# SUSTAINABLE FISHERIES PLAN CARIBBEAN NETHERLANDS 2020-2030

## FISHERIES MANAGEMENT PLAN FOR THE BES-ISLANDS

## ABBREVIATIONS

ABC - Acceptable Biological Catch, A term used by a management agency, which refers to the range of acceptable catch for a species or species group.

CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora

CLME+ – Caribbean Large Marine Ecosystems project

CMS – Convention on the Conservation of Migratory Species of Wild Animals

EEZ – Exclusive Economic Zone

FAD – Fish aggregating device

FAO – Food and Agriculture Organization of the United Nations

FCBES – Fisheries Commission BES

ICCAT – International Commission for the Conservation of Atlantic Tunas

IUCN – International Union for Conservation of Nature

LNV – Ministry of Agriculture, Nature, and Food Quality

MARPLESCA – Regional Caribbean Spiny Lobster Fisheries Management Plan

MPA – Marine Protected Area

NOAA – National Oceanic and Atmospheric Administration

RFMO – Regional Fisheries Management Organization

SFP – Sustainable Fisheries Plan

SPAW Protocol - Protocol Concerning Specially Protected Areas and Wildlife

WECAFC – Western Central Atlantic Fisheries Commission

# 1 INTRODUCTION

This Sustainable Fisheries Plan (SFP) is a management plan for the fisheries in the waters surrounding the islands of the Caribbean Netherlands: Bonaire, St. Eustatius and Saba (aka BES islands) and was developed in cooperation with the respective Island governments, management authorities, fishermen, NGO's and other stakeholders. The SFP spans a 10 year period (2020-2030), with a foreseen midterm review in 5 years. The objectives of the SFP will guide the Dutch government, the Fisheries Commission BES and Island authorities in their work on the conservation of the rich marine biodiversity of the Islands while facilitating sustainable fishing activities, both commercially and socially. This SFP is closely aligned with the Nature Policy Plan (NPP) for the Caribbean Netherlands 2020-2030 and operationalizes the NPP conservation objectives for Marine Biodiversity. By implementing sustainable fisheries measures and techniques it contributes to the protection of coral reefs, the protection of marine species (sharks, rays, turtles and whales) and overall protection of fish stocks. The Fisheries Commission BES is established by Dutch Law and may advise as appropriate on all issues it deems relevant for this SFP and its objectives. Final and overall authority for Fisheries Management and its instruments in Caribbean Netherlands rests with the Minister of LNV, with the understanding that Island authorities share competency in their respective Territorial Waters as specified by Law.

## 1.1 BACKGROUND

The Caribbean Netherlands, consisting of the three islands Bonaire, St. Eustatius and Saba (the 'BES-islands'), is located in the Caribbean Sea. St. Eustatius and Saba are located in the North-eastern Caribbean and are part of the windward islands of the Dutch Caribbean (despite forming part of the leeward group of the Lesser Antilles), whereas Bonaire is located in the southern Caribbean and part of the leeward islands of the Dutch Caribbean. The marine area of the Caribbean Netherlands covers more than 2.2 million hectares and hosts a high biodiversity.

The fisheries sectors on the three BES-islands have a social, cultural and economic value. Fishing is an historically important profession, as can be seen by the prominent place that is given to fishers on the coat of arms of both Bonaire and Saba. As in most of the Caribbean region, the fisheries sector in the Caribbean Netherlands is small-scale and multipurpose with differences between the three islands in, for example, fishing fleet size, target species, and professionalism.

Since the dissolution of the country of the Netherlands Antilles and the establishment of Bonaire, St. Eustatius and Saba as special municipalities of the Netherlands in 2010, the government realized that the fisheries legislation in place no longer corresponded sufficiently with the actual circumstances. Therefore, in 2017 an assessment of the fisheries legislation was performed which led to several recommendations amongst which was the establishment of fisheries management plans. Following that assessment, stakeholders were consulted on their expectations for a management plan in 2018 through physical meetings, online surveys and through the Fisheries Commission BES.

Fisheries management is a joint responsibility of the island government, national government, fishermen and other stakeholders involved with the marine environment. The coordination, implementation and evaluation of this SFP in regard to its objectives falls to the Fisheries Commission BES. Through the Commission there is a short and direct line to involve and consult all stakeholders on each island. The objectives and measures in this plan are operationalized through island-specific action plans which will be added as annexes to this plan as appropriate.

## 1.2 GENERAL OBJECTIVE AND GEOGRAPHICAL SCOPE

### GENERAL OBJECTIVE

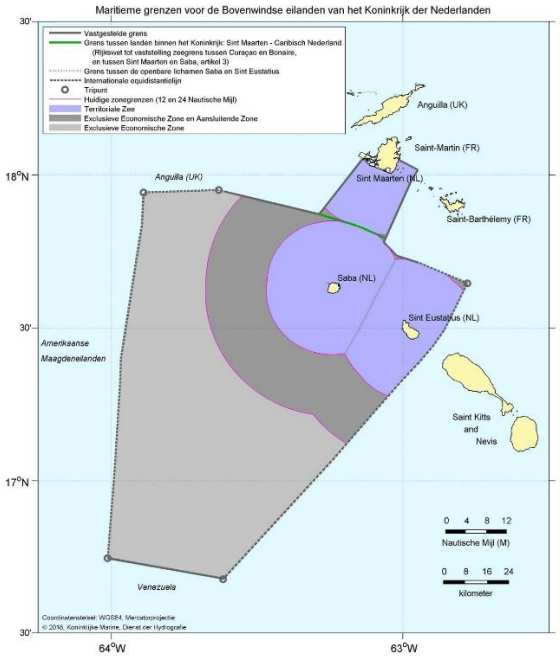
The general objective of this plan is to provide a management strategy that ensures that fishing in the Caribbean Netherlands is conducted in an ecologically and economically sustainable way, with measures that are implementable and enforceable in a practical way by the relevant authorities.

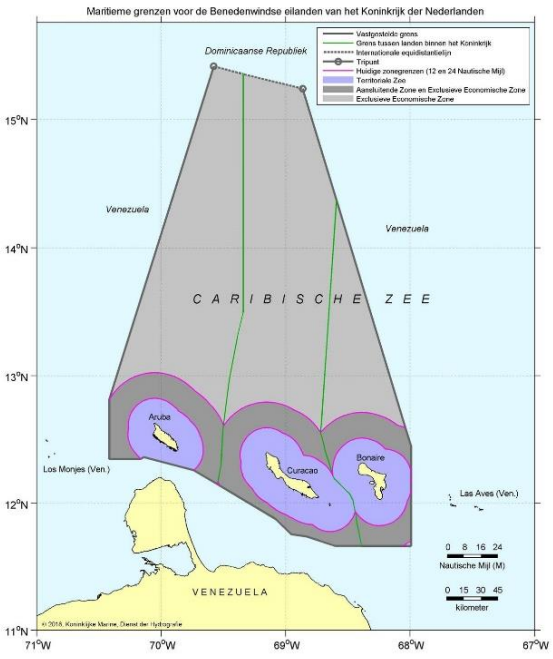
In this plan, sustainable fisheries has been defined as ***"fishing in such a way that it is enhancing to the environment and its stakeholders. Fishers should be able to efficiently sustain themselves, while maintaining the optimal balance between the fish stock, the fishing effort and the catch, thereby ensuring a future in fisheries on the Caribbean Netherlands."***

This definition builds forward on the broader definition for sustainable development by the Food and Agriculture Organisation of the United Nations is, which reads: "Sustainable development is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development conserves land, water, plant and genetic resources, is environmentally non-degrading, technologically appropriate, economically viable and socially acceptable."

### GEOGRAPHICAL SCOPE

The Exclusive Economic Zone (EEZ) of the Caribbean Netherlands consists of two geographically distinct zones. It concerns the EEZ around St. Eustatius and Saba, which also includes the Saba Bank, and the EEZ around Bonaire. This Sustainable Fisheries Plan covers the whole of the EEZ and territorial waters (TW) around the islands of Bonaire, Saba and St. Eustatius.




## 1.3 POLICY CONTEXT

At the request of the Fisheries Commission BES the Ministry of Agriculture, Nature and Food Quality (LNV) had an assessment made in 2017 of the fisheries legislation and policy instruments for the Caribbean Netherlands. Based on international fisheries guidelines, regional best practices, and stakeholder input, the key recommendation of the assessment was the development of fisheries management plans with an island-specific approach. Additionally, a revision of the fisheries legislation was recommended. Finally, it was recommended to make the formulation of SFP's obligatory, like the legal obligation to establish a nature policy plan in the Nature Conservation Framework Act BES (Wet grondslagen natuurbeheer en bescherming BES).

### FISHERIES COMMISSION FOR BONAIRE, ST. EUSTATIUS AND SABA

The Fisheries Commission BES (FCBES) is an advisory body established to enhance the joint management and policy-making of fisheries in the Caribbean Netherlands. In this Commission the island authorities of Bonaire, St. Eustatius, Saba and the national government can discuss and advise the Minister of Agriculture, Nature and Food Quality on fishing permits and on sustainable fisheries management in the waters of the Caribbean Netherlands. The Commission consists of four members: three representatives of the island governments plus an independent Chair appointed by Dutch Law, and is assisted by an official Secretary. The members representing the three island governments are appointed by their respective government, Bonaire, St. Eustatius and Saba. The Chair is appointed for a six year term by the Minister after consultation with the Commission members. The Ministry fulfills the role of the Secretariat of the FCBES. The FCBES convenes at least once per year.

The FCBES coordinates, monitors, and evaluates the progress and implementation of this sustainable fisheries plan. The plan has been presented by this Commission to the Minister of LNV and was subsequently approved. The plan itself contains the long-term goals for fisheries in the Caribbean Netherlands, and overarching measures to reach these goals. The island-specific plans for each of the BES-islands have been developed in collaboration with each respective government and contain more specific actions. These islands-specific plans can be added as annexes to this plan.

### NATURE AND ENVIRONMENT POLICY PLAN

In 2020 the Nature and Environment Policy Plan 2020-2030 for the Caribbean Netherlands (NEPP) was adopted by the Ministry of Agriculture, Nature and Food Quality (LNV), the Ministry of Infrastructure and Water (I&W) and the Ministry of Internal Affairs and Kingdom Relations (BZK). The NEPP is an integrated plan for land and water, and overlaps with fisheries policy regarding the marine environment. This Sustainable Fisheries Plan primarily aims to achieve goal 3 of the NEPP; *'sustainable use of land and water for the development of the local economy'* through *'sustainable fisheries'* (NEPP target 3.1). Furthermore it may contribute to achieving goal 4 of the NEPP; *'create the local conditions to ensure sustainable results of nature policy in the Caribbean Netherlands'* by *'creating awareness through education and training' (NEPP target 4.1)* and *'develop a structural research agenda' (NEPP target 4.2).*

# 2 SUSTAINABLE FISHERIES MANAGEMENT

## 2.1 THE SUSTAINABLE FISHERIES PLAN

The fisheries sector of the Caribbean Netherlands is a small-scale, multipurpose, and (predominantly) coastal fisheries. The fisheries of each of the three BES-islands is unique, but there are similarities in the challenges and objectives. The title of this plan – 'Sustainable Fisheries Plan' (SFP) – covers the general aim of this plan to ensure a sustainable fisheries in the Caribbean Netherlands. This is captured and formulated in the vision of this plan:

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*To develop a sustainable and profitable fishery, aimed at conserving the natural environment and ensuring food security in the Caribbean Netherlands, for the benefit of its biodiversity, its residents, the local economy, and future generations.*

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This vision encompasses the three pillars of sustainability: social development, conservation of the natural environment and economic growth. For the future, it is envisioned that the fishery within the Caribbean Netherlands will be a profitable business sector with abundant fish stocks that are continuously (co-)managed at optimal reproductive and sustainable levels. These fishing activities in the socio-economic arena provide good income for commercial fishers and their families. The fishery creates higher levels of food security by providing high quality, locally caught fish for the island population, contributing to the reduction of food prices. The fish that flows to the market is in accordance with the health regulations and the food quality regulations that are valid for the three islands. This is achieved under appropriate conditions for fishermen and causes no damage to the natural environment. By doing so the fishery contributes to the general health and well-being of the island population, the island economy, and the natural environment.

There are many challenges within, or related to, the fisheries sector and the necessary fisheries management processes and procedures. One of the main challenges concerns **declining fish stocks and overfishing**, either locally or regionally. Maintaining healthy fish stocks is not only important for the marine environment, but also for the fisheries as an economic sector as this ensures a continued profit and employment opportunities from these natural resources. Furthermore, as fishing is one of the oldest professions in the Caribbean Netherlands and families still derive their income from it, or enjoy fishing as a recreational activity, it is of social and cultural importance for fish abundance to be at a level healthy enough for these activities to continue. In order to maintain fish stocks it is necessary to control the fisheries and ensure fishing pressure does not exceed sustainable levels. Possible measures, therefore, are determining the acceptable biological catch for target species and establishing technical restrictions such as minimum catch sizes or closed seasons and/or areas. Furthermore it is of great importance that the fishing catch and effort data are monitored in order to timely intervene and adjust management when and where necessary.

A second challenge is **illegal, unreported and unregulated (IUU) fishing**. Combatting IUU is not only essential for proper management of fish stocks and overall health of the marine environment, but also to protect the fishermen of the Caribbean Netherlands and their livelihoods. To address this issue, an accountable fisheries sector must be established in which non-compliance has consequences. For this a comprehensive fishing permitting system is required, together with an appropriate system of co-management, close regional collaboration and effective and efficient enforcement. Other possible actions to increase the controllability of the fisheries are: (1) the establishment of a vessel monitoring

system (VMS); (2) the issuing of more detailed fishing permits; and (3) establishing accurate overview of the fishing fleet.

A third challenge is the **by-catch of non-target species and detrimental impact** of fisheries on the marine ecosystem. Fishing is focused on certain commercial target species and can impact not only these species but the marine ecosystem as a whole through, for example, by-catch of non-target species. Healthy stocks of commercial species are dependent on the good health of the entire marine environment, making this important to fisheries as an economic sector. It is therefore crucial that the detrimental impact of fisheries on non-target species and on the wider marine ecosystem is minimized. Therefore measures need to be developed and established not only to maintain stock sizes of commercial target species, but also to prevent by-catch of other species and to minimize other negative effects such as ghost-fishing. Monitoring the impact of fishing activity is important to evaluate the effect of these measures, detect possible negative developments and intervene accordingly.

Another challenge relates to the **lack of knowledge** on both the fish stocks and on the wider marine ecosystem. Determining acceptable biological catch levels for target species is only possible if there are estimates of the stock sizes of these species. In case of a lack of knowledge, it is important to follow the precautionary principle in order not to deplete fish stocks and/or cause harm to the wider marine environment. It is necessary to improve our knowledge through both fisheries dependent data collection and fisheries independent data collection (e.g. stock assessments). The evaluation of technical measures and mechanisms that have been put in place is needed to determine if the expected results are achieved.

Finally, the **substandard utilization** of the marine resources is a challenge that restricts the potential economic value of the fisheries and subsequently negatively impacts the marine environment. Maximizing the economic efficiency of the fisheries inherently encompasses a sustainable use of the marine resources. Declining fish stocks may subsequently lead to the fisheries diverting to other previously non-targeted species ("fishing down the food chain"). Maximizing economic efficiency will furthermore stimulate the professionalization of the fisheries sector and development of producer organizations, enabling co-management opportunities which enhances enforcement possibilities, sense of ownership and self-management by fishers, information gathering and implementation of technical measures.

The above described challenges and required management processes are captured in to the four long-term objectives of this plan, which are in turn made feasible through six overarching management measures. These objectives and measures are described in the following subchapters. When appropriate, specific actions and measures per island can be incorporated into this plan.

## 2.2 STRATEGIC OBJECTIVES

The strategic objectives for fisheries in the Caribbean Netherlands have been defined in accordance with the three pillars of sustainability combined with effective control and enforcement.

- **Objective 1:** Ensure that the fishery and associated activities are conducted in a manner consistent with the principles of ecological sustainability and the precautionary approach.

- **Objective 2:** Ensure that the fishery is a respected sector, retaining its social and cultural value and includes fishers in fisheries management.
- **Objective 3:** Maximise economic efficiency in the exploitation of the resources of the fishery, achieving the best use of the living resources.
- **Objective 4:** Ensure the fisheries are well managed and controlled and that there are consequences to non-compliance.

## 2.3 SPECIFIC MANAGEMENT MEASURES

Recognizing the differences in fishing practices and marine environments between the islands but also taking into consideration that there are similar needs on all three the islands, six overarching measures related to the strategic objectives are formulated;

The management measures work together in implementing a management strategy to ensure that fishing is conducted in an ecologically and economically sustainable way, so that fishing may continue to exist as both a commercial sector and a culturally valuable activity.

### MEASURE 1: DETERMINING THE ACCEPTABLE BIOLOGICAL CATCH (ABC) FOR MAINTAINING ECOLOGICALLY SUSTAINABLE STOCKS OF EACH TARGET SPECIES

To ensure catches are sustainable in the long term for all commercial target species an assessment is required on the maximum level of annual fisheries mortality. Ideally, information on the quantity and value of each type of fishery becomes available, leading to a sustainability rating of the harvest method for every marine resource. This includes reference points derived from a functional relationship of the sustainability of the harvest for each marine resource relative to the amount of this resource available in the ecosystem, informed by scientific studies. Without such information, assumptions and expert judgment will need to be made to assess trends and indicators based on the available data. There is currently a different level of data collection effort on each of the three islands, which relates to the different types of fisheries on each island. These are taken into account in determining the operational action points.

| Operational Action | Indicators |
|---|---|
| **2.1 Perform fisheries independent data collection (i.e. stock assessments) for potential commercial target species.** | Bonaire:<br>• Barracuda<br>• Red Snapper<br>• Big Eye Scad<br>• Queen Conch<br>• Spiny Lobster<br>St. Eustatius:<br>• Queen Conch<br>• Spiny lobster<br>Saba / Saba Bank:<br>• (Red) snapper<br>• Spiny lobster |

| | | |
|---|---|---|
| | | • Grouper (Red Hind) |
| **2.2** | **Develop and implement harvest strategies for commercial target species** | Determination of Acceptable Biological Catches (ABC)<br>Implementation of regional management plans for commercial target species:<br>• MARPLESCA<br>• Queen Conch |

## MEASURE 2: MONITORING THE IMPACT OF FISHING ON TARGET SPECIES, BYCATCH AND THE MARINE ENVIRONMENT

Even though there is some monitoring on the BES-islands there is still a large uncertainty in the catch and effort data which hampers the assessment of the state of the marine ecosystem and the impact of the fisheries. These data are essential as basic input into decisions by competent authorities and the work of the FCBES.

| Operational Action | | Indicators |
|---|---|---|
| 1.1 | **Monitor catch and effort data.** | Implementation of regional and international monitoring plans:<br>• Spiny lobster, (MARPLESCA, SPAW)<br>• Queen Conch (CITES, SPAW)<br>• General (WECAFC-DCRF)<br>Collection and monitoring of the following data:<br>• Quantity and composition of catch (incl. by-catch);<br>• Quantity and description of fishing gear used;<br>• Fishing pressure in terms of time spent fishing;<br>• Fishing pressure in terms of fishing locations;<br>• Overview and description of fishing fleet. |
| 1.2 | **Develop and implement comprehensive, consistent and workable fisheries data collection methods.** | Development of template with minimally required fisheries data.<br>Developments of methods in collaboration with fishermen to best collect data. |
| 1.3 | **Monitor the impact of fishing on the marine environment.** | Monitoring the impact of FAD fishing.<br>Monitoring the amount of ghost-fishing. |
| 1.4 | **Communicate and share monitoring results with key-stakeholders, i.e. fishers.** | Periodic and structural feedback of information to stakeholders. |

## MEASURE 3: BESTOW RIGHTS TO FISH IN THE FISHERY THROUGH A TRANSPARENT LICENSING SYSTEM THAT CAN LIMIT CATCHES AND PROTECT THE FISHERIES

Restricting access to the marine resources by making the right to fish conditional on a licensing system that applies to all fishing in the waters of the Caribbean Netherlands will allow the fisheries sector to be accountable. A comprehensive system of fishing permits linked to a maximum amount of fishing gear or catch will furthermore be a practical and enforceable manner to manage the fishing effort. The licenses therefore need to include clear rules on the intensity and techniques of the fishery and list clear measures, for example:

- Maximum number of traps;
- Guidelines on the type and number of lines on fishing vessel;
- Prohibition to catch certain species.

Licenses give a handle for control agencies to acquire relevant data and enable enforcement officials to take actions against illegal fishing activity.

| Operational Actions | Indicators |
|---|---|
| **3.1 Develop a template licensing system** | The template license is developed in cooperation with the Fisheries Commission BES.<br>Each island adapts the template to their own situation. |
| **3.2 Implement specific fishing permits for the different types of fishing.** | Implementing the advice of the Fisheries Commission BES to issue fishing permits for 1) commercial fisheries, 2) commercial sport fisheries, and 3) recreational fisheries. |
| **3.3 Develop and implement additional conditions with regards to the fishing activity in the permits.** | Conditions can be set with regard to:<br>• Target species<br>• Fishing gear<br>• Fishing location<br>• Bag limits / catch-and-release |
| **3.4 Develop a fines / sanctions system for noncompliance that is similar on all islands** | Control agencies should have the capacity and remit to carry out the control of the fisheries. |

## MEASURE 4: PROHIBITING FISHING, OR PART OF THE FISHERY, DURING SPECIFIED PERIODS OR IN SPECIFIC AREAS.

Spatial and temporal management measures can be implemented to protect vulnerable marine habitats and endangered or protected species. Measures to prohibit activities in time and area, can form an effective management strategy to prevent damage to vulnerable ecosystems or to protect

species. To facilitate the control of these measures it must be possible for enforcement officials to ascertain if fishers have been present in closed areas, for example by having access to data from a Vessel Monitoring System (VMS).

Snappers and groupers are two target species that are known to form spawning aggregations. Multiple grouper stocks have steeply declined over the years. The need for management tools to protect groupers are therefore also included in the Coral Action Plan which is part of the Nature and Environment Policy Plan for the Caribbean Netherlands.

| Operational Actions | | Indicators |
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| **4.1** | **Designate and/or monitor closed areas and seasonal closures as appropriate** | |
| **4.2** | **Mandatory VMS on fishing vessels over 6 meters (incl. recreational)** | |
| **4.3** | **Identify and protect spawning aggregations** | Groupers, (Snappers) |

## MEASURE 5: IMPLEMENT TECHNICAL MEASURES TO REDUCE BYCATCHES OF VULNERABLE AND PROTECTED SPECIES AND REDUCE THE IMPACT ON THE MARINE HABITAT

All effort should be made to reduce unintended by-catch of endangered and protected species, adjusting gear so these species can avoid or escape being captured as well as reducing the overall detrimental impact of the fisheries on the marine environment.

An integral part of the licensing system should be to include a list of technical measures to reduce the negative impact of the gear on non-target species and the overall marine environment. Such measures can include:

- Escape slots and hatches in traps with biodegradable attachment;
- Minimum mesh size of traps;
- Certain types of lines and hooks in line fisheries.

Fisheries are dynamic and new developments will arise that can have detrimental effects and will need to be followed by a new technical measure to mitigate the impacts. Therefore a system should be developed for developing new technical measures in relation to the fishing practice and, when the effectiveness has been proven, including such measures to the licenses.

| Operational Actions | | Indicators |
|---|---|---|
| **5.1** | **Make an overview of proven technical measures to incorporate in the licensing system** | |
| **5.2** | **Identify and study/test potential new technical measures** | |
| **5.3** | **Develop and implement a protocol for new technical measures to be included** | Develop technical measure to increase the survival rate of groupers that are caught and need to be released. |

## MEASURE 6: PERIODICALLY EVALUATE THE MECHANISMS THAT HAVE BEEN PUT INTO PLACE TO ENSURE THE OBJECTIVES OF THE PLAN ARE BEING MET

A management plan needs to be adaptable to allow for new insights to be included and outdated concepts to be replaced. This management plan will be agreed for a period of 10 years but will incorporate a review process to track the progress towards achieving the stated objectives of the plan. The FCBES is responsible for reviewing the SFP in close cooperation with the Ministry of LNV.

| Operational Actions | | Indicators |
|---|---|---|
| **6.1** | **The Fisheries Commission BES monitors progress of the plan on an on-going basis** | |
| **6.2** | **Perform independent mid-term review of the SFP.** | |

## MEASURE 7; INFORMATION, COMMUNICATION AND TRAINING

It is essential to have a proper mechanism of support, information, communication and training of fishers and other stakeholders. Such a mechanism should focus both on policy related issues originating from this Fisheries Management Plan, and on practical support, education and training of fishers in issues like organisation and fishing techniques.

## 2.4 RESEARCH AGENDA

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|---|---|
| | Perform stock assessments on the commercial target species |
| | Study solutions to enhance enforcement |
| | Study and monitor spawning aggregation sites |
| | Study the ecological, social and economic impacts of the proposed management measures to inform future management decision-making. |
| | Identify potential alternative commercial species |
| | Study innovative solutions to minimize bycatch. |
| | Determine the Acceptable Biological Catch (ABC) for the target species |
| | Perform a fishing gear survey on effort and by-catch |
| | Study and monitor the fishing pressure (fishing gear, fishing vessels, catch data) |

# ANNEX 1. DESCRIPTION OF THE RESOURCE

The Caribbean Netherlands is located in the Caribbean Sea, which is part of the Western Central Atlantic. The Western Central Atlantic consists of four sub-regions: the Gulf of Mexico, the North Brazil Shelf, the Southeast USA Shelf, and the Caribbean Sea. As a global marine biodiversity hotspot, the Caribbean Sea contains the highest species diversity in the Atlantic Ocean. The main target species in the Caribbean Sea are reef fishes, conch, spiny lobster, coastal and marine pelagics (e.g. dolphinfish, wahoo, billfishes and tunas), and deep slope finfishes (mainly snappers and groupers). It is estimated that approximately 58% of the stocks in the Caribbean Sea are overfished or collapsed (FAO 2018).

The coastal-marine environment of the BES-islands is characterized by a wide variety of habitat types where coral reefs, seagrass beds, and mangrove wetlands (Bonaire) are the most productive marine habitat areas. All islands have fringing or patch reefs along the island shelf and the eastern and southern edges of the Saba Bank have extensive reef areas.

## CARIBBEAN SPINY LOBSTER

The Caribbean spiny lobster is widely distributed throughout the western Atlantic Ocean as far north as North Carolina to Brazil in the south. Distribution and dispersal of spiny lobster is determined by the long planktonic larval phase. Given its wide distribution, a definitive stock structure is hard to determine for this species and Hunt et al. (2009) concluded spiny lobster is a single stock throughout the Caribbean.

In 2019 a regional management plan for the Caribbean spiny lobster was adopted by WECAFC. This plan, which encompasses all of the Caribbean, was developed under the "Ecosystem Approach for the Caribbean Spiny Lobster Fisheries subproject" (ECOLANGOSTA+), which is executed in the framework of the "Caribbean Large Marine Ecosystems project" (CLME+). The plan is known as the **MARPLESCA** plan.

The MARPLESCA plan contains clear guidelines on how to carry out stock assessments and the necessary data. The required data for monitoring and evaluation relevant to the Caribbean Netherlands are 1) catch data from fishing vessels, and 2) biological sampling data (lengths) on board commercial fishing vessels, scientific field sampling, sampling in processing plants and collection facilities.

Much of these data requirements are currently collected through the fisheries monitoring on Saba and St. Eustatius. The additional requirements could easily be collected, the methodology should be developed with the fisheries officers on these islands.

## QUEEN CONCH

Queen Conch (*Lobatus gigas*), is a large, herbivorous, marine gastropod found primarily in the Western Atlantic Caribbean region. Adult conch range in length anywhere from 143-264 mm and are found in shallow water, usually between 10 to 18m. Due to its commercial importance and high market value combined with easy access to the resource and a slow life history, queen conch populations have been heavily overexploited within its range leading to extreme low populations densities in some areas.

Unlike many other locations in the Caribbean region, St. Eustatius and the Saba Bank were found to have healthy populations of Queen Conch (though the Saba Bank conch population was completely fished out in the early nineteen nineties, the complete cessation of that fishery after 1996 allowed recovery of the population). High densities of adult Queen Conch (>200 adult conch/ha) were found at depths greater than 25m at both locations.

There is already a strong research and assessment procedure in place for the Queen conch (Lobatus gigas) fishery on St. Eustatius, which is designed to inform management and to ensure sustainable fishing of the species. The conch stock assessment completed in 2014 showed that the population around St. Eustatius can easily bear a sustainable harvest of circa 7500 individuals (4% of the population) per year. On Bonaire all harvesting of queen conch is forbidden in local legislation since [YEAR]. On Saba there is no commercial or recreational fisheries on queen conch, nor is the geography suitable for a queen conch fishery.

## PELAGIC FISH SPECIES

Wahoo, mahi-mahi (dolphin fish), barracuda and small tuna species (blackfin and yellowfin) are the species most frequently targeted in the open ocean trolling fisheries around the islands. All these species are migratory and have a Caribbean wide distribution. These species fall under the remit of The International Commission for the Conservation of Atlantic Tunas (ICCAT) which requires a level of data collection for all of these species through its contracting parties.

**Wahoo** (*Acanthocybium solandri*) and **mahi-mahi** (*Coryphaena hippurus*) are not considered over-exploited. However, status of these species in the western central Atlantic remains unclear. Reliable catch and fishing effort data from this area, improved knowledge of migration patterns, reproductive characteristics and critical habitat, validation of age, growth and mortality estimates, and a more comprehensive analysis of stock structure for the entire Atlantic are needed for informed stock assessment and management. Therefore, a precautionary approach in management is advised to account for these uncertainties.

**Yellowfin Tuna** (*Thunnus albacares*) is an important commercial species throughout the Atlantic, observed transatlantic movements and catch data suggest the existence of a unique stock which is used for stock assessment purposes in ICCAT. The population has been decreasing for over two decades and under target levels since 2009, but fishing mortality rates appear to be sustainable.

The stock assessment by ICCAT from 2011 indicated that maintaining catches at current levels (110,000 t) would allow the population to remain healthy through 2024. It is advised to set a total allowable catch (TAC) at this level starting in 2013. The World Conservation Union has classified the global population of yellowfin tuna as Near Threatened in its red list assessment.

**Blackfin Tuna** (*Thunnus atlanticus*) is the most common tuna species in the Western Central Atlantic representing a single stock throughout its range. FAO landings indicate that it is harvested by a wide range of countries with catches fluctuating between 2,400–5,200mt over the last 20 years. These landings probably do not include the recreational catch which likely comprises a large portion of the fishery.

**Great barracuda** (*Sphyraena barracuda*) This species is common throughout the Western Central Atlantic (Russell 2002). It is the most common predatory fish throughout the Caribbean. They are usually solitary predators and can be seen floating above coral reefs or hanging over drop-offs.

Juveniles school in shallow waters over sandy, weedy bottoms and in mangroves. Even though the overall status of the stock in the Wider Caribbean region is considered healthy local depletion is a risk which can leave reef ecosystem lacking abundance of predatory fish.

Barracuda is not regarded as a commercial fish on many Caribbean islands due to the risk of ciguatera poisoning in endemic regions. This toxin produced by plankton can concentrate in large, long lived predators like barracuda to present dangerous levels to humans. This is why it is considered a non-consumable fish on Saba, Sint Eustatius and Sint Maarten (and the surrounding lesser Antilles north of Guadeloupe).

On Bonaire, where ciguatera is not prevalent, the barracuda is commercially targeted. When fishers return from trolling on open sea they troll over the reef edges before heading to shore. Whereas pelagic fish catches are declining, barracuda catches are growing as a replacement fishery. Barracuda is a pelagic reef fish, an apex predator of the reef habitat and thus of high importance for an healthy coastal marine environment. There are signals that the barracuda stock is declining. Stock size and fishing pressure therefore need to be assessed.

The tuna and tuna-like species fall under ICCAT management in the Caribbean. The Caribbean Netherlands is currently not a member of this RFMO that is the official management organisation for all pelagic species caught in the Atlantic.

## REEF FISH SPECIES

The group of targeted Caribbean reef fish includes the following stock complexes: snappers, groupers, parrotfishes, grunts, goatfishes, porgies, squirrelfishes, tilefishes, jacks, surgeonfishes, triggerfishes, filefishes, boxfishes, wrasses and angelfishes. Of these stocks the snappers, parrotfish and groupers complexes are generally facing overfishing in the Caribbean region, whereas the other stock complexes are considered to be biologically sustainable or data deficient. However, as with the pelagic species the general lack of data on catches and information on species biology and distribution leads to an advised precautionary approach in management.

**Snappers**: the bulk of the snapper catches in the Caribbean Netherland consists of three deep water species (i.e. not reef fish): silk snapper (*Lutjanus vivanus*), blackfin snapper (*Lutjanus buccanella*) and vermillion snapper (*Rhomboplites aurorubens*). Of these species only the silk snapper has a positive stock trend throughout the region, blackfin and vermilion snapper do not have reliable stock trends for the region. The IUCN has classed the vermilion snapper as vulnerable to overexploitation.

On Saba the Red snappers are collectively known under the name “red fish”. Red snappers are one of the main commercial target species on the Saba Bank and on Bonaire. The red snappers concern several snapper species with differences in life history and possibly in local distribution. The current assessment methodology on the Saba Bank does not account for these potential differences and this creates the risk that the positive prognosis for the snapper “stock” status is artificially inflated as the fishery may be targeting geographically different stocks as well as different species. To evaluate whether this is actually the case will require more detailed analysis based on individual species as well as more accurate geographical recording of catches than are currently practiced.

**Groupers**: Sustainable management of groupers is complex as many of these species are slow growing, late maturing and long-living and little is known about the restocking capacity for depleted areas. Sustainable harvest strategies are therefore of key importance for the management of these species,

as restocking efforts will take long to reach a full recovery of the stock. Many grouper species have been heavily overexploited, leading to the practical disappearance of species like the Goliath grouper (VU) and Nassau grouper (CR). The Nassau grouper is now listed on Annex III of the SPAW protocol for the Wider Caribbean Region, requiring sustainable management. . Red hind (*Epinephelus guttatus)* is the most abundant grouper species in the Caribbean and harvest levels seem to be sustainable, however, fishing on spawning aggregations needs to be avoided. Targeting of these aggregations can quickly lead to localised depletion of the stock, therefore management should focus on ensuring these are avoided by fishermen.

The most commercially targeted grouper species is the Red Hind. One spawning aggregation site for this species has been identified and protected from fishing pressure on the Saba Bank. The effect of this measure on the stock is being monitored. Fishers experience issues with the species Queen Triggerfish, which is possibly aggregating in the same area. Queen Triggerfish are regarded as problematic by fishers due to the damage this species causes to the lobster catch, as they bite off the legs from the lobsters in the traps, causing great loss of value

## PROTECTED SPECIES

The large majority of all marine species in the waters of the Caribbean Netherlands is protected by legal instruments and/or policy. Besides groups of protected species like corals, sea cucumbers and sea urchins, there are protected species that are specifically mentioned in this SFP because of their vulnerability for unwanted by-catch and/or overfishing.

**Sea turtles**; The waters around the BES-islands are home to four of the world's seven sea turtle species: Green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*), leatherback turtle (*Dermochelys coriacea*), and loggerhead turtle (*Caretta caretta*). Sea turtles are all highly migratory and travel widely throughout the Caribbean. All three of the BES-islands have nesting grounds where turtles come on land for egg laying at specific times of year. Prolonged overexploitation by humans coupled with habitat destruction (such as seagrass beds and potential nesting sites) and high bycatch in fisheries have caused a worldwide decline in sea turtles. Of the Caribbean species the hawksbill is classed as critically endangered by the IUCN, the green endangered and the leatherback and loggerhead vulnerable.

**Marine mammals**: Resident marine mammals in the Caribbean include among others bottlenose dolphin (*Tursiops*), spinner dolphin (*Stenella longirostris*), Atlantic spotted dolphin (*Stenella frontalis*), short-finned pilot whales (*Globicephala macrorhynchus*), Bryde's whales (*Balaenoptera edeni*) and cuvier's beaked whales (*Ziphius cavirostris*). Seasonal visitors include humpback whales (*Megaptera novaeangliae*), common minke whales (*Balaenoptera acutorostrata*). Orcas (*Orcinus orca*) and sperm whales (*Physeter macrocephalus*). A total of 20 different species have been recorded for the Dutch Caribbean waters. Presence of previously undocumented marine mammal species is still being added and updated to the biodiversity database. Little is known about the seasonal migration and distribution of whales and dolphins in the Caribbean as a whole. The Saba Bank appears to be an important area for these animals with some species present year round. The Bryde's whale population in the Southern Caribbean (ABC islands) appears to be restricted to this area and

**Sharks and rays**: The waters around the BES islands have over 30 different shark and ray species officially recorded. Of these a significant number are considered vulnerable or endangered, either global or regional. These include: whale shark, hammerhead sharks, silky shark, oceanic white tip shark and manta rays.

**Queen conch:** Despite queen conch being a commercial species in the Caribbean Netherlands, it is also a protected species due to small and decreasing stock sizes both locally and regionally. In terms of volume, value and socioeconomic significance, L. gigas is the principal marine species regulated under CITES in the Caribbean. The catch of queen conch on Bonaire has been prohibited for over 30 years by the local authorities. Only St. Eustatius is allowing conch catch and has requested to establish an export quota under CITES of 5000 individuals per year, based on the population assessment findings of 2014. The island's legislation will be adapted accordingly.

## ANNEX 2. DESCRIPTION OF THE FISHERY

The fisheries sector in the Caribbean region is heterogeneous, with a high variety of target species that is fished upon by a wide range of fishery types from industrial fisheries to small-scale subsistence fisheries. Due to the large percentage of small-scale fisheries and the challenges related to this type of fishery (e.g. limited technical and financial resources) information gathering in the region is difficult leading to incomplete pictures on fish stocks, catch data and fishing effort. In the Caribbean Netherlands, the fisheries sector is a small-scale, multi-purpose, and (predominantly) marine coastal fisheries. The challenged as described for the Caribbean region can therefore also be ascribed to the BES-islands. The main targeted ecosystems of both commercial and recreational fisheries in the Caribbean Netherlands are the coastal waters up to 100m and the pelagic open waters, with a focus on the Saba Bank for the windward islands. To categorize the predominant types of fisheries for the BES-islands, the following three types of fisheries can be identified:

**Commercial fisheries:** fishing using any permitted method with any catch landed ashore for the purpose of selling it.

**Commercial sport fisheries:** fishing using exclusively hand lines or trolling, for profit, where primary source of profit is through permitting third parties to fish from one's vessel.

**Recreational fisheries:** fishing using exclusively hand lines or trolling and any catch is exclusively for personal use and not sold or traded on domestic or export markets.

### ISLAND-SPECIFIC

None of the BES-islands have large scale or industrial fisheries, however, there are large differences between the small-scale fisheries on each of the three islands. Bonaire fishers mainly use line fisheries to target reef fish and pelagic species like wahoo, mahi mahi and tuna whilst the main commercial interest on Saba is a fishery with traps focused on spiny lobster and red snapper. The St. Eustatius fishery consists of line fisheries for reef fish, traps for spiny lobster and diving for lobster and queen conch.

On all three BES-islands the fishermen have formed a producer organisation (PO), or are in the process of establishing one. These PO's represent the fishing industry in negotiations and dealings with the government. On Bonaire the fishermen have established a cooperation in 2017 under the name 'Piskabon'. On Saba the fishermen have established an association in 2019 under the name 'Saba Fishermen Association' (SFA).

### BONAIRE

Currently, there are approximately 45 fishers registered as members of the local fisheries cooperative Piskabon. Most of them have fisheries as their primary source of income but some could be classed as part-time, seasonal or recreational fishermen. There are a handfull of commercial angling charter boats registered on Bonaire and the island has a large recreational fishery from shore. It was estimated that 15-20% of the local residents fish from shore or from small boats and many sell their catch to supplement their income. The commercial fishermen (primary source of income) almost exclusively troll for pelagic fish and barracuda.

A variety of fishing gear is used; for example: the hook and (hand)line, (marine park certified) beach seines, throw nets, and some (marine park certified) fish traps. Spearfishing is prohibited, including

possession of a spear(gun)[1]. Line fishing is the most commonly used method for both shore and boat-based fishing. There are old reports of (Venezuelan) long-line vessels coming into the Bonaire EEZ illegally to harvest tuna and shark but these reports have not been corroborated in at least the past ten years.

While fishing pressure on coral reefs has been found to be generally moderate, some differences in carnivorous fish biomass between fished and non-fished areas and the virtual absence of large bodied groupers indicate that there is some fishing pressure. Fishers have also indicated that there are considerable catches of barracuda in the line fishery and that they have incidental bycatch of sharks (mainly Caribbean reef shark).

There is no centralized landing of catches on Bonaire which makes accurate monitoring of catches nearly impossible. Bonaire does not export fish, all catches are sold or consumed locally.

## SABA

Saba has a small fleet of licensed fishing vessels that go out to the Saba Bank on an almost daily basis. All boats are equipped with an hydraulic winch to facilitate hauling the traps. A relatively small number of fishermen currently hold a license to fish on the Saba Bank. The main commercial species, spiny lobsters and red snappers, are sold to restaurants on St Maarten and some fishermen sell their lobsters to an intermediary who ships them alive to China.

**Spiny Lobster fishery**

For the spiny lobster fishery, the number of fishing trips and number of traps set gradually grew from 2012 to 2015 but has since levelled off at around 70 tonnes annually. Increasing landings per unit effort indicate that the formerly reduced lobster abundance, which had been declining since 2000 and which had reached its lowest level in 2011, has subsequently increased relatively steadily all through 2017, and now has increased back to levels close to those of 2007. Mixed landings of reef fish in the lobster fishery have fluctuated between 10 and 20 tonnes annually. This bycatch is composed of a broad range of reef fish. The three main reef fish species landed were the queen triggerfish (*Balistes vetula*), white grunt (*Haemulon plumierii*) and the red hind (*Epinephelus guttatus*) representing upwards of 50% of the weight of landings. About 33% of the mixed reef fish (by weight) is discarded and mostly consists of nurse sharks (*Ginglymostoma cirratum*) honeycomb cowfish (*Acanthostracion polygonius*), cottonwick grunts (*Haemulon melanurum*) and white grunt, (*H. plumieri*). The catches of mixed reef fish have increased from 6.6t to 13.6t between 2012 and 2015, representing on average just under 20% of the overall total catch (all species combined) on Saba Bank. Overall, reef fish yields on Saba Bank appeared to be low compared to other areas.

A study from 2018 found that fishermen have structural bycatch of nurse sharks in the lobster traps and if handled correctly, these sharks survive being discarded back into the sea. Fishermen also report predation by Queen Trigger Fish on lobsters in traps causing them to lose considerable parts of their catch.

**Red Snapper Fishery**

The Red Snapper fishery (locally known as the "redfish" fishery) is largely conducted using traps, with some line fishery (i.e. bottom drop longline). The traps are typically deployed at depths between 50 en

[1] The marine park does license one particular specialized small multipronged spear, the Eliminate Lionfish (ELF) tool, to local residents.

250 m and catch mainly silk snapper (*Lutjanus vivanus*) (69% by weight), blackfin snapper (*Lutjanus buccanella*) (10%), and vermillion snapper (*Rhomboplites aurorubens*) (7%)

The landings from this fishery have fluctuated over the past years, but the population estimates indicate that the stocks are exhibiting a favourable trend. However, researchers do indicate that there is not enough stock specific information on the different snapper stocks to make a robust assessment and the prognosis for the snapper "stock" status may partly be based on targeting geographically different stocks as well as different species. Hence the data as collected and analysed may be presenting a too optimistic image of the stock sizes and trend.

After a study to document a spawning aggregation site for red hind on the Moon Fish Bank (north-east corner of the Saba Bank) employed fishermen to catch red hinds during the spawning months, a targeted seasonal red hind fishery developed in the spawning aggregation area that grew explosively over the next few years. To avoid the local extinction of red hind, a closed season (December to March) was instated for the area in 2013. For those three months all fisheries inside the aggregation area is prohibited. This closure was established for a period of 5 years, during which time research was conducted to determine the effectiveness. Due to insufficient data the closure was renewed in 2018 for another five years . By 2023 a decision will have to be made whether to extend the closure indefinitely; close additional areas; change the seasonal area closure to a general closed season for red hind; or allow limited strictly controlled catches during the spawning months.

## ST. EUSTATIUS

Based on the fisheries data collected for 2017, St. Eustatius fishery continues to be a small-scale coastal fishery as described by de Graaf et al. (2015). Lobster and fish landings for 2017 (52 metric tonnes kg and 17 metric tonnes respectively) were considerably more when compared to the 2012-2015 results of de Graaf et al. (2015). Lobster traps were the most common gear used during the period followed by SCUBA. All catches are sold locally.

Large grouper species were rarely observed during port sampling with red hind being the dominant overall grouper species observed. Surgeonfish and the small groupers accounted for 44 % of the sampled catch by number (of individuals) while squirrelfish and the small groupers accounted for 46 % by weight. Pelagic species made up 4 % of landings by weight and < 1 % by number. Parrotfish in both weight and number accounted for 3 %.

In 2014 a stock assessment was performed by de Graaf that showed the amount of queen conch that can be harvested annually. As this species can easily be depleted locally the population and catches are closely monitored. Landings have remained steady over the last five years and the assessment of the conch data suggests that increased harvesting has not yet had a measurable impact on population structure of St. Eustatius's queen conch stock. The proposed conservative annual combined local use and export quota for 2015-2017, recommended by the non-detriment findings of 2014 (4 % of estimated population size per year rather than the standard recommended 8 %) was not exceeded during 2015-2017. .

The ministry of LNV funded the deployment of several Fish Aggregation Devices to aid the local fishermen in their catches and promote fishing away from the reef. No activity was recorded at the Fish Aggregation Devices for 2017, this may be due to the effect of hurricanes Irma and Maria. In 2018, some fishing on the FADs took place by a small number of fishers.

## CHALLENGES IN THE FISHERY

Inadequate information on fishery biology and stock, and difficulty in aligning stocks with current efforts. There are severe data gaps both for fisheries dependent data (e.g. catch data and commercial activity) and fisheries independent data (abundance and distribution of species). This data deficiency makes it currently impossible to assess the acceptable catch levels for the majority of commercial target species.

Incomplete legislation to manage fisheries sustainably coupled with low levels of protection of marine biodiversity creates a risk of overexploitation of marine resources. Especially coupled with weak enforcement of existing regulations.

The fishing sector in the Caribbean Netherlands has not been organised in producer organisations (PO's) sufficiently long to jointly manage their interactions with government or work together in organising trade. The fishermen still mainly work solo in organising their catches and sales. This makes large investment in infrastructure difficult as there is no basis for combining resources or speaking to the government with a single voice. The fishing sector on all three islands is aware of this and of the need to further develop the fledgling fishermen's cooperatives. Support for these organizations in the form of information, training, participation in regional meetings, etc. is essential.

# ANNEX 3. DESCRIPTION OF THE LEGISLATIVE FRAMEWORK

Responsible fishing is required at all levels of governance in the Caribbean Netherlands. In addition, efficient monitoring and effective management of fisheries resources are needed to ensure sustainable use. International instruments such as the United Nations Convention on the Law of the Sea, United Nations Conference on Environment and Development conventions and arrangements, and the FAO Code of Conduct for Responsible Fisheries provide the marine resource management framework that must be implemented across the region for sustainable use of marine resources. In the specific Caribbean context the obligations, measures and guidelines deriving from the SPAW protocol and WECAFC are to be operationalized in the instruments of conservation and fisheries management.

The development and management of the marine resources within the BES islands falls under the jurisdiction of the Ministry of Agriculture, Nature and Food Quality (Min LNV) through the BES fisheries act (Visserijwet BES) and associated legislation. Fisheries development and management is also covered under the island ordnances of each of the three islands.

It should be noted that at the moment of writing of this SFP (2020), the ministry of LNV and the Island authorities are in an ongoing process of reviewing and adjusting the current legal framework. Elements that will be addressed in this process include, among others;

- the system of fishing permits and fisheries measures,
- the designation of Marine Protected Areas (e.g. the Yarari Sanctuary),
- additional management measures in fishing permits and in spatial instruments,
- proper definition and delineation of competency and authority,
- development and implementation of regional cooperative and legal instruments (e.g. WECAFC, ICCAT)
- research, monitoring and compliance issues.

## OVERARCHING LEGISLATION

### FISHERIES ACT BES (VISSERIJWET BES)

This is the main fisheries act for the BES islands which sets out the management framework for sustainable fisheries management in the Dutch Caribbean. The law stipulates that access to fisheries shall be organised through a licensing system for any vessels larger than 6 GRT (gross registered tonnage) or longer than 12 meters. The law also states that there shall be a Fisheries Commission and stipulates that tasks and functioning of the commission must be elaborated on in a later decree.

### FISHERIES DECREE BES (VISSERIJBESLUIT BES )

The Visserijwet BES is followed by the Visserijbesluit BES, which specifies technical measures and prohibitions of gear types and catches of species (queen conch, marine turtles, and sea mammals) and regulates minimum landing sizes and other restrictions for Caribbean Spiny Lobster.

The Visserijbesluit also sets to the terms for the Fisheries Commission BES. The legal status and powers of this commission are explained in the *Besluit houdende taken, werkwijze, benoeming en vergoeding Visserijcommissie BES* – which stipulates that the Fisheries Commission is responsible for advising the Minister on the granting of fishing permits as described in the Visserijwet BES.

### NATURE CONSERVATION FRAMEWORK ACT BES (WET GRONDSLAGEN NATUURBEHEER- EN BESCHERMING BES)

The Wet grondslagen natuurbeheer- en bescherming BES implements the wider international legislative framework designating where responsibilities lie for the ministry and the BES islands (specifically regarding CITES legislation and protective measures for species and areas stemming from the SPAW protocol, IAC, Ramsar and the Convention on Migratory Species).

### MINISTERIAL REGULATION DESIGNATING SABA BANK AS A NATURE PARK (REGELING AANWIJZING SABA BANK ALS NATUURPARK)

The Saba Bank has been designated by ministerial regulation as a nature park for its ecological, socioeconomic, scientific and cultural value. The size of the nature park is equal to that of the Particularly Sensitive Sea Area (PSSA) status the Saba Bank has received under the International Maritime Organisation (IMO). The regulation furthermore establishes a prohibition on anchoring in the park, and a sailing prohibition for vessels larger than 300 GT

## ISLAND LEGISLATION

### BONAIRE

Island Ordinance Nature Management Bonaire (Eilandsverordening natuurbeheer Bonaire)

This ordinance sets the requirement for establishing a 'commission nature management Bonaire' which advises the Executive Council on management measures. Furthermore, this ordinance establishes the legal provision for protection of areas, animal species and plant species.

Island Resolution Nature Management Bonaire (Eilandsbesluit natuurbeheer Bonaire)

This resolution has two main purposes. It gives rules for the establishment of protected natural areas and it designates protected species of animals and plants. The resolution also provides for management measures (delegated).

Island Resolution Marine Park Bonaire (Eilandsbesluit onderwaterpark Bonaire)

This resolution establishes the Bonaire Marine Park and provides for the protection of the island of Klein Bonaire. All activities damaging or potentially damaging the marine environment or the nature of Klein Bonaire are prohibited. This resolution regulates the use of the Marine Park by divers, fishermen and other users

### SABA

Saba Marine Environment Ordinance (Eilandsverordening Marien Milieu Saba)

This ordinance establishes the Saba Marine Park, the prohibitions in the park (mainly related to fishing and anchoring) and sets the conditions for user fees.

Saba island resolution marine environment (Eilandsbesluit Marien Milieu)

This resolution describes different zones within the Saba Marine Park, the terms of use related to these zones, and the user fees of the park.

Saba island resolution on the catch of Lionfish (Eilandsbesluit vangst lionfish Saba)

This resolution establishes the competency of the Saba Conservation Foundation for fishing on lionfish inside and outside the Saba Marine Park.

### ST. EUSTATIUS

St. Eustatius lobster Ordinance 1966 (Kreeftenverordening 1966)

This ordinance describes minimal allowed catch sizes and handling rules and regulations of the Caribbean Spiny lobster.

St. Eustatius Marine Environment Ordinance (Marien Milieu verordening Sint Eustatius)

This ordinance contains two elements: it regulates the visitor's fee and permits of the Marine Park, and it describes the instructions for the protection of underwater flora and fauna (i.e. fishing gear restrictions).

## INTERNATIONAL LEGAL FRAMEWORK

### SPAW PROTOCOL

The Protocol Concerning Specially Protected Areas and Wildlife (the SPAW Protocol), adopted in 2000, is the only binding tool for cross-border wildlife protection in the Wider Caribbean region. It is one of three Protocols to the Cartagena Convention—the other two deal with cooperation to combat oil spills, adopted in 1983, and land-based marine pollution, adopted in 1999. The Cartagena Convention is the only legally binding environmental treaty for the wider Caribbean area. The Convention and its Protocols constitute a legal commitment by the participating governments to protect, develop and manage their common waters individually or jointly

The objective of the Protocol is to protect rare and fragile ecosystems and habitats, thereby protecting the endangered and threatened species residing therein. The Caribbean Regional Coordinating Unit pursues this objective by assisting with the establishment and proper management of protected areas, by promoting sustainable management (and use) of species to prevent their endangerment and by providing assistance to the governments of the region in conserving their coastal ecosystems.

The protocol deals with area protection for unique and/or fragile habitats and has three annexes that deal with species-specific protection. Annex I only concerns plants, Annex II lists animal species that should not be commercially exploited, and annex III is meant for vulnerable plant or animal species that need to be managed to prevent further depletion.

### CMS

The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention) is a legislative agreement to protect and manage terrestrial, aquatic and avian migratory species throughout their range. CMS signatories work together on the conservation of migratory species that need or would significantly benefit from international cooperation. Species listed on Annex 2 of the convention are fully protected with al harvest banned whilst those listed on Annex 1 sustainable management measures have to be developed. Several shark species present on the BES islands are listed on CMS annex 1

Linked to CMS there is a Memorandum of Understanding on the Conservation of Migratory Sharks (MOU) on the Conservation of Migratory Sharks is the first global instrument for the conservation of migratory species of sharks negotiated under the auspice of CMS. It was first adopted in 2010 and now has 39 signatories supporting is objectives. The MOU is a non-binding international instrument. It aims to achieve and maintain a favorable conservation status for migratory sharks based on the best available scientific information and taking into account the socio-economic value of these species for the people in various countries.

### CITES

The Convention on International Trade of Endangered Species (CITES) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants is sustainable (appendix 2) and prohibits the trade in endangered species (appendix 1). International trade in appendix 2 species is regulated via a system of permits. Queen conch and several shark and ray species are listed on appendix 2 of the convention.

### YARARI

All the waters of the BES-islands have been designated as a marine mammal and shark sanctuary. There is currently no specific legislation linked to the sanctuary status, however, it has resulted in strengthening the commitment from The Netherlands towards regional protection of these species. The implementation act for the Yarari Sanctuary shall be part of the 2020 review of the nature plan for the BES islands.

## REGIONAL MANAGEMENT BODIES

### ICCAT

ICCAT is the Regional Fisheries Management Organisation responsible for the conservation and management of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas. It covers the High Seas, EEZs and territorial seas of its member states. The Netherlands is member of ICCAT through the EU as well as the island of Curacao. The Caribbean Netherlands is currently not a member of ICCAT.

Contracting parties are obliged to collect catch data on their relevant fisheries used for analysis and assessment of the stocks under ICCATS remit. ICCAT is also involved in data collection for other fish species that are caught during tuna fishing ("bycatch" - principally sharks, which are not investigated by another international fishery organization.

Based on scientific and other information, such as fishery statistics and stock assessments provided by members, each year the Commission decides on conservation and management measures aimed at

maintaining target stocks at levels that permit the maximum sustainable catch for food and other purposes.

### WECAFC

The BES islands also fall within the jurisdiction of the Western Central Atlantic Fishery Commission (WECAFC). The organisation currently has the role of an advisory body to government but in 2016 its members adopted a proposal to develop it into a full Regional Fisheries Management Organisation. The aims of the Commission are based on the FAO Code of Conduct for Responsible Fisheries "to promote the effective conservation, management and development of the living marine resources." It covers all living marine resources, "without prejudice to the management responsibilities and authority of other competent fisheries and other living marine resources management organizations or arrangements in the area." Special attention is paid to small-scale, artisanal and subsistence fisheries and international cooperation.

### CRFM

The Caribbean Regional Fisheries Mechanism (CRFM) has as its mission "To promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region". The CRFM consist of three bodies – the Ministerial Council; the Caribbean Fisheries Forum; and the CRFM Secretariat. Current members are: Anguilla, Antigua and Barbuda, Bahamas, Barbados, Belize, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, Saint Kitts and Nevis, Saint Vincent/Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Is.

### OSPESCA

The Organization of the Fisheries and Aquaculture Sector of the Central American Isthmus (Organización del Sector Pesquero y Acuícola del Istmo Centroamericano, OSPESCA) aims at promoting coordinated and sustainable development of fishing and aquaculture. This aim is pursued in the framework of the Central American integration process (SICA), defining, approving and implementing policies, strategies, programmes and regional projects on fisheries and aquaculture. This is a legally binding framework and its members are Belize, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

### CLME+ PROJECT

The Caribbean and North Brazil Shelf Large Marine Ecosystem Project, in short the CLME+ project, is a 5-year project (2015-2020) implemented by the United Nations Development Programme (UNDP) and co-financed by the Global Environment Facility (GEF).

It assists participating countries from two large marine ecosystems (LMEs) - the Caribbean Large Marine Ecosystem and the North Brazil Shelf Large Marine Ecosystem in improving the management of their shared Living Marine Resources through an Ecosystem-Based Management approach. The combination of those two LMEs is referred to as the CLME+ region, bordered by over 35 States and Territories: the Caribbean & North Brazil Shelf Large Marine Ecosystems. This vast marine area (4.4 million km2) is a major contributor to regional economic development and is key to many globally

relevant ecological processes. One of its overarching management goals is to enhance the regional governance arrangements for realising sustainable fisheries.