

## St Helena

St Helena is an isolated oceanic island, some 122 km<sup>2</sup> (47 sq. miles) in area, lying in the South Atlantic Ocean approximately midway between the coasts of Angola to the east and Brazil to the west. St Helena emerged, as a volcano, several hundred kilometres to the east of the Mid-Atlantic Ridge, about 15 million years ago. It is now surrounded by a shallow shelf that drops to 200 m in depth within about 2 km of the shore on the leeward (northwest) side of the island, but extends to about 6 km off the south-western point, after which it descends sharply to abyssal depths of more than 4000 m. The total area of shelf seabed available to demersal (i.e. bottom dependent) species is therefore only about 156 km<sup>2</sup>.

St Helena is part of the UKOT of St Helena, Ascension and Tristan da Cunha. The island has a population of around 4,000 and are self governing, with an elected Legislative Council. The UK Government is responsible for foreign affairs and defence. Executive authority is exercised by the Governor, on behalf of the Queen, who acts on the advice of the Executive Council.

The St Helena 200 nautical mile Exclusive Fishing Zone<sup>1</sup> (EFZ), which was established by proclamation in 1977, has an area of 446,500 km<sup>2</sup> and includes around 17 seamounts, three of which extend to within 200 m of the surface (Figure SH-1). The nearest to the island is Bonaparte Seamount, approximately 75 nm to the west, which rises to within about 105 m of the sea surface. Cardno Seamount, which rises to within about 77m below the sea surface, is around 180 nm north. Both of these seamounts are flat-topped guyots or tablemounts. The Kutuzov and Syoesov seamounts to the west of the island are considerably deeper.

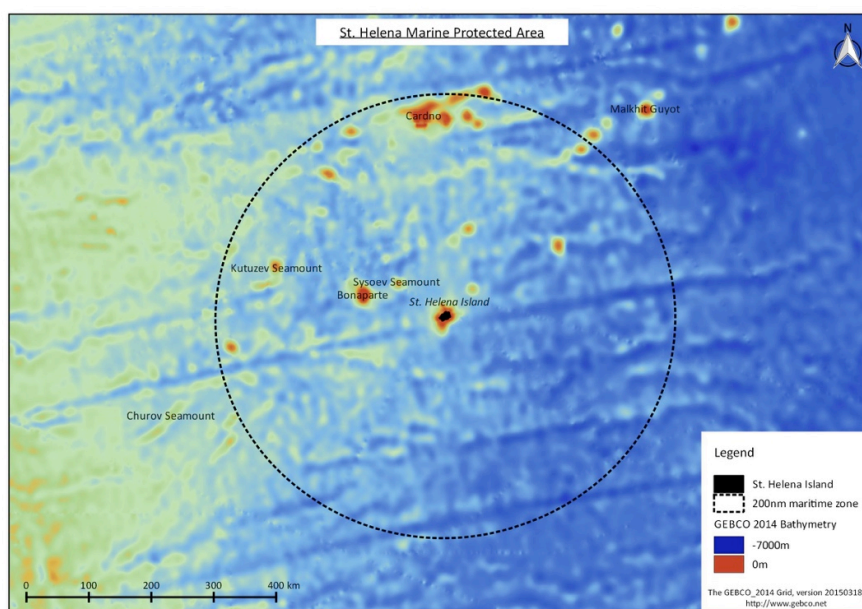


Figure SH-1. The St Helena Exclusive Fishing Zone (EFZ), which has recently been declared a Category VI Marine Protected Area (from SHG, 2016).

In September 2016, St Helena declared the creation of a Category VI MPA in the entire EFZ. A Category VI MPA is one that has sustainable, non-industrial use of natural resources with conservation seen as one of the main aims of the area. In parallel with the MPA declaration, a

<sup>1</sup> An Exclusive Economic Zone has not, as yet, been declared.

Marine Management Plan (MMP) was published by Notice in the St Helena Gazette (No. 91, 2016). Although the MPA has been declared, some of the key provisions have not yet been established in law and will be included in a revised Fisheries Ordinance (see below).

Under the Marine Management Plan the following types of fishing activity are prohibited:

- (i) bottom trawling<sup>2</sup>;
- (ii) fishing with tangle nets, gill nets, purse seines or dynamite<sup>3</sup>;
- (iii) targeted fishing for any species of shark.

In addition the length of longlines is restricted<sup>4</sup> and any longlining will be subject to 100% observer coverage.

Under the MMP any exploitation of the natural resources of the marine environment must be undertaken in a controlled, sustainable and environmentally sensitive manner. In this context sustainability refers to target and non-target species and direct and indirect effects on marine habitats and ecosystems.

St Helena's fisheries for highly migratory species, such as tuna, swordfish and marlin are managed by the International Commission for the Conservation of Atlantic Tuna (ICCAT).

## **1. St Helena fisheries**

### **1.1 Brief history of St Helena fisheries**

St Helena has a long history of fishing (see Edwards, 1990), which provides an important source of protein for the island's population. Fishing has traditionally been artisanal, pole and line fishing to catch migratory tunas. In the early years the fishery was undertaken from small skiffs, but the fleet was modernized in the 1980s and 1990s.

Over the years there have been a number of initiatives to improve catches in St Helena waters. The St Helena Fisheries Corporation was established in 1979 (by the St Helena Fisheries Corporation Ordinance) with a remit to develop the fisheries sector by engaging in the business of fishing and fish marketing in St. Helena and overseas and by supporting fishermen.

In the early 1980s the SHFC purchased a 66 ft vessel, *Westerdam*, to increase fishing capacity, including undertaking some purse seining. The initiative was not successful, but the *Westerdam* was used for a 2-year offshore survey of St Helena waters (funded by the ODA; see Hoogesteger, 1988). The survey investigated resources at the seamounts and the oceanography and productivity of the EFZ.

From 1988 – 2004 foreign vessels (principally Japanese longliners) were licensed to fish in the Ascension and St Helena EFZs. The licensing was administered from St Helena, but the vast majority of fishing effort was undertaken in the Ascension EFZ.

Longlining has been attempted by local vessels at various times, including by the *Ocean Wave* and *Ocean Gypsy* (2000-2002), and the *Argonaut* (2013-2015)<sup>5</sup>, but the catches from were dominated by

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<sup>2</sup> To be prohibited in the forthcoming Fisheries Ordinance

<sup>3</sup> To be prohibited in the forthcoming Fisheries Ordinance

<sup>4</sup> The MMP does not specify the length longlines will be restricted to

<sup>5</sup> Data provided by the Argos Group

swordfish and shark (data provided by Argos). Two larger vessels, linked to the Argos Group, who operated the processing plant from 2000-2015 also undertook some longline fishing. Both *Argos Helena* (2000-2002)<sup>6</sup> and *Swordbridge* (2006) had catches dominated by swordfish and shark.

In the mid-2000s two larger vessels (*Portzic* and *Atlantic Rose*) were brought to the island and used to fish the seamounts. The vessels caught reasonably well and increased the total landings (Figure SH-2), but both ventures failed.

There have also been attempts to fish the seamounts for alfonsino (FV *Seaflower*, 1998) and for crabs (FV *Kinpo Maru* and FV *Oman Sea One*).

In 2013, a South African pole & line vessel, *Southern Cross*, was given an exploratory licence to fish in the EFZ and although required to spread their effort throughout the zone, spent most of time at Cardno Seamount. The vessel caught well but, having failed to fulfill her licence requirements, was not given another licence.

## 1.2 Current fisheries

The main fishery is the pole & line fishery for tuna (Table SH-1), which accounts for 90 % of the landings on St Helena. In addition there are handline fisheries for demersal species such as grouper and pot fisheries for two species of lobster (Table SH-1), but the reported catches are small.

In order to catch the principal target species, fishing vessels generally use live bait. The principal bait species used are mackerel (*Scomber japonicas*), three species of *Decapterus* spp. and bigeye scad (*Selar crumenophthalmus*). Bait is either caught using pole & line methods or using small dip-nets.

Table SH-1. Principal fish species landed on St Helena, with the ICCAT UKOT catch limits

Common name	Scientific name	ICCAT UKOT Catch Limit	Mean annual catch (tonnes; 2011-2015)	% of total catch
Yellowfin tuna	<i>Thunnus albacares</i>	None	139	41.0
Bigeye tuna	<i>Thunnus obesus</i>	2,100	65	19.2
Albacore tuna	<i>Thunnus alalunga</i>	100	25	7.4
Skipjack	<i>Katsuwonus pelamis</i>	None	88	26.0
Wahoo	<i>Acanthocybium solari</i>	n/a	17	5.0
Grouper	<i>Epiphanelus adscensionis</i>	n/a	5	1.5

ICCAT sets catch limits for each of the stocks and also applies catch limits to member states. In the case of St Helena, there is a limit applied to UKOT catches of bigeye tuna and albacore tuna (Table SH-1), but St Helena is the principal UKOT that catches these species. There are no specific limits on yellowfin or skipjack catches.

The St Helena EFZ is divided into Inshore and Offshore areas. The Inshore area includes the seas within 30 nautical miles of the island, whilst the Offshore area encompasses the area between 30 and 200 nautical miles from the island.

<sup>6</sup> Data from Argos

Over the last 15 years the tuna catch in St Helena waters has averaged 350 tonnes per annum (Figure SH-2). During the period 2004 to 2006 catches were over 500 tonnes per annum, with three vessels regularly fishing the seamounts. In 2011 catches of skipjack, albacore and bigeye were all above average and the total catch exceeded 800 tonnes. Variability is partly due to changes in effort but also due to inter-annual variability in the local abundance of the target species.

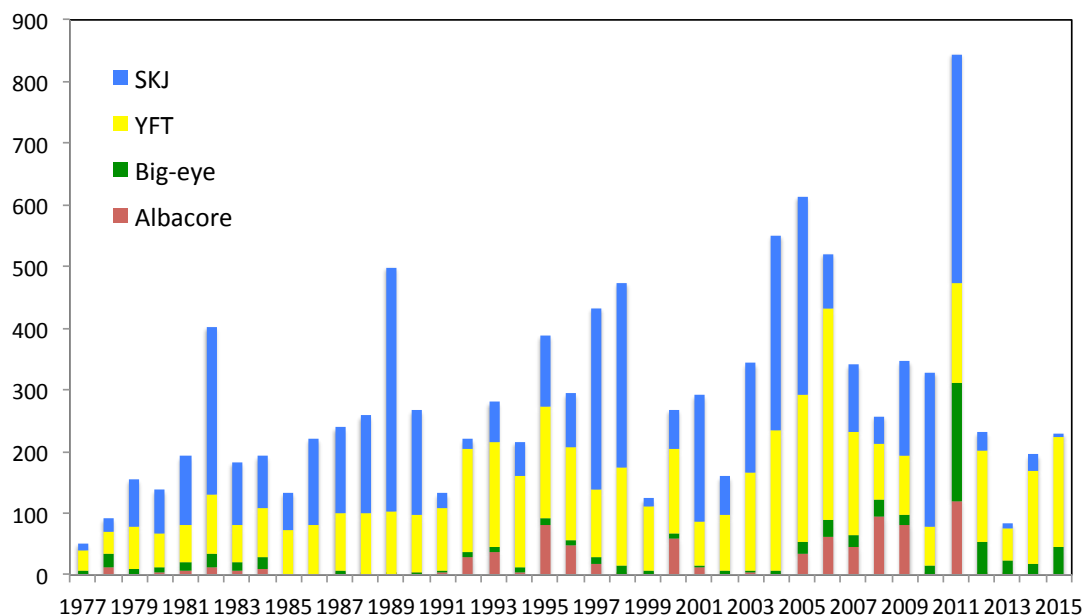


Figure SH-2. Landings of the four species of tuna in St Helena since 1977. Note these are landings and yellowfin, bigeye and albacore are usually landed gilled and gutted, so the actual catch will be 15% higher.

Currently there are four vessels capable of fishing the seamounts (Cardno and Bonaparte) and thirteen vessels capable of fishing the inshore waters. Two of the offshore vessels are capable of deploying longlines. Of the thirteen inshore vessels, only six are considered full-time (fishing > 150 days per year).

## 2. Target species

Four species of tuna are the principal target species in St Helena waters. Swordfish have been targeted in the past, but the quota is small and there are health concerns about heavy metal contamination of the meat. Wahoo is also caught and frequently targeted. Other species such as marlin spp., dorado (*Coryphaena hippurus*) and yellowtail (*Elagatis bipinnulata*) are caught as bycatch. Marlin are released, but dorado and yellowtail are retained.

### 2.1 Yellowfin tuna

The yellowfin tuna is one of the larger tuna species, reaching weights of over 180 kg and are distributed in the tropical and sub-tropical regions of the Atlantic, Pacific and Indian oceans. Yellowfin tuna are generally found in the surface (upper 100 m) waters and are principally caught to the north of St Helena and off the west African coast.

Atlantic yellowfin catches, which are taken by a mixture of purse seine, longline and pole & line boats peaked at 193,000 tonnes in 1990 and have dropped to around 100,000 tonnes in recent

years. The highest catches are taken in the Gulf of Guinea area and off the tropical west African coast.

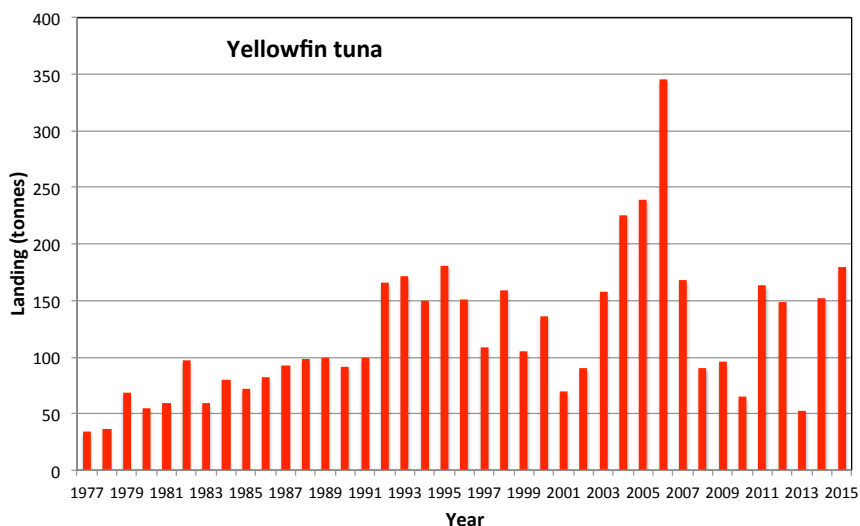


Figure SH-3. Yellowfin tuna landings in St Helena waters from 1977 to 2015.

Yellowfin are caught year round in St Helena waters and are the mainstay of the inshore fishery. A broad range of sizes of yellowfin are caught in St Helena waters and evidence from tagging studies (*Westerdam* in the 1980s & current Darwin project) indicate that immature yellowfin tuna remain in St Helena waters for an extended period (6 months to a year), feeding and growing. Fish are assumed to migrate to spawning grounds as they begin to mature.

Yellowfin catches in St Helena waters are generally between 100 and 150 tonnes per year (Figure SH-3), but increased between 2004 and 2006, when there was more fishing effort at the seamounts with around 340 tonnes caught in 2006.

## 2.2 Bigeye tuna

Bigeye is one of the largest tuna species, reaching 250 cm fork length (FL; 210 kgs) and are distributed from 60°N to 50°S in the Atlantic, Pacific and Indian Oceans. Typically fish remain in the surface layers (circa 50 m) at night, but regularly dive to 300-500 m during the day. Bigeye is listed as Vulnerable by the IUCN.

Atlantic catches of bigeye, which are taken by longline, purse seine and pole & line vessels, peaked at 133,000 tonnes in 1994, but have since declined to less than 70,000 tonnes. The highest catches are north of St Helena in warmer waters.

In the St Helena EFZ the best catches of bigeye are usually associated with the Cardno Seamount in the north of the zone. Over the last 20 years the average annual catch has been 26 tonnes (Figure SH-4), but in 2011, when the inshore vessels fishing around the island had excellent catches, the annual catch was 190 tonnes. In 2013 a South African flagged pole and line vessel (*Southern Cross*), fishing under an exploratory licence, caught over 100 tonnes of big-eye near Cardno Seamount in July and August (not included in Figure SH-4, as the fish was not landed in St Helena). Following the *Southern Cross* venture three of the offshore vessels have fished at the same location and obtained good catches of bigeye.

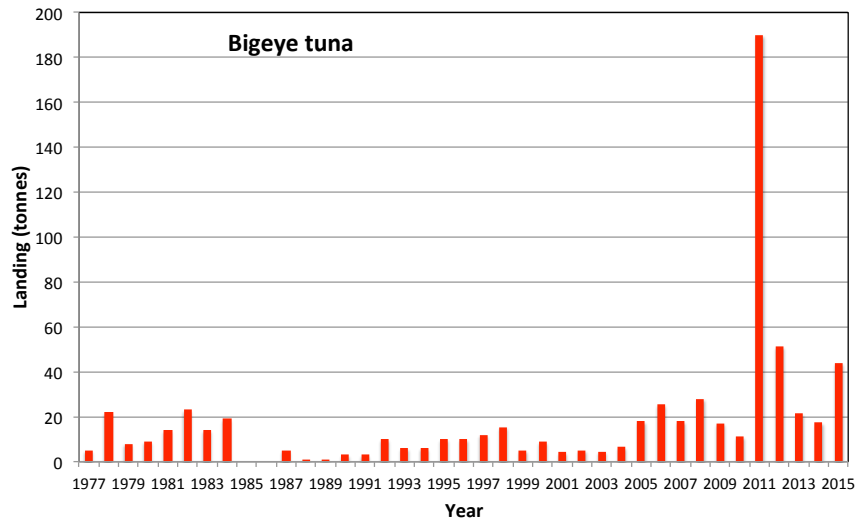


Figure SH-4. Landings of bigeye tuna in St Helena from 1977 to 2015.

### 2.3 Albacore tuna

Albacore is one of the smaller tuna species (max FL around 130 cm), inhabiting open oceanic waters and rarely come close to shore. Albacore is a temperate tuna, preferring cooler water (10-20°C) than tropical tunas and is widely distributed throughout the Atlantic Ocean and Mediterranean Sea. Albacore is listed as Near Threatened by the IUCN.

In the South Atlantic, the best catches of albacore are in a band to the south of St Helena that extends from South Africa to the coast of Uruguay. Catches of albacore peaked at just over 40,000 tonnes in 1987 and since 2004 have averaged just over 20,000 tonnes.

Catches in St Helena waters are seasonal and unpredictable. The average annual catch is 29 tonnes, with good years (e.g. 2011) interspersed with years when little or no albacore is caught (e.g. 2014, 2015; Figure SH-5). Albacore do not associate with the island or seamounts, but are generally caught within 20 miles of the coast of the island, with catches peaking between July and September.

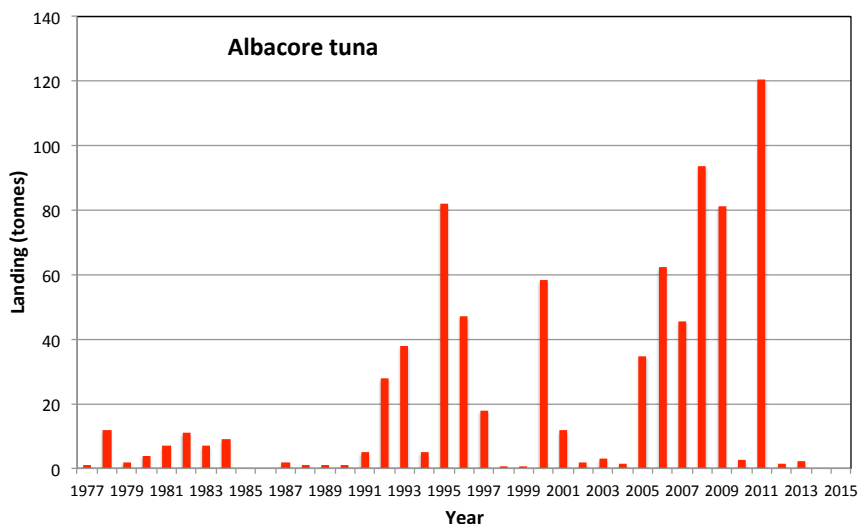


Figure SH-5. Landings of albacore tuna in St Helena from 1977 to 2015.

## 2.4 Skipjack tuna

Skipjack are the smallest and most abundant of the commercially exploited tunas. They are a gregarious tuna that are found in schools in the tropical and subtropical Atlantic, Pacific and Indian oceans. Aggregations of this species tend to be associated with convergences, boundaries between cold and warm water masses, outcrops and other hydrographic discontinuities.

Atlantic skipjack catches peaked at 258,300 tonnes in 2012 and have remained over 200,000 tonnes since. The highest catches are taken in the Gulf of Guinea, off the coast of west Africa and around the Cape Verde, Canary and Azores archipelagos.

Catches in St Helena waters have been sporadic with occasional years of high catches (e.g. 1999, 2011) interspersed with years with poor catches (Figure SH-6). Since the exceptional year in 2011, catches have been poor, but 2016 was a reasonable year. In St Helena waters skipjack tuna are seasonal and mostly caught between February and May.

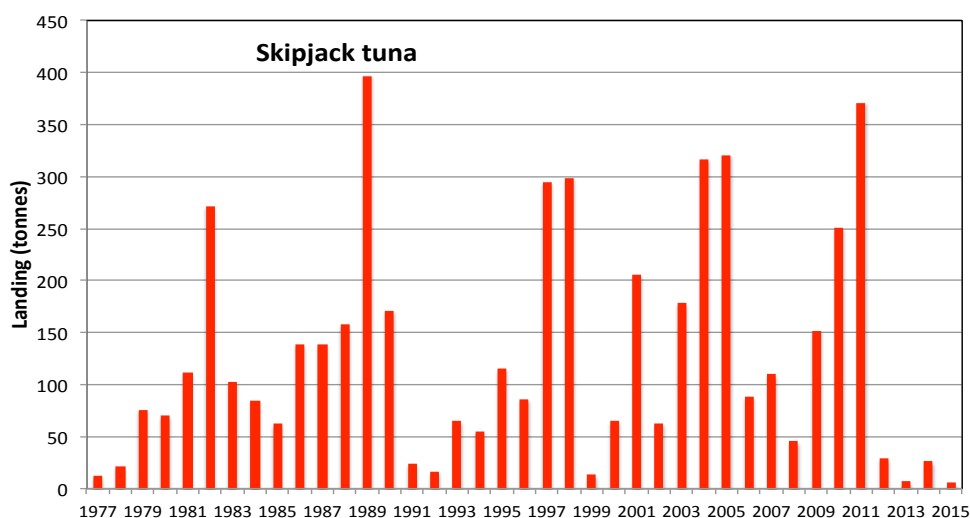


Figure SH-6. Landings of skipjack tuna in St Helena from 1977 to 2015.

## 3. Sustainability of target species

Stock assessments are undertaken by ICCAT to determine the status of the stocks of the target species. St Helena does not undertake any assessment of sustainability at the local level, but the recently established tagging programme will provide information on residence time. For species that are resident for extended periods, an estimate of biomass and sustainable catch level may be possible.

### 3.1 Stock

Although Atlantic yellowfin tuna are known to spawn in both the Gulf of Guinea (West Africa) and the Gulf of Mexico, ICCAT consider the stock to be a single mixed one. However, recent work in the Pacific has demonstrated the presence of genetically distinct populations in different parts of the Pacific (Green et al., 2015) and similar heterogeneity is possible in the Atlantic. Tagging work



around St Helena indicates extended residence time of tuna around the island. The Atlantic population of bigeye tuna is also managed by ICCAT as a single mixed stock.

The Atlantic population of Albacore is divided into northern, southern and Mediterranean stocks by ICCAT. The higher temperature in tropical waters appear to restrict mixing between the northern and southern stocks, but there may be some mixing between South Atlantic and Indian Ocean populations.

ICCAT divide the Atlantic skipjack population into eastern and western stocks, separated at the 30°W meridian. However, given the low exchange rates between regions (from tagging studies), it may be that the stocks should be divided into smaller management units.

### **3.2 Harvest Control Rules**

ICCAT's objective is that the stock biomass ( $B$ ) is greater than the biomass that would support the maximum sustainable yield ( $B_{MSY}$ ) and that fishing mortality ( $F$ ) is less than  $F_{MSY}$ .

### **3.3 Stock Assessment Methods**

ICCAT stock assessments use a range of methods to determine the status of the stock in relation to the virgin biomass ( $B_0$ ) and in relation to the biomass that provides the maximum sustainable yield ( $B_{MSY}$ ). Stock assessments also consider the level of fishing mortality ( $F$ ) in relation to the level that would maintain the stock above  $B_{MSY}$  (i.e.  $F < F_{MSY}$ ). If  $B$  is greater than  $B_{MSY}$  and  $F$  is less than  $F_{MSY}$  the stock is considered healthy and in the "green quadrant" of the Kobe plots. If either  $B < B_{MSY}$  or  $F > F_{MSY}$  the stock is considered in the amber zone. If  $B < B_{MSY}$  and  $F > F_{MSY}$  the stock is in the red zone. The Convention objective is to have stocks in the green zone ( $B > B_{MSY}$  and  $F < F_{MSY}$ ).

Full details of the ICCAT stock assessments can be downloaded from the ICCAT website.

### **3.4 Stock Status**

The recent ICCAT yellowfin assessment (ICCAT, 2016a) suggests that the stock remains overfished (95% of  $B_{MSY}$ ), but the stock status has improved since the previous (2011) assessment, when it was 85%  $B_{MSY}$ . Fishing mortality remains less than  $F_{MSY}$  ( $F/F_{MSY} = 0.77$ ) and, with the catch limit of 110,000 tonnes, the stock should recover to be above  $B_{MSY}$  by 2020 (68% probability), with a 97% likelihood of recovery by 2024 (Table SH-2).

The most recent ICCAT big-eye stock assessment was undertaken in 2015 (ICCAT, 2015) and indicated that the stock was overfished ( $B/B_{MSY} = 0.67$ ) and, despite catches being below the catch limit, continued to be overfished ( $F/F_{MSY} = 1.28$ ). The status had changed since the last assessment (2010) due to changes in selectivity, with a greater proportion of small fish being caught, particularly in purse seine fisheries. As a result, the SRC recommended to the Commission that the catch limit be reduced. ICCAT Commission reduced the overall catch limit from 85,000 to 65,000 tonnes

The recent ICCAT southern albacore assessment (ICCAT, 2016b) indicates that the South Atlantic stock had been overfished in the past, but has now recovered (61% likelihood that  $B > B_{MSY}$ ) and is no longer subject to overfishing. Projections indicated that if catches remain around 24,000 tonnes the stock should remain healthy ( $B > B_{MSY}$ ) (ICCAT, 2016b).



The East Atlantic skipjack was last assessed in 2014 (ICCAT, 2015) and, despite being unable to estimate MSY, there was no evidence that the stock is overfished and it is thought that landings are unlikely to take the stock below  $B_{MSY}$  for a number of years.

Table SH-2. ICCAT stock status of the tuna species caught in St Helena waters.

	Biomass	Fishing Mortality	Recovery under catch limit	Last Assessed
Yellowfin	$B < B_{MSY}$	$F < F_{MSY}$	2020	2016
Bigeye	$B < B_{MSY}$	$F > F_{MSY}$	2028	2015
Southern albacore	$B < B_{MSY}$	$F < F_{MSY}$	n/a	2016
Eastern skipjack	$B > B_{MSY}$	$F < F_{MSY}$	n/a	2014

## 4. By-catch and non-target impacts

### 4.1 Fish by-catch

The by-catch in the pole & line tuna fishery is minimal. Vessels do sometimes target wahoo (*Acanthocybium solari*), particularly during the summer months when sea surface temperatures are higher. Wahoo has a higher value than any of the tuna species. Wahoo are not assessed by ICCAT and the sustainability of catches is uncertain.

### 4.2 Seabird and marine mammal interactions

There is no seabird mortality associated with the pole & line or rod & line fishing. Seabirds, such as boobies, noddies and diving petrels, do associate with the fishing vessels and some will take live and cut bait.

Rough-tooth dolphins (*Steno bredanensis*) often take bait off hooks and can hinder fishing activities, but are not adversely affected by fishing activity.

### 4.3 Benthic interactions

There is no benthic impact of the pole & line fishery.

### 4.4 Ecosystem effects

The trophic ecology of the tuna species is not known, but the diet of yellowfin tuna is being investigated as part of a current Darwin Project. Tuna play an important role in herding prey to the surface, which facilitates seabird foraging and many of the seabirds (e.g. terns and black noddies) are known to associate with schools of tuna (particularly skipjack and albacore).

### 4.5 Bait species

Pole & line fishing, requires a source of live bait. Small pelagic species such as mackerel (*Scomber japonicas*) and *Decapterus* spp. are caught by line and dip net as bait. Catches of bait species have not been quantified, but new log sheets will require fishermen to report on bait quantities.

Fishing boats typically set off an hour or two before sunrise and fish for bait close inshore, using handlines, light bamboo poles or dip nets. The availability of bait can be seasonal and patchy. Each vessel would normally collect 100-200 individual bait fish (20-30 kg) for a days fishing.

Little is know about the abundance or life history of the bait species. It is important to the long-term sustainability of the fishery that bait fishing is also sustainable.

## 5. Fisheries Management

For the migratory tuna and billfish the management of St Helena’s fisheries involves both the International Commission for the Conservation of Atlantic Tunas (ICCAT) and local management. For other species, including wahoo, grouper and lobster management is entirely the purview of St Helena Government (Environment & Natural Resources Directorate). Local management must incorporate the requirements (regulations and recommendations) of ICCAT and species catch limits must be adhered to.

### 5.1 ICCAT Management of migratory species

Tuna stocks are managed on a pan-Atlantic basis by ICCAT. The principal decision making body of ICCAT is the Commission, which meets annually in November. The Commission is supported by the Standing Committee on Administration and Finance and by the Standing Committee on Research and Statistics (SCRS). Four panels have responsibility for different species groups. The panels of particular relevance to St Helena are:

Panel 1: Tropical tunas (yellowfin, bigeye and skipjack)

Panel 3: Southern temperate tunas (albacore and southern bluefin)

The panels are responsible for reviewing the species, group of species, or geographic area under its purview, and for collecting scientific and other information relating to them. Contracting Parties are required to pay for panel membership. Fees for panel membership are within the region of £20,000. The panels report to the SCRS, who advise the Commission on recommendations.

On the basis of scientific advice from the SCRS and the Panels, the Commission annually decides on conservation and management measures aimed at maintaining target stocks at or above levels that permit the maximum sustainable yield. ICCAT sets catch limits for the principal target species (Table SH-3)

*Table SH-3. ICCAT catch limits for the tuna species caught in St Helena waters.*

Common name	Scientific name	ICCAT Catch Limit (tonnes)	ICCAT UKOT Catch Limit (tonnes)
Yellowfin tuna	<i>Thunnus albacares</i>	110,000	No limit
Bigeye tuna	<i>Thunnus obesus</i>	65,000	2,100
Albacore tuna	<i>Thunnus alalunga</i>	24,000 <sup>7</sup>	100
Skipjack	<i>Katsuwonus pelamis</i>	No limit	No limit

<sup>7</sup> Southern albacore stock catch limit

ICCAT members are required to provide data on landings of tuna and, where possible, biological data to accompany the landings. ICCAT also runs a tagging programme, in which members are required to participate.

St Helena is not a member of ICCAT, but the UKOTs as a group are a member. The other UKOTs with an interest in ICCAT include Bermuda, the Caribbean OTs and Ascension & Tristan da Cunha (dependencies of St Helena). St Helena representatives can attend ICCAT meetings as a member of the UK Overseas Territories delegation. The UKOTs are not members of any of the panels, which limits their influence on management of these stocks. It is important that the St Helena's interests are properly represented.

## 5.2 St Helena legislation

The Fisheries Limits Ordinance (1977, as amended; FLO), deals with the regulation of fishing activity in the EFZ. The FLO needs to be modernised and is currently under review. It is due to be repealed and replaced by a new Fisheries Ordinance in 2017.

The Environmental Protection Ordinance (EPO) enables the declaration of marine protected areas and includes restrictions relating to protected species (which includes bigeye tuna, all shark species, endemic fish and the stump lobster). The Marine Management Plan, which is subsidiary to the EPO, provides for the protection and sustainable management of the marine environment, much of which will be established in law under the proposed Fisheries Ordinance.

The draft Fisheries Ordinance sets out the key principles of fisheries licensing and will be consistent with the Marine Management Plan. The ordinance will, *inter alia*, do the following:

- (i) Prohibit bottom trawling, purse seining, gill netting, tangle netting and dynamite fishing;
- (ii) With the exception of traditional rock fishing, prohibit all fishing in the maritime zone, unless under a licence issued under the ordinance;
- (iii) Create four categories of fishing licence: Commercial; Sports; Recreational & Exploratory;
- (iv) Provide for the appointment of a Chief Fishery Officer (to replace the Senior Fishery Officer) and Fishery Officers;
- (v) Establish a Fishery Advisory Board;
- (vi) Regulate the use of fish aggregating devices;
- (vii) Regulate the use of spear guns and lances (to replace current Spear Guns Ordinance);
- (viii) Address IUU fishing issues.

The ordinance also provides for the licensing of foreign fishing vessels. Regulations established under the Fisheries Ordinance will indicate the types of licence conditions that can be applied under each category of licence, including catch limits and any fees associated with application for or issuance of a licence. Proposed licence conditions include conditions regarding the vessel, the vessel's owner and the crew; the species, quantity and size of fish that can be caught; technical requirements for fishing gear; safety and surveillance requirements and environmental conditions.

The Fisheries Advisory Board will advise the Governor in Council and any relevant legislative committees on fisheries matters.

## 5.3 Licensing system

Vessels are issued with licences under the Fisheries Limits Ordinance. Five categories of licence are currently issued (although the licence categories are not specifically defined in the Fisheries Limits Ordinance):

- (i) Inshore Commercial Fishing Licence – for vessels fishing within 30 nm of the island;
- (ii) Offshore Commercial Fishing Licence – for vessels fishing in the outer part of the EFZ;
- (iii) Exploratory Fishing Licence – for exploratory fishing in new areas or for new species;
- (iv) Sports Fishing Licence – for sports fishing (angling and spear fishing)
- (v) Recreational Fishing Licence – for fishing for recreation only (fish not sold for commercial benefit)

The Fisheries Limits Ordinance gives the Governor in Council (or their delegate) powers to apply such conditions as appear to be necessary or expedient to the regulation of fishing. In practice the Governor's powers under the ordinance are delegated to the Senior Fisheries Officer.

Current commercial licences specify the fishing method (pole & line) and include, *inter alia*, the following conditions:

- (i) That vessels are required to first offer their catch to the St Helena Fisheries Corporation;
- (ii) No dolphin or crayfish in berry may be taken;
- (iii) Licence holders must provide statistical information for each fishing trip with regard their crew number, catch and fishing effort through recording catch details (date, fish species, numbers and size).

The latter condition on provision of statistical data has only, to date, been applied to the offshore vessels.

In general, all vessels are local vessels and are not charged a licence fee. The current (and proposed new) legislation allows for foreign-flagged vessels to be licensed to fish in the St Helena EFZ. The most recent foreign vessel was the South Africa flagged *Southern Cross*, which fished under an Exploratory Licence. The vessel paid a fee per tonne of tuna caught.

## 6. Fisheries Science

There have been sporadic fisheries sciences initiatives on St Helena, including the *Westerdam* surveys in the 1980s, the work of Ninnes (1991) on the two lobster species and the Choat & Robertson (2008) study of grouper. In 2015 a fisheries science programme was established with a Darwin Plus Project.

ICCAT collate data and undertake assessments of the highly migratory tuna and billfish, but their assessments are frequently limited by the quantity and quality of data. The main objective of ICCAT science is to improve stock assessments, by increasing accuracy and reducing uncertainty, and to improve stock management. Scientists from member states, who present their results at the various meetings, undertake most of ICCAT's science. The science is reviewed and considered by the relevant Panel and by the Standing Committee on Research & Statistics.

A key component of the science programme is tagging, which provides data on movements, growth, behaviour and can contribute to estimates of population size.

The Darwin Plus project, which began sampling in October 2015, has established a fisheries science programme, which includes:

- (i) Basic length and weight data collected from SHFC processing plant at Rupert's;
- (ii) Tuna tagging programme, principally focussed on yellowfin tuna;
- (iii) Age, growth and reproductive biology of target species;
- (iv) An observer programme for the inshore and offshore vessels;

- (v) Diet of yellowfin tuna;
- (vi) Development of risk assessments for non-target species (e.g. sharks, turtles & seabirds).

The Darwin Plus project will finish in June 2017, but a fisheries monitoring programme needs to be maintained (subject to availability of resources).

## **7. Surveillance and Monitoring**

### **7.1 Monitoring**

For inshore vessels data collection is currently limited to landings data provided by the St Helena Fisheries Corporation (SHFC), who are the principal recipients of commercially caught fish. Fish that are not landed at the SHFC will not be recorded in any landing figures. There is no record of any fish that are discarded or on the quantity and species composition of bait. The only data on effort is derived from the use of the ferry, as all fishermen use the ferry in Jamestown to travel to and from the wharf to their vessel.

Offshore vessels are required to submit logbooks for their trips, which include daily data on catch and effort and on the capture of bait.

### **7.2 Surveillance**

There is no patrol vessel for St Helena waters, so surveillance is limited to satellite based systems (AIS, VMS), at-sea observers and reports from licensed fishing vessels or other vessels (e.g. RMS *St Helena*) that transit the EFZ.

The offshore vessels are required to have either VMS or AIS, but there is no requirement for inshore vessels.

If necessary one of the larger fishing vessels could be used as a temporary patrol vessel (the *Extractor* is used for patrolling in Ascension). Satellite AIS provides an excellent means of monitoring legitimate vessels, but any illegal vessels are unlikely to be broadcasting an AIS signal.

An observer programme has recently been established as part of the current Darwin Plus project, with observers regularly on both onshore and offshore vessels, however there is no obligation for inshore boats to accept observers and some of the vessels are unsuitable (too small). Any foreign licensed vessel (e.g. *Southern Cross*) would be required to carry an observer.

Whilst it is a licence condition that fish should be first offered to the SHFC, there is anecdotal evidence that a significant amount of fish is landed and sold privately. Such fish will not be recorded in official data. The Marine Management Plan (SHG, 2016) identifies the need for enforcement officers to ensure compliance with fisheries and other marine legislation and such a post should address the issue of illegally landed fish.

### **7.3 IUU**

There is no evidence of a significant problem with IUU fishing in the St Helena EFZ. Unlicensed vessels are only likely to enter the EFZ if catches are significantly higher inside the EFZ than outside and previous experience with the Japanese / Taiwanese longline fleet suggest that the St Helena EFZ is not a particularly attractive place to fish. The exception to this maybe the Cardno Seamount, which is on the edge of the zone and provides good catches of bigeye and yellow tuna. There is also fishing activity (visible on AIS) to the SE of the zone.

In the first instance, it would be sensible to use satellite-based surveillance (AIS & Synthetic Aperture Radar) to determine if there is a problem. Such a surveillance programme could be part of a broader initiative with Ascension, Tristan and, possibly, South Georgia.

## **8. Fishing vessel safety**

The two larger offshore vessels are inspected by Marine Surveyors either in Cape Town or elsewhere (e.g. Walvis Bay, Namibia), with the relevant certificates brought back for the vessel to be registered with the St Helena Registrar of Shipping.

Safety inspections of the inshore fleet and the two smaller offshore vessels are conducted on an annual basis by the Harbour Board under regulations associated with the Ports Ordinance, but are not undertaken to UK MCA Standards.

To ensure safe operations in the fishery, there is a need to have clear and enforceable guidelines on the standards for fishing vessel safety and for training of personnel involved. The UK Maritime and Coastguard Agency has developed standards (Codes of Practice) for small fishing vessels (< 24 m), which are legally enforced in the UK, and could form the basis for vessel safety standards in the St Helena fleet.

## **9. Certification, consultations, transparency and RFMOs**

Atlantic tuna stocks are managed by the International Commission for the Conservation of Atlantic Tuna (ICCAT), of which the UKOTs, as a group, are a member. The UKOTs receive ICCAT quotas, which St Helena utilises, and St Helena is required to implement all regulations and recommendations from ICCAT.

ICCAT reports and stock assessments are available on the ICCAT website ([www.iccat.int](http://www.iccat.int)). ICCAT have, in the past, been criticized for their management of tuna stocks, but have introduced measures and quotas that should improve the status of the target stocks. The UK sends representatives to ICCAT including, in some years, representatives from St Helena. It is important that St Helena is fully engaged with ICCAT at a science and policy level to ensure stocks are properly managed and to protect St Helena's share of the resources.

The St Helena Commercial Fisherman's Association represents most, but not all, of the commercial fishermen and are consulted about key decisions affecting the fishing sector.

Public consultations are undertaken on key policy decisions. For instance there has recently been a consultation on the Marine Management Plan and a consultation will be undertaken on a recently developed Fisheries Sector Strategy.

MSC Certification was sought in 2010 for the tuna fisheries, but failed (Carleton et al., 2010) for two main reasons:

- (i) The status of each of the target stocks, which are managed by ICCAT, fell below the target and there was no clear strategy for stock recovery;
- (ii) Local management and reporting issues, such as failure to record discards, lack of management objectives and lack of a strategy to minimise capture of vulnerable species such as sharks.

Whilst the status of the tuna stocks is beyond the control of St Helena, the local management issues can be addressed and the revised Fisheries Ordinance (once finalised, enacted and implemented) should help to facilitate this.

## 10. Summary

The St Helena tuna fisheries are a small part of pan-Atlantic fisheries for these highly migratory species. The St Helena component of the Atlantic catches is very small and is unlikely to compromise the sustainability of any of the stocks. The pole & line method of catching fish is the most environmentally friendly method of catching tuna, with minimal by-catch and any by-catch that is taken can usually be released alive. The recent declaration of the IUCN Category VI MPA indicates a long-term commitment to sustainable management of the resources.

Whilst the MPA was declared in September 2016, the full implementation is dependent on the enactment of a new Fisheries Ordinance, which will prohibit purse seining, bottom trawling and other destructive fishing practices.

Whilst ICCAT is responsible for the management of the highly migratory Atlantic tuna stocks, it is important that St Helena ensures that local catches are sustainable. There is evidence that yellowfin tuna remain around the island for extended periods, so there is a risk of temporarily depleting the local stock.

Until recently the collection of data from the fishery has been limited to landings data provided by the SHFC, with no data on effort. It is important that high quality catch and effort data is collated and provided to ICCAT. The recent establishment of a fisheries science programme is welcome, but needs to be maintained in the long-term.

There is the opportunity for greater cross-territory collaboration in a number of areas. A report in 2010 (MRAG, 2010) considered the fisheries in St Helena, Ascension and Tristan da Cunha and identified a number of areas where greater co-operation between the islands would be beneficial to all.

Following the declaration of the Marine Protected Area, the UK Government has announced significant financial support to the OTs that have committed to the “Blue Belt” of MPAs. The Blue Belt funding provides an important opportunity for St Helena to work with other OTs and develop all aspects of its fisheries management to ensure long-term sustainability.

<u>Strengths</u>	<u>Weaknesses</u>
The St Helena tuna fisheries are a very small component of the pan-Atlantic fisheries and unlikely to impact of the sustainability of these stocks.	Two of the four tuna stocks that are targeted in the St Helena EFZ are considered overfished, albeit this is an ICCAT issue rather than a St Helena issue.
The pole and line method of fishing is environmentally friendly, with little or no by-catch.	The full legal implementation of the MPA is contingent on a revised fisheries ordinance, which has yet to be finalised.
The recent declaration of a IUCN Category VI Marine Protected Area demonstrates a commitment to long-term sustainability of the marine environment.	The collection of data on target and non-target species is very limited.



## 11. Recommendations

1. The Fisheries Ordinance should be enacted as soon as possible to facilitate the new licensing system. In the interim, the SFO could include additional conditions on licences that would require log-books to be completed by inshore vessels.
2. As identified in the Marine Management Plan, a local enforcement post is required to ensure compliance with marine and fisheries legislation and restrict any illicit landing of fish.
3. The current science programme should be maintained, but there are likely to be benefits from working more closely with Ascension Island who have a similar fisheries programme.
4. Further tagging should be undertaken to determine movements and residence times of the tuna, with emphasis on yellowfin and bigeye tuna.
5. St Helena, with assistance from the UK Government, needs to engage fully with ICCAT at both science and policy level to ensure St Helena's interests are represented and protected.
6. St Helena should, together with Tristan, Ascension and other OTs, investigate options to use satellite monitoring system (AIS & SAR) to determine if there is any significant illegal fishing in the EFZ.

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