

The background of the slide is a photograph of a tropical beach. In the foreground, there is a wooden signpost with a white sign that says "FISH" in bold, black letters. The signpost is slightly out of focus. In the middle ground, there are several palm trees with their fronds blowing in the wind. The ocean is visible in the background, meeting a clear blue sky at the horizon. The overall scene is bright and sunny.

# **Oceans Economy and Trade Strategies (OETS) Project**

**National Stakeholder Workshop - BARBADOS**

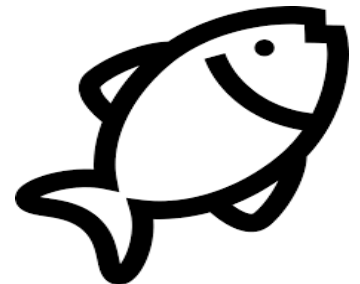
**Nikola Simpson**  
Fisheries Consultant, Sustainable Caribbean  
[sustainablecaribbean17@gmail.com](mailto:sustainablecaribbean17@gmail.com)

A woman wearing a white hairnet, glasses, and a blue apron over a white shirt is smiling and holding a piece of pink seafood. She is in a brightly lit industrial setting, likely a seafood processing plant. Other workers in white uniforms are visible in the background. A blue semi-transparent banner is overlaid on the image, containing the text 'Marine Fisheries & Seafood Processing' in white.

# Marine Fisheries & Seafood Processing

# FISHERIES

- **Fisheries:** the industry or occupation devoted to the catching, processing, or selling of fish, shellfish, or other aquatic animals (NOAA NMFS, 2017).
- Marine fisheries can be divided into small scale fisheries and large-scale fisheries (FAO, 2018).



# Barbados Fisheries: Sector Analysis

**Shelf Area:  
320 km<sup>2</sup>**

**Coastline:  
95km**

**EEZ: 186 107km<sup>2</sup>**

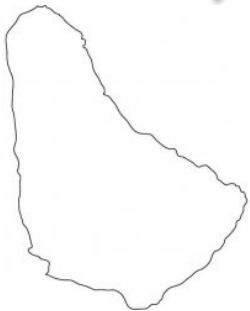
**EEZ:  
Territorial  
Land Ratio  
1/434**

**GDP at current  
price US\$4.355  
Billion**

**GDP per  
Capita  
US\$14.3  
thousand**

**Agricultural  
Value added US\$  
5.8% GDP**

**Fisheries  
Value added  
US\$ 8%  
Agriculture  
GDP**



# Overview of sector

- Local fishing industry: Open access, multi-species, multi-gear, seasonal
- 6 main fisheries: shallow shelf reef; deep slope; coastal pelagic; large pelagic; flying fish, and sea urchins.



# Sector Analysis

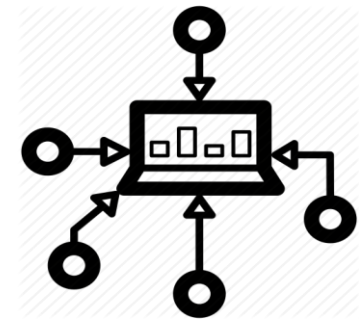
- **>1'000** registered **fishing vessels** in the commercial capture fishery (Government of Barbados, 2014).
- ~ **30** fish **landing sites** around the island.
- The primary fish landing sites are at Bridgetown, Oistins, Consett Bay, Paynes Bay, Weston and Speightstown (BFD, 2014).
- Majority of catches are landed at the primary sites and are often sold by the boat captain or owner directly to fish vendors (predominantly women), processors and consumers.

# Sector Analysis

- The ***Ministry of Maritime Affairs and the Blue Economy*** (MMABE) has primary responsibility for the fisheries sector through the Barbados Fisheries Division (BFD).
- Under the Fisheries Act (1993), all commercial fishers are to be licensed by the Fisheries Division.
- The Fisheries Act (Cap 391) and the Fisheries Management Regulations (1998) are the legal authority for the management and development of fisheries in the waters of Barbados.
- A Fisheries Advisory Committee (FAC) comprised of stakeholders advises the Minister of Maritime Affairs and the Blue Economy.



# Data Collection Process

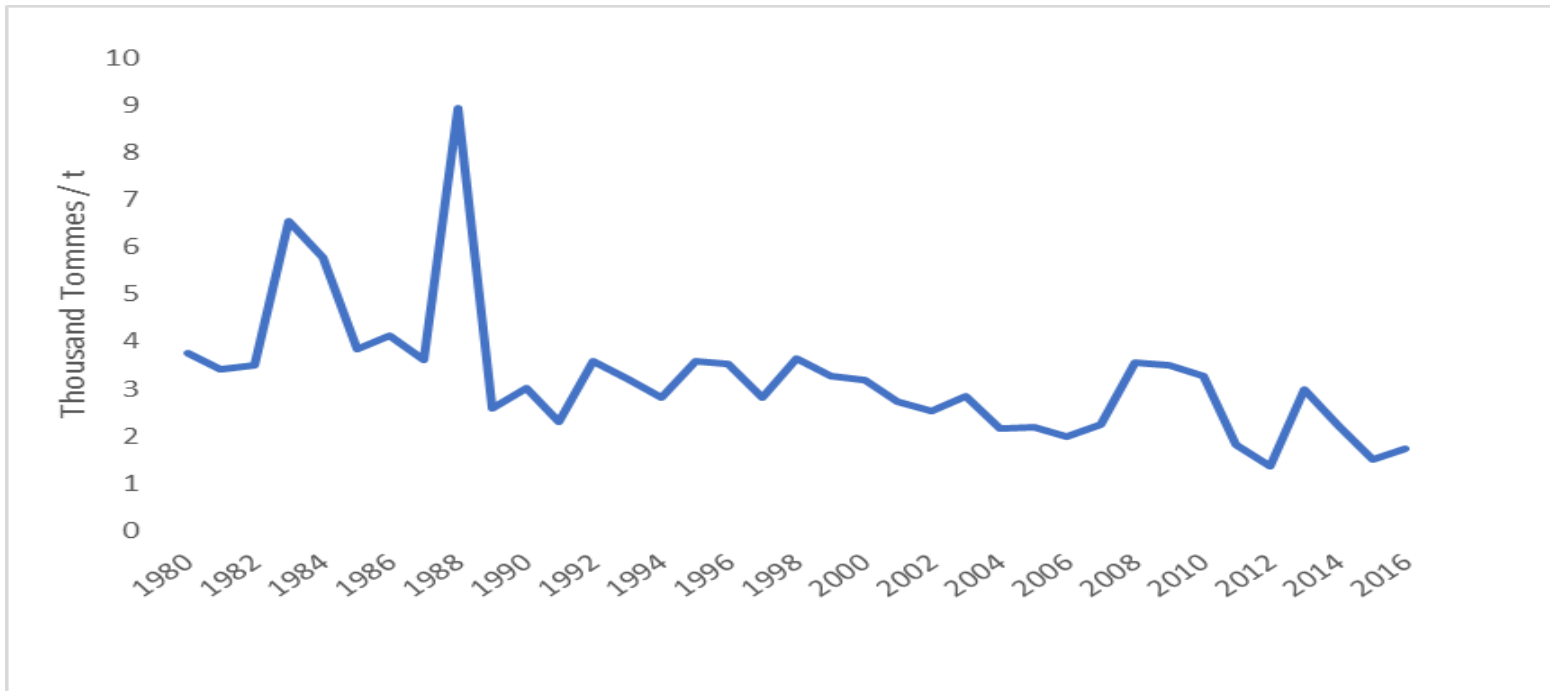


- Barbados Fisheries Division
- FAO FishStatJ
- BSS
- Economic Planning Unit
- CRFM



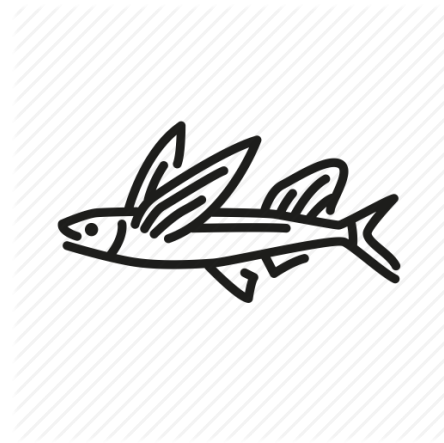
# Production – Capture / Landings

- Majority of fish production in Barbados originates from marine fisheries
- Landings range from **1.4 (thousand tonnes)** to **3.2 (thousand tonnes)** over the period 2000 – 2016).
- **Figure 1: Total Capture Production for Barbados between 1980 – 2016**



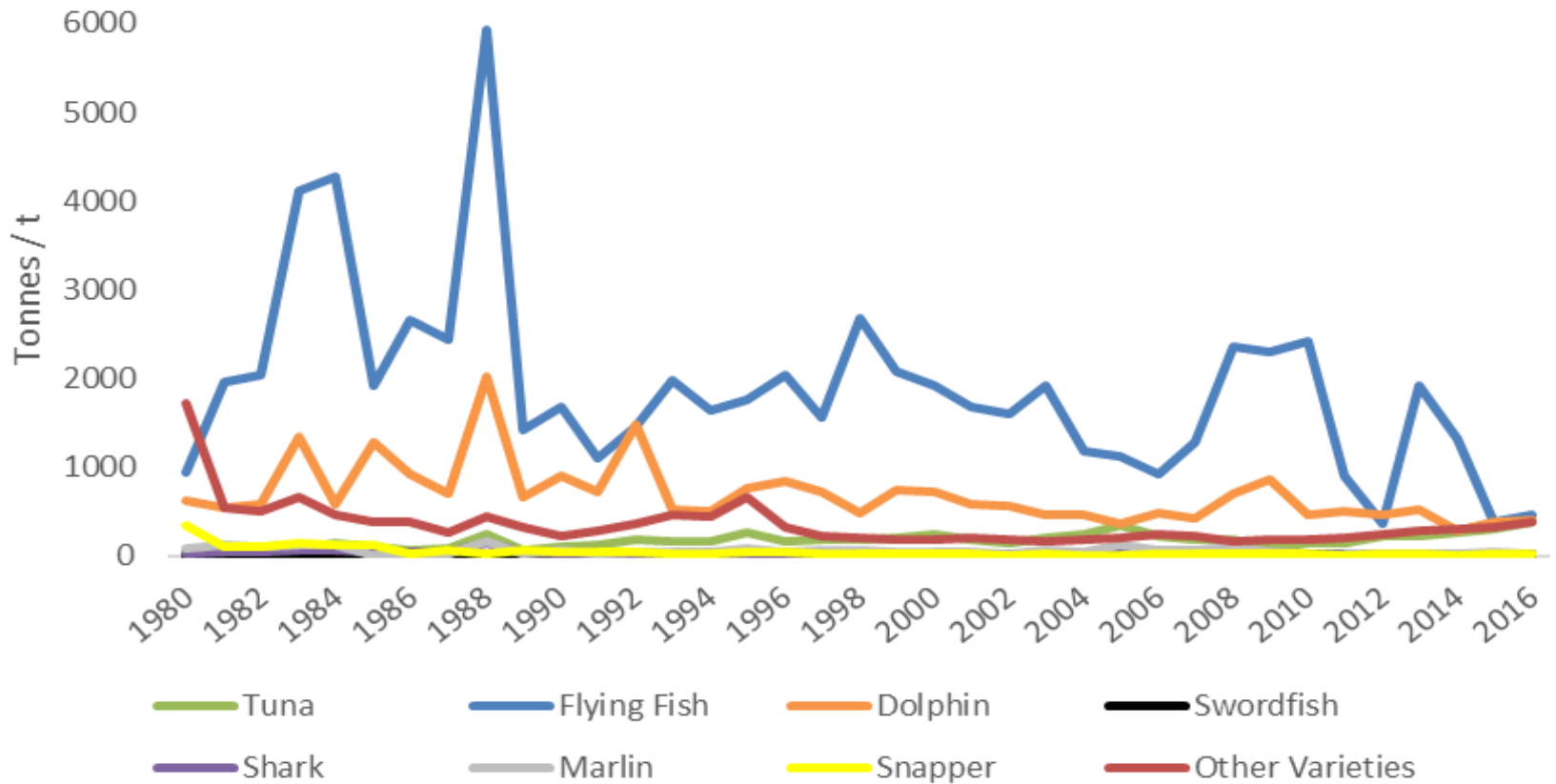
# Species Composition

- Flying fish contribute to  $> 2/3$  of the total annual landings followed by dolphin fish.
- Lower recorded total annual landings due to a decline in flying fish catches (potentially due to sargassum).
- Increase in catches and landings of juvenile dolphin fish.
- In 2016, flying fish remained the major contributor to the island's fish catch. Among the large pelagic species, catches of dolphin fish increased from 2015 to 2016 but are still below the average annual catch reported over the past ten-year period (Fig 2&3).
- *(Source: BFD, 2018)*



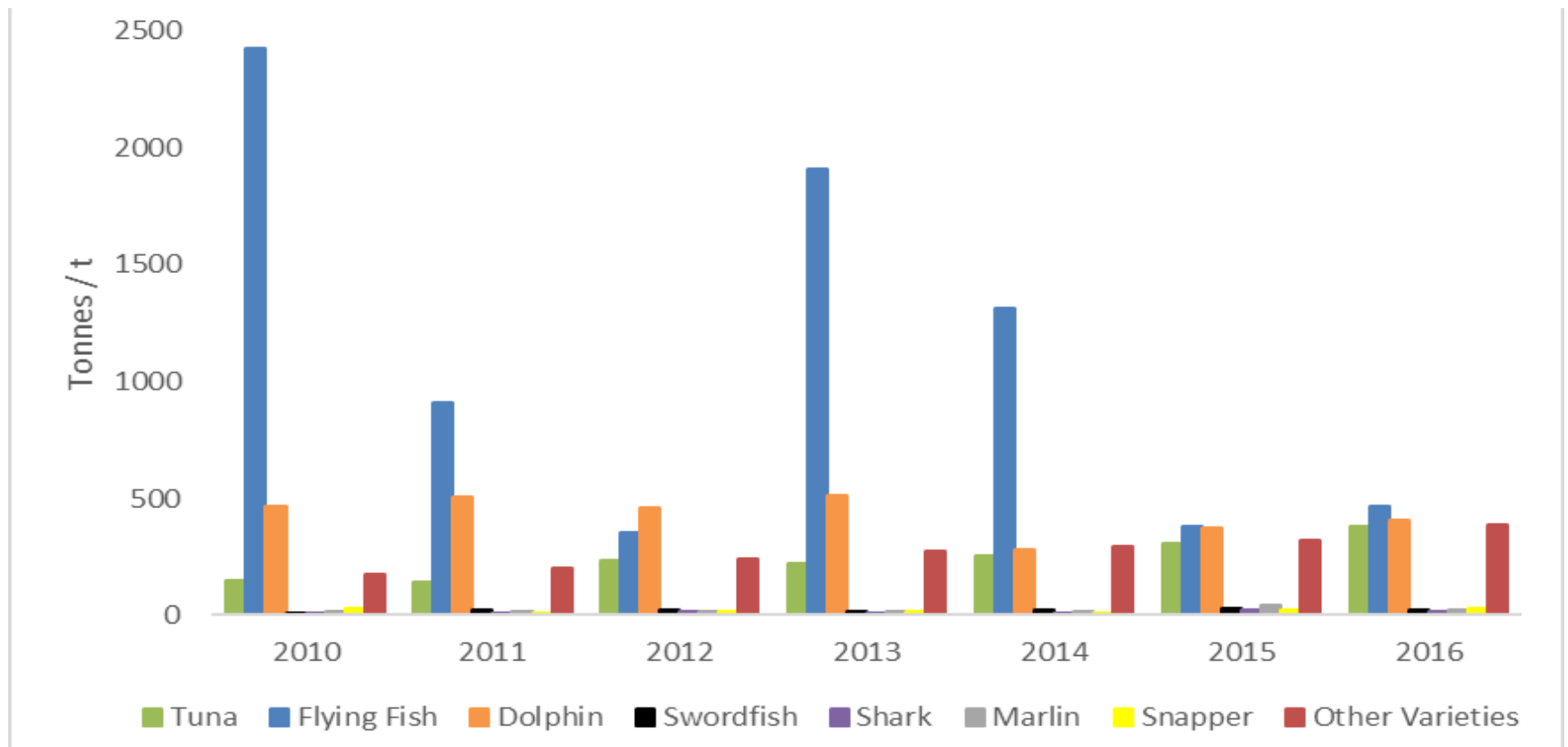
# Species Composition

Figure 2: Fish Landings by Species for Barbados between 1980 – 2016



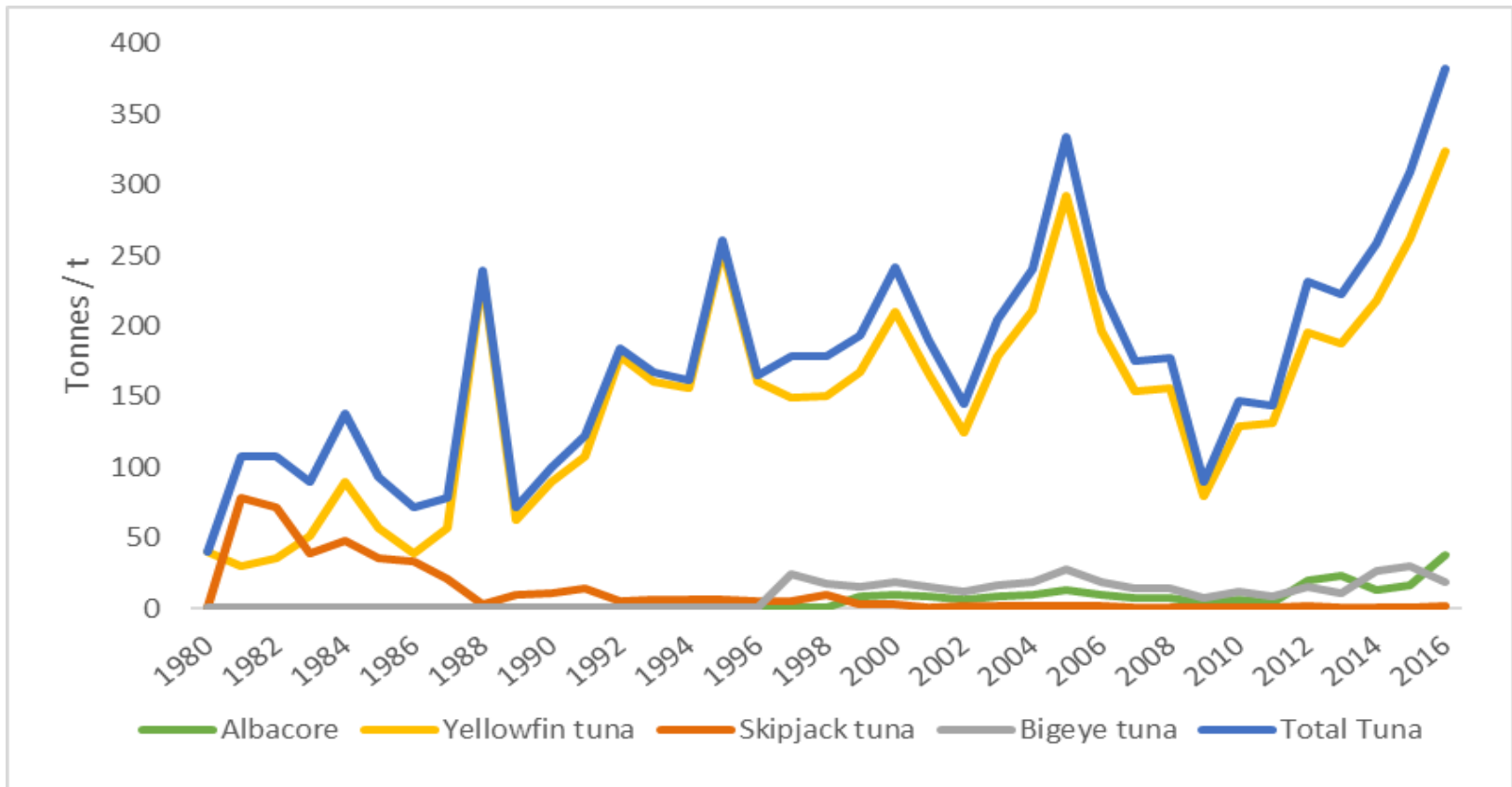
# Fish Landings

**Figure 3: Fish Landings by Species for Barbados in recent years (2010 – 2016)**



# Fish Landings - Tuna

- Tunas recorded an increase from **309 tonnes** in 2015 to **383 tonnes** in 2016 (Figure 6).
- **Figure 4: Tuna Landings for Barbados between 1980 – 2016**



# SEAFOOD PROCESSING

- **Seafood processing:** the activity that occurs post-harvest but pre-purchase, more specifically, the creation of value-added goods from aquatic life.
- Processing is the receiving and preparation of fish, including, but not limited to, cleaning, cooking, canning, smoking, salting, drying, or **freezing** (FAO Fisheries and Aquaculture Department, FAO, 2014).



# Seafood Processing



- Occurs at several sites across the island including Lashley and Waithe, Morgan's Fish House, Shorelinez, Atlantis Sea Food Inc and Ocean Fisheries
- Products for both domestic consumption such as fish burgers and fingers as well as export
- Variety of seafood processed products in Barbados including frozen, fillets, fish fingers, sausages, and hamburgers among others.

# Socioeconomic - Employment

- **6'000** individuals are employed in the fishing industry with **3'000** of these being active fishers (BFD, 2004).
- An estimate conducted by CRFM in 2013 stated that employment was closer to 8,800 or 6.2 percent of the labour force (CRFM, 2016).





# Flying fish fishery

- > **2'000 fishermen** and **500 vendors** seasonally employed in the fishery.
- > **200 persons** are employed as scalers or boners at fish markets
- ~ **125** are employed at fish processing plants.

# Earnings

- Three-part economic valuation of the fisheries of Barbados study
- Overview of Longline fishery and trap fishery



# GDP

- The GDP for Agriculture and Fishing industry for 2017 was BBD \$129.3 million (at current market prices) and BBD \$105.5 million (using constant 2010 prices).

# Contribution to GDP



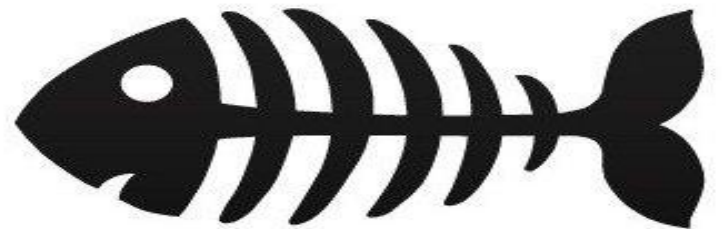
- Percentage contribution to GDP by the fishing industry is estimated at 0.15 percent.
- The contribution of fishing to the Barbados GDP is currently undervalued and is usually cited as ranging between BBD 12-16 million per annum. This is based on the ex-vessel and retail prices collected at major markets (Mahon et al.2007).

# Ecological

- The status of the commercially exploited fish stocks varies from stable in the case of flying fish and dolphinfish to over-exploited in the case of sea eggs.
- However, there are local (e.g. sea eggs) and regional (e.g. flying fish and dolphin fish) stock assessments and monitoring work being conducted for example by the CRFM.

# Losses/Waste

- **~2-3 tonnes** of fish offal are discarded daily at the BFC

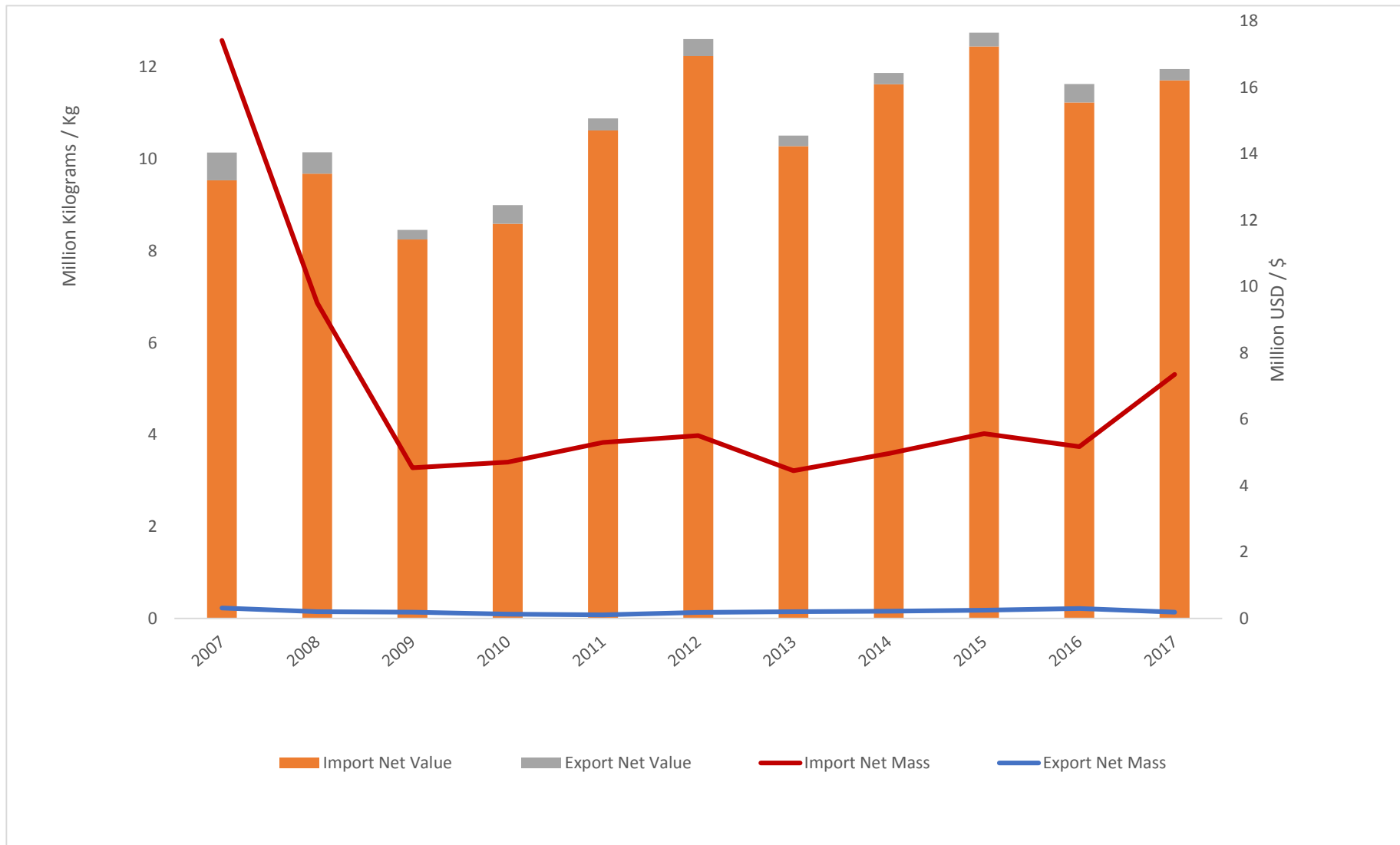


# TRADE



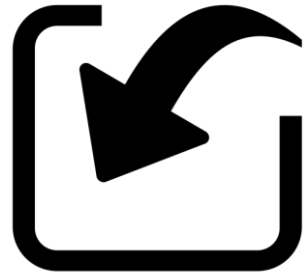
- Over the past years, **imports** of fish and fish products for Barbados (net mass and value) are **increasing** and **exports are decreasing**.
- In 2017, Barbados imported fish and fishery products for a total value of USD 16.2 million (BBD 32.4 million) and exported a total value at USD 0.3 million (BBD 0.67 million) (Figure 5).

# Figure 5: Import and export weight and value for fish and fish products for Barbados 2007 – 2017



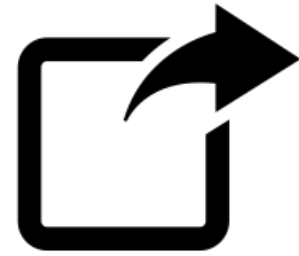


# TRADE - IMPORTS



- Barbados is a **net importer** of fisheries and fish products.
- Domestic consumption is relatively high and demand from the tourism industry may further increase internal pressure on such products.

# EXPORTS



- Exports of fisheries and fish products represent a small share in value terms of total exports in Barbados.
- Yellow fin tuna has been the leading product during the last five informed years

# Trade Policy Instruments - Tariffs

- Usually seen as instruments used to regulate trade flows and in particular imports.
- Tariffs applied by Barbadian authorities essentially matter for competition on the domestic market and could potentially grant some artificial relative competitiveness to domestic firms selling locally

# Trade Policy Instruments

## Non-tariff measures (NTMs)

- Sanitary and Phytosanitary measures (SPS Agreement)

# Challenges in Sector



- Limited Data collection & analysis
- Unknown status of stocks of many of the marine fisheries resources
- Suspected overfishing and overexploitation of certain species and resources.
- Lack of legislation or updated legislation surrounding fisheries
- Low enforcement capacity

# Challenges in Sector

- The influx of sargassum
- Fluctuating catches of flying fish with a decline in recent years

# Recommendations

- Expansion potential of capture production?
- Barbados is presently under the quota set by **ICCAT** for swordfish and under the default catch limit for some tunas (There is no catch limit at present for yellowfin tuna).

# Recommendations



- Barbados must try to reduce value and mass of imports of fish and fishery products
- Potential for import substitution - Barbados must try to increase domestic production, selectively substitute imports and create value for domestic production
- Improving post-harvest procedure quality (seafood processing)
- Reducing waste
- In order to diversify production, one must look at underutilized fish species, waste management and value-added products



# Recommendations



- Make use of unutilized or underutilized fishing quotas
- Update of the version of the HS classification used to publish trade flows data
- The type of fish being imported must be controlled and the country must work towards sustainable certification for the tourist industry
- Improved fishery data collection and information systems and procedures is needed
- Identify and access new local and foreign markets and barrier

# Recommendations

- Development of value-added products such as canned tuna and tuna loins
- Tackling of Illegal, Unreported and Unregulated fishing through block chain technology
- Expand research capacity into marine biotechnology, marine based biofuels, tidal and off shore wind energy
- Introduction of tariffs on certain fish species that are locally harvested such as tuna if local products are deemed to be safe and if domestic production is adequate.
- Identify the best use of under or unutilized quotas if domestic catching capacity cannot be expanded (e.g. auction system or pricing scale as in Belize)

# Discussion/Conclusions

- Is there any potential to expand production of any fishery?
- Can we substitute imports?
- Can we catch and export more yellow fin tuna?