Tanzania Sustainable Seafood Guide

Best practice for tourism operators

2024

This Guide was produced by Chumbe Island Coral Park with the support of the USAID Heshimu Bahari (Respect the Ocean) Project.

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This guide takes best practice approaches. Certain seafood can be more sustainable in various scenarios, and a sustainable fish caught with unsustainable methods would still be unsustainable. As populations and conditions change, what is advisable at the time of writing this guide may not be appropriate in the future.

Contents

THE TANZANIA SUSTAINABLE SEAFOOD GUIDE

Seafood represents a large portion of Tanzania's dietary protein, and with a growing population and increasing tourism, demand is rising. Increasingly, hotels, restaurants and tourists want to make responsible seafood choices, both in Tanzania and as part of a concerted global effort.

This 2024 Tanzania Sustainable Seafood Guide (the Guide) has been developed specifically for tourism businesses, operators, hotels and restaurants in Tanzania mainland and Zanzibar.

The Guide aims to raise awareness about vulnerable marine species in Tanzania and shift demand away from over-exploited and vulnerable species that are critical to maintaining marine biodiversity and ecosystem services towards more sustainable seafood choices.

This Guide is accompanied by a 'quick reference' poster for tourism businesses.

WHAT IS SUSTAINABLE SEAFOOD?

In this guide, '**seafood**' refers to fish and marine species that can be eaten by humans and typically includes shellfish (such as lobsters, crabs and oysters).

'**Sustainable**' means harvesting these creatures with little to no damage to the environment and in a way that they can reproduce before they are caught. Sustainable harvesting means that enough seafood remains available in the sea for future harvesting, to ensure the continued wellbeing and livelihoods of fishers and communities, and their generations to come.

WHAT IS SUSTAINABLE SEAFOOD?

The following criteria help fisheries managers and scientists to assess seafood sustainability:

- How large is the population from which seafood is captured? (**stock level**)
- How much seafood is being harvested? (**catch volume**)
- What is the risk of different types of seafood going extinct? (**species conservation status**)
- What are the environmental impacts of the fishing gear used?
- How important is the role of this species in the ecosystem?
- Are fish and other marine creatures incidentally caught and discarded because they are not used for consumption? (**bycatch**)
- How well is fishing monitored and controlled to ensure seafood can be harvested in the future? (**effectiveness of fisheries management**)
- How are local communities benefiting from harvesting different types of seafood?

Some characteristics are common for more sustainable seafood species. By considering these traits and other sustainability factors, which we describe in the next pages, **you can better assess how sustainable a species is and make more informed choices about seafood selection.**

WHAT COMMON TRAITS MAKE SEAFOOD SUSTAINABLE?

MATURE SPECIES
Mature fish have already had offspring, contributing to the next generation before they are caught.

BREED YOUNG
Fast growing species that reproduce early in their life.

SHORT LIFESPAN
Species with a short lifespan often grow faster and can reproduce quickly, allowing their population to withstand fishing pressure better than species with a long lifespan and slow rate of reproduction.

REMEMBER: LEAVE THE MAMAs IN THE SEA!
Avoid the largest of the species (that are often the most fertile) as these 'grand mamas' are crucial for maintaining a healthy population in the ocean.

HIGH REPRODUCTION RATE
Species that reproduce often and have a lot of offspring can support larger catches and recover faster from over-exploitation.

NOT MIGRATORY
Species that don't travel much between different locations for food and reproduction.

CHECK THE TROPHIC LEVEL OF YOUR SEAFOOD

In the sea, 'trophic levels' measure how the ecosystem is structured based on who eats whom. Understanding where your seafood fits in the marine food web is crucial for making sustainable choices. If fishing and other harvesting methods target only top predators or key prey species based on supply and demand, it can disrupt the entire ocean balance.

LESS SUSTAINABLE

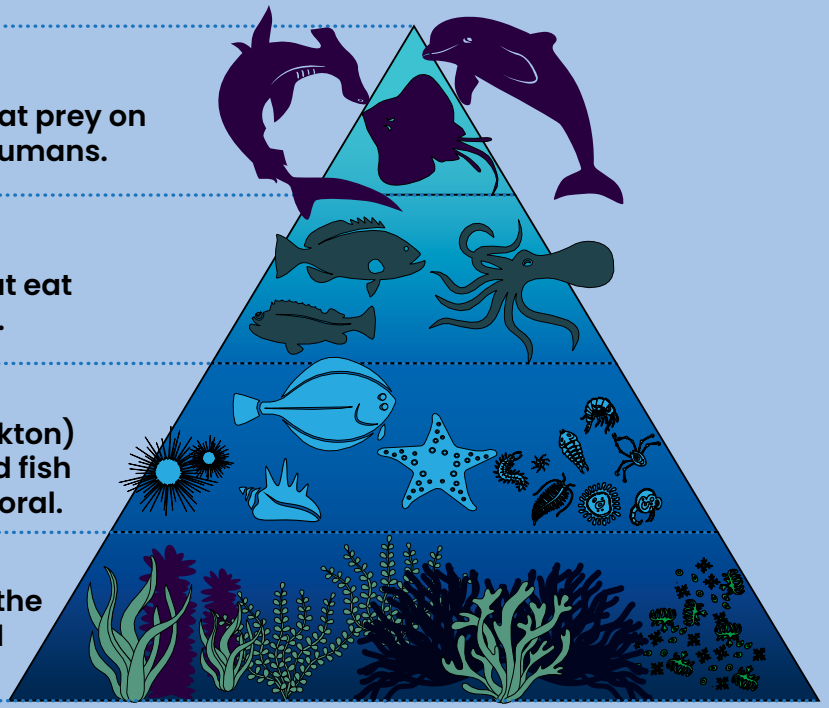
MORE SUSTAINABLE

4 TOP PREDATORS
Large fish and mammals that prey on smaller animals. Includes humans.

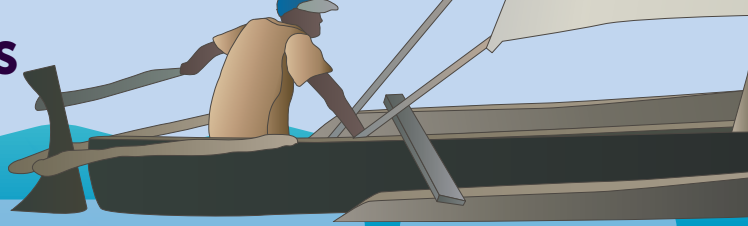
3 CARNIVORES
Fish and marine species that eat herbivores like zooplankton.

2 HERBIVORES
From tiny animals (zooplankton) to sea urchins, molluscs and fish that eat plants, algae and coral.

1 PRIMARY PRODUCERS
Plants and algae feed from the sun and provide energy and nutrients for other species.



OTHER SUSTAINABILITY FACTORS



THE MOST VULNERABLE

Species that gather in large numbers at specific locations to breed (e.g. groupers) are vulnerable to overfishing, as a large portion of the population can be harvested at once.

Female crabs and shellfish with thousands of eggs are vital for the next generation. Overfishing them removes a large number of potential offspring before they can be born, and reduce the future of the population.

SOCIALLY FAIR AND EQUITABLE

Sourcing seafood from FairTrade operators, directly supporting procurement from women or marginalised groups, and paying a fair and appropriate price supports socially responsible practices.

DESTRUCTIVE FISHING PRACTICES

Threaten the sustainability of seafood stocks and marine ecosystems. Fishing practices that are highly destructive and prohibited through much of Tanzania include:

- Use of explosives and poison (chemical and natural)[1]
- Beach seine netting[1]
- Drag nets/trawling[2]

Netting with mesh size below 3 inch[2]

- Spear gun fishing[1].

CARBON FOOTPRINT

Transportation (by boats, planes, and trucks), processing, packaging, and refrigeration of seafood are all processes that produce carbon emissions (that impact climate change). Sourcing seafood locally significantly reduces this pollution.

1-Illegal throughout Tanzania (including Zanzibar).

2-Recognized as destructive in Tanzanian laws.

HEALTHY FISH, HEALTHY PEOPLE

Seafood is a high-quality protein source that provides essential nutrients, vitamins, and minerals to Tanzania's rapidly growing population and thriving tourism sector. However, **the health of the seafood we eat depends on the wellbeing of the environment it inhabits**, which often reflects how we treat our planet.

Microplastics

As global plastic production rises, plastic waste increasingly pollutes our environment. Small plastic particles, called microplastics (less than 5 millimeters) and nanoplastics (even smaller), come from two main sources: 1) intentionally produced such as microbeads in personal care products and 2) residue from plastic items (e.g. bottles, textiles, and fishing nets) breaking down due to sunlight, waves, and weather. Marine life, including fish, often mistake these microplastics for food and ingest them, along with any toxic chemicals they carry. When smaller fish with microplastics inside them are eaten by bigger fish, these particles move up the food chain.

Heavy metals

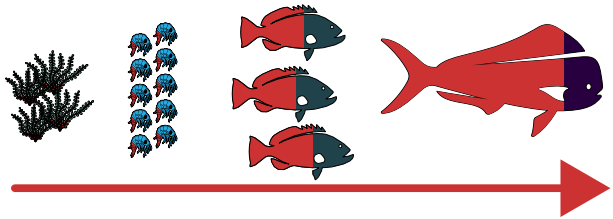
Pollutants such as mercury, lead, cadmium, and arsenic are taken up by marine animals and stored in their bodies. As large fish—like tuna and marlin—feed on smaller fish, the concentration of heavy metals increases up the food chain (biomagnification).

Ciguatera

Ciguatoxins are produced by marine microalgae 'Gambierdiscus', found in shallow coastal areas. Plant-eating fish (herbivores) that feed on these algae transfer the toxin to larger fish. Increasing in concentration up the food chain, it can be deadly when eaten by humans.

BIOMAGNIFICATION

The concentration of heavy metals in seafood increases up the food chain



REMEMBER...

To minimize the risk of microplastics and heavy metal contamination in your fish supply, serve your customers a variety of seafood, not just large fish from the top of the food chain!

Smaller fish like sardines, herring, and anchovies generally have lower levels of heavy metals and microplastics due to their shorter lifespan and lower position in the food chain.

TANZANIA'S SMALL-SCALE FISHERIES

Understanding how fisheries are managed and what regulations and policies are in place is crucial when choosing seafood sustainability.

In mainland Tanzania the management of fishery resources falls under the Ministry of Livestock and Fisheries, while in Zanzibar it is overseen by the Ministry of Blue Economy and Fisheries. Both have a range of policies and regulations[1] to promote sustainable fisheries management.

Fisheries in mainland Tanzania and Zanzibar are dominated by small-scale **artisanal fishing**, which operates in an open-access system along the entire coastline, typically in less than 20–30 meters depth. This small-scale, nearshore fishery uses traditional vessels (small wooden boats, dhows, canoes and outriggers) without cooling facilities but provides **95% of fish caught in Tanzania**.

Fishing techniques include drag nets, gill nets, ring nets, basket traps, longlines, and hook-and-line to target a large number of species in shallow-water coral reefs, mangroves, sandbanks, and seagrass beds. A few fishers reach deeper waters with bigger boats to practice drift gillnetting and line fishing for larger pelagic (open water) species.

Industrial fishing in wider Tanzanian waters[2] is dominated by foreign vessels that transship their catch at sea to the international market.

FISH FACT

The United Republic of Tanzania has an Exclusive Economic Zone (EEZ) of 223,000 km^2, which is 2.33% of the total EEZ area in the West Indian Ocean region of 9,540,727 km^2.

TANZANIA'S MOST SUSTAINABLE FISHING PRACTICES

HOOK & LINE FISHING

Minimises environmental damage, uses minimal gear and does not require wild baitfish. Takes considerable skill and experience to be effective.

FISH TRAPS

Known locally as *'madema'*, they were originally built with bamboo and wood of large mesh size. Recent modifications using chicken wire and small mesh sizes are not sustainable.

TEMPORARY REEF CLOSURES

Closures for up to six months were traditionally practised in several fishing communities to allow recovery from fishing pressure. They are being reintroduced to improve local octopus stocks.

PERMANENT REEF CLOSURES

Act as refuges for fish to breed and grow before they swim out of the reserve and restock neighboring fishing grounds.

MARINE MANAGED AREAS

To maintain a sustainable supply of seafood in the ocean it is vital that marine species have areas where they can feed and breed undisturbed, without the threat of fishing, and with sufficient habitat for their needs. These protected areas provide 'marine nurseries' and refuges for species to reproduce and ensure the 'stock' of the ocean is replenished.

In Tanzania, a wide range of refuges exist, from officially designated and state-run marine parks and marine conservation areas, through to collaborative and co-managed areas involving community members, businesses and non-governmental organisations.[4] These marine managed areas have a common goal of protecting marine biodiversity (including the critical marine habitats of coral reefs, seagrass beds and mangroves) and improving fisheries stock through 'fishery replenishment zones' and the 'spillover effect'.

What are Fishery Replenishment Zones (FRZs)?

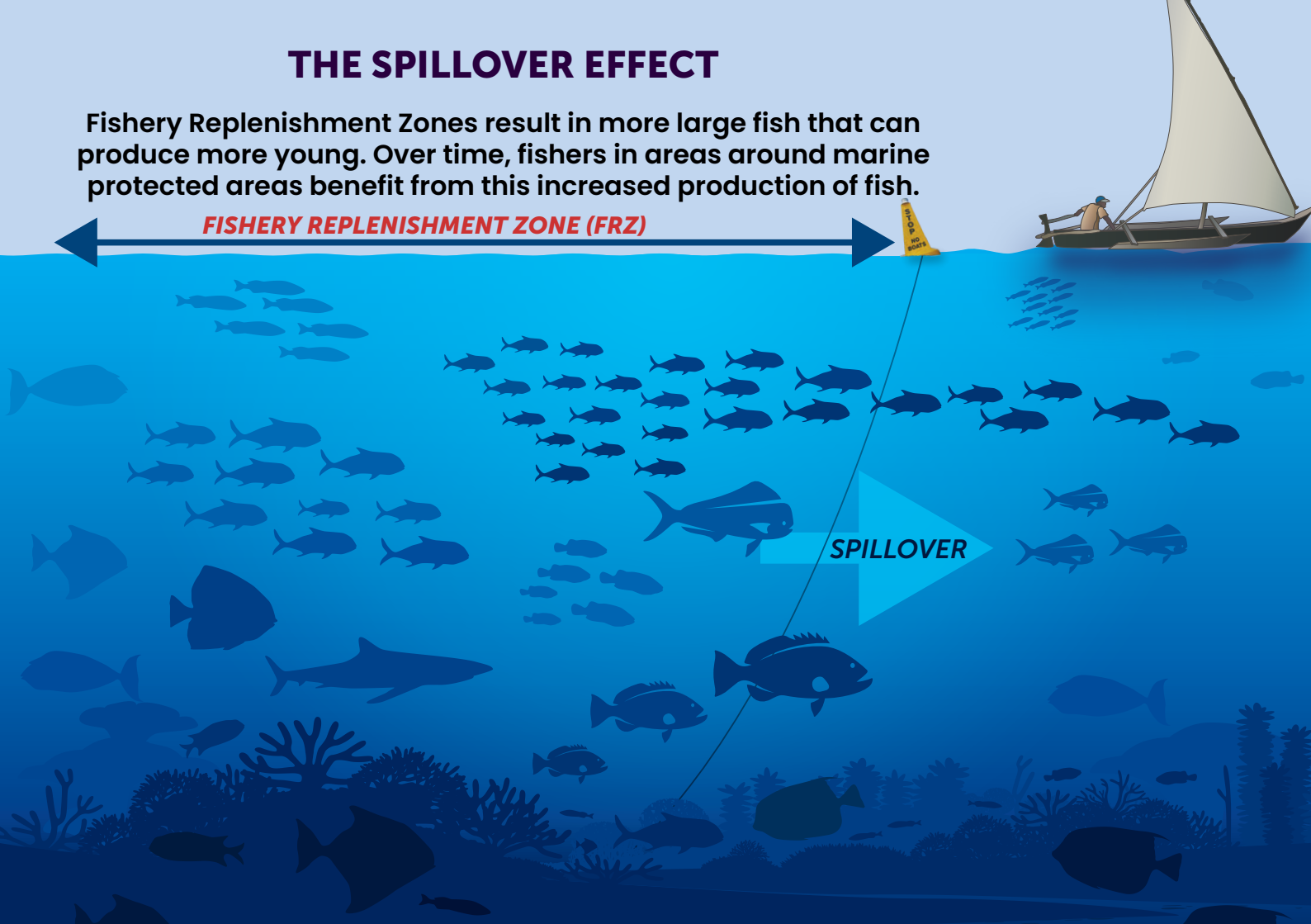
These are zones within protected areas that are entirely closed to fishing and 100% protected. They are usually positioned to optimize the protection of marine habitat and key breeding areas of commercially important species.

What is the Spillover Effect?

This is when the population of a particular fish or marine species becomes so abundant in an FRZ that it "spills over" into the surrounding areas, restocking neighboring fishing grounds for local fishers.

THE SPILLOVER EFFECT

Fishery Replenishment Zones result in more large fish that can produce more young. Over time, fishers in areas around marine protected areas benefit from this increased production of fish.



FISH FACT

Chumbe Island Coral Park in Zanzibar, Tanzania is host to a protected coral reef sanctuary that is 100% protected as a fishery replenishment zone.

Following its closure to fishing in the early 1990s, the overall biomass of fin fish in the park increased from 194 kg/ha to a staggering 1,506 kg/ha, exceeding the scientifically recognized threshold for a 'pristine & resilient ecosystem'. Studies into the spillover effect from the park (through fish tagging) revealed the restocking of reefs over 4 km from the borders of the protected area, and, during the study, 94% of local fishers interviewed observed increased catches since the park was established.

FROM OCEAN TO PLATE

Almost all fish catches in Tanzania are sold by small-scale artisanal fishers directly from the landing sites to local merchants/traders, including women and youth vendors, and processing factory agents/buyers (FAO, 2022; URT, 2016). Some goes on to local wholesale traders, retail shops, and supermarkets.

Along the supply chain the buyers are varied, and as a hotelier, restaurant or local café owner, you know your guests may have different preferences to local consumers. For example, hotels and large restaurants often prefer to buy large, predatory fish and ready fillets for higher prices, while smaller fish are sold (fresh or dried) for consumption in the communities. Consequently, both small and large are being traded; which puts heavy pressure on the marine ecosystem.

Traceability of seafood is important for knowing whether it has been sourced sustainably, but tracking this information is challenging a problem not limited to Tanzania. Furthermore, inadequate cooling and storage facilities through the supply chain can result in substantial waste of product and economic loss after harvest. At the same time, seafood prices are rising due to the limited supply and growing demand, especially from the tourism industry.

FISH FACT

In Tanzania 50% of fish landing sites are not accessible by road. As a result, 50% of fish catches are moved from landing sites by people on foot, 30% using motorcycles, and 14% by using bicycles.

YOU HAVE PURCHASING POWER

Consumer demand for sustainable seafood has expanded greatly over the past 20 years. **By purchasing only *sustainable* seafood, you drive the market**, because:

- the next time the fishers go to sea, they will want to catch only sustainable products that will sell well,
- the next time traders and vendors purchase from landing sites, they will focus on buying sustainable species that they know you want.

When fishers stop catching unsustainable species it gives them much-needed time and space for recovery. If everybody works together, one day, these species may be readily available again for consumption.

When you choose sustainable seafood, you can promote your operation as meeting sustainable seafood criteria, a fact that is increasingly important to your customer base.

Purchasing and serving sustainable seafood means making informed decisions about your seafood sourcing, educating your staff and customers, and integrating sustainability into your business identity.

This Guide provides you with the information you need to make sustainable choices — to protect the future of Tanzania's oceans, support marine biodiversity and ensure coastal livelihoods remain viable and prosperous.

FISH FACT

A large share of the small pelagic (open water) fish catch in Zanzibar is processed for export to the Democratic Republic of Congo!

SeRaTa — A SUSTAINABLE SEAFOOD RATING FOR TANZANIA

SeRaTa is a simple, colour-coded rating system to help you select seafood sustainably.

How Does it Work?

This Guide focuses on the 'Top 32' seafood choices commonly sourced by tourism providers in Tanzania and assigns them a 'SeRaTa' sustainability rating based on the species' status and vulnerability. SeRaTa's color coding helps you see at a glance the ratings of these key species, empowering you to make quick but informed decisions when purchasing and serving seafood.

For each type of seafood, you'll find common English names, as well as Kiswahili and Indigenous regional names used along the coastline of Tanzania.

AVOID EATING

Stay away: overfished, listed as endangered, and vital to remain in the oceans for the overall health of coral reefs and the marine environment (which is in turn vital to support fish breeding and ocean supply).

CHOOSE WITH CAUTION

Think twice: reasons for concern, e.g., the species' lifestyle makes it vulnerable to high fishing pressure, or is associated with environmental damage.

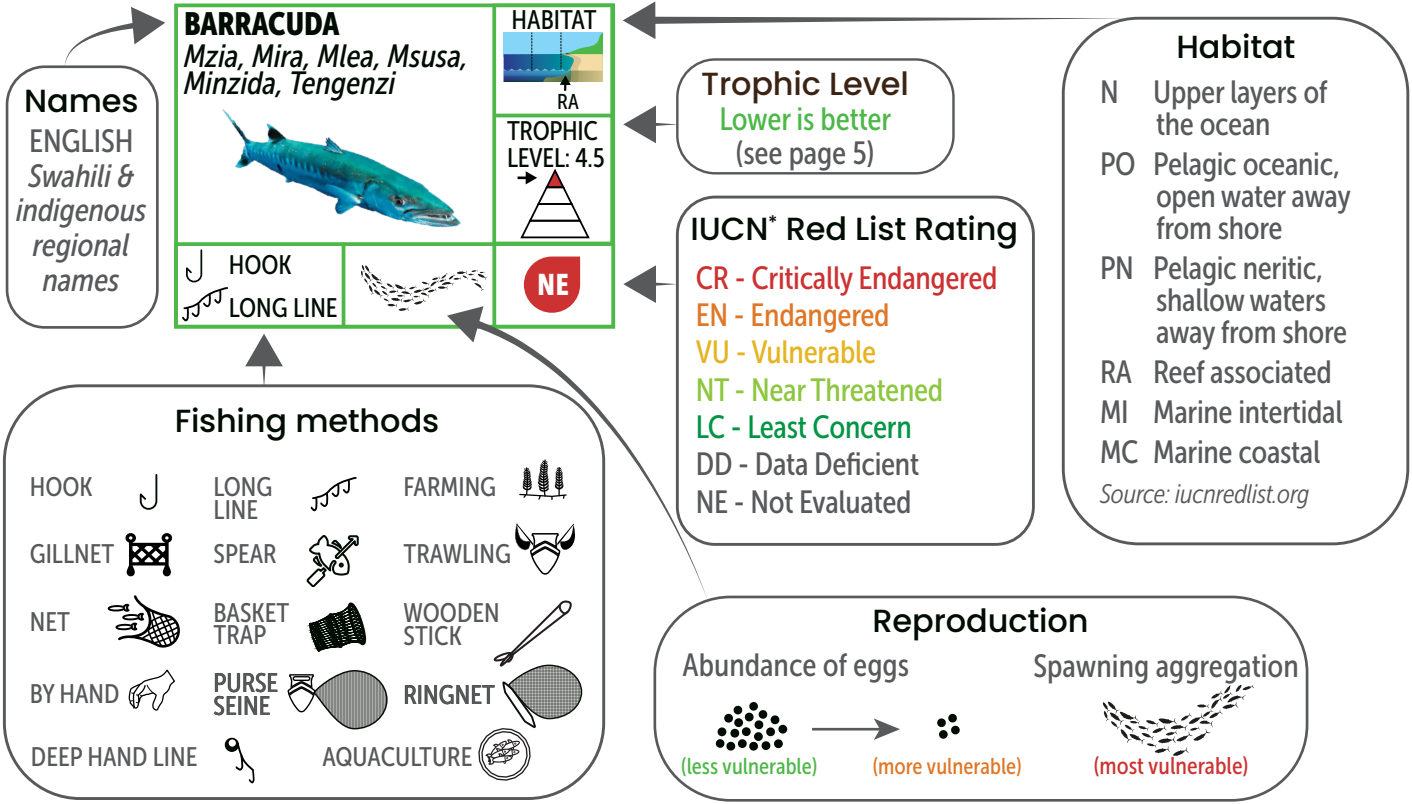
BEST CHOICE

Go ahead and buy: species that produce many eggs, grow fast and reach sexual maturity at an early age; minimal associated environmental concerns.

ALTERNATIVES

Try them out: less well-known species, lower on the trophic food chain; diversification helps reduce pressure on the usual suspects – and your customers may find a new 'favorite'.

SeRaTa – KEY TO THIS GUIDE



*The International Union for Conservation of Nature (IUCN) Red List of Threatened Species is the world's most comprehensive inventory of the global extinction risk status of animal, fungus and plant species.

AVOID EATING

SHARK
Papa

HABITAT: RA

TROPHIC LEVEL: 4

HOOK
LONG LINE

YOUNG
2–4

VU

Photo@AdobeStock

Tanzanian waters are vitally important shark and ray habitat. 99 species of sharks and rays seek refuge locally.

Sadly, more than half of these species are vulnerable to or nearing extinction.

RAY
Taa, Raa

HABITAT: RA

TROPHIC LEVEL: 3.7

LONG LINE

YOUNG
1-5

NT

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- Top predator and vulnerable to overfishing because they grow slowly, mature late, and produce few young.
- Legally protected in many parts of the world but targeted for fins and livers in Tanzania.
- Shark fin trade is global and widespread: every year more than 100 million sharks are killed in commercial fisheries.

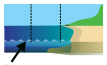
- Very important for healthy oceans from coastal coral reefs to the deep sea.
- Increasingly threatened by unsustainable fishing—including both targeted catch for their meat and fins as well as bycatch.
- Grow slowly and have few babies, which makes them more likely to face population collapse.
- Legally protected in many parts of the world. Better conservation is urgently needed.

AVOID EATING

SPINY LOBSTER / ROCK LOBSTER

Kamba, Kamba mti, Kambakoche

HABITAT



TROPHIC LEVEL: 3.5

SPEAR NET

50,000–100,000

LC

Photo@AdobeStock

GROUPER

Chewa, Tembo, Kivungwi

HABITAT

TROPHIC LEVEL: 4.1

HOOK LONG LINE

950,000–3,300,000

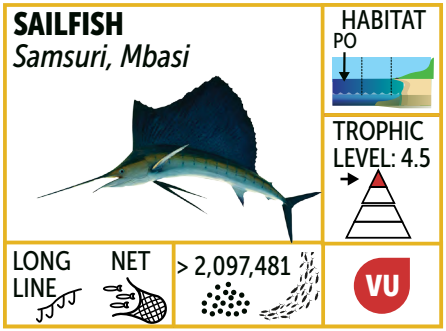
VU

Photo © Rucha Karkarey/Wikimedia under CC BY-NC 4.0

- High price due to high demand for live animals which are exported to Asia.
- Harvesting during spawning season and egg production can harm the population by reducing the number of breeding lobsters and offspring, increasing the risk of population collapse.
- **Avoid purchasing females that carry eggs.**

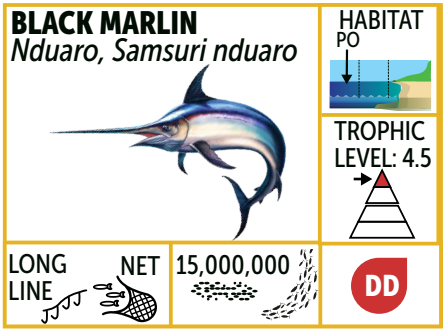
- High fishing pressure because of prices offered by the international market (including live export to Asia).
- Some species are listed as Threatened or Near Threatened by the IUCN.
- Their life traits—slow growth, late reproduction, large size, gathering in groups to spawn, and long lifespan—make them vulnerable to overfishing.

CHOOSE WITH CAUTION



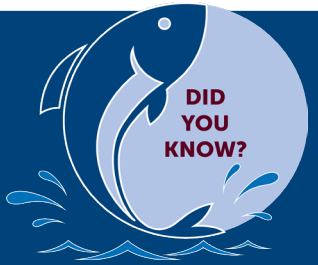
- Top predator.
- One of the fastest fish in the sea (up to 70 miles / 113 km per hour).
- Recent increase in coastal gillnet catch and fishing effort in the Indian Ocean is highly concerning.

[Indian Ocean Tuna Commission (IOTC) stock rating (2019) = Healthy Stock]



- One of the largest bony fish in the South West Indian Ocean, once they reach maturity, they have no known predators.
- Torpedo-like hunters that use their 'sword' to stun prey.
- Highly migratory and as a result little is known about how many there are.
- Banned in other parts of the world due to potentially high mercury content.

[IOTC stock rating (2019) = Data Deficient]



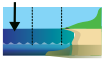
Black marlin females can carry up to 40 million eggs!

A sailfish at top speed moves as fast as a cheetah, the fastest land animal in the world!

CHOOSE WITH CAUTION

YELLOWFIN TUNA
Jodari

HABITAT
PO



TROPHIC LEVEL: 4.4

GILLNET
HOOK

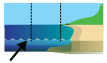
395,005–11,100,000

LC

Photo@AdobeStock

DEEPWATER RED SNAPPER
Changu, Fatundu

HABITAT
N



TROPHIC LEVEL: 4.4

DEEP HAND LINE

LC

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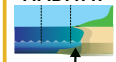
REEF SNAPPER
Tembo, Fatundu, Changu mwekundu

HABITAT
RA



TROPHIC LEVEL: 4.4

SPEAR
HOOK

LC

Photo © Richard Zarpe/Flickr under CC BY-NC 4.0

- Migratory, known to travel in schools with skipjack tuna.
- The South West Indian Ocean stock is in critical condition due to overexploitation by the industrial fishing sector, therefore improved conservation and stock management systems required to reduce impact and target benefits locally.
- Choose from artisanal fishing sector to support the local economy.

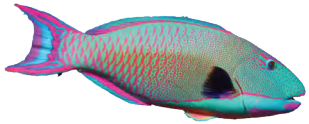
[IOTC stock rating (2020) = Overfished]

- Live up to 18 years, grow slow and produce few offspring.
- Occur in depths greater than 90 m which restricts fishing pressure, but the deep nets often result in considerable bycatch of non-target species.
- Has a similar name to their shallow water reef cousins, which can cause confusion when purchasing.
- Suggested limits: length at maturity 67.5–72.5 cm and catch size limitation of 1 pound / 454 grams.

- Status of small-scale snapper fisheries in developing countries largely unknown.
- Studies indicate that number of overexploited fisheries has been increasing over the years.
- Important species for local nutritional needs, therefore caution urged when purchasing for the tourism market.
- Check out ‘Green Jobfish’ as an alternative.

CHOOSE WITH CAUTION

PARROTFISH, BLUE FISH
Pono, Kangu



HABITAT: RA

TROPHIC LEVEL: 2

BASKET TRAP NET SPEAR

LC

- Important species for local nutrition; caution urged when purchasing for the tourism market.
- Play important role in ecosystem. They feed on algae that grow on coral surfaces and protect corals from algae overgrowth, as well as create space for new coral to grow. They also support sand production, as inedible coral is ground down in their guts and then excreted as sand.
- Removing them on a large scale can badly harm coral reefs.

RABBITFISH
Tasi, Chafi, Tsaji

HABITAT: MC

TROPHIC LEVEL: 2.9

BASKET TRAP NET

240,000–608,000

LC

- Locally popular food fish.
- Feeds on algae, grows fast, mass spawning occurs in large numbers.
- Fisheries need better management to prevent population decline caused by overfishing and the destruction of seagrass meadows.

EMPEROR
Changu, Changu tufe, Tsangu, Changu mololo, Changu doa, Changu karamamba

HABITAT: RA

TROPHIC LEVEL: 3.9

HOOK LONG LINE

26,000–166,000

LC

- As predators, they help control the populations of smaller fish and invertebrates, keeping the reef's food chain balanced.
- Very popular fish in Tanzanian restaurants and hotels which puts pressure on the population.
- Although several species are found along the coastline, their large size and long lifespan make them vulnerable to overfishing.

CHOOSE WITH CAUTION

KINGFISH

Narrow-barred Spanish Mackerel, Nguru, Nguu

HABITAT PN

TROPHIC LEVEL: 4.3

LONG LINE NET

590,000–1,500,000

NT

- Very popular in Tanzania's restaurants and hotels.
- Globally stocks are decreasing.
- Check for 'Queen Mackerel' as an alternative.

PRAWN

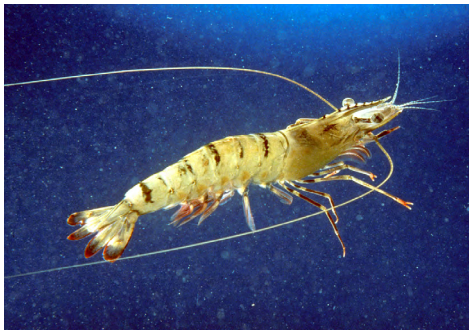
Kamba, Kamba mti, Prawn

HABITAT MC

TROPHIC LEVEL: 3

TRAWLING

NE



Green tiger prawn

- Also called King prawns, Jumbo prawns or Tiger prawns, names often used interchangeably.
- Correct species identification not easy in the field.

Indian white prawn

- Short-lived, life cycle ranging from 12 to 18 months.
- In Tanzania prawn fishing is done in brackish water, which is feeding and breeding ground for many fish species.
- Existing gears do not select the type and size of the targeted species.

Giant prawn

- World's most commercially important prawn species.
- Prawns spawn offshore, and their young move into estuaries to grow before migrating back offshore as adults.
- Spawning throughout the year with peaks observed during the rainy season.

Octopi live fast and die young: a 100g reef octopus can triple its weight in only 15 days, and will die after 12–18 months.

The terms "shrimp" and "prawn" are often used interchangeably, though "shrimp" usually refers to smaller species and "prawn" to larger ones. However, there is no clear distinction between the two, and their use varies across different countries and regions, sometimes even being reversed. It's important to choose prawns (or shrimps!) carefully.

The Swahili word "*Uduvi*" refers to small shrimps (less than 5 cm long) that are caught in shallow coastal waters, such as the Rufiji District where Uduvi is exclusively fished by women. In Asia, these shrimps are used to make shrimp paste, while in Tanzania, they are eaten after being sun-dried.

BEST CHOICE

REEF OCTOPUS
Pweza

HABITAT: RA

TROPHIC LEVEL: 3

WOODEN STICK SPEAR

1,000–400,000

LC

Photo@AdobeStock

- Octopus fisheries can be highly sustainable if managed effectively.
- Support octopus sourced from temporary fishing ground closures.
- **Follow the recommended 0.5 kg minimum size limit when purchasing.**

SQUID
Ngisi

HABITAT: PN

TROPHIC LEVEL: 3.6

RINGNET SPEAR

680

DD

Photo@AdobeStock

- Complete their life cycle within 4-6 months.
- Produce more than 600 young, more than one time.
- Not seasonal, can be fished throughout the year.
- Important species for Tanzania's fisheries, also for export.

SLIPPER LOBSTER /CIGALE
Kamba, Kambakochi

HABITAT: N

TROPHIC LEVEL: 2.5

NET SPEAR

26,000–76,000

LC

Photo © SESC Pascagoula Laboratory Collection of Brandi Noble, NOAA/NMFS/SESC

- Commonly mistaken for its cousins the lobsters.
- Wide geographic distribution, lives in sand or mud at 10–50 m depth.
- Move long distances by swimming.
- Matures in 1 year and produces up to 60,000 eggs.
- **Only buy mature animals, more than 14 cm / 5.5 inch (from eye to start of tail).**
- **Avoid purchasing females carrying eggs.**

BEST CHOICE

BARRACUDA
Mzia, Mira, Mlea, Msusa, Minzida, Tengenzi

HABITAT: RA

TROPHIC LEVEL: 4.5

HOOK
LONG LINE

NE

- Common along East African coast.
- Several different species are popular in Tanzania (reflected by the range of Kiswahili names).
- Avoid purchasing only large individuals because they can build up toxins such as ciguatera in their flesh.

TREVALLY/JACKS
Kolekole, Karambizi

HABITAT: RA

TROPHIC LEVEL: 4.5

HOOK
NET

49,700–4,300,000

LC

- Distributed throughout the world´s tropical and subtropical marine environments.
- Live in schools and produce a large number of eggs during spawning.
- Globally, there have been no signs or suspicions of population decline.

DORADO/DOLPHINFISH/ MAHI-MAHI
Panje, Fulusi

HABITAT: PN

TROPHIC LEVEL: 4.2

NET
LONG LINE

500,000

LC

- English name is misleading (not related to dolphins at all!).
- Fast-growing, widely distributed and short lifespan.
- Can handle being fished without a major drop in its population.
- Global population currently stable.

BEST CHOICE

SKIPJACK TUNA/BONITO
Sehewa, Kiranga, Zanuba

HABITAT
N

TROPHIC LEVEL: 4.4

HOOK
PURSE SEINE

205,000–1,750,00

LC

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- Smallest and most abundant of the major commercial tuna species.
- Can live up to 10 years, matures early and breeds all year-round.
- Fished at moderate to sustainable levels in the South West Indian Ocean.

COBIA
Songoro

HABITAT
PN

TROPHIC LEVEL: 4

HOOK
NET

1,900,000–5,400,00

LC

Photo © NOAA Photo Library

- Powerful swimmer.
- Able to reproduce when it is young.
- Travels long distances throughout its lifespan in search of food and warmer waters.
- Not fished commercially and can handle fishing pressure.

GREEN JOBFISH
Changu kifimbo, Kifimbo

HABITAT
PN

TROPHIC LEVEL: 4.3

GILLNET
HOOK

LC

Photo © Taquet March/Ifremer under CC BY 4.0

- Occurs in open waters of deep lagoons and channels e.g. in Pemba.
- Only seasonally available for fishing.
- **Recommended minimum size for sale is 0.4kg.**

ALTERNATIVES

INDIAN MACKEREL
Kibua, Kibua macho, Kibua ngozi, Mkizi

HABITAT MC

TROPHIC LEVEL: 3.2

NET

56,000

DD

- Prefers shallow and coastal waters.
- A significant part of the local community diet.
- Little evidence of significant, widespread decline.
- **Buy only mature individuals (more than 20cm / 8 inch) to ensure they have already had a chance to reproduce.**

QUEEN MACKEREL
Pandu, Kanadi

HABITAT PN

TROPHIC LEVEL: 4.2

DRIFT NET

DD

- Seasonally important in Tanzania: forms large schools in the Zanzibar Channel from March to September.
- Stocks appear more resilient to fishing pressure than Kingfish.

LOOK CLOSELY!

Queen mackerel are often confused with other mackerel species such as Kingfish.

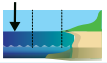
ALTERNATIVES

DAGAA

Dagaa mchele, Uono Dagaa, Dagaa mchele uchi, Dagaa upapa, Tonge kwa tonge

HABITAT

PO

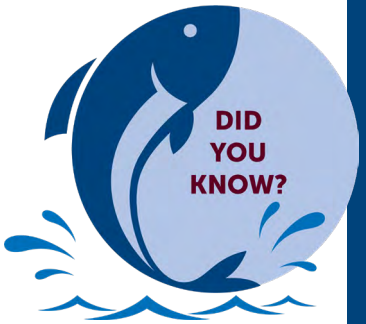


TROPHIC LEVEL: 3

RINGNET

LC

Photo@AdobeStock



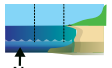
In Tanzania one of the priority fisheries with social, economic and cultural relevance in the country is the marine small pelagic fishery, locally known as 'dagaa'. It involves artisanal fishing of small sardine, herring and anchovy species using a ring net which is set according to the moon's cycle. Once the catches are landed, they are processed and traded, destined for regional markets in the Democratic Republic of Congo, Zambia and Kenya.

Surprisingly, around 90% of herring species globally are processed into fish meal for agricultural use, which is a shame, as they have excellent nutritional value for consumption. In Tanzania they are a tasty and affordable way to add variety to your menu—try it, get creative, and don't let it go to waste!

ALTERNATIVES

MANGROVE/MUD CRAB
Kaa koko, Ngadu

HABITAT



TROPHIC LEVEL: 3

AQUACULTURE

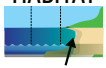
BASKET TRAP

NE

- Sustainable alternative to reef lobsters.
- Fairly abundant in mangrove swamps and estuaries.
- Fishing methods differ between regions.
- Support crab fattening projects: small cages built by local communities protect young crabs from predators and allow them to grow quickly to marketable size.
- **Avoid purchasing females that carry eggs and young individuals (less than 15 cm width shell).**

COCKLES & MUSSELS
Korobwe, Chaza, Kombe

HABITAT



TROPHIC LEVEL: 2

BY HAND

NE

- While globally 90% of cockles and mussels are farmed, in Tanzania cockles and other mussels are hand-picked from seagrass meadows mainly during spring low tide.
- A long tradition carried out mainly by women and their children, for food consumption in their communities.
- Support this tradition by buying directly from these women and remember to campaign for the protection and sustainable use of seagrass meadows.

SEAWEED
Mwani, Mtimbi, Mwani mjane, Mwani mnene, Mwani kikarafuu

HABITAT

TROPHIC LEVEL: 1

FARMING

NE

- More than 200 species can be found in Tanzania.
- Some are farmed on ropes in shallow water lagoons, often managed by women.
- Nutrient rich and used in many dishes around the world.
- Support local seaweed initiatives and incorporate their products into your menu in salads, juices, smoothies, jam, and flavored salt.

DID YOU KNOW?

Tilapia is a freshwater alternative to seafood. It was introduced to Lake Victoria in the 1950s to increase fish production but because it reproduces quickly, began dominating the lake's fishery and impacting native fish populations. These days, despite signs of overexploitation, Tilapia remains an important protein source.

Avoid wild-caught fish from Lake Victoria and support small-scale pond farmers in Tanzania. Stay away from industrial aquaculture products from Asia.

Tilapia is sometimes called Ngege, Michangu, Chungu tukwana, Changu koye, and is distinct from Nile Perch (different species).

DEVELOPING THE SeRaTa SYSTEM

The SeRaTa sustainability ratings were developed in 2024 through support from the USAID Heshimu Bahari Project and build upon:

2005 The Southern African Sustainable Seafood Initiative (SASSI) toolkit was launched by the World Wildlife Fund as the first (and to date only) regional guide showing the science-based status of different species of seafood.

2008 The SASSI toolkit was adapted to enable and empower suppliers and retailers to make sustainable seafood choices in the Southern Africa region and to discourage consumers from choosing illegal and unsustainable seafood. This toolkit is continually updated with the latest status of seafood species.

2017 To help the tourism industry and consumers in Zanzibar make informed choices about seafood, in 2017, Chumbe Island Coral Park developed the 1st Edition of the 'Chumbe Sustainable Seafood Guide'.

2023 The Chumbe Sustainable Seafood Guide was updated in collaboration with the Zanzibar Ministry of Blue Economy and Fisheries (MoBEF) and with support from the Rotary Club of Zanzibar. The SASSI toolkit was utilized as a foundational tool to develop and tailor a Zanzibar Seafood Rating (ZaSeRa) system relevant to the archipelago's coastline. Species of focus were identified and the status of seafood was aligned with those most relevant to the region through an expert workshop and the integration of international best practices.

2024 With support from the USAID Heshimu Bahari Project, further research was conducted (through literature reviews, market-based studies, and fisher and supplier interviews in key sites throughout the mainland of Tanzania) to assess common species of interest among tourism suppliers. These findings built upon the existing ZaSeRa system to create the expanded SeRaTa (sustainable Seafood Rating for Tanzania) system for Tanzania mainland and Zanzibar.

ABOUT THE USAID HESHIMU BAHARI PROJECT

USAID Heshimu Bahari (Respect the Ocean) is a five-year Project (2022-2027) that works to enhance ecological and community resilience and the productivity of high marine biodiversity areas, and conserve coastal marine ecosystems in mainland Tanzania and Zanzibar. The Project aims to establish an enabling environment and science-driven framework for sustainable MPA and wild-caught fishery co-management by government, communities, and the private sector.

Goals of the initiative are to strengthen the existing network of marine management areas by establishing fisheries replenishment zones to enhance fishery productivity, community livelihoods, and climate resilience; improve science-based decision making, strengthen community-led management of critical fish habitats, promote women's economic livelihoods, and build the resilience of coastal communities and businesses to climate risks.

The Project is working in 15 seascapes along the coastline of mainland Tanzania and Zanzibar, within which are ~30 designated marine parks, conservation areas and collaborative management sites, all of which are vital to preserve the sustainable seafood supply in Tanzanian waters.

Through this Guide, the Project aims to:

- promote awareness raising about vulnerable species in Tanzanian waters,
- shift demand away from the capture of over-exploited and/or vulnerable species that are critical to marine ecosystem services,
- generate awareness of the importance of fishery replenishment zones within marine managed areas that are critical to generating fishery stock of commercial species through refugia for juveniles and the 'spillover effect', thereby
- engage the tourism sector in supporting sustainable seafood choices and the effective governance of the marine managed sites.

ABOUT CHUMBE ISLAND CORAL PARK

Chumbe Island is an internationally acclaimed conservation area in Zanzibar, Tanzania. It is a registered IUCN Class II category marine protected area, hosting a fully protected coral reef sanctuary (100% no-take fishery replenishment zone) and protected forest reserve.

The park was founded in 1992 by the private-sector enterprise 'Chumbe Island Coral Park Ltd' (CHICOP) based on an investment and management contract with the Revolutionary Government of Zanzibar. Financing for the park is generated entirely through sustainable ecotourism, with an ecolodge on the island that utilizes state-of-the-art eco-architecture and eco-technology to ensure zero impact on the environment. CHICOP operates as a not-for-profit enterprise so that 100% of the revenue generated through visitors to the park is used to fund conservation management, research and monitoring, as well as finance an extensive environmental education programme for local schools and communities in Zanzibar.

Operational for 30 years, Chumbe is the world's first privately managed marine protected area and first financially self-sustaining marine park. This multi award-winning initiative is an accredited 'Blue Park Global Ocean Refuge' for best-practice protected area management effectiveness (PAME) and is a United Nations Laureate for 'Outstanding Environmental Achievement'.

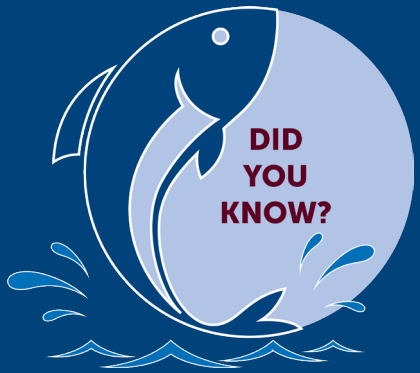
YOU CAN MAKE A DIFFERENCE...

Individual decisions DO make a big difference.

Simply following the recommendations in this Guide to choose your seafood purchases will mean you are already making a difference!

Choosing wisely and sharing this information with your friends, peers and staff will help drive demand for sustainable seafood in Tanzania.

Thank you for playing your part to protect the ocean—for today and for future generations.



You can identify fish that have been caught using illegal blast / dynamite fishing as they commonly have hemorrhaged eyes and gills, and a spongy texture to their bodies.
AVOID PURCHASE.

85% of fish stocks globally are being exploited at unsustainable levels, and approximately 10% have already collapsed. Projections suggest fish stocks globally may collapse by the second half of this century unless we change our fishing and consumer behaviour.

Endnotes

1 For mainland Tanzania: Fisheries Act No. 22 of 2003, Fisheries Regulations 2009, Tanzania National Plan of Action (NPoA) 2021. For Zanzibar: Fisheries Act No. 7 of 2010, Zanzibar Fisheries Policy 2022, Zanzibar Fisheries Master Plan 2023-2038, Zanzibar NPoA 2023.

2 Tanzania's jurisdiction over the ocean extends to its 'Exclusive Economic Zone' (EEZ). This covers all oceanic waters from the nations' shoreline up to 200 nautical miles out to sea and is managed by the Deep-Sea Fishing Authority (DSFA) through the Deep-Sea Fisheries Management and Development Act, 2020.

3 Marine Parks (MPs), Marine Conservation Areas (MCAs) and Marine Protected Areas (MPAs) are generally designated by state, internationally listed and legally recognized in marine spatial planning and associated marine management regulations. They may be managed by designated state authorities, or through partnerships with non-government organisations or the private sector. Collaborative Fishery Management Areas (CFMAs) are generally community or locally designated sites intended to support fishery replenishment in a given site. Co-managed areas (CMAs) denote areas of co-management within particular sites.

Glossary

Term	Meaning
Data deficient	A species with insufficient information for a proper assessment of conservation status to be made. Indicates that little or no information is available on the abundance and distribution of the species.
Endangered	Species at high risk of extinction in the wild.
Intertidal	The area of a seashore which is covered at high tide and uncovered at low tide.
Marine ecosystem	Aquatic environments with high levels of dissolved salt. These include the open ocean, the deep-sea ocean, and coastal marine ecosystems.
Overexploited	A renewable resource harvested or exploited to the point of diminishing returns. Continued overexploitation can lead to the destruction or extinction of the resource, as it will be unable to replenish.
Pelagic	Relating to, or living or occurring in the open sea
SeRaTa	Seafood Rating Tanzania
Sustainable	Able to be maintained at a certain rate or level.
Trophic level	An organism's trophic level is the position it occupies in a food web. A food chain is a succession of organisms that eat other organisms and may, in turn, be eaten themselves.
Vulnerable	Species likely to become endangered unless the circumstances threatening its survival and reproduction improve. At risk of extinction in the wild.

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And finally — thanks goes to you, the reader, for actively engaging with this guide and leading Tanzania towards a more sustainable future.

Photo credits: Amalie Boge, Kozanow Productions, Markus Meissl, Ulli Kloiber, Willi Leyendecker, Peter S. Mkwan'hembo, Chumbe Island Coral Park archive.

Layout and graphic design: Laura Kola, Sustainable Solutions International Consulting (SSIC).

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