, which are traditionally grouped as inland wetlands (UNESCO, 1995 – 2012).

³ The definition used for aquaculture in this paper is after FAO (2012b) and is understood to mean the farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of the stock being cultivated. For statistical purposes, aquatic organisms which are harvested by an individual or corporate body which has owned them throughout their rearing period contribute to aquaculture while aquatic organisms which are exploitable by the public as a common property resource, with or without appropriate licences, are the harvest of fisheries.

⁴ Marine waters; refers to oceans and seas including adjacent saltwater areas (FAO, 2002-2013).

All the independent CRFM Member States are SIDS and are characterised by highly integrated ecosystems and sub-ecosystems linked to the marine environment. So too are the overseas territories which are not officially recognized SIDS, but share many common features of SIDS. The aquaculture systems depend on the inland and freshwater systems and the marine environment for water supply, and in turn the marine environment is susceptible to changes and activities in the aquaculture, inland and freshwater systems. Figure 1 provides a schematic representation of the linkages and sub-sectors of the fisheries sector of the CRFM Member States.

1.2.1 Fisheries of the inland waters and or fresh water systems of CRFM Member States

Information and data on the fisheries resources of the inland and fresh water systems of the region were limited, as in most cases the data collection systems did not cover this sub-sector. There is also a great need for research in this sub-sector. However the information that was available indicated that the exploitation of the fisheries resources of inland waters or fresh water systems of most of the CRFM Member States was important at the subsistence and/or cultural level. Eleven Member States indicated that the fisheries of the inland waters and fresh water systems (even in cases where the fishery did not produce large economic gains) were of importance to the cultural life of the country and / or played an important role at the subsistence level by providing protein to the local population (Table 3). With regards to economic gain from the fishery, eight Member States: Belize, Dominica, Guyana, Haiti, Jamaica, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago, had important economic activities and earnings from this sub-sector. Haiti and Suriname were the only Member States with an estimate of the amount of fish produced from inland waters and fresh water systems, which stood at approximately 600 mt for Haiti (2009 estimate) and 650 mt for Suriname (2013 estimate).

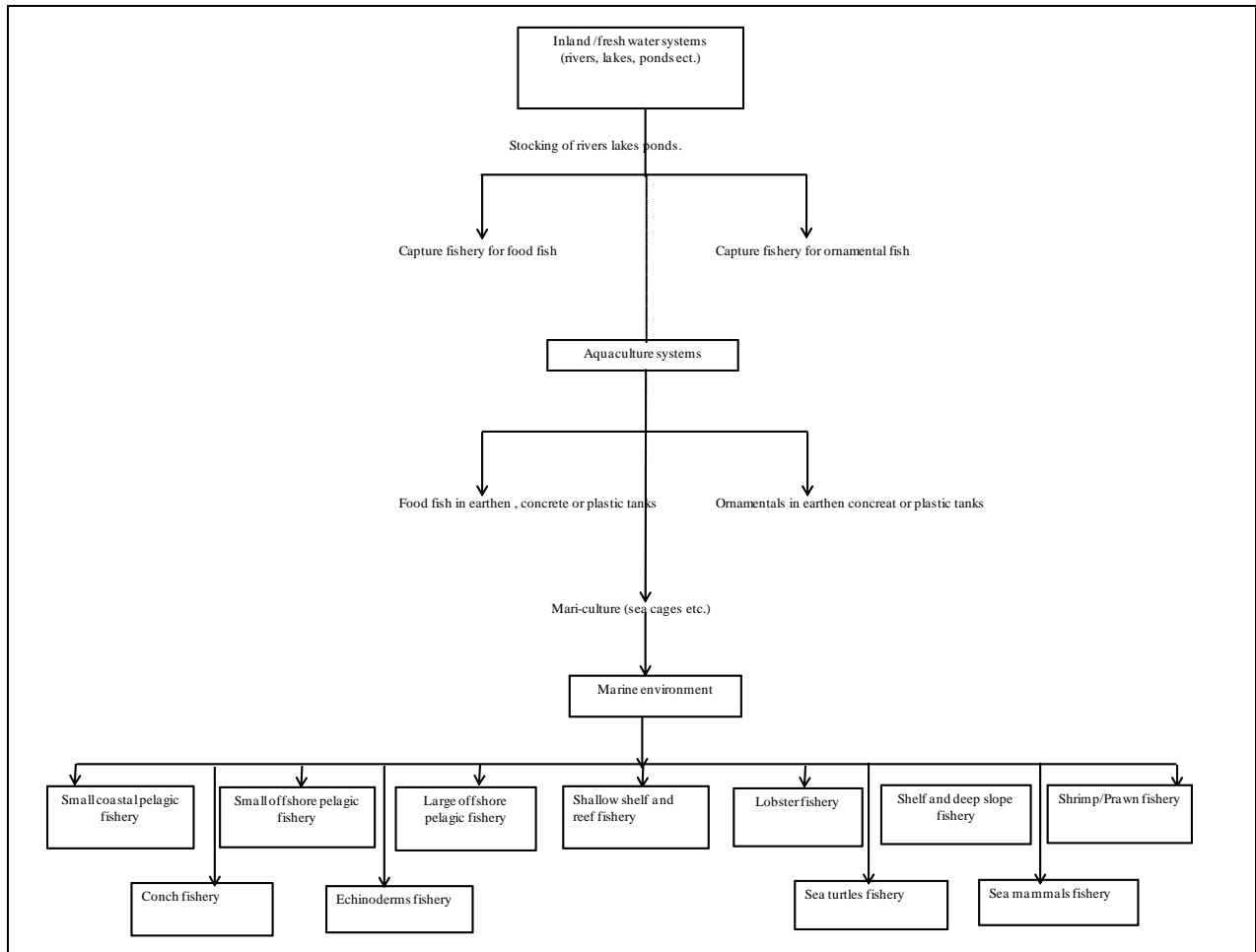


Figure 1: Linkages between and sub-sectors of the inland/fresh water systems, aquaculture systems and marine waters of CRFM Member States

Table 3: Status, cultural and or subsistence importance, economic importance and latest estimate of catch of the fisheries of inland waters /fresh water systems of CRFM Member States

Member State	Status of the fisheries of inland waters / fresh water systems	Fisheries of inland waters / fresh water systems are of cultural and / or subsistence importance	Fisheries of inland waters / fresh water systems are of economic importance	Latest estimate of catch from fisheries of inland waters / fresh water systems
Anguilla	There are no rivers in Anguilla, and a significant portion of the naturally occurring fresh water is tapped through well systems. Fishing is not occurring in the inland waters / fresh water systems of Anguilla.	No	No	0
Antigua and Barbuda	Traditional harvest of some freshwater and estuarine species at the subsistence level or for recreational purposes occurs in Antigua and Barbuda. The resources harvested include mullets, tarpons and tilapia (FAO, 2007b).	Yes	No	NA
Bahamas	There are no true rivers or streams on the Islands of The Bahamas. Inland water bodies are, in most instances, places where the water table is at or near the same level as the land surface (US Army Corps of Engineers, 2004). Fishing is not occurring in the inland waters / fresh water systems of The Bahamas.	No	No	0
Barbados	The permanent and temporary freshwater catchments of Barbados serves as habitat for species of freshwater shrimps (Simmons & Associates, Inc. 2000), however no known commercial fishing activities occur in these fresh water catchment areas (Fisheries Division Barbados, 2014).	No	No	0
Belize	The inland freshwater fisheries activities are primarily subsistence in nature. The species targeted include: the Baysnook (<i>Petenia splendida</i>), the Mayan cichlid locally called crana (<i>Cichlosomas urophthalmus</i>) and the tilapia (<i>Oreochromis niloticus</i>). The tarpon (<i>Megalops atlanticus</i>), two species of catfish (<i>Ictalurus furcatus</i> and <i>Ictalurus</i> spp.) and the freshwater turtle or hicatee (<i>Dermatemys mawii</i>) are also important species in the fishery (Gillett & Myvette, 2008).	Yes	Yes	NA
Dominica	The traditional catching of goby fry (locally called <i>tetiri</i>) caught at river estuaries, is of some economic importance to some villages in Dominica (particularly the western village of Layou) (FAO, 2004 - 2013a).	Yes	Yes	NA
Grenada	Inland fishery is restricted to harvesting of fresh water crawfish and a half dozen species of finfish within small streams, carried out solely on a subsistence basis. Though contribution from this activity is very minuscule when compared to marine fishery, several rural families depend on this resource for the supply of valuable protein (FAO, 2007a).	Yes	No	NA

Member State	Status of the fisheries of inland waters / fresh water systems	Fisheries of inland waters / fresh water systems are of cultural and / or subsistence importance	Fisheries of inland waters / fresh water systems are of economic importance	Latest estimate of catch from fisheries of inland waters / fresh water systems
Guyana	Freshwater fishing is conducted in rivers, creeks, lakes, reservoirs, canals, and in savannah areas. The data available indicate that most inland fishing is carried out by Amerindians. At present, the effort is largely directed at subsistence fishing, although a few fishermen participate in small-scale commercial fisheries (FAO, 2005b).	Yes	Yes	NA
Haiti	Lakes in Haiti are fished extensively. For example, the Lake Azuei, also known as Etang Saumatre, (which is the largest lake in Haiti; 22,000 acres), has ~ 3000 people living around the lake. For about 60% of this population, the sole source of income is fishing (Hargreaves, 2011).	Yes	Yes	600 mt (2009 est.)
Jamaica	Most of the main rivers of Jamaica (there are about 22 main rivers) are fished by the local population. Community watershed ponds and rivers were stocked with <i>Tilapia mossambica</i> (FAO. 2005 - 2014) and a riverine fishery for the species now exists in Jamaica. Fresh water crayfish and shrimp and mullets are also harvested.	Yes	Yes	NA
Montserrat	There is a traditional fishery in the rivers for crayfish and small lobsters. Tilapia are also fished from fresh water ponds (Department of Fisheries Montserrat, 2012*).	Yes	No	NA
St. Kitts and Nevis	Recently in Nevis the ponds and lagoons have become a source for fishing, targeting tilapia and mullets. (Department of Marine Resources, St. Kitts and Nevis, 2012*).	No	No	NA
St. Lucia	There is little information about the freshwater fish species of St. Lucia and therefore research in this regard is needed. Thirteen species of freshwater shrimp have been recorded for St. Lucia and there existed a freshwater shrimp fishery up to 1994 when a moratorium was implemented (Department of Fisheries, St. Lucia. 2012*).	No	No	0
St. Vincent and the Grenadines	The traditional catching of Goby fry (locally called Tri-tri) caught at river mouths and estuaries, is of economic importance to St. Vincent and the Grenadines. (Fisheries Division St. Vincent and the Grenadines, 2012*).	Yes	Yes	NA
Suriname	The inland waters of rivers, estuaries and swamps support a substantial inland waters fishery. The main gears used are driftnets, Chinese seines, seines (locally called river seine) and gillnets (locally called lagoon gillnet) (JICA & IC Net, 2012). In 2013; 650 mt of	Yes	Yes	650 mt (2013) 560 mt (2012)

Member State	Status of the fisheries of inland waters / fresh water systems	Fisheries of inland waters / fresh water systems are of cultural and / or subsistence importance	Fisheries of inland waters / fresh water systems are of economic importance	Latest estimate of catch from fisheries of inland waters / fresh water systems
	fish were captured from the fresh water systems of Suriname (Department of Fisheries Suriname, 2009*).			
Trinidad and Tobago	Exploitation of fish and decapods occurs in the rivers and streams of Trinidad and Tobago but largely on a subsistence level, except for the tetra fish <i>Hypostomus robinii</i> . The amount taken is not quantified by regulatory agencies. Tetra fishing is for the aquarium trade (Alkins-Koo <i>et al.</i> 2003).	Yes	Yes	NA
Turks and Caicos Islands	No known systematic commercial fishing activity is occurring in the inland/freshwater systems of the Turks and Caicos Island	No	No	0

NA = Not Available

* Information obtained directly from the Fisheries Authority of the Member State.

1.2.2 Fisheries of the aquaculture systems of CRFM Member States

During 2013 and 2014 most of the CRFM Member States did not produce fish via aquaculture activities. Belize and Jamaica which had been the top CRFM producers for a number of years continued to out-produce the other Member States. Jamaica's 2013 production increased over the 2012 production but production slipped again in 2014. The fall in Jamaica's production has been attributed to change in production practices. Aquaculture production in Belize has increased due mainly to the reopening of Belize Aquaculture (a high producing aquaculture farm which closed in 2011). St. Lucia and Trinidad and Tobago have made strides towards greater production. Dominica suffered heavy rains and flooding in 2014 which disrupted aquaculture production and caused severe damage to the aquaculture infrastructure.

Table 4 and Table 5 provide overviews of the status of aquaculture in CRFM Member States as at 2013 / 2014.

Table 4: Status of aquaculture in CRFM Member States as at 2013 / 2014

Member States	Status of aquaculture as at 2013 - 2014	References / Sources
Anguilla	Aquaculture remained in the planning stages.	Personal communication Gumbs / Masters, 2015
Antigua and Barbuda	During the period the seamoss (<i>Eucheuma</i> and <i>Gracilaria</i> spp.) and tilapia (mostly aquaponics - backyard operations of tilapia and vegetables) were cultured in small quantities. However there is one aquaponics establishment (tilapia with lettuce) that is operating on a relatively larger scale.	Personal communication Simon / Masters, 2015
The Bahamas	Aquaculture fish production was negligible as most of the facilities were still in the start-up phase. These facilities intend to produce Caribbean spiny lobster and Tilapia. Of note, the Cape Eleuthera Institute undertook off shore aquaculture research in cobia production (marine cage culture) and was able to harvest cobia in November 2012.	Personal communication Bethel / Masters, 2014 Cape Eleuthera Institute, 2012 - 2013
Barbados	Persons have expressed interest in aquaculture and some persons have set up backyard ponds for the culturing of tilapia. However aquaculture activities are still in the planning stages.	Personal communication Willoughby / Masters, 2014
Belize	Shrimp production increased over the period mainly due to the reopening of Belize Aquaculture in 2012 (a high producing aquaculture farm which closed in 2011). Also, in 2014 eight shrimp farms in Belize were prepared for ASC certification as responsible and well managed farms (Belize Shrimp Growers Association, 2015) These developments in 2013 and 2014 resulted in a 35.72% increase over the 2011 shrimp production.	
Dominica	Aquaculture infrastructure was damaged as a result of heavy rainfall and flooding over the period 2011 - 2014. Aquaculture Production during the period 2013 - 2014 was very low.	Personal communication Guiste / Masters, 2012 & Norris / Masters, 2015
Grenada	During the period 2012-2013 there was an increase in the number of seamoss (<i>Eucheama isiforme</i> and <i>E. cottonii</i>) aquaculturalists; one group in Harvey Vale / Belmont Carriacou, two groups in Woburn St. George's, two plots at Petite Bacaye and eight groups in Grenville / Soubise St. Andrew's. The seed stock of <i>Eucheama isiforme</i> and <i>E. cottonii</i> were sourced in Venezuela. A number of small backyard ornamental / tilapia facilities were also in operation during the period. There was also one farmer cultivating freshwater prawns (<i>M. resenbergi</i>).	Personal communication Isaac / Masters, 2014
Guyana	During 2013 - 2014 the government of Guyana continued efforts to expand aquaculture. Aquaculture is practiced mainly along the coast and follows a methodology where species contained in the seawater are trapped when the water is brought into ponds along the coast.	CRFM, 2015
Haiti	Aquaculture in Haiti benefited from many public and private investments, such as the hill lakes construction program that facilitates the construction and development of more than a dozen lakes. The lakes are of multi-functional structures and one of the uses is for fish farming. In 2011 / 2012 the stated goal of the Government with regards to aquaculture was to achieve in the next ten years, pond aquaculture production increasing from 400 to 5000 tons and the inland water production from 600 to 10,000 tons.	Haiti Libre, 2010-2015 National Programme for the Development of Aquaculture in Haiti. 2010 - 2014. MARNDR July 2010 quoted by Landell-Mills consultants, 2012
Jamaica	Aquaculture production in Jamaica continues to be under 1000 mt. Overall aquaculture production stood at 836 mt and in 2013 and 698 mt in 2014. However, when tracked over a four year period (2011 - 2014)	Government of Jamaica, Ministry Paper 50 / 2014.

Member States	Status of aquaculture as at 2013 - 2014	References / Sources
	production was down ~ 39% (from 1149 mt in 2011), and if tracked over a five year period (2010 - 2013) production was down 82% (from 3900 mt in 2010). This down turn in production can be attributed to change in production practices with several of the large farms changing from intensive culture systems, in which aerators were used, to predominantly semi-intensive and extensive culture systems. This change in production practices is a direct consequence of the high costs associated with energy, the absence of suitable feed inputs and the inability of the local market to absorb the volume of fish produced. In addition, rather than producing two crops per year, some farmers have resorted to producing a single crop per year based on market demand.	
Montserrat	No aquaculture activity took place in Montserrat during the period.	Personal communication Ponteen / Masters, 2014
St. Kitts and Nevis	During the period two aquaculture research projects were undertaken; one in St. Kitts and one in Nevis. The projects are privately owned and involve experimenting with the growing of tilapia in ponds using seawater.	Personal communication Williams / Masters, 2014
St. Lucia	There are currently 60 aquaculture farmers found throughout the island, with ponds covering a total of 15.6 ha of land. The total annual production for aquaculture in 2014 was 12 metric tons. The major species currently being harvest are red hybrid tilapia, the silver tilapia (<i>Oreochromis niloticus</i> / <i>Tilapia nilotica</i>), and the fresh water prawn (<i>Macrobrachium rosenbergii</i>).	CRFM, 2015
St. Vincent and the Grenadines	No aquaculture activity took place in St. Vincent and the Grenadines during the period.	Personal communication Cruickshank / Masters, 2014
Suriname	Aquaculture in Suriname consists primarily of “pond culture” in which aquatic organisms are cultivated in earthen ponds. There are three large commercial farms in Suriname which cultivate white leg shrimp (<i>P.vanamei</i>), Tilapia (<i>O. mossambicus</i> / <i>O. aureus</i>), and Tambaqui (<i>C. macropomum</i>). Other aquaculture activities consist of small scale or subsistence aquaculture activities with the main species being cultivated; Tilapia (<i>O.mossambicus</i>), Kwi-Kwi (<i>H.littorale</i>) and cichlids.	CRFM, 2015
Trinidad and Tobago	The goal of the aquaculture programme was to increase production to 90 tonnes by 2012 with an incremental production to 457 tonnes over a five year period ¹ . However aquaculture as a vibrant and profitable industry is still in the developmental stage in Trinidad and Tobago; food fish culture is constrained and its full economic potential still unrealised, partly due to adherence to traditional pond-based systems with its myriad of environmental and security concerns ² . In November 2014 the Government of Trinidad and Tobago launch the Floating Raft Cage Culture Project in Ste Madeleine. The project is expected to harvest a total of 27,000 pounds of tilapia annually.	¹ Government of Trinidad and Tobago, 2012 ² Gabbadon, 2012 Asson. 2014
Turks and Caicos Islands	Aquaculture activities ceased with the closure of the Turks and Caicos Islands conch farm, in August 2012.	Personal communication Clerveaux / Masters, 2014

Table 5: Overview of species produced, total annual aquaculture production (meat weight in mt) and value (US\$) of aquaculture in CRFM Member States for the period 2013 - 2014

Member States	Species cultivated 2013 - 2014	Production (mt) 2013	Value of aquaculture product 2013 (US\$)	Production (mt) 2014 P	Value of aquaculture product 2014 (US\$) P	Reference /Source
Anguilla	None	--	--	--	--	
Antigua and Barbuda	Sea-moss (<i>Eucheuma</i> spp. and <i>Gracilaria</i> spp.) tilapia and shrimp	NA	NA	NA	NA	
Bahamas	None	--	--	--	--	
Barbados	None	--	--	--	--	
Belize	Whiteleg shrimp (<i>Litopenaeus vannamei</i>)	6 834	41 409 021	6 489	43 089 109	Fisheries Department Belize, 2015
	Tilapia hybrids (<i>Oreochromis niloticus</i>)	NA	NA	NA	NA	
	Cobia (<i>Rachycentron canadum</i>)	0	0	0	0	
	Tilapia (small-scale aquaculture /backyard farms)	NA	NA	NA	NA	
BELIZE; TOTAL⁵		6 834	41 409 021	6 489	43 089 109	
Dominica	Asian freshwater prawn (<i>Macrobrachium rosenbergii</i>)	NA	NA	NA	NA	
	Nile tilapia (<i>Oreochromis niloticus</i>)	NA	NA	NA	NA	
	Sea-moss known as GT (<i>Gracilaria</i> spp.)	NA	NA	NA	NA	
DOMINICA; TOTAL		NA	NA	NA	NA	
Grenada	Sea-moss <i>Eucheama isiforme</i> and <i>E. cottonii</i> and tilapia (in very small quantities)	NA	NA	NA	NA	
Guyana	Red tilapia (<i>Oreochromis</i> spp.),	82.8	257 689.9	29.4	91 469	Fisheries Division Guyana, 2015
	Black shrimp (<i>Penaeus</i> spp.),	8.7	62 012.6	140.3	999 763	
	Tambaqui (<i>Colossoma macropomun</i>),	106.7	609 047.5	107.8	614 821	
	Brown hoplo locally called hassar (<i>Hoplosternum littorale</i>),	0.7	8 673.8	1.2	15 933	
	Mullet (<i>Mugil cephalus</i>),	7.7	20 283.4	42.4	111 195	
	Queriman (<i>Mugil liza</i>),	6.7	17 599.1	42.1	110 986	
	Flathead catfish locally called bashaw (<i>Pylodictis olivaris</i>)	5.0	5 937.8	15.9	18 790	
GUYANA; TOTAL		218.4	981 244.0	379.00	1 962 958	

⁵ Pacific white shrimp production only

Member States	Species cultivated 2013 - 2014	Production (mt) 2013	Value of aquaculture product 2013 (US\$)	Production (mt) 2014 P	Value of aquaculture product 2014 (US\$) P	Reference /Source
Haiti ⁶	Tilapia and common carp (very small amounts of common carp)	560	2 963 013	560	2 963 013	CRFM, 2011a
Jamaica ⁷	Tilapia hybrids (<i>O. niloticus</i>)	786	3 149 730	698	2 761 374	Aquaculture Branch Fisheries Division Jamaica, 2015
	White leg shrimp (<i>Penaeus vannamei</i>)	50.0	398 647	0.0	0	
	Freshwater crayfish (<i>Macrobrachium rosenbergii</i>)	0.0	0	0.0	0	
JAMAICA; TOTAL		836	3 548 377	698	2 761 374	
Montserrat	None	--	--	--	--	
St. Kitts and Nevis	None	--	--	--	--	
St. Lucia	Tilapia, (<i>O. mossambicus</i> , <i>O. niloticus</i> / <i>Tilapia nilotica</i>)	11.0	26 481	8.4	20 222	Data unit of the Department of Fisheries St. Lucia, 2015
	Shrimp (<i>Macrobrachium rosenbergii</i>)	3.3	67 593	3.3	66 667	
	Seamoss (<i>Gracilaria</i> spp.) ⁸	2.6	5 579	2.0	33 889	
ST. LUCIA; TOTAL		14.3	94 074	12	86 889	
St. Vincent and the Grenadines	None	--	--	--	--	
Suriname	Tilapia (<i>O. mossambicus</i> , <i>O. aureus</i>)	1.7				Department of Fisheries Suriname, 2015
	Brown hoplo locally called kwi-kwi (<i>Hoplosternum littorale</i>)					
	Tambaqui (<i>Colossoma macropomum</i>)					
	Whiteleg shrimp (<i>Litopenaeus vannamei</i>)	77		80.37	660 901	
SURINAME; TOTAL		78.7	650 279	80.37	660 901	
Trinidad and Tobago	Tilapia (red hybrid tilapia)	5.3	9 964	3.2	7 488	Fisheries Division Trinidad and Tobago, 2015
	Brown hoplo locally called cascadu (ra) (<i>Hoplosternum littorale</i>)	2	6 000	2	6 000	
	Giant river prawn (<i>Macrobrachium rosenbergii</i>)	0.25	875	0.25	875	

⁶ 2011 estimates as no further update was available

⁷ The facilities producing *Macrobrachium rosenbergii* and *Penaeus vannamei* have been closed permanently since 2013

⁸ Not included in totals

Member States	Species cultivated 2013 - 2014	Production (mt) 2013	Value of aquaculture product 2013 (US\$)	Production (mt) 2014 P	Value of aquaculture product 2014 (US\$) P	Reference /Source
TRINIDAD AND TOBAGO ; TOTAL		7.55	16 839	5.45	14 363	
Turks and Caicos Islands	Queen conch (<i>Strombus gigas</i>)	0	0	0	0	
Totals all Member States		8 549	49 662 848	8 224	51 538 606	

P = Provisional

NA=Not Available

1kg= 2.20462 lbs

1.2.3 Fisheries of the marine waters of CRFM Member States

All CRFM Member States exploit the fisheries resources found in the territorial sea and in the archipelagic waters (of an archipelagic State), as well as parts of the sea that are included in the exclusive economic zone of that State. Belize, St. Kitts and Nevis and St. Vincent and the Grenadines also exploit the high seas via the operation of open registries.

The fishing fleets and fishing gears used to exploit the marine fisheries are mostly artisanal in nature.

The fleet consists of:

1. Traditional fishing vessels: such as canoes - made using the traditional method of *digging out* the trunk of a tree, or planked canoes - which are usually small un-decked boats less than 6 m in length, usually powered by oars and/or sails, however small outboard engines could be used as well.
2. Larger canoes or pirogue type vessels: usually made with glass reinforced plastic (GRP - fibreglass). These could be decked or un-decked and are usually between 6 m to 12 m in length. These vessels are usually powered by outboard engines. However oars and sails are used as well.
3. Longliners or trawlers; usually greater than 12 m in length, some with steel hulls. Generally they are large covered vessels.

The gears utilized include the Antillean “Z” or “S” traps (commonly called fish pots or fish traps), hand and trolling lines, cast nets, gill nets, hoop nets, spears, spear guns, lobster hook, lobster traps, pelagic longline gear, Chinese seines, and beach seines. Casitas and fish aggregating devices (FADs) are also used in the region. Diving gears (including compressors and SCUBA tanks) are also used in the capture of fish.

The region’s marine fisheries have been grouped according to habitat and the following categories of fisheries have traditionally been acknowledged by the CRFM region: small coastal pelagic fishery, small offshore pelagic fishery, large offshore pelagic fishery, shallow shelf and reef finfish fishery, shallow shelf and reef lobster fishery, shelf and deep slope fishery, shrimp fishery, conch fishery, echinoderms fishery (locally called the sea urchin or sea cucumber fishery), sea turtle fishery and fishery for sea mammals. A brief description of the fisheries categories and the main families or species of interest in the region can be found in Table 6. The number of Member States exploiting each fishery can be seen in Table 7.

The fisheries are exploited by various sectors of the society, and these include the following:

1. Citizens or authorized persons who exploit the fisheries as their primary source of income - commercial exploitation or commercial capture fisheries.
2. Citizens or authorized persons who exploit the fisheries as a recreational activity - recreational exploitation or recreational fisheries.
3. Citizens or authorized persons who exploit the fisheries under sporting activities - sports fisheries.
4. Citizens or authorized persons who exploit the fisheries as a primary source of protein for dependents - subsistence fisheries.

Table 6: Fishery category and the habitat to which the category is linked, description of the category and some of the main families or species of interest in the CRFM region

Habitat	Fishery category	Description	Some of the main families or species of interest in the CRFM region
Pelagic waters	Small coastal pelagic fishery	Small fish (generally silvery in appearance) living in the water column directly above continental shelves near the shoreline (coastal waters)	Jacks (Carangidae) Herring (Clupeidae) Silverside (Atherinidae) Anchovy (Engraulidae) Ballyhoo (<i>Hemiramphus</i> spp.) Scads (<i>Decapterus</i> spp.) Four winged flyingfish (<i>Hirundichthys affinis</i>)
	Small offshore pelagic	Medium sized fish (generally tuna and tuna like species) living in the open waters of the oceans (moving between coastal and oceanic waters)	Blackfin tuna (<i>Thunnus atlanticus</i>) Cero mackerel (<i>Scomberomorus regalis</i>) Dolphinfish (<i>Coryphaena hippurus</i>) Wahoo (<i>Acanthocybium solandri</i>) Frigate tuna (<i>Auxis thazard thazard</i>) Bullet tunas (<i>Auxis rochei</i>) King mackerel (<i>Scomberomorus cavalla</i>) Little tunny (<i>Euthynnus alletteratus</i>) Serra Spanish mackerel (<i>Scomberomorus brasiliensis</i>)
	Large offshore pelagic	Large, fast-swimming, highly migratory fish species living in the deep open waters of the oceans (oceanic waters)	Albacore (<i>Thunnus alalunga</i>) Blue marlin (<i>Makaira nigricans</i>) Atlantic bonito (<i>Sarda sarda</i>) Atlantic sailfish (<i>Istiophorus albicans</i>) White marlin (<i>Tetrapturus albidus</i>) Bigeye tuna (<i>Thunnus obesus</i>) Black marlin (<i>Makaira indica</i>) Longbill spearfish (<i>Tetrapturus pfluegeri</i>) Northern bluefin tuna (<i>Thunnus thynnus thynnus</i>) Skipjack tuna (<i>Katsuwonus pelamis</i>) Swordfish (<i>Xiphias gladius</i>) Yellowfin tuna (<i>Thunnus albacares</i>)
Coral reefs	Shallow shelf and reef finfish fishery	Species living on or over coral reefs or associated with coral reefs	Parrotfishes (Scaridae) Squirrelfishes (Holocentridae) Grunts (Pomadouridae), Surgeonfishes (Acanthuridae), Triggerfish (Balistidae) The Serranidae family (particularly hinds, sea-basses, and small groupers), Snappers (Lutjanidae)
	Shallow shelf and reef lobster fishery	Lobsters are large marine crustaceans with hard exoskeletons. The species targeted in the region generally live in crevices on coral reefs and are specifically targeted or captured as a part of the reef fisheries	Caribbean spiny lobster (<i>Panulirus argus</i>) Spotted spiny lobster (<i>Panulirus guttatus</i>) Sculptured slipper lobster (<i>Parribacus antarcticus</i>) Spanish slipper lobster (<i>Scyllarides aequinoctialis</i>)
The continental slope; In the outer reaches of the continental shelf to the continental drop-off	Shelf and deep slope fishery	The main targets of this fishery are deep water snappers and groupers	Silk snapper (<i>Lutjanus vivanus</i>) Queen snapper (<i>Etelis oculatus</i>) Jewfish (<i>Epinephelus itajara</i>) Red hinds (<i>Epinephelus guttatus</i>)

Habitat	Fishery category	Description	Some of the main families or species of interest in the CRFM region
point (where the shelf descends toward the deep ocean floor)			Nassau grouper (<i>Epinephelus striatus</i>)
Seafloor habitat – soft substrate demersal	Shrimp fishery	Shrimp are stalk-eyed swimming crustaceans with long narrow muscular abdomens (called tails). Most of the commercially valuable shrimps in the region are from the family Penaeidae	Atlantic seabob (<i>Xiphopenaeus kroyeri</i>) Southern white shrimp (<i>Litopenaeus schmitti</i>) Southern brown shrimp (<i>Farfantepenaeus subtilis</i>) Southern pink shrimp (<i>Farfantepenaeus notialis</i>) Redspotted shrimp (<i>Farfantepenaeus brasiliensis</i>)
Seafloor habitat – soft substrate demersal (sand or mud near seagrass beds)	Conch fishery	Fishery specifically for the gastropods from the family Strombidae	Queen conch (<i>Strombus gigas</i>)
Seafloor habitat – soft substrate demersal. Beds of seagrass (<i>Gracilaria</i> spp.), sand or mangroves, but could also be in the cervices of reefs.	Echinoderms fishery (locally called sea urchin or sea cucumber fishery)	The white sea urchin and the sea cucumber are harvested usually for the export market	White sea urchin (<i>Tripneustes ventricosus</i>) Donkey dung sea cucumber (<i>Holothuria mexicana</i>)
Shallow waters along coast and around islands	Sea turtles	Sea turtles are marine reptiles targeted by net or harpoon	The green turtle (<i>Chelonia mydas</i>) The hawksbill turtle (<i>Eretmochelys imbricata</i>) The leatherback (<i>Dennochelys coriacea</i>) The loggerhead turtle (<i>Caretta caretta</i>)
Deep oceanic waters	Mammals	Mainly small cetaceans (porpoises, dolphins and pilot whales) There is also aboriginal/ traditional capture of humpback whales	Short-finned Pilot Whale (<i>Globicephala macrorhynchus</i>) Humpback whale (<i>Megaptera novaeangliae</i>)

Table 7: The number of fishery categories exploited by each Member State of the CRFM

Member States	Small coastal pelagic fishery - jacks, scads, herrings, balao, flying fish etc.	Small offshore pelagic fishery - black-fin tuna dolphin-fish, wahoo, etc.	Large offshore pelagic fishery – yellow-fin tunas, billfishes swordfish etc.	Shallow shelf and reef finfish fishery - grunts, snappers, doctorfish etc.	Shallow shelf and reef lobster fishery	Shelf and deep slope fishery- deep water snappers, groupers, etc.	Shrimp/ prawn fishery	Conch fishery - queen conch	Echinoderms fishery – white sea urchin, sea cucumber	Sea turtles fishery	Mammals - pilot whales, dolphins, porpoises
Anguilla	1	1		1	1	1		1		Moratorium	
Antigua and Barbuda	1	1	1	1 ⁹	1 ¹⁰	1 ¹¹		1 ¹²	1 ¹³	1 ¹⁴	
Bahamas	1	1	1 ¹⁵	1 ¹⁶	1 ¹⁷	1 ¹⁸		1		Fishery closed ¹⁹	Fishery banned ²⁰
Barbados	1	1	1	1	1	1		1 ²¹	1 ²²	Capture prohibited ²³	
Belize	1	1	1	1 ²⁴	1 ²⁵	1 ²⁶	1 ²⁷	1 ²⁸	1	All protected	Protection for

⁹ Closed season for parrotfish (Scaridae), all species; May 1st - July 31st annually (Government of Antigua and Barbuda, 2013).

¹⁰ Closed season for spiny lobster (Panulirus argus); May 1st - June 30th annually (Government of Antigua and Barbuda, 2013).

¹¹ Closed season for Nassau grouper (Epinephelus striatus), red hind (Epinephelus guttatus) and coney (Cephalopholis fulvus); January 1st - March 31st annually (Government of Antigua and Barbuda, 2013).

¹² Closed season for queen conch (Strombus gigas); July 1st - August 31st annually (Government of Antigua and Barbuda, 2013).

¹³ Sea urchin and sea cucumber fisheries are currently subsistent fisheries (Horsford, 2014; I. Horsford (personal communication , 11August 2017))

¹⁴ The Minister may by notice in the Gazette declare an open season for turtle. However no open season was declared (Government of Antigua and Barbuda, 2013; Fisheries Division Antigua and Barbuda, 2015).

¹⁵ Prohibition on possessing, fishing for or landing shark or shark parts; on the sale of shark, shark parts or shark products. (Government of the Bahamas, 2011).

¹⁶ Closed season for stone crab; 1st June - 15th October (inclusive) annually. Minimum harvestable claw is 4". Harvesting of females is prohibited (Government of the Bahamas, 2009).

¹⁷ Closed season for crawfish; annual closed season for crawfish extending from 1st April - 31st July (inclusive). (Government of the Bahamas, 2009).

¹⁸ Closed season [discretionary closure] for the Nassau grouper; December 1st - February 28th of the following year (Government of the Bahamas, 2009).

¹⁹ Prohibition on taking, possessing, buying or selling of marine turtles, marine turtle parts or marine turtle eggs. (Government of the Bahamas, 2009).

²⁰ No person shall, within the exclusive fishery zone, fish for, molest or otherwise interfere with any marine mammal (does not apply to a person who has the prior written permission of the Minister to capture marine mammals for scientific, educational or exhibitional purposes (Government of the Bahamas, 2009).

²¹ A small fishery (Government of Barbados, 2012).

²² Fishery closed in year 2014. In 2014 stock size would not have been large enough to support opening of the fishery for a reasonable length of time (Government of Barbados, 2015).

²³ Regulation prohibits the capture, possession or sale of marine turtles, turtle eggs and turtle parts (Ministry of Agriculture Barbados, 2012).

²⁴ Complete ban on all parrotfish, blue tang, surgeon fish; No person shall take in the waters of Belize, or buy, sell or have in possession any grazers, 'grazers' means any fish of the Scaridae family, including the genus Scarus and Sparisoma, any fish of the Acanthuridae family (Government of Belize. 2009a).

Member States	Small coastal pelagic fishery - jacks, scads, herrings, balao, flying fish etc.	Small offshore pelagic fishery - black-fin tuna dolphin-fish, wahoo, etc.	Large offshore pelagic fishery – yellow-fin tunas, billfishes swordfish etc.	Shallow shelf and reef finfish fishery - grunts, snappers, doctorfish etc.	Shallow shelf and reef lobster fishery	Shelf and deep slope fishery- deep water snappers, groupers, etc.	Shrimp/ prawn fishery	Conch fishery - queen conch	Echinoderms fishery – white sea urchin, sea cucumber	Sea turtles fishery	Mammals - pilot whales, dolphins, porpoises
										since 2002 ²⁹	marine mammals ³⁰
Dominica	1	1	1	1		1				1 ³¹	
Grenada	1	1	1	1	1 ³²	1		1	1 ³³	1 ³⁴	
Guyana			1			1	1 ³⁵				
Haiti	1	1	1	1	1	1	1	1	1	NA ³⁶	NA
Jamaica	1	1	1 ³⁷	1	1 ³⁸	1	1	1 ³⁹	1 ⁴⁰	Fishery closed	Protection for

Tarpon (Megalops atlanticus), permit (Trachinotus falcatus) and bonefish (Albula vulpes) are intended for 'catch and release' fishing only (Government of Belize, 2009b).

²⁵ No person shall take in the waters of Belize or buy, sell or have in his possession crawfish (genus *Panulirus*) - between the 15th February and the 14th June, inclusive, in any year; (Government of Belize, 2003).

²⁶ Closed season for Nassau grouper (*Epinephelus striatus*); 1st December - 31st March inclusive in any year (Government of Belize, 2009a). No whale shark, shall be caught or killed in the waters of Belize (Government of Belize, 2003).

²⁷ Regulations of 2011 ended the shrimp trawl fishery in Belize; No person shall engage in any form of trawling in the internal waters, territorial sea, exclusive economic zone (Government of Belize, 2011). The shrimp capture fishery is now small scale artisanal. Shrimp season (for wild shrimp) will officially open on July 15th of any year inclusive, for a period not exceeding eight months in any one year, but which period may be less than eight months provided that one month's notice is given in advance (Government of Belize, 2003).

²⁸ Closed season for conch; 1st July - 30th September, inclusive, in any year (Government of Belize, 2003).

²⁹ No person shall fish for in the waters of Belize or buy, sell or have in his possession any hawksbill, loggerhead, leatherback, Kemp's ridley, olive ridley or green turtle (Government of Belize, 2003).

³⁰ Hunting of whales (all species), dolphins (all species) and manatee prohibited (Government of Belize, 2000).

³¹ Sea turtle closed season; 1st June - 30th September both dates inclusive (Government of Dominica, 1976).

³² Lobster closed season; 1st May - 31st August (ACP Fish II, 2012b).

³³ Grenada sea urchins (sea eggs) fishery is closed - total ban (ACP Fish II, 2012b).

³⁴ Closed season for turtles; 1st May - 31st August (ACP Fish II, 2012b).

³⁵ A closed season was implemented in 2014 for the seabob (shrimp) fishery and the prawn fishery. Closure was 8th September - 26th October 2014 (6 weeks), both dates inclusive (CRFM website, 2014).

³⁶ NA=Not Available

³⁷ There was a closed season for sharks in 2013; 18th July - 31st December 2013 (JIS, 2013; I. Jones (personal communication, 7 September 2016)).

³⁸ Lobster closed season; 1st April - 30th June each year (Government of Jamaica, 1987).

³⁹ Conch closed season 2013/2014 (declared); 1st September 2013 - 28th February 2014, (Jamaica Information Service (JIS), 2013).

⁴⁰ In 2013 there was a closed season for sea cucumbers; 18th July - 30th September 2013, as a precautionary measure until a structured management regime could be developed (Kong, 2015; Government of Jamaica, 2015).

Member States	Small coastal pelagic fishery - jacks, scads, herrings, balao, flying fish etc.	Small offshore pelagic fishery - black-fin tuna dolphin-fish, wahoo, etc.	Large offshore pelagic fishery – yellow-fin tunas, billfishes swordfish etc.	Shallow shelf and reef finfish fishery - grunts, snappers, doctorfish etc.	Shallow shelf and reef lobster fishery	Shelf and deep slope fishery- deep water snappers, groupers, etc.	Shrimp/ prawn fishery	Conch fishery - queen conch	Echinoderms fishery – white sea urchin, sea cucumber	Sea turtles fishery	Mammals - pilot whales, dolphins, porpoises
										since 1982 ⁴¹	some marine mammals ⁴²
Montserrat	1	1	1	1		1					
St. Kitts and Nevis	1	1	1	1	1 ⁴³	1		1		1 ⁴⁴	
St. Lucia	1	1	1	1	1 ⁴⁵	1		1	1	1 ⁴⁶	
St. Vincent and the Grenadines	1	1	1	1	1 ⁴⁷	1		1		1 ⁴⁸	1 ⁴⁹
Suriname		1	1	1		1	1				
Trinidad and Tobago	1	1	1	1	1	1	1	1		Prohibition on killing of any turtle ⁵⁰	
Turks and Caicos	1	1	1	1 ⁵¹	1 ⁵²	1		1 ⁵³		1 ⁵⁴	Restrictions

⁴¹ Green turtle, hawksbill turtle, loggerhead turtle, Atlantic ridley, Atlantic leatherback all protected (Government of Jamaica, 1945).

⁴² Manatee, Pedro seal, bottlenose dolphin, sperm whale, spotted dolphin, Baird's beaked whale, short-finned pilot whale, humpback whale protected (Government of Jamaica, 1945).

⁴³ The Minister may by notice published in the Gazette declare the period 1st May to 31st August in any year as a closed season (Government of St. Kitts and Nevis, 1995).

⁴⁴ Closed season for sea turtles; 28th February - 1st October annually (Government of St. Kitts and Nevis, 1995).

⁴⁵ Lobster closed season 30th April - 1st September in each year (Government of St. Lucia, 1985).

⁴⁶ Marine turtles closed season; 28th February - 1st October in each year. Only hawksbill turtles weighing 60lbs or more; green or loggerhead turtle weighing 75lbs or more are permitted to be fished during the open season (Government of St. Lucia, 1985).

⁴⁷ Close season for lobster; 1st May - 31st August annually (Government of St. Vincent and the Grenadines, 1989).

⁴⁸ Closed season for turtle; 1st March to 31st July (Government of St. Vincent and the Grenadines, 1987).

⁴⁹ The fishery captures pilot whales and humpback whales. For the seasons 2013 - 2018 the number of humpback whales to be taken shall not exceed 24 (International Whaling Commission, 2016).

⁵⁰ Prohibition on killing, harpooning or selling of any turtle (Government of the Republic of Trinidad and Tobago, 2011).

⁵¹ Restriction relating to parrot fish; No person shall take, have in his possession buy or sell any parrot fish (Government of Turks and Caicos, 2014a)

⁵² Closed season in relation to crawfish shall be the period from the first day of April to the thirty-first day of July (inclusive) in each year or such other dates as may, from time to time, be appointed by the Governor in the Gazette (Government of Turks and Caicos Islands, 2014a).

⁵³ Closed season (on exports) for queen conch; No person shall export queen conch during the period 15th July - 15th October each year (Government of the Turks and Caicos Islands, 2014a).

Member States	Small coastal pelagic fishery - jacks, scads, herrings, balao, flying fish etc.	Small offshore pelagic fishery - black-fin tuna dolphin-fish, wahoo, etc.	Large offshore pelagic fishery – yellow-fin tunas, billfishes swordfish etc.	Shallow shelf and reef finfish fishery - grunts, snappers, doctorfish etc.	Shallow shelf and reef lobster fishery	Shelf and deep slope fishery- deep water snappers, groupers, etc.	Shrimp/ prawn fishery	Conch fishery - queen conch	Echinoderms fishery – white sea urchin, sea cucumber	Sea turtles fishery	Mammals - pilot whales, dolphins, porpoises
Islands											relating to marine mammals ⁵⁵
Totals	15	16	16	16	13	17	6	13	7	7	1

⁵⁴ Closed season for hawksbill turtles 1st August - 31st March inclusive each year (Government of the Turks and Caicos Islands, 2014b). No person shall take any turtle on any beach or at any place above low water mark; take any turtle of the species Kemp's ridley turtle or leatherback turtle or olive ridley turtle (Government of the Turks and Caicos Islands, 2014a).

⁵⁵ No person shall engage in fishing for, molest or otherwise interfere with any marine mammal (Government of the Turks and Caicos Island, 2014a).

CHAPTER 2: THE FISHING FLEET OF THE CRFM REGION

2.1 Fishing vessels operating in CRFM Member States

Most fishery exploitation activities in the region employ the use of vessels (vessels used in aquaculture facilities were not included as a part of the fishing fleet of the region).

Vessels are used in almost all categories of fish exploitation, including:

- (i) Recreational exploitation - recreational fisheries
- (ii) Sporting exploitation - sports fisheries
- (iii) Subsistence exploitation - subsistence fisheries
- (iv) Commercial exploitation - commercial capture fisheries

Data and information on vessels used exclusively for recreational fishing, sports fishing and subsistence fishing (where these vessels were not registered by the fisheries authority of Member States) were not included in this report at this time⁵⁶. In some cases vessels are used interchangeable between fishery types and categories. The Fisheries Authorities of Member States had available, records of the vessels used in commercial capture fisheries.

2.2 Quantity of vessels operating in the commercial capture fisheries of the CRFM region

Very few Member States conduct annual fishing vessel censuses. Antigua and Barbuda conducts an annual active fishing vessel census (commercial capture fisheries) (I. Horsford 2008, personal communication) and Montserrat (with a small fleet) has the ability to monitor the number of vessels operating. Where timely vessel censuses are not carried out, information on destroyed or inactive vessels are usually not available and thus vessels that no longer exist or are no longer operating are often not removed from the vessel registries of the Fisheries Divisions / Departments. The number of registered vessels therefore may not in all cases reflect the exact number of vessels operating in the fishing industry of the Member State. It does serve however as an indicator of the possible number of vessels in operation.

The total number of fishing vessels operating in the commercial capture fisheries of CRFM Member States was estimated at 26,629 in 2013 and 27,252 in 2014 (average 26,941 per year) (Table 8). The number of vessels fishing on the high seas and registered in Member States of the CRFM during 2013 and 2014 were not available, however the region had 162 fishing vessels registered under open registries in 2011 and 168 in 2012 (Table 9). There was an increase of ~2.3% in the number of vessels reported as fishing in the commercial capture fisheries (does not include high seas vessels) of CRFM Member States between 2013 and 2014 (Figure 2).

⁵⁶ *Subsequence volumes of this publication will seek to provide this data*

Table 8: Number of fishing vessels operating in the commercial capture fishery of CRFM Member States for period 2011 – 2014

	2011	2012	2013 P	2014 P	Sources 2013 and 2014 data
Anguilla	65	75	105	136 ⁵⁷	Department of Fisheries and Marine Resources Anguilla, 2015
Antigua and Barbuda	379	339	337	338	Fisheries Division Antigua and Barbuda, 2015
Bahamas	4 000	4 000	4 000	4 000	Department of Marine Resources Bahamas ⁵⁸
Barbados	1 062	1 083	1 090	1 034	Government of Barbados, 2014 and CRFM, 2015
Belize	752	717	560	560 ⁵⁹	CRFM, 2015
Dominica ⁶⁰	434	434	434	434	Fisheries Division Dominica, 2013 and CRFM, 2012a
Grenada	1 733	1 768	1812	1812 ⁶¹	Fisheries Division Grenada, 2015
Guyana	1 464	1 464 ⁶²	1 450	1 450 ⁶³	CRFM, 2014
Haiti ⁶⁴	5 630	5 630	5 630	5 630	Fisheries Department Haiti, 2008 ⁶⁵
Jamaica	5 971 ⁶⁶	5 971 ⁶⁷	6 481	6 955	Fisheries Division Jamaica, 2015
Montserrat	33	31	32	37	Department of Fisheries Montserrat, 2015
St. Kitts and Nevis	579	579 ⁶⁸	375	375	Department of Marine Resources St. Kitts and Nevis, 2015
St. Lucia	641	700	719	760	Department of Fisheries St. Lucia, 2015
St. Vincent and the Grenadines	737	785	790	790	Fisheries Division St. Vincent and the Grenadines, 2015
Suriname	1 459	1 459 ⁶⁹	1 146	1 273	Department of Fisheries Suriname, 2015
Trinidad and Tobago	1 599 ⁷⁰	1 599 ⁷¹	1 611	1 611 ⁷²	Fisheries Division Trinidad and Tobago, 2015
Turks and Caicos Islands	158	57	57	57 ⁷³	Department of Environment and Coastal Resources Turks and Caicos Island, 2012
Totals	26 696	26 691	26 629	27 252	
Average total for period 2013 – 2014	26 941				

P =Provisional; subject to change.
Where listed data were collected directly from the data/fisheries statistic unit of the Fisheries Authority in the Member State.

⁵⁷ Data represents all active fishing vessels as of 2nd June 2015
⁵⁸ Data from the last Bahamas fisheries census conducted in 1995(Deleveaux, and Higgs, 1995). Preliminary results of the 1995 Fisheries Census showed that there were 4,050 Bahamian vessels active in the commercial fishery - figure was rounder off to 4000 by the Department of Marine Resources Bahamas.
⁵⁹ Data for 2013 carried forward as 2014 data were not yet available
⁶⁰ Data available were reported during the 2011 Dominica Fisheries Industry Census (CRFM, 2012a)
⁶¹ Data for 2013 carried forward as 2014 data were not yet available
⁶² Data for 2011 carried forward as 2012 data were not yet available
⁶³ Data for 2013 carried forward as 2014 data were not yet available
⁶⁴ 2008 last available estimate
⁶⁵ Data presented to CRFM Secretariat by Haiti under the Kingdom of Spain Project: Diagnostic Study to Determine Poverty Levels in Fishing Communities in CRFM Member States.
⁶⁶ June 2012 estimate, (5,971 registered boats as of March 2012)
⁶⁷ June 2012 estimate, (5,971 registered boats as of March 2012)
⁶⁸ Data for 2011 carried forward as 2012 data were not yet available
⁶⁹ Data for 2011 carried forward as 2012 data were not yet available
⁷⁰ Estimated for 2011 (provisional)
⁷¹ Estimated for 2012 (provisional)
⁷² Data for 2013 carried forward as 2014 data were not yet available
⁷³ Last available estimate was for 2011

Table 9: Number of fishing vessels operating under open registries of CRFM Member States 2011 and 2012

Member States from the CRFM region.	Number of fishing vessels operating under open registries (2011)	Number of fishing vessels operating under open registries (2012)	References / Source
Belize	123	127	Fisheries Department, Belize, 2014
St. Kitts and Nevis	2	9	Department of Maritime Affairs St. Kitts and Nevis, 2015
St. Vincent and the Grenadines	37	32	Fisheries Division St. Vincent and the Grenadine, 2013
Total	162	168	

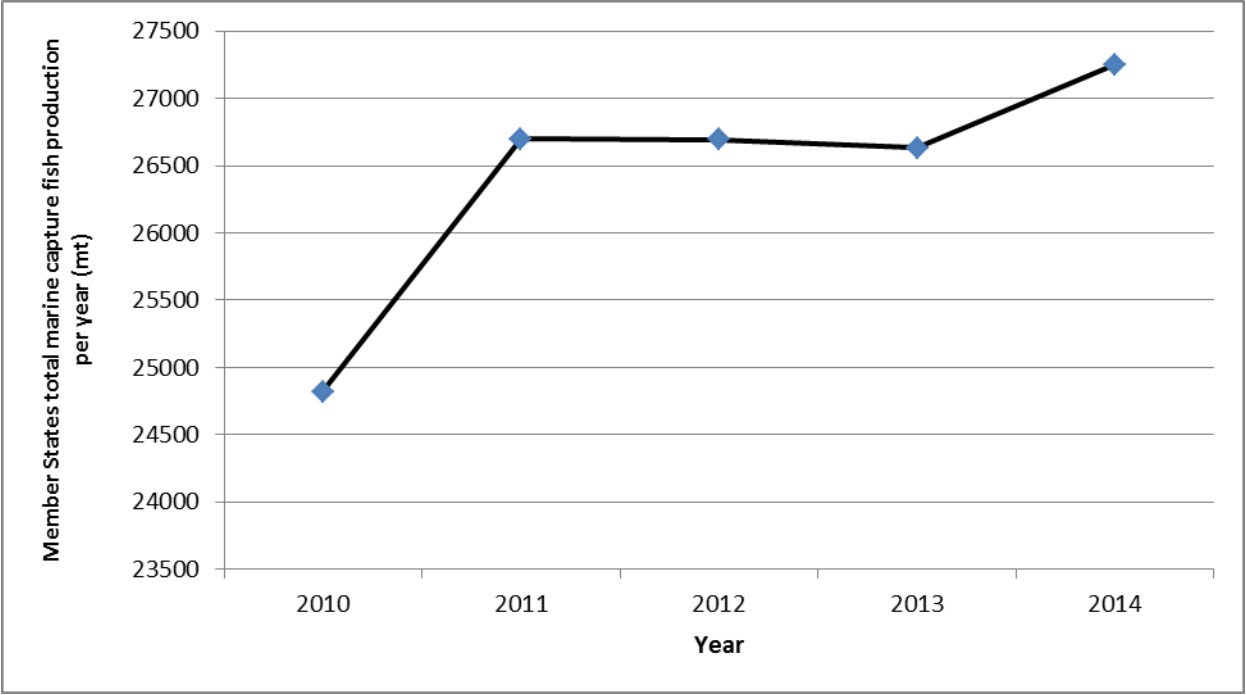


Figure 2: Total number of commercial capture fishing vessels operating in CRFM Member States 2010 -2014.

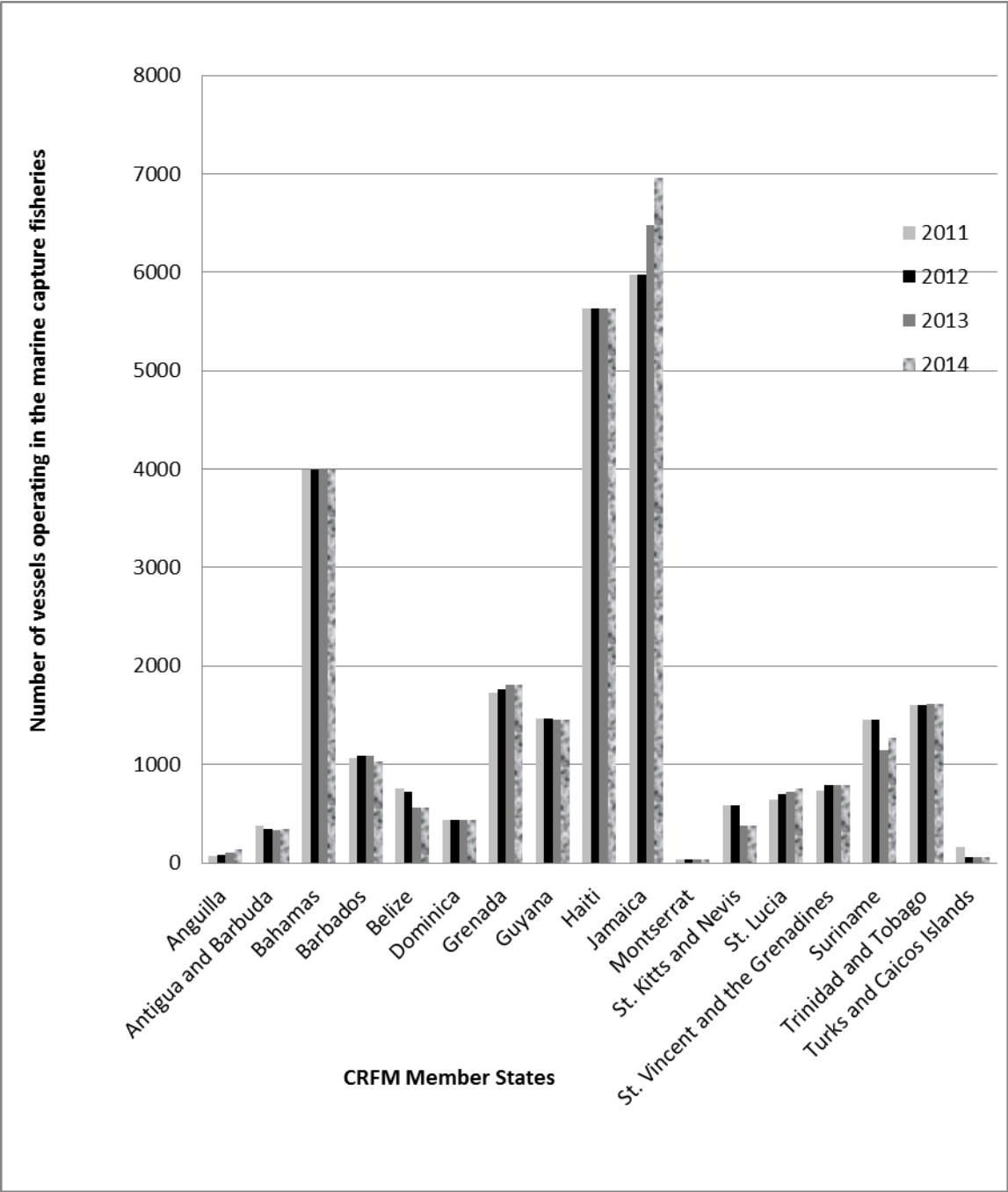


Figure 3: Number of vessels operating in the commercial capture fisheries of CRFM Member States for period 2011 – 2014.

2.3 Types and categories of fishing vessels operating in the commercial capture fisheries of CRFM Member States

Most of the CRFM Member States described their commercial capture fishery fishing fleets as artisanal fleets. Table 10 provides a summary of the types and categories of fishing vessels used in the commercial capture fishery of CRFM Member States, and it indicates that many traditional fishing vessels such as canoes (small dugout and planked canoes) dories and pirogues are still in use in the CRFM region. Table 11 shows that in 2013 / 2014 of 11,709 vessel from the commercial capture fishery fishing fleet examined approximately 61% attained a length of up to 5.9 metres length overall and approximately 26% were between 6 – 11.9 metres length overall. Approximately 14% of the fleet was above 12 metres length overall. Large industrial vessels were seldom in the fleet with only 4% of the fleet between 30 - 35.9 metres length overall.

Table 10: Summary description of the commercial capture fishery fishing fleets of CRFM Member States

CRFM Member States	Summary description of the fishing fleet (length of vessels is length overall - LOA)	Source / Reference
Anguilla	There are four, ~14m trawlers on the island. Besides those, the majority of the boats are primarily wood and fibreglass, open hull vessels, powered by outboard engines, with the exception of the four trawlers which are powered by inboard engines. Their sizes range from 5 – 15m.	CRFM, 2014
Antigua and Barbuda	The fleet has transitioned from wooden sloops and dories, which dominated the fleet in the 1970's, to fibreglass launches and pirogues.	Horsford, 2004

CRFM Member States	Summary description of the fishing fleet (length of vessels is length overall - LOA)	Source / Reference
	Categories of vessels include: 1. Sloops and dories; small wooden boats up to 5.9 metres 2. Launches and pirogues; usually made from fibreglass, length 6.72 metres	
Bahamas	Commercial fishing vessels range in size from 3.35 metres to 30.5 metres. In many instances <i>dinghy</i> (small vessels < 6 metres long) work in conjunction with a larger motorized <i>mothership</i> that acts as a base for operations (primarily in the lobster and conch fishery). Categories of vessels include: 1. The <i>dinghy</i> (small vessels < 6 m in length) which forms the majority of the fleet. 2. Small scale fishing vessels 6 – 16 metres in length 3. Large motorized vessels “mothership” (up to 30.5 m in length) that acts as a base for operations	CRFM, 2006 CRFM, 2008
Barbados	The fleet range from small open rowboats (less than 6 metres) to inboard-engine powered longliners (over 22 metres). Categories of vessels include: 1. <i>Moses</i> ; open boats 3 - 6 metres 2. <i>Dayboats/Launches</i> : mostly wooden vessels 6 - 12 metres, fitted with a cabin 3. <i>Iceboats and Longliners</i> : characterized by a fitted insulated ice hold; carry a cabin; usually greater than 12 metres	Government of Barbados, 2004
Belize	Most fishing vessels range between 3.6 metres to 9.14 metres in length and are wooden or fibreglass fishing vessels fitted with outboard engines (15-75 hp) or sail. Vessels are used to exploit both freshwater systems and the marine environment. Categories of vessels include: 1. Outboard powered skiffs and canoes. 2. Round bilged sailing boats	Villanueva, 2009
Dominica	Keel-type vessels account for approximately half of the fishing fleet. Categories of vessels include: 1. Canoes 2. keel-type boats and pirogues	Theophile, 2012
Grenada	Pirogues and small open vessels are the main types of vessels used. The range in boat sizes have increased from 4.9 - 9.1 metres to 4.9 - 16.8 metres in recent years. Categories of vessels include: 1. Small open boats; canoes and small pirogues 2. Open and decked pirogues 3. Longliners	FAO, 2007; CRFM, 2011b
Guyana	The marine capture fisheries are exploited by: 1. Shrimp trawlers; 21 metres in length. (Gulf of Mexico standard steel-hulled vessels with twin otter trawl nets). 2. Finfish trawlers (these are usually smaller than the shrimp trawlers). 3. The artisanal fishing fleet which consist of wooden flat-bottomed dory type vessels ranging in size from 6 to 18 metres. The inland freshwater fisheries are exploited using small, flat-bottomed, dory type vessels	CRFM, 2008; JICA and IC Net Limited, 2012
Haiti	Vessels are artisanal vessels ranging from 3 - 6 metres Categories of vessels include: 1. Rowboats (<i>canots à quille</i>); length 3.3 to 6 metres 2. Flat-bottomed boats (<i>corallins</i>); length 3.3 – 5 metres 3. Dugout wooden boats (<i>pirogues monoxyles</i>); length 3.3 – 4 metres	JICA and IC Net Limited, 2012
Jamaica	The fishing fleet consist principally of open glass-fibre reinforced plastic, (GFRP) canoes. Categories of vessels include: 1. Dugout wood canoes and other small open canoes 2. Open reinforced fibreglass plastic (FRP) canoes most of which are 8.5 metres, large size wooden boats locally called <i>big head</i> 3. Fish trading vessels locally called <i>packer boats</i> 4. Steel or aluminium hull vessels operating as “mothership” on offshore banks	FAO, 2004-2013b; Kong, 2003
Montserrat	The length of vessels in the fleet range from 3.7 - 9.1 metres The fleet consist of:	CRFM, 2011b

CRFM Member States	Summary description of the fishing fleet (length of vessels is length overall - LOA)	Source / Reference
	<ol style="list-style-type: none"> 1. Traditional wooden boats. 2. Open fibreglass reinforced pirogues (largest category) 	
St. Kitts and Nevis	Approximately 80% of the fleet are open pirogues between 5 to 12 metres in length	CRFM, 2006
St. Lucia	<p>Fishing vessels engaged in the fishery in Saint Lucia range between 5 - 9 meters and are propelled mainly by outboard engines.</p> <p>Categories of vessels include:</p> <ol style="list-style-type: none"> 1. Small wooden canoes and pirogues 2. Open and decked pirogues, transom, and shallop 3. Longliners and whalers 	CRFM, 2009
St. Vincent and the Grenadines	<p>Most fishing vessels are open and powered by outboard engines.</p> <p>Categories of vessels include:</p> <ol style="list-style-type: none"> 1. Flat Transoms locally called <i>bow stern</i> or <i>dories</i> (open boats of 3 - 6 metres in length) and other small canoes and rowboats 2. Fiberglas pirogues , ranging from 7 - 10 metres in length 3. Double enders or “<i>two bows</i>” ; open wooden boats ranging from 3 - 9 metres in length 4. Longliner type multipurpose boats ranging in length from 10.6 - 14.8 metres 	CRFM, 2012b
Suriname	<p>Fishing vessels operate in Suriname’s marine, brackish and inland waters.</p> <p>The marine resources are exploited by:</p> <ol style="list-style-type: none"> 1. Shrimp trawling vessels. 2. Finfish trawling vessels. 3. Longliners. 4. Large canoe type vessels with inboard engines <p>The fish resources of inland waters are exploited by canoe type vessels</p>	FAO, 2008; CRFM, 2008
Trinidad and Tobago	<p>The 2003 fishing vessel census for Trinidad found that about 96% of the vessels were artisanal (including trawlers) about 2% were semi-industrial multi-gear vessels and 1% were semi - industrial longliners.</p> <p>Categories of vessels include:</p> <ol style="list-style-type: none"> 1. Pirogues usually 7 - 12 metres in length including artisanal trawlers (though pirogues could be as small as 4 metres) 2. Semi industrial longliners, semi-industrial fishpot/line vessels, semi-industrial and industrial trawlers 10 - 24 metres in length 	CRFM, 2008; Fisheries Division Trinidad and Tobago, 2011
Turks and Caicos Islands	<p>The vessels used are artisanal vessels between 5 - 6 metres in length.</p> <p>Categories of vessels include:</p> <ol style="list-style-type: none"> 1. small open boats with a 'V' shaped hulls 	CRFM, 2008

Table 11: Categorization of vessel operating in the commercial capture fisheries by vessel length overall (L.o.A) classes (meters) as at 2013 or the latest estimates available for CRFM Member States

CRFM Member States	Vessel size by length overall (L.o.A) classes ⁷⁴ (meters)							Totals	Year of estimate	Source
	Up to 5.9	6 - 11.9	12 - 17.9	18 - 23.9	24-29.9	30 - 35.9	Unknown			
Anguilla	34	98	4	0	0	0		136	2014/2015 ⁷⁵	Fisheries Division, 2015
Antigua and Barbuda	69	233	36					338	2014	Fisheries Division Antigua and Barbuda, 2015
Bahamas	NA	NA	NA	NA	NA	NA	NA			
Barbados	588	230	216					1034	2014	Government of Barbados, 2015
Belize	NA	NA	NA	NA	NA	NA	NA			
Dominica	249	185						434	2013/2014	Fisheries Division Dominica, 2013
Grenada	NA	NA	NA	NA	NA	NA	NA			
Guyana		722	64	118		448	98	1450	2013	CRFM, 2014
Haiti	5630							5630	2008	JICA and IC Net Limited, 2012
Jamaica	NA	NA	NA	NA	NA	NA	NA		2014	CRFM, 2014
Montserrat	10	22						32	2013	CRFM, 2014
St. Kitts and Nevis	NA	NA	NA	NA	NA	NA	NA		NA	
St. Lucia	94	619	6					719	2013	Department of Fisheries St. Lucia, 2015
St. Vincent and the Grenadines	471	307	11	1				790	2013	CRFM, 2015
Suriname		627	451	68				1146	2013	Department of Fisheries Suriname, 2013
Trinidad and Tobago	NA	NA	NA	NA	NA	NA	NA			
Turks and Caicos Islands	NA	NA	NA	NA	NA	NA	NA			
Totals	7145	3043	788	187	0	448	98	11709		
Percentage (%)	61	26	7	2	0	4	1			

NA=Not available.

⁷⁴ International Standard Statistical Classification of Vessels by Length Classes, approved at the eleventh session of the CWP (Coordinating Working Party on Atlantic Fishery Statistics) in 1982.

⁷⁵ Data represents all active fishing vessels as of 2nd June 2015

CHAPTER 3: FISH PRODUCTION OF THE CRFM MEMBER STATES

Fish harvesting activities occur in the recreational fisheries, sports fisheries, subsistence fisheries, commercial capture fisheries (including the bait fishery) and aquaculture.

Data and information on fish production exclusively from recreational fishing, sports fishing and subsistence fishing in the region were limited, as in most cases data were not collected from these sub-sectors. Fish production statistics from these sub-sectors were not included in this report at this time. During the period the fisheries authorities of the CRFM Member States consistently collected data from the commercial capture fisheries and aquaculture facilities. However, the region's data collection systems tended to be more geared towards the collection of data from marine commercial capture fisheries, and in most cases data and statistics on commercial capture of fish from inland fresh water systems were also limited (see section 1.2.1).

3.1 Production of the marine capture fisheries of CRFM Member States

Total marine fish production of the CRFM Member States decreased from 172,209 mt in 2013 to 152,231 in 2014 (live weight⁷⁶) (Table 12), or from 153,630 mt in 2013 to 136,933 mt in 2014 (meat weight⁷⁷). Table 13 and Figure 4. Over the two year period (2013 – 2014) the region produced an average of 162,220 mt (live weight) or 145,282 mt (meat weight) of marine capture fish annually. The region's fish production in meat weight, decreased by ~11% (Table 12 & Table 13 figures are preliminary and are subject to change). The production of the high seas fleets of Belize and St. Kitts and Nevis were not available, however the St. Vincent and the Grenadines fleet produced 851 mt in 2013 (Table 14).

Over the period 2013 - 2014, Guyana and Suriname were the two top marine capture fish producers⁷⁸ among the CRFM Member States. However in 2014 Guyana experienced a 25.48% decrease in production (Table 15 and Figure 5). Guyana suggested the following possible reasons for the decline 1. The effects of Sargassum weed in Guyana's waters during May and June. This weed was caught in the nets of both the artisanal and trawl gears. This caused damage to the gears and also a reduction in catch. 2. The weather conditions in the ocean were not favourable with some strong winds and the fishermen complained about a phenomenon they referred to as "slime" in the waters which usually occur during periods of low rainfall. 3. The high cost of inputs such as fuel caused some fisherfolk to reduce their effort 4. In Berbice the fisherfolk complained that the dredging of the Berbice River mouth caused silting of the fishing grounds and therefore a reduction in catch.

Jamaica's marine capture fish production also decreased by approximately 21% in 2014 and the suggested reasons for the decline were: 1. major fishing grounds continue to be affected by pollution from nearby factories, shipping activities, coastal developments, road developments, among other factors; 2. extremely low catches due to the restrictions being placed on fishers in accessing the main coastal fishing grounds; 3. the overall increasing prices of fuel for outboard engines limited fishing activities; and 4. limited budgetary allocation has also significantly affected sampling trips which may have affected the accuracy of estimates.

⁷⁶ Live weight was taken as follows: the weight of finfish and mammals was the un-gutted weight; the weight of conch was the weight of the animal with the shell; the weight of lobsters and echinoderms was the weight of the whole animal.

⁷⁷ Meat weight was taken as follows: The weight of finfish and mammals was the un-gutted weigh; the weight of conch was the weight of the animal with the shell removed; the weight of lobsters and echinoderms was the weight of the whole animal.

⁷⁸ Calculations were based on meat weight values

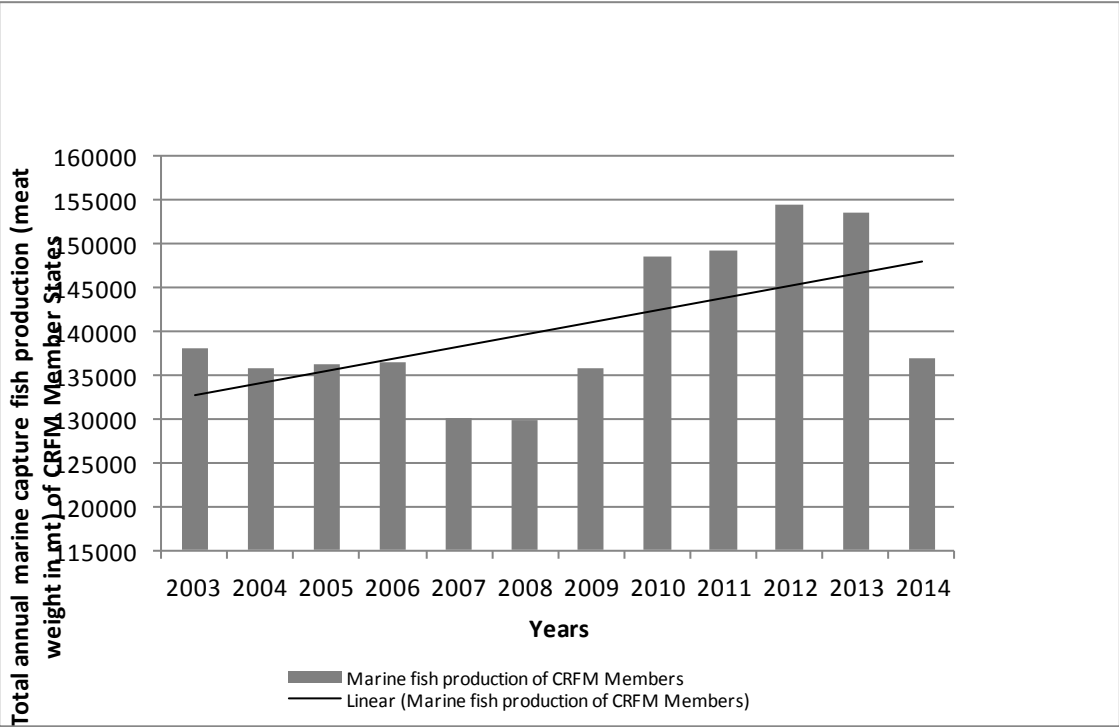


Figure 4. Annual total capture fish production (meat weight in mt) of CRFM States for period 2003 – 2014.

Table 12: Annual marine capture fish production (live weight in metric tonnes) of CRFM Member States for the period (2003–2014)

Member States	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012R	2013P	2014P	Average 2003-2014
Anguilla	250	250	250	250	250	760	681	701	1 007	1 118	858	940	610
Antigua and Barbuda	2 587	2 527	2 999	3 092	3 092	3 521	2 490	2 293	3 192	5 696	4 606	3 114	3 267
Bahamas	16 706	14 897	15 532	16 184	10 809	14 704	13 731	16 190	15 164	16 557	12 734	11 795	14 584
Barbados	2 838	2 148	2 182	1 974	2 391	3 220	3 467	3 229	1 773	1 300	2 735	2 153	2 451
Belize	4 068	4 674	4 574	4 817	4 195	4 205	4 922	4 529	4 930 ⁷⁹	5 835 ⁸⁰	4 720	3 887	4 613
Dominica	737	581	524	762	824	732	686	560	665	561	479	479**	633
Grenada	2 774	2 233	2 151	2 178	2 393	2 407	2 387	2 458	2 451	2 445	2 952	3 028	2 482
Guyana	56 308	47 132	48 450	44 559	42 615	41 366	42 056	46 040	44 364	53 093	49 576	36 946	46 042
Haiti	9 950	10 250	10 950	11 950	11 950	17 950	17 950	17 950	17 800	17 800*	17 800*	17 800*	15 008
Jamaica	8 712	13 071	12 697	17 293	15 998	12 625	15 805	15 174	17 507	14 518	17 513	14 506	14 618
Montserrat	30	30	41	37	22	31	37	24	33	37	40	37	33
St. Kitts and Nevis	998	1 374	1 355	1 222	1 154	1 171	1 213	1 093	1 155	1 155*	383	423	1 058
St. Lucia	1 759	1 819	1 659	1 668	1 776	2 069	2 078	1 983	1 946	2 116	1 895	2 162	1 911
St. Vincent and the Grenadines	809	793	778	770	982	636	971	819	848	746	1 021	1 075	854
Suriname	26 030	30 744	27 657	30 384	29 013	23 449	25 575	33 842	36 225	36 650	38 719	37 708	- 31333
Trinidad and Tobago	14 772	14 918	17 123	13 249	13 204	13 830	13 845	13 942	13 291	12 839	13 199	13 199**	13 951
Turks and Caicos Islands	5 258	5 747	5 528	5 971	5 006	6 044	6 558	5 262	2 998	2 977	2 978	2 978**	4 775
Totals	154 585	153 187	154 450	156 358	145 674	148 719	154 452	166 089	165 348	175 442	172 209	152 231	158 145

P = Provisional data; R = Reviewed

***Dominica, Trinidad and Tobago, Turks and Caicos Islands - 2013 figure brought forward as 2014 data were not yet available.*

Haiti 17,800– 2011 estimate*

Source: Obtained directly from the Fisheries Authority in the respective Member States, National Reports presented at the Annual CRFM Scientific Meetings, and literature searches

⁷⁹ Live weight calculated from summary of: Belize Fisheries Department Capture Fisheries Unit Annual Report 2011 (Gongora, 2012) and Belize Country Report Caribbean Fisheries Forum April 2013 (Caribbean Fisheries Forum. 2013).

⁸⁰ Live weight calculated from summary of: Capture Fisheries Unit 2012 Annual Report (Capture Fisheries Unit 2012) and Belize Country Report Caribbean Fisheries Forum April 2013 (Caribbean Fisheries Forum. 2013.)

Table 13: Annual marine capture fish production (meat weight in metric tonnes) of CRFM Member States for the period 2003 – 2014

Member States	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 R	2013 P	2014 P	Average 2003-2014
Anguilla	250	250	250	250	250	702	493	461	643	706	655	752	472
Antigua and Barbuda	2 181	2 047	2 541	2 664	2 644	2 345	1 833	1 631	1 975	2 596	1 752	1 709	2 160
Bahamas	12 676	11 140	11 099	10 652	8 345	9 127	9 025	11 621	10 289	11 451	7 845	8 176	10 120
Barbados	2 838	2 148	2 182	1 974	2 391	3 220	3 467	3 229	1 773	1 300	2 735	2 153	2 451
Belize	2 534	2 853	2 723	2 792	2 489	2 592	2 926	2 618	2 401	2 635	1 874	1 755	2 516
Dominica	737	581	524	762	824	732	686	560	665	561	479	479**	633
Grenada	2 546	2 044	2 047	2 165	2 211	2 387	2 374	2 451	2 321	2 266	2 698	2 854	2 351
Guyana	56 308	47 132	48 450	44 559	42 615	41 366	42 056	46 040	44 364	53 093	49 576	36 946	46 042
Haiti	8 000	8 300	9 000	10 000	10 000	16 000	16 000	16 000	16 500	16 500*	16 500*	16 500*	13 275
Jamaica	5 436	9 496	8 537	13 068	11 838	10 025	13 205	12 314	14 907	10 942	14 263	11 256	11 274
Montserrat	30	30	41	37	22	31	37	24	33	37	40	37	33
St. Kitts and Nevis	556	717	705	578	517	540	589	475	654	654	383	423	566
St. Lucia	1 447	1 520	1 386	1 440	1 509	1 809	1 857	1 801	1 693	1 709	1 639	1 695	1 625
St. Vincent and the Grenadines	809	793	778	770	982	636	971	819	783	668	714	732	788
Suriname	26 030	30 744	27 657	30 384	29 013	23 449	25 575	33 842	36 225	36 650	38 719	37 708	31333
Trinidad and Tobago	14 772	14 918	17 123	13 249	13 204	13 830	13 845	13 942	13 291	12 061	13 199	13 199**	13 886
Turks and Caicos Islands	998	1 068	1 105	1 128	1 200	1 110	865	681	638	559	559 ⁸¹	559**	872
Annual Totals for CRFM region	138 148	135 781	136 148	136 471	130 054	129 901	135 804	148 509	149 156	154 388	153 630	136 933	140 397

P = Provisional data,

R = Reviewed

***Dominica, Trinidad and Tobago, Turks and Caicos Islands - 2013 figure brought forward as 2014 data were not yet available.*

Haiti 16,500– 2011 estimate*

Source: Obtained directly from the Fisheries Authority in the respective Member States, National Reports presented at the Annual CRFM Scientific Meetings, and literature searches

⁸¹ 2012 estimate

Table 14: Marine capture fish production (meat weight in metric tonnes) of high seas fleet from the CRFM region for 2011 and 2013

Member States from the CRFM region	High seas fishery production (mt 2011)	High seas fishery production (mt 2012)	High seas fishery production (mt 2013)	References / Source
Belize	NA	152 543	NA	Belize Fisheries Division , 2014
St. Kitts and Nevis	NA	NA	NA	
St. Vincent and the Grenadines	1 715	1 158	851	Fisheries Division, St. Vincent and the Grenadines, 2015

Table 15: The production⁸² (Prod.) in metric tonnes (mt) of the six highest marine capture fish producers (in descending order) from among the CRFM Member States for the period 2013 – 2014

Order of Member State	Member States	Prod. (mt) 2013	Member States	Prod. (mt) 2014
1st	Guyana	49 576	Suriname	37 708
2nd	Suriname	38 719	Guyana	36 946
3rd	Haiti	16 500	Haiti	16 500
4th	Jamaica	14 263	Trinidad and Tobago	13 199
5th	Trinidad and Tobago	13 199	Jamaica	11 256
6th	Bahamas	7 845	Bahamas	8 175

⁸² Calculations were based on meat weight.

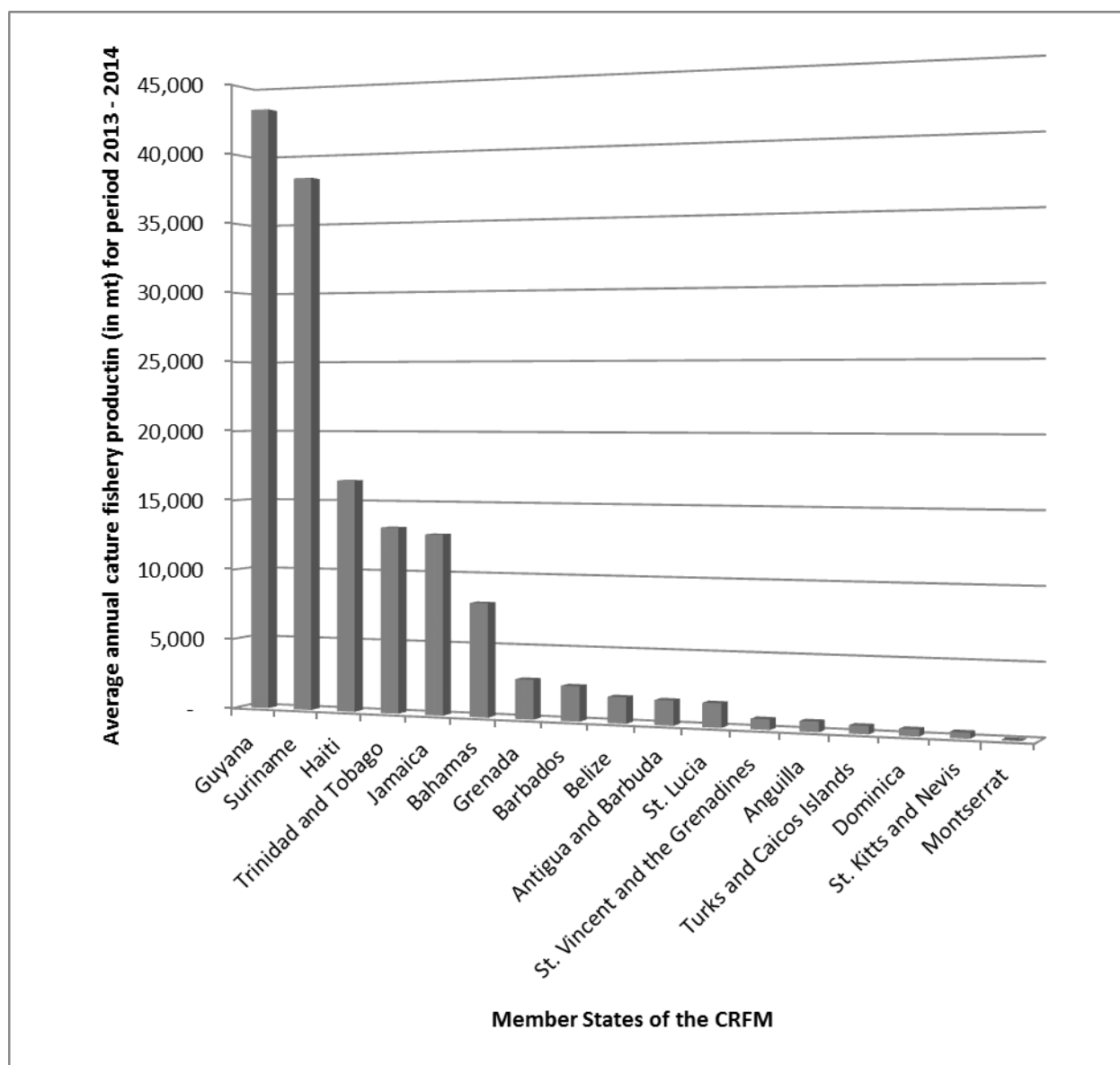


Figure 5: Average annual marine capture fisheries production (meat weight in mt) of CRFM Member States (in descending order) for period 2013 – 2014.

Over the last two year period (2013 – 2014), Guyana, Suriname, Haiti, Trinidad and Tobago, Jamaica and the Bahamas (the top six meat weight producers), produced approximately 90.8 % of the average total meat weight of the marine fish production of the CRFM Member States⁸³. Guyana's average annual contribution to the average total marine capture fish production of the region was approximately 29.8% yearly, that of Suriname approximately 26.3% and that of the other top producers between 5% and 11% and the other CRFM Member States combined, contributed approximately 9% annually (Table 16 and Figure 6). Table 17 shows marine capture fish production (in mt) of CRFM Member States by fishery and species for 2013.

⁸³ Calculations were based on meat weight values

Table 16: Percentage contributions by CRFM Member States to the total average annual fish production (meat weight in mt) for the period 2013 – 2014

Member State	Average annual production 2013-2014 (meat weight in mt)	% contribution to the total average annual production (meat weight) 2013 - 2014
Guyana	43 261	29.8
Suriname	38 214	26.3
Haiti	16 500	11.4
Trinidad and Tobago	13 199	9.1
Jamaica	12 760	8.8
Bahamas	8 011	5.5
Grenada	2 776	1.9
Barbados	2 444	1.7
Belize	1 815	1.2
Antigua and Barbuda	1 731	1.2
St. Lucia	1 667	1.1
St. Vincent and the Grenadines	723	0.5
Anguilla	704	0.5
Turks and Caicos Islands	559	0.4
Dominica	479	0.3
St. Kitts and Nevis	403	0.3
Montserrat	38	0.0
Total average annual fish production (meat weight in mt)2013-2014	145 282	100

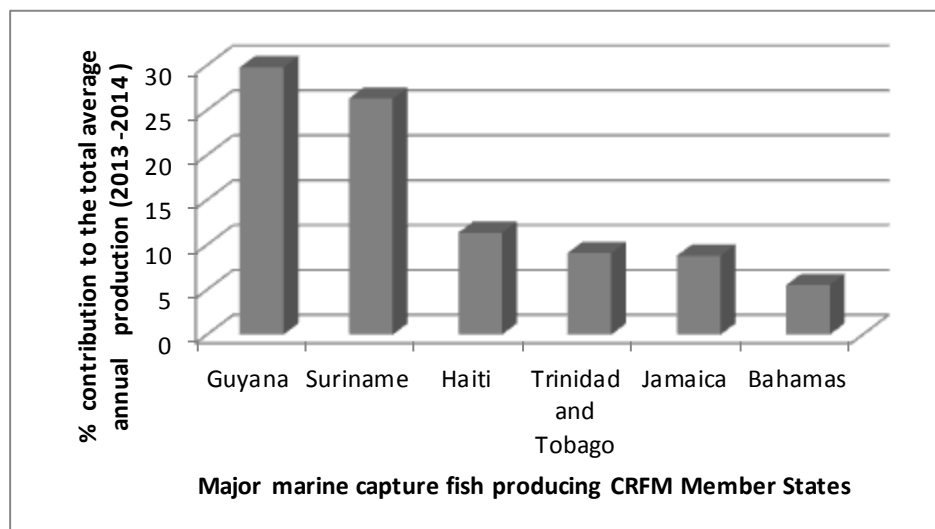


Figure 6: Percentage contributions to the total average annual fish production (meat weight in mt) for the period 2013 – 2014, of the six highest marine capture fisheries producers and all others combined, from the CRFM Member States.

Table 17: Production (meat weight in mt) of the marine capture fishery of CRFM Member States by species and fishery for year 2013

Fishery	Species	AN	A&B	BAH	BAR	BEL	DOM	GRE	GUY	HAI	JAM ⁸⁴	MONS	SKN ⁸⁵	SLU	SVG	SUR	T&T	TCI
SMALL COASTAL PELAGICS	Jacks		80.0	60.0				54.8				0.2			81.8		254.3	0.0
	Scads	18.3						103.2				0.3			138.5			
	Carangids aggregated	0.0			9							0.0			0.6			0.0
	Herrings & Shads	0.0						0.0				0.0			1.6		0.5	0.0
	Needlefish / Gar	0.0						0.74				21.4			6.6			0.0
	Flyingfish	0.0			1 909.0			9.4				0.0		107.0	0.0			0.0
	Halfbeaks/Ballyhoo (Hemiramphus sp.)	0.0						2.4				5.0			76.7			0.0
	Others aggregated	13.8			0.0	0.0		0.42				0.0				0		0.0
Total: Small coastal pelagic fishery		32.1	80.0	60.0	1 918.0	0.0	0.0	171.04	0.0	0.0	0.0	26.9	0.0	107.0	305.68	0	254.9	0.0
SHALLOW SHELF AND REEF FISHERY	Snappers	60.8	448.0	550.3	14.0			89.0	1 109.0			3.5			24.5			
	Grunts	0.0	115.0	89.2				2.5				0.2			2.4			
	Red hind & Coney & Butterfish	0.0		0.0				159.1				3.0	.		49.0			
	Other groupers		113															
	Triggerfishes	0.0	24.0	20.0				1.7				1.8			0.7			
	Parrotfishes	0.0	88.0					101.8				0.1			2.7			
	Squirrelfishes	0.0	7.0					3.4				0.8			0.17			
	Angelfishes	0.0	2.0					0.2				0.1			0.00			
	Porgies, Seabreams	0.0	4.0									0.1			0.04			
	Surgeonfishes (doctorfishes)	0.0	115.0					1.2				1.0			0.03			
	Other marine fishes	327.6	23.0		0			6.2				1.3						
	Other mollusks, oysters, squids			0.0		2.24		0.2				0.0						
	Crabs	0.0	0.3	61.4	0.0	3.90						0.0					50.16	
Total: Shallow shelf and reef fishery		388.4	939.30	720.90	14	6.14	0.0	365.3	1109.00	0.0		12.0	0.0	0	79.51	0	50.16	0
SHELF AND DEEP	Deep water snappers	0.0		0.0		0.0						0.0			3.6			

⁸⁴ Finfish species were not disaggregated

⁸⁵ Breakdown by species not available

Fishery	Species	AN	A&B	BAH	BAR	BEL	DOM	GRE	GUY	HAI	JAM ⁸⁴	MONS	SKN ₈₅	SLU	SVG	SUR	T&T	TCI
SLOPE	Nassau groupers	0.0		82.1								0.01			0.03			
	Other groupers/seabasses	0.0		102.2				1.6				0.01			0.09			
	Others aggregated	0.0		0.0		0.0						0.0						
Total: Shelf and deep slope fishery		0.0		184.3	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.02		0.0	3.7	0.0		0.0
LARGE OFFSHORE PELAGICS FISHERY	Yellowfin tuna	0.0			0.0		68.0	1 315.7				0.0			27.7	1 829.0	1 128.0	
	Blackfin tuna	0.0					11.0	150.7				0.0			11.2		5.1	
	Wahoo						2.0	36.1				0.3			27.6	415.0	9.0	
	Common dolphinfish	0.0	11.0		514.0		107.0	148.1				0.22		387.0	86.1			
	Other tunas/ tuna-like fishes	0.0	35.0		178.0		34.0	39.6				0.0		492.0	42.2	768.0	471.9	
	Barracudas	0.0	13.0	5.5				112.0				0.14			18.8			
	Swordfish	0.0			12.0			34.4				0.0			0.1		15.9	
	Marlins	0.0					29.0	74.2				0.0			2.5		80.8	
	Sailfishes						2.0	147.4				0.0			1.6		33.94	
	Other mackerels	0.0			22.0		2.0	20.3				0.1		148.0	0.2		1234.85	
	Others/aggregated	53.7			46.0							0.0			0.1		15.85	
	Sharks, rays, skates	0.0	38.0		8.0			17.0				0.14		7.0	11.8	281.0	534.2	
Total: Large offshore pelagics fishery		53.7	97.0	5.5	780.0	0.0	255.00	2 095.5	0.0	0.0	0.0	0.8	0.0	1 034.0	229.8	3 293.00	3529.36	0.0
MARINE MAMMAL FISHERY	Pilot whales														0.1			
	Porpoises														0.2			
	Others aggregated																	
Total: Marine mammal fishery		0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
LOBSTER FISHERY	Caribbean spiny lobster	139.90	106.0	6 065.4		657.61		22.8			300.0			24.1	40.8		21.3	178.3
	Spanish slipper lobster	0.00	0.3															
	Others/aggregated	9.80								600.0								
Total: Lobster Fishery		149.70	106.3	6 065.4	0.0	657.61	0.0	22.8	0.0	600.0	300.0	0.0	0.0	24.1	40.8	0.0	21.3	178.3
CONCH FISHERY	Queen conch	31.20	494.7	752.1		437.8		39.1		200.0	500.0		0.0	39.4	47.2			372.2

Fishery	Species	AN	A&B	BAH	BAR	BEL	DOM	GRE	GUY	HAI	JAM ⁸⁴	MONS	SKN ₈₅	SLU	SVG	SUR	T&T	TCI
	Others aggregated	0.00	0.0															
Total: Conch Fishery		31.20	494.7	752.1	0.0	437.8	0.0	39.1	0.0	200.0	500.0	0.0	0.0	39.4	47.2	0.0	0.0	372.2
SEA TURTLES FISHERY	Sea turtles	0.00		0.0				2.6										
Total: Sea turtles fishery		0.00	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ECHINODERM FISHERY	White sea eggs	0.00																
	Sea cucumber	0.00				196.37												
Total: Echinoderm fishery		0.00	0.0	0.0	0.0	196.37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHRIMP FISHERY	Seabob	0.00	0.0						23 400.0							8 033.0		
	Other shrimp	0.00	0.0			0.04			1 339.0	50.0	0.0					920.0	687.1	
Total: Shrimp fishery		0.00	0.0	0.0	0.0	0.04	0.0	0.0	24 739.0	50.0	0.0	0.0	0.0	0.0	0.0	8 953.0	687.1	0.0
Marine fish nei⁸⁶			34.0	57.00	23	576.8 6	224		23 728.0	15 650.0	13 463.3			434.51	7.32	26472.90	8656.44	8.57
Total: All fisheries		655.10	1 751.3	7 845.2	2 735.0	1 874.82	479.0	2 697.9	49 576.0	16 500.0	14 263.3	39.7	383	1 639.0	714.3	38 718.9	13 199.3	559.0

⁸⁶ nei=not elsewhere included

3.2 Aquaculture fish production of CRFM Member States

During the period 2013 - 2014 the region produced approximately 8,386 mt of fish annually from aquaculture systems. Belize was the largest aquaculture producer over the period, producing approximately 6,662 mt annually followed by Jamaica producing approximately 767 mt annually (Table 18). Together these two main producers (Belize and Jamaica) accounted for 89% of the region's aquaculture output over the period. Table 19 shows total fish (meat weight) production (prod.) in metric tonnes (mt) from marine capture fisheries (MCF) added to the aquaculture production (AC prod) for CRFM Member States for period 2013 - 2014.

Table 18: Aquaculture production⁸⁷ (AC prod.) in metric tonnes (mt) of CRFM Member States for period 2013–2014

Member States	AC prod. (meat weight in mt) 2013	AC prod. (meat weight in mt) 2014	Average annual AC prod. (meat weight in mt) (2013 – 2014)
Anguilla	0	0	0
Antigua and Barbuda	NA	NA	NA
Bahamas	NA	NA	NA
Barbados	0	0	0
Belize	6 834	6 489	6 662
Dominica	NA	NA	NA
Grenada	NA	NA	NA
Guyana	218	379	299
Haiti	560	560	560
Jamaica	836	698	767
Montserrat	0	0	0
St. Kitts and Nevis	0	0	0
St. Lucia	14	12	13
St. Vincent and the Grenadines	0	0	0
Suriname	79	80.37	79.2
Trinidad and Tobago	8	5.45	7
Turks and Caicos Islands	NA	NA	NA
Totals	8 549	8 224	8386.5

NA= Not Available

⁸⁷ Calculations were based on meat weight values

Table 19: Total fish (meat weight) production (prod.) in metric tonnes (mt) from marine capture fisheries (MCF) and aquaculture (AC) for CRFM Member States for period 2013-2014

Member States	MCF prod. + AC prod. (mt) 2013	MCF prod. + AC prod. (mt) 2014
Anguilla	655	752
Antigua and Barbuda	1 752	1 709
Bahamas	7 845	8 176
Barbados	2 735	2 153
Belize	8 708	8 244
Dominica	479	479
Grenada	2 698	2 854
Guyana	49 794	37 325
Haiti	17 060	17 060
Jamaica	15 099	11 954
Montserrat	40	37
St. Kitts and Nevis	383	423
St. Lucia	1 653	1 707
St. Vincent and the Grenadines	714	732
Suriname	38 798	37 788
Trinidad and Tobago	13 207	13 205
Turks and Caicos Islands	559	559
Totals	162 179	145 157

CHAPTER 4: EMPLOYMENT IN THE FISHERIES SECTOR OF CRFM MEMBER STATES

4.1 Number of persons employed in direct production in the fisheries sector of the CRFM region

The number of persons employed in direct production in the commercial marine capture fisheries and aquaculture sub-sectors (including full time⁸⁸ and part time⁸⁹ fishers, harvesters and farmers engaged in, artisanal / subsistence⁹⁰ and commercial activities) in the CRFM region in 2013, was approximately 116,265 persons (~112,558 persons employed in direct production in the marine capture fisheries and ~3,707 persons employed in direct production in aquaculture) (Table 20). Fishers who harvest fish exclusively for recreation⁹¹ and or sport as well as those fishers harvesting exclusively from inland freshwater systems (where these fishers were not registered by the fisheries authority of the Member State), were not accounted for as those data were not available. Member States with inland waters/fresh water systems that are of cultural and/or subsistence, and/or economic importance include; Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Vincent and the Grenadines and Trinidad and Tobago. However most of these Member States did not have available information on the number of persons employed in direct production from the inland waters and or freshwater systems (rivers, ponds, lakes etc.).

The fisheries sector also provides employment for many persons who supply services and goods to the primary producers. This includes persons engaged in processing, preserving, storing, transporting, marketing and distributing or selling fish or fish products, as well as other ancillary activities, such as net and gear making, ice production and supply, vessel construction and maintenance as well as persons involved in research, development and administration linked with the fisheries sector. The total number of persons employed in the fisheries sector of the CRFM region was estimated at approximately 341,668 in 2013/2014 which was approximately 4.3% of the workforce of the region (Table 21).

⁸⁸ Full-time fishers receive at least 90% of their livelihood from fishing or spend at least 90% of their working time in that occupation (FAO, 2012a).

⁸⁹ Part-time fishers receive at least 30% but less than 90% of their livelihood from fishing or spend at least 30% but less than 90% of their working time in that occupation (FAO, 2012a).

⁹⁰ Artisanal fisheries are traditional fisheries involving fishing households (as opposed to commercial companies), using relatively small amount of capital and energy, relatively small fishing vessels (if any), making short fishing trips, close to shore, mainly for local consumption. In practice, definition varies between countries, e.g. from gleaning or a one-man canoe in poor developing countries, to more than 20-m. trawlers, seiners, or long-liners in developed ones. Artisanal fisheries can be subsistence or commercial fisheries, providing for local consumption or export. They are sometimes referred to as small-scale fisheries (FAO, 2005a).

⁹¹ Recreational Fishery can be defined as a non-commercial (i.e. not for sale, barter, or trade) subset of capture/harvest fisheries; motivated by catching fish for fun, pleasure, or sport (Gaudin & De Young, 2007)

Table 20: Number of persons employed in direct production in the marine capture fisheries, aquaculture and other fisheries dependent activities in Member States of the CRFM region in 2013-2014

MEMBER STATES	Number of persons employed in direct production in the marine commercial capture fisheries ⁹² 2013-2014 unless otherwise stated	Source (Year of estimate)	Number of persons employed in direct production in aquaculture (2013 estimates unless otherwise stated)	Source (Year of estimate)	Number of persons employed in other fisheries dependent activities (2013 estimates unless otherwise stated)	Source (Year of estimate)	Fishing Sector Employment (2013-2014 estimates)
Anguilla	1 64	Dept. of Fisheries & Marine Resources Anguilla, 2015* (2013 estimate)	0	Dept. of Fisheries & Marine Resources Government of Anguilla, 2015* (2013 estimate)	492	Calculated after FAO, 2010** (2013 estimate)	656
Antigua and Barbuda	1 847	Fisheries Division Antigua and Barbuda, 2014*(2011 estimate)	2	JICA & IC Net Limited, 2012 (2012 estimate)	4 716	Calculated after FAO, 2010** (2011 estimate)	6 565
Bahamas	9 000	The Bahamas Fisheries Census 1995 ⁹³	16	Department of Statistics The Bahamas, 2014* (2013 estimate)	27 048	Calculated after FAO, 2010** (2013 estimate)	36 064
Barbados	2 200	Government of Barbados, 2004 (2002 estimate)	0	JICA & IC Net Limited, 2012 (2011 estimate)	6 600	Calculated after FAO, 2010** (2013 estimate)	8 800
Belize	2 500	CRFM, 2015 (2013 estimate)	1 115	Statistical Institute of Belize, 2014* (2013 estimate)	1 000	Gongora, 2012 (2011 estimate)	4 615
Dominica	1 344	Fisheries Division Dominica, 2015*(2013 estimate)	5	Fisheries Division Dominica, 2015* (2013/2014 estimate)	4 047	Calculated after FAO, 2010** (2013 estimate)	5 396
Grenada	2 729	CRFM, 2014 (2013 estimate)	14	Fisheries Division, 2015* (2013/214 estimate)	8 229	Calculated after FAO, 2010** (2013 estimate)	10 972
Guyana	5 600	ACP FISH II, 2012 (2009 estimate)	100	JICA & IC Net Limited, 2012 (2011/2012 estimate)	15 000	Suseran, 2012 (2011/2012 estimate)	20 700
Haiti	52 000	CRFM, 2011a (2010/2011 estimate)	278	Calculated after Hargreaves, 2011; Webster, 2012 (2010/2011 estimate)	38 000	Study to determine poverty levels in CARICOM fishing communities, 2009*** (2007/2008 estimate)	90 278

⁹² The figures presented represent the Member State's best estimate of number of marine capture fishers in the Member State

⁹³ Data from the last Bahamas fisheries census conducted in 1995 (Deleveaux, and Higgs, 1995).

MEMBER STATES	Number of persons employed in direct production in the marine commercial capture fisheries ⁹² 2013-2014 unless otherwise stated	Source (Year of estimate)	Number of persons employed in direct production in aquaculture (2013 estimates unless otherwise stated)	Source (Year of estimate)	Number of persons employed in other fisheries dependent activities (2013 estimates unless otherwise stated)	Source (Year of estimate)	Fishing Sector Employment (2013-2014 estimates)
Jamaica	21 629	CRFM , 2014 (2013 estimate)	1 800	Aquaculture Branch Jamaica, 2015* (estimate 2013/2014)	100 000	Neufville, 2014 (2011-2012 estimate)	123 429
Montserrat	101	CRFM, 2014 (2013 estimate)	0	Department of Fisheries Montserrat, 2014*(2013 estimate)	14	Statistics Department Montserrat, 2014*(2013 estimate)	115
St. Kitts and Nevis	1 140	Fisheries Division Nevis of St. Kitts and Nevis, 2015*; CRFM, 2015 (2013 estimate)	1	CRFM, 2014 (2013 estimate)	3 423	Calculated after FAO, 2010** (2013 estimate)	4 564
St. Lucia	1 226	CRFM, 2014 (2013 estimate)	201	Department of Fisheries St. Lucia, 2013* (2013 estimate)	4 281	Calculated after FAO, 2010** (2013 estimate)	5 708
St. Vincent and the Grenadines	2 500	CRFM, 2014 (taken as 2013 estimate)	0	CRFM, 2014 (2013 estimate)	500	CRFM, 2014 (2013 estimate)	3 000
Suriname	4 908	Department of Fisheries Suriname, 2014* (2008-2010 estimate)	99	FAO, 2008 (taken as 2007/2008 estimate)	1 416	Department of Fisheries Suriname, 2014*(2008-2010 estimate)	6 423
Trinidad and Tobago	3 414	Fisheries Division Trinidad and Tobago, 2014* (2012 estimate)	76	Fisheries Division Trinidad and Tobago, 2014* (2013-2014 estimate)	10 470	Calculated after FAO, 2010** (2013 estimate)	13 960
Turks and Caicos Islands	256	Department of Environment and Coastal Resources Turks and Caicos Island, 2014*(2012 /13 estimate)	0	Department of Environment and Coastal Resources Turks and Caicos Island, 2014*(2012/13 estimate)	167	Department of Environment and Coastal Resources Turks and Caicos Island, 2014*(2013 estimate)	423
Totals	112 558		3 707		225 403		341 668

* Data were collected directly from the Fisheries Data Unit or Statistics Unit in the Member State.

**Calculated using "Some estimates indicate that, for each person employed in capture fisheries and aquaculture production, about three jobs are produced in the secondary activities" (FAO, 2010)

***Data submitted to the CRFM Secretariat as part as part of the Diagnostic Study to Determine Poverty Levels in CARICOM Fishing Communities, 2009.

Table 21: The labour force (in 2013 unless otherwise stated), estimated number of persons employed in the fisheries sector in 2013 and the percentage of the labour force employed in fisheries in 2013 for CRFM Member States

Member States	Labour force 2013(unless otherwise stated)	Estimated fishing sector employment 2013	% of the labour force employed in fisheries 2013 (calculated)
Anguilla	6 049 ⁽¹⁾ (2001 est.)	656	10.8
Antigua and Barbuda	30 000 ⁽¹⁾ (2006 est.)	6 288	21.0
Bahamas	196 900 ⁽¹⁾	36 064	18.3
Barbados	141 800 ⁽¹⁾	8 800	6.2
Belize	120 500 ⁽¹⁾	4 615	3.8
Dominica	30 204 ⁽²⁾	5 396	17.9
Grenada	59 900 ⁽¹⁾	10 972	18.3
Guyana	323 522 ⁽³⁾	20 700	6.4
Haiti	4 810 000 ⁽¹⁾	90 278	1.9
Jamaica	1 261 000 ⁽¹⁾	123 429	9.8
Montserrat	4 521 ⁽¹⁾ (2012 est.)	115	2.5
St. Kitts and Nevis	17 044 ⁽⁴⁾ (2001 est.)	4 564	26.8
St. Lucia	79 700 ⁽¹⁾	5 708	7.2
St. Vincent and the Grenadines	54 758 ⁽³⁾	3 000	5.5
Suriname	210 790 ⁽³⁾	6 423	3.0
Trinidad and Tobago	621 000 ⁽¹⁾	13 960	2.2
Turks and Caicos Islands	20 711 ⁽⁵⁾ (2007 est.)	475	2.0
Totals	7 988 399	341 391	
% of the workforce involved in the fishing sector of the CRFM region		4.3%	

Sources:

⁽¹⁾ IndexMundi, 2015. Historical Data Graphs per Year, viewed at

<http://www.indexmundi.com/g/g.aspx?v=72&c=av&l=en>

⁽²⁾ Central Statistics Office Dominica, personal communication Stedman/Masters July 2, 2014

⁽³⁾ The World Bank, 2015. Labour force, total, viewed at <http://data.worldbank.org/indicator/SL.TLF.TOTL.IN>

⁽⁴⁾ Caribbean Community (CARICOM) Secretariat - Regional Statistics, 2011. St. Kitts and Nevis, viewed at <http://www.caricomstats.org/Files/Publications/LABOUR%20FORCE/ST.%20KITTS%20AND%20NEVIS.pdf>.

⁽⁵⁾ Department of Economic Planning and Statistics Turks and Caicos Islands, website; Depstc.org. 2009 viewed at <http://www.depstc.org/stat/labor/labor.html>.

CHAPTER 5: ECONOMIC IMPORTANCE OF FISHERIES TO THE CRFM REGION

5.1 Fisheries contribution to GDP

Table 22 shows the percentage contribution of the fisheries sector to GDP (in current prices) in CRFM Member States 2010 - 2014. The data indicates that, in 2014 the fisheries sector contributed to the GDP of Member States from a low of 0.37% (Montserrat) to a high of 3% in Belize⁹⁴.

5.2 Economic contribution to livelihoods

Mahon *et al* (2007), showed that as the fish moved through the various market pathways to the consumer it increased in value and contributed to livelihood, and that the overall additional value was 2.6 times the landed value of the fishery.

During the period 2013 - 2014, at ex-vessel prices (the point of first sale) the value of the marine capture fishery production for the region was estimated at approximately US\$409 million annually and the value of the aquaculture fishery was US\$51 million annually (Table 23 and Table 24), giving a total value of approximately US\$ 460 million annually over the period (Table 25).

Table 22: Percentage contribution to gross domestic product (GDP) by the fishing industry of CRFM Member states (in current prices) 2010 – 2014

Member States	2010 (R)	2011 (R)	2012 (R)	2013 (R)	2014 (P)	Source 2014
Anguilla	1.79	2.17	2.25	1.99	1.96	Eastern Caribbean Central Bank, 2016
Antigua and Barbuda	0.92	1.13	1.18	1.23	1.25	Eastern Caribbean Central Bank, 2016
Bahamas	1.4	1.3	1.4	1.0	0.9	Caribbean Community (CARICOM) Secretariat, 2015
Barbados	0.16	0.20	0.23	0.34	0.39	Government of Barbados, 2014
Belize	2.28	1.79	2.10	3.08	2.99	Statistical Institute of Belize, 2014
Dominica	0.30	0.37	0.37	0.33	0.45	Eastern Caribbean Central Bank, 2016
Grenada	1.45	1.33	1.61	1.52	1.39	Eastern Caribbean Central Bank, 2016
Guyana	1.89	2.15	2.31	2.15	1.56	Government of Guyana, 2016
Haiti		1.5	1.5	NA	NA	CRFM, 2011a

⁹⁴ GDP not available for Haiti, Jamaica and Suriname.

Member States	2010 (R)	2011 (R)	2012 (R)	2013 (R)	2014 (P)	Source 2014
Jamaica	0.33	0.36	0.36	0.41	NA	Caribbean Community (CARICOM) Secretariat, 2015
Montserrat	0.26	0.31	0.35	0.36	0.36	Eastern Caribbean Central Bank, 2016
St. Kitts and Nevis	0.48	0.58	0.54	0.49	0.45	Eastern Caribbean Central Bank, 2016
St. Lucia	0.71	0.70	0.70	0.72	0.70	Eastern Caribbean Central Bank, 2016
St. Vincent and the Grenadines	0.50	0.47	0.44	0.48	0.48	Eastern Caribbean Central Bank, 2016
Suriname	2.63	2.85	2.48	2.85	NA	Caribbean Community (CARICOM) Secretariat, 2015
Trinidad and Tobago	0.064	0.059	NA	NA	NA	Central Statistical Office Trinidad and Tobago, 2011*
Turks and Caicos Islands	0.5	0.52	0.36	0.46	0.42	Government of Turks and Caicos Island, 2014

R. - Revised

P. - Preliminary

NA - Not Available

**Information collected directly from the Statistical Department/Division of Member State.*

Table 23: Marine capture fish production (meat weight in mt), with corresponding ex-vessel value (in United States dollars) of Member States of the CRFM for period 2013 – 2014

Countries	Marine capture fish production (meat weight in mt) 2013	Value of marine capture fish production 2013 (in United States dollars)	Sources	Marine capture fish production (meat weight in mt) 2014	Value of marine capture fish production 2014 (in United States dollars)	Source
Anguilla	655	8 271 998.4	Calculated from prices collected by the Department of Fisheries in 2013	752	9 355 456.0	Calculated from prices collected by the Department of Fisheries 2014
Antigua and Barbuda	1 752	13 755 403.0	Fisheries Division Antigua-Barbuda, 2013	1 709	12 783 370.7	Fisheries Division, Antigua-Barbuda, 2014
Bahamas	7 845	5 985 4320.2	Department of Marine Resources Bahamas, 2013	8 176	66 071 375.6	Department of Marine Resources Bahamas, 2014
Barbados	2 735	15 029 059.8	Calculated from prices provided by Barbados Statistics Department, 2013 & Mahon <i>et al</i> , 2007	2 153	11 860 769.1	Calculated from prices provided by Barbados Statistics Department, 2014 & Mahon <i>et al</i> , 2007
Belize	1 874	16 325 117.9	Calculated from 2013 prices Ministry of Forestry, Fisheries and Sustainable Development, 2013	1 755	17 930 279.7	Calculated from 2014 prices Ministry of Forestry, Fisheries and Sustainable Development, 2012
Dominica	479	2 717 398.3	Calculated from 2013 prices, Fisheries Division Dominica, 2013	479	2 717 398.3	Calculated from 2013 prices, Fisheries Division Dominica, 2013
Grenada	2 698	14 308 479.3	Fisheries Division Grenada, 2014	2 854	14 333 780.7	
Guyana	49 576	94 619 812.9	Calculated using	36 946	77 972 908.3	Calculated using prices

Countries	Marine capture fish production (meat weight in mt) 2013	Value of marine capture fish production 2013 (in United States dollars)	Sources	Marine capture fish production (meat weight in mt) 2014	Value of marine capture fish production 2014 (in United States dollars)	Source
			prices from Fisheries Department Guyana 2013			from Fisheries Department Guyana 2014
Haiti	16 500	54 000 000.0	CRFM, 2011a (2011 estimates)	16 500	54 000 000.0	CRFM, 2011a (2011 estimates)
Jamaica	14 263	50 175 660.0	Fisheries Division Jamaica 2015	11 256	40 230 778.0	Fisheries Division Jamaica 2015
Montserrat	40	305 650.7	Calculated using prices from Fisheries Department of Montserrat, 2015	37	283 987.7	Calculated using prices from Fisheries Department of Montserrat, 2015
St. Kitts and Nevis	383	2 902 267.1	Calculated from rate of 2013 Nevis production	423	3 209 879.6	Calculated from rate of 2013 Nevis production
St. Lucia	1 639	9 574 074.1	CRFM, 2014	1 695	9 703 703.7	CRFM, 2015
St. Vincent and the Grenadines	714	3 744 276.7	Fisheries Division St. Vincent and the Grenadines, 2013	732	3 778 551.9	Fisheries Division St. Vincent and the Grenadines 2014
Suriname	38 719	38 552 121.1	Calculated using rate from Seijo, 2013	37 708	38 552 121.1	Calculated using rate from Seijo, 2013
Trinidad and Tobago	13 199	32 000 000.0	Fisheries Division Trinidad and Tobago, 2015	13 199	32 000 000.0	Fisheries Division Trinidad and Tobago, 2015
Turks and Caicos Islands	559	3 505 372.0	Department of Environment and Coastal Resources Turks and Caicos Island, 2010	559	3 505 372.0	Department of Environment and Coastal Resources Turks and Caicos Island, 2010

Countries	Marine capture fish production (meat weight in mt) 2013	Value of marine capture fish production 2013 (in United States dollars)	Sources	Marine capture fish production (meat weight in mt) 2014	Value of marine capture fish production 2014 (in United States dollars)	Source
Totals (mt) / Millions US\$	153 630	419 641 011.5		136 933	398 289 732.4	
Average for region 2013-2014						145 282 mt 408 965 371.9 US\$

**Data collected directly from the Fisheries Department/Division*

Table 24: Aquaculture fish production (meat weight in mt), with corresponding value (in US\$) of Member States of the CRFM for period 2013 -2014

MEMBER STATES	Aquaculture fish production 2013 (meat weight in mt)	Value of aquaculture fish production 2013(US\$)	Aquaculture fish production 2014 (meat weight in mt)	Value of aquaculture fish production 2014 (US\$)
Anguilla	0	0	0	0
Antigua and Barbuda	NA	NA	NA	NA
Bahamas	NA	NA	NA	NA
Barbados	0	0	0	0
Belize	6 834	41 409 021	6 489	43 089 109
Dominica	NA	NA	NA	NA
Grenada	NA	NA	NA	NA
Guyana	218	981 244	379	1 962 958
Haiti	560	2 963 013	560	2 963 013
Jamaica	836	3 548 377	698	2 761 374
Montserrat	0	0	0	0
St. Kitts and Nevis	0	0	0	0
St. Lucia	14	94 074	12	86 889
St. Vincent and the Grenadines	0	0	0	
Suriname	79	650 279	80	660 901
Trinidad and Tobago	8	16 839	6	14 363
Turks and Caicos Islands	NA	NA	NA	NA
Totals	8 549	49 662 847	8 224	51 538 607
Average annual value (in US\$) 2013-2014				50 600 727

NA- Not Available

Table 25: Fish production (meat weight in mt) from marine capture fisheries (MCF) and aquaculture (AC) production (prod.) with corresponding value (US\$) of CRFM Member States for period 2013 -2014

Member States	MCF prod. + AC prod. (meat weight in mt) 2013	Value of MCF prod. + AC prod. 2013 (US\$)	MCF prod. + AC Prod. (meat weight in mt) 2014	Value of MCF prod. + AC prod. 2014 (in millions of United States dollars)	Average Value of MCF prod. + AC prod. 2013 - 2014 (US\$)	Average Value of MCF prod. + AC prod. 2013 - 2014 (in millions of United States dollars)
Anguilla	655	8 271 998	752	9 355 456	8 813 727	8.8
Antigua and Barbuda	1 752	13 755 403	1 709	12 783 371	13 269 387	13.3
Bahamas	7 845	59 854 320	8 176	66 071 376	62 962 848	63.0

Barbados	2 735	15 029 060	2 153	11 860 769	13 444 914	13.4
Belize	8 708	57 734 139	8 244	61 019 389	59 376 764	59.4
Dominica	479	2 717 398	479	2 717 398	2 717 398	2.7
Grenada	2 698	14 308 479	2 854	14 333 781	14 321 130	14.3
Guyana	49 794	95 601 057	37 325	79 935 866	87 768 462	87.8
Haiti	17 060	56 963 013	17 060	56 963 013	56 963 013	57.0
Jamaica	15 099	53 724 037	11 954	42 992 152	48 358 094	48.4
Montserrat	40	305 651	37	283 988	294 819	0.3
St. Kitts and Nevis	383	2 902 267	423	3 209 880	3 056 073	3.1
St. Lucia	1 653	9 668 148	1 707	9 790 593	9 729 370	9.7
St. Vincent and the Grenadines	714	3 744 277	732	3 778 552	3 761 414	3.8
Suriname	38 798	39 202 400	37 788	39 213 022	39 207 711	39.2
Trinidad and Tobago	13 207	32 016 839	13 205	32 014 363	32 015 601	32.0
Turks and Caicos Islands	559	3 505 372	559	3 505 372	3 505 372	3.5
Totals	162 179	469 303 858	145 157	449 828 339	459 566 099	
Average of region 2013-2014			153 668			459.6 million US\$

CHAPTER 6: TRADE IN FISH AND FISHERY PRODUCTS BY CRFM MEMBER STATES

6.1 Imports of fish into the region

In 2013 and 2014 total imports of fish for all CRFM Member States combined (including imports of fish for food, bait and live ornamental fish for breeding or rearing) was approximately 68,917 mt annually (69,796 mt in 2013 and 68,038 mt in 2014). Fish imported for food accounted for ~99.8% of the total. The total value of the fish imports for all Member States combined was ~US\$273.3 million in 2013 and ~US\$270.3 million in 2014 (an average of ~US\$271.8 million annually) Tables 26, 27 and 28.

Table 26: Weight (in mt) and value (in millions of United States dollars) of imports of fish for food bait and ornamental purposes by CRFM Member States 2013.

Member States	Weight of fish imports for food (mt 2013)	Value of fish imports for food (2013 in millions of United States dollars)	Weight of fish imports for ornamental purposes (mt 2013)	Value of fish imports for ornamental purposes (2013 in millions of United States dollars)	Weight of fish imports for bait (mt 2013)	Value of fish imports for bait (2013 in millions of United States dollars)	Total weight of fish imports for food, bait & ornamentals (mt 2013)	Total value of fish imports for food, bait and ornamentals (2013 in millions of United States dollars)
Anguilla⁹⁵ (2010 est)	450	1.9	0.7	0.020			451	1.9
Antigua and Barbuda	1 647	6.5	0.0	0.000			1 647	6.5
Bahamas	3 759	21.6	8.4	0.065	159.6	0.8	3 927	22.5
Barbados	5 098	21.8	5.7	0.075			5 104	21.9
Belize	290	0.6	0.1	0.001			291	0.6
Dominica	617	2.5	0.0	0.000			617	2.5
Grenada	718	3.4	0.3	0.002			719	3.4
Guyana	1 313	2.8	3.8	0.015			1 317	2.8
Haiti⁹⁶ (2009 est.)	12 500	46.1					12 500	46.1
Jamaica	27 715	105.2	2.8	0.056			27 718	105.3
Montserrat	73	0.4					73	0.4

⁹⁵ 2010 estimates as 2013 data were not available

⁹⁶ 2009 estimates presented. Value calculated using the average rate (\$US/kg) from all other countries combined.

St. Kitts and Nevis	483	2.9	1.1	0.008			485	2.9
St. Lucia	1 662	9.1	2.3	0.016			1 665	9.1
St. Vincent and the Grenadines	428	2.0	1.2	0.003			429	2.0
Suriname	2 151	5.3					2 151	5.3
Trinidad and Tobago⁹⁷	8 896	36.1	14.1	0.083			8 910	36.2
Turks and Caicos Islands⁹⁸	1 795	4.0	0.2	0.001			1 795	4.0
Totals	69 596	272.2	40.6	0.344	159.6	0.8	69 796	273.3

Source: data collected directly from the Government Statistical Department of the Member State unless otherwise stated.

⁹⁷ Estimate for imports of canned fish were not available at the time of writing this report.

⁹⁸ Estimate for imports of canned fish were not available at the time of writing this report.

Table 27: Weight (in mt) and value (in millions of United States dollars) of imports of fish for food, bait and ornamental purposes by CRFM Member States 2014

Member States	Weight of fish imports for food (mt 2014)	Value of fish imports for food (2014 in millions of United States dollars)	Weight of fish imports for ornamental purposes (mt 2014)	Value of fish imports for ornamental purposes (2014 in millions of United States dollars)	Weight of fish imports for bait (mt 2014)	Value of fish imports for bait (2014 in millions of United States dollars)	Total weight of fish imports for food, bait and ornamentals (mt 2014)	Total value of fish imports for food, bait and ornamentals (2014 in millions of United States dollars)
Anguilla ⁹⁹ (2010 est.)	450	1.9	0.7	0.0			451	1.9
Antigua and Barbuda	1 612	6.5	0.0	0.000			1 612	6.5
Bahamas	4 084	24.9	3.4	0.032	71.2	0.3	4 159	25.3
Barbados	5 711	24.0	7.4	0.117			5 718	24.1
Belize	382	0.8	4.2	0.117			386	0.9
Dominica	544	2.1	0.0	0.000			544	2.1
Grenada	652	2.9	0.4	0.002			652	2.9
Guyana	1 461	3.2	2.1	0.012			1 463	3.2
Haiti ¹⁰⁰ (2009 est.)	12 500	46.1					12 500	46.1
Jamaica	27 903	109.2	0.3	0.006			27 903	109.2
Montserrat	66	0.4					66	0.4
St. Kitts and Nevis	467	3.0	0.0	0.000			467	3.0
St. Lucia	1 875	10.5	1.8	0.008			1 877	10.5
St. Vincent and the Grenadines	598	2.3	1.2	0.003			599	2.3
Suriname	2 038	4.4					2 038	4.4
Trinidad and Tobago ¹⁰¹	4 764	22.2	4.9	0.038			4 768	22.2
Turks and Caicos ¹⁰² Islands	2 834	5.3					2 834	5.3
Totals	67 940	269.6	26.3	0.355	71.2	0.3	68 038	270.3

Source: data collected directly from the Government Statistical Department of the Member State unless otherwise stated.

A comparison of the weight and value of the fish imported in 2013 and 2014 for each country showed that the weight and value of imported fish remained fairly constant over 2013 and 2014 (Table 28 and Figure 7). The three largest importers of fish (metric tonnes of fish imported) among the CRFM Member States over the period were Jamaica, Haiti, and Trinidad and Tobago respectively (Table 28 and Figure 7).

⁹⁹ 2010 estimates presented as data for 2011 were not available

¹⁰⁰ 2009 estimates presented. Value was calculated using the average rate (\$US/kg) from all other countries combined

¹⁰¹ Estimate for imports of canned fish were not available at the time of writing this report.

¹⁰² Estimate for imports of canned fish were not available at the time of writing this report.

Jamaica, Haiti and Trinidad and Tobago also had the highest values associated with the import of fish for food, bait and ornamentals (Table 29 and Figure 8).

Table 28: Weight of imports and average weight of imports of fish for food bait and ornamental purposes (in mt) by CRFM Member States for the period 2013 – 2014

Member States	Weight of fish imports for food, bait and ornamentals 2013 (mt)	Weight of fish imports for food, bait and ornamentals 2014 (mt)	Average weight of fish imports for food, bait and ornamentals 2013-2014 (mt)
Jamaica	27 718	27 903	27 810
Haiti *	12 500	12 500	12 500
Trinidad and Tobago*	8 910	4 768	6 839
Barbados	5 104	5 718	5 411
Bahamas	3 927	4 159	4 043
Turks and Caicos Islands*	1 795	2 834	2 315
Suriname	2 151	2 038	2 095
St. Lucia	1 665	1 877	1 771
Antigua and Barbuda	1 647	1 612	1 629
Guyana	1 317	1 463	1 390
Grenada	719	652	685
Dominica	617	544	580
St. Vincent and the Grenadines	429	599	514
St. Kitts and Nevis	485	467	476
Anguilla*	451	451	451
Belize	291	386	338
Montserrat	73	66	70
Totals	69 796	68 038	68 917

*Haiti * - 2009 estimate*

Trinidad and Tobago - Estimate for imports of canned fish were not available at the time of writing this report.*

Turks and Caicos Islands- Estimate for imports of canned fish were not available at the time of writing this report.*

Anguilla - 2010 estimate*

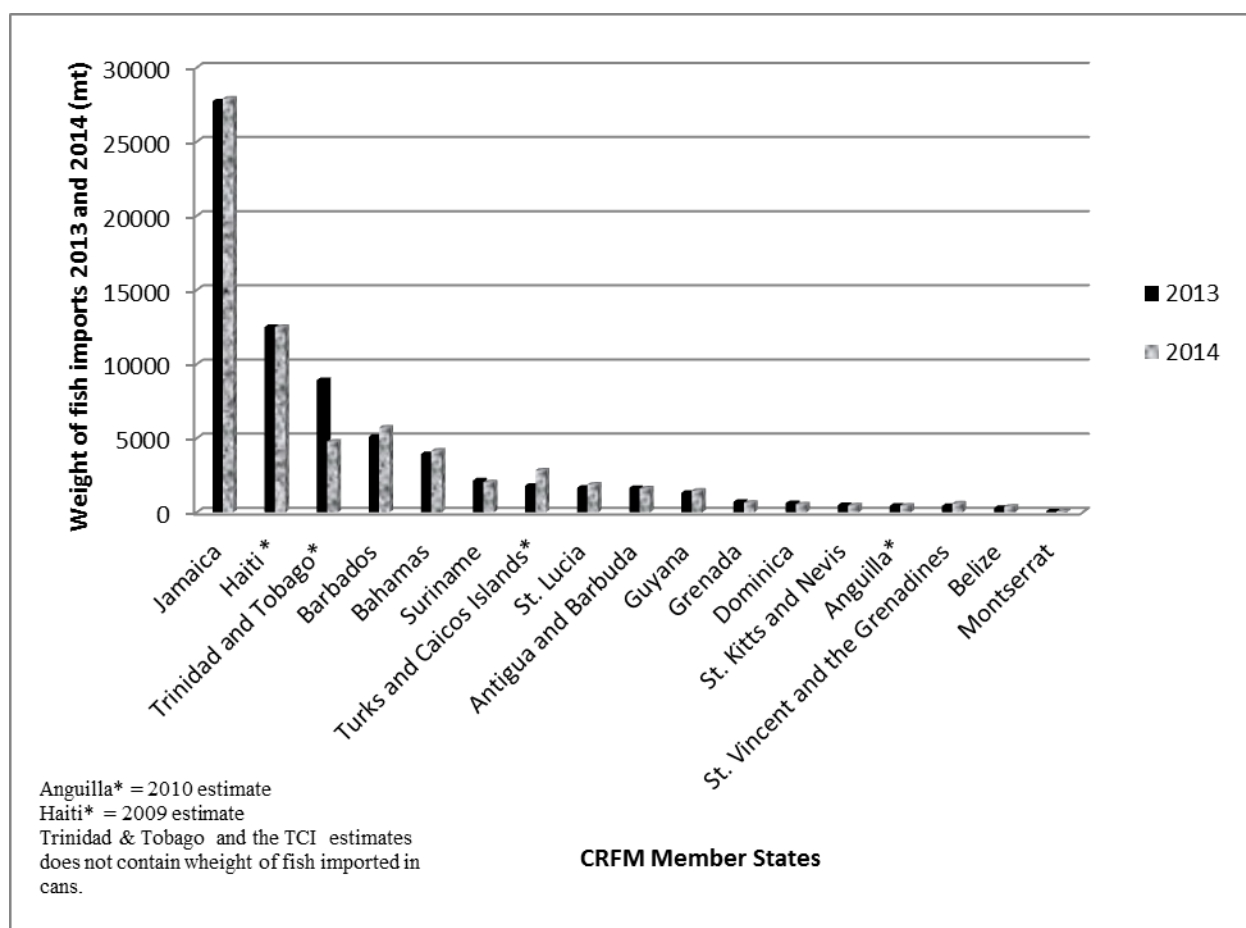


Figure 7: Weight of imports of fish for food, bait and ornamental purposes (in mt) by CRFM Member States for 2013 and 2014.

Table 29: Value and average value of fish imported for food, bait and ornamental purposes (in millions of United States dollars) by CRFM Member States for period 2013 – 2014.

Member States	Value of fish imported for food, bait and ornamentals 2013 (millions US\$)	Value of fish imported for food, bait and ornamentals 2014 (millions US\$)	Average value of fish imported for food, bait and ornamentals 2013-2014 (millions US\$)
Jamaica	105.3	109.2	107.2
Haiti *	46.1	46.1	46.1
Trinidad and Tobago*	36.2	22.2	29.2
Bahamas	22.5	25.3	23.9
Barbados	21.9	24.1	23.0
St. Lucia	9.1	10.5	9.8
Antigua and Barbuda	6.5	6.5	6.5
Suriname	5.3	4.4	4.8

Member States	Value of fish imported for food, bait and ornamentals 2013 (millions US\$)	Value of fish imported for food, bait and ornamentals 2014 (millions US\$)	Average value of fish imported for food, bait and ornamentals 2013-2014 (millions US\$)
Turks and Caicos Islands*	4.0	5.3	4.7
Grenada	3.4	2.9	3.2
Guyana	2.8	3.2	3.0
St. Kitts and Nevis	2.9	3.0	2.9
Dominica	2.5	2.1	2.3
St. Vincent and the Grenadines	2.0	2.3	2.1
Anguilla*	1.9	1.9	1.9
Belize	0.6	0.9	0.8
Montserrat	0.4	0.4	0.4
Totals	273.3	270.3	271.8

Haiti * - 2009 estimate

*Trinidad and Tobago** - Estimate for imports of canned fish were not available at the time of writing this report.

*Turks and Caicos Islands**- Estimate for imports of canned fish were not available at the time of writing this report.

*Anguilla** - 2010 estimate

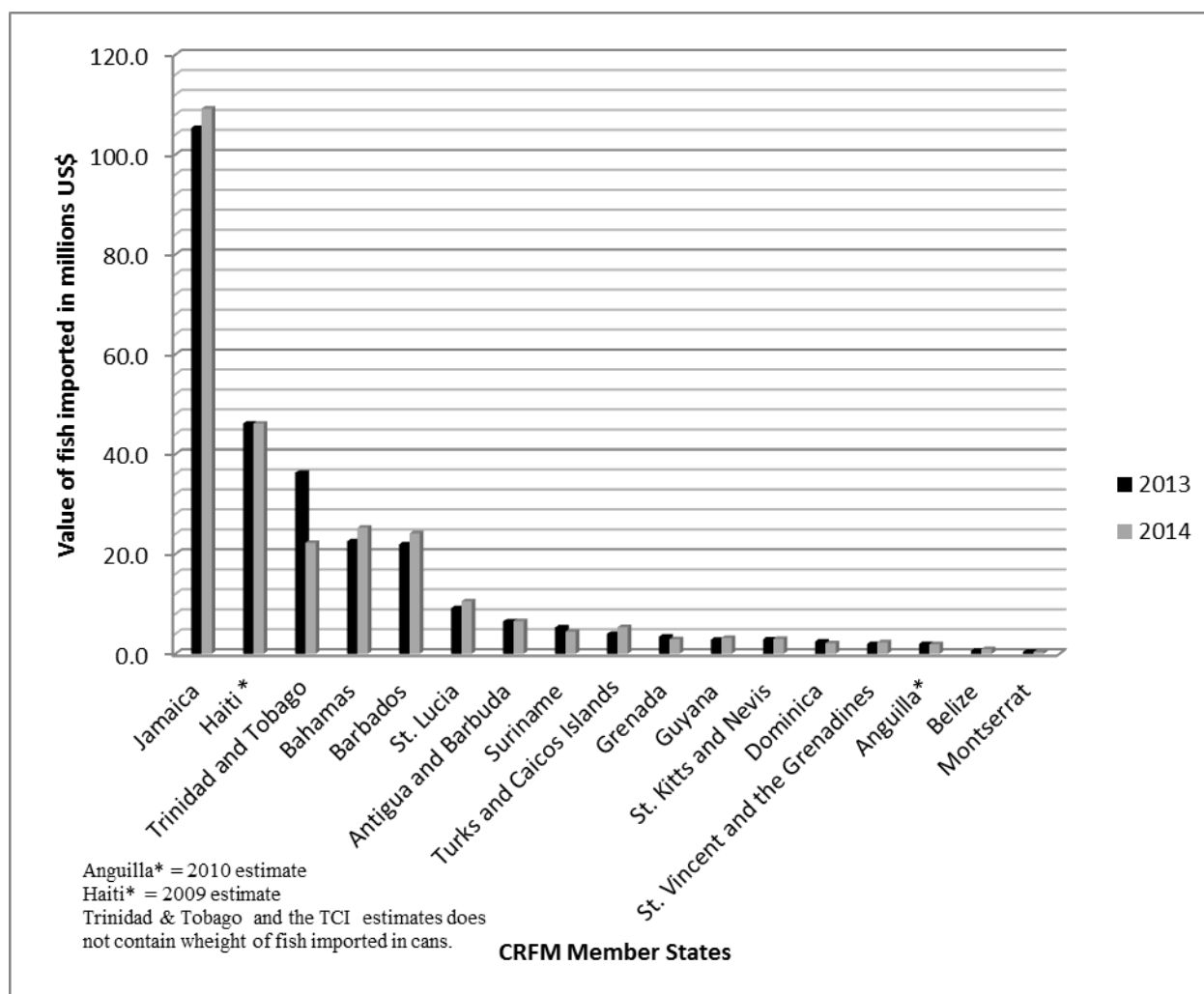


Figure 8: Value (in millions of United States dollars) of fish imported for food, bait and ornamental purposes by CRFM Member States for period 2013 and 2014

In 2013 CRFM Member States imported an additional 43% of the production from marine capture fisheries plus aquaculture production of the region that was fit for human consumption. Fish fit for human consumption included the categories chilled fresh or frozen fish, dried salted smoked pickled (cured) fish and canned fish. Imports of chilled/fresh or frozen fish accounted for 44% of the edible fish imported, canned fish accounted for approximately 36%¹⁰³, while imports of dried, salted, smoked, pickled (cured) fish accounted for approximately 20% (Table 30 and Figure 9,10 and 11).

¹⁰³Trinidad and Tobago and Turks and Caicos Islands - Estimate for imports of canned fish were not available at the time of writing this report.

Table 30: Fish imports by categories of chilled, fresh or frozen (kg), dried salted smoked pickled (cured) (kg) and canned (kg), imported by CRFM Member States in 2013

Countries	Imports of chilled fresh or frozen fish 2013 (kg)	Imports of dried, salted, smoked, pickled (cured) fish 2013(kg)	Imports of canned fish 2013(kg)	Total fish imports 2013(kg)	Sources
Anguilla*	261 975	65 143	123 130	450 248	Department of Statistics Anguilla, 2014
Antigua and Barbuda	648 822	491 039	506 974	1 646 834	Statistics Division Antigua and Barbuda, 2014
Bahamas	973 344	161 341	2 624 125	3 758 811	Department of Statistics Bahamas, 2014
Barbados	2 589 550	619 856	1 888 471	5 097 877	Barbados Statistical Service, 2014
Belize	8 774	382	281 299	290 455	Statistical Institute of Belize, 2014
Dominica	52 032	261 030	303 790	616 851	Central Statistics Office of Dominica, 2014
Grenada	110 897	237 412	369 962	718 271	Grenada Statistics Department, 2014
Guyana	21 472	28 224	1 263 215	1 312 911	Bureau of Statistics Guyana, 2014
Haiti*	NA	NA	NA	12 500 000	CRFM. 2011a
Jamaica	11 001 656	5 041 738	11 671 322	27 714 716	Statistical Institute of Jamaica, 2014
Montserrat	27 993	19 168	26 038	73 199	Montserrat Statistics Department, 2014
St. Kitts and Nevis	214 991	127 437	140 968	483 397	Statistics Department St. Kitts and Nevis, 2014
St. Lucia	604 838	399 734	657 813	1 662 385	Central Statistics Office St. Lucia, 2014
St. Vincent and the Grenadines	91 959	212 129	123 947	428 035	Statistical Office Central Planning Division St. Vincent & the Grenadines, 2014
Suriname	NA	NA	NA	2 151 435	General Bureau of Statistics, 2014
Trinidad and Tobago*	6 083 589	2 812 601	NA	8 896 190	Central Statistical Office Trinidad & Tobago, 2014
Turks and Caicos Islands*	1 603 057	191 615	NA	1 794 672	Customs Department, Turks and Caicos Islands, 2012
Totals	24 294 949	10 668 850	19 981 054	69 596 288	

*Anguilla** - 2010 estimate

*Haiti ** - 2009 estimate

*Trinidad and Tobago** - Estimate for imports of canned fish were not available at the time of writing this report.

Turks and Caicos Islands-* Estimate for imports of canned fish were not available at the time of writing this report.

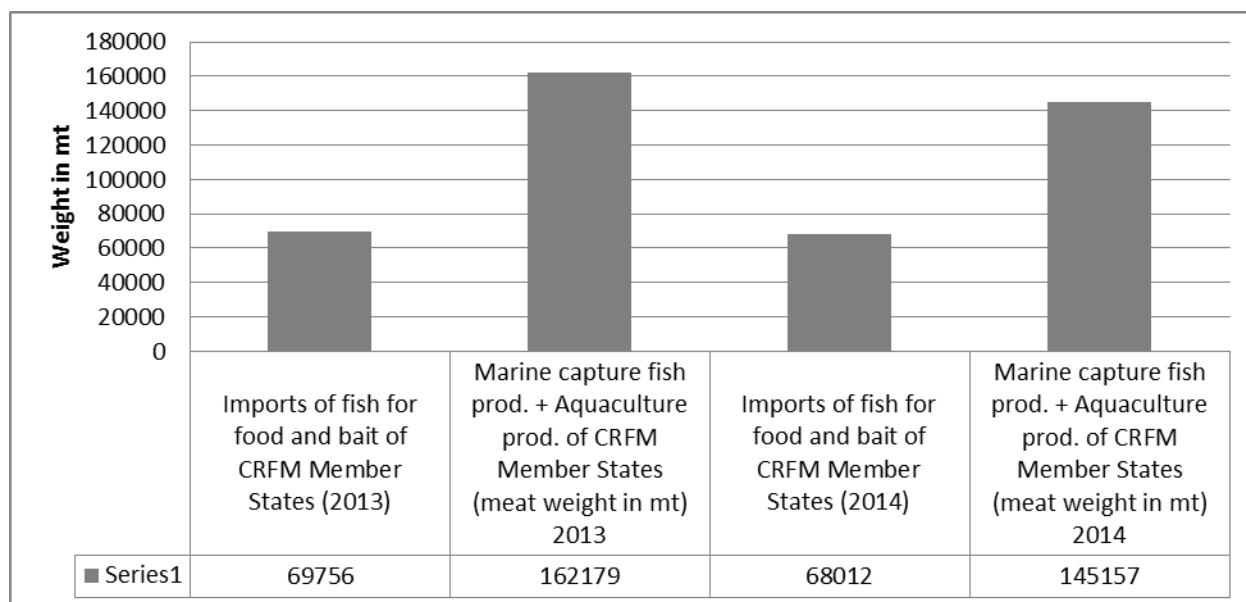


Figure 9: Fish imports for food and bait (meat weight in mt) versus the total production from marine capture fisheries and aquaculture production (meat weight in mt) of the Member States of the CRFM in 2013 & 2014.

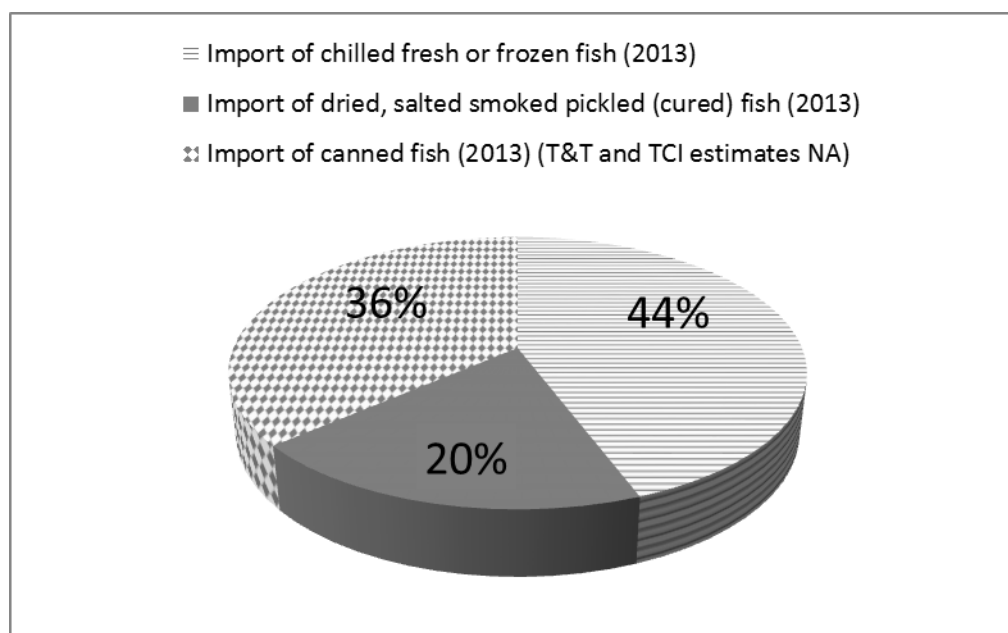


Figure 10: Categories of fish products by percentage composition, imported into the CRFM region in 2013.

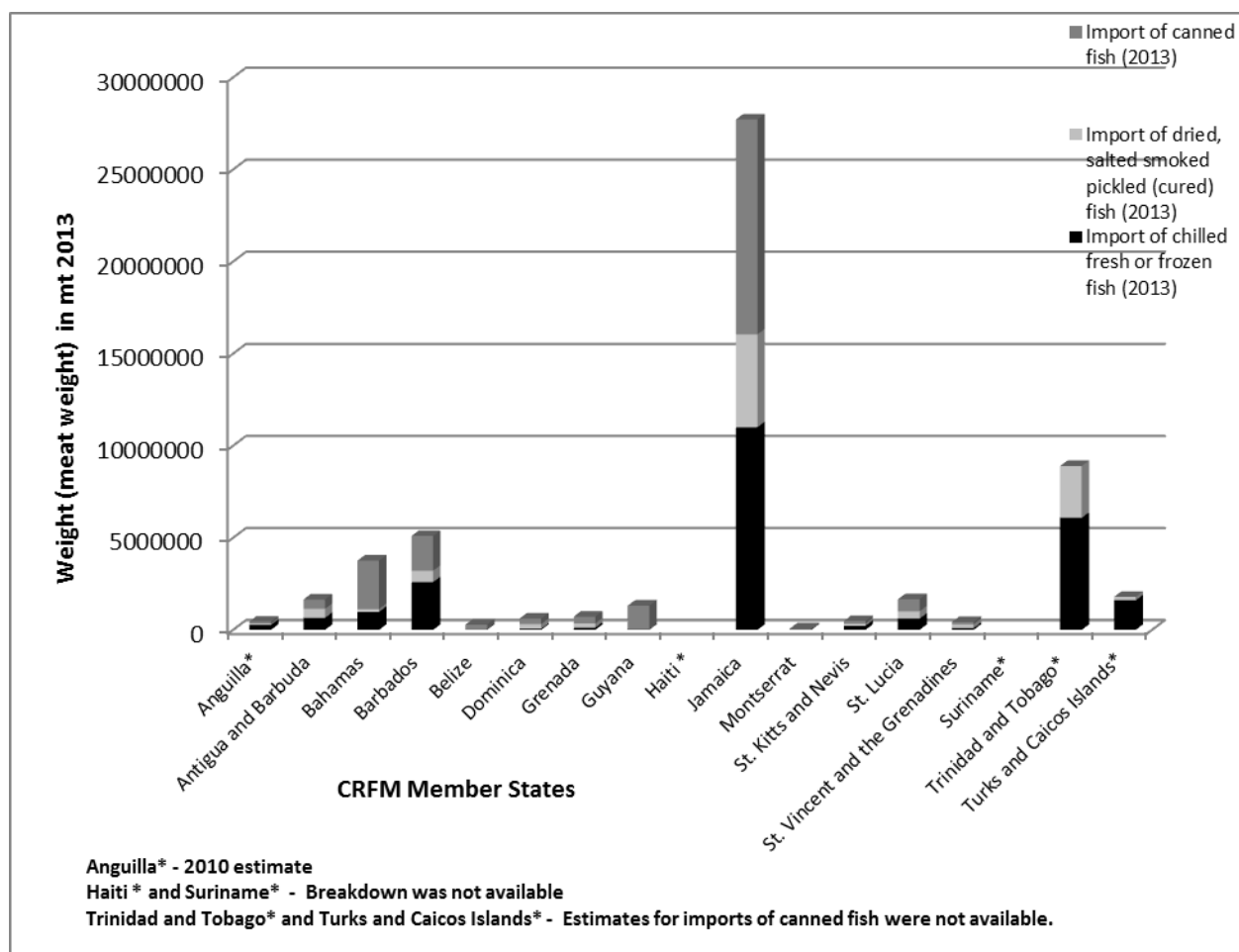


Figure 11: Fish imports by categories of; chilled fresh or frozen, dried salted smoked pickled (cured) and canned (meat weight in mt), imported by CRFM Member States in 2013

The Turks and Caicos Islands imported (for food) more than 300% (or greater than 3 times the amount) of the meat weight production from the marine capture fisheries and the aquaculture production in 2013. Member States that imported more than 100% of the meat weight production from the marine capture fisheries and the aquaculture production in 2013 included; Barbados, Montserrat, Jamaica, Dominica and St. Kitts and Nevis and St. Lucia (Table 31 and Figure 12).

Table 31. Fish imports for food 2013 of the CRFM Member States expressed as a percentage of the marine capture fisheries (MCF) and the aquaculture production (AC prod.) 2013

Member States	Fish imports for food (meat weight in mt) 2013	MCF prod. + AC prod. (meat weight in mt) 2013	% of MCF prod. + AC prod. that was imported in 2013
Turks and Caicos Islands	1 795	559	321.0
Barbados	5 098	2 735	186.4
Montserrat	73	40	184.4
Jamaica	27 715	15 099	183.6
Dominica	617	479	128.8
St. Kitts and Nevis	483	383	126.1

Member States	Fish imports for food (meat weight in mt) 2013	MCF prod. + AC prod. (meat weight in mt) 2013	% of MCF prod. + AC prod. that was imported in 2013
St. Lucia	1 662	1 653	100.6
Antigua and Barbuda	1 647	1 752	94.0
Haiti	12 500	17 060	73.3
Anguilla	450	655	68.7
Trinidad and Tobago	8 896	13 207	67.4
St. Vincent and the Grenadines	428	714	59.9
Bahamas	3 759	7 845	47.9
Grenada	718	2 698	26.6
Suriname	2 151	38 798	5.5
Belize	290	8 708	3.3
Guyana	1 313	49 794	2.6
Totals	69 596	162 179	42.9

*Anguilla** - 2010 estimates. 2013 data were not available.

*Haiti** - 2009 estimates. 2013 data were not available.

Trinidad and Tobago & Turks and Caicos Islands** - Estimate for imports of canned fish were not available at the time of writing this report.

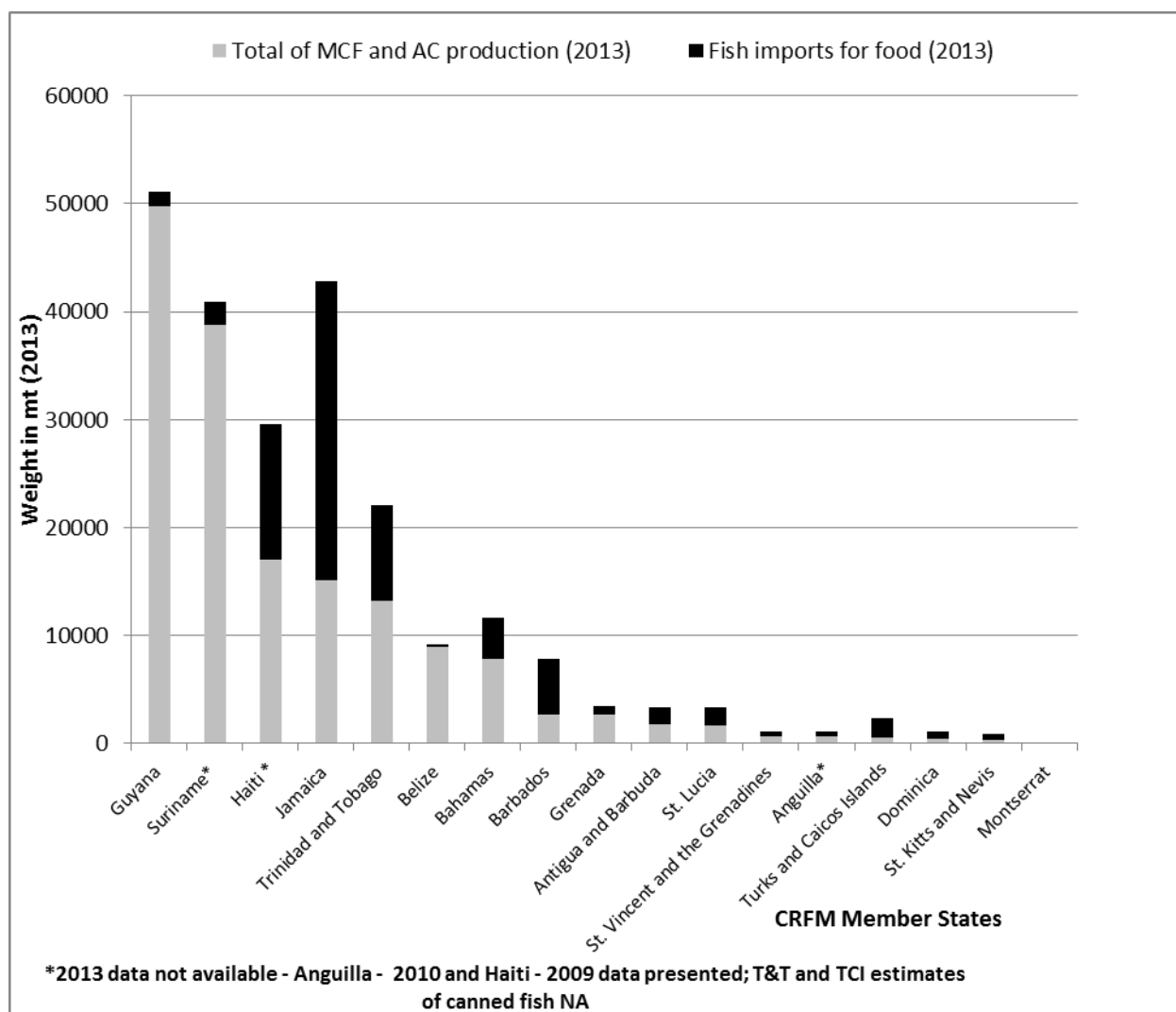


Figure 12: Weight of fish imported for food (meat weight in metric tonnes) vs the meat weight production from the marine capture fisheries and the aquaculture production of CRFM Member States in 2013.

6.2 Fish exports from the CRFM region

In 2013 and 2014 total domestic exports¹⁰⁴ of fish from the CRFM region (including exports of fish for food, bait and live ornamental fish for breeding or rearing) was approximately 74,469 mt annually (74,871 mt in 2013 and 74,067 mt in 2014). Fish exported for food accounted for ~99.9% of the total. The total value of the domestic exports from all Member States combined was US\$311.01 million in 2013 and US\$268.9 million in 2014 (an average of ~US\$289.95 million annually) (Tables 32, 33 and 34).

¹⁰⁴ Exports of goods which were grown, produced, mined, or manufactured in the country from which exported.

Table 32: Weight (mt) and value (in millions of United States dollars) of domestic exports of fish for food, bait and ornamental purposes by CRFM Member States 2013

Member States	Domestic exports of fish for food 2013 (mt)	Value of domestic exports of fish for food 2013 (in millions of United States dollars)	Domestic exports of fish for ornamental purposes 2013 (mt)	Value of domestic exports of fish for ornamental purposes 2013 (in millions of US dollars)	Domestic export of fish for bait (mt 2013)	Value of domestic exports of fish for bait 2013 (in millions of United States dollars)	Total weight of domestic exports of fish for food, bait and ornamental 2013 (mt)	Total value of domestic exports of fish for food, bait and ornamental 2013 (in millions of US dollars)
Anguilla (2010 est.)	0	0.0					0	0.0
Antigua and Barbuda	78	0.6					78	0.6
Bahamas	3 265	94.1			7.2	0.029	3 272	94.1
Barbados	173	0.4	0.0	0.000			173	0.4
Belize	7 626	56.3	27.7	0.209			7 654	56.5
Dominica	0						0	0.0
Grenada	861	8.7					861	8.7
Guyana	26 054	89.5	34.8	0.028			26 089	89.5
Haiti (2009 est.)	0						0	0.0
Jamaica	823	11.0	0.9	0.023			824	11.0
Montserrat	0						0	0.0
St. Kitts and Nevis	64	0.3	0.0	0.000			64	0.3
St. Lucia	0.1	0.0004					0.1	0.0004
St. Vincent and the Grenadines	94	0.4	5.2	0.019			99	0.5
Suriname	31 301	35.7					31 301	35.7
Trinidad and Tobago	3 940	10.6	68.0	0.172			4 008	10.8
Turks and Caicos Islands	448	3.0					448	3.0
Totals	74 728	310.5	136.6	0.451	7.2	0.029	74 871	311.0

Source: data collected directly from the Government Statistical Department of the Member State unless otherwise stated.

Table 33: Weight (in mt) and value (in millions of United States dollars) of domestic exports of fish for food, bait and ornamental purposes by CRFM Member States 2014

Member States	Domestic exports of fish for food (mt 2014)	Value of domestic exports of fish for food (2014 in millions of United States dollars)	Domestic exports of fish for ornamental purposes (mt 2014)	Value of domestic exports of fish for ornamental purposes (2014 in millions of United States dollars)	Domestic export of fish for bait (mt 2014)	Value of domestic exports of fish for bait (2014 in millions of United States dollars)	Total weight of domestic exports of fish for food, bait and ornamentals (mt 2014)	Total value of domestic exports of fish for food, bait and ornamentals (2014 in millions of United States dollars)
Anguilla (2010 est.)	0	0.0					0	0.0
Antigua and Barbuda	43	0.3					43	0.3
Bahamas	2 308	69.7			0.0	0.000	2 308	69.7
Barbados	187	0.4					187	0.4
Belize	7 359	56.2	0.0	0.000			7 359	56.2
Dominica	0	0.0					0	0.0
Grenada	963	9.6					963	9.6
Guyana	22 390	73.7	13.5	0.013			22 404	73.8
Haiti (2009 est.)	0						0	0.0
Jamaica	830	12.5	3.8	0.048			834	12.6
Montserrat	0						0	0.0
St. Kitts and Nevis	167	0.4					167	0.4
St. Lucia	2	0.02					2	0.02
St. Vincent and the Grenadines	143	0.9	1.1	0.0040			144	0.9
Suriname	35 909	33.4					35 909	33.4
Trinidad and Tobago	3 224	8.3	52.9	0.162			3 277	8.4
Turks and Caicos Islands	469	3.2					469	3.2
Totals	73 996	268.7	71.3	0.228	0.000	0.000	74 067	268.9

Source: data collected directly from the Government Statistical Department of the Member State unless otherwise stated.

Suriname followed by Guyana exported the highest weights, Suriname exported ~ 33,605 mt annually and Guyana exported ~24,246 mt annually (Table 34 and Figure 13).

Table 34: Total and average weight (in mt) of domestic exports of fish for food, bait and ornamental purposes from CRFM Member States 2013 and 2014

Member States	Total weight of domestic exports of fish for food, bait and ornamentals (mt 2013)	Total weight of domestic exports of fish for food, bait and ornamentals (mt 2014)	Average weight of domestic exports of fish for food, bait and ornamentals (mt 2013 and 2014)
Suriname	31 301	35 909	33 605
Guyana	26 089	22 404	24 246
Belize	7 654	7 359	7 506
Trinidad and Tobago	4 008	3 277	3 642
Bahamas	3 272	2 308	2 790
Grenada	861	963	912
Jamaica	824	834	829
Turks and Caicos Islands	448	469	458
Barbados	173	187	180
St. Vincent and the Grenadines	99	144	122
St. Kitts and Nevis	64	167	116
Antigua and Barbuda	78	43	61
St. Lucia	0	2	1
Anguilla*	0	0	0
Dominica	0	0	0
Haiti *	0	0	0
Montserrat	0	0	0
Totals	74 871	74 067	74 469

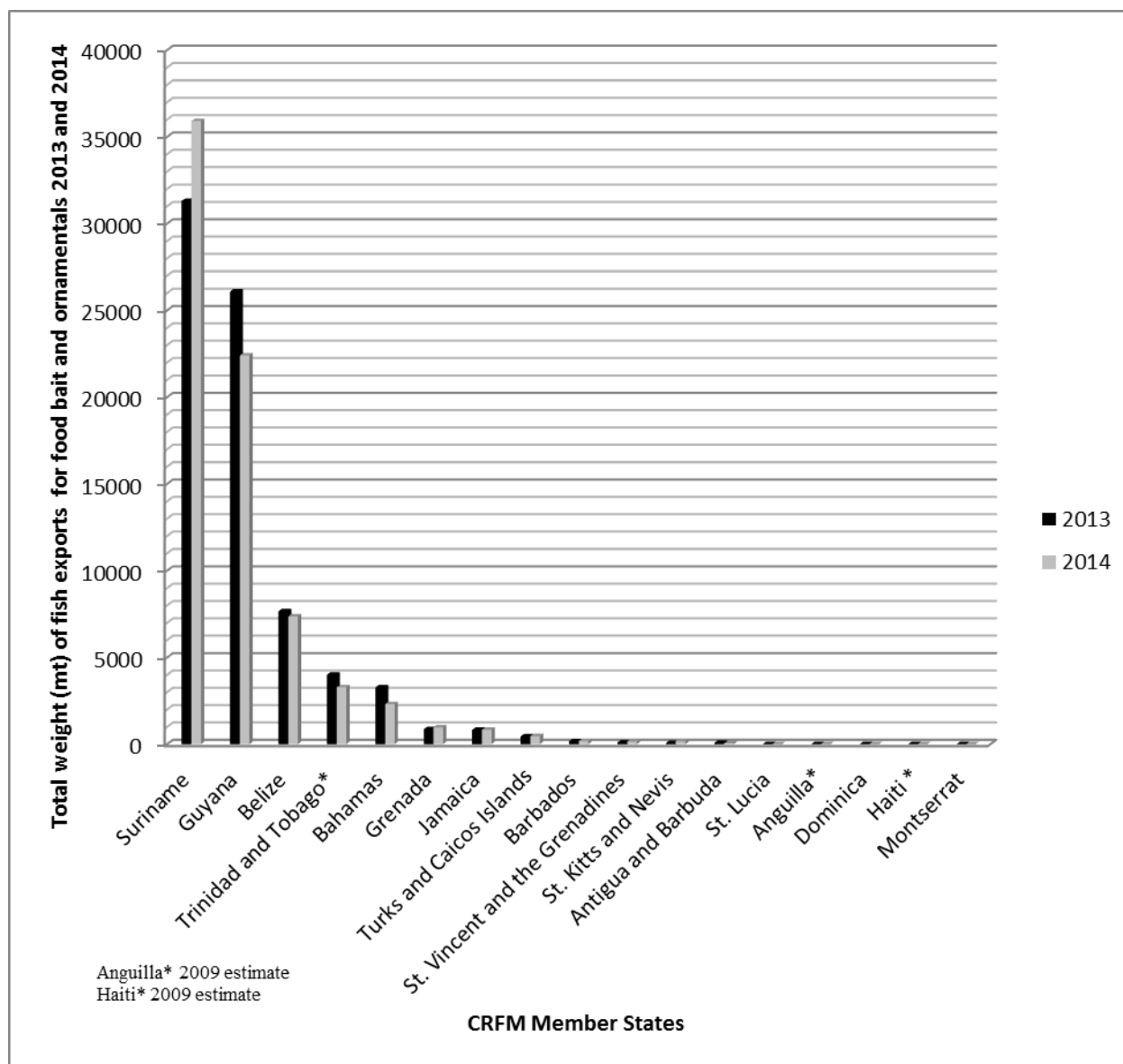


Figure 13: Total weight (in mt) of fish domestic exports for food, bait and ornamental purposes 2013 and 2014.

A comparison of the value of the total fish exports at the country level over the two year period of 2013 and 2014 showed that The Bahamas had the highest value for fish exported with an average of US\$81.93 million annually and was followed closely by Guyana with an average of US\$81.62 million annually (Table 35 and Figure 14).

Table 35: Value and average value of domestic exports of fish for food, bait and ornamental purposes (in millions of United States dollars) from CRFM Member States for 2013 and 2014

Member States	Value of domestic exports of fish for food, bait and ornamentals 2013 (in millions of United States dollars)	Value of domestic exports of fish for food, bait and ornamentals 2014 (in millions of United States dollars)	Average value of domestic exports of fish for food, bait and ornamentals 2013 and 2014 (in millions of United States dollars)
Bahamas	94.15	69.71	81.93
Guyana	89.49	73.76	81.62
Belize	56.50	56.15	56.33
Suriname	35.70	33.43	34.56
Jamaica	11.00	12.59	11.79
Trinidad and Tobago*	10.79	8.43	9.61
Grenada*	8.68	9.63	9.15
Turks and Caicos Islands	2.95	3.19	3.07
St. Vincent and the Grenadines	0.47	0.87	0.67
Antigua and Barbuda	0.62	0.28	0.45
Barbados	0.36	0.45	0.40
St. Kitts and Nevis	0.32	0.40	0.36
St. Lucia	0.00	0.02	0.01
Anguilla*	0.00	0.00	0.00
Dominica	0.00	0.00	0.00
Haiti*	0.00	0.00	0.00
Montserrat	0.00	0.00	0.00
Totals	311.02	268.90	289.96

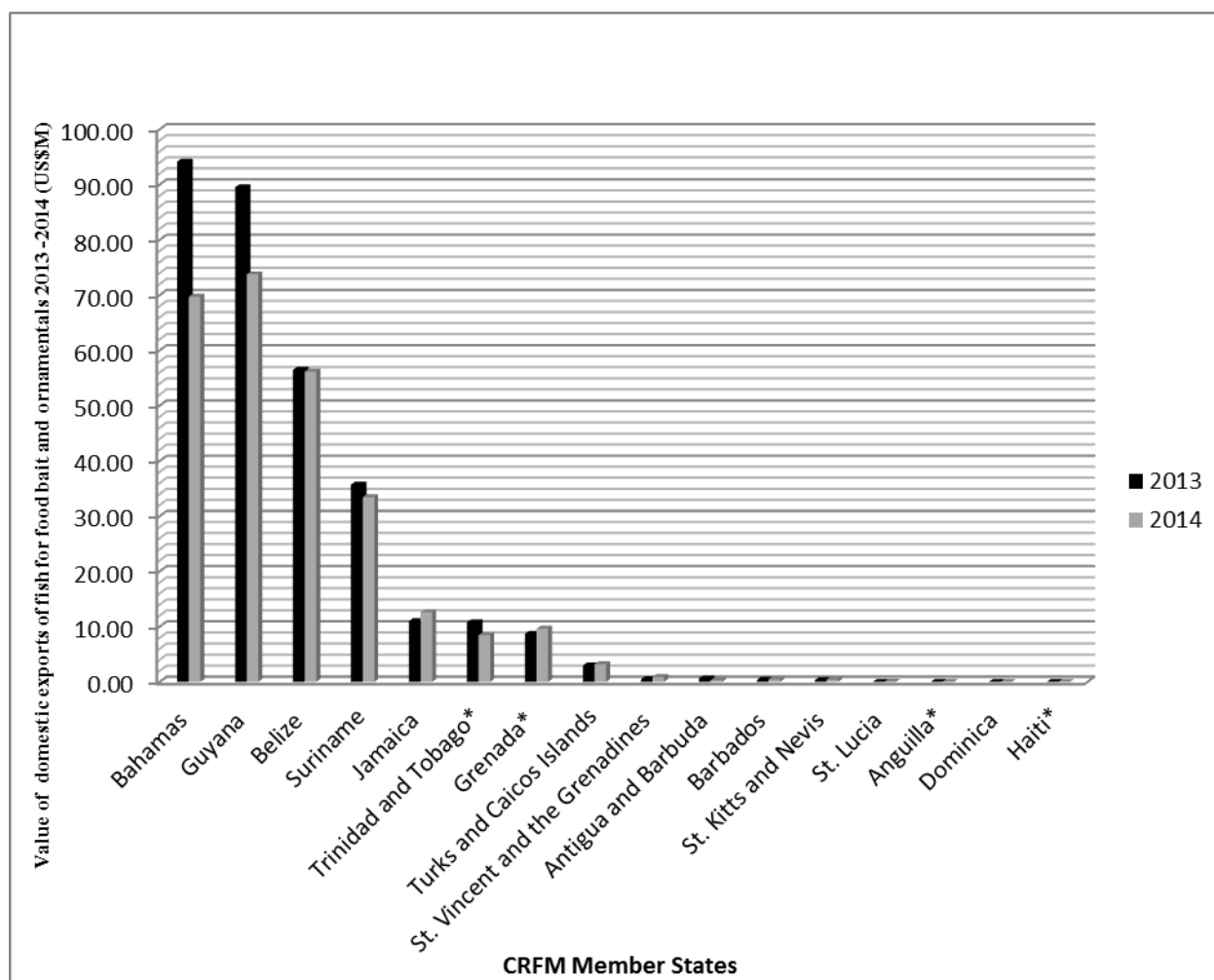


Figure 14: Value of domestic exports of fish for food, bait and ornamental purposes (in millions US dollars) from CRFM Member States for 2013 and 2014.

In 2013 domestic exports of fish for food from the CRFM region was approximately 74,728 mt (46% of the meat weight production from marine capture fisheries plus aquaculture production of the region). In 2014 domestic exports fell slightly to 73,996 mt but this corresponded to 54% of the meat weight production from marine capture fisheries plus aquaculture production of the region (Table 29 and Figure 11). A small portion of the fish imported was re-exported (of 60,700 mt imported by 16 CRFM Member States¹⁰⁵ 150 mt (~0.002%) was re-exported). The three largest domestic exporters of fish (metric tonnes of fish exported) among the CRFM Member States in 2013/2014 were Suriname, Guyana and Belize respectively, together they accounted for 88% of total domestic exports of fish from the region (Table 36 and Figure 15).

¹⁰⁵ Re-export data were not available for Trinidad and Tobago and Haiti was assumed to have no re-exports.

Table 36: Domestic exports of fish for food, total domestic fish exports and re-exports (meat weight in mt) of fish exported by CRFM Member States for year 2013

CRFM Member States	Domestic exports of fish for food 2013 (meat weight in mt)	Total domestic exports of fish 2013 (meat weight in mt)	% contribution to the total domestic exports of fish for the CRFM region 2013	Re-exports 2013 (meat weight in mt)
Suriname	31 301	31 301	41.8	0
Guyana	26 054	26 089	34.8	0
Belize	7 626	7 654	10.2	0
Trinidad and Tobago*	3 940	4 008	5.4	NA
Bahamas	3 265	3 272	4.4	0.7
Grenada	861	861	1.2	0
Jamaica	823	824	1.1	117
Turks and Caicos Islands	448	448	0.6	0
Barbados	173	173	0.2	20
St. Vincent and the Grenadines	94	99	0.1	0
Antigua and Barbuda	78	78	0.1	0
St. Kitts and Nevis	64	64	0.1	12
St. Lucia	0.1	0	0.0	0.2
Anguilla*	0	0	0	0
Dominica	0	0	0.0	0
Haiti *	0	0	0.0	0
Montserrat	0	0	0.0	0
Totals	74 728	74 871	100.0	150
Domestic fish exports as a % of the marine capture fisheries and the aquaculture production 2013	Exports for food 46.0% Total exports 46.1%			

NA= Not available

Anguilla* - 2009 estimate

Haiti* - 2009 estimate

Trinidad and Tobago* - 2010 estimate

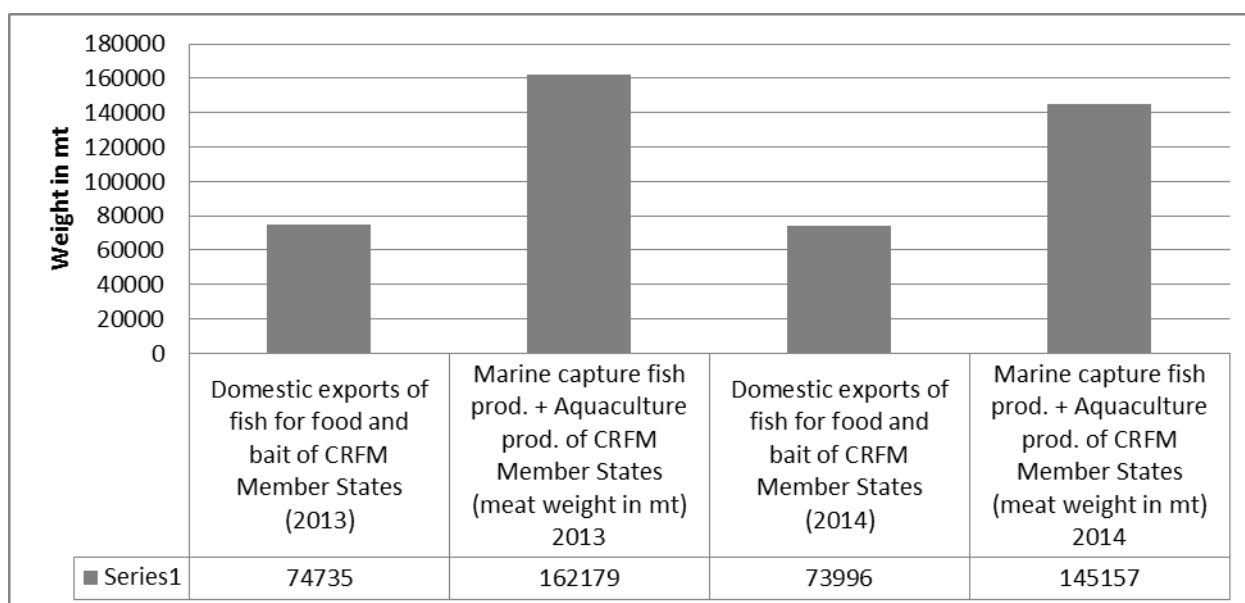


Figure 15: Domestic exports of fish for food and bait (meat weight in mt) compared to the total production from marine capture fisheries and aquaculture production (meat weight in mt) of the CRFM Member States 2013 and 2014.

The species exported for food included: lobsters, shrimp, conch, tunas, snappers, groupers, and various other finfish species and aquatic invertebrates (Table 30). The breakdown of domestic exports from 15 Member States¹⁰⁶ (four had no exports¹⁰⁷) for 2014, showed that export of shrimp accounted for approximately 41% of the exports from those Member States. Exports of conch accounted for approximately 3%, exports of lobsters 7% and various finfish including tunas, snappers, flyingfish, mackerel, bangamary and groupers accounted for approximately 48% of the export from the 15 Member States analyzed (Table 37 and Table 38).

¹⁰⁶ The breakdown of domestic export of fish was not available for Grenada and Suriname..

¹⁰⁷ Anguilla, Dominica, Haiti and Montserrat had no exports of fish

Table 37: The species (common name) and weight (meat weight in mt) of fish exported for food by Member States of the CRFM in 2014

Member States	Lobster (mt)	Conch (mt)	Yellowfin tuna (mt)	Other tunas (skipjack, bluefin tuna etc.) (mt)	Mackerels, Wahoo and Kingfish Marlin, Swordfish (mt)	Dolphin fish (mt)	Groupers (mt)	Snappers (mt)	Flying fish (mt)	Fin fish aggregated (snapper, croaker, grouper, dolphin, bangamary & sea trout) (mt)	Other fin fish (mt)	Crabs (mt)	Shrimp/prawns (mt)	Aquatic invertebrates & other crustaceans(mt)	Sharks and Rays	Totals(mt)
Anguilla*																0
Antigua and Barbuda										43						43
Bahamas	1 830	289									73	110		6.2		2 308
Barbados			147	8.4	11.9	0.07			4	3.0	12		1.4	0.06		187
Belize	261	173			1.4				117.6	0.8	79	12	6 489.5	224		7 359
Dominica																0
Grenada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	963
Guyana	0.8		1.9		0.2				148.5	7 585	5 978	111	8 531	28.8	4.9	22 390
Haiti *																0
Jamaica	340	309		1.5	80					20.6	17.7		17	44		830
Montserrat																0
St. Kitts and Nevis	2	164							0.3	0.06	0.1		0.9			167
St. Lucia	1.4			0.2							0.1					2
St. Vincent and the Grenadines	42	34.6									59.4	0.5		6.245		143
Suriname	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35 909
Trinidad and Tobago	6.5		941.8	159.6	145.8				53.4	602.9	1 289	3.4	5	16.3	0.4	3 224
Turks and Caicos Islands	86.2	287	5.4	8.6	51.8		7.0	3.7			18.6					469
Total of 15 Member States	2 569	1 257	1 096	178	291	0.07	7	4	324	8 256	7 528	237	15 045	326	5	37 123
Total domestic exports for food 2014																73 996

Sources: Data were collected directly from the Government Statistics Department in the Member State

NA=Not Available

*Anguilla 2010 estimate

*Haiti 2009 estimate

Table 38: Species of fish exported, the total weight of the species exported by 15 Member States and the percentage contribution that the species made to the CRFM region's domestic exports of fish for food in 2014

Species of fish exported	Total exported by 15 of the 17 CRFM Member States (mt)	% contribution that the species made to the CRFM region's domestic exports of fish for food in 2014
Shrimp	15 045	41
Fin fish aggregated (snapper, croaker, grouper, dolphin, bangamary & sea trout)	8 256	22
Other finfish	7 527	20
Lobsters	2 569	7
Conch	1 257	3
Yellowfin tuna	1 096	3
Other aquatic invertebrates and crustaceans	326	1
Flyingfish	324	1
Mackerels	291	1
Stone crabs	236	1
Other tunas	178	0
Grouper	7	0
Sharks and Rays	5	0
Snappers	4	0
Dolphinfish	0	0

Belize exported ~86 % of the fish production from the marine capture fisheries and the aquaculture production in 2013 as food and bait. Suriname (81%), Turks and Caicos Islands (80%) and Guyana (52%) also exported substantial amounts of the production from the marine capture fisheries and the aquaculture production in 2013 (Table 39 and Figure 16).

Table 39: Percentage of the production (meat weight) from the marine capture fisheries production (MCF prod.) plus the aquaculture production (AC prod.) that was exported in 2013 by CRFM Member States

Member States	Domestic exports of fish for food and bait (meat weight in mt) 2013	MCF prod. + AC prod. (meat weight in mt) 2013	% of MCF prod. + AC prod. that was exported in 2013
Belize	8 920	7 626	85.5
Suriname	38 798	31 301	80.7
Turks and Caicos Islands	559	448	80.2
Guyana	49 794	26 054	52.3
Bahamas	7 845	3 272	41.7
Grenada	2 698	861	31.9
Trinidad and Tobago	13 207	3 940	29.8
St. Kitts and Nevis	383	64	16.7
St. Vincent and the Grenadines	714	94	13.1

Member States	Domestic exports of fish for food and bait (meat weight in mt) 2013	MCF prod. + AC prod. (meat weight in mt) 2013	% of MCF prod. + AC prod. that was exported in 2013
Barbados	2 735	173	6.3
Jamaica	15 099	823	5.5
Antigua and Barbuda	1 752	78	4.5
St. Lucia	1 656	0	0.0
Anguilla*	655	0	0.0
Dominica	479	0	0.0
Haiti *	17 060	0	0.0
Montserrat	40	0	0.0
Totals	162 395	74 735	

Anguilla - 2010 estimate*

Haiti - 2009 estimate*

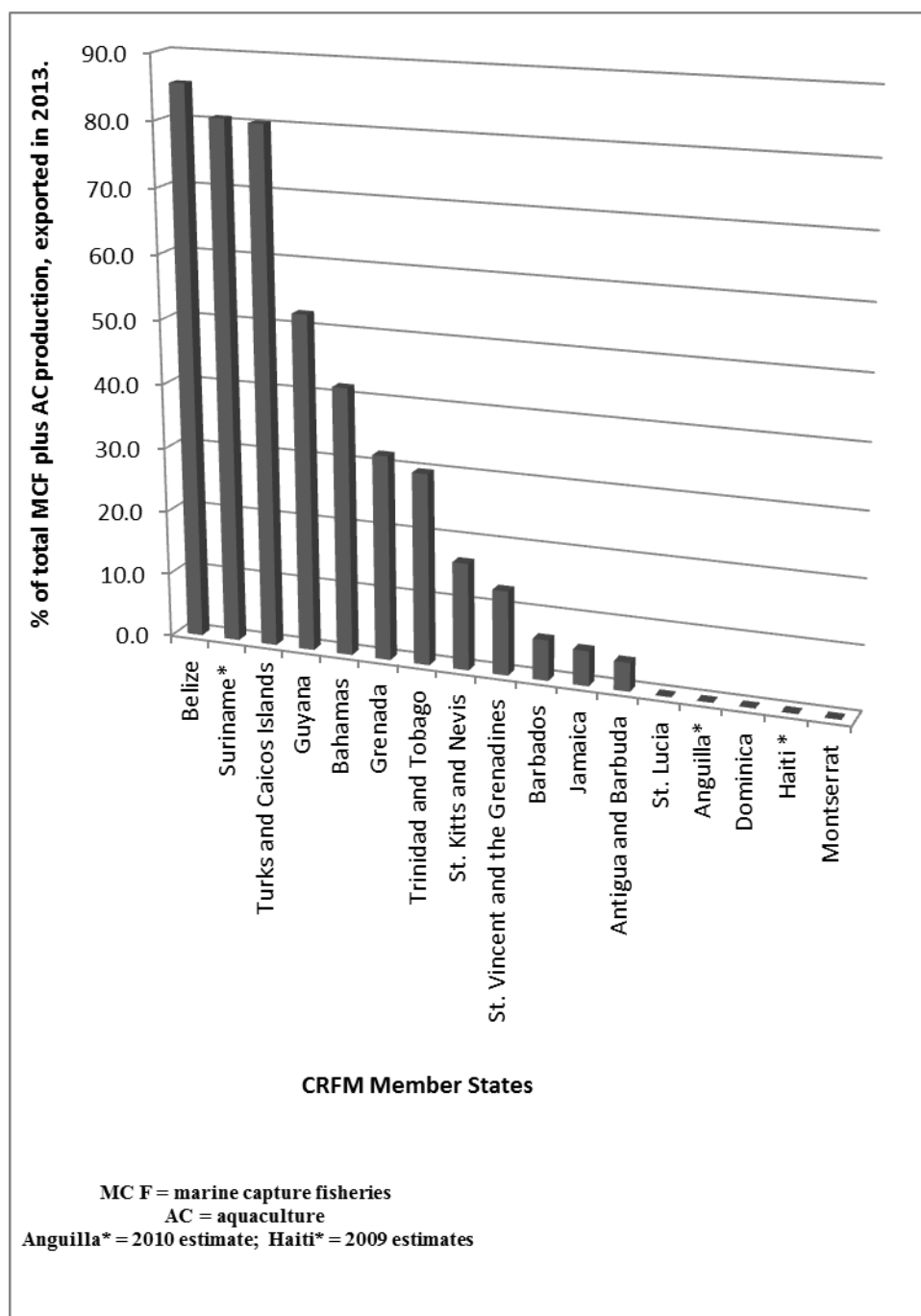


Figure 16: Domestic fish exports (food and bait) of CRFM Member States expressed as a percentage of the total marine capture fisheries plus aquaculture fish production (meat weight 2013).

CHAPTER 7: FISH CONSUMPTION IN THE CRFM REGION

Table 40 assumes that all the fish imported are consumed by the local population, and tourist and visitors are not accounted for.

Table 40. Calculation table for consumption of fish (assuming that the local population consumed all the available fish) within CRFM Member States (in kg per person) for 2013

Column 1 (C1)	Column 2 (C2)	Column 3 (C 3)	Column 4 (C 4)	Column 5 (C 5)	Column 6 (C 6)	Column 7 (C 7)	Column 8 (C 8)	Column 9 (C 9)	Column 10 (C 10)	Column 11 (C 11)
Countries	Marine Capture Fish Prod. + Aquaculture Prod. (mt) 2013	Domestic Exports (mt) 2013	Re-exports (mt) 2013	Imports of chilled fresh or frozen fish (mt) 2013	Imports of dried, salted smoked pickled (cured) fish (mt) 2013	Imports of canned fish (mt) 2013	Total fish imports (mt) 2013 =C5+C6+C7	Total fish supply (mt) 2013 =C2-C3-C4+C8	Population 2013	Total Fish Supply Per Capita (kg/2013) =(C9*1000)/C10
Anguilla*	655	0	0.0	262	65	123	450	1 105 248	15 757	70
Antigua & Barbuda	1 752	78	0.0	649	491	507	1 647	3 320 054	89 985	37
Bahamas	7 845	3 265	0.7	973	161	2 624	3 759	8 338 567	377 374	22
Barbados	2 735	173	19.7	2 590	620	1 888	5 098	7 640 147	284 644	27
Belize	8 708	7 626	0.0	9	0	281	290	1 372 241	331 900	4
Dominica	479	0	0.0	52	261	304	617	1 095 851	72 003	15
Grenada	2 698	861	0.0	111	237	370	718	2 555 171	105 897	24
Guyana	49 794	26 054	0.0	21	28	1 263	1 313	25 052 817	799 613	31
Haiti*	17 060	0	0.0	0	0	0	12 500	29 560 000	10 320 000	3
Jamaica	15 099	823	117.0	11 002	5 042	11 671	27 715	41 873 557	2 715 000	15
Montserrat	40	0	0.0	28	19	26	73	112 899	5 215	22
St. Kitts & Nevis	383	64	12.4	215	127	141	483	790 346	54 191	15
St. Lucia	1 653	0.1	0.2	605	400	658	1 662	3 315 072	182 273	18
St. Vincent & the Grenadines	714	94	0.0	92	212	124	428	1 048 428	109 373	10
Suriname*	38 798	31 301	0.0	0	0	0	2 151	9 648 617	539 276	18
Trinidad & Tobago*	13 207	3 940	0.0	6 084	2 813	0	8 896	18 163 826	1 341 000	14
Turks and Caicos Islands*	559	448	0.0	1 603	192	0	1 795	1 905 223	33 098	58
Totals	162 179	74 728	150.0	24 295	10 669	19 981	69 596	156 898 064	17 376 599	24
Average										24

*Anguilla** - 2010 estimates presented as 2013 data were not available.

*Haiti** - 2009 estimates

Trinidad and Tobago & Turks and Caicos Islands** - Estimate for imports of canned fish were not available at the time of writing this report.

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