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REGULATORY AMENDMENT TO THE FISHERY MANAGEMENT PLAN FOR QUEEN CONCH RESOURCES OF PUERTO RICO AND THE U.S. VIRGIN ISLANDS ESTABLISHING COMPATIBLE CLOSURES INCLUDING A REGULATORY IMPACT REVIEW AND AN ENVIRONMENTAL ASSESSMENT

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1.0 EXECUTIVE SUMMARY

Current regulations for Caribbean queen conch prohibit fishing for or possession of queen conch in the U.S. Caribbean exclusive economic zone (EEZ), with the exception of the Lang Bank near St. Croix (i.e., east of 64°34'W), which is open for harvest from October 1 through June 30, each year. Current regulations also dictate a minimum size limit of nine (9) inches total length and 3/8 inch lip thickness measured at the thickest point of the lip. Queen conch in or from the EEZ must also be landed with meat and shell intact and harvest of queen conch by diving while using a device that provides a continuous air supply from the surface (e.g., "hookah" gear) is prohibited. Finally, for non-commercial fishers, the daily limit is three (3) queen conch per person per day, not to exceed twelve (12) per boat per day. For commercial fishers, the daily limit is one hundred and fifty (150) queen conch per person per day.

In the U.S. Virgin Islands (U.S.V.I.), queen conch is managed under a 50,000-pound annual quota for each of St. Croix and St. Thomas/St. John. On May 1, 2009, the 2008/2009 quota for St. Croix was reached and the territorial government requested the Caribbean Fishery Management Council (Council) implement compatible closures to prohibit the harvest of queen conch in the EEZ when the St. Croix territorial quota has been met. The proposed action would implement closures that will be compatible with new quota regulations established by the U.S.V.I. territorial government. The proposed action would close the federal waters of Lang Bank to the harvest of queen conch in the U.S. Caribbean EEZ when harvest is prohibited in St. Croix territorial waters. The proposed action would also change the closed season within the Lang Bank from July 1 through September 30 (current) to June 1 through October 31 (proposed), each year.

2.0 INTRODUCTION

2.1 Purpose and Need

The purpose of implementing this regulatory amendment to the Queen Conch Fishery Management Plan (FMP) is to establish compatible closures with the territorial waters of the U.S.V.I. To reduce overfishing of queen conch, the U.S.V.I. has established new regulations in territorial waters, including a quota for queen conch for each of St. Croix and St. Thomas/St. John. The 2008/2009 quota for St. Croix was reached in May of 2009 and as a result, harvest of queen conch was prohibited in territorial waters for the remainder of the fishing year.

Under present queen conch regulations for federal waters of the Lang Bank, east of St. Croix, fishers may continue to harvest queen conch east of 64°34'W even when St. Croix territorial waters have been closed to harvest. Enforcement of fisheries regulations in territorial and federal waters is limited and the lack of compatible regulations further complicates resource protection. The U.S.V.I. government has asked the Council to implement compatible closures. This action is intended to prohibit fishing for queen conch in the Lang Bank when harvest of queen conch is prohibited in St. Croix territorial

waters as a result of either quota or seasonal closure in order to help reduce overfishing of queen conch as well as simplify enforcement efforts.

2.2 Background

In 2005, Amendment 1 to the Queen Conch FMP was implemented through the Comprehensive Sustainable Fisheries Act Amendment to the Spiny Lobster, Queen Conch, Reef Fish, and Coral and Coral Reefs Fishery Management Plans (Comprehensive SFA Amendment). To implement a rebuilding plan, the Council prohibited commercial and recreational harvest, and possession of queen conch in federal waters of the U.S. Caribbean, with the exception of the Lang Bank near St. Croix, which is open for harvest from October 1 through June 30. For the purposes of this amendment, the Lang Bank is defined as the area east of 64°34'W bound within the 100 fathom curve. The Lang Bank lies within both federal and territorial waters. Therefore any discussion within this amendment pertains to the portion of the Lang Bank within the Caribbean EEZ. Figure 2.2 illustrates all of the Lang Bank and its location in relation to St. Croix, U.S.V.I.

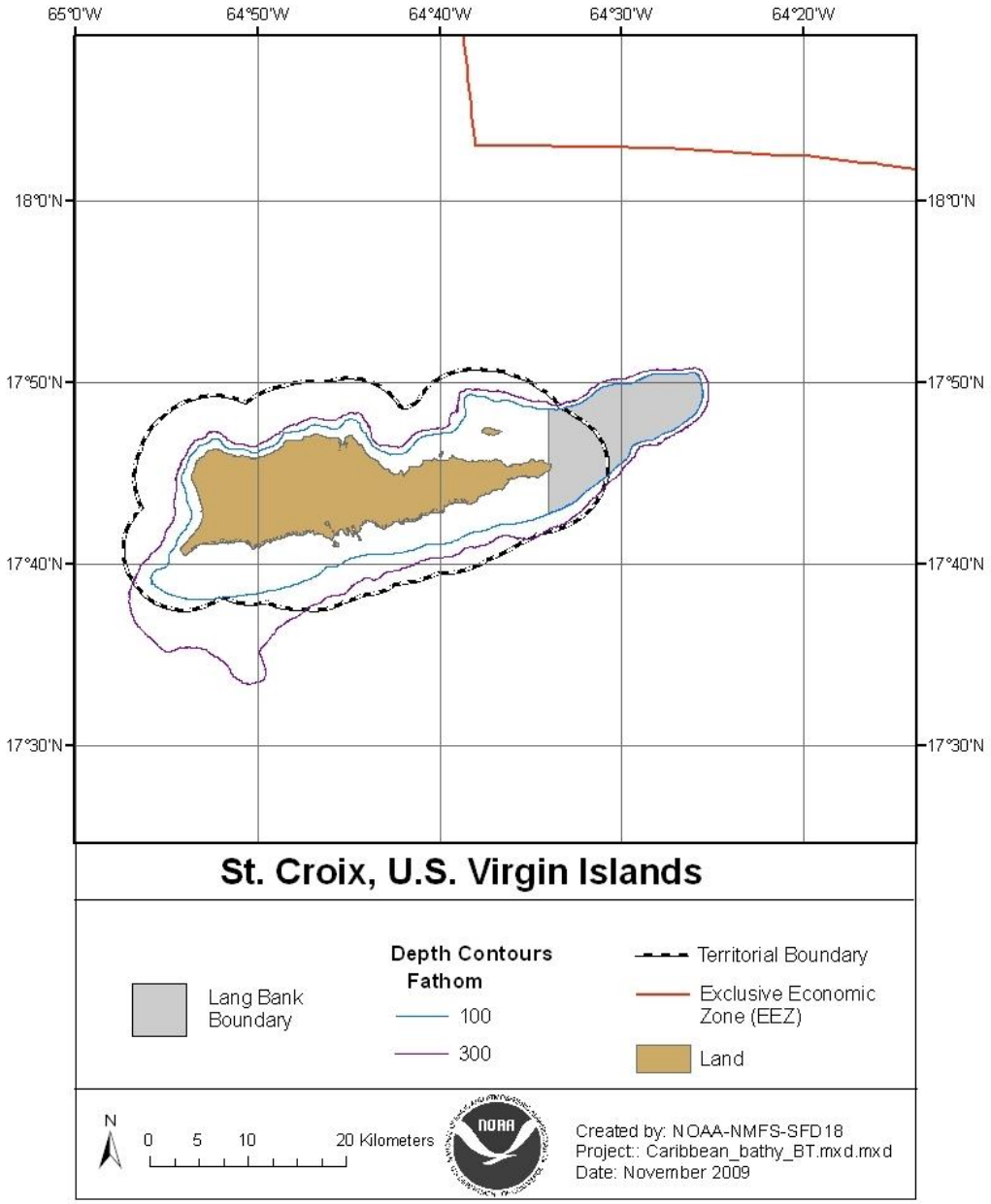

Figure 2.2: Map of St. Croix, U.S.V.I., including the Lang Bank

The 2007 Magnuson-Stevens Reauthorization Act established a requirement that FMPs contain mechanisms for specifying annual catch limits (ACLs), implementing regulations, or annual specifications, at a level such that overfishing does not occur in a fishery, including measures to ensure accountability. Congress has set a deadline to establish catch limits for all fisheries experiencing overfishing in fishing year 2010 and for all other fisheries in fishing year 2011. In the U.S. Caribbean, resources considered overfished or undergoing overfishing include queen conch. NOAA Fisheries Service is currently developing Amendment 2 to the Queen Conch FMP to address ACLs in federal waters. In June 2008, the U.S.V.I. established a quota for queen conch harvest in territorial waters to eliminate overfishing of queen conch (U.S.V.I. 2008). Separate 50,000 pound annual quotas were enacted for each of St. Croix and St. Thomas/St. John.

The St. Croix queen conch quota for the 2008/2009 fishing year was reached on May 1, 2009, at which time the queen conch fishery was closed until the end of the U.S.V.I. fishing year (November 1). Federal regulations for the Lang Bank allow for some overlap with the U.S.V.I. open season but the Lang Bank currently remains open when territorial waters close due to the quota being met. The U.S.V.I. Department of Planning and Natural Resources asked the Council to implement regulations compatible with the U.S.V.I. territorial quota closure.

2.3 History of Management

Prior to the development of the Queen Conch FMP in 1997, queen conch were protected in federal waters through the implementation of seasonally closed areas to protect red hind spawning aggregations where all fishing was prohibited during the months of the closure. These areas were the Tourmaline Bank off the west coast of Puerto Rico (CFMC, 1993), the Marine Conservation Districts (MCD) off St. Thomas (CFMC, 1990), the Lang Bank off St. Croix (CFMC, 1993) and the mutton snapper area off St. Croix (CFMC, 1993). Additional protection was afforded to queen conch with the establishment of two additional seasonally closed areas off the west coast of Puerto Rico (Bajo de Sico and Abrir La Sierra) since 1996 (CFMC, 1996b) and the changes made to the MCD regulation in 1999 that prohibited all fishing year-round (CFMC, 1999). The new regulations prohibited all fishing from Lang Bank, Tourmaline Bank, Bajo de Sico, and Abrir La Sierra from December through February and from the mutton snapper area from March through June. Compatible regulations were implemented for those areas that were continuous between federal and local jurisdictions.

The U.S.V.I. implemented queen conch regulations as early as 1994, including a seasonal closure, and closed the fishery in the territorial waters of St. Thomas/St. John between 1992 and 1995. A moratorium on commercial fishing licenses was established between 1988 and 1992 and then again in 2001.

2.3.1 Fishery Management Plan for the Queen Conch Resources of Puerto Rico and the U.S. Virgin Islands

The Council's Queen Conch FMP (CFMC, 1996a; 61 FR 65481) was implemented in January 1997, and was supported by an EIS. The FMP defined the queen conch fishery management unit, defined various fishing parameters, described objectives for the queen conch fishery, and established management measures to achieve those objectives. Additional information regarding management measures implemented through the original FMP can be found in Section 2.2.2 of the Comprehensive SFA Amendment (CFMC, 2005).

In 2005, the Comprehensive SFA Amendment provided a rebuilding plan for queen conch as Amendment 1 to the Queen Conch FMP. To implement a rebuilding plan, the Council prohibited commercial and recreational harvest, and possession of queen conch in federal waters of the U.S. Caribbean, with the exception of the Lang Bank near St. Croix. More specifically, the amendment:

- Established a new Fishery Management Unit (FMU) for the queen conch;
- Prohibited the harvest and possession of queen conch from the EEZ, west of 64°34'W, East of this coordinate, fishing and possession are prohibited between July and September;
- Where fishing is allowed in the EEZ, conch must be maintained intact and all other regulations of bag limits, gear restrictions, and minimum size apply;
- Prohibited all fishing in Grammanik Bank, south of St. Thomas from February 1 through April 30 of each year;
- Established MSY (452,000 pounds), OY (424,000 pounds), and MSST (1,404,000 pounds) for the FMU.

3.0 MANAGEMENT ALTERNATIVES

The following section provides a discussion of the action considered by the Council for this regulatory amendment. Section 5.0 examines the two alternatives relative to each other within the physical, biological, ecological, economic, social, and administrative environments.

3.1 Proposed Action: Implement Compatible Closures with the U.S.V.I.

Alternative 1: No Action. Do not establish compatible closures with the U.S. Virgin Islands

Alternative 2 (Preferred): Establish compatible closures with the U.S. Virgin Islands (i.e. Quota Closure and Seasonal Closure)

Discussion

Alternative 1 would maintain the status quo. Current regulations allow harvest of queen conch in the Lang Bank, the area east of 64°34'W and within the 100 fathom line (Figure 2.2), from October 1 through June 30 of each year. This results in a closed season from July 1 through September 30, each year. Current regulations also set limits of 150 conch per person per day for commercial fishers and 3 conch per person per day, not to exceed 12 conch per boat per day, for recreational fishers. Queen conch must also be landed with the shell and meat intact. Under **Alternative 1**, all federal regulations would remain unchanged, allowing the Lang Bank to remain open for harvest of queen conch even if St. Croix territorial waters are closed. However, the Lang Bank lies within both territorial and federal waters. Thus, when territorial waters are closed, fishers may have no way to remove queen conch from the Lang Bank waters to other landing locations other than by air-lifting their harvest. Outside the Lang Bank, the rest of the U.S. Caribbean EEZ is closed to queen conch harvest, therefore the only location where harvest from the Lang Bank can be landed without traversing closed federal waters is in St. Croix; to land elsewhere would require transport through federal waters, which would be in violation of current regulations. As a result, because transport through federal waters to other landing locations is prohibited and transport though St. Croix territorial waters when quota closure is in effect may also be prohibited, the absence of reasonable alternative landing options may have resulted in the elimination of harvest activity in the Lang Bank in

recent years and an expected elimination of such harvest activity in the future. Under **Alternative 1**, the current seasonal closure (July 1 through September 30) will remain intact and thus will not coincide with the territorial seasonal closure.

Alternative 2 would implement compatible closures with the territorial government of the U.S.V.I. Under **Alternative 2**, after the territory has determined that the queen conch quota has been met, and territorial waters will be closed to harvest, the U.S. Caribbean EEZ that remains open (including the Lang Bank), will also close to harvest of queen conch until the next fishing year of the U.S.V.I. (November 1). Under **Alternative 2**, once the U.S. Caribbean waters are closed to harvest, both commercial and recreational fishers would no longer be allowed to harvest queen conch within federal waters. Under **Alternative 2**, the closed season will also change to June 1 through October 31, a two month longer period than the current seasonal closure (July 1 through September 30).

Once the territorial government has determined that the queen conch quota will be reached in St. Croix, they will send a letter requesting a compatible closure in Caribbean federal waters to the Regional Administrator (RA) of NOAA Fisheries Service, Southeast Region. In order to allow enough time to publish a notice in the *Federal Register* and provide ample notice to the public, the letter requesting a compatible closure should be sent by the territorial government as soon as practicable after the expected closure date is determined.

4.0 AFFECTED ENVIRONMENT

4.1 Physical Environment

The U.S. Caribbean is located in the eastern extreme of the Caribbean archipelago, about 1,770 km east-southeast of Miami, Florida (Olcott 1999). It comprises the Commonwealth of Puerto Rico in the Greater Antilles and the Territory of the U.S.V.I. in the Lesser Antilles island chain, both of which separate the Caribbean Sea from the western central Atlantic Ocean (Figure 4.1.1).

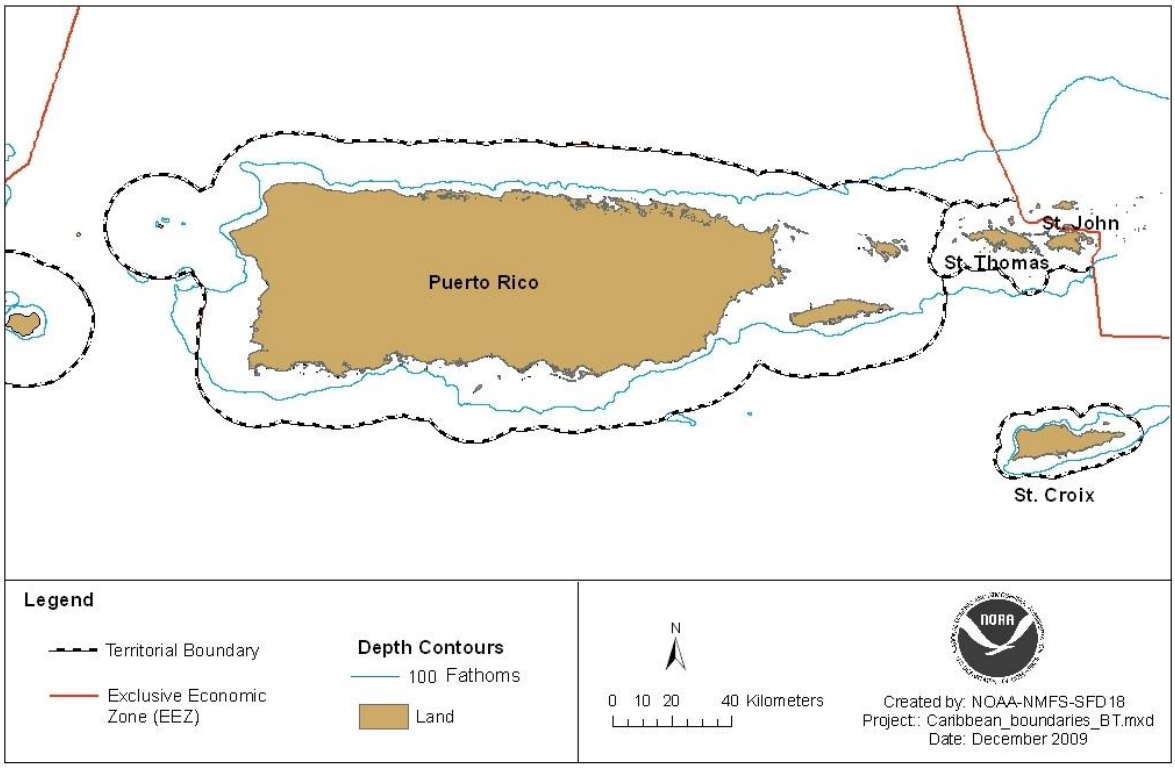

Figure 4.1.1: Map of the entire U.S. Caribbean

The U.S.V.I. are part of the Virgin Islands chain, which lies about 80 km east of Puerto Rico and consist of about 80 islands and cays (Olcott 1999). The U.S.V.I. include the largest and most important islands of the Virgin Islands chain: St. Croix, St. Thomas, and St. John. Together, their coastlines extend about 282 km. St. Croix is located about 74 km (40 nm) south of St. Thomas and St. John (CFMC 2002). Covering about 135 km^2, that island is entirely surrounded by the Caribbean Sea. The islands of St. Thomas and St. John are bordered by the Atlantic Ocean to the north and the Caribbean Sea to the south. Their respective areas are about 51 and 31 km^2 (Olcott 1999).

More detailed information on the physical environment can be found in Section 3.1 of the EFH FSEIS (CFMC 2004).

4.1.1 Geology

The shelf shared by the islands of St. Thomas and St. John is about 12.9 km wide on the south and 32.2 km wide on the north (Goenaga and Boulon 1991). St. Croix, which lies on a different geological platform, is separated from the other islands by a 4,000 m-deep trench (CFMC 2002). The St. Croix shelf is much narrower and shallower than that of the northern islands (Goenaga and Boulon 1991), extending only 4 km wide in the south, less than 0.2 km wide on the northwest, though up to several km wide in the northeast and on the Lang Bank (CFMC 2002).

4.1.2 Oceanography and climate

The Caribbean Current flows about 100 km south of the U.S. Caribbean islands at an average speed of 0.5 to 1 knots (CFMC 2002). The current is characterized by large cyclonic and anticyclonic gyres. Its strength is influenced by changes in the position of the inter-tropical convergence zone (ITCZ). The zonal shift of the ITCZ is also responsible for the seasonal change in precipitation in the Caribbean. Average annual precipitation ranges from less than 76.2 cm (30 in) to greater than 139.7 cm (55 in) in the U.S.V.I.

Surface water salinity changes along with the seasonal change in precipitation. But precipitation affects salinity only indirectly. The discharge from the Amazon, Orinoco, and Magdalena rivers is the main contribution to buoyancy in the Caribbean, increasing silica concentrations, decreasing salinity and increasing chlorophyll and pigments, as well as increasing the input of terrestrial materials (Kjerfve 1981).

Sea surface temperature ranges from a minimum of 25 degrees Celsius in February-March to a maximum of about 28.5 degrees Celsius in August-September. Tidal regimes differ between the north and south coasts. The fluctuations range from a diurnal tide of about 10 cm in the south coast to a semi-diurnal regime of between 60-100 cm along the north coast, where waves are larger (CFMC 2002). But the astronomical tidal range is slight (20-30 cm) (Kjerfve 1981).

Additional information regarding the oceanography and climate of the U.S. Caribbean can be found in Section 5.1.2 of the Comprehensive SFA Amendment (CFMC, 2005).

4.1.3 Major habitat types

The coastal-marine environment of the U.S.V.I. is characterized by a wide variety of habitat types. NOAA's National Ocean Service has mapped 21 distinct benthic nearshore habitat types, including 24 km^2 of unconsolidated sediment, 161 km^2 of submerged vegetation, 2 km^2 of mangroves, and 300 km^2 of coral reef and hard bottom over an area of 490 km^2 in the U.S.V.I. The Essential Fish Habitat Amendment (CFMC 2002) provides an in-depth description of the distribution of these habitats, along with information on their ecological functions and condition.

A general description of the marine environments of the U.S.V.I. is given in Island Resources Foundation (1977). The fringing reefs on St. John are said to be poorly developed (Randall 1963). Outside this area, in Coral Bay, a more-mature reef profile is found at Lagoon Point. St. Croix has the most extensive reefs, with many miles of bank-barrier reefs, often with algal ridges, extending in an almost unbroken line from Coakley Bay on the north coast, around the eastern tip to Great Pond Bay on the south coast. There are also numerous fringing and patch reefs. On the north coast, the eastern shelf is up to several kilometers wide and is rimmed by emergent Holocene reefs, considered to be the best developed on the island. The western portion is less than 0.2 km wide and is traversed by two small submarine canyons; in the Salt River and Cane Bay areas, the

edge of the shelf drops precipitously into great depths and the reefs form a vertical wall supporting abundant growths of black coral. The south shore has a shelf up to 4 km wide (Hubbard et al. 1981).

Additional information on regional habitat types can be found in Section 3.2 of the EFH FSEIS (CFMC 2004) and Section 5.1.3 of the Comprehensive SFA Amendment (CFMC 2005).

4.2 Biological Environment

The term "conch" usually refers to gastropods of the family Strombidae (Genus *Strombus*), but is often applied to large, usually edible, gastropods in other families as well. As defined by the Caribbean Council's Queen Conch FMP, the Caribbean conch resource comprises 13 species of gastropods within the families Strombidae, Cymatiidae, Cassidae, Turbinellidae, Fasciolariidae, and Trochidae. But only one species, the queen conch (*Strombus gigas*), has been the focus of fishery management measures defined in that FMP.

4.2.1 Queen conch, *Strombus gigas*

A member of the Strombidae family, the queen conch occurs in semi-tropical and tropical waters of the Atlantic Ocean, ranging from south Florida (USA) and Bermuda to northern South America, including the Caribbean Sea (Rhines 2000). This species is taken in both commercial and recreational fisheries.

The Queen Conch FMP (CFMC 1996a) provides a detailed description of the biology and life history of the queen conch. This species generally occurs on expanses of shelf to about 76 m (250 ft) depth. It is commonly found on sandy bottoms that support the growth of seagrasses, primarily turtle grass (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*), shoal grass (*Halodule wrightii*), and epiphytic algae upon which it feeds. This species also occurs on gravel, coral rubble, smooth hard coral or beach rock bottoms, and sandy algal beds (CFMC 1996a).

The adult queen conch grows to 15-30.5 cm (6-12 in) in length (CFMC 1996a), weighs about 2 kg (4.4 lb), on average, and generally lives 6 to 7 years (CFMC, CFRAMP 1999). Rhines (2000) reports age at maturation as 3.5 - 4 years. This species reaches an acceptable market size at 17.8 cm (7 in), which translates to about 2.5 years of age (CFMC 1996a).

Sexes are separate and fertilization is internal. Copulation can precede spawning events by several weeks (CFMC 1996a). Rhines (2000) reports the peak reproductive season extends from April to August. Peak spawning activity in the U.S. Caribbean appears to occur from May through September. Spawning occurs in aggregations (CFMC 1996a).

Females commonly spawn 6-8 times per season, and produce 1-25 egg masses per season (CFMC 1996a). Embryos hatch into planktonic larvae (Colin 1978; Rhines 2000) after a

period of about 5 days. Larvae spend between 18 and 40 days in the water column before settling and metamorphosing into adults. Little is known about recruitment patterns. However, the evidence of local retainment of larvae would suggest that it is important to focus primarily on management of the local conch stock.

Queen conch larvae feed on plankton (Rhines 2000). Juvenile and adults graze on algae and seagrasses (Rhines 2000; Sefton and Webster 1986). Foraminiferans, bryozoans, and small bivalves and gastropods have also been found in conch stomachs but were probably ingested accidentally while grazing (Rhines 2000). Feeding has been observed in sand flats and shallow, sandy lagoons (Sefton and Webster 1986), particularly in turtle grass beds (Colin 1978; Sefton and Webster 1986), and on hard bottom habitats and in rubble (Rhines 2000).

4.2.2 Other Caribbean conch resources

Less is known about the biology and status of the 12 other Caribbean conch species. These 12 species are Atlantic triton's trumpet (*Charonia variegate*), Cameo helmet (*Cassis madagascarensis*), Caribbean helmet (*Cassis tuberose*), Caribbean vase (*Vasum muricatum*), Flame helmet (*Cassis flammea*), Green star shell (*Astrea tuber*), Hawkwing conch (*Strombus raninus*), Milk conch (*Strombus costatus*), Roostertail conch (*Strombus gallus*), True tulip (*Fasciolaria tulipa*), West Indian fighting conch (*Strombus Pugilis*), Whelk (*Cittarium pica*).

The Council included these species in the management unit because they are occasionally marketed, but they are not generally of economic importance to U.S. Caribbean fisheries. Some, such as the milk conch (*Strombus costatus*) and West Indian fighting conch (*Strombus pugilis*), are used for food, but to a lesser extent than queen conch. Others, such as the Atlantic triton's trumpet (*Charonia variegata*) and the flame helmet (*Cassis flammea*) are collected for the ornamental trade (CFMC 1996a).

Additional information on biological characteristics of queen conch and other conch species can be found in Section 5.2.1.2 of the Comprehensive SFA Amendment (CFMC, 2005).

4.3 Human Environment

Although both Puerto Rico (territorial waters only because harvest from the EEZ is prohibited) and the U.S.V.I. have queen conch fisheries, this action pertains only to the EEZ off the U.S.V.I. As a result, the following discussion addresses only the fishery and community information relevant to the U.S.V.I. Information on the fisheries in Puerto Rico can be found in Berg and Olsen (1989), Appeldoorn and Rodriguez (1994), Rivera (1999), Valle-Esquivel (2003), Matos-Caraballo (2007), and SEDAR (2005a, 2005b, and 2007) and is incorporated herein by reference. SEDAR (2007) includes specific discussion on the data for queen conch from both Puerto Rico and the U.S.V.I.

Because the proposed action in this amendment pertains exclusively to an area off St. Croix, where results are separated by island jurisdiction, in most instances the results for St. Thomas and St. John are combined ("St. Thomas/St. John"), with information on St. Croix provided separately. Additional information on the fishing industry in St. Croix is contained in Stoffle et al. (2009), which examines whether the whole island of St. Croix can be considered a fishing community, and is incorporated herein by reference.

4.3.1 Economic Description of the Commercial Fishery

4.3.1.1 U.S. Virgin Islands Commercial Fishermen

Since 1974, the U.S.V.I. has required all commercial fishers to have a commercial fishing permit (also referred to as a license in some documents; the term "permit" will be used in the following text for consistency). Any person who uses a pot, trap, set-net, or haul seine to fish in U.S.V.I. territorial waters, even if fishing for the sole purpose of personal consumption, must obtain a commercial fishing permit. Moreover, any person who sells or trades any part of their catch, including charter operators who sell or trade their catch, must obtain a commercial fishing permit. Eligibility for a commercial fishing permit is limited to individuals who are citizens of the U.S., aliens with permanent resident status, and aliens bonded as fishermen who have lived in the U.S.V.I. for at least one year prior to applying for the permit (V.I.C., Title 12, Chapter 9A § 315). Fishermen who plan to sell their catch must also obtain a Farmers' & Fishermen's Certificate of Eligibility and a business license from the Department of Licensing and Consumer Affairs. There is no license or permit required for fishing for queen conch in the U.S. Caribbean EEZ.

Helpers or fishing crew are not required to have a commercial fishing permit. However, each commercial fisherman must obtain a helper's permit for each helper used or employed and the permitted commercial fisher must be onboard when the "helper" is fishing.

Figure 4.3.1 shows the number of permitted fishermen since 1974. In August 2001, a moratorium was placed on the issuance of commercial fishing permits. Individuals who had possessed a permit up to 3 years before August 2001 were allowed to renew their permit (Holt and Uwate 2004). In 2008, there were 383 permitted fishermen, of which 223 were in St. Croix and 160 were in St. Thomas/St. John. The estimated total of all commercial harvests by U.S.V.I. fishermen in 2008 (July 1, 2007 through June 30, 2008) was approximately 1.73 million pounds valued (ex-vessel value) at approximately $8.8 million (NMFS 2009). Approximately 1.36 million pounds of this total and $6.19 million in value were associated with finfish harvests, while the remaining 366,000 pounds valued at approximately $2.6 million were from shellfish and other species.

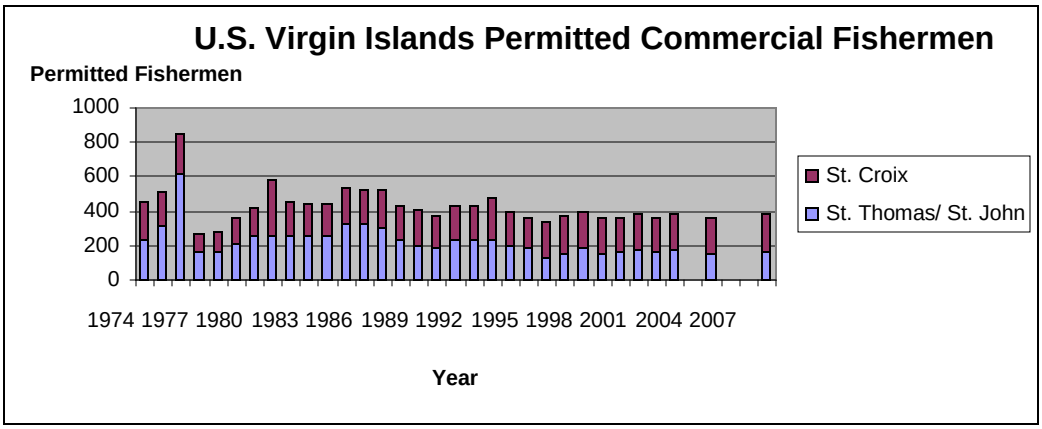

Figure 4.3.1. Number of permitted commercial fishermen in the U.S. Virgin Islands. Sources: Holt and Uwate (2004) for estimates from 1974-2004, CFMC Staff for 2005 and 2008. Periods showing no permits reflect missing data.

In 2003, a census was conducted of U.S.V.I. commercial fishermen (Kojis 2004) and some results are summarized in Tables 4.3.1-11. As seen in Table 4.3.1, the average commercial fisherman in St. Croix took more trips per week than fishermen in St. Thomas/St. John, but the trips were, on average, of shorter duration. No fishermen in St. Croix reported taking overnight trip, while two St. Thomas/St. John fishermen stated they made overnight trips.

Table 4.3.1. Number of commercial fishing trips and duration of trips, 2003. Source: Kojis (2004).

	St. Thomas/St. John		St. Croix		U.S. Virgin Islands	
	Trips/Week	**Hours/Trip**	**Trips/Week**	**Hours/Trip**	**Trips/Week**	**Hours/Trip**
Mean	2.6	8.3	3.3	6.7	3.1	7.2
Range	0.2 to 7.0	2 to 60	0.25 to 7.0	1 to 13	0.2 to 7.0	1 to 60
Standard Deviation	1.2	6.4	1.6	2.4	1.5	4.2
# Responses	106	103	211	211	317	314

Two-thirds of commercial fishermen in the U.S.V.I. identified themselves as full-time fishermen, devoting more than 36 hour per week to fishing and fishing-related activities, and one third identified themselves as part-time (36 hours of less) or opportunistic fishermen (see Table 4.3.2). Examined from a different perspective, Stoffle et al. (2009) reported that St. Croix commercial fishermen, who said they fished full-time, stated that they fish roughly 53 percent of the days available each month, while those that fished part-time fish approximately 40 percent available fishing days.

Table 4.3.2. Distribution of commercial fishermen by employment status, 2003. Source: Kojis (2004).

Employment Status	% of Commercial Fishermen (323 Respondents)		
	St. Thomas/St. John	St. Croix	U.S. Virgin Islands
Full Time (> 36 hours/week)	77.3%	61.0%	66.6%
Part Time (≤ 36 hours/week)	19.1%	31.5%	27.2%
Opportunistic	2.7%	7.5%	5.9%
Charter	0.9%	0.0%	0.3%
Total	100%	100%	100%

In addition to time spent fishing, commercial fishermen spend time selling their harvests and conducting maintenance on their boats and gear. St. Thomas/St. John fishermen reported averaging 8.1 hours per week selling fish, 2.9 hours repairing and maintaining their boats, and 4.3 hours repairing gear (Kojis 2004). For St. Croix fisherman, the respective times were 6.6 hours selling fish, 3.3 hours fixing their boats, and 4.0 hours fixing gear.

Figure 4.3.2 shows the distribution of the average number of fishing trips taken by U.S.V.I. commercial fishermen in 2003. Two trips per week was the most common response for St. Thomas/St. John commercial fishermen, while three trips per week was the most common response for St. Croix fishermen.

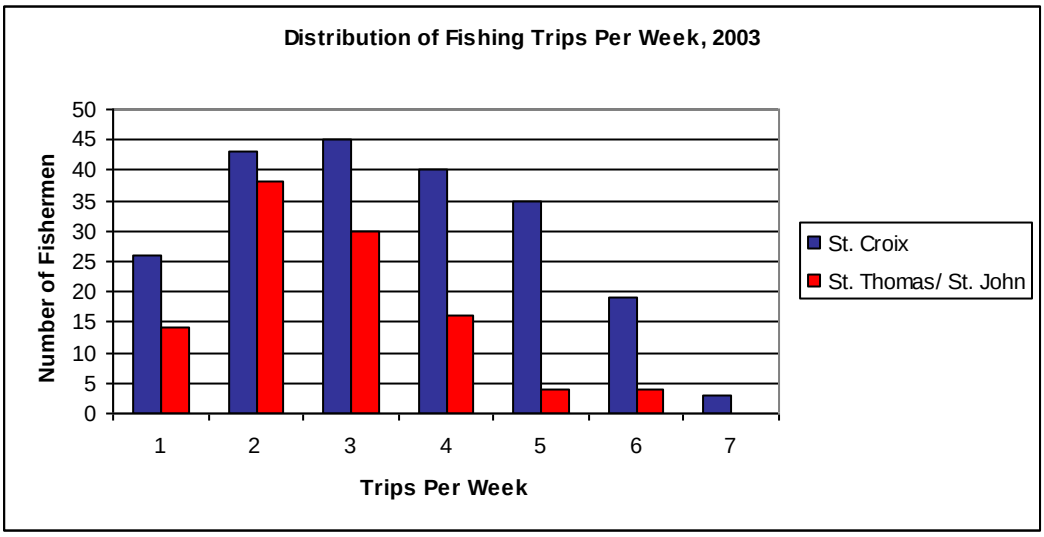

Figure 4.3.2. Distribution of fishing trips per week, 2003. Source: Kojis 2004.

Table 4.3.3 shows the number of years of fishing experience for commercial fishermen in the U.S.V.I. As seen in the table, in 2003, fishermen in St. Thomas/St. John had, on average, more years of fishing experience, with approximately 26 percent of fishermen having 15 years or less fishing experience, than St. Croix fishermen where over 37 percent of the fishermen had 15 years or less fishing experience.

Table 4.3.3. Years of fishing experience, 2003. Source: Kojis (2004).

# of Years	St. Thomas/St. John		St. Croix	
	# of Fishermen	% of Fishermen	# of Fishermen	% of Fishermen
<=5	10	8.7%	23	10.7%
6 to 10	9	7.8%	29	13.5%
11 to 15	11	9.6%	28	13.0%
16 to 20	27	23.5%	45	20.9%
21 to 25	6	5.2%	22	10.2%
26 to 30	24	20.9%	21	9.8%
31 to 35	8	7.0%	14	6.5%
36 to 40	6	5.2%	14	6.5%
>=41	14	12.2%	19	8.8%
Total	115	100.0%	215	100.0%

Most U.S.V.I. commercial fishermen do not fish alone (see Table 4.3.4). Across all islands, over 90 percent of fishermen reported fishing with either a helper or another commercial fisherman at some time over the course of the year. However, fishermen in St. Thomas/St. John were much more likely to fish alone than fishermen in St. Croix.

Table 4.3.4. Percentage of fishermen that fish alone and with others, 2003. Source: Kojis (2004).

	St. Thomas/St. John		St. Croix		U.S. Virgin Islands	
	# of Fishermen	% of Fishermen	# of Fishermen	% of Fishermen	# of Fishermen	% of Fishermen
Fish Alone	18	17.0%	15	7.1%	33	10.4%
Fish with helpers	63	59.4%	188	89.1%	251	79.2%
Fish with other commercial fishermen	31	29.2%	22	10.4%	53	16.7%
# Responses[1]	106	105.7%	211	106.6%	317	106.3%

[1] Behavior patterns vary over the course of the year, resulting in a greater than 100-percent response rate. At times, fishermen would fish alone, while fishing with a helper or other commercial fishermen at other times during the year.

Most U.S.V.I. commercial fishermen owned a single boat in 2003 (see Table 5.3.5). The rate of boat ownership was highest in St. Croix, however, a larger proportion of boat owners in St. Thomas/St. John reported owning multiple boats.

Table 4.3.5. Number of boats owned by fishermen, 2003. Source: Kojis (2004).

# of Boats[1]	St. Thomas/St. John		St. Croix		U.S. Virgin Islands	
	# of Fishermen[2]	% of Fishermen	# of Fishermen	% of Fishermen	# of Fishermen	% of Fishermen
0	13	11.2%	10	4.7%	23	7.0%
1	70	60.3%	161[3]	75.9%	231	70.4%
2	26	22.4%	35	16.5%	61	18.6%
3	7	6.0%	4	1.9%	11	3.4%
4	0	0.0%	2	0.9%	2	0.6%
Total	116	100.0%	212	100.0%	328	100.0%

[1] If one or more boats is co-owned by two or more fishermen, the number of boats was divided by the number of owners, then rounded up to the next whole number.
[2] Total number of fishermen that responded to question.
[3] Included a boat owned by the son of a fisherman.

Table 4.3.6 shows the proportion of total personal income derived from fishing (Note: this is personal income and not household income. Comparable information on household income was not collected). Fishermen in St. Thomas/St. John were more dependent on fishing income in 2003 compared to fishermen in St. Croix. These results were consistent with the higher proportion of St. Croix fishermen reporting they fished part time, as discussed previously.

Table 4.3.6. Distribution of commercial fishermen by percent of personal income derived from fishing. Source: Kojis (2004).

% of Income from Fishing	% of Fishermen	
	St. Thomas/ St. John	St. Croix
Greater then 50	75%	54%
25 to 50	7%	13%
Less than 25	18%	33%
Total	100%	100%

Reef fish were the most commonly targeted species group by U.S.V.I. fishermen in 2003 in both St. Croix and St. Thomas/St. John (see Table 4.3.7). As seen in Table 4.3.8, however, a higher proportion of St. Croix fishermen target multiple species groups than do St. Thomas/St. John fishermen.

Table 4.3.7. Percent of U.S. Virgin Islands commercial fishermen that target specific species. Source: Kojis (2004).

Targeted Species	% of Interviewed Commercial Fishermen		
	St. Croix	St. Thomas/St. John	U.S. Virgin Islands
Reef Fish	84.7%	77.7%	82.3%
Coastal Pelagic	37.2%	53.6%	42.8%
Deep Pelagic	33.0%	9.8%	25.1%
Deepwater Snapper	42.3%	4.5%	29.4%
Bait Fish	14.4%	29.5%	19.6%
Conch	39.1%	8.9%	28.7%
Whelk	4.7%	14.3%	8.0%
Lobster	40.5%	35.7%	38.8%

Table 4.3.8. Percent of fishermen by number of categories of fish targeted. Source: Kojis (2004).

# of Categories of Fish	St. Thomas/St. John		St. Croix	
	# of Fishermen	% of Fishermen	# of Fishermen	% of Fishermen
1	34	30.4%	41	19.1%
2	42	37.5%	59	27.4%
3	18	16.1%	48	22.3%
4	9	8.0%	35	16.3%
5	4	3.6%	15	7.0%
6	3	2.7%	6	2.8%
7	1	0.9%	6	2.8%
8	1	0.9%	5	2.3%
Total	112	100.0%	215	100.0%

St. John fishermen have fewer landing site choices than fishermen on either St. Thomas or St. Croix, and approximately 82 percent of St. John commercial fishermen landed their catches at either Cruz Bay or Coral Bay in 2003. Further, no commercial fishermen from St. John reported landing their catch on another island. The top six landings sites in St. Thomas in 2003 were, in order of fisherman's use (not percentage of total landings), Frenchtown, Hull Bay, Benner Bay, Seaside Inn at Benner Bay, Water Bay, and Krum Bay. Some St. Thomas commercial fishermen also reported landing their harvest on St. John and in Puerto Rico.

St. Croix commercial fishermen landed their catch at 18 different sites on the island in 2003, and all sites reported by at least four fishermen are listed in Table 4.3.9. One fisherman also reported landing fish on St. John. Many commercial fishermen in St. Croix use multiple landing sites and approximately 35 percent of the fishermen interviewed in the census reported that they landed their catch at two or more sites.

Table 4.3.9. Landing sites of St. Croix commercial fishermen, 2003. Source: Kojis (2004).

St. Croix Fishermen's Landing Sites	# of Fishermen	% of Fishermen
Altona Lagoon	75	37.5%
Molasses Pier	71	35.5%
Frederiksted Fishermen's Pier	62	31.0%
Gallows Bay	17	8.5%
Castle Nugent	11	5.5%
Salt River Bay	11	5.5%
Christiansted	9	4.5%
Teague Bay	6	3.0%
Green Cay Marina	4	2.0%
Solitude	4	2.0%
# Respondents	200	142.5%
# Responses[1]	285	

[1] Some fishermen land their catches at multiple sites, generating multiple responses per respondent.

U.S.V.I. commercial fishermen reported marketing their fish in different product forms in 2003 (see Table 4.3.10). The most common product forms, in order, were selling the fish whole, iced, or gutted. The distinction between iced and the other product forms was not explained other than this is fish presented to customers in coolers filled with ice so, presumably, iced fish could be whole, gutted, or cleaned to some other extent.

Table 4.3.10. Distribution of commercial fishermen by product forms, 2003. Source: Kojis (2004).

Product Form	% of Fishermen	
	St. Thomas/ St John	St. Croix
Whole	32%	39%
Iced	22%	28%
Gutted	17%	9%
Cleaned	6%	12%
Filleted	8%	2%
Scaled	14%	2%
Other	1%	8%
Total	100%	100%

U.S.V.I. commercial fishermen distribute their catch at different locations. Table 4.3.11 shows the percentage of fishermen that reported selling or otherwise distributing their landings at various site types. In St. Croix, 24 percent of the fishermen sold their catches at the landing site, compared to 28 percent of fishermen in St. Thomas/St. John. Significantly more St. Croix fishermen (20 percent) reported bringing their catch home than fishermen in St. Thomas/St. John (5 percent). This suggests that significantly more St. Croix fishermen than St. Thomas/St. John fishermen may be considered subsistence fishermen. Another significant difference between the behavior of fishermen from the two areas was the difference in the percentage of fishermen reporting selling their catch "alongside the road" (self-marketing). This suggests some St. Thomas/St. John

fishermen may have had a better opportunity to get a better price for their catch by eliminating the middleman.

Table 4.3.11. Entity or location where harvested fish were sold or given away, 2003. Source: Kojis (2004).

Entity/Location Fish Sold at or Given to	% of Fishermen	
	St. Thomas/ St John	St. Croix
Restaurant	20%	18%
Alongside Road	22%	1%
Retail	2%	9%
Landing Site	28%	24%
Buyer	2%	11%
Home	5%	20%
Other	21%	17%
Total	100%	100%

As seen in Figure 4.3.3, many St. Croix fishermen do not live along the coast and, as a result, many fishermen trailer their boats (Stoffle et al. 2009). Similar information is not available for St. Thomas/St. John. Trailering also allows them the flexibility to react to weather conditions and to make on-the-spot determinations about the types of species to target, the specific areas to fish, and the gear strategy to employ. Furthermore, trailering may provide other advantages, such as being able to more cheaply store/dock, repair, and protect their boats.

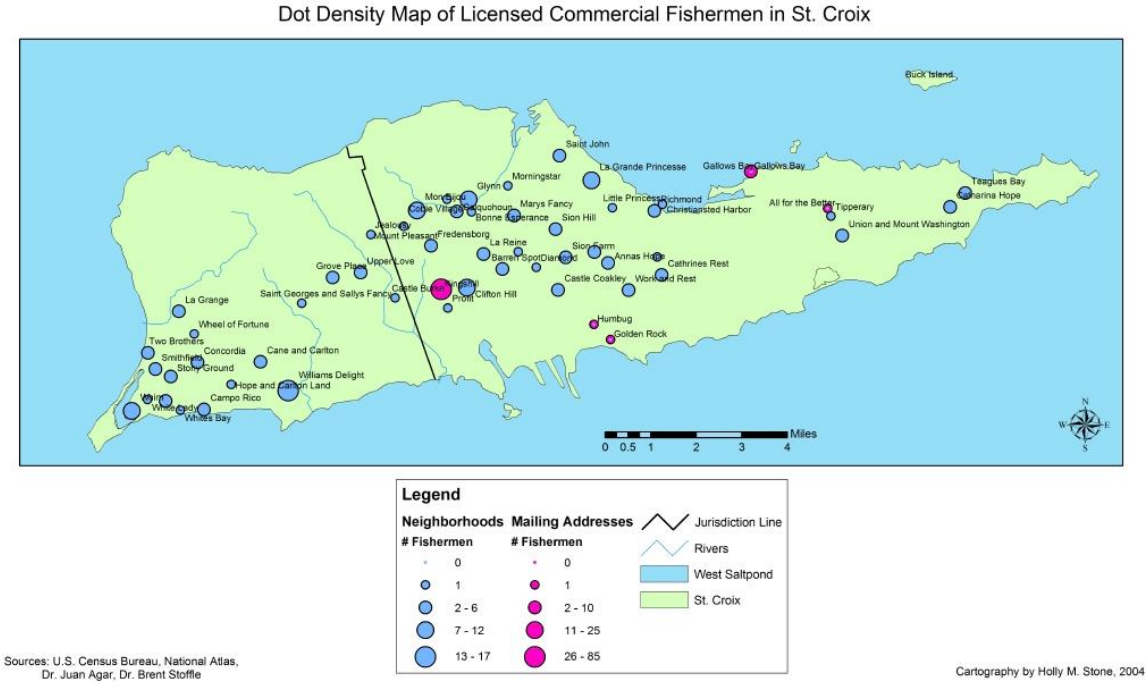

Figure 4.3.3. Density map of licensed commercial fishermen in St. Croix.

4.3.1.2 U.S. Virgin Islands Queen Conch Fishery

It is noted in the following discussion that the different sources of information on queen conch are not consistent in their use of the terms "queen conch" and "conch." While queen conch is the primary species harvested, it is possible some other conch species are included in the data or discussion. However, such quantities are expected to be small compared to queen conch and, in the following discussion, only the term "queen conch" is used.

Regulations

Key provisions of the U.S.V.I. regulations on the queen conch fishery are a seasonal closure from June 1 through October 31 and a total annual landings limit of 50,000 pounds for St. Croix and 50,000 pounds for St. Thomas and St. John combined. The quota provisions of the U.S.V.I. regulations do not distinguish between commercial and recreational harvests in the determination of the total annual landings limits (U.S.V.I. 2008). Further, although the U.S.V.I. regulations require that all fishermen submit landings reports, it is expected that this applies only to commercial fishermen, as no routine recreational data collection program has been identified. Finally, it is unknown whether harvest tabulation and resultant quota closure relies only on documented commercial landings or if/how the tabulation accounts for recreational harvests, particularly given the absence of a data collection program for recreational harvests. Regardless of the actual tabulation process, once the total allowable harvest is reached, or has been projected to have been reached, the fishery is closed until November 1. In federal waters throughout the U.S. Caribbean, queen conch harvest and possession is prohibited except in the Lang Bank near St. Croix, which is open for harvest from October 1 through June 30. This translates into a seasonal closure of July through September for the Lang Bank (territorial waters are seasonally closed from June 1 through October 31). Additional U.S.V.I. regulations for queen conch fishing include a limit of 200 queen conch per boat per day and compliance with the minimum size (9"TL or 3/8" LT). The regulations also prohibit possession of conch meats smaller that 2 per pound (un-cleaned) or 3 per pound (cleaned). For comparison purposes, the federal bag limit, for entities that do not possess a territorial commercial fishing license, is 3 conch per person per day, or 12 per boat if more than 4 persons are aboard, and the federal minimum size is the same as the U.S.V.I territorial minimum size.

U.S.V.I. Territorial Catch Reporting Requirements

U.S.V.I. commercial fishermen are required to report their catch (all species) and effort for every trip that they fish and submit their reports on a monthly basis no later than 15 days after the end of the month (U.S.V.I. 2008). All reports must be completely filled out, incomplete reports are returned to the fisherman for completion, and failure to complete the forms can result in non-issuance of a fishing permit the following year. The level of non-reporting is not well documented and validation of catch reporting has not be determined.

Fishermen

The queen conch commercial fishery in St. Croix is artisanal. Most commercial vessels are outboard powered, constructed with fiberglass, and less than 8 meters (27 feet) long (Kojis 2004).

Rivera (1999) reports there were no full-time and 23 part-time queen conch fishermen from April 1999 to June 1999 in St. Thomas/St. John. Queen conch were reported to be an incidental catch for these fishermen, and none harvested queen conch in federal waters. During the same period, there were 28 queen conch fishermen in St. Croix, of which 16 harvested queen conch full-time and 12 fished part-time. Only two of the St. Croix queen conch fishermen reported taking queen conch from Federal waters.

A more recent report, Kojis (2004), reported that 84 (approximately 39 percent) of the 215 commercial permit holders who were registered in St. Croix during the fishing year July 2003 to June 2004 reported harvesting queen conch. This increase from 28 to 84 fishermen suggests a significant increase in fishing effort for queen conch, though reported commercial landings remained relatively constant over this period (Valle-Esquivel 2002, Tobias 2005).

As discussed in Section 4.3.1.1, most U.S.V.I. fishermen target multiple species. Kojis (2004) reported that approximately 39 percent of St. Croix commercial fishermen target queen conch.

Landings

Tables 4.3.12 and 4.3.13 show queen conch reported landings for 2000-2007. U.S.V.I. queen conch landings primarily come from St. Croix, averaging over 98 percent of reported landings over this period (see Table 4.3.12). Average annual total U.S.V.I. queen conch landings from 2000-2007 were approximately 127,000 pounds.

Table 4.3.12. Reported landings of queen conch (lbs). Source: SEFSC.

Year	St. Croix	St. Thomas/ St. John	Total U.S.V.I.	% St. Croix	% St. Thomas/ St. John
2000	76,999	1,083	78,082	98.6%	1.4%
2001	113,444	1,847	115,291	98.4%	1.6%
2002	116,492	2,172	118,664	98.2%	1.8%
2003	108,174	3,339	111,513	97.0%	3.0%
2004	125,258	1,022	126,280	99.2%	0.8%
2005	161,452	429	161,881	99.7%	0.3%
2006	221,966	3,989	225,955	98.2%	1.8%
2007	76,086	1,124	77,210	98.5%	1.5%
Average	124,984	1,876	126,859	98.5%	1.5%

Consistent with the average annual landings, queen conch is an insignificant harvest species relative to landings of all seafood in St. Thomas/St. John (see Table 4.3.13).

However, queen conch landings averaged almost 12 percent by weight of total seafood landings in St. Croix.

Table 4.3.13. Reported landings of queen conch versus all species (lbs). Source: SEFSC.

Year	St. Croix			St. Thomas/St. John		
	Queen Conch	All Species	% Queen Conch	Queen Conch	All Species	% Queen Conch
2000	76,999	808,599	9.5%	1,083	619,766	0.2%
2001	113,444	1,005,010	11.3%	1,847	755,323	0.2%
2002	116,492	1,112,067	10.5%	2,172	819,407	0.3%
2003	108,174	992,460	10.9%	3,339	813,652	0.4%
2004	125,258	1,033,448	12.1%	1,022	810,774	0.1%
2005	161,452	1,149,330	14.0%	429	741,897	0.1%
2006	221,966	1,257,662	17.6%	3,989	788,216	0.5%
2007	76,086	877,589	8.7%	1,124	716,110	0.2%
Average	124,984	1,029,521	11.8%	1,876	758,143	0.2%

Queen Conch Price and Value

Tables 4.3.14 and 4.3.15 provide average annual queen conch nominal prices and value for 2000-2007. Because many fishermen sell queen conch directly to the public, the prices may be closer to retail prices than ex-vessel prices received when sold to dealers (Juan Agar, Southeast Fisheries Science Center, personal communication, September 2009). As shown in Table 4.3.14, the average price received in St. Thomas/St. John is often higher than the average price received in St. Croix, likely reflective of the lower amount of landings in St. Thomas/St. John.

Table 4.3.14. Average price of queen conch (nominal $). Source: SEFSC.

Year	St. Croix	St. Thomas/ St. John
2000	$4.85	$5.44
2001	$5.00	$5.61
2002	$4.40	$4.98
2003	$5.50	$5.20
2004	$4.80	$6.50
2005	$5.00	$5.60
2006	$6.00	$6.00
2007	$6.00	$6.00
Average	$5.19	$5.66

Prior to 2007, the nominal value of U.S.V.I. queen conch harvests exhibited an increasing trend, peaking at approximately $1.36 million (see Table 4.3.15). The average nominal annual value from 2000-2007 was approximately $666,000.

Table 4.3.15. Estimated value of queen conch (nominal $). Source: SEFSC.

Year	St. Croix	St. Thomas/ St. John	Total U.S.V.I.	% St. Croix	% St. Thomas/ St. John
2000	$373,443	$5,890	$379,333	98.4%	1.6%
2001	$567,218	$10,358	$577,576	98.2%	1.8%
2002	$512,565	$10,807	$523,372	97.9%	2.1%
2003	$594,954	$17,370	$612,324	97.2%	2.8%
2004	$601,134	$6,640	$607,774	98.9%	1.1%
2005	$807,123	$2,401	$809,524	99.7%	0.3%
2006	$1,331,796	$23,934	$1,355,730	98.2%	1.8%
2007	$456,516	$6,744	$463,260	98.5%	1.5%
Average	$655,594	$10,518	$666,112	98.4%	1.6%

Queen Conch Harvest by Gear Type

Tables 4.3.16 and 4.3.17 summarize information on queen conch harvest by fishing method and gear type. Diving and, specifically, the use of SCUBA gear is the dominant method used to harvest queen conch in the U.S.V.I. On average, over 2000-2007, almost 97 percent of reported landings in St. Croix, which dominates the U.S.V.I. queen conch fishery, were harvested by diving (see Table 4.3.16). Valle-Esquivel and Diaz (2003) reported that approximately 88 percent of queen conch harvests from 1994-2002 were harvested using SCUBA gear (see Table 4.3.17). In recent years, divers have gone into deeper waters to harvest queen conch. In 2007, decompression sickness problems were reported for divers off St. Croix resulting from diving in deeper waters (The Associated Press, July 27, 2007). Fishermen also use snorkel gear to collect queen conch (Tobias 2005).

Table 4.3.16. Queen conch landings by fishing method. Source: SEFSC.

	St. Croix			St. Thomas		
	Lbs Landed With Known Gear(s)			Lbs Landed With Known Gear(s)		
Year	Diving	All	% Diving	Diving	All	% Diving
2000	75,493	76,999	98.0%	1,073	1,073	100.0%
2001	110,826	113,335	97.8%	1,833	1,847	99.2%
2002	113,484	116,492	97.4%	2,153	2,172	99.1%
2003	106,021	108,174	98.0%	2,555	3,339	76.5%
2004	123,616	125,193	98.7%	956	1,022	93.5%
2005	157,017	161,377	97.3%	315	429	73.4%
2006	207,215	221,966	93.4%	1,219	3,989	30.6%
2007	71,589	76,086	94.1%	564	1,124	50.2%
Average	120,657	124,953	96.84%	1,334	1,874	77.82%

Table 4.3.17. Percent landings of queen conch by gear type, 1994–2002. Source: Valle-Esquivel and Diaz (2003).

Gear Type	% Landings of Conch
Castnets	0.00%
Gillnets	0.84%
Gillnets/Seine Nets	0.02%
Gillnets/Traps	0.01%
Seine Nets	0.35%
Line Fishing	0.16%
Lines/Castnets	0.00%
Lines/Seine Nets	0.00%
Free Diving	8.54%
SF Diving/Lines	0.05%
SF Diving/Seine Nets	0.42%
Scuba	87.73%
Scuba/Free Diving	0.01%
Scuba/Gillnets	0.16%
Traps/Lines	0.35%
Traps/Nets/Lines	0.00%
Unknown	1.28%

Queen Conch Exports

With the exception of queen conch, the U.S.V.I. fishing industry is not an export industry. St. Croix queen conch fishers have benefited from higher, and sometimes substantially higher, prices they receive by exporting conch to Puerto Rico's west coast (Lohr 2007).

4.3.2 Economic Description of the Recreational Fishery

Recreational fishermen are limited to 6 queen conch per individual per day, or 24 conch per boat per day in U.S.V.I. territorial waters. Federal regulations allow only 3 conch per person per day, not to exceed 12 conch per boat per day. SEDAR (2007) contains a description of the information on the U.S.V.I. recreational fishery available when the last assessment was conducted and is incorporated herein by reference. As reported in SEDAR (2007), approximately 700 St. Croix recreational fishermen fished from boats in 2000 (most recent data available), out of approximately 2,500 fishermen using boats in all of the U.S.V.I. On average, these fishermen took two trips per month. Approximately 47 percent of these fishermen fished in the EEZ. It is not known how many of these fishermen harvest queen conch. The average recreational fishing trip cost approximately $125 (2000 dollars). Total boat-based recreational fishing expenditures in the U.S.V.I. in 2000 were estimated to be approximately $5.9 million (2000 dollars), of which St. Croix fishermen contributed approximately $1.1 million. Data on the amount of recreational

queen conch harvest or the economic value or impact of queen conch recreational harvesting is not available.

4.3.3 Social and Cultural Environment

Table 4.3.18 provides 2000 summary census demographics for the U.S.V.I., while Figures 4.3.4 and 4.3.5 provide information on population trends. The resident population of the U.S.V.I. has grown from 96,569 persons in 1980 to an estimated 112,812 persons in 2007 (see Figure 4.3.4). The population of St. Thomas/St. John tends to be slightly larger than that of St. Croix (see Figure 4.3.5). With a total land area of 82.88 square miles, the population density of the U.S.V.I. in 2007 was approximately 844 persons per square mile (667 persons per square mile in St. Croix, 222 persons per square mile in St. John, and 1,702 persons per square mile in St. Thomas). When compared to the population density of states/districts of the mainland U.S., the U.S.V.I. ranks behind only the District of Columbia (9.581 persons per square mile), New Jersey (1,171 persons per square mile), and Rhode Island (1,012 persons per square mile).

Table 4.3.18. U.S. Virgin Islands census demographics, 2000. Source: U.S. Census Bureau.

	U.S.V.I.	St. Croix	St. John	St. Thomas
Total Population	108,612	53,234	4,197	51,181
Female	52.2%	52.2%	51.2%	52.4%
Male	48.8%	47.8%	48.8%	47.6%
Median Age (Years)	33.4	31.9	36.7	34.4
18 years and over	68.4%	65.9%	75.1%	70.5%
Ethnicity or Race				
Black or African American	76.2%	73.3%	57.6%	80.7%
White	13.1%	11.6%	37.8%	12.6%
Other race	7.2%	10.7%	2.6%	4.0%
Two or More Races	3.5%	4.4%	2.0%	2.7%
Hispanic Or Latino (any race)	14.0%	21.2%	4.9%	7.3%
Educational Attainment (Population 25 and over)				
Less than 9th grade	18.5%	20.0%	14.3%	17.4%
% high school graduate or higher	60.6%	57.4%	71.4%	62.7%
% bachelor's degree or higher	16.8%	15.1%	26.8%	17.5%
Employment (Population 16 years and over)				
In labor force	65.2%	60.7%	77.7%	68.5%
Unemployed	5.6%	6.9%	2.1%	4.6%
Occupation				
Management, professional, related occ.	24.5%	25.3%	20.1%	24.3%
Service occupations	22.2%	20.9%	29.2%	22.5%
Sales and office occupations	28.0%	25.5%	24.8%	30.5%
Farming, fishing, & forestry occupations	0.6%	0.7%	0.4%	0.6%
Construction, extraction & maintenance occ.	13.2%	15.1%	14.3%	11.6%
Production, transportation & material moving	11.5%	12.6%	11.2%	10.6%
Industry				
Agriculture, forestry, fishing & hunting, mining	0.7%	0.9%	0.6%	0.6%
Construction	10.5%	12.7%	12.9%	8.5%
Manufacturing	5.9%	11.0%	2.1%	2.1%
Wholesale trade	2.0%	1.8%	0.4%	2.2%
Retail trade	13.9%	11.5%	10.2%	16.2%
Transportation & warehousing, & utilities	7.1%	5.5%	7.9%	8.4%
Information	2.0%	1.8%	1.0%	2.3%
Finance, insurance, real estate, rental & leasing	5.0%	4.9%	6.9%	4.9%
Professional, scientific, management, administration, & waste mgt	6.6%	6.4%	7.4%	6.6%
Education, health & social services	14.5%	16.9%	8.4%	13.1%
Arts, entertainment, recreation, accomodations & food services	15.8%	11.4%	30.9%	17.9%
Other services	5.4%	5.2%	6.0%	5.6%
Public administration	10.6%	10.0%	5.3%	11.6%
Median household income	$24,704	$21,401	$32,482	$26,893
Families below poverty level	28.70%	34.80%	14.80%	23.20%

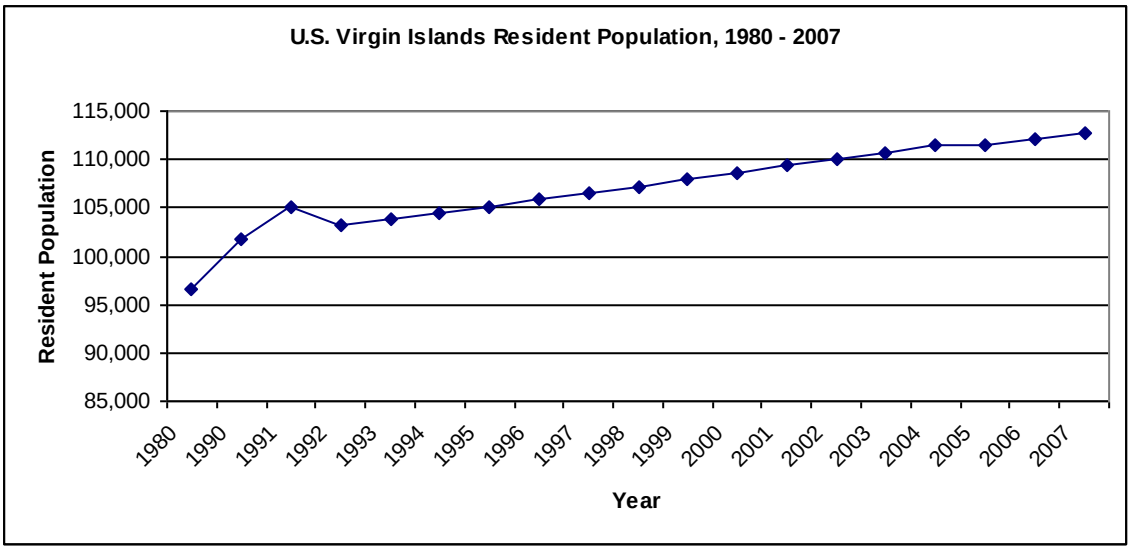

Figure 4.3.4. Resident population (number of persons) of the U.S. Virgin Islands, 1980–2007. Source: U.S. Virgin Islands Bureau of Economic Research, http://www.U.S.V.I.ber.org/publications.htm.

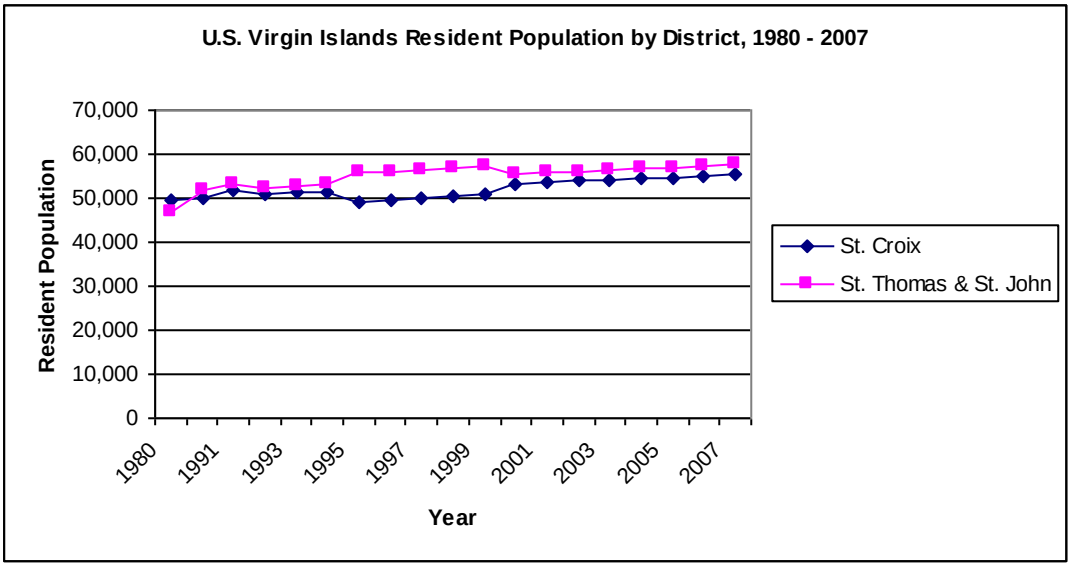

Figure 4.3.5. Resident population (number of persons) of the U.S. Virgin Islands by district, 1980–2007. Source: U.S. Virgin Islands Bureau of Economic Research, http://www.U.S.V.I.ber.org/publications.htm.

Figure 4.3.6 shows the distribution of the population of St. Croix by census tract. This figure is consistent with Figure 4.3.3, demonstrating that the major population centers, similar to the distribution of where commercial fishermen live, are generally not along the coast.

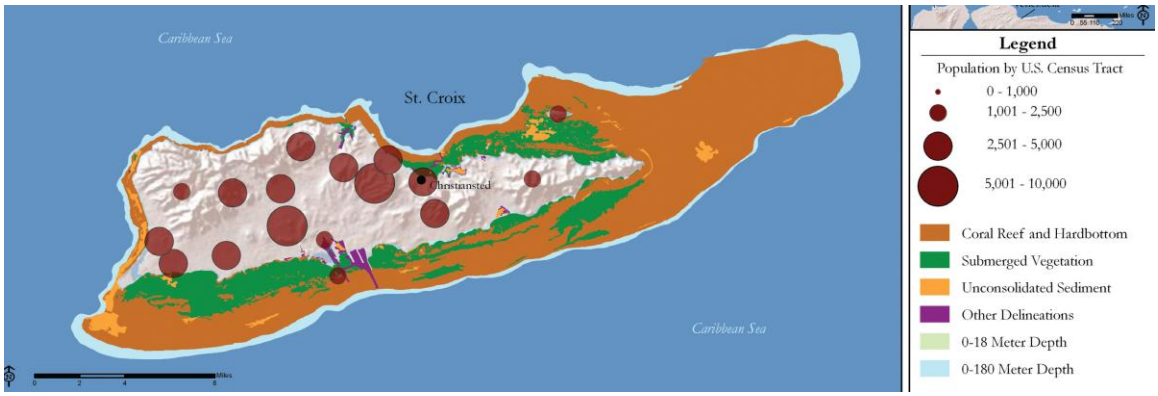

Figure 4.3.6. Population of St Croix by census tract adjacent to areas of coral reef habitat. Source: NOAA NOS.

The median age for residents in the U.S.V.I. in 2000 was 33.4 years, with St. Croix residents having the lowest median age of 31.9 years, with approximately 66 percent of the population 18 years old or older (see Table 4.3.18). Kojis (2004) reported that the median age of commercial fishermen for the U.S.V.I. was 52 years, with St. Croix fishermen slightly higher at 53 years.

Approximately 76 percent of the U.S.V.I. population were identified as Black or African American in 2000 (see Table 4.3.18). The portion of the population identifying themselves as Hispanic or Latino (any race) was 14 percent overall, with St. Croix residents reporting the highest percent. For commercial fishermen, Kojis (2004) reported a much higher percentage of fishermen than the general population identifying themselves as Hispanic or Latino (any race), with approximately 34 percent for all U.S.V.I. fishermen and almost 50 percent for St. Croix fishermen.

As seen in Table 4.3.18, in 2000, approximately 60 percent of the population 25 years of age and over were estimated to have a high school diploma or higher level of education, with approximately 17 percent having a bachelor's degree or higher. Residents of St. Croix reported the lowest levels of educational attainment. For commercial fishermen, the educational attainment results reported by Kojis (2004) suggest that commercial fishermen, on average, have less education than the general population, with only approximately 41 percent of all U.S.V.I. fishermen having at least a high school diploma. St. Croix fishermen reported the least amount of education, on average, with only approximately 36 percent having at least a high school diploma.

In 2000, approximately 65 percent of the population of the U.S.V.I. 16 years of age or older were identified as being in the labor force and 5.6 percent of this group were unemployed (see Table 4.3.18). The percentage of the population in the labor force was the smallest in St. Croix, approximately 61 percent, which also reported the highest rate

of unemployment, 6.9 percent. From an occupation perspective, sales and office occupations were reported as employing the highest portion of the labor force for the U.S.V.I. as a whole and all locations except St. John, where service occupations led. Farming, fishing, and forestry occupations employed less than one percent of the labor force throughout the U.S.V.I.

From the perspective of specific industries, the largest portion of the U.S.V.I. labor force reported working in the arts, education, recreation, accommodations, and food service industry (see Table 4.3.18). This is consistent with the U.S.V.I. being a popular tourist destination. From 2000 to 2007, an average of 2.5 million persons visited the U.S.V.I. annually, or approximately 23 visitors for each U.S.V.I. resident (U.S.V.I. Bureau of Economic Research). St. Croix is estimated to have the smallest portion of its labor force employed in this sector, approximately 11 percent, while St. John had the largest portion, approximately 31 percent. Consistent with this, more visitors go to St. Thomas/St. John than St. Croix, and most visitors arrive by cruise ship (see Table 4.3.19).

Table 4.3.19. U.S. Virgin Islands visitors (tourist and excursionists). Source: U.S. Virgin Islands Bureau of Economic Research. http://www.U.S.V.I.ber.org/publications.htm.

Year	St. Croix Visitors			St. Thomas/St. John Visitors		
	Air Visitors (1,000s; tourists & excursionists)	Cruise Passengers (1,000s)	Number of Cruise Ships	Air Visitors (1,000s; tourists & excursionists)	Cruise Passengers (1,000s)	Number of Cruise Ships
1980	133.2	56.4	62	392.7	635.1	821
1990	181.4	13.1	14	510.5	1,117.2	1,140
1997	140.8	178.0	107	368.0	1,560.2	941
1998	135.2	154.3	96	388.2	1,547.1	902
1999	132.4	164.6	89	428.2	1,363.3	776
2000	147.0	232.4	139	480.8	1,719.8	949
2001	136.4	237.4	138	469.6	1,790.5	909
2002	126.8	120.5	71	471.2	1,671.3	812
2003	114.9	23.0	25	505.9	1,751.9	878
2004	130.8	25.0	11	524.2	1,960.9	922
2005	144.5	54.5	48	544.8	1,910.2	814
2006	135.3	35.2	25	535.5	1,901.3	776
2007	132.1	7.1	6	561.3	1,917.4	750

In 2000, the median household income was approximately $24,700 per year (see Table 4.3.18). St. Croix residents reported the lowest median income level, approximately $21,400, while St. John's reported the highest, approximately $32,500. Consistent with these findings, St. Croix had the highest portion of families living below the poverty level, approximately 35 percent, while St. John had the lowest portion, approximately 15 percent. For comparison purposes, the 2000 estimate of the percent of families living below the poverty level for all 50 states and the District of Columbia was 8.6 percent, with the highest individual state being New Mexico at 13.5 percent. The poverty conditions have likely worsened since 2000, given the general economic decline worldwide. Evidence to support this is provided by estimates of the number of persons and households participating in the Supplemental Nutrition Assistance Program (SNAP;

formerly, the Food Stamp Program). Participation by U.S.V.I. residents in SNAP has increased significantly since 2008 in comparison with previous fiscal years. As seen in Table 4.3.20, household participation in SNAP increased by approximately 25 percent and participation by persons increased by approximately 21 percent from March 2008 to March 2009.

Table 4.3.20. U.S. Virgin Islands Supplemental Nutrition Assistance Program Participation, Fiscal Year 2003 to March 2009. Source: USDA, Food and Nutrition Service (www.fns.usda.gov).

Supplemental Nutrition Assistance Program				
FY/Month	**Households (Monthly)**	**Persons (Monthly)**	**% Change Households**	**% Change Persons**
2003	4,394	12,938		
2004	4,532	13,372	3.1%	3.4%
2005	4,633	13,550	2.2%	1.3%
2006	4,671	13,375	0.8%	-1.3%
2007	4,761	13,281	1.9%	-0.7%
2008	5,036	13,613	5.8%	2.5%
Mar-08	4,957	13,345		
Feb-09	5,864	15,406		
Mar-09	6,184	16,103	24.8%	20.7%

4.3.4 Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. This executive order is generally referred to as environmental justice (EJ).

This proposed action would be expected to affect fishermen who harvest queen conch from the federal waters of the Lang Bank, east of St. Croix. Although the proposed restriction would apply to a limited area off St. Croix, because of the small geographic size of St. Croix, the interrelated nature of fishers, dealers, and consumers in St. Croix, and the rationale provided to suggest that justification exists to designate St. Croix a fishing community (see Stoffle et al. 2009), the evaluation of the potential EJ issues associated with this proposed action considers St. Croix in its entirety rather than examining individual towns or communities. While information on the race and income status for all groups at the different participation levels (fishermen/vessel owners, crew, dealers, processors, employees, employees of associated support industries, etc.) is not available, as demonstrated in Section 4.3.2, the general population of St. Croix would be considered a minority dominated population compared to general U.S. residency. As such, the issue of whether the proposed action may be expected to adversely affect minority populations disproportionately relative to non-minority populations is not

relevant because both the population in general and those directly involved in the fishery are minorities. Further, given the general high rate of families below the poverty level for St. Croix as a whole, approximately 35 percent, the poverty rate for those involved in the fishery sector specifically may not be sufficiently greater and distinct enough from the general population to elicit EJ concerns. It is possible, however, that the generally lower education level of fishermen compared to the general public may result in higher rates of poverty in the fishing community than in the general public.

Nevertheless, as discussed in Section 5.2, no substantive adverse economic or social effects are expected to accrue to this proposed action. While this action may result in some reduction in queen conch harvests, no substantive adverse effects on fishery participation or performance are expected. As a result, no EJ issues have been identified or are expected to arise. Further, no negative environmental consequences are expected to accrue to this proposed action. The environmental consequences of this proposed action are expected to be positive. This proposed action is expected to reduce the opportunity for and incidence of the harvest of queen conch from federal waters when harvest in adjacent territorial waters in St. Croix is prohibited. Current protections have been implemented to end overfishing and rebuild the queen conch stocks. The adoption of compatible federal regulations would be expected to increase the protection of the resource, increase the likelihood of meeting recovery goals, and support an enhanced likelihood of realizing the environmental, economic, and social benefits of a recovered and sustainable resource. This action is also not expected to result in increased risk or exposure of affected individuals to adverse health hazards.

5.0 ENVIRONMENTAL CONSEQUENCES

As discussed in Section 2, because queen conch is overfished, its harvest and possession is prohibited in the federal waters of the U.S. Caribbean except for the Lang Bank near the east coast of St. Croix and an annual seasonal spawning closure for the Lang Bank is imposed from July 1 through September 30. However, no federal quotas have been established and the commercial harvest of queen conch is not subject to quota management. In 2008, however, U.S.V.I. established different regulations, including annual landings quotas of 50,000 pounds on St. Croix and 50,000 pounds on St. Thomas/St. John, with all queen conch required to be landed and reported in the district from which they were harvested (Note that it is unclear how, if at all, recreational harvests are factored into the landings quotas.) Territorial waters are closed (for the specific island territorial jurisdiction) if the quota is met prior to the seasonal closure of June 1 through October 31 and quota closure results in a prohibition on fishing for or possession of queen conch in territorial waters until November 1. With the exception of the overlap of the seasonal closures (July through September), under current federal regulations, the Lang Bank remains open when U.S.V.I. territorial waters close as a result of either quota or seasonal closure.

Because of the prohibition on the possession of queen conch in the federal waters of the U.S. Caribbean anywhere except in the Lang Bank, fishermen harvesting queen conch in the Lang Bank cannot land their harvests anywhere except St. Croix. During the

territorial seasonal closure during June and October, fishermen who harvest queen conch in the Lang Bank during these months should be able to legally transit territorial waters to land their harvests despite U.S.V.I. regulations prohibiting possession during the closed season. The difficulty of providing proof of harvest location, however, can create enforcement issues. Although no information is available to quantify the level of harvest from in the Lang Bank during the territorial closure, nor is information available on the existence or magnitude of any enforcement issues associated with transit, the fact that compatible closures have been requested suggests that harvest does occur in the Lang Bank during these periods. As long as harvest is allowed, the possibility of enforcement complications will continue to exist.

Table 5.0: Summary Effects of Proposed Action

	Effects		
Alternative	**Physical, Biological, Ecological**	**Social, Economic**	**Administrative**
Alternative 1: No Action	- Not provide additional protection - May result in overfishing and failure to achieve rebuilding targets - Physical environment not harmed due to harvest methods of queen conch	- No change in current behavior of fishers, harvests, or short-term economic or social benefits - Benefits are any revenues, and associated social and economic activity, from harvests that occur in the Lang Bank when the territorial waters are closed	- Continuation of any existing enforcement conflicts
Alternative 2: Establish Compatible Closures	- Increased protection to queen conch by reducing fishing mortality - Prevent effort shift to the Lang Bank once territorial waters are closed	- Short-term economic and social benefits may be reduced because of reduced short-term harvests. - Potential long term social and economic benefits if recovery and rebuilding of the resource is enhanced	- Ease enforcement efforts

5.1 Physical, Biological, Ecological

Alternative 1 would maintain the status quo. Queen conch will remain open for harvest inside the Lang Bank from October 1 through June 30. The majority of queen conch is harvested while diving and more specifically, while using SCUBA gear (See Table 4.3.16). **Alternative 1** would not provide any additional benefits to the physical, biological, or ecological environments.

Preferred Alternative 2 would establish compatible closures with the U.S.V.I. territorial governments. Upon closure of territorial waters to harvest of queen conch, the Lang Bank will also close until the next fishing year of the U.S.V.I. (November 1). The physical environment will not see any direct protection, as compared to **Alternative 1**, since the majority of queen conch harvest is done by hand and thus poses little or no risk to habitat. However, the overall physical environment could be expected to indirectly benefit based on the expected reduction in the amount of vessels in the area. Fewer vessels results in fewer interactions between habitat and gear (i.e. anchors).

The biological and ecological environments may see an increase in protection. Under current regulations (**Alternative 1**), fishers may shift effort to the Lang Bank once the territorial quota has been reached and harvest of queen conch is prohibited in territorial waters. **Preferred Alternative 2** would further protect the stocks by prohibiting both commercial and recreational fishers from harvesting queen conch, thus a potential reduction in fishing mortality would be expected. An additional benefit would be increased protection during the peak spawning months of May through October under **Preferred Alternative 2** if the territorial waters close.

Preferred Alternative 2 also provides better protection than **Alternative 1** to the biological and ecological environments through a longer seasonal closure. The federal closed season is currently not compatible with the territorial closed season, which is two months longer. This shorter closed season opens up the Lang Bank to increased fishing pressure once the territorial seasonal closure has begun. **Alternative 1** would maintain the shorter closed season whereas **Preferred Alternative 2** would allow the territory and federal closed seasons to coincide, providing better protection to the physical, biological, and ecological environments.

While **Preferred Alternative 2** would establish compatible quota and seasonal closures, it should be noted that compatible seasonal closures only have functional biological benefits (and associated social and economic benefits) if quota closure does not occur. If a quota closure is triggered, the fishery remains closed until November. As a result, incompatible seasonal closures would be irrelevant as the Lang Bank would be closed during June and October as a result of the quota closure.

5.2 Economic and Social

Under **Alternative 1**, the Lang Bank would continue to remain open when U.S.V.I. territorial waters close under either quota or seasonal closure, except for the three months (July through September) when the federal and territorial seasonal closures overlap. As a result, no change in the current behavior of fishermen, harvests, or short term economic or social benefits to fishermen, associated shore-side businesses, or communities would be expected. Closure incompatibility would continue under **Alternative 1** and all benefits or adverse effects associated with such that may exist would persist.

No data exist with which to determine the actual expected benefits or expected adverse effects of closure incompatibility, so the actual existence of either benefits or adverse effects is speculative. A potential benefit of the closure incompatibility is the revenues, and associated social and economic activity, from harvests that occur in the Lang Bank when the territorial waters are closed. While not quantifiable with available data, these harvests and associated benefits are assumed to occur.

One potential adverse effect of the closure incompatibility is that continued harvest from the Lang Bank when territorial waters are closed could result in delays in reaching stock recovery and possibly exacerbate the overfished status. These impacts could be significant and potentially increase the probability of failure to achieve rebuilding targets, with associated adverse economic and social consequences. While total harvests (meats) of all conch species from the U.S. Caribbean, the majority of which is assumed to be queen conch, totaled approximately 230,000 pounds in 2008 (USDOC 2009), the MSY and OY for queen conch are 452,000 pounds and 424,000 pounds, respectively. It should be noted that these values refer to the potentially allowable harvest from a recovered queen conch resource and, in the case of the OY, not the allowable harvest during the period of recovery (i.e., the optimal harvest level to support maximum benefits and recovery during the specified rebuilding period). Resource recovery and allowable harvest at either OY or MSY would be expected to result in increased long-term social and economic benefits relative to current harvests and associated benefits. Therefore, an economic incentive, in addition to the legal requirement, exists to rebuild the resource. As such, delay or failure to achieve rebuilding would be expected to result in a reduction in long-term social and economic benefits. Unfortunately, as previously stated, available data do not allow determination of what portion of the harvest currently comes from the Lang Bank when territorial waters are closed (or even when open), nor is information available on what, if any, adverse impact these harvests are or may have on recovery of the resource. While any reduction in harvests may be presumed to have positive biological benefits, such gains may not be critical to the stock rebuilding schedule and the elimination of these harvests may result in unnecessary foregone short term social and economic benefits.

A second potential adverse effect of the closure incompatibility would be the continuation of any existing enforcement conflicts. As discussed in Section 5.0, while the territorial regulations stipulate that possession of queen conch is prohibited in territorial waters during any closure of territorial waters, harvests from the Lang Bank

during the Lang Bank open season should be able to be transported through territorial waters and landed in St. Croix because they were legally harvested under federal law. Whether such transit is actually allowed, with or without encountering enforcement conflict, is unknown. An inability to prove area of harvest may result in enforcement of the territorial possession prohibition regardless of where harvest actually occurs. The current prohibition of possession of queen conch in federal waters everywhere except the Lang Bank suggests recognition of the difficulty of enforcing harvest area restrictions, as the federal prohibition does not allow transport of legal harvests from the Lang Bank through federal waters outside of the Lang Bank for landing elsewhere in the Caribbean.

If the territorial prohibition of possession, regardless of where the queen conch are harvested, is currently enforced during territorial closures (either quota or seasonal) and fishermen have adapted their harvest behavior to reflect such enforcement, continued closure incompatibility would not be expected to have any effect on harvests; fishermen would have realized they will not be allowed to transit territorial waters while in possession of queen conch and, as a result, ceased fishing for queen conch in the Lang Bank during the closure. Therefore, no harvests would occur in the Lang Bank and no harvests would be eliminated by compatible closures. Dissatisfaction with being subjected to the more restrictive territorial regulations may persist, but harvests should not be affected, nor should on-the-water conflicts with enforcement occur.

However, if harvests continue from the Lang Bank during territorial closures and are being landed, either as a result of non-enforcement (the vessel is checked but the fisherman is able to successfully convince the enforcement officer that the harvests came from the Lang Bank and not territorial waters) or non-interception (the vessel is not stopped), continued closure incompatibility would be expected to result in continued potentially excessive harvest, jeopardy of recovery goals, and reduced long-term social and economic benefits.

Preferred Alternative 2 would establish compatible closures of the Lang Bank during either quota or seasonal closure. As discussed above, if harvests currently do not occur in the Lang Bank during territorial closures because of enforcement of the possession prohibition in territorial waters, **Preferred Alternative 2** would not be expected to result in any biological or associated economic and social benefits relative to **Alternative 1**. If, however, harvests currently continue in the Lang Bank when territorial waters are closed, **Preferred Alternative 2** would be expected to reduce total harvests, resulting in unquantified biological benefits. Realization of long-term net economic or social benefits, however, is uncertain. Short-term economic and social benefits would be reduced relative to **Alternative 1** because of the reduced short-term harvests. Available data and analysis, however, do not support determination of whether these short-term harvests are excessive from a biological stock recovery perspective, i.e., whether they jeopardize recovery goals, or the net long-term benefits of a trade-off of the short-term costs of their elimination with the potential, but unsubstantiated, long-term benefits of enhanced resource protection.

Regardless of whether harvests, and associated social and economic benefits, would or would not be affected by **Preferred Alternative 2**, this alternative would be expected to result in some increased social benefits as a result of regulatory simplicity. Any confusion as to which waters are open or when they are open, to the extent such exists, would be eliminated. Appropriate enforcement options would be simplified; possession of queen conch during a closure would be illegal and not subject to interpretation or discussion of where the harvest occurred.

In summary, **Alternative 1** may (if harvests currently continue from the Lang Bank when territorial waters are closed) or may not (if harvests currently do not continue from the Lang Bank when territorial waters are closed) result in excessive harvest, jeopardy of biological and rebuilding goals, and reductions in long-term social and economic benefits. If harvests continue, **Alternative 1** would allow continued receipt of the short-term economic and social benefits associated with these harvests. Whether these increased harvests result in reductions in long-term benefits and whether these long-term reductions exceed the short-term benefits of the higher harvests cannot be determined with available data. **Alternative 1** would also result in continued potential enforcement uncertainty. **Preferred Alternative 2** may or may not result in reduced short-term social and economic benefits depending on whether harvests currently continue when territorial waters are closed. Available data does not support the determination of whether long-term net benefits result from any harvest reductions that may result from compatible closure. Social benefits would accrue, however, to regulatory simplicity and greater certainty of enforcement options.

5.3 Administrative

Establishing compatible closures with U.S.V.I. is designed to benefit the biological environment of the queen conch populations found in the area and simply enforcement of queen conch prohibitions. The action in this amendment will increase the burden on some aspects of the administrative environment and decrease the burden on other aspects. This amendment will affect management and law enforcement, both of which are valued environmental components within the administrative environment.

Promulgating regulations is a management action that requires development, implementation, and monitoring of the regulations and their effects. **Preferred Alternative 2** may require additional efforts by managers than what is currently experienced through current regulations (**Alternative 1**). The Lang Bank is currently open for queen conch harvest from October 1 through June 30 but if U.S.V.I. territorial waters are closed during that time due to the quota being met, under **Preferred Alternative 2**, managers will have to close federal waters of the Lang Bank to comply with the territorial closure.

Adjusting the other provision in **Preferred Alternative 2** (seasonal closure) would not provide any additional burdens on managers. If chosen, once the change is implemented, it does not require any additional actions.

The other necessary component of regulations is the enforcement of those regulations. Without the efforts of law enforcement officials, no change in the queen conch stocks would be expected regardless of the regulations developed and implemented. **Preferred Alternative 2** would ease enforcement efforts as compared to current regulations (**Alternative 1)** by providing more consistent regulations with those of the U.S.V.I. Under **Alternative 1**, it would be difficult for law enforcement agents to enforce the closure for queen conch in territorial waters while harvest remains open in the Lang Bank. **Preferred Alternative 2** would also provide concurrent seasonal closures, allowing for easier enforcement and regulations.

6.0 REGULATORY IMPACT REVIEW

6.1 Introduction

NMFS conducts a Regulatory Impact Review (RIR) as required by Executive Order 12866, as amended. The RIR: (1) Provides a comprehensive review of the incidence and level of impacts associated with a proposed or final regulatory action; (2) provides a review of the problems and the policy objectives prompting the regulatory proposals and an evaluation of alternatives that could be used to solve the problem; and (3) ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way.

The RIR provides the information needed to determine if the proposed regulations constitute a significant regulatory action under Executive Order 12866.

6.2 Problems and Objectives

The purpose and need of this action are discussed in Section 2.1 and are incorporated herein by reference. In summary, this action is intended to prohibit fishing for queen conch in the Lang Bank when harvest of queen conch is prohibited in St. Croix territorial waters as a result of either quota or seasonal closure in order to help prevent overfishing of queen conch as well as ease enforcement efforts.

6.3 Description of the Fishery

A description of the fishery is contained in Section 4.3 and is incorporated herein by reference.

6.4 Impacts of the Proposed Action

A complete discussion of the expected economic effects of this action is contained in Section 5.2 and is incorporated herein by reference. The proposed action may or may not result in reduced short-term economic benefits depending on whether harvests currently continue when territorial waters are closed. Available data do not allow the determination of whether long-term net benefits can be expected to result from any

harvest reductions that may result for compatible closures. However, regardless of the uncertainty over whether the proposed action will result in an increase or decrease in short-term or long-term economic benefits, the queen conch fishery is a minor fishery, accounting for an average of less than $700,000 (nominal dollars) per year from 2000-2007 in commercial ex-vessel revenues, 98 percent of which came from St. Croix harvests. For the recreational sector, neither the economic value nor economic impact of the queen conch fishery is known. However, total boat-based recreational fishing expenditures in the U.S.V.I. in 2000 were estimated to be approximately $5.9 million (2000 dollars), of which St. Croix fishermen contributed only approximately $1.1 million. Information on the amount of recreational queen conch harvest or the economic value or impact of queen conch recreational harvesting is not known. Further, for both sectors, the majority of queen conch harvest is believed to occur in territorial waters because of the depth restrictions of the species, living in waters less than 100 fathoms (see Figure 2.2), so little harvest and economic activity would be expected to be affected by the proposed action.

6.5 Public and Private Costs of Regulations

Costs associated with this action include:

Council costs of document preparation, meetings, public hearings, and information dissemination $20,000

NMFS administrative costs of document preparation, meetings, and review .....$ 50,000

Law enforcement costs 0

TOTAL.....**$ 70,000**

Although the implementation of a new regulation may result in re-allocation of law enforcement time and priorities, no additional costs have been identified as necessary to enforce the proposed action.

6.6 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: (1) An annual effect of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this regulatory action has been determined to not be economically significant for the purposes of E.O. 12866.

7.0 REGULATORY FLEXIBILITY ACT ANALYSIS

7.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to 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 such proposals are given serious consideration. 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 various alternatives contained in the 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 an initial regulatory flexibility analysis (IRFA) for each proposed rule. The IRFA 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. In addition to analyses conducted for the RIR, the IRFA provides: (1) a description of the reasons why action by the agency is being considered; (2) a succinct statement of the objectives of, and legal basis for the proposed rule; (3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; (4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; (5) an identification, to the extent practical, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule; and (6) a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

In addition to the information provided in this section, additional information on the expected economic impacts of the proposed action are included in Sections 4.0 and 5.0 and is included herein by reference.

7.2 Statement of Need for, Objectives of, and Legal Basis for the Rule

The purpose and objectives of this proposed rule are presented in Section 2.1 and are incorporated herein by reference. In summary, this action is intended to prohibit fishing for queen conch in the EEZ portion of the Lang Bank when harvest of queen conch is prohibited in St. Croix territorial waters as a result of either quota or seasonal closure in order to help prevent overfishing of queen conch as well as ease enforcement efforts. The Magnuson-Stevens Fishery Conservation and Management Act provides the statutory basis for the proposed rule.

7.3 Identification of All Relevant Federal Rules Which May Duplicate, Overlap or Conflict with the Proposed Rule

No duplicative, overlapping, or conflicting Federal rules have been identified.

7.4 Description and Estimate of the Number of Small Entities to Which the Proposed Rule will Apply

This proposed rule is expected to directly apply to commercial fishermen and for-hire vessels in St. Croix that harvest queen conch. The Small Business Administration (SBA) has established size criteria for all major industry sectors in the U.S. including fish harvesters and for-hire operations. A business involved in fish harvesting is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $4.0 million (NAICS code 114111, finfish fishing) for all its affiliated operations worldwide. For for-hire vessels, the other qualifiers apply and the revenues threshold is $7.0 million (NAICS code 713990, recreational industries).

All commercial fishermen that may be affected by this proposed rule are determined, for the purpose of this assessment, to be small entities. Federal permits are not required to fish in the U.S Caribbean. The U.S.V.I., however, requires a commercial fishing permit to harvest marine species for commercial purposes. In 2008, there were 383 permitted fishermen in the U.S.V.I., of which 223 were in St. Croix and 160 were in St. Thomas and St. John. The ex-vessel value of total harvests by U.S.V.I. fishermen in 2008 was approximately $8.8 million, or approximately $23,000 per fisherman. This estimate is substantially lower than the SBA small entity threshold. Comparable values for just St. Croix fishermen are not available. However, if all revenues for the U.S.V.I. are attributed to St. Croix fishermen, the appropriate average revenue per entity would be only approximately $39,000. Even this value, as an extreme upper bound for average revenues for St. Croix fishermen, is significantly lower than the SBA threshold. The number of for-hire dive operations in the U.S.V.I. is unknown. However, 27 for-hire

vessels were identified in the U.S.V.I. in 2000. Information on the economic profile of these vessels is not available. However, for-hire vessels have been determined to be small business entities in all federal fishery related regulatory actions to date through 2009 in the Gulf of Mexico and South Atlantic. Therefore, all for-hire businesses that may be affected by this proposed action are determined, for the purpose of this analysis, to be small business entities.

7.5 Description of the Projected Reporting, Record-keeping and Other Compliance Requirements of the Proposed Rule, Including an Estimate of the Classes of Small Entities Which will be Subject to the Requirement and the Type of Professional Skills Necessary for the Preparation of the Report or Records

This proposed rule would not establish any new reporting, record-keeping, or other compliance requirements.

7.6 Substantial Number of Small Entities Criterion

This proposed rule could directly affect all commercial and for-hire vessels that harvest queen conch in the St. Croix. All affected entities have been determined, for the purpose of this analysis, to be small entities.

7.7 Significant Economic Impact Criterion

The outcome of "significant economic impact" can be ascertained by examining two issues: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities that would be expected to be affected by the proposed rule are considered small entities so the issue of disproportionality does not arise in the present case.

Profitability: Do the regulations significantly reduce profit for a substantial number of small entities?

It is unknown whether this proposed action, if adopted, would have any direct adverse economic effect on any small entities. It is unknown if the current territorial prohibition on possession of queen conch during territorial closures has resulted in fishermen ceasing harvest activity in the Lang Bank. If this harvest activity has stopped, the proposed action would not have any direct effect on harvest activity or associated revenues and the only effect of the proposed action would be the benefits of regulatory simplicity.

If, however, harvest activity has continued when territorial waters are closed, this proposed action would result in a reduction in the short-term revenues associated with these harvests. Available data do not allow quantification of any harvests from the

affected area that may affected. In general, however, because queen conch are distributed in habitats where water depth is less than 100 fathoms, and the majority of the benthos at that depth around St. Croix is located in territorial waters, it is assumed that the majority of queen conch harvests in the U.S.V.I. come from territorial waters. As a result, any reduction in harvests, and associated revenues, from the Lang Bank that might occur as a result of compatible closures is not expected to be significant. However, because of the absence of specific data on which to base these conclusions, public comment is solicited on whether they are valid.

7.8 Description of Significant Alternatives

Only one alternative to the proposed action was considered. This alternative, the no action alternative (status quo), would not implement compatible closures and, as a result, would not achieve the Council's objectives.

8.0 FISHERY IMPACT STATEMENT AND SOCIAL IMPACT STATEMENT

8.1 Fishery Impact Statement

The purpose of this proposed action is to establish compatible federal and territorial closures for queen conch in the U.S.V.I. This action is intended to prohibit fishing for queen conch in the federal waters of the Lang Bank when harvest of queen conch is prohibited in St. Croix territorial waters as a result of either quota or seasonal closure in order to help prevent overfishing of queen conch as well as ease enforcement efforts.

The proposed action would not be expected to provide additional direct protection to the physical environment because the majority of queen conch harvest is done by hand and, thus, poses little or no risk to habitat. The biological and ecological environments may benefit from the proposed action because queen conch harvest may be reduced and the stocks would be protected by a longer seasonal closure.

The proposed action would not be expected to have any effect on human safety.

This proposed action may or may not result in reduced short-term economic benefits depending on whether harvests currently continue when territorial waters are closed. Available data does not support the determination of whether long-term net benefits result from any harvest reductions that may result form compatible closures. However, regardless of the uncertainty over whether the proposed action will result in an increase or decrease in short-term or long-term economic benefits, the majority of queen conch harvest is believed to occur in territorial waters because of the depth restrictions of the species. As a result, little harvest and social or economic activity would be expected to be affected by the proposed action.

8.2 Social Impact Assessment

8.2.1 Introduction

Mandates to conduct Social Impact Assessments (SIA) come from both NEPA and the Magnuson-Stevens Act. NEPA requires Federal agencies to consider the interactions of natural and human environments by using a "systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences...in planning and decision-making" [NEPA section 102 (2) (a)]. Under the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (CEQ, 1986), a clarification of the terms "human environment" expanded the interpretation to include the relationship of people with their natural and physical environment (40 CFR 1508.14). Moreover, agencies need to address the aesthetic, historic, cultural, economic, social, or health effects which may be direct, indirect or cumulative (Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 1994).

Under the Magnuson-Stevens Act (MSA), fishery management plans (FMPs) must "prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery" [MSA section 301(a)(1)]. Recent amendments to the Magnuson-Stevens Act require that FMPs address the impacts of any management measures on the participants in the affected fishery and those participants in other fisheries that may be affected directly or indirectly through the inclusion of a fishery impact statement [MSA section 303 (a) (9)]. National Standard 8, requires that FMPs must consider the impacts upon fishing communities to assure their sustained participation and minimize adverse economic impacts upon those communities [MSA section 301 (a) (8)].

8.2.2 Problems and Methods

Social impacts are generally the consequences to human populations that follow from some type of public or private action. Those consequences may include alterations to "the ways in which people live, work or play, relate to one another, organize to meet their needs and generally cope as members of a society" (Interorganizational Committee on Guidelines and Principles for Social Impact Assessment, 1994:1). Social impact analyses can be used to determine possible consequences management actions may have on fishing dependent communities. In order to do a full social impact analysis it is necessary to identify community participants who depend upon the fisheries in that area and to identify the amount of dependency they have upon a given fishery. Further it is necessary to understand the other opportunities for employment that exist within the community should fishery management measures become so restrictive that participants must switch their focus to other fisheries or other jobs outside of the fishing industry. Public hearings and scoping meetings may provide input from those concerned with a particular action, but they do not constitute a full overview of those that depend on the fishing industry.

No communities in St. Croix that are dependent on the queen conch fishery have been identified. Further, as discussed in Section 5.2, no significant reduction in queen conch harvest is expected to occur as a result of the proposed action. Nevertheless, it is noted that communities substantially involved in the fishing industry are facing increasing challenges due to increased regulations that reduce catch for both the recreational and commercial fishing sector. Communities also face increasing challenges due to development and gentrification. As more waterfront property is developed for non-fishing uses, fishing related businesses compete for land. Development often increases taxes which make it difficult for fishing docks, processors, and other businesses to stay near the water. In general, in the last few decades more fishermen have had to move inland due to the rising cost of housing and taxes for waterfront property. This has changed the dynamics of some areas that were once built around the fishing industry.

Profiles of the communities expected to be affected by the actions in this proposed amendment are provided in Section 4.3, while a discussion of the expected social effects of each alternative considered is provided in Section 5.2.

9.0 OTHER APPLICABLE LAWS

The Magnuson-Stevens Act (16 U.S.C. 1801 et seq.) provides the authority for U.S. fishery management. But fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems within which those fisheries are conducted. Major laws affecting federal fishery management decision making are summarized below.

9.1 Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, NOAA Fisheries is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it takes effect.

9.2 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. 1451 et seq.) encourages state and federal cooperation in the development of plans that manage the use of natural coastal habitats, as well as the fish and wildlife those habitats support. When proposing an action determined to directly affect coastal resources managed under an approved coastal zone management program, NOAA Fisheries is required to provide the relevant state agency with a determination that the proposed action is consistent with the enforceable policies of the approved program to the maximum extent practicable at least 90 days before taking final action. The Council and NOAA Fisheries Service determined

that this action is consistent to the maximum extent practicable with the enforceable policies of the approved coastal management program of Puerto Rico and the U.S.V.I. This determination was submitted for review by the responsible territories under section 307 of the CZMA.

9.3 Data Quality Act

The Data Quality Act (DQA) (Public Law 106-443), which took effect October 1, 2002, requires the government for the first time to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and issue agency-specific standards to 1) ensure Information Quality and develop a pre-dissemination review process; 2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and 3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of FMPs and amendments and the use of best available information is the second national standard under the MSFCMA. To be consistent with the Act, FMPs and amendments must be based on the best information available, properly reference all supporting materials and data, and should be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data must also undergo quality control prior to being used by the agency.

Pursuant to Section 515 of Public Law 106-554 IQA, this information product has undergone a pre-dissemination review by the NOAA Fisheries Service Southeast Regional Office Sustainable Fisheries Division, completed on February 26, 2010.

9.4 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 U.S.C. Section 1531 et seq.) requires that federal agencies use their authorities to conserve endangered and threatened species, and that they ensure actions they authorize, fund, or carry out are not likely to harm the continued existence of those species or the habitat designated to be critical to their survival and recovery. The ESA requires NOAA Fisheries, when proposing a fishery action that “may affect” critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the U.S. Fish

and Wildlife Service for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions "may affect but are not likely to adversely affect" endangered or threatened species or designated critical habitat. Formal consultations, resulting in a biological opinion, are required when proposed actions may affect and are "likely to adversely affect" endangered or threatened species or designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives.

As provided in 50 CFR 402.16, reinitiation of formal consultation is required when discretionary involvement or control over the action has been retained (or is authorized by law) and: (1) the amount or extent of the incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered; or (4) if a new species is listed or critical habitat designated that may be affected by the identified action.

On May 6, 2006, NOAA Fisheries Service listed two *Acropora* species as threatened under the ESA. On November 26, 2008, NOAA Fisheries Service designed critical habitat for these species. Both of these listed species and their designated critical habitat overlap in some areas where fishing managed by the Queen Conch FMP is authorized; thus, these *Acropora* species may be affected by this fishery. An Endangered Species Act Section 7 Consultation was conducted and determined the continued authorization of the queen conch fishery is not likely to adversely affect the two listed *Acropora* species, other endangered and/or threatened species, or their designated critical habitat.

9.5 Rivers and Harbors Act of 1899

The Rivers and Harbors Act was created in 1899 to prevent navigable waters of the United States from being obstructed. Section 10 of the Act requires that anyone wishing to dredge, fill, or build a structure in any navigable water and associated wetlands obtain a permit from the Army Corps of Engineers (ACOE). An activity affecting wetlands may require a Section 404 and Section 10 permit, thus both sections are often included together in a permit notice. When these activities are allowed, and there is direct loss of submerged habitat, such as seagrasses, then mitigation is often required to compensate for this loss.

9.6 Clean Water Act

In 1972, Congress passed the Clean Water Act (CWA) - also known as the Water Pollution Prevention and Control Act - to protect the quality of the nation's waterways including oceans, lakes, rivers and streams, aquifers, coastal areas, and aquatic resources. The law sets out broad rules for protecting the waters of the United States; Sections 404 and 401 apply directly to waters and aquatic resources protection.

Section 404 of the Clean Water Act (often referred to as “Section 404” or simply “404”) forbids the unpermitted "discharge of dredge or fill material" into waters of the United States. Section 404 does not regulate every activity in aquatic resources or coastal areas, but requires anyone seeking to fill any area to first obtain a permit from the ACOE. Constructing bridges, causeways, piers, port expansion, or any other construction or development activity along a waterway or in aquatic resources generally requires a 404 permit. When a fill project is permitted, there may be mitigation required to replace lost aquatic resources.

Section 401 of the Clean Water Act requires that an applicant for a Section 404 permit obtain a certificate from their state’s environmental regulatory agency (if the state has delegated such authority to the agency) that the activity will not negatively impact water quality. This permit process is supposed to prevent the discharge of pollutants (pesticides, heavy metals, hydrocarbons) or sediments into waters, which may be above acceptable levels, because decreased water quality may endanger the health of the people, fish, and wildlife. However, acceptable pollutant levels have not been established for many aquatic resources, which make it difficult for state agencies to fully assess a project’s impact on water quality.

9.7 National Marine Sanctuaries Act

Under the National Marine Sanctuaries Act (NMSA) (also known as Title III of the Marine Protection, Research and Sanctuaries Act of 1972), as amended, the Secretary of Commerce is authorized to designate National Marine Sanctuaries to protect distinctive natural and cultural resources whose protection and beneficial use requires comprehensive planning and management. The National Marine Sanctuaries are administered by NOAA’s National Ocean Service. NMSA provides authority for comprehensive and coordinated conservation and management of these marine areas. The National Marine Sanctuary System currently comprises 13 sanctuaries around the country, including sites in American Samoa and Hawaii. These sites include significant coral reef and kelp forest habitats, and breeding and feeding grounds of whales, sea lions, sharks, and sea turtles. A complete listing of the current sanctuaries and information about their location, size, characteristics, and affected fisheries can be found at http://www.sanctuaries.nos.noaa.gov/oms/oms.html.

9.8 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act protects the quality of the aquatic environment needed for fish and wildlife resources. The Act requires consultation with the Fish and Wildlife Service and the fish and wildlife agencies of States where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified" by any agency (except TVA) under a Federal permit or license. NOAA Fisheries was brought into the process later, as these responsibilities were carried over, during the reorganization process that created NOAA. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources", and to ensure that the environmental value of a body of water or wetland is taken into account in the decision-making process during permit application reviews. Consultation is most often (but not exclusively) initiated when

water resource agencies send the FWS or NOAA Fisheries a public notice of a Section 404 permit. FWS or NOAA Fisheries may file comments on the permit stating concerns about the negative impact the activity will have on the environment, and suggest measures to reduce the impact.

9.9 Executive Orders

9.9.1 E.O. 12114: Environmental Assessment of Actions Abroad

The purpose of this Executive Order is to enable responsible officials of Federal agencies having ultimate responsibility for authorizing and approving actions encompassed by this Order to be informed of pertinent environmental considerations and to take such considerations into account, with other pertinent considerations of national policy, in making decisions regarding such actions. While based on independent authority, this Order furthers the purpose of the National Environmental Policy Act (NEPA) and the Marine Protection Research and Sanctuaries Act and the Deepwater Port Act consistent with the foreign policy and national security policy of the United States, and represents the United States government's exclusive and complete determination of the procedural and other actions to be taken by Federal agencies to further the purpose of the NEPA, with respect to the environment outside the United States, its territories and possessions.

Agencies in their procedures shall establish procedures by which their officers having ultimate responsibility for authority and approving actions in one of the following categories encompassed by this Order, take into consideration in making decisions concerning such actions, a document described in Section 2-4(a):
(a) major Federal actions significantly affecting the environment of the global commons outside the jurisdiction of any nation (e.g., the oceans or Antarctica);
(b) major Federal actions significantly affecting the environment of a foreign nation not participating with the United States and not otherwise involved in the action;
(c) major Federal actions significantly affecting the environment of a foreign nation which provide to that nation:

(1) a product, or physical project producing a principal product or an emission or effluent, which is prohibited or strictly regulated by Federal law in the United States because its toxic effects on the environment create a serious public health risk; or

(2) a physical project which in the United States is prohibited or strictly regulated by Federal law to protect the environment against radioactive substances.

(d) major Federal actions outside the United States, its territories and possessions which significantly affect natural or ecological resources of global importance designated for protection under this subsection by the President, or, in the case of such a resource protected by international agreement binding on the United States, by the Secretary of State. Recommendations to the President under this subsection shall be accompanied by the views of the Council on Environmental Quality and the Secretary of State.

9.9.2 E.O. 12866: Regulatory Planning and Review

Executive Order 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NOAA Fisheries prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society associated with proposed regulatory actions, the problems and

policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the RFA. A regulation is significant if it is likely to result in an annual effect on the economy of at least $100,000,000 or has other major economic effects.

9.9.3 E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights, which became effective March 18, 1988, requires that each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment.

9.9.4 E.O. 13089: Coral Reef Protection

The Executive Order on Coral Reef Protection (June 11, 1998) requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems; and, to the extent permitted by law, ensure that actions they authorize, fund or carry out not degrade the condition of that ecosystem. By definition, a U.S. coral reef ecosystem means those species, habitats, and other national resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., federal, state, territorial, or commonwealth waters).

9.9.5 E.O. 13112: Invasive Species

The Executive Order requires agencies to use authorities to prevent introduction of invasive species, respond to and control invasions in a cost effective and environmentally sound manner, and to provide for restoration of native species and habitat conditions in ecosystems that have been invaded. Further, agencies shall not authorize, fund, or carry out actions that are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere unless a determination is made that the benefits of such actions clearly outweigh the potential harm; and that all feasible and prudent measures to minimize the risk of harm will be taken in conjunction with the actions. The actions undertaken in this amendment will not introduce, authorize, fund, or carry out actions that are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere.

9.9.6 E.O. 13132: Federalism

The Executive Order on federalism requires agencies in formulating and implementing policies that have federalism implications, to be guided by the fundamental federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues that are not national in scope or significance are most appropriately addressed by the level of government closest to the

people. This Order is relevant to FMPs and amendment given the overlapping authorities of NOAA Fisheries, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities. No federalism issues have been identified relative to the actions proposed in this amendment and associated regulations.

9.9.7 E.O. 13141: Environmental Review of Trade Agreements

This Executive Order requires the U.S. Trade Representative, through the interagency Trade Policy Staff, to conduct environmental reviews of three of the most common agreements: comprehensive multilateral trade rounds, bilateral or multilateral free-trade agreements, and major new trade liberalization agreements in natural resource sectors. Although the procedures for environmental impact assessment in Executive Order 13141 are not subject to NEPA, they follow similar guidelines.

9.9.8 E.O. 13158: Marine Protected Areas

Executive Order 13158 (May 26, 2000) requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area.

9.9.9 E.O. 12898: Environmental Justice

This Executive Order mandates that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. Federal agency responsibilities under this Executive Order include conducting programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefit of, or subjecting persons to discrimination under, such programs, policies, and activities, because of their race, color, or national origin. Furthermore, each federal agency responsibility set forth under this Executive Order shall apply equally to Native American programs.

Specifically, federal agencies shall, to the maximum extent practicable; conduct human health and environmental research and analysis; collect human health and environmental data; collect, maintain, and analyze information on the consumption patterns of those who principally rely on fish and/or wildlife for subsistence; allow for public participation and access to information relating to the incorporation of environmental justice principals in Federal agency programs or policies; and share information and eliminate unnecessary duplication of efforts through the use of existing data systems and cooperative agreements among Federal agencies and with State, local, and tribal governments. The proposed actions would be applied to all participants in the fishery, regardless of their race, color, national origin, or income level, and as a result are not considered

discriminatory. Additionally, the proposed action is not expected to affect any existing subsistence consumption patterns. Therefore, no environmental justice issues are anticipated and no modifications to the proposed action have been made to address environmental justice issues.

9.10 Marine Mammal Protection Act (MMPA)

The MMPA established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas. It also prohibits the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NOAA Fisheries) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea otters, polar bears, manatees, and dugongs.

In 1994, Congress amended the MMPA, to govern the taking of marine mammals incidental to commercial fishing operations. The MMPA requires a commercial fishery to be placed in one of three categories, based on the relative frequency of incidental serious injuries and mortalities of marine mammals. Category I designates fisheries with frequent serious injuries and mortalities incidental to commercial fishing; Category II designates fisheries with occasional serious injuries and mortalities; Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities. To legally fish in a Category I and/or II fishery, a fisherman must obtain a marine mammal authorization certificate by registering with the Marine Mammal Authorization Program (50 CFR 229.4) and accommodate an observer if requested (50 CFR 229.7(c)) and they must comply with any applicable take reduction plans. According to the List of Fisheries for 2009 published by the National Marine Fisheries Service, the Caribbean conch fishery is considered Category III (73 FR 73032).

9.11 Paperwork Reduction Act

The Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure that the public is not overburdened with information requests, that the federal government's information collection procedures are efficient, and that federal agencies adhere to appropriate rules governing the confidentiality of such information. The PRA requires NOAA Fisheries to obtain approval from the Office of Management and Budget before requesting most types of fishery information from the public. This action contains no new collections of information.

9.12 Small Business Act

The Small Business Act (SBA) of 1953, as amended, Section 8(a), 15 U.S.C. 634(b)(6), 636(j), 637(a) and (d); Public Laws 95-507 and 99-661, Section 1207; and Public Laws 100-656 and 101-37 are administered by the SBA. The objectives of the act are to foster business ownership by individuals who are both socially and economically disadvantaged; and to promote the competitive viability of such firms by providing business development assistance including, but not limited to, management and technical assistance, access to capital and other forms of financial assistance, business training and

counseling, and access to sole source and limited competition federal contract opportunities, to help the firms to achieve competitive viability. Because most businesses associated with fishing are considered small businesses, NMFS, in implementing regulations, must make an assessment of how those regulations will affect small businesses. The regulatory flexibility analysis presented in Section 7 of this document shows that the proposed action is in compliance with the SBA.

9.13 Magnuson-Stevens Act Essential Fish Habitat (EFH) Provisions

The Magnuson-Stevens Act includes EFH requirements, and as such, each existing, and any new, FMPs must describe and identify EFH for the fishery, minimize to the extent practicable adverse effects on that EFH caused by fishing, and identify other actions to encourage the conservation and enhancement of that EFH. The Council and NMFS have determined there are no adverse effects to EFH.

9.14 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) requires federal agencies to consider the environmental and social consequences of proposed major actions, as well as alternatives to those actions, and to provide this information for public consideration and comment before selecting a final course of action. This document contains an Environmental Assessment to satisfy the NEPA requirements. The statement of need can be found in Section 2.0, Alternatives are found in Section 3.0, the environmental impacts are found in section 5.0, and a list of agencies/people consulted is found in Section 12.0.

9.15 Regulatory Flexibility Act

The purpose of the Regulatory Flexibility Act (RFA 1980, 5 U.S.C. 601 et seq.) is to ensure that federal agencies consider the economic impact of their regulatory proposals on small entities, analyze effective alternatives that minimize the economic impacts on small entities, and make their analyses available for public comment. The RFA does not seek preferential treatment for small entities, require agencies to adopt regulations that impose the least burden on small entities, or mandate exemptions for small entities. Rather, it requires agencies to examine public policy issues using an analytical process that identifies, among other things, barriers to small business competitiveness and seeks a level playing field for small entities, not an unfair advantage.

After an agency determines that the RFA applies, it must decide whether to conduct a full regulatory flexibility analysis (Initial Regulatory Flexibility Analysis (IRFA) and Final Regulatory Flexibility Analysis) or to certify that the proposed rule will not "have a significant economic impact on a substantial number of small entities. In order to make this determination, the agency conducts a threshold analysis, which has the following 5 parts: 1) Description of small entities regulated by proposed action, which includes the SBA size standard(s), or those approved by the Office of Advocacy, for purposes of the analysis and size variations among these small entities; 2) Descriptions and estimates of the economic impacts of compliance requirements on the small entities, which include reporting and recordkeeping burdens and variations of impacts among size groupings of small entities; 3) Criteria used to determine if the economic impact is significant or not;

4) Criteria used to determine if the number of small entities that experience a significant economic impact is substantial or not; and 5) Descriptions of assumptions and uncertainties, including data used in the analysis. If the threshold analysis indicates that there will not be a significant economic impact on a substantial number of small entities, the agency can so certify. The regulatory flexibility analysis for this action can be found in Section 7.0.

10.0 REFERENCES

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