

**Generic Amendment 2 to the Fishery Management Plans for  
Puerto Rico, St. Thomas and St. John, and St. Croix:  
Trawl and Net Gear and Descending Devices**

**Draft Version 1  
December 2022**



## Environmental Assessment Cover Sheet

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**Name of Action: Draft Environmental Assessment for the Generic Amendment 2 to the Fishery Management Plans for Puerto Rico, St. Thomas and St. John, and St. Croix: Trawl and Net Gear and Descending Devices**

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☐ Final

This Environmental Assessment is being prepared using the 2020 CEQ NEPA Regulations. The effective date of the 2020 CEQ NEPA Regulations was September 14, 2020, and reviews begun after this date are required to apply the 2020 regulations unless there is a clear and fundamental conflict with an applicable statute. 85 *Federal Register* at 43372-73 (§§ 1506.13, 1507.3(a)). This Environmental Assessment began on DATE, 2021, and accordingly proceeds under the 2020 regulations.

## Abbreviations and Acronyms Used in this Document

CFMC	(Council); Caribbean Fishery Management Council
DNER	Department of Natural and Environmental Resources
DPNR	Department of Planning and Natural Resources
EA	environmental assessment
EEZ	exclusive economic zone
E.O.	Executive Order
FMP	fishery management plan
MMA	marine managed area
MSA	(Magnuson-Stevens Act); Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
USVI	United States Virgin Islands

## Table of Contents

Environmental Assessment Cover Sheet .....	II
Abbreviations and Acronyms Used in this Document.....	III
Table of Contents .....	IV
Chapter 1. Introduction .....	1
1.1 What Action is Proposed? .....	1
1.2 Why is the Council Considering Action?.....	4
1.2.1 Statement of Purpose and Need .....	4
1.3 Where Will the Action Have an Effect?.....	5
Chapter 2. Proposed Actions and Alternatives .....	6
2.1 Action 1: Use of Trawl Gear in the U.S. Caribbean Exclusive Economic Zone (EEZ) around Puerto Rico, St. Croix, and St. Thomas and St. John .....	6
2.1.1 Proposed Alternatives for Action 1.....	6
2.1.2 Discussion of Action 1 Alternatives .....	6
2.2 Action 2: Use of Gillnets, Trammel Nets, and Purse Seines in the EEZs around Puerto Rico, St. Croix, and St. Thomas and St. John .....	8
2.2.1 Proposed Alternatives for Action 2.....	8
2.2.2 Discussion of Action 2 Alternatives .....	9
2.3 Action 3: Requirements for the Use of Descending Devices in the Reef Fish Component of the Puerto Rico, St. Croix, and St. Thomas and St. John FMPs .....	12
2.3.1 Proposed Alternatives for Action 3.....	12
3.2.2 Discussion of Action 3 Alternatives .....	13
List of Interdisciplinary Plan (IPT) Members.....	16
Appendices.....	17
Appendix A. List of Managed Reef Fish and Pelagic Stocks Included in each of the Island- based FMPs.....	17
Appendix B. Authorized Gear Types under each of the Island-based FMPs .....	19
Appendix C. Seasonally Closed Areas/Marine Managed Areas in the U.S. Caribbean Exclusive Economic Zone .....	22
Appendix D. Examples of Descending Devices .....	24

List of Tables

**Table 2.2.1.** Adjusted landings in pounds for the top species (managed and non-managed) reported for gillnet gear and trammel net gear in Puerto Rico Commercial Landings for 2014-2019 by State, Federal, or Unknown waters \* ..... 11

# Chapter 1. Introduction

## 1.1 What Action is Proposed?

At its December 2021 meeting, the Caribbean Fishery Management Council (Council) discussed an action to prohibit the use of trawl gear (bottom and mid-water trawls) in U.S. Caribbean federal waters as a precautionary approach to prevent potential negative impacts associated with trawling on the seabed (e.g., bottom trawling can potentially damage coral habitat and sponge habitat), and on target and non-target species (e.g., bottom and mid-water trawling bycatch). Trawls (any type) are an authorized gear type in the U.S. Exclusive Economic Zone (EEZ) around St. Croix, St. Thomas, St. John and Puerto Rico for use in the commercial fisheries that are not managed under the St. Croix Fishery Management Plan (FMP), St. Thomas and St. John FMP, and Puerto Rico FMP (i.e., non-federally managed species). However, there is no evidence that trawling gear is or has been used for fishing in federal waters of the U.S. Caribbean, although bottom trawls have been used in the past for exploratory research (See [CFMC Dec 2021 Meeting](#) presentation and Knake and Whiteleather 1944). Moreover, Puerto Rico territorial fishing regulations prohibit the use of trawl nets (“*redes de arrastre*”) and floating drift nets (“*redes flotantes*,” does not include trammel nets or gillnets) in its jurisdictional waters (See [Puerto Rico Fishing Regulations 7949 2010](#)). The U.S. Virgin Islands (USVI) do not have specific regulations prohibiting the use of trawl gear types in their territorial waters ([USVI Division of Fish and Wildlife Fisher Handbook 2019](#)).

Federal regulations at 50 CFR 600.10 defines a *trawl* as a cone or funnel-shaped net that is towed through the waters by one or more vessels. Furthermore, the National Marine Fisheries Service (NMFS) defines bottom trawling as a fishing practice that herds and captures the target species by towing a net along the ocean floor (See [NOAA Fisheries Bottom Trawls](#)). There are different types of bottom trawling nets (or techniques) such as otter trawls, beam trawls, towed dredges, and hydraulic dredges (Hickey 2017) and many of these are used and managed in other U.S. regions to capture groundfish, shrimp, and other bottom-associated species. Another type of trawling gear is the midwater trawl net (i.e., pelagic trawl), which is a large net towed through the water column.

During the December 2021 meeting, the Council also discussed placing further prohibitions in the U.S. Caribbean EEZ on the use of gillnets and trammel nets, and prohibiting the use of purse seines, all of which are types of drift nets. Gillnets and trammel nets (in *Spanish*: filete (gillnet/single wall), trasmallo o mallorquín (trammel net, tremall (3-paned), chinchorro de ahorque) hang vertically in the water column (can or cannot be fixed to the bottom). Purse seines (used in many regions to catch tunas) consist of a large wall of netting deployed around an

entire area or school of fish. Federal regulations at 50 CFR 600.725 list gillnets as an authorized gear type in the U.S. EEZ around St. Croix, St. Thomas, St. John and Puerto Rico only for (1) the commercial harvest of federally managed and non-federally managed pelagic species and for (2) the commercial harvest of other non-federally managed species in each of the island management areas. Meanwhile, purse seines and trammel nets are not authorized gear types for any fishery in any of the three island-management areas. In addition, the use of gillnets, trammel nets, as well as pots, traps, or bottom longlines is currently prohibited year-round in the seven Council-managed seasonally closed areas (also called Marine Managed Areas (MMAs) in this document): Puerto Rico – (1) Bajo de Sico; (2) Abrir La Sierra; (3) Tourmaline; in U.S. Virgin Islands – (4) Grammanik Bank; (5) Mutton Snapper Spawning Aggregation Area; (6) Hind Bank; and (7) Red Hind Spawning Aggregation Area East of St. Croix. There are no specific prohibitions on the use of trawl gear in these or other areas, with the exception of the Hind Bank Marine Conservation District in St. Thomas, where all fishing is prohibited year-round (Appendix A). The use of gillnets and trammel nets has been prohibited for the harvest of federally managed reef fish and spiny lobster since 2005 due to the potential for bycatch (CFMC 2005) (50 CFR 622.433(c) and 50 CFR 622.452(b)).<sup>1</sup> Surface gillnets and trammel nets are allowed for the harvest of other species (e.g., baitfish [where baitfish refers to species other than federally managed reef fish]) in federal waters but they must be tended at all times (50 CFR 622.437(a)(3) & (c)(2); 50 CFR 622.477(a)(3) & (c)(2); 50 CFR 622.512(a)(3), (c)(2)).

Given that there are no specific federal regulations regulating the use of gillnets or trammel nets in the U.S. EEZ around St. Croix, St. Thomas, St. John and Puerto Rico for the harvest of federally managed pelagic species, which are new to management under the island-based FMPs (CFMC 2019 a,b,c; See Appendix B of this document for a list of managed pelagic species), the Council has discussed in past Council meetings, the need for restricting harvest of pelagic species with these two gear types to prevent any potential effects from the gear types.<sup>2</sup> With respect to gear types that are not identified as an authorized gear type in the U.S. EEZ around St. Croix, St. Thomas, St. John and Puerto Rico (50 CFR 600.725(v)), but that are also not specifically prohibited from use in a fishery, such as purse seines and trammel nets, a person could petition the Council to use these gear types. At that time, the Council and NMFS could take action whether to allow or prohibit the use of the gear.<sup>3</sup>

<sup>1</sup> *Gillnet* means a panel of netting, suspended vertically in the water by floats along the top and weights along the bottom, to entangle fish that attempt to pass through it.

<sup>2</sup> Certain types of nets are regulated by NMFS in the highly migratory species (HMS) fisheries (50 CFR 635.19).

<sup>3</sup> [50 CFR 600.725\(v\)](#): A person or vessel is prohibited from engaging in fishing or employing fishing gear when such fishing gear is prohibited or restricted by regulation under an FMP or other applicable law. However, after December 1, 1999, an individual fisherman may notify the appropriate Council, or the Director, in the case of Atlantic highly migratory species, of the intent to use a gear or participate in a fishery not already on the list. Ninety days after such notification, the individual may use the gear or participate in that fishery unless regulatory action is taken to prohibit the use of the gear or participate in the fishery (e.g., through emergency or interim regulations).

The Council is interested in a potential prohibition on the use of any trawls in Council MMAs and/or in the EEZ around Puerto Rico, St. Thomas and St. John, and St. Croix for several reasons: (1) the use of trawls in the U.S. Caribbean EEZ has the potential to damage coral habitat including deep-water corals, as well as sponge habitat and deep-water sponges present in the area (Discussion at CFMC Meeting, Dec 2021); (2) trawls can entangle protected species present in the U.S. Caribbean EEZ such as sea turtles; and (3) the use of trawls in the U.S. Caribbean EEZ has the potential to negatively affect certain habitats designated as essential fish habitat (EFH) and habitat areas of particular concern for managed species under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). There are also economic considerations related to the use of certain trawling gear types (e.g., damage or loss of gear) as well as implications for the bycatch of managed and unmanaged species in the U.S. Caribbean EEZ.

Previously, in the 2004 Essential Fish Habitat Generic Amendment to the FMPs of the U.S. Caribbean and associated final environmental impact statement (CFMC 2004), the Council recommended to take action to ban the use of trawls in the EEZ. The Council noted that this gear type was not used by commercial fishermen at the time, but recognized a potential for future use. As a rationale for its recommendation, the Council indicated that in the U.S. Caribbean, the complex mosaic of coral on the insular shelf left little space available for trawling that would not have direct impacts on coral. Thus, a prohibition on trawling would prevent use of a gear with high risk of adverse fishing impacts on sensitive and important habitat. These recommendations have not been included in an amendment to date.

The Council is also interested in whether continuing to allow trawling for non-federally managed species as an authorized gear type in the EEZ (including in Council MMAs) may have potential implications on whether the existing Council MMAs qualify as conservation areas under Executive Order (E.O.) 14008.<sup>4</sup> E.O. 14008 establishes a goal of conserving at least 30 percent of the lands and waters in the United States by 2030. Efforts are underway to determine how much of the lands and waters already qualify as conserved. For example, the Council Coordination Committee has established a subcommittee on area-based management to review MMAs to assess the level of protection they provide. The Council has been interested in whether existing MMAs will or could meet any conservation standards developed to implement the E.O.

Therefore, with respect to trawl gear and gillnets, trammel nets, and purse seines, during the December 2021 meeting, the Council passed the following two motions:

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<sup>4</sup> E.O. 14008, Tackling the Climate Crisis at Home and Abroad, January 27, 2021.



*Motion 1:* Prohibit the use of trawling gear from within the marine protected areas (i.e., Council MMAs) of the U.S. Caribbean EEZ.

*Motion 2:* Request staff to develop an options paper to prohibit the use of gillnets, trammel nets, trawl nets, drift nets, and purse seines for harvesting fish in the U.S. Caribbean EEZ.

During the August 2022 Council meeting (179<sup>th</sup> Regular Meeting), the Council made a request to include another action in this amendment. During the August meeting, the Council discussed concerns from fishermen about reef fish that are released (i.e., regulatory and/or economic discards<sup>5</sup>) but do not survive, focusing on injuries from barotrauma. Barotrauma is the rapid expansion of gases in a fish as it is quickly reeled up from depth (see <https://safmc.net/best-fishing-practices/>). To improve the survivorship of released reef fish, the Council considered a measure that would encourage the use of best fishing practices to minimize impacts from capture, and thus discussed the use of descending devices as tools to reduce fishing mortality for reef fish from barotrauma. The Council was interested in following the steps taken by the Gulf of Mexico Fishery Management Council and the South Atlantic Fishery Management Council to require that descending devices be available and ready for use for certain fisheries to reduce bycatch mortality. Therefore, at this meeting, the Council passed a motion for staff to develop Action 3, proposing to add a requirement to have a descending device available and ready for use on a vessel when fishing for or possessing Council-managed reef fish. The Council decided that it would also work on education and outreach activities with fishing communities regarding descending devices development and use.

## 1.2 Why is the Council Considering Action?

### 1.2.1 Statement of Purpose and Need

The purpose of this amendment is to prevent potential damage to habitats from certain gear types, including essential fish habitat, protect species associated with such habitats, as well as to promote best fishing practices, and enhance the survival of released fish in the EEZ around Puerto Rico, St. Croix, and St. Thomas and St. John.

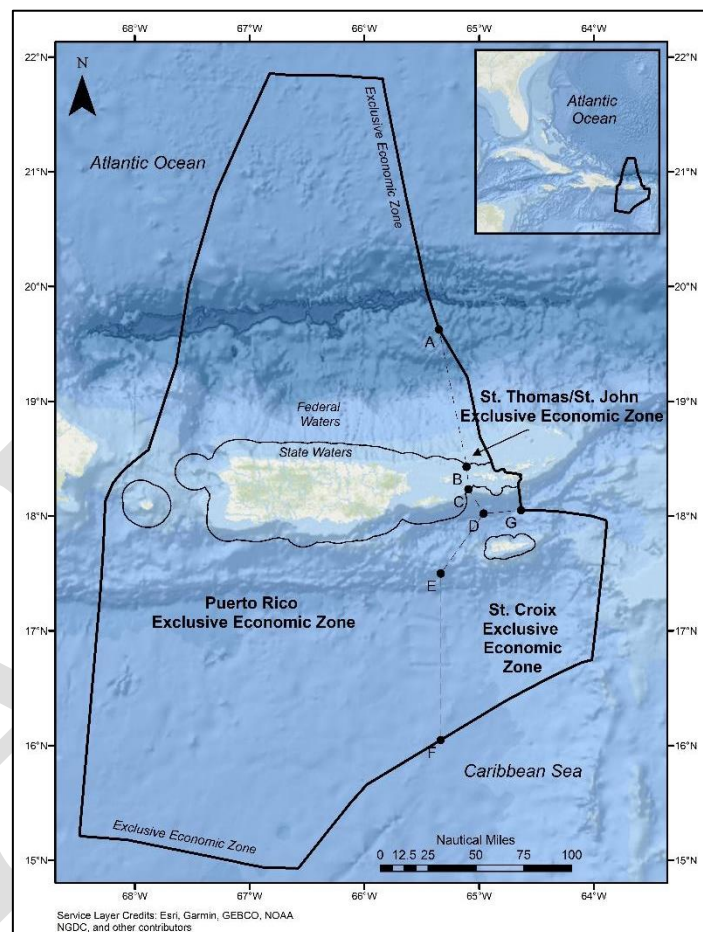
The need for this amendment is to minimize potentially adverse effects of fishing to habitats and associated species, and to minimize the mortality of bycatch species.

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<sup>5</sup> *Regulatory* discards are fish that are required by regulation to be discarded, but also include fish that may be retained but not sold. *Economic* discards are fish that are discarded because they are undesirable to the harvester. This category of discards generally includes certain species, sizes, and/or sexes with low or no market value.

### 1.3 Where Will the Action Have an Effect?

Under the Puerto Rico FMP (CFMC 2019a), the St. Thomas and St. John FMP (CFMC 2019b), and the St. Croix FMP (CFMC 2019c), the Council is responsible for managing fishery resources, including reef fish, in federal waters in the U.S. Caribbean region (i.e., EEZ) (Figure 1.1). The EEZ around Puerto Rico, described in detail in the Puerto Rico FMP and incorporated herein by reference, ranges from 9-200 nautical miles [17-370 kilometers] from the shore of the Commonwealth of Puerto Rico. The EEZ around St. Thomas and St. John, described in detail in the St. Thomas and St. John FMP and incorporated herein by reference, ranges 3-200 nautical miles (6-370 kilometers) from shore of St. Thomas and St. John, USVI. The EEZ around St. Croix, described in detail in the St. Croix FMP and incorporated herein by reference, ranges 3-200 nautical miles (6-370 kilometers) from the shore of St. Thomas and St. John, USVI.



**Figure 1.1.** U.S. Caribbean region with boundaries between the Puerto Rico, St. Thomas and St. John, and St. Croix management areas.

## Chapter 2. Proposed Actions and Alternatives

### 2.1 Action 1: Use of Trawl Gear in the U.S. Caribbean Exclusive Economic Zone (EEZ) around Puerto Rico, St. Croix, and St. Thomas and St. John

#### 2.1.1 Proposed Alternatives for Action 1

**Alternative 1.** No action. Retain the authorized trawl gear for commercial and recreational harvest in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico. Trawl gear is an authorized gear type only for the commercial harvest of non-federally managed species in each island management area.

**Alternative 2.** Prohibit the use of trawling gear for all fishing in Caribbean Fishery Management Council (Council) seasonally closed areas/marine managed areas (MMA)<sup>6</sup> year-round in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico.

**Alternative 3.** Prohibit the use of trawling gear for all fishing in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico.

#### 2.1.2 Discussion of Action 1 Alternatives

**Alternative 1** would retain the trawl gear types authorized for harvest under each of the St. Croix, St. Thomas and St. John, and Puerto Rico fisheries, including bottom and mid-water trawls. Currently, trawl gear is an authorized gear for the commercial harvest of non-federally managed species in St. Croix, St. Thomas and St. John, and Puerto Rico. There is no evidence that the commercial sector uses (or has used) trawl gear (with exceptions noted in Section 1.1, such as for research and exploratory fishing).

**Alternative 2** and **Alternative 3** propose a broad prohibition on the use of all trawl gear (i.e., bottom and midwater trawl) for all fishing (i.e., commercial and recreational) that could apply only in Council-managed seasonally closed areas/MMAs year-round or throughout the EEZ, respectively, around Puerto Rico, St. Croix, and St. Thomas and St. John, respectively.

**Alternatives 2** and **3** would prevent potentially negative ecological and biological and physical

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<sup>6</sup> CFMC Seasonally Closed Areas/Marine Managed Areas (MMAs) are: in Puerto Rico – (1) Bajo de Sico; (2) Abrir La Sierra; (3) Tourmaline; in U.S. Virgin Islands – (4) Grammanik Bank; (5) Mutton Snapper Spawning Aggregation Area; (6) Hind Bank; and (7) Red Hind Spawning Aggregation Area East of St. Croix.

effects from the use of trawl gear in the future (e.g., habitat destruction, bycatch) in Council MMAs (**Alternative 2**) or throughout the whole EEZ (**Alternative 3**). For example, potential impacts from trawling to coral and sponge habitat in the U.S. Caribbean EEZ could be caused by direct contact with bottom tending trawl gear and from impacts to sensitive vertical relief from near-bottom orientation of pelagic trawls in its sensitive habitats. Also, by specifically prohibiting the use of this gear type for all commercial and recreational harvest under **Alternative 3**, fishermen would not be able to request the use of the gear otherwise allowed under federal regulations for gear types that are not included in the authorized gear list.<sup>7</sup>

### **Comparison of Alternatives**

**Alternative 1** is the status quo and would not change any regulations applicable to the use of trawls in federal waters around Puerto Rico, St. Thomas and St. John, or St. Croix. **Alternative 2** would prohibit all trawl gear year-round in all Council MMAs, while **Alternative 3** would prohibit the use of trawl gear year-round applicable to all components of three island-management areas. Because trawl gear has not historically been used in the U.S. Caribbean EEZ and is not currently used, **Alternative 2** and **Alternative 3** are both administrative actions and are not expected to have any additional physical, biological/ecological, social, and economic effects when compared to **Alternative 1**. However, by preventing any future use of the trawl gear, both **Alternatives 2** and **3** could be more beneficial to the physical and biological environment by preventing potential bycatch and/or habitat effects from trawling activities in all federal waters around the three island-management areas (**Alternative 3**) or in Council MMAs (**Alternative 2**), with the former being more beneficial in protective fishery and habitat resources throughout the U.S. Caribbean EEZ. Prohibiting the use of trawl gear applicable to all fishery components of the island management areas (**Alternative 3**) would prevent future use through a petition for its use,<sup>7</sup> which could occur under **Alternative 1** and **Alternative 2**, thus providing more benefits to the physical, biological/ecological environment.

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<sup>7</sup> [50 CFR 600.725\(v\)](#): A person or vessel is prohibited from engaging in fishing or employing fishing gear when such fishing gear is prohibited or restricted by regulation under an FMP or other applicable law. However, after December 1, 1999, an individual fisherman may notify the appropriate Council, or the Director, in the case of Atlantic highly migratory species (HMS), of the intent to use a gear or participate in a fishery not already on the list. Ninety days after such notification, the individual may use the gear or participate in that fishery unless regulatory action is taken to prohibit the use of the gear or participate in the fishery (e.g., through emergency or interim regulations).

## 2.2 Action 2: Use of Gillnets, Trammel Nets, and Purse Seines in the EEZs around Puerto Rico, St. Croix, and St. Thomas and St. John

### 2.2.1 Proposed Alternatives for Action 2

**Alternative 1.** No action. Retain the authorized net gear types for commercial and recreational harvest in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico.<sup>8</sup> Gillnets are an authorized gear type for the commercial harvest of managed and non-managed pelagic species and the commercial harvest of non-federally managed species in each of the island management areas. Trammel nets and purse seines are not listed as an authorized gear type for any fisheries in the U.S. Caribbean EEZ.

**Alternative 2.** Prohibit the use of gillnets<sup>9</sup> in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico:

**Sub-alternative 2a.** For all fishing in the EEZ.

**Sub-Alternative 2b.** For all fishing in the EEZ, except for the following fish species belonging to the halfbeaks (Family Hemiramphidae), gar (Family Belonidae), and flyingfish (Family Exocoetidae). A surface gillnet used in the EEZ around Puerto Rico, St. Croix, or St. Thomas and St. John to fish for any baitfish must be tended at all times.

**Alternative 3.** Prohibit the use of trammel nets for all fishing in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico.

**Alternative 4.** Prohibit the use of purse seines for all fishing in federal waters around St. Croix, St. Thomas and St. John, and Puerto Rico.

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<sup>8</sup> A gillnet or trammel net may not be used in the EEZ around: 1) St. Croix to fish for reef fish (50 CFR622.477(a)(3)) or spiny lobster (50 CFR622.477(c)(2), 2) St. Thomas and St. John for reef fish (50 CFR622.512(a)(3)) or spiny lobster (50 CFR622.512(c)(2), and Puerto Rico for reef fish (50 CFR 622.437(a)(3)) or spiny lobster (50 CFR 622.437(c)(2)). A gillnet or trammel net can be used to fish for any other species, however, it must be tended at all times.

<sup>9</sup> The use of gillnets is already prohibited inside Council Seasonally Closed Areas or Council MMAs. Gillnets are also prohibited for all fishing for Council-managed reef fish and spiny lobster.



## 2.2.2 Discussion of Action 2 Alternatives

**Alternative 1** would retain the authorization to use gillnets for the commercial harvest of federally managed and non-federally managed pelagic fish and for the commercial harvest of other non-federally managed species (e.g., species that are not managed by the Council). Federal regulations allow for the use of gillnets for catching non-federally managed species (e.g., baitfish such as ballyhoo or flying fish), but the gear must be tended at all times, and prohibit the use of gillnets year-round for fishing for spiny lobster and Council-managed reef fish.<sup>10</sup> Trammel nets and purse seines are not authorized for use in any managed or non-managed components of the Puerto Rico, St Thomas and St. John, and St. Croix fisheries in federal waters. If no action is taken, any person interested in using a gear type that is not listed as authorized could be allowed to do so with a petition to the Council as discussed in Chapter 1. The commercial harvest of federally managed pelagics, non-federally managed pelagics, and other non-federally managed species with gillnets, trammel nets, and purse seines could increase the potential for bycatch of target species that are prohibited with these gear types (i.e., reef fish, spiny lobster) and would also increase the potential catch of undersized managed and non-managed species (pelagics, non-federally managed species), which could increase potential for overfishing and negatively affect the populations. Although harvest of pelagic species with gillnets in federal waters is less than in state waters (see Table 2.2.1), landings of some pelagic species with gillnets are reported.

**Alternative 1** would not be compatible with regulations for these gear types with the USVI, but would be compatible with Puerto Rico regulations, which allow the use of gillnets.

**Sub-alternative 2a** proposes a broad prohibition on the use of gillnets for harvest of all commercial and recreational species (i.e., managed and non-managed). **Sub-alternative 2b** would prohibit all fishing with gillnets except for its use for the harvest of baitfish belonging to the halfbeak, gar, and flyingfish families. Currently, gillnet is an authorized gear type for the commercial harvest of federally managed pelagic fish (See Appendix B) and non-managed pelagic fish (e.g., sardines, herring, ballyhoo, non-managed mackerel), and for the commercial harvest of non-federally managed species. Federal regulations prohibit the use of gillnets for the harvest of managed reef fish and spiny lobster in all U.S. Caribbean federal waters and prohibit the use of gillnets in all Council MMAs, and allow the use of surface gillnets (or trammel net) to fish for any other species, which must be tended at all times (50 CFR 622.437(a)(3)). With respect to non-managed species, the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) gives the Councils and the National Marine Fisheries Service

<sup>10</sup> Cast nets are authorized for the commercial and recreational harvest of non-federally managed species. Cast nets are surface nets typically used to fish for baitfish such as ballyhoo, sardines, and other species. The Council did not include cast nets in the motion to prepare this amendment.

(NMFS) the authority to regulate fishing activity to support the conservation and management of fisheries. This could include regulations that pertain to fishing for non-managed species. Per the Magnuson-Stevens Act 303(b)(12) and (14), FMPs can "include management measures in the plan to conserve target and non-target species and habitats, considering the variety of ecological factors affecting fishery populations" and can "prescribe such other measures, requirements, or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery." These provisions, taken together, provide broad discretion to manage fishing for non-managed species for the benefit of managed species.

Although the use of gillnets for the commercial harvest of managed and non-managed pelagic species or other non-managed species in federal waters is considered to be minimal due to depth and distance from the coast of the location of federal waters (Table 2.2.1, [see Leroy 2007]), **Alternative 2** would prevent negative ecological and biological effects from the use of gillnets (e.g., prevention of bycatch of undersized individuals, protected species, other target and non-target species). Council-managed species reported in Puerto Rico commercial landings with gillnet from federal waters include barracuda, cero and king mackerels, blackfin, and little tunny (Table 2.2.1) (Note that "federal waters" may also include harvest from waters around offshore islands belonging to Puerto Rico jurisdiction). Commercial landings from 2012-2021 of Council-managed species from EEZ waters around St. Thomas and St. John caught with gillnet include some reports for red hind, coney, yellowtail snapper, blue runner (all landings are minor and confidential). For the EEZ around St. Croix, species reported commercially with gillnet from 2012-2021, the only Council managed species is redbtail parrotfish (confidential data), and two non-managed species, ballyhoo (6,211 pounds [lbs]) and needlefish (100 lbs). Allowing the use of surface gillnets for catching certain species of baitfish commercially and/or recreationally would allow fishermen to continue using these specific bait nets in federal waters (**Sub-alternative 2b**), and prevent using gillnets for other managed and non-managed species.

**Alternative 3** would prohibit the use of trammel nets and **Alternative 4** would prohibit the use of purse seines for all fishing in the U.S. EEZ around Puerto Rico, St. Thomas and St. John, and St. Croix. These gear types are not listed as authorized under any U.S. Caribbean fisheries in federal regulations at 50 CFR 600.10, therefore **Alternatives 3** and **4** are administrative actions. Note that trammel nets are specifically prohibited for fishing for Council-managed reef fish and spiny lobster in federal waters around all three-island management areas. These gear types are also prohibited in Council MMAs (2005 Caribbean Sustainable Fisheries Act Amendment). Similar to surface gillnets, federal regulations allow the use of surface trammel nets (or gillnets) to fish for any other species, but they must be tended at all times (50 CFR 622.437(a)(3)). Although trammel nets are prohibited for use in USVI territorial waters (no landings with trammel net reported from 2012-2021), they are allowed for use in Puerto Rico state waters, but

landings do not show harvest with trammel nets in federal waters (Table 2.2.1). Purse seines (except purse seines authorized for HMS species) are not used in federal and territorial waters of the U.S. Caribbean. **Alternative 3** and **Alternative 4** would specifically prohibit the use of these gear types for all harvest in the Puerto Rico, St. Thomas and St. John, and St. Croix fisheries, therefore it would not be possible for a fishermen to request the use of the gear as otherwise allowed under federal regulations for gear that are not included in the authorized gear list<sup>11</sup>.

**Table 2.2.1.** Adjusted landings in pounds for the top species (managed and non-managed) reported for gillnet gear and trammel net gear in Puerto Rico Commercial Landings for 2014-2019 by State, Federal, or Unknown waters\*.

Management Status	Species	GILL NET			TRAMMEL NET		
		State	Federal	Unknown	State	Federal	Unknown
Managed	BARRACUDA	2,251	Conf	429	.	.	.
Managed	DOLPHINFISH	Conf	.	.	Conf	.	Conf
Managed	MACKEREL,CERO	11,641	733	593	Conf	.	.
Managed	MACKEREL,KING	8,756	1,117	933	62	.	Conf
Managed	TUNA,BLACKFIN	1,222	.	241	.	.	Conf
Managed	TUNNY,LITTLE	1,460	Conf	Conf	449	.	Conf
Managed	WAHOO	Conf	.	.	.	.	.
Not-managed	BALLYHOO	214,720	2,608	42,371	832	Conf	Conf
Not-managed	BARBU	142	.	.	.	.	.
Not-managed	BARRACUDA,SOUTHERN	Conf	.	.	.	.	.
Not-managed	JACK,BAR	36,374	1,767	3,907	530	.	38
Not-managed	JACK,HORSE-EYE	3,845	105	796	.	.	.
Not-managed	JACK,YELLOW	258	.	83	.	.	.
Not-managed	JACKS	7,002	297	821	200	.	.
Not-managed	MOJARRA,YELLOWFIN	1,014	.	750	.	.	.
Not-managed	MOJARRAS,UNSPECIFIE	26,100	1,136	1,725	Conf	.	.
Not-managed	MULLET,WHITE	42,196	1,164	4,875	Conf	.	Conf
Not-managed	SNOOK,COMMON	55,871	2,733	4,966	Conf	Conf	Conf
Not-managed	STINGRAYS,UNSPECIFI	Conf	Conf	Conf	3,115	.	Conf
Not-managed	TUNA AND MACKERELS,	312	.	.	.	.	.
Not-managed	TUNA,ALBACORE	2,792	.	Conf	.	.	.
Not-managed	TUNA,SKIPJACK	725	Conf	.	.	.	.
Not-managed	TUNA,YELLOWFIN	Conf	.	Conf	.	.	.

Conf = confidential information

\*The values for the federal waters and unknown categories may include landings from waters around Puerto Rico jurisdictional offshore islands that are within the 9-200 nm.

<sup>11</sup> [50 CFR 600.725\(v\)](#): A person or vessel is prohibited from engaging in fishing or employing fishing gear when such fishing gear is prohibited or restricted by regulation under an FMP or other applicable law. However, after December 1, 1999, an individual fisherman may notify the appropriate Council, or the Director, in the case of Atlantic HMS, of the intent to use a gear or participate in a fishery not already on the list. Ninety days after such notification, the individual may use the gear or participate in that fishery unless regulatory action is taken to prohibit the use of the gear or participate in the fishery (e.g., through emergency or interim regulations).



## **Comparison of alternatives**

### *Gillnets:*

**Alternative 1** is the status quo alternative (no changes to gillnet regulations in the EEZ around Puerto Rico, St. Thomas/St. John, and St. Croix) and would be less beneficial to the biological and ecological environment, but more beneficial the socio-economic environment than **Alternative 2 (Sub-alternative 2a)**. This is because under **Alternative 1** would allow the use of gillnets for the commercial harvest of pelagic species and non-federally managed species, increasing the potential of adverse effects from use of the gear, but allowing fishermen that use gillnet for harvesting these species to continue to do so. Administrative effects would be slightly higher under **Sub-alternative 2a** than **Alternative 1**. With respect to certain species of baitfish, **Alternative 1** and **Sub-alternative 2b** are not different, as both would continue to allow gillnets for catching those species, with no additional effects to the biological environment, socio-economic environment, or administrative environment. Physical effects are not expected from the use of gillnets for any of the alternatives.

### *Trammel nets and Purse seines:*

Effects to the physical, biological/ecological, and socio-economic environments from **Alternatives 3 and 4** are not expected to be different from those of **Alternative 1** because both trammel nets and purse seines are currently not authorized for use in federal waters for any fishing. In addition, landings for trammel nets seem to be constrained to Puerto Rico state waters, where this gear type is allowed (no significant landings history in federal waters). However, **Alternatives 3 and 4** could be slightly more beneficial to the biological/ecological environment of the three island management areas because they further restrict potential future use of these gear types through a petition to the Council. Administrative effects are expected to be slightly higher for **Alternatives 3 and 4** than for **Alternative 1**.

## 2.3 Action 3: Requirements for the Use of Descending Devices in the Reef Fish Component of the Puerto Rico, St. Croix, and St. Thomas and St. John FMPs

### 2.3.1 Proposed Alternatives for Action 3

**Alternative 1.** No action. Descending devices are not required to be on board a vessel fishing for or possessing species in the reef fish component of the Puerto Rico, St. Croix, and St. Thomas and St. John FMPs.

**Alternative 2.** Require a descending device\* be on board a commercial or recreational vessel and readily available for use while fishing for or possessing species in the reef fish component of the Puerto Rico, St. Croix, and St. Thomas and St. John FMPs.

\* For the purpose of this requirement, a “descending device” means an instrument to which is attached a minimum of a 16-ounce weight and a length of line that will release the fish at the depth from which the fish was caught or a minimum of 50 feet. The descending device attaches to the fish’s mouth or is a container that will hold the fish. The device **MUST** be capable of releasing the fish automatically, by the actions of the operator of the device, or by allowing the fish to escape on its own. Since minimizing surface time is critical to increasing survival, descending devices shall be readily available for use while engaged in fishing.<sup>12</sup>

### 3.2.2 Discussion of Action 3 Alternatives

**Alternative 1** would not require a descending device be onboard a vessel fishing for or possessing Council-managed reef fish in the exclusive economic zone (EEZ) around Puerto Rico, St. Thomas and St. John, and St. Croix.

**Alternative 2** would require a descending device be rigged and ready for use on a vessel when fishing for or possessing Council-managed reef fish in federal waters around Puerto Rico, St. Thomas and St. John, and St. Croix (See Appendix B for a list of reef fish species managed under each FMP). Using descending devices has been shown to be a low cost, effective way of reducing fishing mortality from discards and this tool has been adopted by both the South Atlantic Fishery Management Council (South Atlantic Council) and the Gulf of Mexico Fishery Management Council (Gulf Council).<sup>13</sup> By proposing the use of descending devices, the Council expects to reduce fishing mortality of regulatory and economic discards<sup>14</sup> of Council-managed reef fish, which is one of the components of the island fisheries’ most vulnerable to barotrauma. The Council intent is that descending devices only be used when a fish may be experiencing barotrauma (e.g., caught in deep water, protruding stomach, etc.). Also, to ensure that descending devices on board are effective, devices must meet requirements in the definitions provided in Action 3.

<sup>12</sup> This definition of a descending device would be similar to the one described by the South Atlantic Fishery Management Council and Gulf of Mexico Fishery Management Council.

<sup>13</sup> See Florida Fish and Wildlife Commission for an educational video on how to make an effective homemade descending device: <https://www.youtube.com/watch?v=Y0o9lxCxEAM>.

<sup>14</sup> Regulatory discards are fish that are required by regulation to be discarded, but also include fish that may be retained but not sold. Economic discards are fish that are discarded because they are undesirable to the harvester. This category of discards generally includes certain species, sizes, and/or sexes with low or no market value.

As mentioned above, having a descending device on board a vessel is required in the South Atlantic and the Gulf of Mexico. The final rule (85 FR 36166) for Amendment 29 to the Fishery Management Plan of the South Atlantic Region published on June 15, 2020, specifying the requirements for a descending device. A descending device is also required for Gulf of Mexico reef fish in federal waters through the application of the Descend Act in 2022 (Direct Enhancement of Snapper Conservation and the Economy through Novel Devices Act of 2020). The Descend Act defines a Descending Device as an instrument that will release a fish at a depth sufficient for the fish to be able to recover from the effects of barotrauma; is a weighted hook, lip clamp, or box that will hold the fish while it is lowered to depth, or another device determined to be appropriate by the Secretary of Commerce; and is capable of releasing the fish automatically, releasing the fish by actions of the operator of the device, or by allowing the fish to escape on its own.<sup>15</sup>

Under **Alternative 2**, requiring a descending device be rigged and ready for use would add some minor economic impacts to recreational and commercial fishermen because they would need to incur in expenses to purchase or create the device. Although, those expenses are expected to be minor because descending devices can be created with materials fishers may already have in their possession, are low cost and easy to use (see Appendix C for examples of descending devices). Requiring a descending device to be rigged and ready for use would benefit the biological environment of the managed reef fish by increasing their opportunities for survival and reducing fishing mortality from discards due to barotrauma. Because enforcing regulations specifically requiring the device to be used (versus the device being rigged and ready to use) is complicated, the Council, similar to actions taken by the South Atlantic Council and the Gulf Council, could just require the device be on board, rigged and ready for use.

### **Comparison of Alternatives**

**Alternative 2** would be more beneficial to the biological and ecological environment of reef fish than **Alternative 1**, as it would require a descending device to be rigged and ready for use, which could decrease fishing mortality of Council-managed reef fish from barotrauma. In the short-term, socio-economic effects from **Alternative 2** are expected to be larger than from **Alternative 1** due to the cost and effort for fishers to obtain and keep onboard a descending device. Administrative effects from **Alternative 2** would also be higher than **Alternative 1** because of

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<sup>15</sup> The National Marine Fisheries Service published a final rule (87 FR 2355) clarifying the definition of a descending device and venting tool that published on January 14, 2022, where it further defines it as a device capable of releasing a fish at the depth from which the fish was caught; and specifies that the device must use a minimum of a 16-ounce weight and a minimum length of 60 feet length of line attached to the descending device. It must be rigged and ready for use when fishing for Gulf of Mexico reef fish. These regulations for the descending device in the Gulf of Mexico at § 622.30, match regulations for a descending device in the South Atlantic at § 622.188.

the regulations to effect the requirement and the additional efforts to enforce these regulations for all reef fish fishermen (commercial and recreational), in federal waters of the three management areas, and to conduct outreach and education activities.

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## List of Interdisciplinary Plan (IPT) Members

Name	Agency	Title
María del Mar López-Mercer	NMFS/SFD	IPT Co-Lead / Fishery Biologist
Graciela García-Moliner	CFMC	IPT Co-Lead / Habitat Specialist
Sarah Stephenson	NMFS/SFD	Fishery Biologist
Liajay Rivera	CFMC	Ecosystem-based Fishery Management Specialist
John McGovern	NMFS/SFD	SFD Assistant Regional Administrator
Denise Johnson	NMFS/SFD	Economist
Edward Glazier	NMFS/SFD	Social Scientist
Walter Keithly	CMFC	Economist
Jocelyn D'Ambrosio	NOAA/GC	Attorney
Katharine Zamboni	NOAA/GC	Attorney
Adam Bailey	NMFS/SFD	Technical Writer
Patrick O'Pay	NMFS/PRD	Fishery Biologist
Michael Larkin	NMFS/SFD	Data Analyst
Refik Orhun	NMFS/SEFSC	Research Fishery Biologist
Loren Remsberg	NOAA/GC	Enforcement Attorney
Brent Stoffle	NMFS/SEFSC	Social Scientist
Matthew Walia	NMFS/OLE	Compliance Liaison
Noah Silverman	NMFS/SERO	NEPA Regional Coordinator
Jose Rivera	NMFS/HCD	Fishery Biologist

CFMC = Caribbean Fishery Management Council, GC = General Counsel,  
HCD = Habitat Conservation Division, NEPA = National Environmental Policy Act,  
NMFS = National Marine Fisheries Service, NOAA = National Oceanic and  
Atmospheric Administration, OLE= Office of Law Enforcement, PRD = Protected  
Resources Division, SERO = Southeast Regional Office, SER = Southeast Region,  
SFD = Sustainable Fisheries Division, SEFSC = Southeast Fisheries Science Center

## Appendices

### Appendix A. List of Managed Reef Fish and Pelagic Stocks Included in each of the Island-based FMPs

#### Puerto Rico Reef Fish

- **Snappers:** black, blackfin, silk, vermilion, wenchman, cardinal, queen, lane, mutton, dog, schoolmaster, yellowtail, cubera\*
- **Groupers:** Nassau, goliath, coney, graysby, black, red, tiger, yellowfin, yellowmouth\*, yellowedge, misty, red hind, rock hind
- **Parrotfishes:** blue, midnight, rainbow, queen, princess, redband, stoplight, redband, striped
- **Surgeonfishes:** blue tang, ocean surgeonfish, doctorfish
- **Triggerfishes:** ocean, queen, gray\*
- **Wrasses:** hogfish, puddingwife, Spanish hogfish
- **Angelfishes:** queen, grey, French
- **Grunts:** white grunt
- **Jacks:** crevalle jack\*, African pompano\*, rainbow runner\*

\* New to management

#### Puerto Rico Pelagics

\*All new to management

- **Tripletail:** tripletail
- **Dolphinfish:** dolphin, pompano dolphin
- **Mackerels and Tunas (Scombridae):** little tunny, blackfin tuna, king mackerel, cero mackerel, wahoo
- **Barracudas:** great barracuda

#### St. Thomas and St. John Reef Fish

- **Snappers:** black, blackfin, silk, vermilion, queen, lane, mutton, yellowtail
- **Groupers:** Nassau, goliath, coney, red hind, black, red, tiger, yellowfin, yellowmouth\*, yellowedge, misty

- **Parrotfishes:** blue, midnight, rainbow, queen, princess, redtail, stoplight, redband, striped, redfin
- **Surgeonfishes:** blue tang, ocean surgeonfish, doctorfish
- **Triggerfishes:** queen
- **Wrasses:** hogfish
- **Angelfishes:** queen, grey, French
- **Grunts:** white grunt, bluestriped, margate
- **Jacks:** Blue runner
- **Porgies:** jolthead, saucereye, sheepshead, sea bream

*\* New to management*

### **St. Thomas and St. John Pelagics**

*\*All new to management*

- **Dolphinfish:** dolphin
- **Mackerels and Tunas (Scombridae):** wahoo

### **St. Croix Reef Fish**

- **Snappers:** black, blackfin, silk, vermilion, queen, lane, gray, mutton, schoolmaster, yellowtail
- **Groupers:** Nassau, goliath, graysby, coney, red hind, rock hind, black, red, tiger, yellowfin, misty
- **Parrotfishes:** blue, midnight, rainbow, queen, princess, redtail, stoplight, redband, striped, redfin
- **Surgeonfishes:** blue tang, ocean surgeonfish, doctorfish
- **Triggerfishes:** queen
- **Angelfishes:** queen, grey, French
- **Grunts:** white grunt, bluestriped
- **Squirrelfish:** longspine squirrelfish

### **St. Croix Pelagics**

*\*All new to management*

- **Dolphinfish:** dolphin
- **Mackerels and Tunas (Scombridae):** wahoo

## Appendix B. Authorized Gear Types under each of the Island-based FMPs

<b>Fishery</b>	<b>Authorized gear types</b>
* * * * *	
V. Caribbean Fishery Management Council	
1. Exclusive Economic Zone around Puerto Rico	
A. Puerto Rico Reef Fish Fishery (federally managed):	
i. Commercial fishery	i. Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, trap, pot, spear.
ii. Recreational fishery	ii. Dip net, handline, rod and reel, slurp gun, spear, trap, pot.
B. Puerto Rico Pelagic Fishery (federally managed):	
i. Commercial fishery	i. Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, gillnet.
ii. Recreational fishery	ii. Spear, handline, longline, rod and reel.
C. Puerto Rico Spiny Lobster Fishery (federally managed):	
i. Commercial fishery	i. Trap, pot, dip net, hand harvest, snare.
ii. Recreational fishery	ii. Trap, pot, dip net, hand harvest, snare.
D. Puerto Rico Coral Reef Resources Fishery (FMP):	No harvest or possession in the EEZ.
E. Puerto Rico Queen Conch Fishery (federally managed):	No harvest or possession in the EEZ.
F. Puerto Rico Commercial Pelagic Fishery (non-federally managed):	Gillnet, automatic reel, bandit gear, buoy gear, handline, longline, rod and reel.
G. Puerto Rico Recreational Pelagic Fishery (non-federally managed):	Spear, handline, longline, rod and reel.
H. Puerto Rico Commercial Fishery (non-federally managed)	Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, trawl, gillnet, cast net, spear.
I. Puerto Rico Recreational Fishery (non-federally managed)	Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, spear, powerhead, hand harvest, cast net.



<b>Fishery</b>	<b>Authorized gear types</b>
2. Exclusive Economic Zone around St. Croix	
A. St. Croix Reef Fish Fishery (federally managed):	
i. Commercial fishery	i. Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, trap, pot, spear.
ii. Recreational fishery	ii. Dip net, handline, rod and reel, slurp gun, spear, trap, pot.
B. St. Croix Pelagic Fishery (federally managed):	
i. Commercial fishery	i. Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, gillnet.
ii. Recreational fishery	ii. Spear, handline, longline, rod and reel.
C. St. Croix Spiny Lobster Fishery (federally managed):	
i. Commercial fishery	i. Trap, pot, dip net, hand harvest, snare.
ii. Recreational fishery	ii. Trap, pot, dip net, hand harvest, snare.
D. St. Croix Coral Reef Resource Fishery (federally managed):	No harvest or possession in the EEZ.
E. St. Croix Queen Conch Fishery (federally managed):	
i. Commercial fishery	i. Hand harvest.
ii. Recreational fishery	ii. Hand harvest.
F. St. Croix Commercial Pelagic Fishery (non-federally managed)	Gillnet, automatic reel, bandit gear, buoy gear, handline, longline, rod and reel.
G. St. Croix Recreational Pelagic Fishery (non-federally managed)	Spear, handline, longline, rod and reel.
H. St. Croix Commercial Fishery (non-federally managed)	Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, trawl, gillnet, cast net, spear.
I. St. Croix Recreational Fishery (non-federally managed)	Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, spear, powerhead, hand harvest, cast net.
3. Exclusive Economic Zone around St. Thomas and St. John	
A. St. Thomas and St. John Reef Fish Fishery (federally managed):	
i. Commercial fishery	i. Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, trap, pot, spear.
ii. Recreational fishery	ii. Dip net, handline, rod and reel, slurp gun, spear, trap, pot.

<b>Fishery</b>	<b>Authorized gear types</b>
B. St. Thomas and St. John Pelagic Fishery (federally managed):	
i. Commercial fishery	i. Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, gillnet.
ii. Recreational fishery	ii. Spear, handline, longline, rod and reel.
C. St. Thomas and St. John Spiny Lobster Fishery (federally managed):	
i. Commercial fishery	i. Trap, pot, dip net, hand harvest, snare.
ii. Recreational fishery	ii. Trap, pot, dip net, hand harvest, snare.
D. St. Thomas and St. John Coral Reef Resource Fishery (federally managed):	No harvest or possession in the EEZ.
E. St. Thomas and St. John Queen Conch Fishery (federally managed):	No harvest or possession in the EEZ.
F. St. Thomas and St. John Commercial Pelagic Fishery (non-federally managed)	Gillnet, automatic reel, bandit gear, buoy gear, handline, longline, rod and reel.
G. St. Thomas and St. John Recreational Pelagic Fishery (non-federally managed)	Spear, handline, longline, rod and reel.
H. St. Thomas and St. John Commercial Fishery (non-federally managed)	Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, trawl, gillnet, cast net, spear.
I. St. Thomas and St. John Recreational Fishery (non-federally managed)	Automatic reel, bandit gear, buoy gear, handline, longline, rod and reel, spear, powerhead, hand harvest, cast net.
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## Appendix C. Seasonally Closed Areas/Marine Managed Areas in the U.S. Caribbean Exclusive Economic Zone

There are seven Caribbean Fishery Management Council seasonally closed areas/marine managed areas in federal waters that prohibit the use of certain gear types within their boundaries.

Area	Island	Seasonal Closure	Year-round Prohibition
Hind Bank Marine Conservation District	St. Thomas	Year-round	Fishing for any species and anchoring by fishing vessels are prohibited year-round.
Grammanik Bank	St. Thomas	February 1 - April 30	Fishing with pots, traps, bottom longlines, gillnets or trammel nets is prohibited year-round.
Mutton snapper spawning aggregation area	St. Croix	March 1 - June 30	Fishing with pots, traps, bottom longlines, gillnets or trammel nets is prohibited year-round.
Lang Bank	St. Croix	December 1 - February 28	Fishing with pots, traps, bottom longlines, gillnets or trammel nets is prohibited year-round.
Tourmaline Bank	Puerto Rico	December 1 - February 28	Fishing with pots, traps, bottom longlines, gillnets or trammel nets is prohibited year-round.
Abrir La Sierra	Puerto Rico	December 1 - February 28	Fishing with pots, traps, bottom longlines, gillnets or trammel nets is prohibited year-round.

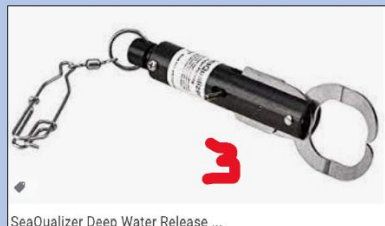
Bajo de Sico	Puerto Rico	October 1 - March 31	Fishing with pots, traps, bottom longlines, gillnets or trammel nets is prohibited year-round. Anchoring by fishing vessels is prohibited year-round.
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## Appendix D. Examples of Descending Devices

### Popular Types of Descending Devices

- The *Seaqualizer*
- Inverted Hook or Shelton Fish Descender
- Weighted basket
- Others



Source: M. Hanke, fishermen, presentation at 178<sup>th</sup> Caribbean Council Meeting

