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Conchservation in the Caribbean: A Call for Stricter Fishing Regulations of the Queen Conch

Brett Rogers

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CONCHSERVATION IN THE CARIBBEAN: A CALL FOR STRICTER
FISHING REGULATIONS OF THE QUEEN CONCH

*Brett Rogers**

| | | |
|------|--|-----|
| I. | INTRODUCTION | 92 |
| II. | THE QUEEN..... | 93 |
| A. | BIOLOGY..... | 93 |
| B. | THE ECONOMIC IMPORTANCE OF QUEEN CONCH FOR THE BAHAMAS | 96 |
| C. | POPULATION DECLINE..... | 99 |
| III. | INTERNATIONAL OCEAN LAWS AND ORGANIZATIONS | 100 |
| A. | THE INTERNATIONAL OCEAN REGIME | 100 |
| B. | THE CARIBBEAN COMMUNITY AND COMMON MARKET | 101 |
| IV. | CONSERVATION EFFORTS..... | 103 |
| A. | CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA | 103 |
| B. | PETITION FOR QUEEN CONCH TO BE AN ENDANGERED SPECIES..... | 106 |
| 1. | THE ENDANGERED SPECIES ACT | 106 |
| 2. | THE PETITION PROCESS..... | 107 |
| 3. | WILDEARTH GUARDIANS' PETITION | 109 |
| C. | COMMERCIAL CONCH FARMS..... | 112 |
| V. | BAHAMIAN FISHING REGULATIONS | 114 |
| A. | HISTORICAL PERSPECTIVE..... | 114 |
| B. | GENERAL FISHING REGULATIONS IN THE BAHAMAS..... | 115 |
| C. | QUEEN CONCH FISHERY REGULATIONS IN THE BAHAMAS..... | 117 |
| D. | INADEQUACIES OF BAHAMIAN QUEEN CONCH REGULATIONS | 119 |
| E. | RECOMMENDATIONS TO BAHAMIAN STATUTORY LAW..... | 122 |
| F. | THE HUMAN ELEMENT..... | 124 |
| 1. | THE EFFECT ON THE BAHAMIAN PEOPLE | 124 |
| 2. | THE COLLAPSE OF THE CANADIAN NEWFOUNDLAND COD FISHERY..... | 125 |
| VI. | CONCLUSION | 127 |
| VII. | APPENDIX FOR ABBREVIATIONS | 128 |

I. INTRODUCTION

The enigmatic queen conch has long been the subject of fascination by cultures worldwide. From the symbolic nature of its shell in *Lord of the Flies*¹ to the eponymous “Conch Republic,”² the conch is a cherished marine icon. Yet, despite its tremendous cultural, culinary, and economic importance, the average person has much to learn about this giant sea snail.

The queen conch faces extinction. Conch populations are declining at an alarming rate as Caribbean fishers are taking an unsustainable amount of queen conch for export and local wholesale. This article contends that the queen conch’s downward spiral towards extinction can be reversed, or at the very least minimized, with stricter fishing regulations by Caribbean nations.

While overfishing of the queen conch is rampant throughout the Caribbean, this article will focus on the Bahamian queen conch fishery and its respective regulations. Whereas queen conch populations in many nations have become severely over-exploited and show little signs of recovery,³ the Bahamas has not quite reached a threshold where the queen conch population is beyond repair.⁴ However, at the current rate of fishing queen conch, the Bahamas will deplete its populations.⁵

Part I provides pertinent background information on the queen conch such as its biological characteristics; its historical and current

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¹ E.C. Bufkin, *Lord of the Flies: An Analysis*, 17 GA. REV. 40, 46 (1965) (“The conch, Golding makes clear, is a symbol of order and reason; it represents the voice of authority, at first heeded then flouted.”).

² Janet Steinberg, *Key West: ‘Conch-ed’ out in the Conch Republic*, AMERICAN ISRAELITE, Feb. 13, 2013 (“On April 23, 1982, Key West, Florida seceded from the United States of America and formed The Conch Republic.”).

³ STEPHANIE THEILE, TRAFFIC EUROPE, QUEEN CONCH FISHERIES AND THEIR MANAGEMENT IN THE CARIBBEAN 17 (Dec. 2001), available at http://www.traffic.org/species-reports/traffic_species_invertebrates5.pdf.

⁴ See *id.* at 17 (“[O]verall populations may still be considered stable although that local stock depletions and populations declines have started to occur.”).

⁵ See *id.*

significance to humans; and its population decline. Part II discusses contemporary conservation efforts by multilateral treaties and nonprofit organizations, as well as an unsuccessful petition to place the queen conch under the Endangered Species Act. Part III explores existing international laws of the sea and the nations that must abide by them. Part IV presents the major issue – what current queen conch fishing regulations are in the Bahamas, why they are not sufficient, and how stricter regulations will preserve conch populations.

II. THE QUEEN CONCH

A. Biology

The queen conch, alternatively known as *Strombus gigas*, is a large, marine mollusk.⁶ The conch belongs to the class Gastropoda and is known as a gastropod.⁷ Gastropods are typically comprised of snails, which have a shell that the animal can withdraw into, and slugs, which either have no shell or the shell has been reduced to an internal fragment over the course of evolution.⁸ Gastropods can be further classified as either terrestrial or aquatic.⁹ While terrestrial gastropods only comprise one-third of species, aquatic gastropods encompass the majority with two-thirds of species.¹⁰ Conchs, oysters, clams, squids, and octopuses are all gastropods.¹¹

The queen conch is found in thirty-nine territories and countries throughout the Caribbean Sea and the Gulf of Mexico.¹² Queen conchs primarily inhabit sand, seagrass bed, and coral reef

⁶ NOAA FISHERIES OFFICE OF PROT. RES., *Queen Conch (Strombus gigas)*, available at <http://www.nmfs.noaa.gov/pr/species/invertebrates/queenconch.htm> (last visited Nov. 1, 2013).

⁷ *Id.*

⁸ G. Alan Solem, *Gastropod*, ENCYC. BRITANNICA (last updated Mar. 19, 2014), available at <http://www.britannica.com/EBchecked/topic/226777/gastropod>.

⁹ Shmuel Raz, Nathan P. Schwartz, Hendrik K. Mienis, Eviatar Nevo & John H. Graham, *Fluctuating Helical Asymmetry and Morphology of Snails (Gastropoda) in Divergent Microhabitats at 'Evolution Canyons I and II,' Israel*, *PLOS ONE* (July 26, 2012), available at <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0041840#pone.0041840-Ponder1>.

¹⁰ *Id.*

¹¹ NOAA FISHERIES OFFICE OF PROT. RES., *supra* note 6.

¹² THEILE, *supra* note 3, at 12.

habitats.¹³ Further, the queen conch prefers warm, shallow water.¹⁴ Adult queen conchs typically prefer to live at ten to thirty meters depth.¹⁵ Juvenile queen conchs, on the other hand, have specific habitat requirements and are found near shore.¹⁶

The queen conch is quickly identified by its iconic shell. To compensate for its soft body, the queen conch protects itself in an external, spiral-shaped shell with a beautiful glossy pink or orange interior.¹⁷ The shell also has large prominent spines at the spiral end.¹⁸ As the largest Strombid conch, the queen conch has a maximal shell length of approximately twenty-four to twenty-nine centimeters.¹⁹



The Queen Conch Shell. Credit: Brett Rogers

The queen conch feeds on macroscopic algae and small non-living organic material – commonly known as detritus – from seagrasses and macrophytic algae.²⁰ Adult queen conchs typically feed

¹³ NOAA FISHERIES OFFICE OF PROT. RES., *supra* note 6.

¹⁴ *Id.*

¹⁵ THEILE, *supra* note 3, at 14.

¹⁶ *Id.*

¹⁷ See NOAA FISHERIES OFFICE OF PROT. RES., *supra* note 6.

¹⁸ THEILE, *supra* note 3, at 14.

¹⁹ *Id.*

²⁰ *Id.*

during day and night, while the juveniles feed primarily at night because they remain buried in the sand during the day.²¹

The queen conch's movement patterns differ vastly from other gastropods. Typically, a gastropod will move by using the muscular waves of their "foot" to glide along a surface;²² in contrast, the queen conch moves by using short hops.²³

Sexual maturity is particularly important as it relates to conch fishing regulations in the Caribbean. The sexual maturity of the queen conch occurs approximately at the age of three to four years.²⁴ Likewise, after three to four years, the queen begins to develop a large flared lip shell or a "flared lip."²⁵ Notably, a queen conch that is forming its flared lip is not a sexually mature adult, but rather a "sub-adult."²⁶ Despite this, there is generally a strong correlation between the development of a flared lip and the animal's sexual maturity. Subsequently, most Caribbean nations with an active conch fishery regulate conch fishing according to whether the conch has a well-formed flared lip or not.

Although an approximation allows for sexual maturity at three years, the consensus among experts is that the queen conch does not reach sexual maturity until four years.²⁷ The four year requirement comes with a caveat. The queen conch's flared lip must have developed and have reached a shell thickness of approximately five millimeters.²⁸ A flared lip paired with satisfactory shell thickness is often considered a better indicator of sexual maturity than a flared lip alone.

Queen conchs differ in size from region to region.²⁹ There are many environmental factors that influence a queen conch's size.³⁰ Local conditions such as water depth, habitat, and food sources all impact a queen conch's growth, allowing for some regional conch to mature

²¹ *Id.*

²² John E. Randall, *Contributions to the Biology of the Queen Conch, Strombus Gigas*, 14 BULL. MARINE SCI. 246, 264 (1964).

²³ *Id.*

²⁴ THEILE, *supra* note 3, at 14.

²⁵ *Id.* at 15.

²⁶ *Id.*

²⁷ *See id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

faster.³¹ Because the queen conch has such unusual growth patterns, it is imperative that fishing regulations account for variances in sexual maturity. Queen conchs will live up to twenty years or more.³²

B. *The Economic Importance of Queen Conch for the Bahamas*

The fishing industry is big business. Humans have relied upon the ocean's bounty as a food source for centuries upon centuries. Currently, marine fisheries are considered the main source of protein for one billion people.³³ Moreover, the fisheries sector provides for approximately five to ten percent of the world's food supplies.³⁴

The queen conch is no stranger to the fishing industry. Humans have found a variety of uses for the queen conch and its striking shell.³⁵ The aboriginal people of the Caribbean primarily used conch as food source.³⁶ Conch shells were cherished in aboriginal culture and were often used as ceremonial objects, ornaments, trumpets, and tools.³⁷ Even today, the queen conch is admired by cultures around the world. The Turks and Caicos Islands feature a queen conch shell prominently on its flag³⁸ and consider the animal a national symbol.³⁹

Today, the queen conch is predominantly used as a food source. Caribbean nations and the United States use conch meat to make dishes such as conch fritters, conch soup, conch chowder, ceviche, and conch burgers.⁴⁰ As such a popular and versatile food source,

³¹ See *id.*

³² See *id.* at 14.

³³ *Marine Environment and Tanker Safety—A G8 Action Plan*, SOMMET D'EVIAN 2003 (2003), available at http://www.g8.fr/evian/english/navigation/2003_g8_summit/summit_documents/marine_environment_and_tanker_safety_-_a_g8_action_plan.html (last visited Feb. 28, 2014).

³⁴ *Id.*

³⁵ See generally Randall, *supra* note 22, at 247.

³⁶ *Id.*

³⁷ *Id.*

³⁸ Cent. Intelligence Agency, *Turks and Caicos Islands*, THE WORLD FACTBOOK, <https://www.cia.gov/library/publications/the-world-factbook/geos/tk.html> (last visited Feb. 6, 2014).

³⁹ *Conch—A National Symbol*, VISIT TURKS & CAICOS ISLANDS, <http://www.visitci.com/about/conch> (last visited Feb. 6, 2014).

⁴⁰ *Officials Consider Listing Queen Conch as Threatened or Endangered*, AMBERGRIS TODAY (Oct. 16, 2012), available at <http://www.ambergristoday.com/content/>

conch is continually demanded yet limited in supply.⁴¹ The United States alone is responsible for the consumption of eighty percent of the world's queen conch trade.⁴²

Caribbean nations derive huge economic benefits from the conch fishing industry. The Bahamas considers its queen conch fishery to be the second most commercially important fishery in terms of weight and value of landing after its spiny lobster fishery.⁴³ Conch fishing is primarily done by free divers collecting conch with their hands.⁴⁴

In Bahamian waters, the queen conch is primarily fished from two areas: the Little Bahama Bank and the Great Bahama Bank – specifically the Berry and Andros Islands.⁴⁵ A 1995 Bahamian fisheries census concluded that there were 9,300 full-time fishers and over 4,000 fishing vessels.⁴⁶ Despite this information, the proportion of fishermen that target conch as their primary catch is difficult to determine.⁴⁷

The majority of Bahamian fishermen target spiny lobster because it is currently the principal fishery resource of the Bahamas.⁴⁸ In contrast, queen conch fishing is done primarily during the closed season for spiny lobster.⁴⁹ Demand for conch is seasonal with sixty

stories/2012/october/16/officials-consider-listing-queen-conch-threatened-or-endangered.

⁴¹ JESSICA TOWNSEND, WILDEARTH GUARDIANS, PETITION TO LIST THE QUEEN CONCH (*STROMBUS GIGAS*) UNDER THE ENDANGERED SPECIES ACT 8 (2012), available at http://www.nmfs.noaa.gov/pr/pdfs/petitions/queenconch_petition2012.pdf. (stating that “demand for conch meat now ‘grossly exceeds supply’”).

⁴² *Queen Conch*, U.S. FISH AND WILDLIFE SERV. INT’L AFFAIRS, <http://www.fws.gov/international/animals/queen-conch.html>.

⁴³ L.G. Gittens & M.T. Braynen, *Bahamas National Report— CFMC/OSPESCA/WECAFC/CRFM Working Group on Queen Conch*, 1 (2012), available at [http://strombusgigas.com/Meeting%20Panama/Queen%20Conch%20Meeting%20\(23%20October\)/Bahamas/Bahamas%20national%20report.pdf](http://strombusgigas.com/Meeting%20Panama/Queen%20Conch%20Meeting%20(23%20October)/Bahamas/Bahamas%20national%20report.pdf) (This report was presented by the Bahamas to the Working Group on the Queen Conch, which is comprised of representatives from Caribbean and Central American Nations.).

⁴⁴ *Id.*

⁴⁵ THEILE, *supra* note 3, at 17.

⁴⁶ Gittens & Braynen, *supra* note 43, at 1.

⁴⁷ *See id.*

⁴⁸ *See id.* Spiny lobster is known as crawfish in the Bahamas.

⁴⁹ THEILE, *supra* note 3, at 22.

percent of all conch landings taking place during the summer months, a time when the lobster fishery is closed.⁵⁰

The structure and organization of queen conch fisheries can be classified as either artisanal or industrial.⁵¹ Artisanal conch fisheries have moderate harvests with the primary purpose of supplying local demand.⁵² Artisanal conch fisheries also export some meat within the region.⁵³ On the other end of the spectrum, industrial conch fisheries involve large vessels, higher production levels, and a well-developed processing sector.⁵⁴

The Bahamas conch fishery can be classified as industrial.⁵⁵ While sustainability of the queen conch fishery for environmental reasons may not be the Bahamas' chief concern, the country is economically incentivized to sustain the species. Currently, the Bahamas exports approximately \$3.3 million worth of conch per annum, which translates into 600,000 pounds of conch.⁵⁶ The Bahamas National Trust's executive director, Eric Carey, described the potential extinction of the queen conch as "the number one marine resources management issue in the Bahamas."⁵⁷

Queen conch extinction would directly impact the lives of fishers and their families as well as deal a devastating blow to Bahamian tourism.⁵⁸ Queen conch is a staple of Bahamian cuisine, which in turn serves as a cornerstone for marketing the Bahamas to tourists.⁵⁹ Commenting further on the need for queen conch sustainability, Carey stated that "[w]hen you consider the stakes of the game, it's a lot, and impacts so many Bahamians at so many levels."⁶⁰

⁵⁰ Gittens & Braynen, *supra* note 43, at 1.

⁵¹ THEILE, *supra* note 3, at 22.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *See id.* at 26.

⁵⁶ Neil Hartnell, *Conch's Extinction Threat "Very Alarming" for Economy*, TRIBUNE 242 (Sept. 25, 2012), available at <http://www.tribune242.com/news/2012/sep/25/conchs-extinction-threat-very-alarming-economy/>.

⁵⁷ *Id.* (The Bahamas National Trust is a non-governmental organization created by an Act of Parliament in 1959. It is responsible for the management of the Bahamas' national parks.)

⁵⁸ *See id.*

⁵⁹ *See id.*

⁶⁰ *Id.*

C. *Population Decline*

The overall status of queen conch fisheries worldwide is dismal. Queen conch fishery resources range from areas “that were severely over-exploited in the past and show little signs of recovery” to areas that “appear heavily exploited and show signs of depletion and potential recruitment failure.”⁶¹

The Bahamas conch fishery is in trouble. Bahamian fishing grounds are showing signs of collapsing conch populations, with conch densities decreasing to levels that will not sustain the populations.⁶² Research has shown that conch densities have decreased as much as thirty-five percent over the last two decades.⁶³ Because populations are rapidly declining, Bahamian queen conch are falling below the critical thresholds for reproduction.⁶⁴ The harvest of sexually immature queen conch is a major contributing factor.⁶⁵

Community Conch, a non-profit organization aiming to protect queen conchs in the Bahamas, has suggested three main factors that contribute to the queen conch’s vulnerability to Bahamian overfishing:⁶⁶ (1) the queen conch is long-lived and late to reproductive maturity; (2) the queen conch has unique mating behavior; and (3) the potential Allee effects⁶⁷ on the population.

⁶¹ THEILE, *supra* note 3, at 17.

⁶² ALLAN STONER, MARTHA DAVIS, & CATHERINE BOOKER, COMMUNITY CONCH, TECHNICAL BRIEF: STATE OF KNOWLEDGE OF CONCH RESOURCES IN THE BAHAMAS AND MANAGEMENT CONSIDERATIONS 5 (2011), available at <http://www.communityconch.org/wp-content/uploads/2012/01/Conch-Tech-Brief-2011.pdf>.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Why Conchs?*, COMMUNITY CONCH, <http://www.communityconch.org/why-conchs/> (last visited Dec. 8, 2014).

⁶⁷ *Id.* “Conch need relatively high population densities to reproduce and replenish a fished population. If numbers within a population decline greatly it is possible that mating will not occur at the frequency needed to sustain itself leading to population change.”

III. INTERNATIONAL OCEAN LAWS AND ORGANIZATIONS

A. *The International Ocean Regime*

Historically, the oceans have been poorly regulated.⁶⁸ Since the early 1600s, the guiding principle for seafarers was “freedom of the seas.”⁶⁹ Consequently, the oceans were thought of as infinite in reach and its marine resources inexhaustible.⁷⁰ The middle of the twentieth century—almost four hundred years later—brought dramatic reform from this principle.⁷¹ The public soon became cognizant of overfishing and pollution⁷² and recognized that unregulated waters could cause untold damage to the marine ecosystem.⁷³ Accordingly, coastal nations began to assert jurisdiction over their respective marine territories.⁷⁴

In 1982, the international community reached a milestone. The 1982 United Nations Convention on the Law of the Sea (“U.N. Convention”) codified international ocean laws that had been followed by the world’s nations for almost two centuries prior.⁷⁵ Additionally, the U.N. Convention provided new rules to assist with unresolved issues.⁷⁶ The U.N. Convention provided much needed structure to international ocean law. Some have analogized the U.N. Convention as an “international constitution for the oceans,” providing comprehensive descriptions of the rights, duties, and responsibilities of each nation.⁷⁷

⁶⁸ See U.S. COMM’N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 443 (2004), available at http://govinfo.library.unt.edu/oceancommission/documents/full_color_rpt/000_ocean_full_report.pdf.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² See *id.*

⁷³ See *id.*

⁷⁴ See U.S. COMM’N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 443 (2004), available at http://govinfo.library.unt.edu/oceancommission/documents/full_color_rpt/000_ocean_full_report.pdf.

⁷⁵ See *id.* at 444.

⁷⁶ *Id.*

⁷⁷ *Id.*

B. *The Caribbean Community and Common Market*

Caribbean nations have formed strong cultural and economic bonds through the creation of the Caribbean Community and Common Market ("CARICOM").⁷⁸ CARICOM has endured a long road to get where it is today. The British West Indies Federation, established in 1958 and composed of ten Member States, sought to achieve regional integration of the Caribbean.⁷⁹ However, the British West Indies Federation was short-lived, ending in 1962.⁸⁰

Seeking a replacement, Caribbean political leaders discussed other methods of strengthening ties between the islands. Rising from the ashes of the British West Indies Federation, the Caribbean Free Trade Association ("CARIFTA"), a Free Trade Area, was established on May 1, 1968.⁸¹ CARIFTA began with only four Member States, Antigua, Barbados, Trinidad and Tobago, and Guyana, but quickly grew to encompass most of the Caribbean region.⁸²

CARIFTA underwent another transformation in October 1972. Caribbean leaders decided to "transform CARIFTA into a Common Market and establish the Caribbean Community. . . ." ⁸³ After a drafting stage, the Caribbean Community Treaty was signed on July 4, 1973, and came into effect in August of that year.⁸⁴ Like CARIFTA, CARICOM was originally composed of four Member States, Barbados, Guyana, Jamaica, and Trinidad & Tobago, all which were independent nations.⁸⁵ However, the next year brought the addition of eight Caribbean territories.⁸⁶

⁷⁸ *History of the Caribbean Community (CARICOM)*, CARIBBEAN CMTY. SECRETARIAT, <http://www.caricom.org/jsp/community/history.jsp?menu=community> (last visited Feb. 16, 2014).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.*

⁸³ *History of the Caribbean Community (CARICOM)*, CARIBBEAN CMTY. SECRETARIAT, <http://www.caricom.org/jsp/community/history.jsp?menu=community> (last visited Feb. 16, 2014).

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

Today, CARICOM has worked towards the creation of the CARICOM Single Market and Economy ("CSME").⁸⁷ Akin to the European Union, the CSME allows for the free movement of capital, goods, services and people among Members States as well as a common external tariff, a common trade policy, and a common currency.⁸⁸ The CSME also aggregates company and intellectual property laws of Member States.⁸⁹

With some Member States having limited capital and resources,⁹⁰ the importance of CSME is clear. In an ever-global market place, CSME protects CARICOM Member States through unification.⁹¹ Whereas mega trading blocs and Free Trade Areas are prevalent in today's global market, the CSME allows Caribbean nations to possess much more significant trading power.⁹²

The Bahamas was not originally a member of CARICOM.⁹³ On July 4, 1983, the Bahamas became the thirteenth nation to join CARICOM as a Member State.⁹⁴ Interestingly, the Bahamas is not a part of the CSME, acting independently.⁹⁵ Bahamian public opposition against the Bahamas joining the CSME has been fierce. Bahamian citizens fear that joining the CSME will result in illegal immigrants working for lower domestic wages.⁹⁶ Further, Bahamian citizens do not see any economic benefits to joining the CSME as the Bahamas does not

⁸⁷ *The CARICOM Single Market and Economy (CSME)*, CARIBBEAN CMTY. SECRETARIAT,

http://www.caricom.org/jsp/single_market/single_market_index.jsp?menu=csme (last visited Feb. 16, 2014).

⁸⁸ Anita Joseph, *The Bahamas Rejects the Creation of CSME, Thus Compromising CARICOM's Integration Bid*, COUNCIL ON HEMISPHERIC AFFAIRS (July 11, 2005), available at <http://www.coha.org/the-bahamas-rejects-the-creation-of-csme-thus-compromising-caricom%E2%80%99s-integration-bid/>.

⁸⁹ CARIBBEAN CMTY. SECRETARIAT, *supra* note 87.

⁹⁰ *Census 2011: Montserrat at a Glance Now Available to the Public*, GOVERNMENT OF MONTSERRAT, available at <http://www.gov.ms/2012/04/10/census-2011-montserrat-at-a-glance-now-available-to-the-public/> (last visited Feb. 16, 2014). For example, Member State Montserrat has a local population of 4,922.

⁹¹ See Joseph, *supra* note 88.

⁹² See *id.*

⁹³ See CARIBBEAN CMTY. SECRETARIAT, *supra* note 87.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ See Joseph, *supra* note 88.

trade much with other Caribbean nations.⁹⁷ Whether the Bahamas will ever become a part of the CSME is uncertain at this point.

The Caribbean Regional Fisheries Mechanism (“CRFM”), a derivative organization of CARICOM, was established in 2003.⁹⁸ The CRFM “promotes the sustainable use of fisheries and aquaculture resources in and among Member States, by developing, managing and conserving these resources in collaboration with stakeholders to benefit the people of the Caribbean region.”⁹⁹ The CRFM consists of three bodies—the Ministerial Council, the Caribbean Fisheries Forum, and the CRFM Secretariat and includes all CARICOM member states.¹⁰⁰ The Ministerial Council is the highest decision making body for the CRFM, formulating the policy.¹⁰¹

IV. CONSERVATION EFFORTS

The following sections highlight ongoing conservation efforts to protect the queen conch fishery. These conservation efforts range from regulatory in nature to allowing for long-term sustainable harvest of the animal.

A. *Convention on International Trade in Endangered Species of Wild Fauna and Flora*

Organized in 1975, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (“CITES” or “Convention”) serves as a global watchdog of endangered species conservation.¹⁰² As the only global treaty of its kind, CITES’ focus is “to ensure that international trade in plants and animals” do not threaten

⁹⁷ See *id.*

⁹⁸ *Caribbean Regional Fisheries Mechanism (CRFM)*, CARIBBEAN CMTY. SECRETARIAT, <http://www.caricom.org/jsp/community/crfm.jsp?menu=community> (last visited Feb. 16, 2014).

⁹⁹ *Id.*

¹⁰⁰ *About CRFM*, CARIBBEAN REGIONAL FISHERIES MECHANISM, <http://www.crfm.net/index.php/about-crfm.html> (last visited Feb. 16, 2014).

¹⁰¹ *Id.*

¹⁰² U.S. FISH & WILDLIFE SERVICE INTERNATIONAL AFFAIRS, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES 1 (2012), available at <http://www.fws.gov/International/pdf/factsheet-cites-overview-2013.pdf>.

their survival in the wild.¹⁰³ Countries adhere to CITES voluntarily and once bound by the Convention are known as Parties.¹⁰⁴

After becoming a Party, CITES is binding on the nation, requiring the Convention to be implemented.¹⁰⁵ However, while still legally binding, CITES does not supersede a Party's national laws.¹⁰⁶ The Party is thus responsible for implementing the Convention into its own domestic legislation, with CITES simply providing a framework.¹⁰⁷ Today, 179 countries, including the Bahamas, have joined CITES as Parties to preserve the world's wildlife.¹⁰⁸

Under CITES' categorization, species that require protection are listed in one of three appendices.¹⁰⁹ The appendices represent the level of protection required for listed species.¹¹⁰

The first appendix, Appendix I, "lists species that are the most endangered among CITES-listed animals and plants," thus requiring the highest level of protection.¹¹¹ Because Appendix I species are threatened with extinction, CITES prohibits international trade in specimens of these species.¹¹²

The second appendix, Appendix II, "lists species that are not necessarily now threatened with extinction but that may become so unless trade is closely controlled."¹¹³ International trade of Appendix II species is authorized provided that an export permit or re-export certificate is granted.¹¹⁴

The third appendix, Appendix III, "is a list of species included at the request of a Party that already regulates trade in the species and

¹⁰³ *What Is CITES?*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, <http://www.cites.org/eng/disc/what.php> (last visited Nov. 4, 2013).

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *The Cites Appendices*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, <http://www.cites.org/eng/app/index.php> (last visited Nov. 4, 2013).

¹¹⁰ *See id.*

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

that needs the cooperation of other countries to prevent unsustainable or illegal exploitation.”¹¹⁵ Appendix III species require the lowest level of protection.¹¹⁶

In 1992, the United States proposed that the queen conch be listed in Appendix II due to high demand and declining populations.¹¹⁷ CITES adopted the proposal during the CITES Eighth Conference of the Parties in Kyoto, Japan,¹¹⁸ and CITES has listed the queen conch as an Appendix II species.¹¹⁹

The dichotomy between the Appendix I and Appendix II status is a double-edged sword. On one hand, listing an animal as Appendix II means that its populations are still sufficiently large to avoid extinction, while still allowing the unsustainable trade that will drive towards listing it as Appendix I. On the other hand, listing an animal as Appendix I enacts safeguards, such as banning trade, that will greatly aid in the reproduction of the species; yet, an Appendix I listing bears the sad realization that the species’ population are so severely depleted that it is near extinction.

While listing the queen conch as an Appendix I species would benefit the species as a whole, it is uncertain whether such a change will be made in the near future. Fortunately, the Working Group on Queen Conch has suggested addendums to queen conch management that have been implemented by CITES.¹²⁰ The addition – titled “regional cooperation on the management of and trade in the queen conch (*Strombus gigas*)” – suggest the creation of joint research programs, the reporting of pertinent information and progress to the CITES

¹¹⁵ *Id.*

¹¹⁶ *See id.*

¹¹⁷ Nancy K. Daves, *CITES Gives Hope to the Queen Conch*, U.S. FISH & WILDLIFE SERVICE, <http://www.fws.gov/endangered/news/bulletin-summer2009/cites-gives-hope.html> (last updated Aug. 28, 2012).

¹¹⁸ *Id.*

¹¹⁹ *Appendices I, II and III*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, 34 (SEPT. 14, 2014), available at <http://www.cites.org/sites/default/files/eng/app/2014/E-Appendices-2014-09-14.pdf>.

¹²⁰ *Convention on Int’l Trade in Endangered Species of Wild Fauna and Flora, Regional Cooperation on the Management of and Trade in the Queen Conch (Strombus Gigas)*, CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA, available at <http://www.cites.org/eng/taxonomy/term/230> (last visited Feb. 22, 2014).

Secretariat, and detailed monitoring of conch specimens.¹²¹ The queen conch certainly needs the increased scrutiny that these additions provide; however, there may be a time when it is not enough.

B. Petition for Queen Conch to Be an Endangered Species

On February 27, 2012, WildEarth Guardians, a nonprofit environment advocacy organization working to protect “wildlife, wild places, and wildwaters,” submitted a petition to list the queen conch as an endangered species under the ESA.¹²² The petition was unsuccessful.¹²³ Despite this, the door has not been completely shut; WildEarth Guardians and similar conservation groups may still pursue other avenues to get the queen listed and protected as an endangered species.

1. The Endangered Species Act

The United States Congress passed the Endangered Species Act (“ESA”) in 1973.¹²⁴ The ESA provides that the United States will “conserve to the extent practicable the various species of fish or wildlife and plants facing extinction.”¹²⁵ As a listed Party, the United States acts pursuant to CITES as well as many other international treaties and conventions.¹²⁶ While the Interior Department’s U.S. Fish and Wildlife Service (“FWS”) governs terrestrial and freshwater organisms, the Commerce Department’s National Marine Fisheries Service (“NMFS”) oversees marine wildlife.¹²⁷ As required by 16 USC § 1533, either the Secretary of Commerce or the Secretary of the Interior (“Secretary”) is

¹²¹ *See id.*

¹²² TOWNSEND, *supra* note 41, at 1.

¹²³ *See* Endangered and Threatened Wildlife and Plants: Notice of 12-Month Finding on a Petition to List the Queen Conch as Threatened or Endangered under the Endangered Species Act (ESA), 79 Fed. Reg. 65628, 65628–43 (Nov. 5, 2014), *available at* <http://www.gpo.gov/fdsys/pkg/FR-2014-11-05/pdf/2014-26324.pdf>.

¹²⁴ U.S. FISH & WILDLIFE SERVICE ENDANGERED SPECIES PROGRAM, ESA BASICS: 40 YEARS OF CONSERVING ENDANGERED SPECIES 1 (2013), *available at* http://www.fws.gov/endangered/esa-library/pdf/ESA_basics.pdf.

¹²⁵ Endangered Species Act, 16 U.S.C. § 1531 (1973).

¹²⁶ *Id.*

¹²⁷ U.S. FISH & WILDLIFE SERVICE ENDANGERED SPECIES PROGRAM, *supra* note 124.

responsible for determining “whether any species is an endangered species or a threatened species....”¹²⁸

The Secretary may make this determination because of any or all of the following factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence.¹²⁹

Since the queen conch is marine wildlife, the Commerce Department has jurisdiction over its potential endangered species status.¹³⁰ Subsequently, WildEarth Guardians’ petition was submitted to the U.S. Secretary of Commerce, acting through the NMFS.¹³¹ Currently, the queen conch is not listed as threatened or endangered under the ESA.¹³²

2. The Petition Process

The focus of 16 U.S.C. § 1533 – alternatively known as Section 4 of the ESA – is the determination of endangered species and threatened species.¹³³ The first critical step in species protection is listing species as threatened or endangered under the ESA; a determination made solely on scientific factors, not economic or other factors.¹³⁴ The substantive protections of the ESA do not apply until and unless a species is officially listed.¹³⁵

A petition to list a species under the ESA may be pursued through FWS or NMFS.¹³⁶ As the queen conch is a marine species, the NMFS is the appropriate administrative body. NMFS highlights two

¹²⁸ 16 U.S.C. § 1533 (2003); 16 U.S.C. § 1532 (2012) (defining “Secretary” as the Secretary of the Interior or the Secretary of Commerce).

¹²⁹ 16 U.S.C. § 1533 (2003).

¹³⁰ See U.S. FISH & WILDLIFE SERVICE ENDANGERED SPECIES PROGRAM, *supra* note 124.

¹³¹ See TOWNSEND, *supra* note 41, at 1.

¹³² See *id.* at 1.

¹³³ 16 U.S.C. § 1533.

¹³⁴ Sarah Matsumoto et al., *Citizen’s Guide to the Endangered Species Act*, EARTHJUSTICE at 15 (2003).

¹³⁵ *Id.*

¹³⁶ See *id.*

ways that marine species can be listed under the ESA: (1) “any U.S. citizen or organization may petition [NMFS] to list a species as ‘threatened’ or ‘endangered,’ reclassify a species, or revise [a] critical habitat”; (2) “[NMFS] may initiate a status review of a species.”¹³⁷ WildEarth Guardians’ petition falls into the former category.

Once petitioned to list a species, NMFS takes the following steps. First, the NMFS makes a determination on whether the petition presents substantial information.¹³⁸ If the petition does present substantial information, NMFS will publish a positive ninety-day finding in the *Federal Register*—the official journal of the federal government of the United States—that it considers the species a “Candidate” for listing under the ESA.¹³⁹ A status review of the species is then conducted.¹⁴⁰ If the petition does not present substantial information, NMFS will publish a negative ninety-day finding denying the petition in a *Federal Register* notice.¹⁴¹

Second, NMFS makes a determination on whether a listing is warranted.¹⁴² The government cannot act unless a determination is made on the “basis of the best scientific and commercial data available....”¹⁴³ If, after reviewing the best scientific and commercial information available, the listing is found to be warranted, NMFS publishes a twelve-month finding in the *Federal Register*—called a “proposed rule”—within one year of the date of the petition, proposing to list the species as threatened or endangered.¹⁴⁴ If the listing is not warranted, NMFS publishes a negative twelve-month finding in the *Federal Register*, stating that the listing is not warranted.¹⁴⁵

Finally, after the publication of a proposed rule, NMFS will consider public comments and new information before making a final

¹³⁷ Nat’l Oceanic and Atmospheric Admin., *Listing Under the Endangered Species Act (ESA)*, NOAA FISHERIES, (Feb. 22, 2014) available at <http://www.nmfs.noaa.gov/pr/listing/>.

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ 16 U.S.C. § 1533.

¹⁴⁴ Nat’l Oceanic and Atmospheric Admin., *supra* note 137.

¹⁴⁵ *Id.*

determination.¹⁴⁶ Once considering all factors, the final determination is published in the *Federal Register*.¹⁴⁷

3. WildEarth Guardians' Petition

WildEarth Guardians' petition formally requested that the Secretary change the queen conch's status to threatened or endangered.¹⁴⁸ As a "slow moving" and "easily identifiable" marine creature, the queen conch is "particularly vulnerable to exploitation."¹⁴⁹

Looking to the ESA, WildEarth Guardians advocated that the queen conch is threatened by four of the five factors by which the Secretary can make a determination.¹⁵⁰ While all four factors must be taken into consideration, WildEarth Guardians contended that factor 2, the overutilization of conch for commercial resources, is the most severe threat to the conch population.¹⁵¹ The only factor that does not threaten the queen conch is factor 3, disease or predation.¹⁵² The definitive goal of listing the queen conch as endangered is to limit or restrict the United States take and import of the species.¹⁵³

WildEarth Guardians' petition was unsuccessful.¹⁵⁴ In a recent decision, NMFS "determined that the species does not warrant listing at this time."¹⁵⁵ Using the "best scientific and commercial information available," the NFMS concluded that "the queen conch is not currently in danger of extinction."¹⁵⁶ The listing of the queen conch as a United States endangered species would have led to a prohibition of conch imports to the United States. Provided that a species of fish or wildlife is endangered, 16 U.S.C. § 1538 bars the "import [of] any such species

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ TOWNSEND, *supra* note 41, at 1.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² See 16 U.S.C. § 1533 (2003).

¹⁵³ See TOWNSEND, *supra* note 41, at 1.

¹⁵⁴ See Endangered and Threatened Wildlife and Plants: Notice of 12-Month Finding on a Petition to List the Queen Conch as Threatened or Endangered under the Endangered Species Act (ESA), 79 Fed. Reg. 65628, 65628–43.

¹⁵⁵ *Id.* at 65628.

¹⁵⁶ *Id.*

into, or export [of] any such species from the United States.”¹⁵⁷ Classifying the queen conch as endangered would likely have had little to no effect on exports as Florida, a primary habitat of queen conch in the United States, outlawed conch fishing.¹⁵⁸ However, an endangered conch would have had a very real impact on imports and the conch trade as a whole.

The ban on exports and imports would have ceased all trade of queen conch and products derived from queen conch between the United States and CARICOM member states.¹⁵⁹ As the United States is the largest importer of queen conch in the world, the ban would have greatly reduced global demand for queen conch.¹⁶⁰ The reduced demand would in turn affect the amount of queen conch that fishers from CARICOM nations take. CARICOM has recognized that a ban would have affected their economy: “The CRFM has congratulated member states after a US government review of the status of the Queen Conch keeps the region’s conch fishery alive.”¹⁶¹

A ban on imports of the queen conch to the United States would have been beneficial to Caribbean—specifically, Bahamian—conch populations. As mentioned above, the queen conch’s late sexual maturity and tendency to mate in large numbers leaves the animal particularly vulnerable to overfishing. Reduced fishing efforts as a result of an ESA listing would grant the queen conch a much-needed reprieve from current, incessant fishing operations. With less conch taken per annum, queen conch would once again be able to mate in numbers that allow for sustainability of the species.

Though success would be unlikely, WildEarth Guardians could appeal the decision not to list. Section 706(2)(A) of the Administrative Procedure Act (“APA”) states that “the reviewing court shall hold unlawful and set aside agency action, findings, and conclusions found to be—arbitrary, capricious, an abuse of discretion, or otherwise not in

¹⁵⁷ 16 U.S.C. § 1538 (1988).

¹⁵⁸ See *infra* note 187.

¹⁵⁹ See 16 U.S.C. § 1538 (1988).

¹⁶⁰ U.S. Fish and Wildlife Serv. Int’l Affairs, *supra* note 42.

¹⁶¹ *USA Rejects Petition to List Queen Conch as Endangered Species*, CARICOM TODAY (Nov. 4, 2014, 4:31 PM), available at <http://today.caricom.org/2014/11/04/usa-rejects-petition-to-list-queen-conch-as-endangered-species/>

accordance with law. . . .”¹⁶² “The APA creates a cause of action for challenges to final agency decisions. . . .”¹⁶³ A court would most likely find that NMFS’ negative twelve-month finding regarding the queen conch is a final decision and can be challenged.

The reviewing court’s standard is narrow, and the court “‘is not empowered to substitute its judgment for that of the agency.’”¹⁶⁴ A court can only set aside an action “if the agency identified no ‘rational connection between the facts found and the choice made,’ if the ‘explanation for its decision [is] counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.’”¹⁶⁵ If an “agency considered the relevant factors and articulated an explanation establishing a rational connection between the facts found and the choice made, the court will not substitute its judgment for that of the agency”¹⁶⁶

Courts have found agencies to be arbitrary and capricious in refusing to list species as endangered or threatened. In *Defenders of Wildlife v. Babbitt*, “[t]he agency’s decision not to list the [Canada] Lynx made several critical factual findings that [were] directly contradicted by the undisputed facts in the Administrative Record.”¹⁶⁷ However, a similar outcome is unlikely with the NMFS twelve-month queen conch finding. Here, a court would likely find a rational connection because the NMFS finding considers the best available scientific information as required by 16 U.S.C. § 1533 and establishes a connection between the facts provided and its listing decision.¹⁶⁸

WildEarth Guardians or other conservation groups may repetition NMFS. Title 50 of the Code of Federal Regulations governs petitions submitted under the ESA.¹⁶⁹ “Any interested person may

¹⁶² 5 U.S.C. § 706(2)(A).

¹⁶³ *Cape Hatteras Access Pres. Alliance v. U.S. Dep’t of Interior*, 731 F. Supp. 2d 15, 21 (D.D.C. 2010) (citing 5 U.S.C. § 706(2)(A)).

¹⁶⁴ *Id.*

¹⁶⁵ *Id.* at 22.

¹⁶⁶ *Id.*

¹⁶⁷ *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 681 (D.D.C. 1997).

¹⁶⁸ See generally *Endangered and Threatened Wildlife and Plants: Notice of 12-Month Finding on a Petition to List the Queen Conch as Threatened or Endangered under the Endangered Species Act (ESA)*, 79 Fed. Reg. 65628.

¹⁶⁹ See 50 C.F.R. 424.14(a).

submit a written petition to the Secretary requesting that one of the actions described in § 424.10 be taken.”¹⁷⁰ The document “must clearly identify itself as a petition and be dated.”¹⁷¹ After ninety days of receiving a petition, “the Secretary shall make a finding as to whether the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted.”¹⁷² WildEarth Guardians’ petition sought to list the queen conch as threatened or endangered under the ESA and to designate critical habitat for the species in U.S. waters. New petitions may not have immediate success as NMFS just concluded a twelve-month negative finding for queen conch.

However, NMFS’ group of biologists and marine mollusk experts—known as Extinction Risk Analysis (“ERA”)—did acknowledge pending threats to conch populations in the recent finding. Under a section titled “Inadequacy of Existing Regulatory Mechanisms”, the NMFS finding stated “the ERA group ranked the existing conch fishery regulations employed by foreign nations to be ‘high risk’ threat, which indicates that this threat poses a danger of extinction for queen conch in the near future.”¹⁷³ With luck, future petitions will have greater success with listing the queen conch as endangered or threatened, granting the species the protection it needs.

C. *Commercial Conch Farms*

Conservation efforts can be balanced with the economic demand for queen conch. Chuck Hesse (Hesse), a former Navy officer and a marine biologist, presents a formidable case that queen conch can be successfully farmed.¹⁷⁴ The Caicos Conch Farm (“Farm”) began to take form around 1983 when Hesse proposed the idea of a commercial

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² 50 C.F.R. 424.14(b)(1).

¹⁷³ Endangered and Threatened Wildlife and Plants: Notice of 12-Month Finding on a Petition to List the Queen Conch as Threatened or Endangered under the Endangered Species Act (ESA), 79 Fed. Reg. 65628, 65638.

¹⁷⁴ Bill Belleville, *Roundup at the Conch Corral*, SUN-SENTINEL (Aug. 24, 1986), available at http://articles.sun-sentinel.com/1986-08-24/features/8602200261_1_conch-meat-conch-republic-conch-farm.

conch farm to a small group of investors; together, they were able to raise over one million dollars for the new venture.¹⁷⁵

In its humble beginnings, the Farm consisted of a geodesic-domed hatchery and a two-story, kiosk-shaped lab.¹⁷⁶ As the Farm developed, docks and more buildings were added.¹⁷⁷ The Farm has operated on the island of Providenciales, or Provo, since 1984.¹⁷⁸ Today, the Farm operates on ten acres of privately owned oceanfront property as well as sixty-five acres of sub-sea pasture leased from the Turks and Caicos Government.¹⁷⁹

Conch farming is complex and expensive, but Hesse believes that there is great economic opportunity in conch mariculture.¹⁸⁰ Pitching the benefits of conch farming, Hesse stated that “[c]onchs have no known diseases or parasites, are in short supply, are grass eaters, and are in great demand.”¹⁸¹ Further, conchs are higher in protein than most other seafood and are second to salmon in Omega-3 fatty acids.¹⁸²

Hesse attempted to set up a conch farm in the Bahamas with funding from the International Finance Corporation (“IFC”).¹⁸³ Regrettably, the bid fell through because the IFC only provides loan and equity financing for private sector projects in developing countries, and the Bahamas was considered too rich to qualify for funding.¹⁸⁴

Because the Farm’s focus is primarily research and development rather than commercial operation,¹⁸⁵ the Farm has a wealth of knowledge concerning conch mariculture. Additional conch sustainability efforts, or perhaps a new conch farm, could learn from

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

¹⁷⁸ *About the Conch Farm in Providenciales*, CAICOS CONCH FARM, <http://www.caicosconchfarm.net/about-caicos-conch-farm.html> (last visited Feb. 22, 2014).

¹⁷⁹ *Id.*

¹⁸⁰ Larry Smith, *The Prospects for Conch Farming*, BAHAMA PUNDIT (Sept. 27, 2005), available at http://www.bahamapundit.com/2005/09/the_prospects_f.html.

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

the Farm's vast experience. Hopefully, the Farm will continue to lead the development of conch farming for many years to come.

V. BAHAMIAN FISHING REGULATIONS

A. *Historical Perspective*

Despite occurring decades earlier, the fate of queen conch in Florida is prophetic to what will transpire in the Bahamas if more stringent standards are not adopted. Queen conchs were once found in abundance from the Florida Keys to Key Biscayne.¹⁸⁶ However, due to its popularity as a food source, the queen conch was commercially and recreationally overfished.¹⁸⁷ Former Florida House of Representative Member Joe Allen witnessed the transformation firsthand: "When I was a boy growing up in Key West, you could take out a boat and a glass-bottom bucket and in an afternoon, you'd get a boatful [of conch]. Now, you're lucky to find one."¹⁸⁸ Florida legislators acted in 1975, banning the commercial fishing of queen conch.¹⁸⁹ In 1985 and 1986, the ban was extended to include recreational fishing of queen conch.¹⁹⁰

As it stands today, a person may not fish for queen conch commercially or recreationally; this applies to people in Florida waters and federal waters aboard a vessel registered in Florida.¹⁹¹ The Florida Fish and Wildlife Conservation Commission manages and regulates the Florida conch fishery through Chapter 68B-16 of the Florida Administrative Code.¹⁹² Chapter 68B-16.001 designates the queen conch as a protected species, citing a need for extensive conservation action to protect it.¹⁹³ Further, Chapter 68B-16.004 states "[a] person may not harvest, kill, molest, harm or mutilate a queen conch within or without Florida Waters."¹⁹⁴

¹⁸⁶ See ROBERT GLAZER, QUEEN CONCH STOCK RESTORATION 1 (2001), available at http://myfwc.com/media/201238/conch_report_sept2001_0658.pdf.

¹⁸⁷ See *id.*

¹⁸⁸ Belleville, *supra* note 174.

¹⁸⁹ GLAZER, *supra* note 186, at 1.

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² Fla. Admin. Code Ann. r. 68B-16 (2014).

¹⁹³ Fla. Admin. Code Ann. r. 68B-16.001 (2013).

¹⁹⁴ Fla. Admin. Code Ann. r. 68B-16.0041 (2013).

The state of Florida strictly enforces conch fishing regulations against violators. As recently as October 2012, NBC Miami reported that two Miami residents were jailed for harvesting forty live queen conchs from the waters off Islamorada.¹⁹⁵ Florida does provide some leniency with regards to conch shells. Conch shells can be harvested as long a person takes an empty shell.¹⁹⁶ However, a person may not remove or kill the conch to obtain that empty shell.¹⁹⁷

B. General Fishing Regulations in the Bahamas

The Bahamas oversees its marine resources through the Fisheries Resources (Jurisdiction and Conservation) Act ("Fisheries Act").¹⁹⁸ The Fisheries Act seeks to conserve and manage Bahamian fishery resources by extending Bahamian jurisdiction over those resources.¹⁹⁹ Jurisdiction is established through the creation of an "exclusive fishery zone of The Bahamas."²⁰⁰ The exclusive fishery zone grants the Bahamas the "sovereign rights and exclusive authority" over its fishery resources.²⁰¹ With this authority, the Bahamas may explore, exploit, conserve, and manage any fishery resource of the seabed, subsoil, and superjacent waters.²⁰²

The sovereign right of the Bahamas over its waters prohibits any foreign fishing within the exclusive fishery zone.²⁰³ The Bahamas provides many exceptions to its sovereign right;²⁰⁴ in most instances, foreign vessels may fish in Bahamian waters if the vessel's country of

¹⁹⁵ *Two Arrested for Illegally Harvesting Queen Conchs: Deputies*, NBC MIAMI (Oct. 22, 2012), available at <http://www.nbcmiami.com/news/local/Two-Arrested-For-Illegally-Harvesting-Queen-Conchs-Deputies-175152041.html>.

¹⁹⁶ Fla. Admin. Code Ann. r. 68B-16.0042 (2013).

¹⁹⁷ *Id.*

¹⁹⁸ Fisheries Resources (Jurisdiction and Conservation) Act, ch. 244, 5 STAT. L. BHS. 3 (1977) (rev. ed. 2000), available at http://laws.bahamas.gov.bs/cms/images/LEGISLATION/PRINCIPAL/1977/1977-0013/FisheriesResourcesJurisdictionandConservationAct_1.pdf (The Inter-American Citation guide has been used to cite to this source).

¹⁹⁹ *See generally id.*

²⁰⁰ *Id.* § 4.

²⁰¹ *Id.* § 6.

²⁰² *Id.* § 6.

²⁰³ *Id.* § 7.

²⁰⁴ *Id.* § 7.

origin has entered into a treaty with the Bahamas, and the country is granted a valid license by the Prime Minister of the Bahamas²⁰⁵ ("Prime Minister").²⁰⁶ The Bahamian government regulates foreign fishing by requiring that any foreign state submit an application for a fishing license to the Prime Minister before the first day of January.²⁰⁷ The foreign state's application must accurately represent each fishing vessel wishing to fish in the exclusive fishery zone for the year.²⁰⁸

The Governor-General of The Bahamas²⁰⁹ ("Governor-General") determines the optimum yield of the exclusive fishery zone.²¹⁰ Subsequently, the Governor-General, through proper conservation and management measures, must determine how much of a fishery resource can be taken to produce a maximum sustainable yield.²¹¹ The Governor-General considers all relevant environment and economic factors in making this decision.²¹²

The Prime Minister may designate any area of the waters within the exclusive fishery zone to be a protected area.²¹³ The power bestowed upon the Prime Minister enables him to act as a guardian of Bahamian marine resources.²¹⁴ Fishing within a designated protected area is strictly forbidden.²¹⁵ Any person who takes a fishery resource from a protected area is guilty of an offence and subject to a fine of

²⁰⁵ *Office of the Prime Minister*, THE GOVERNMENT OF THE BAHAMAS, available at <http://tinyurl.com/n7714we>. The Prime Minister of the Bahamas, who is the head of the government of the Bahamas, also serves as the Minister of Finance and a Member of Parliament for the island of New Providence.

²⁰⁶ Fisheries Resources (Jurisdiction and Conservation) Act, ch. 244, § 7, 5 STAT. L. BHS. 6 (The Inter-American Citation guide has been used to cite to this source).

²⁰⁷ *Id.* § 9.

²⁰⁸ *Id.* § 9.

²⁰⁹ Although the Prime Minister is the head of the Bahamian government, Queen Elizabeth II is the sovereign of the Bahamas. BHS. CONST. ch. 6, §§ 71–72, available at <http://tinyurl.com/lopc4ac>. As Her Majesty cannot preside over the entirety of the Commonwealth, the Governor-General acts in her stead as Her Majesty's representative in the Bahamas. BHS. CONST. ch. 4, § 32, available at <http://tinyurl.com/nvakw6z>.

²¹⁰ Fisheries Resources (Jurisdiction and Conservation) Act, ch. 244, § 10, 5 STAT. L. BHS. 9 (The Inter-American Citation guide has been used to cite to this source).

²¹¹ *Id.* § 10.

²¹² *Id.* § 10.

²¹³ *Id.* § 13.

²¹⁴ *See id.* § 13.

²¹⁵ *Id.* § 13.

seven hundred and fifty dollars or imprisonment up to six months or both.²¹⁶ At present, the Prime Minister has issued two declarations of protected areas: the South Berry Islands Marine Reserve²¹⁷ and the Exuma (Jewfish Cay) Marine Reserve.²¹⁸ The declarations provide vessels with the approximate latitudinal and longitudinal boundaries of the protected areas.²¹⁹

Section 19 of the Fisheries Act grants the Prime Minister the power to make regulations.²²⁰ The regulations are created for a multitude of purposes concerning the conservation and management of fishery resources within the exclusive fishery zone.²²¹ The regulations enacted by the Prime Minister govern the conservation of the queen conch along with many other species.²²²

C. *Queen Conch Fishery Regulations in the Bahamas*

The Fisheries Resources (Jurisdiction and Conservation) Regulations ("Fisheries Regulations"), enacted by the Prime Minister, specifies the individual fisheries to be protected by Bahamian rules and regulations.²²³ The Fisheries Regulations specifically provide for the

²¹⁶ *Id.* § 13.

²¹⁷ Fisheries Resources (Jurisdiction and Conservation) (Declaration of Protected Areas) (South Berry Islands Marine Reserve) Order, ch. 244, § 2, 1 STAT. L. BHS. SUB. LEGIS. 50 (2009) (rev. ed. ***) (The Inter-American Citation guide has been used to cite to this source).

²¹⁸ Fisheries Resources (Jurisdiction and Conservation) (Declaration of Protected Areas) (The Exuma (Jewfish Cay) Marine Reserve) Order, ch. 244, § 2, 1 STAT. L. BHS. SUB. LEGIS. 49 (2009) (rev. ed. ***) (The Inter-American Citation guide has been used to cite to this source).

²¹⁹ See 1 STAT. L. BHS. SUB. LEGIS. 50; see also 1 STAT. L. BHS. SUB. LEGIS. 49 (THE INTER-AMERICAN CITATION GUIDE HAS BEEN USED TO CITE TO THIS SOURCE).

²²⁰ Fisheries Resources (Jurisdiction and Conservation) Act, ch. 244, § 19, 5 STAT. L. BHS. 17–20 (The Inter-American Citation guide has been used to cite to this source).

²²¹ *Id.* § 19.

²²² *Id.* § 19.

²²³ Fisheries Resources (Jurisdiction and Conservation) Regulations, ch. 244, 4 STAT. L. BHS. SUB. LEGIS. 3 (1986) (rev. ed. 2000), available at http://laws.bahamas.gov.bs/cms/images/LEGISLATION/SUBORDINATE/1986/1986-0010/FisheriesResourcesJurisdictionandConservationRegulations_1.pdf (The Inter-American Citation guide has been used to cite to this source.)

following species: crawfish, conch, turtles, scale fish, stone crab, marine mammals, and sponges.²²⁴

Before addressing individual species, the Fisheries Regulations designate general restrictions that apply to all fishers.²²⁵ Fishers may not use any prohibited apparatus to fish.²²⁶ This restriction prohibits the use of scuba gear, or any other form of underwater breathing apparatus, as well as spear guns.²²⁷ Instead, the fisher is required to use a snorkel and a Hawaiian sling when fishing.²²⁸

The Fisheries Regulations place basic restrictions on conch fishing. Part III, titled Conch, is represented as follows:

Possession of undeveloped conch prohibited.

27. (1) No person shall take, have in his possession or sell any conch the shell of which does not possess a well formed flaring lip.
(2) No person shall sell any conch shell which does not possess a well formed flaring lip.

Export of conch, by-product or shell.

28. (1) No person shall for commercial purposes export and conch, by-product of conch or any whole conch shell unless —
(a) he holds a licence in that behalf granted by the Minister under regulation 66;
(b) the conch or by product of conch is submitted for inspection to a fisheries inspector at the time of exportation; and
(c) the export duty specified in the Second Schedule is paid.
(2) Nothing in paragraph (1) shall apply to any conch in a quantity not exceeding ten pounds in weight and

²²⁴ See *id.* §§ 27–45.

²²⁵ *Id.* § 3–15.

²²⁶ *Id.* § 10.

²²⁷ *Id.* § 2.

²²⁸ See *id.* § 2.

carried in the personal baggage of a person leaving
The Bahamas.²²⁹

The Fisheries Regulations also place restrictions on the amount of queen conch that can be harvested from recreational vessels.²³⁰ Sportfishing regulations state that “no vessel shall have” more than six queen conch “on board at any time.”²³¹

Florida works cooperatively with the Bahamas to enforce Bahamian fishing regulations. Targeting private recreational vessels traveling to the Bahamas, the Florida Fish and Wildlife Conservation Commission provides a summary of Bahamian regulations on its website.²³² While Bahamian law permits a private recreational vessel to be in possession of six queen conch, Florida will strictly enforce its ban on the creature.²³³ Florida vessels must obtain proper Bahamian fishing and/or cruising permits when lawfully entering and exiting the Bahamas.²³⁴ Vessel operators that do not comply by bringing Bahamian product to Florida are considered to be in violation of Bahamian law.²³⁵ Additional penalties may include Lacey Act violations and referral to the Bahamian authorities.²³⁶

D. Inadequacies of Bahamian Queen Conch Regulations

Subsection 27 of Part III does not provide enough protection to the Bahamian conch fisheries. Despite the critical importance of the queen conch fishery to the Bahamas, its sustainability is governed by a mere half page of regulations.²³⁷ Subsection 27 bases its restrictions on

²²⁹ *Id.* §§ 27–28.

²³⁰ *Id.* § 48.

²³¹ *Id.*

²³² *Summary of Regulations for Bringing Back Marine Species from the Bahamas by Vessel*, FLA. FISH AND WILDLIFE CONSERVATION COMM’N, available at <http://myfwc.com/fishing/saltwater/recreational/bahamas/> (last visited Nov. 21, 2013).

²³³ *Id.* (“[T]here is no exception which allows private recreational vessels to bring queen conch back to Florida from the Bahamas (68B-16.003(1)), even if lawfully purchased there.”).

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ See 4 STAT. L. BHS. SUB. LEGIS. 10 (the Inter-American Citation guide has been used to cite to this source).

the possession of undeveloped conch on a sole factor: whether the animal has a "well formed [sic] flaring lip." While certainly taking steps towards a solution, conch conservationists have suggested that the Bahamas' constraints based on the well-formed flaring lip of a conch's shell is not enough to protect it.²³⁸

A conch with a well-formed flaring lip indicates that the conch is at least three and a half years of age.²³⁹ Yet, this fishing criterion may not provide the necessary protection for reproduction that the species requires.²⁴⁰ While some queen conch may become mature with thin shell lips, many do not reach sexual maturity until after their shell forms a flared lip.²⁴¹ Because a flared shell lip does not guarantee sexual maturity, experts suggest that shell thickness should be the criterion for the legal harvest of queen conch.²⁴² This suggestion is supplanted by nearly two decades of research and knowledge.²⁴³

Experts believe that their recommendation for new fishing regulations based on shell thickness will be unpopular with nations using the well-formed flaring lip criterion.²⁴⁴ Naming the Bahamas specifically, experts cite two primary reasons why shell thickness will be unpopular.²⁴⁵ First, a minimum lip thickness will decrease the number of queen conch available for legal harvest.²⁴⁶ Second, a minimum lip thickness requirement will require landing queen conch in the shell.²⁴⁷ Typically, fishers excise the conch from its shell in order to carry more on board.²⁴⁸ Fishing vessels will now need to bring the

²³⁸ See generally Allan W. Stoner, Karl W. Mueller, Nancy J. Brown-Peterson, Martha H. Davis & Catherine J. Booker, *Maturation and Age in Queen Conch (Strombus Gigas): Urgent Need for Changes in Harvest Criteria*, FISHERIES RESEARCH, 2012, at 82, available at <http://www.communityconch.org/our-research/>.

²³⁹ *Id.* at 77.

²⁴⁰ *Id.*

²⁴¹ *Id.*

²⁴² *Id.* at 82.

²⁴³ *Id.*

²⁴⁴ See generally Allan W. Stoner, Karl W. Mueller, Nancy J. Brown-Peterson, Martha H. Davis & Catherine J. Booker, *Maturation and Age in Queen Conch (Strombus Gigas): Urgent Need for Changes in Harvest Criteria*, FISHERIES RESEARCH, 2012, at 82, available at <http://www.communityconch.org/our-research/>.

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ See *id.*

entire conch—the shell and the creature—to shore for measurement, fewer queen conch can be carried on board, and fishers will need to impose higher prices on buyers to offset costs.²⁴⁹

Some countries and territories already have implemented a shell thickness requirement such as Cuba, Venezuela, Colombia, Puerto Rico, and the U.S. Virgin Islands.²⁵⁰ However, in many cases, the damage is done. Many nations have depleted their conch fishery to the extent that it is no longer economically viable.²⁵¹ The harvest of immature queen conch by Caribbean nations is a major contributing factor to the rapid decline of conch fisheries.²⁵²

Subsection 28 details the prerequisites needed to export conch, its shell, or any by-product of the conch.²⁵³ Generally, the subsection requires that commercial fishers do the following: have a valid fishing license, have their catch evaluated by a fishing inspector, and pay all export duties.²⁵⁴ The subsection regulates commercial fishing to an extent by requiring a license from the Prime Minister.²⁵⁵ However, after a comparison of Part III – Conch with Part II – Crawfish, Subsection 28 is severely lacking.²⁵⁶

Unlike successful conservation efforts with turtle, grouper, and shark fisheries, the Bahamian National Trust has stated that conch has been difficult to conserve due to its broad appeal as a food source.²⁵⁷ Whereas the spiny lobster – referred to in Bahamian statutes as crawfish – is regulated through fishing seasons, the queen conch is in open season year round. Bahamian law provides that “there shall be an annual closed season for crawfish extending from 1st April to 31st July (inclusive).”²⁵⁸ The statute further elaborates that fishing for live or

²⁴⁹ *Id.*

²⁵⁰ *See id.*

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ *See* 4 STAT. L. BHS. SUB. LEGIS. 10 (the Inter-American Citation guide has been used to cite to this source).

²⁵⁴ *Id.* §§ 27–28.

²⁵⁵ *Id.*

²⁵⁶ *See id.* §§ 16–28.

²⁵⁷ *See* Hartnell, *supra* note 56.

²⁵⁸ *See* 4 STAT. L. BHS. SUB. LEGIS. 7 (the Inter-American Citation guide has been used to cite to this source).

fresh spiny lobster during the closed season is strictly prohibited, unless the fisher is granted a permit.²⁵⁹

The intricate details of Bahamian spiny lobster regulations provide a stark contrast to the simplicity of queen conch regulations. Spiny lobster regulations include the following provisions: a closed season where fishing is prohibited, a minimum size requirement, a vessel with a measuring gauge, a required permit for lobster trapping, a prohibition of the harvest of egg-bearing spiny lobster, and an inspection of spiny lobster for sale.²⁶⁰ These regulations, as opposed to the queen conch regulations, allow for greater sustainability of principle fisheries.

There are instances in which Bahamian regulations for the queen conch succeed. Without the designation of prohibited devices, fishers would be able to pick conch with reckless abandon. As the conch is a slow-moving, sedentary seabed dweller, the requirement that fishers use snorkels give the creature a fighting chance. Because queen conch aggregate in large numbers during their spawning season, they would be particularly vulnerable to fishers using dive equipment.²⁶¹ Scuba gear would enable fishers to stay on the seafloor for long periods of time, harvesting as many conchs as they can carry. The snorkel requirement adds much needed difficulty to the profession, barring entry to all but those who can hold their breath for a lengthy duration.

E. Recommendations to Bahamian Statutory Law

At present, Bahamian statutory law does not adequately protect its queen conch fishery. The current and sole measurement criterion, "a well formed [sic] flaring lip," has been shown by scientific studies to be unsatisfactory towards species preservation.²⁶² By no means is the well-formed flaring lip a bad criterion; rather, there are supplementary measurement techniques that should work in conjunction with it.²⁶³ Statutory additions to Subsection 27 based on improved management measures will grant the queen conch much needed safeguards.

²⁵⁹ *Id.* § 17.

²⁶⁰ *Id.* §§ 16–26.

²⁶¹ *See* THEILE, *supra* note 3, at 15.

²⁶² *See id.* at 48.

²⁶³ *See id.*

First, shell thickness of the well-formed flaring lip is a well-document measurement technique that provides increased assurance to the fisher that the conch is sexually mature.²⁶⁴ In general, the conch is sexually mature when its flared lip reaches a thickness of approximately five millimeters.²⁶⁵ However, studies have still shown that the animal may still be sexually immature at that shell thickness.²⁶⁶ Puerto Rico has remedied this by requiring a shell thickness of 9.5 millimeters as to assure the harvest of sexually mature animals.²⁶⁷ Bahamian law should, at a minimum, impose a shell thickness requirement of at least 5 millimeters to its existing prerequisite of a well-formed flaring lip.

Second, a closed season would greatly aid the queen conch fishery. Currently, the queen conch fishery is open year-round in the Bahamas. The Bahamas is the only West Indian country without a closed season on conch.²⁶⁸ A perpetual open season does not give the fishery adequate time for sexual reproduction.²⁶⁹ As queen conch tend to migrate to shallow waters and cluster in large groups, the spawning season leaves the queen conch particularly vulnerable to fishermen.²⁷⁰ Although the spawning season generally begins in July and lasts through September, the season may begin as early as April and end in October.²⁷¹ The Bahamas has recognized the importance of fishing seasons; spiny lobster is given a four-month closed season, beginning on April 1st and ending on July 31st. The queen conch should be granted the same protection. Bahamian law should implement a closed season for the queen conch during the spawning season.

Third, protected areas bolster the local population of queen conch, promoting the longevity of the species. With specialized research, key habitats and spawning grounds may be identified that require additional safeguards, free from the grasp of fishermen.

²⁶⁴ *See id.*

²⁶⁵ *Id.*

²⁶⁶ *Id.*

²⁶⁷ *Id.* at 48.

²⁶⁸ Larry Smith, *Tough Call: Bahamian Conch in Danger*, TRIBUNE 242, Mar. 20, 2013, available at <http://www.tribune242.com/news/2013/mar/20/tough-call-bahamian-conch-danger/>.

²⁶⁹ *See* THEILE, *supra* note 3, at 50.

²⁷⁰ *Id.* at 15.

²⁷¹ *See id.* at 16.

Currently, the Bahamas has two no-take fishery zones. The Prime Minister has the ability to designate additional protected areas. The Bahamas should employ the use of more protected areas to guarantee the safety of certain conch populations.

F. The Human Element

1. The Effect on the Bahamian People

In a vacuum, statutory changes such as those recommended could be more easily adopted. Measurement criteria that help sustain the preservation of an entire marine species could be added to Bahamian statutory law. However, there is no vacuum, and the implementation of such measurements would have serious consequences for the Bahamian people.

Queen conch is the Bahamas' second most principal fishery. With a Bahamian population of near 320,000²⁷² and about 9,300 active fishers, fishers comprise approximately three percent of the population. Three percent is a sizable portion of the population and should not be discounted. Statutory measures impacting the amount of queen conch that queen conch fishers may land will directly affect a Bahamian fisher's livelihood and their ability to feed their family. The Bahamian Minister of Agriculture and Marine Resources, V. Alfred Gray, has stated that conch harvesting for local consumption brings in as much as six million dollars annually into the Bahamian fisheries sector.²⁷³

Looming in the background is an oft-forgotten repercussion of increased conservation efforts. As detailed above, a successful petition to list the queen conch under the Endangered Species Act would cut all queen conch trade between the Bahamas and the United States. With the United States importing eighty percent of all international conch landings, a queen conch trade embargo with Caribbean nations would be devastating.²⁷⁴ Fortunately, queen conch exports comprise only

²⁷² Cent. Intelligence Agency, *The Bahamas*, THE WORLD FACTBOOK, <https://www.cia.gov/library/publications/the-world-factbook/geos/bf.html> (last visited Feb. 16, 2014); see Gittens & Braynen, *supra* note 43, at 1.

²⁷³ Natario McKenzie, 'Catastrophe' if \$3.3m in Conch Exports Banned, TRIBUNE 242, Oct. 25, 2013, available at <http://www.tribune242.com/news/2013/oct/25/catastrophe-if-33m-conch-exports-banned/>.

²⁷⁴ *Id.*

about one-third of total Bahamian conch landings. Nevertheless, the Bahamas would certainly feel the economic impact of a no-trade situation with the United States, with current Bahamian exports of queen conch at 600,000 pounds with an estimated value of 3.3 million dollars annually.²⁷⁵

Gray believes that listing the queen conch under the Endangered Species Act would be “catastrophic” for the Bahamas, calling on CARICOM to do everything in its power to prevent the queen conch from being listed.²⁷⁶ As a small chain of islands, the Bahamas has limited capital and resources.²⁷⁷ Subsequently, the Bahamas has limited industries.²⁷⁸ The agriculture and fishery industry alone makes up five percent of the labor force.²⁷⁹ Removing queen conch from trade would take away a significant source of revenue and damage the labor force. In turn, the tourism industry, which has fifty percent of the Bahamian labor force, would be harmed by a shortage of conch, a staple food for Bahamian resorts and restaurants.

Despite the hardship that would be endured by Bahamians, stricter fishing regulations of the queen conch fishery should be favored over what is currently employed. The more lenient regulations are understandable. The Bahamas depends on the queen conch fishery to stimulate the economy. Simultaneously, queen conch need stricter fishing regulations to stimulate their populations. But ultimately, if stricter regulations are not imposed, there will be no queen conch to regulate. Queen conch populations will diminish in the Bahamas, and the Bahamian queen conch fishery industry will collapse.

2. The Collapse of the Canadian Newfoundland Cod Fishery

Nothing is more predictive of a queen conch collapse than the collapse of the Canadian Newfoundland cod fishery. Prior to 1992, the Newfoundland Grand Banks had a rich history as the world’s most productive fishing grounds, providing plentiful Atlantic cod for local

²⁷⁵ *Id.*

²⁷⁶ *Id.*

²⁷⁷ See Cent. Intelligence Agency, *supra* note 272.

²⁷⁸ McKenzie, *supra* note 273.

²⁷⁹ See Cent. Intelligence Agency, *supra* note 272.

small-scale fishing and feeding millions of harp seals.²⁸⁰ However, the 1950s and 1960s brought radical changes.²⁸¹ Through technological advances, fishing trawlers became commonplace, overpowering small fishing boats and taking an unprecedented amount of cod;²⁸² trawlers were able to harvest 200 tons of cod in one hour, which is almost twice the amount a sixteenth-century ship would catch in an entire season.²⁸³

Fishing vessels were stronger, allowing for ships to work on the Grand Banks for months at a time.²⁸⁴ Compounding the problem, regulatory measures relating to the cod fishery were based on economic factors rather than ecological ones.²⁸⁵ With inflated estimates about the cod population, cod fishers were taking an unsustainable amount of fish for harvest.²⁸⁶ Cod harvests peaked at 800,000 tons in 1968.²⁸⁷

In subsequent years, cod populations began to dwindle with the annual catch falling by more than sixty percent in 1975.²⁸⁸ Rather than creating stricter regulations and reducing fishing zones to combat decreased catches, Canada extended its fishing limit for foreign vessels from twelve miles off the coast to two-hundred miles in 1977.²⁸⁹ In the 1980s, additional measures were taken; trawlers employed the use of sonar and satellite technology to find remaining caches of cod.²⁹⁰ While this resulted in a short-term success – cod catches were stable – there were red flags about the future of the fishery.

Despite warnings from traditional inshore fishers and the scientific community, Canadian government members refused to take action in fear of the political repercussions.²⁹¹ Inevitably, the cod catch

²⁸⁰ *The Collapse of the Canadian Newfoundland Cod Fishery*, GREENPEACE (May 8, 2009), available at <http://www.greenpeace.org/international/en/campaigns/oceans/seafood/understanding-the-problem/overfishing-history/cod-fishery-canadian/>.

²⁸¹ *See id.*

²⁸² *See id.*

²⁸³ *Id.*

²⁸⁴ Jenny Higgins, *Cod Moratorium*, NEWFOUNDLAND AND LABRADOR HERITAGE (2009), <http://www.heritage.nf.ca/society/moratorium.html>.

²⁸⁵ *Id.*

²⁸⁶ *Id.*

²⁸⁷ GREENPEACE, *supra* note 280.

²⁸⁸ *Id.*

²⁸⁹ Higgins, *supra* note 284.

²⁹⁰ GREENPEACE, *supra* note 280.

²⁹¹ *See id.*

reached its lowest point in 1992.²⁹² The Canadian government shut the fishing industry down indefinitely in July 1992 by enacting a moratorium on the northwest Atlantic Cod fishery.²⁹³ The result was calamitous; 40,000 people across five Canadian provinces lost their jobs.²⁹⁴ A several billion-dollar relief package was needed to support the coastal community.²⁹⁵

Today, the moratorium, considered to be the single-largest mass layoff in Canadian history, is still in effect.²⁹⁶ Fortunately, cod populations in the Grand Banks region have grown sixty nine percent since 2007.²⁹⁷ However, there is a long road to recovery as current cod stocks are ten percent of what the stocks were in the 1960s.²⁹⁸ The economic repercussions of the moratorium are still felt by the fishers of the region. Despite finding work in the less lucrative shellfish industry, fishers have had increased hardship with substantially lower incomes and dependence on government aid.²⁹⁹

CONCLUSION

Bahamian statutory measures are not the sole means of protecting queen conch populations. While in many respects the conservation efforts detailed in Part IV can aid in sustainability better than Bahamian statutory measures, the primary question is whether the conservation efforts are feasible. A ban on trade would have lasting repercussions on the people of Caribbean nations, and the enactment of such conservation efforts may take years to process. For these reasons, this article contends that amendments to Bahamian statutory law

²⁹² *Id.*

²⁹³ Higgins, *supra* note 284.

²⁹⁴ GREENPEACE, *supra* note 280.

²⁹⁵ *Id.*

²⁹⁶ See Michael MacDonald, *Cod Fishing in Newfoundland: After 20 Year Moratorium, Signs of Recovery*, HUFFINGTON POST (Aug. 29, 2012), http://www.huffingtonpost.ca/2012/06/30/cod-newfoundland-fishing-recovery_n_1639540.html.

²⁹⁷ *East Coast Cod Found to be Recovering*, CBC NEWS (Jul. 27, 2011, 10:37 PM), available at <http://www.cbc.ca/news/technology/east-coast-cod-found-to-be-recovering-1.989343?ref=rss>.

²⁹⁸ *Id.*

²⁹⁹ See Jenny Higgins, *Economic Impacts of the Cod Moratorium*, NEWFOUNDLAND AND LABRADOR HERITAGE (2008), available at http://www.heritage.nf.ca/society/moratorium_impacts.html.

would result in a more expedited process than the conservation efforts listed above.

There is little doubt that if the Bahamas prioritizes short-term objectives such as those pursued by the Canadian government rather than long-term objectives focused on the sustainability of the queen conch, the aftermath will be quite similar to the Canadian moratorium. Politicians are reasonable in fearing that increased regulatory measures will hurt the Bahamian economy; yet, the alternative is much worse. No queen conch means no money and no jobs. Statutory regulations will help towards avoiding the worst case scenario and allowing for a sustainable queen conch industry in the Bahamas.

VII. APPENDIX FOR ABBREVIATIONS

- 1982 United Nations Convention on the Law of the Sea ("U.N. Convention")
- Caicos Conch Farm ("Farm")
- Caribbean Community and Common Market ("CARICOM")
- Caribbean Free Trade Association ("CARIFTA")
- Caribbean Regional Fisheries Mechanism ("CRFM")
- CARICOM Single Market and Economy ("CSME")
- Chuck Hesse ("Hesse")
- Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES" or "Convention")
- Endangered Species Act ("ESA")
- Fisheries Resources (Jurisdiction and Conservation) Act ("Fisheries Act")
- Governor-General of The Bahamas ("Governor-General")
- National Marine Fisheries Service ("NMFS")
- National Oceanic and Atmospheric Administration ("NOAA")
- Prime Minister of the Bahamas ("Prime Minister")
- Secretary of Commerce or Secretary of the Interior ("Secretary")
- U.S. Fish and Wildlife Service ("FWS")