

# St. Croix Fishery Management Plan: Regulatory Flexibility Act Analysis

## 1. Introduction

The purpose of the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act, is to fit regulatory requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to the regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that small entities have been given the opportunity to participate in the rulemaking process. The RFA does not contain any decision criteria; instead, the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of the alternatives contained in the fishery management plan (FMP) or amendment (including framework management measures and other regulatory actions) and to ensure that the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

With certain exceptions, the RFA requires agencies to conduct a formal regulatory flexibility analysis for each proposed rule. The regulatory flexibility analysis is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts.<sup>1</sup> The following regulatory flexibility analysis was conducted to assess the direct compliance costs and benefits of the proposed rule on small entities, determine if the proposed rule would have a significant economic impact on a substantial number of small entities or not, and explore regulatory alternatives to reduce significant economic impact on a substantial number of such entities, if any.<sup>2</sup> Any methods that small businesses may engage in to reduce the adverse impacts of direct compliance costs or enhance the beneficial impacts of direct compliance benefits are discussed at the end of Section 5.

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<sup>1</sup> The RFA requires an agency to perform a regulatory flexibility analysis of small entity impacts only when a rule directly regulates small entities. 5 U.S.C. 605(b), 604(b)(3). Under the RFA, agencies evaluate the direct compliance costs and benefits of the proposed rule on the regulated small entities.

<sup>2</sup> Direct compliance costs of an action include, but are not limited to, losses of revenues due to the legal inability of small businesses to continue all or part of their operations, such as small commercial fishing businesses having to cease fishing for and landings of a particular stock/stock complex because the fishing season for that stock/stock complex has closed for the remainder of the fishing year. Direct compliance benefits include, but are not limited to, increases in revenues due to the legal ability of small businesses to expand all or part of their operations, such as small fishing businesses increasing fishing for and landings of a particular stock/stock complex because the annual catch limit for that stock/stock complex has been increased.

## 2. Statement of the need for, objective of, and legal basis for the proposed rule

The Caribbean Fisheries Management Council (Council) has managed federal fisheries in the U.S. Caribbean Exclusive Economic Zone (EEZ) under the following four U.S. Caribbean-wide FMPs for decades: the FMP for the Reef Fish Fishery of Puerto Rico and the U.S. Virgin Islands (USVI) (Reef Fish FMP), the FMP for the Spiny Lobster Fishery of Puerto Rico and the USVI (Spiny Lobster FMP), the FMP for the Queen Conch Resources of Puerto Rico and the USVI (Queen Conch FMP), and the FMP for the Corals and Reef Associated Plants and Invertebrates of Puerto Rico and the USVI (Coral FMP). Fishermen, fishing community representatives, and local governments of Puerto Rico and the USVI have commented that the Caribbean-wide approaches to federal fisheries management in the EEZ do not adequately consider the natural, economic and social environmental differences among Puerto Rico and the island areas of the USVI, and they have requested an alternative island-based approach that better conserves the unique attributes of the fishery resources and better serves the communities that are dependent on those resources in Puerto Rico and the island areas of the USVI. The proposed, “Comprehensive Fishery Management Plan for the St. Croix Exclusive Economic Zone” (St. Croix FMP), is an island-based approach to federal fisheries management in the EEZ off St. Croix, USVI, (St. Croix EEZ) that responds to those comments and requests by taking better account of St. Croix’s unique natural, economic and social environments.

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; 16 U.S.C. 1801 et seq.). The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending from the seaward boundary of each coastal state to 200 nm from shore, as well as authority over anadromous species that spawn in fresh or estuarine waters of the U.S. and migrate into ocean waters and continental shelf resources that occur beyond the EEZ. Responsibility for federal fishery management decision-making in the St. Croix EEZ is divided between the U.S. Secretary of Commerce and the Council, and the Council is responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction.

## 3. Identification of federal rules which may duplicate, overlap or conflict with the proposed rule

No federal rules have been identified that duplicate, overlap or conflict with the proposed rule.

#### 4. Description and estimate of the number of small entities to which the proposed action would apply

The rule concerns recreational and commercial fishing in the St. Croix EEZ. Anglers (persons who engage in recreational fishing) are not considered small entities as that term is defined in 5 U.S.C. 601(6), whether fishing from for-hire fishing, private or leased vessels. Therefore, estimates of the number of anglers and any impacts on them are not provided here.<sup>3</sup>

Businesses that operate in the commercial fishing industry and particularly, those that operate commercial fishing vessels that harvest marine resources in the St. Croix EEZ would be directly affected. The most recent Census of Licensed Fishers of the U.S. Virgin Islands (Kojis et al. 2017) reported 141 licensed commercial fishermen in St. Croix. Not all of those licensed fishermen are actively fishing in any given year. In 2016, 74 fishermen submitted commercial catch reports, which includes fishing activities in both federal and territorial waters. Kojis et al. (2017) found that approximately 41% of active licensed commercial fishermen fished in the St. Croix EEZ, which would result in 30 commercial fishermen fishing in federal waters in 2016 ( $74 \times 0.41 = 30$  fishermen).

This analysis assumes that each of these 30 commercial fishermen represent a unique commercial fishing business. Consequently, 30 commercial fishing businesses would be directly affected by the proposed rule.

A business in the commercial fishing industry (NAICS code 11411) is a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates) and its combined annual receipts are no more than \$11 million for all of its affiliated operations worldwide. Dockside revenue from all USVI landings have been less than \$11 million, and total revenue from all landings by all commercial fishing businesses in St. Croix is substantially less than that. In 2016, total revenue from all landings in St. Croix, whether from territorial or federal waters, was \$2,737,530 (National Marine Fisheries Service [NMFS] Southeast Fisheries Science Center [SEFSC] logbook landings), which when adjusted for inflation would be \$2,925,061 at January 2020 prices (Bureau of Labor Statistics [BLS] Consumer Price Index [CPI] Inflation Calculator). Therefore, the average commercial fishing business has an annual revenue of \$39,528 (January 2020 prices) ( $2,925,061/74$  commercial fishing businesses) and all of the commercial fishing businesses in St. Croix, which includes the 30 small businesses directly affected by the proposed rule, are small.

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<sup>3</sup> Under the RFA, “small entities” include small businesses, small governmental jurisdictions, and small (non-profit) organizations. Persons are not small entities under the RFA.

It is important to note that most of these small businesses not only catch fish, but they also construct and repair their gear, repair their boats, and market their fish. In any given week, the average active licensed St. Croix fisherman spends 19.6 hours fishing, 2.3 hours fixing the boat, 2.9 hours fixing gear, 6.5 hours marketing the catch, and 2.7 hours preparing for fishing (Kojis et al. 2017). That is a total of 34.3 (standard deviation of  $\pm 21.1$ ) hours per week, and for each hour of fishing, the average active licensed fisherman spends approximately three-quarters of an hour engaged in other fishing-related (non-fishing) activities. The data from Kojis et al. presented in this section pertains to all fishing off St. Croix, whether in federal or territorial waters, unless otherwise noted. This analysis assumes the results apply equally to fishing in federal waters.

The large majority of St. Croix's small fishing businesses operate year-round, while others operate seasonally. In 2016, for example, approximately 93% of licensed fishermen fished year-round, while the remaining fished seasonally (Kojis et al. 2017). While approximately 39% of licensed fishermen reported that they derived all of their household income from fishing, approximately 36% who sold their catch derived up to 50% of their household income from fishing (Kojis et al. 2017). Ten percent of licensed fishermen stated did not sell their catch and engaged in subsistence fishing, which may contribute significantly to their family's and extended family's food supply and, thus, household non-monetary incomes (Kojis et al. 2017).

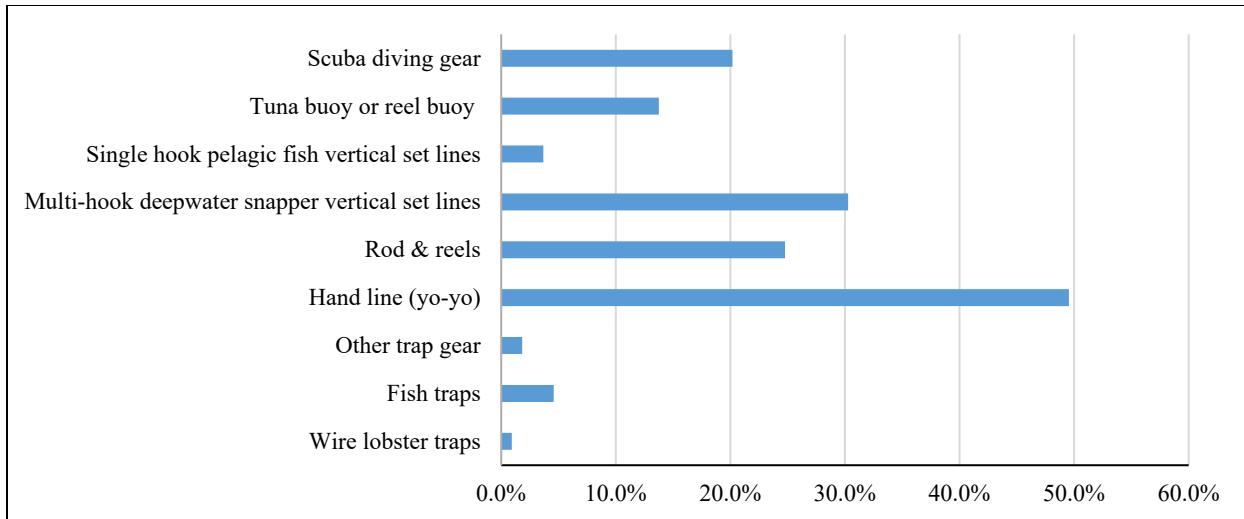
In 2016, the average fishing vessel used by the small businesses in St. Croix was approximately 22 feet long (Kojis et al. 2017). Of those vessels, a slight majority had a single outboard motor, although almost half had two outboard motors. Kojis et al. (2017) reported that St. Croix fishermen prefer faster outboard motors so they can get to the fishing site and get back to port to market their fish fresh by mid-day.

The most popular gear used in the St. Croix EEZ is yo-yo (handline) (Figure 4.1). Approximately 50% of small businesses use yo-yo gear in the EEZ and 30% use vertical set lines for deep-water, snapper-grouper fishing in the EEZ.<sup>4</sup> The third most popular gear used in the EEZ is rod-and-reel, which is used by approximately 25% of small businesses. SCUBA diving ranks fourth (approximately 20%).<sup>5</sup>

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<sup>4</sup> This analysis uses the percentages of fishermen who responded to the gear question and reported that they own the gear and use it in the EEZ in the 2016 Census. Hence, it assumes those percentages would apply equally to all small businesses.

<sup>5</sup> Decompression sickness (the bends) is a serious issue for fishermen that use SCUBA gear to catch fish and shellfish. In 2016, nearly half (48.3%) of small businesses in St. Croix who said they fished using SCUBA gear said that they or their helper(s) had experienced the bends in the most recent 12-month period (Kojis et al. 2017).



**Figure 4.1.** Percentage of gear owned by licensed fishermen and used in St. Croix EEZ (among those who responded to gear questions). Note: Gear types not listed in the figure were not reported as being used in federal waters.

Source: Kojis et al. 2017.

The average small business that owns yo-yo (handline) gear has 17, but uses only four during a trip (Kojis et al. 2017). Similarly, the average small business that owns multi-hook, deep-water snapper-grouper, vertical-line gear has four, but fishes with three. The average small business fishing with rod-and-reel gear owns six, but fishes with three. The ownership of more yo-yo, deep-water vertical line, and rod-and-reel gear than used per trip indicates the possibility that small businesses could have the capacity to use more gear during a trip; however, gear use may be limited by the capacity of the boat; availability of bait and crew<sup>6</sup>, and combined time they can fish and engage in fishing-related activities. The high price of gear in the USVI discourages small businesses from acquiring more and instead encourages them to keep what can be salvaged for parts so they can make their own repairs.<sup>7</sup>

The ability of the small businesses to increase fishing effort and their landings is also limited by the number and size of coolers that they can have on board and the amount of landings that they can sell. In St. Croix, the most popular method of selling their landings is from their homes. Approximately 42% of small businesses sell their catch from their homes, 39% sell at the landings site, 39% sell along a road, 38% sell to a restaurant, 35% sell to private customers (usually friends, family members, neighbors, coworkers or acquaintances), 26% sell at a government market, and smaller percentages sell their catch to others, such as hotels and supermarkets (Kojis et al. 2017).

<sup>6</sup> In 2016, the average licensed fisherman in St. Croix fished with 2 to 3 others. Approximately 59% fished with both helpers and other commercial fishermen (Kojis et al. 2017). Only approximately 2% fished alone.

<sup>7</sup> The cost of living in the USVI is much higher than on the U.S. mainland.

Approximately 81% of small businesses target reef fish, 60% target spiny lobster, 56% target dolphinfish and wahoo, 53% target queen conch, 52% target deep-water snapper, and decreasing percentages target other categories of fish/shellfish (Kojis et al. 2017). Those percentages are assumed to currently apply and are used in the following analysis. Note that the reef fish category includes a wide variety of species in a variety of families including the grouper, snapper, triggerfish, grunt, parrotfish, wrasse, surgeonfish, squirrelfish, etc. families. The spiny lobster category is largely comprised of *Panulirus argus* (spiny lobster), although it also may include spotted lobsters and shovelnose or slipper lobsters. Not all of these families or species are currently managed under the Reef Fish or Spiny Lobster FMPs or would be managed under the proposed St. Croix FMP. Small businesses target species they know they can sell at prices they expect.

## 5. Description and economic impacts of the compliance requirements of the proposed rule

**Action 1, Preferred Alternative 2**, would repeal the U.S. Caribbean-wide Reef Fish FMP, Spiny Lobster FMP, Queen Conch FMP, and Coral FMP as they apply to the St. Croix EEZ and replace them with the St. Croix FMP to manage fishery resources in the St. Croix EEZ.<sup>8</sup> Presently the combined Reef Fish, Spiny Lobster, Queen Conch, and Coral FMPs include 81 species of reef fish, 58 species of aquarium trade fish, spiny lobster, queen conch, 94 species or genera of corals, and 63 species or genera of aquarium trade invertebrates. Under this action, the St. Croix FMP would incorporate all of the fishery management measures presently included in the Spiny Lobster, Reef Fish, Queen Conch, and Coral FMPs that are applicable to the St. Croix EEZ.

**Action 1, Preferred Alternative 2**, which creates the St. Croix FMP, would not change any existing regulations and would have no direct compliance cost or benefit.

**Action 2, Preferred Alternative 2**, has five criteria that are used to select the list of species included in the St. Croix FMP created by Action 1. From a list of species for which landings data are available, the Council applied a set of criteria to determine whether to manage the species. *First*, it would include those species that are presently classified as overfished, have harvest prohibitions or have associated seasonal closures or size limits (Criterion A).<sup>9</sup> *Second*, excluding those included by Criterion A, it would exclude those species that have been determined to not or infrequently occur in the St. Croix EEZ (Criterion B). *Third*, excluding those included by Criterion A or excluded by Criterion B, it would include species that are biologically vulnerable, constrained to a specific habitat that renders them particularly vulnerable, or have an essential ecological value (Criterion C). *Fourth*, excluding those included

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<sup>8</sup> The U.S. Caribbean-wide FMPs defined a St. Croix management area (50 CFR Appendix E to Part 622, Table 2), and that same area is identified as the St. Croix EEZ in the St. Croix FMP.

<sup>9</sup> This Criterion retains all corals in the Coral FMP. However, the Council agreed to also add any new species of coral found to occur in the St. Croix EEZ, so this Criterion would bring all species of coral under management.

by Criteria A and C or excluded by Criterion B, it would include species that are economically important to the national or St. Croix economy and those representing an important component of bycatch (Criterion D). *Fifth*, from the remaining species, it would include any other species that the Council determines are in need of conservation and management.

After the application of the five criteria of **Action 2, Preferred Alternative 2**, the St. Croix FMP would include a total of two species of shellfish (spiny lobster and queen conch), 43 species of finfish, and all species of sea cucumbers, sea urchins, and corals that are found in the St. Croix EEZ. Stocks new to management would include dolphin (*Coryphaena hippurus*) and wahoo (*Acanthocybium solandri*) and any species of sea cucumber, sea urchin and coral found in the St. Croix EEZ that are not managed under the Coral FMP.

Neither the inclusion of species currently managed under the Reef Fish, Spiny Lobster, Queen Conch and Coral FMPs nor the inclusion of species new to federal management would have a direct impact on small businesses; however, the addition of species not currently managed under those FMPs would prompt additional actions that could directly affect small commercial fishing businesses, such as establishing annual catch limits (ACL) (Action 4) and accountability measures (AM) (Action 5) to ensure compliance with the ACLs. Similarly, any modification to the ACLs (Action 4) and AMs (Action 5) for stocks currently managed could have direct impacts on small businesses that target these stocks.

Federal regulations have very little to no impact on small businesses that harvest species that infrequently or do not occur in federal waters. Therefore, excluding some species currently managed under the Reef Fish and Coral FMPs<sup>10</sup> that are not found or infrequently occur in the St. Croix EEZ (Criterion B) would have very little to no direct compliance benefits. Criterion B was the only reason that the Council decided not to continue management of a particular species under the St. Croix FMP.

**Action 3, Preferred Alternative 3**, would establish stocks/stock complexes for those species selected for management under Action 2, Preferred Alternative 2. Compared to the baseline stocks/stock complexes (those included in the Reef Fish, Spiny Lobster, Queen Conch and Coral FMPs), **Preferred Alternative 3** would result in some of the same stock/stock complexes, with the same species composition, as those under the Caribbean-wide FMPs (e.g., Snapper 6 of the St. Croix FMP is the same as Snapper Unit 4 of the Reef Fish FMP), but would result in a different species composition for others (e.g., Snapper 1 of the St. Croix FMP is different than Snapper Unit 1 of the Reef Fish FMP). Where applicable, **Preferred Alternative 3** also would create new stock/stock complexes for species new to management (e.g., dolphin). It would have no direct impact on small businesses; however, it would prompt additional actions that change

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<sup>10</sup> The Spiny Lobster and Queen Conch FMPs only managed the respective single species, which were both included for management under Criterion A.

existing and add new regulations, such as the establishment of new ACLs and AMs to ensure compliance with those ACLs.

**Action 3, Preferred Sub-alternative 4a**, would assign and **Preferred Sub-alternative 4b** would not assign an indicator stock to a stock complex based on scientific analyses. An indicator stock is one that can be used to help manage and evaluate more poorly known stocks that are in a stock complex. Under **Preferred Sub-alternative 4a**, for stock complexes for which harvest is allowed and for which one or more indicator stocks is or are assigned, landings for the indicator stock(s) would be monitored and stocks in the stock complex would be subject to an AM as a group based on the ACL established for the stock complex based on information about the indicator stock(s). Under **Preferred Sub-alternative 4b**, for stock complexes for which harvest is allowed, stocks in the complex would be subject to an AM as a group based on the ACL for the stock complex established based on information about all of the stocks in the stock complex.<sup>11</sup> There would be no direct impact on small businesses; however, **Action 3, Preferred Sub-alternatives 4a and 4b** would have an indirect impact by affecting how ACLs for each stock complex are established (Action 4) and how landings of a stock complex are evaluated relative to its ACL, which affects if landings of the stock complex triggers its AM or not (Action 5).

**Action 4** would specify the status determination criteria and management reference points, such as the acceptable biological catch (ABC) and ACL, for each of the proposed stocks and stock complexes. **Action 5** would specify the AMs and triggers of the AMs for each stock/stock complex for which management is continued, and establish AMs and AM triggers for stocks/stock complexes new to management. An AM is an action taken to prevent landings from exceeding the ACL, and if triggered, it can mitigate or correct an overage of landings.

### **Direct compliance costs and benefits of Actions 4 and 5: Stocks/stock complexes for which proposed management is comparable to current management**

Four stocks (Queen Conch, Spiny Lobster, Grouper 1 [Nassau grouper], Grouper 2 [goliath grouper]) and three stock complexes (Parrotfish 1, Angelfish, Surgeonfish) resulting from **Action 3, Preferred Alternative 3** would have the same species composition as stocks/stock complexes under current regulation (in the U.S. Caribbean-wide FMPs). In addition, these stocks/stock complexes are managed with ACLs for the stocks/stock complex under the current Caribbean-wide FMPs and would continue to be managed as such, without an indicator stock, under the St. Croix FMP. Therefore, the costs and benefits of the management would be directly comparable.

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<sup>11</sup> The following four stock complexes would have one or more indicator stocks: Snapper 1, Grouper 3, Grouper 4, and Parrotfish 2.



Only commercial landings data are collected for Council-managed stocks/stock complexes in the USVI, therefore the following ACLs and landings relative to those ACLs are based on commercial landings data only. Throughout this RFA, management reference points (ACLs and ACTs) and landings data are reported in pounds whole weight (lbs).

For Queen Conch, **Action 4, Preferred Sub-alternative 2d** would set the ACL equal to the ABC; for Spiny Lobster, Grouper 1, and Grouper 2, **Action 4, Preferred Sub-alternative 2e** would set the ACLs at 95% of their respective ABCs; and for the Parrotfish 1, Angelfish, and Surgeonfish stock complexes **Preferred Sub-alternative 2g** would set the ACL at 85% of the ABC (Table 5.1). The proposed ABCs for Grouper 1, Grouper 2, and Parrotfish 1 were set equal to zero by the SSC, thus the proposed ACLs for those stocks and stock complex would be zero. Under the 2010 Caribbean ACL Amendment, the ACLs for Nassau grouper (Grouper 1), goliath grouper (Grouper 2), and midnight, blue, and rainbow parrotfish (Parrotfish 1) in St. Croix were also set equal to zero.

Under **Action 5, Preferred Alternative 5**, the harvest prohibition for Grouper 1, Grouper 2, and Parrotfish 1 would serve as the AM consistent with the approach under current management. Therefore, the ACLs and AMs that would be specified by **Actions 4 and 5**, respectively, for Grouper 1, Grouper 2, and Parrotfish 2 are consistent with ACLs and AMs established under the Reef Fish FMP and would have no direct compliance costs or benefits on small businesses.

Under **Action 5, Preferred Alternative 2**, the AM and trigger for the AM for Spiny Lobster, Angelfish, and Surgeonfish are the same as the AM and AM trigger under current regulation (i.e., Spiny Lobster and Reef Fish FMPs), with the exception of the specification of years of landings data used to evaluate whether the AM is triggered. Under both the current and proposed AM, for this stock and these stock complexes, the AM would be triggered if landings exceed the respective ACL, unless NMFS' SEFSC determines the overage occurred because data collection or monitoring improved rather than because catch increased.

Under current regulation (Spiny Lobster and Reef Fish FMPs), a three-year moving average of baseline landings for each of Spiny Lobster, Angelfish, and Surgeonfish is used to evaluate landings relative to the respective ACLs. Under **Action 5, Preferred Sub-alternative 2d**, the estimate of landings compared with the ACL for Spiny Lobster, Angelfish, and Surgeonfish would be a single year of applicable landings, using landings from 2018; then a single year of applicable landings, using landings from 2019; then a two-year average of applicable landings from 2019 and the subsequent year (2019-2020); then a three-year average of applicable landings from those two years and the subsequent year (2019-2021); and thereafter a progressive running three-year average (2020-2022, etc.). The Regional Administrator (RA) in consultation with the Council could deviate from the specific time sequences based on data availability. Under both the current regulation and the proposed FMP, once triggered, NMFS would reduce the length of

the fishing season for the applicable stock/stock complex the year following the overage determination by the amount necessary to ensure (to the greatest practicable extent) landings do not again exceed the ACL in the year of application.

For Queen Conch, under **Action 5, Preferred Alternative 4**, the trigger for the AM and the AM is the same as AM trigger and AM under current regulation (i.e., Queen Conch FMP). Under both the current and proposed AM, for queen conch in St. Croix, an in-season AM would prohibit harvest of queen conch for the remainder of the fishing season when the ACL, which was set at 50,000 lbs, is reached or projected to be reached.

For the purpose of this analysis, to determine whether there would be an AM-based fishing season reduction under the proposed action, the average landings of spiny lobster, angelfish, surgeonfish and queen conch from 2014 through 2016 are compared to the current and proposed ACLs (Table 5.1).

**Table 5.1.** Current and proposed ACLs and resultant AMs triggered for spiny lobster, Angelfish, Surgeonfish, and queen conch in St. Croix.

Stock/ Stock Complex	Current ACL (lbs)	Proposed ACL (lbs)	Average Landings (2014-2016)	AM Triggered under Current ACL (overage)	AM Triggered under Proposed ACL (overage)
Spiny lobster	107,307	197,528	38,760	No (0)	No (0)
Angelfish (queen, gray, French angelfish)	305	6,412	5,843	Yes (5,538) <sup>1</sup>	No (0)
Surgeonfish (blue tang, ocean surgeonfish, doctorfish)	33,603	39,061	11,053	No (0)	No (0)
Queen Conch	50,000	50,000	25,792	No (0)	No (0)

<sup>1</sup> No AM was applied in 2018 because fishing effort was considered to be substantially reduced due to impacts of the 2017 hurricanes on fishing activity in the region, therefore a reduction to the 2018 fishing season was not necessary to avoid an ACL overage.

Average landings (2014-2016) for Spiny Lobster, Surgeonfish, and Queen Conch do not exceed either the current or proposed ACLs and no AMs would be triggered (Table 5.1). Therefore, no direct costs or benefits to small businesses that harvest those species, as listed in Table 5.1, would be expected. However, increasing the Spiny Lobster and Surgeonfish ACLs, as proposed under the St. Croix FMP, would allow small businesses that target spiny lobster and species in the Surgeonfish stock complex (blue tang, ocean surgeonfish, and doctorfish) to increase their

combined landings beyond the current ACLs, which is a potential benefit of up to 90,221 more lbs of spiny lobster and 5,458 more lbs of Surgeonfish. However, it is not expected that small businesses would increase harvest of those stocks up to the levels of the proposed ACLs given average landings have been less than the current ACLs.

Under current management, the 2014-2016 average landings of Angelfish (queen, gray, and French angelfish) in St. Croix exceeded the ACL by 5,538 lbs, which would trigger the AM (Table 5.1). However, fishing activities in St. Croix were severely curtailed in 2017 due to impact of Hurricane Maria (category 5) and the effects continued into the 2018 fishing season. Thus, when evaluating whether to implement an AM in the 2018 fishing season based on these 2014-2016 landings, the RA determined that an AM-based reduction to the Angelfish fishing season in St. Croix was not necessary to prevent a future overage. Moreover, in the past, NMFS' SEFSC has determined that previous overages of the current Angelfish ACL occurred because data collection or monitoring improved rather than because catch increased. Nonetheless, in the future, it is possible that landings of Angelfish in St. Croix could recover to the average level of landings during 2014-2016, and an AM could become necessary under current management.

Under proposed management, the 2014-2016 average landings of Angelfish in St. Croix would not exceed the proposed ACL. Moreover, at those landings levels, an AM would not be triggered, and the length of the Angelfish fishing season in St. Croix would not be reduced under either current or proposed management. Therefore, there would be no direct impact on small businesses that harvest Angelfish. The ACL for Angelfish would increase under proposed management and would allow for an expansion of angelfish landings in St. Croix beyond the current ACL, which is a potential benefit, although such expansion is not expected.

### **Direct compliance costs and benefits of Actions 4 and 5: Stocks/stock complexes new to management**

Based on proposed **Action 2**, two finfish species would be new to management under the St. Croix FMP (dolphin, wahoo), along with multiple sea urchins, sea cucumbers, and corals that are not managed under the Coral FMP. Following **Action 3**, dolphin and wahoo would each be managed as individual stocks; all sea urchin species and sea cucumber species in St. Croix federal waters would be managed in new Sea Urchin stock complex and Sea Cucumber stock complex; and all coral species<sup>12</sup> in St. Croix federal waters would be managed in the Corals stock complex.

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<sup>12</sup> Corals included in the St. Croix FMP include the phylum Cnidaria (formerly Coelenterata) 1) Class Hydrozoa, Sub-Class Hydroidolina, Order Anthoathecata, Family Milleporidae and Family Stylasteridae; 2) Class Anthozoa, Subclass Octocorallia (soft corals, gorgonians, sea pansies, sea pens), Order Alcyonacea (soft corals), Order Pennatulacea (sea pens), Subclass Hexacorallia, Order Scleractinia (stony corals), and Order Anthipatharia (black corals).

As unmanaged species, there are currently no regulations in place under the Reef Fish FMP or the Coral FMP that directly limit fishing for and landings of dolphin, wahoo, and the species of sea urchins, sea cucumbers, and corals new to management.

**Action 4, Preferred Sub-alternative 2e**, would set the ACLs at 95% of their respective ABCs for the stocks/stock complexes new to federal management (Table 5.2). The ABC recommendations for the Sea Urchins, Sea Cucumbers, and Corals stock complexes were set equal to zero by the SSC, thus the ACLs for those stock complexes would be zero.

**Action 5, Preferred Sub-alternative 3a**, would establish a commercial annual catch target (ACT) for the two pelagic stocks (dolphin and wahoo) at 90% of their respective ACLs (Table 5.2). The ACTs under **Preferred Alternative 3** would serve as the AM trigger. If landings exceed the ACT, the Council in consultation with the SEFSC would determine if corrective action is necessary. The potential corrective action is not prescribed and would be developed when the AM was implemented. **Action 5, Preferred Sub-alternative 3g**, would estimate landings relative to the ACT using a single year of landings data from 2018, followed by a second single year of landings data from 2019, followed by a 2-year average of 2019-2020 landings data, then a progressive running 3-year average of landings data beginning with 2019-2021. However, the RA in consultation with the Council could deviate from the specific time sequences based on data availability.

Under **Action 5, Preferred Alternative 5**, the harvest prohibition for the Sea Urchins, Sea Cucumbers, and Corals stock complexes would serve as the AM.

**Table 5.2.** Current and proposed ACLs and ACTs (where applicable) and resultant AMs triggered based on average landings reported for stocks/stock complexes new to management in St. Croix.

Stock/Stock Complex	Current ACL (lbs)	Proposed ACL (lbs)	Proposed ACT (lbs)	Average Landings (2014-2016)	AM Triggered under Current Management	AM Triggered under Proposed Management
Dolphin	N/A	86,633	77,970	57,724	N/A	No
Wahoo	N/A	27,260	24,534	30,634	N/A	Yes
Sea Urchins <sup>1</sup> (new)	N/A	0	N/A	0	N/A	No
Sea Cucumbers <sup>1</sup> (new)	N/A	0	N/A	0	N/A	No
Corals <sup>1</sup> (new)	N/A	0	N/A	0	N/A	No

<sup>1</sup> Species of sea urchins, sea cucumbers, and corals managed under the Coral FMP for which management would continue under the St. Croix FMP are discussed in the next section. This section discusses only those species new to management. All species of sea urchins, sea cucumbers, and corals, whether currently managed or new to management, would be grouped together into one stock complex per family (i.e., Sea Urchins stock complex, Sea Cucumber stock complex, Corals stock complex).

For the two finfish new to federal management (dolphin, wahoo), small businesses that target these species would be accountable to ACLs and ACTs under the St. Croix FMP where there are no management limits in place under current management. As seen in Table 5.2, when using the 3-year average landings during the 2014-2016 period, no AM would be triggered, and thus applied, for dolphin. Thus, the proposed management scheme would not alter fishing for dolphin and there would be no direct compliance cost or benefit to small businesses that harvest dolphin as a result of **Actions 4 and 5**. The future impact of managing these species depends on the extent to which landings increase and future AMs are triggered and applied.

However, using the 3-year average landings during the 2014-2016 period, an AM for Wahoo would be triggered, as landings would exceed the ACT. For this pelagic species new to management, once triggered, the Council in consultation with the SEFSC would determine what corrective action, if any, to take. If the Council determined a corrective action was necessary to account the overage of both the ACT and the ACL, that corrective action could have economic consequences for small businesses that harvest Wahoo, depending on the action taken. The consequences stem from the AM when it is applied and those consequences are not known at this time.

For species new to federal management in the Sea Urchins, Sea Cucumbers, and Corals stock complexes, harvest would be prohibited, whereas currently harvest of these species is not federally managed. As seen in Table 5.2, no landings were reported for species in these three stock complexes. Thus, no AMs for the species new to management would be triggered and applied under the proposed management. If there were landings, and AMs were triggered and applied, this could have economic consequences that are not occurring under current management. However, no information has been uncovered to date to indicate there is or has been local demand for or commercial harvest of either sea urchins (or their roe) or sea cucumbers from the St. Croix EEZ.<sup>13</sup> Similarly, no information has been uncovered to date to indicate that there was or is commercial harvest of coral from the St. Croix EEZ. Therefore, it is expected that **Actions 4 and 5** would have no direct impacts on small businesses as a result of managing additional species of sea urchins, sea cucumbers, or corals.

### **Direct compliance costs and benefits of Actions 4 and 5: Stocks/stock complexes for which proposed management is not directly comparable to current management**

For the remaining stocks/stock complexes proposed for management under the St. Croix FMP, comparing the effects of the proposed and current regulations is complicated by how management would change under the proposed regulations. Current management of reef fish species in St. Croix is based on ACLs that were established at the family level (e.g., Snappers). For some of those species that would continue to be managed under the St. Croix FMP (e.g., yellowtail snapper and black grouper), the proposed ACLs specified in Action 4 would not be specified at the family level (e.g., Snappers, Groupers, as under current management) but rather at multiple sub-levels (e.g., yellowtail snapper would be managed as single stock under the Snapper 6 ACL; black grouper would be managed with three other groupers under the Grouper 5 ACL under the proposed St. Croix FMP), preventing a direct comparison of ACLs and AMs governing harvest of these species. Additionally, management under the St. Croix FMP proposes to use indicator stocks to govern some of the reef fish families (e.g., Parrotfish 2). For stock complexes where an indicator stock was selected, the proposed ACLs for the stock complex specified under **Action 4** would be based on and evaluated with respect to the indicator stock(s), rather than on all the stocks within the stock complex. Thus, ACLs and AMs applicable to those stock complexes would not be comparable even if the stock complex composition remained unchanged. Lastly, even where management would continue at the family level without indicators (e.g., Grunts, Squirrelfish, Triggerfish), following Action 2, some currently managed reef fish species would not be managed under the St. Croix FMP, and so those family-level ACLs would not be comparable.

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<sup>13</sup> Global consumers of sea urchin and sea urchin roe prefer those found in colder waters, not the species present in the U.S. Caribbean and for which harvest would be prohibited under the St. Croix FMP.

For the proposed Snappers (1-6), Groupers (3-6)<sup>14</sup>, Grunts, Squirrelfish, Triggerfish, Sea Urchins, Sea Cucumbers, and Corals stocks/stock complexes, **Preferred Sub-alternative 2e** would specify ACLs as 95% of their respective ABCs. For the Parrotfish 2 stock complex<sup>15</sup>, **Action 4, Preferred Sub-alternative 2g** would specify the ACL as 85% of the recommended ABC. Table 5.3 below shows current management (e.g., ACLs) of reef fish species under the Reef Fish FMP and coral reef resources under the Coral FMP compared to proposed management under the St. Croix FMP.

**Action 5, Preferred Alternative 2 and Preferred Sub-alternative 2d**, would establish an AM and AM trigger. For stock complexes managed with an indicator stock, landings of the indicator stock(s) would be monitored, and an AM would be triggered for all stocks in the stock complex if landings of the indicator stock(s) exceed the ACL. For stock complexes managed without an indicator stock, an AM would be triggered if the aggregate landings of stocks within the stock complex exceed the ACL. In either case, the AM would be applied to all stocks in the stock complex, unless NMFS' SEFSC determines the overage occurred because data collection or monitoring improved rather than because catch increased. Once triggered, NMFS would reduce the length of the fishing season for the applicable stock/stock complex the year following the overage determination by the amount necessary to ensure (to the greatest practicable extent) landings do not again exceed the ACL in the year of application.

Under **Action 5, Preferred Sub-alternative 2d**, the estimate of landings compared with the ACL(s) for these stocks/stock complexes would be a single year of applicable landings, using landings from 2018; then a single year of applicable landings, using landings from 2019; then a two-year average of applicable landings from 2019 and the subsequent year (2019-2020); then a three-year average of applicable landings from those two years and the subsequent year (2019-2021); and thereafter a progressive running three-year average (2020-2022, etc.).

Where allowable, the following analysis will estimate costs and benefits of **Actions 4 and 5** for the stocks/stock complexes listed in Table 5.3. For the purpose of this analysis, to determine whether there would be an AM-based fishing season reduction triggered, the average landings from 2014 through 2016 are compared to the current and proposed ACLs (Table 5.3).

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<sup>14</sup> Grouper 1 (Nassau grouper) and Grouper 2 (goliath grouper) stocks were described in the previous section, as current and proposed management for those species would be the same (i.e., harvest is prohibited).

<sup>15</sup> The Parrotfish 1 (midnight, blue, and rainbow parrotfish) stock complex was described in the previous section, as current and proposed management for these species would be the same (i.e., harvest is prohibited).

**Table 5.3.** Comparison of current management (species managed, species groupings, ACLs) under the Reef Fish and Coral FMPs to proposed management under the St. Croix FMP. For stock complexes that would be managed with an indicator stock under the proposed St. Croix FMP, the proposed indicator stock and the proposed ACLs and average landings are marked with an asterisk (\*) to indicate that the values are based on indicator stock information. Shaded landings values exceeded the corresponding ACL for the managed stocks, and would trigger an AM. **Note:** this list does not reflect the entirety of species managed under the Reef Fish and Coral FMPs or the St. Croix FMP. All other species proposed for management under the St. Croix FMP are analyzed above.

Species	Current Management Unit	Proposed Management Stock/Complex	Current ACL (lbs)	Average Landings (2014-2016) Compared to Current ACL	Proposed ACL (lbs)	Average Landings (2014-2016) Compared to Proposed ACL		
Black snapper	Snappers	Snapper 1	102,946	46,928	61,455*	21,343*		
Blackfin snapper*	Snappers	Snapper 1						
Silk snapper*	Snappers	Snapper 1						
Vermilion snapper	Snappers	Snapper 1			102,946	46,928	7,911	2,331
Queen snapper	Snappers	Snapper 2					14,156	4,152
Lane snapper	Snappers	Snapper 3					8,513	3,004
Gray snapper	Snappers	Snapper 3					22,879	6,568
Mutton snapper	Snappers	Snapper 4					15,670	5,678
Schoolmaster	Snappers	Snapper 5					N/A	N/A
Yellowtail snapper	Snappers	Snapper 6					N/A	N/A
Wenchman	Snappers	Not managed					N/A	N/A
Cardinal snapper	Snappers	Not managed					N/A	N/A
Dog snapper	Snappers	Not managed					N/A	N/A
Mahogany snapper	Snappers	Not managed	N/A	N/A				
Coney*	Groupers	Grouper 3	30,435	14,804	13,529*	5,621*		
Graysby	Groupers	Grouper 3			30,435	14,804	11,849*	8,009*
Red hind*	Groupers	Grouper 4					701	696
Rock Hind	Groupers	Grouper 4						
Black grouper	Groupers	Grouper 5						



Species	Current Management Unit	Proposed Management Stock/Complex	Current ACL (lbs)	Average Landings (2014-2016) Compared to Current ACL	Proposed ACL (lbs)	Average Landings (2014-2016) Compared to Proposed ACL
Red grouper	Groupers	Grouper 5				
Tiger grouper	Groupers	Grouper 5				
Yellowfin grouper	Groupers	Grouper 5				
Misty grouper	Groupers	Grouper 6				
Yellowedge grouper	Groupers	Not managed				
Princess parrotfish	Parrotfish	Parrotfish 2	240,000	83,947	72,365*	36,596*
Queen parrotfish	Parrotfish	Parrotfish 2				
Redfin parrotfish	Parrotfish	Parrotfish 2				
Redtail parrotfish*	Parrotfish	Parrotfish 2				
Stoplight parrotfish*	Parrotfish	Parrotfish 2				
Redband parrotfish	Parrotfish	Parrotfish 2				
Striped parrotfish	Parrotfish	Parrotfish 2				
White grunt	Grunts	Grunts	36,881	10,676	27,169	9,497
Bluestriped grunt	Grunts	Grunts				
Margate	Grunts	Not managed				
Tomtate	Grunts	Not managed				
French grunt	Grunts	Not managed				
Porkfish	Grunts	Not managed				
Longspine squirrelfish	Squirrelfish	Squirrelfish	121	404 <sup>1</sup>	3,514	279
Blackbar soldierfish	Squirrelfish	Not managed				
Bigeye	Squirrelfish	Not managed				
Squirrelfish	Squirrelfish	Not managed				
Queen triggerfish	Triggerfish & Filefish	Triggerfish	24,980	8,912	21,450	8,912
Ocean triggerfish	Triggerfish & Filefish	Not managed				
Sargassum triggerfish	Triggerfish & Filefish	Not managed				

<b>Species</b>	<b>Current Management Unit</b>	<b>Proposed Management Stock/Complex</b>	<b>Current ACL (lbs)</b>	<b>Average Landings (2014-2016) Compared to Current ACL</b>	<b>Proposed ACL (lbs)</b>	<b>Average Landings (2014-2016) Compared to Proposed ACL</b>
Scrawled filefish	Triggerfish & Filefish	Not managed			N/A	N/A
Whitespotted filefish	Triggerfish & Filefish	Not managed			N/A	N/A
Black durgon	Triggerfish & Filefish	Not managed			N/A	N/A
Corals	Corals	Corals	0	0	0	0
Sea urchins	Aquarium Trade	Sea Urchins	8,155 <sup>2</sup>	0	0	0
Sea cucumbers	Aquarium Trade	Sea Cucumbers			0	0

<sup>1</sup>No AM was applied in 2018 because fishing effort was considered to be substantially reduced due to impacts of the 2017 hurricanes on fishing activity in the region, therefore a reduction to the 2018 fishing season was not necessary to avoid an ACL overage.

<sup>2</sup>The Aquarium Trade ACL applies to all reef fish and coral resource species included in the management unit across the entire U.S. Caribbean EEZ.

### *Snappers, Groupers*

Under the Reef Fish FMP, snappers and groupers in St. Croix are currently managed under an ACL set for each family of fish (i.e., Snappers, Groupers). Under the proposed St. Croix FMP, some snapper and grouper species currently managed would be excluded, and for each family of fish, the stocks included for management would be split into a combination of two or more stocks/stock complexes. Each proposed stock/stock complex would be managed with an ACL. Indicator stocks were selected for one of the Snapper stock complexes (Snapper 1) and two Grouper stock complexes (Grouper 3 and Grouper 4). Thus, the ACLs for those stock complexes were specified based on landings of the indicator stock(s) only rather than on combined landings of all stocks within the stock complex.

These management modifications prevent a direct comparison of the current and proposed ACLs for these fish families. Therefore, the analysis of potential costs and benefits to small businesses focuses on the species within these families and proposed stock complexes to determine whether an AM would be triggered and applied under current versus proposed management. The AM for the proposed stock/stock complex would work in the same manner under current and proposed management: comparing recent landings to the ACLs and, if triggered, preventing overages through future fishing season reductions.<sup>16</sup> In addition, where appropriate, the analysis considers whether the proposed ACL could allow for expansion of landings or could require its contraction, noting any potential consequences to small businesses.

Small businesses fishing for black, blackfin, silk, vermillion, queen, lane, gray, mutton, schoolmaster, and yellowtail snapper (Table 5.3) would not be subject to an AM under either the current or proposed management. This is because average landings (2014-2016) of these species do not exceed either the current ACL or proposed ACL. Therefore, no direct impacts would be expected on small businesses that harvest these snapper species. Effects to small businesses that harvest the snapper species in Table 5.3 that would not be managed under the St. Croix FMP (i.e., wenchman, cardinal, dog, and mahogany snapper) were discussed above in Action 2.

The proposed changes to the ACLs applicable to those fishing for black, blackfin, silk, vermillion (Snapper 1), queen (Snapper 2), lane, gray (Snapper 3), mutton (Snapper 4), schoolmaster (Snapper 5), and yellowtail snapper (Snapper 6) could potentially allow for additional commercial landings of these 10 species, which could potentially benefit small business that target these species, though that benefit is not quantifiable. The combined total of the proposed ACLs for these 10 snapper species for which management would be continued would be greater than the current Snappers ACL, which applies to 14 snapper species. These increases could allow for future increases in landings of these snappers in the St. Croix fishery.

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<sup>16</sup> Average landings would be compared to the ACL and AM would be triggered if the ACL is exceeded and the length of the following fishing season would be reduced by the amount necessary to prevent the ACL from being exceeded. No action would be taken if NMFS' SEFSC determines the overage occurred because data collection or monitoring improved rather than because catch increased.

For small businesses that target groupers, under current management the 2014-2016 average landings for the managed grouper species (Table 5.3) would not exceed the current Grouper ACL, and no AM would be triggered. Likewise, under proposed management, the 2014-2016 average landings for species in the Grouper 3, Grouper 4, and Grouper 5 stock complexes do not exceed the proposed ACLs for those stock complexes, and no AM would be triggered.

Therefore, no direct costs or benefits to small businesses that harvest the species in the proposed Grouper 3, Grouper 4, and Grouper 5 stock complexes would be expected. However, average annual landings of misty grouper during 2014-2016 would exceed the proposed Grouper 6 ACL specified for this stock by 5 lbs, thereby triggering an AM. If NMFS determined the overage of the proposed ACL was due to increased catch rather than enhanced reporting, an AM would be applied. If an AM was applied, fishermen targeting misty grouper would be directly impacted under proposed management by application of the AM, which would reduce the length of the fishing season to ensure against a future overage of 5 lbs.

In 2016, the average price of misty grouper (Grouper 6) was \$6.75 per lb, which is \$7.21 at January 2020 price (BLS CPI Inflation Calculator). Under **Actions 4** and **5**, a reduction of the Grouper 6 season to eliminate an overage of 5 lbs would reduce annual revenue by \$36 (at January 2020 price). That would generate an average direct compliance cost less than \$2 per small business for the 26 small businesses operating in federal waters that target reef fish (81% of 31 small businesses; Kojis et al. 2017). The actual magnitude of the direct compliance cost is dependent on the extent that landings recover from the 2017 hurricane season and the extent to which the AM is needed to prevent a future ACL overage.

Direct impacts on small businesses that harvest the grouper species in Table 5.3 that would not be managed under the St. Croix FMP (i.e., yellowedge grouper) were discussed above in Action 2.

### *Parrotfish*

The stock composition and organization of parrotfish species for which harvest is allowed is the same under both the Reef Fish FMP and the proposed St. Croix FMP; however, under the proposed St. Croix FMP, Parrotfish 2 would have two indicator stocks.<sup>17</sup> The proposed ACL for Parrotfish 2 is based on and would be evaluated with the combined landings of the two indicator stocks (redtail and stoplight parrotfish) whereas the current Parrotfish ACL is based on and evaluated with landings of all species within the complex. That difference prevents a direct comparison of the current and proposed ACLs for these parrotfish species beyond comparing whether an AM would be triggered and applied under current versus proposed management. As

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<sup>17</sup> The species for which harvest is allowed under current management (princess, queen, redfin, retail, stoplight, redband, and striped parrotfish) would be grouped together in the Parrotfish 2 stock complex under the St. Croix FMP. Management of the prohibited parrotfish species (blue, midnight, and rainbow parrotfish), which would continue to be prohibited under the St. Croix FMP, were discussed above.

described above, the AM for the proposed stock complex would work in the same manner under current and proposed management.<sup>18</sup>

Small businesses fishing for princess, queen, redband, redtail, stoplight, and striped parrotfish (Table 5.3) would not be subject to an AM under either the current or proposed management. This is because average landings (2014-2016) of the combined seven species do not exceed the Parrotfish ACL under current management, and because average landings of the combined two indicator stocks (redtail and stoplight parrotfish) do not exceed the proposed Parrotfish 2 ACL. Therefore, no direct costs or benefits to small businesses that harvest these parrotfish species would be expected. It is unknown whether the proposed changes in how these stocks are managed and the resulting changes to the ACLs would allow for an increase or decrease in the commercial harvest of these species.

#### *Grunts, Squirrelfish, Triggerfish*

Six species of Grunts, four species of Squirrelfish, and three species of Triggerfish are currently managed under the Reef Fish FMP, but under the St. Croix FMP, only two species of grunts, a single species of squirrelfish, and a single species of triggerfish would be managed (white and bluestriped grunts, longspine squirrelfish, and queen triggerfish) (Table 5.3). Therefore, the current ACLs for these complexes that are based on and evaluated by landings of multiple species are not directly comparable to the proposed ACLs that are based on and evaluated by landings of a reduced number of species. The following analysis of potential costs and benefits looks at whether an AM would be triggered and applied under current versus proposed management. The AM for the proposed Grunts, Squirrelfish, and Triggerfish stocks/stock complex would work in the same manner under current and proposed management.<sup>19</sup>

Small businesses that harvest white grunt, bluestriped grunt, and queen triggerfish would not be subject to an AM under either proposed or current management. Under current management, average landings (2014-2016) of all managed grunt and triggerfish species, including white grunt, bluestriped grunt, and queen triggerfish, would not exceed the applicable ACLs for Grunts or Triggerfish and Filefish (Table 5.3). Under proposed management, average landings (2014-2016) of bluestriped and white grunt would not exceed the proposed Grunts ACL, and average landings (2014-2016) of queen triggerfish would not exceed the proposed Triggerfish ACL. Therefore, under both current and proposed management, no AMs would be triggered and no direct costs or benefits to small businesses that harvest white grunt, bluestriped grunt, and queen

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<sup>18</sup> Average landings would be compared to the ACL and AM would be triggered if the ACL is exceeded and the length of the following fishing season would be reduced by the amount necessary to prevent the ACL from being exceeded. No action would be taken if NMFS' SEFSC determines the overage occurred because data collection or monitoring improved rather than because catch increased.

<sup>19</sup> Average landings would be compared to the ACL and AM would be triggered if the ACL is exceeded and the length of the following fishing season would be reduced by the amount necessary to prevent the ACL from being exceeded. No action would be taken if NMFS' SEFSC determines the overage occurred because data collection or monitoring improved rather than because catch increased.

triggerfish would be expected. Any direct benefits to small businesses that harvest the grunt and triggerfish and filefish species that would not be managed under the St. Croix FMP (i.e., margate, tomtate, French grunt, porkfish, ocean triggerfish, sargassum triggerfish, scrawled filefish, whitespotted filefish, and black durgon) were discussed above in Action 2. It is unknown whether the proposed changes in how white grunt, bluestriped grunt, and queen triggerfish are managed and the resulting changes to the ACLs would allow for an increase or decrease in the commercial harvest of these species.

For Squirrelfish (longspine squirrelfish, blackbar soldierfish, bigeye, and squirrelfish), under current management, 2014-2016 average landings in St. Croix exceeded the ACL by 283 lbs, which would trigger an AM (Table 5.3). However, fishing activities in St. Croix were severely curtailed in 2017 due to impacts of Hurricane Maria, the effects of which continued into the 2018 fishing season. Thus, when evaluating whether to implement an AM in the 2018 fishing season based on these 2014-2016 landings, the RA determined that an AM-based reduction to the Squirrelfish fishing season in St. Croix in 2018 was not necessary to prevent a future overage. Moreover, for Squirrelfish in St. Croix, in the past, NMFS' SEFSC has determined that previous overages of the current Squirrelfish ACL occurred because data collection or monitoring improved rather than because catch increased, and thus no AMs were applied, and under current management such determinations are likely to continue in the future. No overage is expected in the current season as well.

Under proposed management, 2014-2016 average landings of longspine squirrelfish (Squirrelfish) in St. Croix would not exceed the proposed ACL. Therefore, at those landings levels, an AM would not be triggered and the length of the longspine squirrelfish fishing season in St. Croix would not be reduced.

Since the length of the Squirrelfish fishing season would not be reduced under current management and would also not be reduced under the proposed management, there would be no direct impact on small businesses in St. Croix that harvest longspine squirrelfish.

In the future, however, it is possible that Squirrelfish landings, especially longspine landings, could recover and expand beyond the current ACL, and an AM could become necessary under current management. Therefore, the impact of the proposed increase in the ACL for Squirrelfish under the St. Croix FMP may be beneficial, although such an expansion in landings cannot be predicted.

#### *Corals, Sea Urchins, Sea Cucumbers*

Under current management, the managed coral species are defined as "Caribbean prohibited coral" and harvest and possession of those species is prohibited (50 CFR 622.472(b)). For those

coral species,<sup>20</sup> that prohibition would continue under the St. Croix FMP and no direct compliance costs or benefits would be expected.

Under current management, a select number of sea urchin and sea cucumber species are managed with other invertebrate (e.g., sponges, worms, molluscs) and reef fish (e.g., butterflyfish, gobies, sea horses) species in the Aquarium Trade management unit. The ACL for Aquarium Trade species is 8,155 lbs and applies for the entire U.S. Caribbean EEZ. Under the St. Croix FMP, the species of sea urchins and sea cucumbers that are currently managed under the Aquarium Trade unit would be managed in the Sea Urchins and Sea Cucumbers stock complexes, respectively.<sup>21</sup> The proposed ACLs for both of those stock complexes would be zero and harvest would now be prohibited. No information has been uncovered to date to indicate there is or has been local demand for or commercial harvest of either sea urchins or sea cucumbers from the St. Croix EEZ. Therefore, the direct compliance costs or benefits are expected.

**Action 6, Preferred Alternative 2** would describe and identify essential fish habitat (EFH) for the species that would be new to management: dolphin, wahoo, and any species of sea cucumbers, sea urchins, and corals found in the St. Croix EEZ that are not managed under the Coral FMP. The Magnuson-Stevens Act requires the proposed St. Croix FMP to describe and identify EFH for managed fish species, to minimize to the extent practicable adverse effects on such habitat caused by fishing, and to identify other actions to encourage the conservation and enhancement of such habitat. The designation, in and of itself, does not have a direct compliance cost or benefit on small businesses.<sup>22</sup> Therefore, **Action 6** would have no direct compliance cost or benefit on small businesses and any indirect impacts would be dependent on future actions.

**Action 7, Preferred Alternative 2** would expand the range of management measures that can be implemented by the Council without going through a full plan amendment process. As such, it is an administrative action and has no direct compliance cost or benefit on any small businesses.

#### **Summary of total direct compliance costs and benefits and associated impacts**

No direct compliance costs or benefits would be expected from **Action 1, Action 2, Action 3, Action 6, or Action 7**. **Action 4** and **Action 5** could have direct compliance costs on the small businesses that harvest misty grouper (Grouper 6 stock).

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<sup>20</sup> Under Action 2, the St. Croix FMP would manage additional species of coral. The effects of adding these species to management are discussed above.

<sup>21</sup> Under Action 2, the St. Croix FMP would manage additional species of sea urchins and sea cucumbers. The effects of adding these species to management are discussed above.

<sup>22</sup> Federal action agencies which fund, permit, or carry out activities that may adversely impact EFH are required to consult with NMFS regarding the potential effects of their actions on EFH, and respond in writing to NMFS or Council recommendations. Likewise, every fishery management plan shall minimize to the extent practicable adverse effects on EFH. Measures taken to avoid impacts to EFH could potentially affect small entities, however, no such measures are proposed at this time.

In St. Croix, the average small business operating in federal waters that targets reef fish (26; 81% of the 31 small businesses) would have a direct compliance cost that is less than \$2 (2018 dollars) as a result of changes to management for misty grouper. However, actual direct compliance costs will be dependent on both the extent that landings recover from the 2017 hurricane season and if an AM is considered necessary to prevent a future overage.

## 6. Significance of economic impacts on a substantial number of small entities

From the above, it is concluded that this proposed rule would not have a significant economic impact on a substantial number of small businesses.

## 7. References

Kojis, B., N. Quinn, and J. Agar. 2017. Census of licensed commercial fishermen of the U.S. Virgin Islands (2016). NOAA Technical Memorandum NMFS-SEFSC-715, 160 p. doi:10.7289/V5/TM-SEFSC-715.