

United Republic of Tanzania, National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2022

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INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

<p>In accordance with IOTC Resolution 15/02, final scientific data for the previous year was provided to the IOTC Secretariat by 30 June of the current year, for all fleets other than longline [e.g. for a National Report submitted to the IOTC Secretariat in 2022, final data for the 2021 calendar year must be provided to the Secretariat by 30 June 2022)</p>	<p style="text-align: center;">YES</p> <p style="text-align: center;">10/09/2022</p>
<p>In accordance with IOTC Resolution 15/02, provisional longline data for the previous year was provided to the IOTC Secretariat by 30 June of the current year [e.g. for a National Report submitted to the IOTC Secretariat in 2022, preliminary data for the 2021 calendar year was provided to the IOTC Secretariat by 30 June 2022].</p> <p>REMINDER: Final longline data for the previous year is due to the IOTC Secretariat by 30 Dec of the current year [e.g. for a National Report submitted to the IOTC Secretariat in 2022, final data for the 2021 calendar year must be provided to the Secretariat by 30 December 2022).</p>	<p style="text-align: center;">YES</p> <p style="text-align: center;">06/04/2022</p>

EXECUTIVE SUMMARY

Tanzania has a coastline of about 1,242 km, a territorial sea of about 64,000 km² and Exclusive Economic Zone with an area of 223,000 km². The marine waters are potential fishing grounds for tuna and tuna-like species for both national fleets and Distant Water Fishing nations fleets. The most caught tuna and tuna-like species are Bigeye, Skipjack, Yellowfin, Albacore, Swordfish, Marlin, Sailfish, Frigate tuna, Kawakawa, Dogfish tuna and bycatch which mainly consists of Sharks, Dorado, Barracuda and Escolar.

Fishing activities in the Tanzanian EEZ are developed, managed and regulated by the Deep Sea Fishing Authority of Tanzania (DSFA) under the Deep Sea Fisheries Management and Development Act, Cap 388 of 2020 and its Regulations of 2021. In the inner and territorial waters tuna and tuna like fisheries is mainly conducted by artisanal fishers using non- and motorized fishing vessels with overall length between 4 m to 12 m. These are day out fishers except for those with landlines, longline or trolling using motorized boat with insulated ice boxes who can spend 3 to 7 days at sea.

Tanzania has improved her fisheries data collection using smart phones which send the data to databases at DSFA, Fisheries Departments in Mainland and Zanzibar, the system also captures catch information of sharks and rays. Furthermore, awareness creation to artisanal fishers on endangered, threatened and protected species (ETPs) has increased and almost all ETPs that interact with artisanal fishery are protected by Laws.

The two widely used fishing gears in the EEZ are large-scale longlines and purse seines. According to artisanal fishery statistics from catch assessment surveys of 2021, the total catch of Kanadi king fish was 2,319.81 mt, Bigeye 795.99 mt, Swordfish 3,212.03 mt, Kawakawa 2,241.42 mt, Dogtooth tuna 711.16 mt, Frigate tuna 2602.36 mt and Yellowfin tuna 4,294.24 mt. Artisanal fishers of URT do not provide logbooks and therefore data are collected at landing sites by Beach Management Units trained enumerators in Mainland and Beach Recorders in Zanzibar. Two semi industrial flagged longline vessels operated within the EEZ and Territorial waters of Tanzania, during the fishing period of the year 2021, and reported a total of 15 mt, which were landed at Zanzibar Port. With regards to Distant Water Fishing Nations (DWFNs), 23 longline vessels operated in the EEZ of Tanzania, with reported annual landings (January to December 2021) of commercial tuna of 1,616.6 mt, of which Bigeye tuna contributed 866.6 mt and Yellowfin tuna 606.6 mt.



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1 BACKGROUND/GENERAL FISHERY INFORMATION

Fisheries in Tanzania marine waters are mainly of two types, namely artisanal and industrial fisheries. Artisanal fisheries operate in territorial waters of less than 200 metres depth. The common types of vessels used include dugout canoes, dhows and planked canoes and catamarans. These vessels use shark nets, gill nets, purse seines/ surrounding nets, long lines, hand lines, cast nets, lift-nets, scoop nets, traps/baskets and ring nets. The industrial fishing is the second category and it operates in the EEZ. There are two widely used fishing gears in the EEZ namely large-scale longlines and purse seines.

In Tanzania, tuna fishery is largely dominated by the artisanal fishers and contributes about 80% catch annually. The artisanal fishery mainly target frigate tuna (*Auxis thazard*), kawakawa (*Euthynnus affinis*), yellowfin tuna (*Thunnus albacares*), skipjack tuna (*Katsuwonus pelamis*), swordfish (*Xiphias gladius*), sailfish (*Istophorus platypterus*), big eye (*Thunnus obesus*). The mean monthly catch of the four groups (kawakawa, frigate tuna, swordfish, and yellowfin tuna) show bimodal patterns with a two peak pattern. The first peak occurs in February/March during the north east (NE) monsoon season while the second peak occurs in June -July during the south east (SE) monsoon season (Shaghude, et al. 2021). On the other hand, shark and skipjack do not clearly show peak seasons as they are usually caught throughout the year. The bigeye tuna are also fished along with yellowfin tuna. Majority of artisanal fishers operate within 12 nautical miles except for the two semi industrial longline vessels which operate in Tanzania EEZ and Territorial sea.

Ringnet fishery plays a very important role in Tanzania artisanal fisheries in terms of employment and fish landings. The fishery targets schools of frigate tuna and kawakawa and occasionally large tunas like yellowfin and bigeye. The daily average CPUE is 320 kg/boat in September (SE monsoon) and 120 kg/boat in January (NE monsoon) (Shaghude, et al. 2021). It contributes about 75% of the annual artisanal tuna (bonitos) catch. Other important fishery targeting tuna are the bottom and surface set gillnet and handline.

2 FLEET STRUCTURE

Tanzania's fishing fleet consists of various types of fishing vessels ranging from dugout canoes with average length of 3 m to wooden boats from 3 m to 17 m long with either inboard or outboard engine (Table 1). Total number of fishing vessels was 9,574 composed of two longline below 24 m, one above 24m and 9,571 other types (Mainland Tanzania Frame Survey 2018; Zanzibar Frame Survey 2018). In 2021 three longline vessels (Al Maida - >24 m, Sehewa 02 and Ashani shanika - <24 m) operated in the Tanzanian waters.

Table 1: Number of vessels operating in the IOTC area of competence, by propulsion type and Length overall in metres

Year	Gear type and size					
	LL		PS		others	
	< 24	≥ 24	< 24	≥ 24	< 24	≥ 24
2016	0	3	0	0	10863	0
2017	0	0	0	0	10863	0
2018	0	0	0	0	9571	0
2019	1	0	0	0	9571	0
2020	1	1	0	0	9571	0
2021	2	1	0	0	9571	0

3 CATCH AND EFFORT (BY SPECIES AND GEAR)

a. Semi Industrial and Industrial Longline Fishery

Yellowfin tuna was the dominant species landed, from the industrial vessels that fished in the Tanzania waters with an estimated catch of 599 mt, which accounted for 38% of the total catch in 2021 (Table 2a; Fig 1). On the other hand, catch records reported by observers showed that bigeye tuna catch was higher than yellowfin tuna in 2021 contrary to the catch in 2020 where yellowfin tuna dominated (Table 2b).

Table 2a: Annual catch in mt of primary species reported by Tanzania industrial longline fleet between 2017 and 2021.

Year	BET	ALB	BLM	BUM	BSH	OCS	NEI	SFA	MLS	SWO	YFT	Total
2017	666	0	0	0	0	0	0	0	0	0	565	1,231
2018	0	0	0	0	0	0	0	0	0	0	0	0
2019	1,412	0	167	0	0	308	0	0	1,045	685	1,043	4,660
2020	2,191	0	85	633	325	125	0	0	2,610	1,858	1,120	8,947
2021	845	3	8	19	0	0	22	8	5	84	599	1,593

Table 2b: National longline annual catch (mt), fishing effort and catch rates between 2019 and 2021 as reported by Observers.

Year	Fishing Effort (1000 Hooks)	Catch Rate (Kg/1000 Hooks)	YFT	BET	SWO	SHK	BUM	BLM	SKJ	SFA	MLS	NEI	TOTAL
2019	15.2	306.6	1,043	1,412	685			167			1,045	308	4,660
2020	28.4	281.8	5,935	474	621	513	34	75	4	22		206	7,884
2021	1,207	331.2	599	844	84	1	19	8	0	8	5	22	1,590

b. Artisanal Fishery

The total catches of the industrial fisheries decreased from 14,442 mt in 2020 to 8,643 mt in 2021. This decrease was thought to be attributed to the COVID 19 pandemic that caused temporal closure of the fishery (Table 2c).

Table 2c: Annual catch in mt of primary species reported from coastal fisheries between 2019 and 2021.

FISH GROUP	2019	2020	2021
Bigeye	2,248.0	1,180.0	1,729.0
Billfish	2,420.0	858.0	538.9
Kanadi	2,053.0	-	-
Kawakawa	970.0	3,983.0	1,931.5
Kingfish	-	2,320.0	-
Skipjack	-	568.0	331.1
Sharks and rays	2,155.0	-	356.8
Swordfish	680.0	3,212.0	564.3
Yellowfin	2,254.0	2,321.0	2,075.9
Longtail tuna	-	-	1,116.1

Fig. 1. Historical annual catch for the national fleet, by gear and primary species.

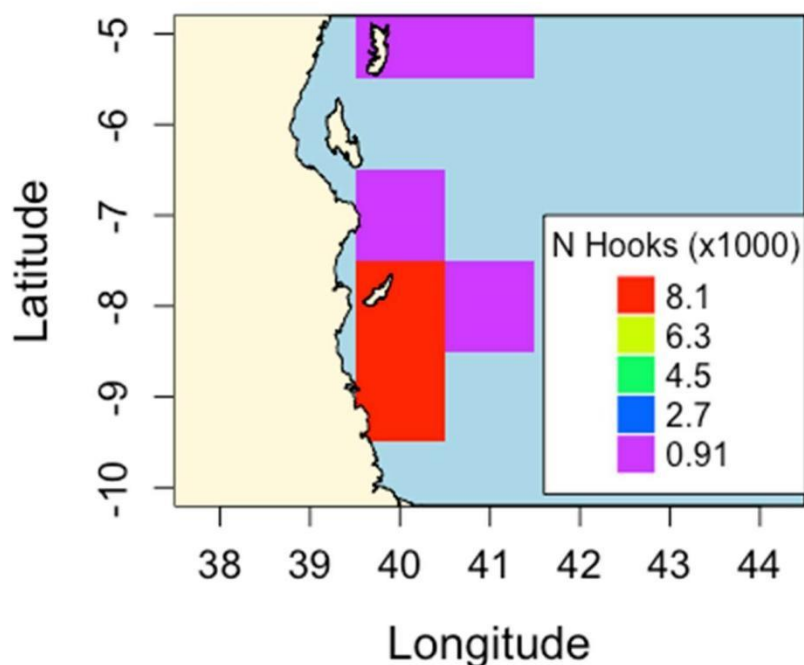


Figure 2a. Map of the distribution of fishing effort in the EEZ of Tanzania based on one longline fleet by 1°x1° as reported in 2020 and 2021

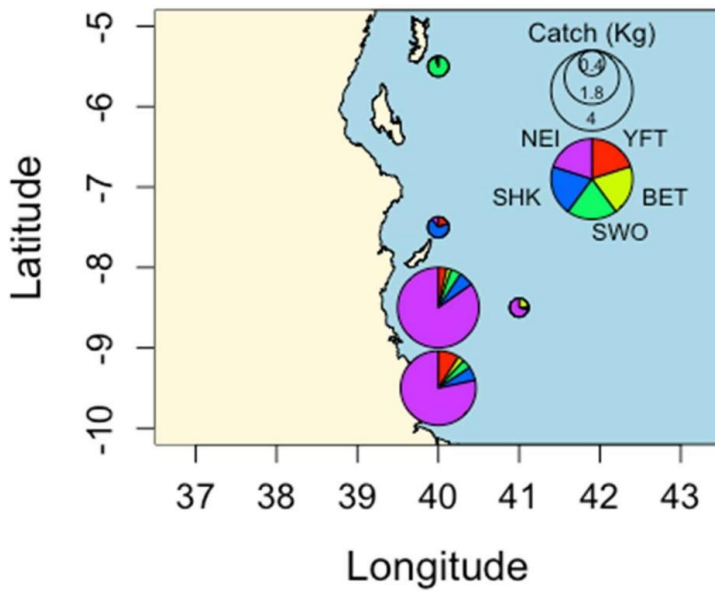


Figure 3a: Map of distribution of fishing catch (kg) by species within the EEZ of Tanzania based on one longline fleet by 1° square as reported in 2021

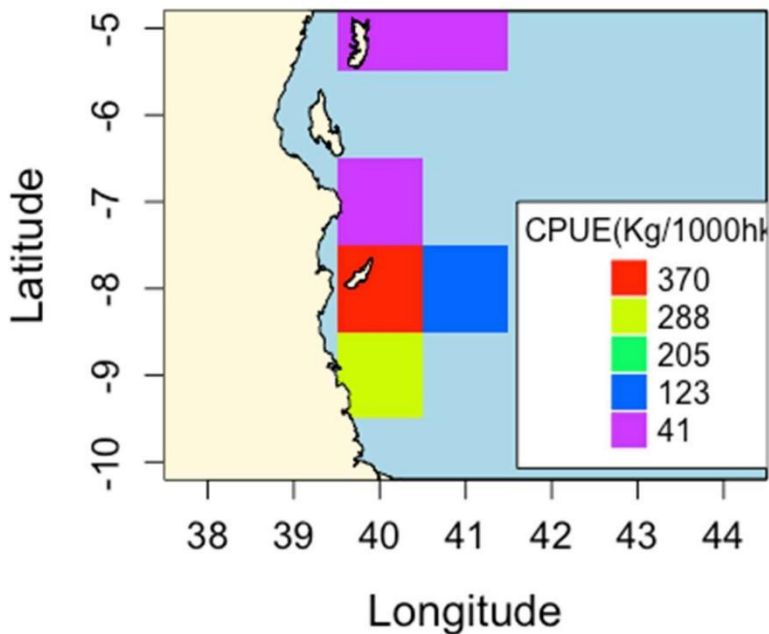


Figure3b: Map of distribution of yellowfin tuna in mean CPUE (Kg/1000) within the EEZ of Tanzania based on one longline fleet by 1° square as reported in 2020 and 2021.

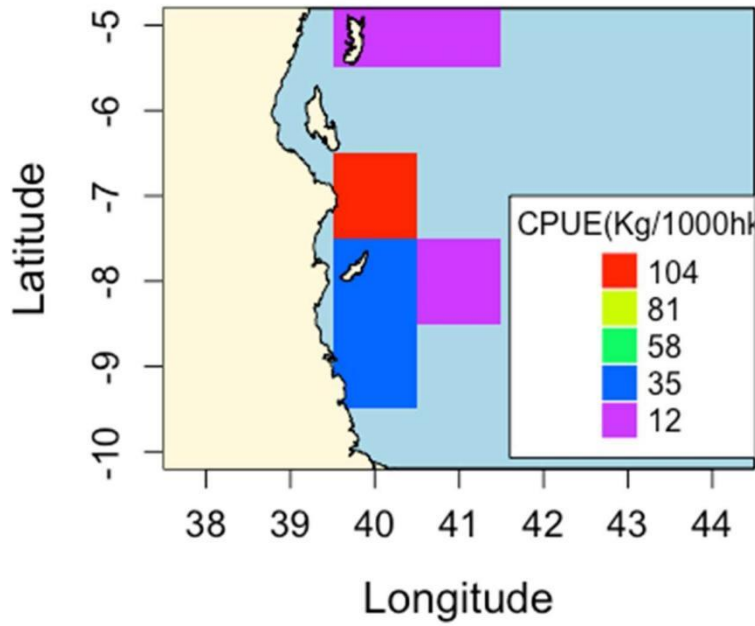


Figure3c: Map of distribution of mean CPUE (Kg/1000) of bigeye tuna in mean CPUE (Kg/1000) within the EEZ of Tanzania based on one longline fleet by 1° square as reported in 2020 and 2021.

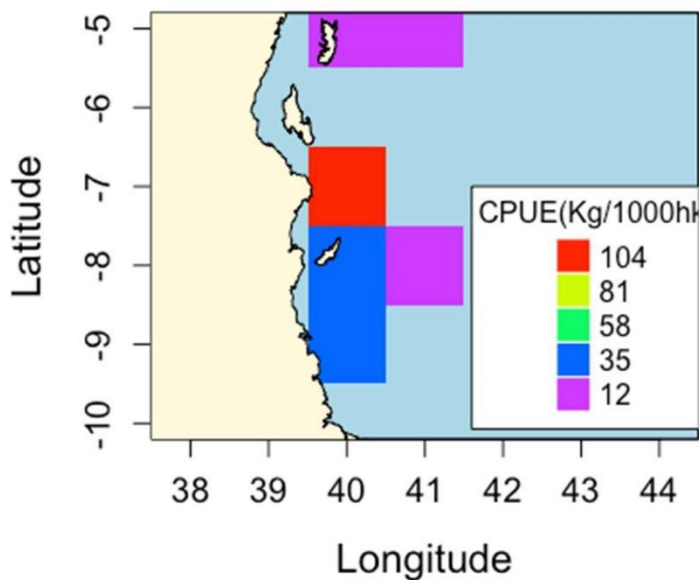


Figure3d:Map of distribution of swordfish tuna in mean CPUE (Kg/1000) within the EEZ of Tanzania based on one longline fleet by 1° square as reported in 2020 and 2021.

4 RECREATIONAL FISHERY

The recreational fisheries is conducted by Yatch clubs under licenses issued by Departments of Fisheries, in both Mainland and Zanzibar. The fishery is mostly conducted between September and February (inter Monsoon period and North East Monsoon); it is the period when the sea state is relatively calm. These recreational fishers use mostly hand-line fishing techniques, targeting demersal species such as groupers, snappers and lethrinids, semi-pelagic species such as carangids and sphyraenids, as well as pelagic tuna and tuna-like species. Fisheries departments monitor the fishery. Currently, fish catch data are submitted to the respective Fisheries department, however there are inconsistencies in the data submitted. In 2021, there were 26 licensed boats in the territorial waters of Mainland Tanzania. There is a gap in information on sport fishing catches in Tanzania and this has long been an issue affecting comprehensive data collection in sport fishing. No catch data has been reported for the year 2021.

Based on the URT fisheries management framework all fisheries taking place in the inner and territorial sea are under the Fisheries departments and fisheries in the EEZ is monitored by the DSFA. Following the non-compliance by sport fishing vessels and the indispensable importance of sport fishing in tuna fishery, DSFA in collaboration with the respective Fisheries departments have harmonized data collection forms to be used by sport fishing boat captains to collect data. The data collection form is distributed to the potential sport fishing points.

5 ECOSYSTEM AND BYCATCH ISSUES

The United Republic of Tanzania implements the 40 Minimum Terms and Conditions (MTC) under SWIOFC and has already transposed the bycatch issues to the National legislation including the Deep Sea Fisheries Management and Development Act, Cap 388, of 2020, and Deep Sea Fisheries Management and Development Regulations of 2021 with regard to landing of bycatch in Tanzanian ports for domestic consumption. Furthermore the Deep Sea Fisheries legislation prohibits landing of shark carcass without fins. In addition the Tanzania Fisheries Regulations of 2003 prohibit shark fin trade (Regulation 67 (2 &4)) and the Zanzibar Regulations of 2016 prohibit the possession of shark fins without carcass.

The National Plan of Action - Shark (NPOA-Shark) is under development in collaboration with the Wildlife Conservation Society (WCS). Furthermore, all endangered, threatened and protected species including marine mammals, sea birds and sea turtles are protected by Tanzanian fisheries legislation. Subsequently the URT has ensured that all flagged vessels have line cutters and de-hookers onboard for removing entangled seabirds, mammals, sharks and sea turtles according to the IOTC Resolutions.

URT has also adopted the IOTC resolution on Procedure on management of FADs (IOTC Res. 15/08). The Deep Sea Fisheries Management and Development Regulations, Regulation 32 & 39 and the second schedule provide the number of FADs which can be used in a license period by a fishing vessel and the fee associated with use of FADs. The Deep Sea Fisheries Management and Development Act, Cap 388 of 2020 emphasizes on environmental protection by prohibiting and controlling human activities that may cause adverse effects to the environment.. Furthermore, Section 6(g) of the Tanzania Shipping Agencies Act, No 14 of 2017, incorporates the IMO MARPOL convention on prevention of pollution from ships.

5.1 Sharks

In Tanzania, sharks continue to be fished mainly as bycatch (Fig. 4) where their meat is consumed and oil used as anti-foulant on wooden traditional vessels. However, fishing of sharks is strongly discouraged. The conservation and management measures of sharks in the Tanzanian EEZ and beyond the national jurisdiction is controlled under regulation 6-9 of the Deep Sea Fisheries Management and Development Regulations of 2021.

5.1.1 NPOA sharks

In 2019, Tanzania in collaboration with the Wildlife Conservation Society (WCS), started to draft its NPOA for sharks by engaging various key stakeholders. However, because of a number of challenges including availability of baseline information on sharks and rays, funding and the COVID-19 pandemic, the work has not yet been completed. A baseline assessment of shark and ray fishery status to collect information required for the finalization of the NPOA-Sharks is progressing. Tanzania is determined to ensure that the NPOA-Sharks is completed as soon as possible.

5.1.2 Shark finning regulation

Shark finning in the Tanzanian waters is strictly prohibited by the Deep Sea Fisheries Management and Development Act, of 2020 and its Regulations of 2021, Tanzania Fisheries Act of 2003 and Zanzibar Fisheries Act of 2010. Monitoring of shark finning is done by the Departments of Fisheries in Mainland Tanzania and Zanzibar, Local Government Authorities and DSFA. No shark finning has been reported since 2019.

5.1.3 Blue shark

Tanzania is committed to implementing the IOTC Resolution 18/02 on conservation of Blue Sharks in the IOTC area of competence by ensuring that effective management measures are in place. Tanzania has included a section to collect Blue shark information and its interaction with fishing gears.

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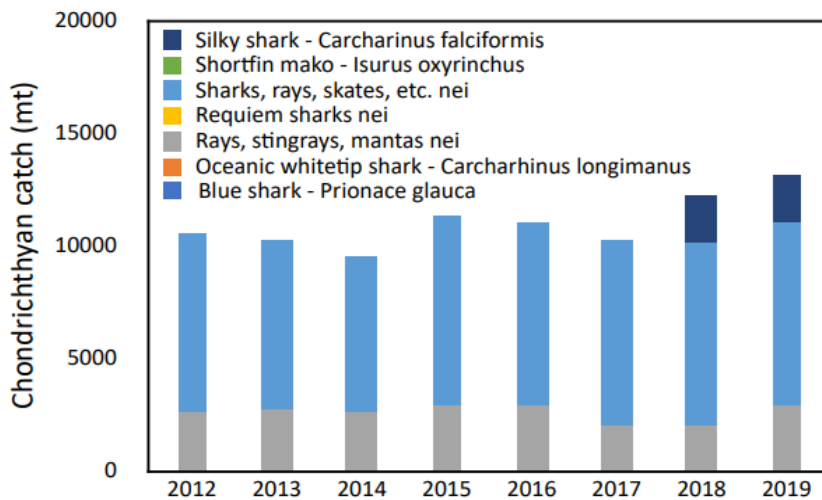


Figure 4. Chondrichthyan catches for Tanzania, by species and category (source FAO 2021)

5.2 Seabirds

There were no reported fishing activities and/or interactions reported by Tanzania flagged vessels that operated in the area of interest.

5.3 Marine Turtles

Five species of marine turtles namely, green, hawksbill, loggerhead, leatherback and olive ridley occur off the coast of Tanzania. However, only green and hawksbill turtles nest in Tanzania and the rest pass through Tanzania coastal waters on route to feeding and breeding grounds elsewhere in the region (Khatib, 1998).

Conservation of the marine turtles in the Tanzanian waters are protected by laws governing fisheries including the Deep Sea Fisheries Management and Development Act of 2020 and its Regulations of 2021 (Regulation 10). Observers on prawn trawling vessels reported two green sea turtles that were released alive between April and September, 2021.

Incidences of turtle captures and mortalities were recorded in 2020 and 2021, where five green turtles were captured and released while alive (Table 3). On the other hand, 46 mortalities of five species were recorded in 2021 but the specific locations of the incidences were not recorded (Table 4).

Table 3. Reported incidences of turtle captures (bycatch)

YEAR	PRAWN FISHERY			OBSERVED **				
	LAT *	LONG	TOTAL EFFORT	TOTAL EFFORT OBSERVED	SPECIES	CAPTURES (NUMBER)	MORTALITIES (NUMBER)	LIVE RELEASES (NUMBER)
2020	7	39	UKN	UKN	Green	3	0	3
2021	6	39	UKN	UKN	Green	2	0	2

Table 4. Number of mortalities of marine turtles per species recorded during beach patrols in 2021.

Species	No. mortalities
Green	19
Hawksbill	8
Loggerhead	1
Leatherback	3
Olive ridley	7
Unidentified	8
Total	46

5.4 Other ecologically related species (e.g. marine mammals, whale sharks)

Incidences of interactions between fishing nets and dolphins occur in the internal waters. Currently, sensitization campaigns to fishers in coastal areas have been conducted to mitigate such interactions. The use of marine mammals and whale sharks for human and animal consumption are prohibited by fisheries laws. No by-catches of whale sharks and other related species were recorded in the Tanzania jurisdiction area in the past eight years (i.e. 2014-2021).

6 NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS

6.1 Logsheet data collection and verification

All licensed fishing vessels in the Tanzanian EEZ and area beyond the national jurisdiction are required to report daily catches as per logbook that consists of all information required in the IOTC resolutions. The data collected are stored in the Fisheries Information System or Catch Assessment System for storage and analysis. On the other hand, artisanal catch data are collected from selected landing sites in 16 coastal districts by trained enumerators. There are one or two sampled landing sites from each district selected depending on number of fishing vessels and accessibility. There are ten sampling days per month. The sampling days in a month are randomly selected to avoid biasness in the data. In Zanzibar, data collection is done by beach recorders at 30 sites for 10 days per month. The data are used to prepare annual fisheries statistical reports for decision-making or other purposes including scientific publications and general public awareness.

6.2 Vessel Monitoring System

Tanzania has used Themis Web VMS since 2016. Tanzania regulations require every licensed fishing vessel to install a VMS and Automatic Identification System (AIS) compatible to DSFA VMS and be switched on at all times.

6.3 Observer scheme

Tanzania has 22 trained fisheries observers, out of which 10 are scientific observers. In 2021, two Observers were deployed two times for 30 days/trip in the licensed flagged long line fishing vessel (– AL MAIDA) that operated in its EEZ in 2020/2021. Tanzania through DSFA signed a Letter of Understanding (LoU) on the implementation of the IOTC Pilot Project for Regional Observer Scheme (ROS) in URT. The aim of this project is to support URT in the implementation of their national scientific observer programmes to improve compliance with Resolution 11/04. The training was planned to take place in 2022 depending on the COVID-19 situation.

Table 5: Annual observer coverage by long line hooks operation from 2017–2021

Year	Gear	Coverage (%)
2017	N/A	N/A
2018	N/A	N/A
2019	LL	100
2020	LL	100
2020	LL	100
2021	LL	100

Table 6: Number of vessel trips or vessels active monitored, by species and gear

YEAR	GEAR TYPE			
	LL	PS	GN	Others (coastal fisheries)
Trip (2017)	N/A	N/A	N/A	120 days/selected landing site
Trip (2018)	N/A	N/A	N/A	120 days/selected landing site
Trip (2019)	1	N/A	N/A	120 days/selected landing site
Trip (2020)	1	N/A	N/A	90 days/selected landing site
Trip (2021)	1	N/A	N/A	90 days/selected landing site

Table 7: Number of individuals measured, by species and gear

YEAR	LL					PS					
	SKJ	YFT	BET	ALB	BLM	SKJ	YFT	BET	ALB	BLM	SWO
2017	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2019	01	44	54	8	17	N/A	N/A	N/A	N/A	N/A	N/A
2020	02	65	122	6	23	N/A	N/A	N/A	N/A	N/A	N/A
2021	03	74	133	8	37	N/A	N/A	N/A	N/A	N/A	N/A

6.4 Port sampling programme

No port sampling was done in 2021. Size data are collected by trained landing site observers in seven landing sites along the coast.

6.5 Unloading/Transshipment of flag vessels

No offloading or transshipment took place in Tanzanian designated ports in 2021.

6.6 Actions taken to monitor catches and manage fisheries for Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish

Tanzania continued to monitor catches and manage fisheries for Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish by implementing IOTC CMMs through her legislation, specifically by deploying on board inspection and incorporating terms and conditions of fishing licenses. Furthermore, Tanzania has developed a tuna fisheries management plan that provides guidance on how to implement IOTC Scientific committee advice. The Plan will be endorsed in this year 2022.

6.7 Gillnet observer coverage and monitoring

No gillnetting was done within the URT EEZ, hence no observers deployed.

6.8 Sampling plans for mobulid rays

Catch data for mobulid rays was collected for 120 days in 2021 at 17 selected landing sites.

7 NATIONAL RESEARCH PROGRAMS

Research programs, particularly in the Tanzanian EEZ are governed by research agenda. Currently, there is one ongoing research program that focuses on identifying potential fishing areas in territorial and inner waters using remote sensing. Additionally, through financial support of the South West Indian Ocean Fisheries governance and shared growth program (SWIOFish), Tanzania has conducted a number of studies on tuna and tuna-like species. One study focussed on genetic connectivity among tuna species in Tanzanian waters (inner, territorial and EEZ). Another looked at oceanographic factors influencing tuna distribution in Tanzania waters. Final reports of findings are currently under review. It is believed that these studies will improve our understanding of the stock and enhance management of the resources. Additionally, Tanzania through DSFA is in initial stages of establishing a fisheries development fund that will finance research and other related activities in the near future.

7.1 National research programs on blue shark

Tanzania Fisheries Research Institute (TAFIRI) has developed a National Research Agenda which guides fisheries research in Tanzania. The Agenda conotes fisheries biology, stock assessment, environment and fisheries ecology as priority areas of research which also covers the Blue sharks. Furthermore, Sokoine University of Agriculture with support from Belgium (VLIR) is currently developing a shark and ray identification guide for Tanzania marine waters.

7.2 National research programs on Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish

The DSFA in collaboration with research institutions in URT is coordinating a scientific research study on key biological/ecological/behavioural characteristics, life-history, migrations, post-release survival and guidelines for safe release, identification of nursery

grounds, improving selectivity of fishing practices and fishing gears, for Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish. The results of such research shall be made available to the Working Party on Billfishes and the Scientific Committee through working documents and their national Annual Reports.

7.3 National research programs on sharks

The Deep Sea Fishing Authority and the Wildlife Conservation Society (WCS) in collaboration with Tanzania Fisheries Research Institute, collect shark catch, size frequency and genetic data along the Tanzanian coast (Fig. 5). The program involves training of data collectors, developing a database, identification of species using DNA and analysis of data to find out the species abundances and distribution. Preliminary results revealed that although data-poor, there are five shark species which are Critically Endangered and occur in Tanzania, the oceanic whitetip shark *Carcharhinus longimanus*, ragged tooth shark *Carcharias taurus*, shorttail nurse shark *Pseudoginglymostoma brevicaudatum*, Scalloped hammerhead *Sphyrna lewini* and great hammerhead shark *S. mokarran*. There is limited information regarding areas of importance for reproduction for these species in Tanzania. However, artisanal fishery catches from Tanzania and the islands of Unguja and Pemba include juvenile *C. longimanus* and gestating *S. lewini*, suggesting the presence of nearby nursery and parturition areas, however these areas have not been confirmed or located (WCS, unpublished data), and require further investigation. In addition, as the only Critically Endangered (and therefore most threatened) shark species endemic to the WIO, *P. brevicaudatum* is a key research and conservation priority, in Tanzania and other countries in its range, particularly as this species has also been documented in artisanal fisher catches in Tanzania (WCS, unpublished data). Additionally, the Ministry of Blue Economy and Fisheries has also been collecting data on shark fisheries, as part of its reef fisheries research program.

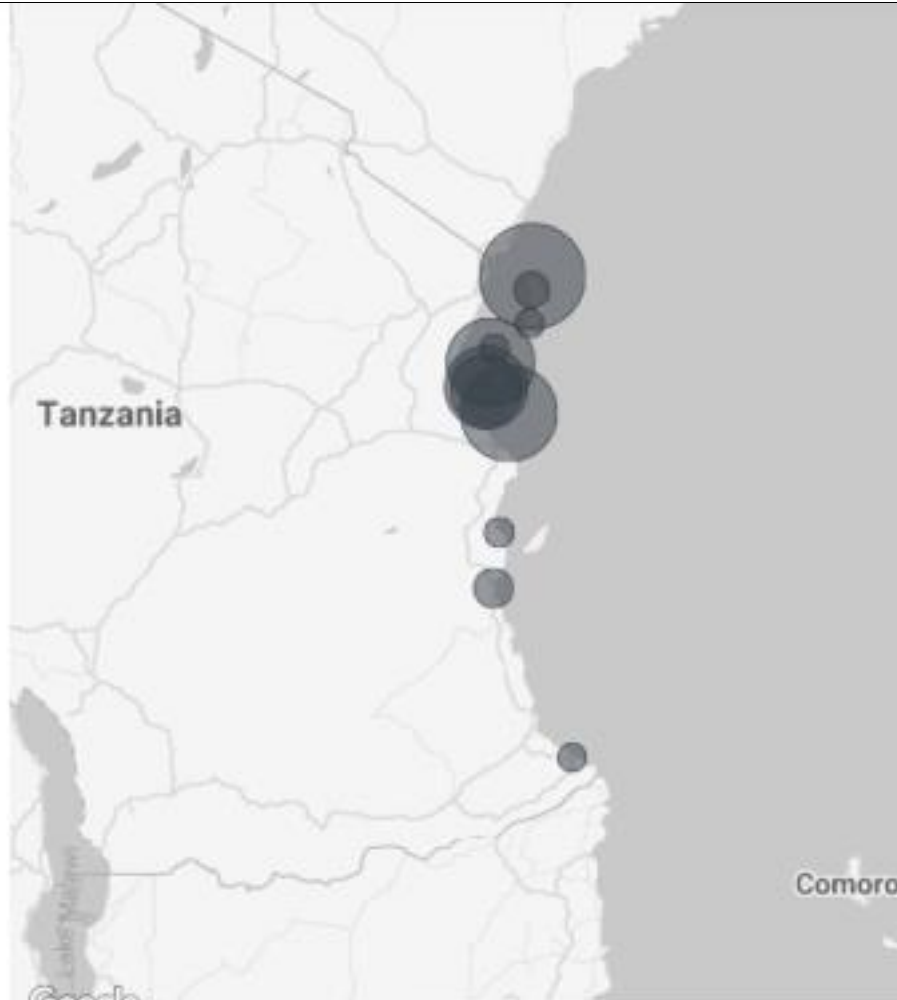


Figure 5. A map showing the sampling location of sharks and rays in Tanzania (Source WCS)

. Most common fishing methods were longlines, hand lines and shark nets (Fig 6). Ray species from the Dasyatidae family dominated the catch constituting 85% of the total catch. For the sharks, species from Carcharhinidae family were the most caught species constituting 7% of the total catch. The study concludes that Elasmobranch catches in Tanzania mainland comprised mainly of small and medium-sized individuals of the most common caught fish species. With this trend of capture of small sizes, reassessment of IUCN categorization of the enlisted species is desirable.

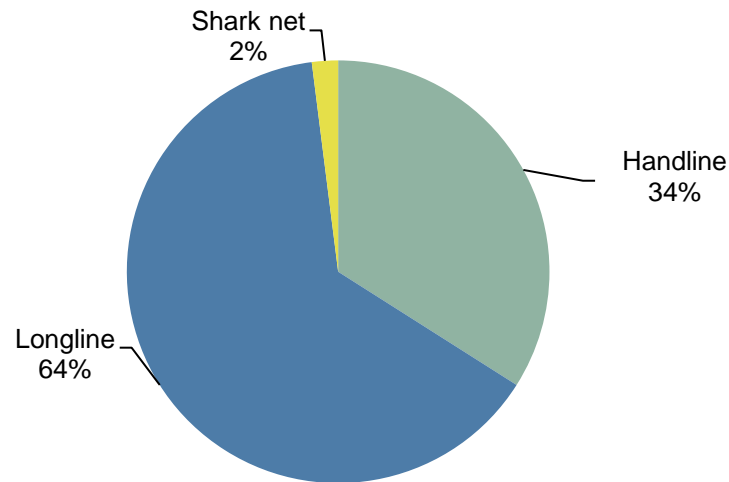


Figure 6. Fishing gears used for the capture of the common ray species (*H. jenkinsii*, *T. lymma*, and *H. leoparda*) from three landing sites in Tanzania mainland

7.4 National research programs on oceanic whitetip sharks

There is no National research programs on oceanic whitetip sharks

7.5 National research programs on marine turtles

Currently, there is no National research programs on marine turtles.

7.6 National research programs on thresher sharks

Currently, there is no National research program on thresher sharks.

8 IMPLEMENTATION OF SCIENTIFIC COMMITTEE RECOMMENDATIONS AND RESOLUTIONS OF THE IOTC RELEVANT TO THE SC.

IOTC Scientific committee made a number of recommendations. Table 7 details implementation status for the part of Tanzania.

Table 7. Scientific requirements contained in Resolutions of the Commission, adopted between 2012 and 2021.

Res. No.	Resolution	Scientific requirement	CPC progress
11/04	On a regional observer scheme	Paragraph 9	Tanzania has signed a letter of Understanding (LoU on the implementation of the IOTC Regional Observer Scheme (ROS). Tanzania with support from IOTC is training 10 Scientific Observers
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6– 10	This has been transposed under the Deep Sea Fisheries Management And Development Act, 2020) under Section 21 with regards to Conservation and Management Measures as well as under section 25 with regard to Marking and protection of set fishing gears
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	This has been transposed under the Deep Sea Fisheries Management And Development Act, 2020 under Section 21 with regards to Conservation and Management Measures as well as under section 25 with regard to Marking and protection of set fishing gears. Flagged longline vessels practise night setting to reduce incidence of sea bird interactions



12/09	On the conservation of thresher sharks (Family Alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	This has been transposed under the Deep Sea Fisheries Management And Development Act, 2020 under Section 21 with regards to Conservation and Management Measures as well as under section 25 with regard to Marking and protection of set fishing gears.
13/04	On the conservation of cetaceans	Paragraphs 7– 9	This has been transposed under the Deep Sea Fisheries Management And Development Act, 2020, under Section 21 with regards to Conservation and Management Measures as well as under section 25 with regard to Marking and protection of set fishing gears.
13/05	On the conservation of whale sharks (<i>Rhincodon typus</i>)	Paragraphs 7– 9	This has been transposed under the Deep Sea Fisheries Management And Development Act, 2020) under Section 21 with regards to Conservation and Management Measures as well as under section 25 with regard to Marking and protection of set fishing gears.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Ongoing process on establishment of the NPoA- Shark and establishment of the National Observer Programme will play a greater role in the conservation and management of sharks and rays in the United Republic of Tanzania. Sustainable monitoring of catch



			and provision of awareness to fishing vessels masters on ETPs
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	It is mandatory for flag vessels to have log books for data collection (Tanzania has provided fishing logbooks to flagged fishing vessels) according to Deep Sea Fisheries Management And Development Act, 2020, Section 21 with regards to Conservation and Management Measures as well as under section 25 .
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non Contracting Parties (CPCs)	Paragraphs 1–7	Catch, effort and size data for 2021 were submitted.
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	It is prohibited by law to possess shark fins without carcass Ongoing process on establishment of the NPOA- Sharks for the conservation and management of sharks and rays in the United Republic of Tanzania.



18/02	On management measures for the conservation of blue shark caught in association with IOTC fisheries	Paragraphs 2-5	This has been transposed under the Deep Sea Fisheries Management And Development Act, 2020) under Section 21 with regards to Conservation and Management Measures as well as under section 25 with regard to Marking and protection of set fishing gears.
18/05	On management measures for the conservation of the billfishes striped marlin, black marlin,	Paragraphs 7 – 11	The URT continues to monitor the catch of billfish from both semi industrial longline vessels and artisanal fisheries while ensuring that they do not exceed the 2014 and 2015 catches as per Resolution 18/05.
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	The URT strives to meet reporting obligation of the IOTC. The compliance level has improved and it is anticipated tha support from IOTC will improve reporting.
19/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence	Paragraph 22	The like Majority of the IOTC CPCs supports the interim resolution 19/01 on the rebuilding of Indian Ocean Yellowfin tuna In addition, the quota system tuna management is emphasized in the Tanzania Tuna Fisheries Management Plan to make its implementation practical.



19/03	On the Conservation of Mobulid Rays caught in Association with Fisheries in the IOTC Area of Competence	Paragraph 11	Catch data of mobulid rays has been collected
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