

**North Atlantic Swordfish Management Plan
St. Vincent and the Grenadines**

1.0 Introduction

The Fishery Management Plan (FMP) for the Atlantic Swordfish authorizes the commercial harvest of the species listed in section 2 of this FMP. Commercial fishing is authorized during the fishing year unless otherwise specified. Section 4.1 describes the procedures for determining harvest levels for the species. Section 5.1 addresses permit and participation, authorized gear, time and area and catch restrictions. Sections 5.2 to 5.5 designate monitoring and reporting requirements for the fishery.

The national swordfish quota for the North Atlantic is harvested by St. Vincent and the Grenadines flagged vessels. No portion of the annual quota and yield is allocated to foreign harvesters or foreign processors.

1.1 General Objective

St. Vincent and the Grenadines aims to create the circumstances for an economically prosperous swordfish fishery through the application of judicious and responsible fisheries management practices, based on sound scientific research and analysis to ensure the sustainability of fishery resources and associated ecosystems for the benefit of future, as well as current generations.

1.2 Specific Objectives

- Adoption of conservative harvest levels based on ICCAT Total Allowable Catch recommendations for Atlantic Swordfish stocks
- Promotion of management measures that, while meeting conservation objectives, also avoid disruption of existing economic structures
- Maintenance of the license limitation programme, modified as necessary to decrease excess fishing capacity in consideration of the efficient use of the swordfish fishery resources
- Increase the utility of High Seas observer data for management of the fishery resources
- Increase the quality of monitoring and enforcement data through MCS strategies and improved technology.
- Continue to cooperate with CRFM, ICCAT, WECAFC, St. Vincent and the Grenadines government agencies and other institutions to meet conservation requirements, promote economically healthy and sustainable fisheries and maximize efficiencies in management and enforcement programmes.
- To adhere to ICCAT minimum size conservation recommendations of 25kg / 125 cm LJFL for live weight and 63 cm cleithrum to keel measurement for dressed weight.

2.0 Characteristics of Swordfish (*Xiphias gladius*)

2.1 Species: Sword fish (*Xiphias gladius*)¹

FAO Names: En- Swordfish; Fr – Espadon; Es – Pez espada

- The body is long and cylindrical
- In adult fish, the upper jaw extends into a very long flat sword
- The eyes are large
- Young fish up to 1m long have small teeth, which virtually disappear when they reach adulthood

- The dorsal and anal fins are both made up of two widely separated parts in adults, but these are continuous in young and juvenile fish
- The first dorsal fin is much larger than the second; the first has 34 to 49 soft rays, the second dorsal fin has 4 to 6 soft rays
- The first anal fin is larger than the second; the first anal fin has 13 to 14 soft rays, and the second has 3 to 4
- The second anal fin is slightly further forward than the second dorsal fin
- The pectoral fins are somewhat rigid, and each is situated on the lower part of the two flanks, with 16 to 18 rays
- There are no pelvic fins
- The adult fish's caudal fin is crescent-shaped; in young fish, it is indented into the fork
- There is a single pronounced side keel on each side of the caudal peduncle
- The anus is close to the source of the first anal fin

2.2 Swordfish Biology²

Swordfish (*Xiphias gladius*) are members of the family Xiphiidae and are in the suborder Scombroidei. They can reach a maximum weight in excess of 500 kg. They are distributed widely in the Atlantic Ocean and Mediterranean Sea. In the ICCAT Convention area, the management units of swordfish for assessment purposes are a separate Mediterranean group, and North and South Atlantic groups separated at 5°N.

Swordfish feed on a wide variety of prey including groundfish, pelagic fish, deep-water fish, and invertebrates. They are believed to feed throughout the water column, and from recent electronic tagging studies, undertake extensive diel vertical migrations.

Swordfish mostly spawn in the western warm tropical and subtropical waters throughout the year, although seasonality has been reported in some of these areas. They are found in the colder temperate waters during summer and fall months. Young swordfish grow very rapidly, reaching about 140 cm LJFL (lower-jaw fork length) by age three, but grow slowly thereafter. Females grow faster than males and reach a larger maximum size. Tagging studies have shown that some swordfish can live up to 15 years. Swordfish are difficult to age, but about 50% of females were considered to be mature by age five, at a length of about 180 cm.

3.0 Description of Atlantic Swordfish Fishery Stocks

According to ICCAT provisional report Doc. No. SCI-036 / 2013, the total Atlantic estimated catch (landings plus dead discards) of swordfish (North and South, including reported dead discards) in 2014 (20,686 t) is on the levels of (+3%) of the reported catch in 2013 (20,127 t).

For the past decade, the North Atlantic estimated catch (landings plus dead discards) has averaged about 12,000 t per year. The catch in 2014 (10,801 t) represented a 47% decrease since the 1987 peak in North Atlantic landings (20,236 t). These reduced landings have been attributed to ICCAT regulatory recommendations and shifts in fleet distributions, including the movement of some vessels in certain years to the South Atlantic or out of the Atlantic.

Two stock assessment platforms were used to provide estimates of stock status for the North Atlantic swordfish stock, non-equilibrium surplus production model (ASPIC) and Bayesian Surplus Production Model (BSP2). The stock is considered rebuilt, consistent with the 2009 evaluation. Compared with the 2009 ASPIC base case model, the trajectory of biomass and F ratios are similar until the late 1990s, thereafter the current model predicted slightly lower fishing mortality rates and higher relative biomass, but certainly within the estimated

80% confidence bounds. Results from the 2013 assessment indicated that there is a greater than 90% probability that the North Atlantic Swordfish stock has rebuilt to or above B_{MSY} .

4.0 St. Vincent and the Grenadines Current Fishery

St. Vincent and the Grenadines has a High Seas fishing fleet which are foreign owned vessels registered in St. Vincent and the Grenadines. The High Seas fishing fleet is of an industrial nature, harvesting tuna and tuna like species. There are Thirty-three (33) such vessels of between 23 to 52 meters in length fishing in the Atlantic.

The current high seas fishery is a Long line tuna fishery utilizing long line gear and licensed to target albacore, big eye tuna, yellowfin tuna and swordfish. St. Vincent and the Grenadines is an active member of the International Commission for the Conservation of Atlantic Tunas and contributes fishing operations data for informing assessment and management of these species. As a CPC, St. Vincent and the Grenadines is obligated to participate in the SCRS yearly. Direct revenues collected from this High Seas fisheries sector include registration fees which are collected by the Department of Maritime Administration every five (5) years and High Seas fishing licenses which are collected by the Fisheries Division on an annual basis.

4.1 Quota Allocation

St. Vincent and the Grenadines has thirty-three (33) vessels fishing within the ICCAT convention area and an annual quota of seventy-five (75) mt is allocated. Any used portion or excess of the annual adjusted quota may be added to or shall be deducted from the respective quota of the adjustment year (the catch year 2 years from the one in question). The maximum underage which may carry over in any given year shall not exceed 50% of the initial quota.

Two of the larger vessels which conduct transshipments, Dae Sung 216 and Dae Sung 226, are allocated twenty (20) mt of North Atlantic Swordfish each while one (1) mt each is allotted to the remaining thirty-one vessels. The catch data is compiled and reviewed monthly to ascertain compliance.

In 2015, St. Vincent and the Grenadines authorized Dae Sung 216 and Dae Sung 226 to conduct transshipments thereby creating a greater demand for North Atlantic Swordfish compared to previous years. These vessels were allocated quotas of twenty-five (25) mt each thus allowing for St. Vincent and the Grenadines to better utilise the allotted quota. It should be highlighted that it is envisaged that the fleet capacity of St. Vincent and the Grenadines would increase and as such there may be a need for increased quota allocations to the country.

The table below outlines the catches for the period 2013 to 2016.

North Atlantic Swordfish	2013	2014	2015	2016	2017
Initial Quota (mt)	75	75	75	75	75
Adjusted Quota (mt)	112.5	112.5	112.5	85.5	85.5
Catches (mt)	4.2	39.8	102	33.4	TBD*

*TBD - To Be Determined

5.0 Management and Enforcement Considerations

5.1 Authorization to Fish

The High Seas Fishing Act (2001) requires High Seas fishing vessels to have a license prior to engaging in any fishing activities. In accordance to licensing regulations, St. Vincent and the Grenadines flagged vessels shall only operate in ICCAT area after they have received prior approval from the Fisheries Division. Vessels which operate in ICCAT only proceed to operate in that area after the vessel has been included in ICCAT's list of approved and authorized vessels.

When operating on the high seas, a vessel shall conduct activities strictly in compliance with the terms and conditions as stipulated in its license. When operating in the jurisdiction of ICCAT, the vessel shall conduct activities in compliance with the applicable conservation and management measures of ICCAT.

5.2 Vessel Monitoring System

St. Vincent and the Grenadines has established a High Seas Unit within the Fisheries Division for the monitoring of the High Seas vessels. All vessels are required to install a satellite based Vessel Monitoring System (VMS) regardless of size. The VMS on board is required to be maintained functional at all times whether at sea or in port. Transmission of position reports are carried out actively every hour. The VMS also allows St. Vincent and the Grenadines' monitoring personnel to observe the movement of the vessels within the ICCAT Convention Area. Vessels that operate outside their authorized areas of operation are considered to have violated St. Vincent and the Grenadines' regulations and are subject to disciplinary actions in accordance with the High Seas Fishing Act (2001) and Regulations (2003).

5.3 Observer Programme

St. Vincent and the Grenadines is in the process of establishing its Observer Programme which will facilitate the placement of scientific observers on board its High Seas fishing vessels for the purpose of collecting fisheries specific data and in accordance with the High Seas Fishing Regulations (2003). The Observers will monitor the High Seas vessels and report on their compliance with local legislation as well as ICCAT recommendations for the managed species.

5.4 Inspection Programme

Fisheries Fish and Fish Products Regulations (2006) allows for the inspection of vessel discharges to ascertain the fish which is landed is fit for consumption. The traceability of fish is addressed in the St. Vincent and the Grenadines Fish and Fish Products Regulations Section 35.

The Procedural Manual for the Official Control of Fish and Fish Products (2011) outlines the proper procedures for the inspection of fish and fish products as well as those relating to the proper control of fish and fish products for domestic markets, export markets and the importation of fish. These include licenses, health certificates and other inspection forms which can be used to allow reliable traceability of fish and fish products (based on HACCP standards) from the net to the primary distributors.

An inspection Programme whereby St. Vincent and the Grenadines Fisheries Division officers inspect a sample of the catches of its High Seas fleet at ports in Trinidad is in its initial phase. One inspection was made in the first quarter of 2017 and five inspections in the third quarter.

5.5 Monitoring, Control and Surveillance (MCS) Data Management

A system for the procurement, storage and propagation of MCS data is established and maintained by St. Vincent and the Grenadines taking into consideration the confidentiality requirements and personnel handling of matters relating to the MCS measures and disclosure relevant to any violation. The dissemination of any VMS data or other such data by any authorized officer is prohibited unless approved by the Chief Fisheries Officer.

The following measures for the procurement, storage and propagation of MCS data are described below:

- Fishing Vessel Records - In accordance to the High Seas Fisheries Regulations (2003), the owners shall be required to complete an application together with supporting documents to St. Vincent and the Grenadines for the issuance of a license. The minimum information as prescribed in the regulations shall be recorded on the license. Data for each vessel shall be stored electronically within the St. Vincent and the Grenadines Fisheries Division. As a result of confidentiality of ownership information though, this data is restricted from public access. However, all data shall be reported to the FAO in accordance with the 1993 FAO Compliance Agreement.
- Catch – All St. Vincent and the Grenadines High Seas vessels are required to report their catches regularly in accordance with the High Seas Fishing Regulations (2003). This information is provided to the St. Vincent and the Grenadines Fisheries Division on a monthly basis. The Division (through the work of data collectors) also collects catch and effort, biological and socio-economic data from the domestic fleet.
- VMS Data – St. Vincent and the Grenadines flagged vessels are required to report their positions, via the vessel monitoring system, on a schedule approved by the Fisheries Division. Monthly reports are done by the High Seas Unit.
- Observer Data – Observers submit all data obtained from the fishing activities observed onboard the vessel after the completion of a trip.
- Transshipment Data – Transshipments at sea are prohibited unless permission is granted by the Minister according to the High Seas Fisheries Regulations 2003. Any vessel which intends to conduct transshipments is required to obtain prior approval from the Fisheries Division and can only commence transshipments after the approval is granted. Data on transshipment operations shall be reported to the Fisheries Division in accordance to the Regulations.

5.6 Reporting Requirements

St. Vincent and the Grenadines provides information on vessels and their activities to ICCAT as well as the FAO in accordance with the requirements of the relevant reporting obligations in the Compliance Agreement.

5.7 Sanctions

The Prohibition and Offences section (Part VI) of the High Seas Fishing Act 2001, calls for the imposition of sanctions for any violation committed in contravention of the Act, its regulations, circulars, notices and instruments. Sanctions are levied depending on the nature and severity of the offence, the extenuating circumstances and the damage to the marine environment and includes, inter alia, the imposition of fines up to two (2) million US dollars.

Literature cited

1. ICCAT Circular #5517/ 2017, Egypt - Swordfish Fishing Plan
2. ICCAT 2015, Report for Biennial Period, 2014 - 2015, Part II, Vol. 2, pp: 158 - 176.