

CRFM response to the petition made to the US Department of Commerce to list the Queen Conch, *Strombus gigas*, as “threatened” or “endangered” under the Endangered Species Act

[Docket No. 1206013478-2342-02; 0648-XB140]

Submitted by: Caribbean Regional Fisheries Mechanism (CRFM), Princess Margaret Drive, Belize City, Belize.

Contact Person: Milton Haughton, Executive Director
Email: Haughton@caricom-fisheries.com; crfm@btl.net
Tel: 501-223-4443

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Petition

On February 27, 2012, National Marine Fisheries Service (NMFS) and National Oceanic and Atmospheric Administration (NOAA) of the US Department of Commerce published in its Federal Register Volume 77 Number 166 dated 27 August 2012 a 90-Day Finding on a Petition by Wild Earth Guardians to list the Queen conch (*Strombus gigas*) as threatened or endangered under the Endangered Species Act (ESA) of the United States of America. The petition states that the species is declining and threatened with extinction due to habitat degradation, specifically, water pollution and destruction of sea grass nursery habitat, overutilization resulting from commercial harvest, inadequacy of existing regulatory mechanisms, and other natural and manmade factors such as biological vulnerability, human population growth, and other synergistic effects.

Who is responding to the petition?

The Caribbean Regional Fisheries Mechanism (CRFM) Secretariat is officially responding on behalf of its Member States to NOAA’s request for scientific and commercial information regarding this species. The CRFM, a regional fisheries body, was officially inaugurated on 27 March 2003, in Belize City, Belize, where it is headquartered, following the signing of the “Agreement Establishing the CRFM” on February 4, 2002. It is an inter-governmental organization with its mission being to “To promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region”. The CRFM consist of three bodies – the Ministerial Council; the Caribbean Fisheries Forum; and the CRFM Secretariat. Its members are Anguilla, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago and the Turks and Caicos Islands. In 2003-4, CRFM established a number of resource working groups, including a Conch and Lobster Working Group. These working groups have met annually to analyze available scientific data, review stock status, and formulate conservation and management recommendations for the species in question. The meeting reports with findings and recommendations are usually published on the CRFM website (www.caricom-fisheries.com) and are usually available to the public for download within 3-4 months after the annual meetings.

Reasons for CRFM's concern

A review of the petition submitted by WildEarth Guardians to NOAA shows that it contains broad statements on overexploitation of the Caribbean Queen conch, *Strombus gigas*, throughout its habitat range. A thorough review of the petition shows that most of the information presented in the petition is outdated and does not reflect the true current status of the Queen Conch fisheries in CRFM Member States. The recommendations made as a result of the review process carried out by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on the status of international trade of Queen Conch during the 1990s and 2003, and the subsequent actions taken by CRFM Member States to improve conservation and management, and ensure the sustainability of the Queen conch fisheries were not considered in the petitioner's information submitted to NOAA. In fact, the petitioner made no effort to obtain current information on the status of the Queen Conch fisheries in CRFM Member States before submitting its petition to NOAA. For example, the CRFM website (www.caricom-fisheries.com) contains scientific meeting reports for 2006, 2007, 2008, 2009, 2010, and 2012, which contain scientific analyses and resource management information on the queen conch, that could easily have been obtained by the petitioner, WildEarth Guardians.

The research work, public awareness campaigns, and conservation and management strategies and measures implemented by the CRFM Member States to comply with the CITES 2003 recommendations, the Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization (FAO) of the United Nations (UN) and the International Queen Conch Initiative of the Caribbean Fishery Management Council, were not considered in the petition.

CFRM Member States firmly oppose the petition made to NOAA to list the Queen conch as an endangered or threatened species on the ground that the petitioner's information is unreliable and obsolete. Furthermore, CRFM States have expressed serious concern that if the petition succeeded, it would cause significant social and economic hardship on thousands of Caribbean fishermen and their families, and undermine peace and stability of certain coastal communities that rely on the resource, because it will effectively take away the livelihoods of these people, that is, if queen conch cannot be exported to the US market.

What is NOAA being asked to do?

CFRM is asking NOAA to: (i) seriously consider updated information on the status of the Queen conch in the Caribbean region being presented in this response, in its evaluation of the petitioner's request to list the Queen conch as endangered or threatened; (ii) note that the petitioner has failed to make such enquiries as a reasonable person making such a submission should have done to gather relevant information on the Queen conch; and (iii) note also that the petitioner has failed to take into account several relevant recent studies and reports on the conservation status and management of the queen conch in the Caribbean region. For these reasons NOAA is asked to reject the proposal submitted by the petitioner and find that the available evidence does not support the claim that the queen conch (*Strombus gigas*) is a threatened or endangered species within the meaning of ESA Subsections 3(6) and 3(20).

Status and management of the Queen Conch in CRFM States, with emphasis on the 4 major fishing States of Belize, Jamaica, The Bahamas, and The Turks and Caicos Islands

The Queen Conch, *Strombus gigas*, (Linnaeus, 1758) is the second most important fishery in the Caribbean region. The conch fishery is generally small-scale and artisanal in nature in almost all CRFM Member States, except Jamaica which has an industrial conch fishery. Fishing for Queen Conch is

primarily done by free diving in the shallow waters (1-18 m). However, SCUBA gear is used where the fishing areas are naturally deeper, such as the Pedro Bank in Jamaica and in the waters of Antigua and Barbuda. Conch meat exports from countries in the Caribbean region (12 countries only) amounted to approximately 14,000 tons and contribute around US\$185 million in earnings to the region.

In the last 50 years, conch landings have increased substantially primarily because of its demand in international markets. Conch is commercially exploited in at least 26 countries throughout the region but only about six countries fish commercially for the export market. It is estimated that 5% – 15% of total conch meat landings is consumed locally in the region.

In CRFM countries such as Belize, the deep-water adult spawning conch populations remain protected because fishing is done in shallow water by free diving only. However, in other countries where the fishing grounds are deeper, such as Jamaica and Antigua and Barbuda, the use of SCUBA gear for commercial fishing is allowed. The fishing fleets of the majority of CRFM States are composed mainly of small fiberglass skiffs (6 – 8.5m) and small wooden sailing sloops (8 - 12 m) usually equipped with outboard motors (25-200 Hp). Jamaica is the only country that has industrial fishing operations that employ large industrial fishing vessels (25 -30 m LOA) that remain at sea for a few weeks, and this is to facilitate travel to and from the primary fishing grounds on the Pedro Bank.

The most important CRFM conch producing countries are Belize, Jamaica, The Bahamas, Turks and Caicos, and Antigua and Barbuda. Other CRFM countries such as Haiti, St. Vincent and the Grenadines, Anguilla, St. Kitts and Nevis, St. Lucia, and Grenada together produced less than 500 tons in 2010. Among these countries, the situation of Haiti is unique, and it should be noted that Haiti does not trade internationally in queen conch due to CITES regulations. As noted earlier, the conch fishery in the majority of CRFM Member States are small-scale, artisanal in nature. In the case of those States that have considerable queen conch resources, Turks and Caicos, The Bahamas, Jamaica, and Belize, conch is harvested for the export market and or for domestic consumption. For instance, Belize exports most of its conch meat to the USA, while Bahamas consumes locally a large percentage of its catches. Jamaica exports nearly all the catch of conch meat to Martinique, Guadeloupe and mainland Europe. Conch exports from CRFM Member States range from 66% to 95% of total catch landings and the majority of states export conch meat to the United States. The remaining percentage of conch landings is consumed locally in households and tourism sector (national reports submitted to WECAFC queen conch Working Group Meeting of October 2012).

Taking this into account, and in response to CITES-driven concerns and initiatives since the 1990s, several CRFM Member States, and especially the major CRFM conch fishing States with the most extensive fishing grounds (Belize, Jamaica, The Bahamas, and the Turks and Caicos islands) have developed conservation and management strategies, and implemented several conch fishery regulations to ensure conservation, sustainable use and sustainable trade of the Queen conch. The specific regulations vary with each country's best understanding of its own situation and include: minimum shell lengths and minimum meat weights, closed fishing seasons, closed areas (reserves), quota systems and restrictions on the use of SCUBA equipment for commercial conch fishing. International trade in queen conch is kept under review by CITES, and this tool is considered to be effective in controlling excessive and illegal fishing practices.

In the case of Jamaica, the conch fishery has been managed by a well-defined conch quota system since 2000, and this is informed by periodic visual surveys, that have been supported by the industry as well. A quota system is also used by Belize that is again informed by regular visual surveys. Fishery independent surveys were done in Belize in 1996, 2003, 2004, 2006, 2008, 2010 and 2012 to monitor stock distribution and abundance and set the TAC. The Turks and Caicos Islands apply an annual quota system, based on regularly repeated conventional assessment analysis using catch and effort data. In all these

cases, therefore, scientific-based management advice guides the harvesting practices. These stock assessments are repeated at sufficiently regular intervals, and some assessments have been subjected to regional peer review during the annual CRFM scientific meetings (National reports submitted to WECAFC queen conch Working Group meeting of October 2012, CRFM scientific meeting reports). In The Bahamas where conch is distributed over a vast area, 5 density surveys have been conducted since 2009, and have been used to improve the conservation and management measures for regulating fishing operations which include: a ban on the use of SCUBA gear, limitations on the use of other forms of compressed air diving, an export quota limit, and routine statistical monitoring of fishing trips, landings, purchase reports, and exports (Bahamas national report, presented at WECAFC queen conch Working Group Meeting in October 2012). A catch and effort data system is also being developed to provide an alternative source of scientific monitoring.

CRFM has determined that 50% of its Member States have developed field surveys methods, conducted surveys, and estimated Total Allowable Catch (TAC) limits for the conservation and management of their queen conch fisheries. The most important conch producing/exporting countries including Belize, Jamaica, Turks and Caicos and Bahamas have good data collection systems in place and conduct periodic conch surveys and stock assessments that allow them to properly manage their conch fisheries through quota systems and other measures.

In view of the above, it is clear that at least the major CRFM conch fishing States, placed in Category (ii) – ‘Species of possible concern’¹ by CITES Notification No. 2003/057 in 2003, have made significant efforts and have therefore been complying with the recommendations made by CITES.

The other CRFM States with queen conch resources (Jamaica, Turks and Caicos Islands, Anguilla and Montserrat) were placed in Category (iii) – ‘species of least concern’ for which the available information appears to indicate that the provisions of Article IV, paragraph 2(a), 3 or 6(a) are being met.

Specific responses on the arguments presented by WildEarth Guardians

Argument 1: “The primary threat to the queen conch is overexploitation by fisheries”.

In the case of Belize, conch meat production volume increased during the last 23 years from 244,971 pounds (111 mt) in 1989 to 856,425 pounds (388 mt) in 2011. Visual surveys conducted by Belize have shown a steady increase in mean conch density since the mid 1990s, when specific conservation and management measures were introduced to rebuild stock levels and ensure sustainable fisheries. The result of a recent survey (2012) showed that mean conch density increased from 106 conch/ha in 2006 to 337 conch/ha in 2012, and mean shell length showed an increase from 134 mm in 2008 to 156 mm in 2012. These three indicators show that this fishery is being managed effectively, and that the conch stock is not being overfished or in decline. Total allowable catch and catch quotas are established using the survey results and the precautionary approach as advocated by the FAO Code of Conduct for Responsible Fisheries.

In the case of Jamaica, visual surveys are completed every 3-5 years since the 1990s, and while the stock biomass has shown fluctuations through time, no steady decline in biomass has been observed (Jamaica national report to WECAFC queen conch Working Group Meeting of October 2012). The most recent

¹ CITES Notification 2003/057. Category (ii) – ‘species of possible concern’ for which it is not clear whether or not the provisions of Article IV, paragraph 2(a), 3 or 6(a) of the CITES Convention are being implemented. The countries in this category were: Antigua and Barbuda; Barbados; Bahamas; Belize; Dominica; Grenada; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Trinidad and Tobago

fishery independent queen conch density surveys were conducted in 2002, 2007 and 2011. The survey data and analysis are currently the best available scientific information, and this information is used, along with the precautionary approach, to inform the establishment of a total annual catch (TAC) limit that is specifically adjusted to account for IUU catch levels. Additional current management measures include: individual quota limits for operators, a depth limit, a 6-month closed season and a 5-mile inshore area next to the Pedro Bank that is closed to industrial fishing operations. Landings declined from 946 (mt) in 2001 and 2002, to 504 (mt) in 2003 due to adjustment in the TAC and a shift towards a more conservative harvest strategy. Since then landings have remained steady with some fluctuations from year to year reflecting changes in the annual TAC.

In the case of The Bahamas, queen conch landings have shown a steady but increasing trend since the early 1980s when annual catches were just above 1.14 million pounds (517 mt) to 1.55 million pounds (703 mt) in 2010. The fishing grounds are vast and the 5 density surveys, focused on the most intensively fished areas, have covered only a small portion of the area over which queen conch is expected to occur (Bahamas report to WECAFC queen conch working Group Meeting in October 2012). There is some concern about observed decreases in conch densities in the surveyed areas, and this has been used to justify current management measures, as noted in the previous section. However, there is no evidence of overfishing or stock decline in the extensive fishing areas of the Bahamas.

In the case of the Turks and Caicos Islands, conch meat landings showed an increasing trend from 1973 to the late 1990's and has stabilized since then. This fishery has been and continues to be managed on total annual catch (TAC) management system, which is informed by regular assessments (e.g. CRFM, 2007, 2010), and also supported by the fact that production volume has remained in the range of 5,000 to 6,000 tons in the last 12 years. Furthermore, The Turks and Caicos islands completed a local public consumption survey in 2004-05 to estimate local population consumption demands (CRFM, 2007), so as to enable that country to adjust the annual export quota and avoid exceeding the agreed scientifically-informed level of sustainable exploitation. Of course, low catches, as well as profits, occurred shortly after Hurricanes Hanna and Ike hit the Turks and Caicos Islands in September 2008, and is attributed to these natural events (CRFM, 2010).

Figure 1 provides an overview of general trend in landings of queen conch meat from 12 Caribbean States.

Argument 2: “The petition claims that the queen conch landings are “grossly underestimated” because landings data are limited and do not account for high levels of illegal and unreported harvest”

Illegal, unregulated and unreported fishing is a global problem, and the queen conch fishery is no exception. That said, historically, queen conch landed in the island nation states are sold to fishing companies that export the processed product to the USA and a few countries in Europe. This arrangement provides an incentive because it guarantees good prices for the fishers. Exports are reported to the Fisheries administrations of the island nation states by the fishing companies and this information is corroborated by records held by the national CITES authorities that has records of all conch exports. The major CRFM conch fishing states have also estimated the percentage of catch that is typically sold domestically (national reports submitted to WECAFC Conch Working Group Meeting of October 2012). For example, in the case of Belize, conch is primarily landed at the fishermen cooperatives and only a small percentage (2-5%) is sold directly to restaurants and hotels by independent fishermen. All conch meat destined for export is inspected for minimum weight limit and certified by the Belize Fisheries Department before a CITES export certificate is issued. Likewise,

The Turks and Caicos Islands completed a local public consumption survey in 2004-05 to estimate the level of the local market, as already explained earlier in this response (CRFM, 2007). Hence it is untrue to

state that conch landings are grossly underestimated. Moreover, it should be noted that Jamaica adjusts its annual TAC to account for illegal harvest levels, to the extent this is expected to occur.

The IUU fishing challenge is an ongoing challenge and all fisheries have to be protected against this. To address IUU fishing in general, the Turks and Caicos Islands has recently been testing a radar system to track foreign vessels entering its waters illegally (national report submitted to WECAFC queen conch Working Group in October 2012). All CRFM countries agreed to address IUU fishing in a structured manner through adoption of the Castries Declaration on IUU fishing (Declaration available from www.caricom-fisheries.com).

The petitioner's statement on IUU fishing levels is not supported by actual evidence.

Argument 3: The petitioner asserts that queen conch is being harvested at unsustainable levels, resulting in population declines, stock collapses, as well as recruitment and reproductive failure.

CRFM has argued earlier in this response that queen conch management has actually improved since the late 1990s, early 2000s. Key fishing states with the most significant fishing grounds have implemented conservation and management measures developed using the best available scientific information. These measures are actively monitored and enforced. In view of this, recruitment and reproductive failure can be avoided because regular monitoring will allow depletions to be identified. To date, the major queen conch fishery production performance has been maintained, with little or no change in fishing grounds, suggesting that recruitment and reproduction are not being impacted negatively.

Argument 4. The Queen Conch trade is suspected to be unsustainable in many Caribbean countries, and illegal harvest, including fishing of illegal species in foreign waters and subsequent illegal international trade, is believed to be a common and widespread problem throughout the Caribbean region

The trade of Queen Conch is done through fishing companies and fishermen cooperatives (Belize). This means that trading is not done by individuals. All conch shipment are inspected and certified by the Fisheries administrations before a CITES export certificate is issued.

In Jamaica, the trade of Queen Conch meat is well controlled because it is done exclusively by a fixed and small number of fishing companies that are certified by the Fisheries and Health and Sanitary Authorities to fish, process and export queen conch meat. Jamaica has made great efforts to curb illegal fishing in its principal fishing ground known as Pedro Banks. In recent years the authorities have intercepted, arrested, charged and convicted a number of illegal fishermen and fishing vessels. Similar efforts to curb illegal fishing have been done in Belize, Turks and Caicos and Bahamas.

While it is acknowledged that illegal fishing and illegal trade of conch do occur occasionally among the island nation states of the Caribbean region, these illegal activities are not considered as a significant concern at present.

Argument 5: The CITES significant trade review suggested that population declines throughout the Caribbean are primarily the result of overfishing for domestic and international markets, lack of enforcement of regulations and large scale poaching by foreigners

The issue of population decline has already been addressed earlier in this response. As a reminder, specific conch fishery regulations have been introduced in several island nation states to ensure the

sustainability of the conch fishery. These regulations seek to protect the sub-legal conch from being harvested through minimum size limits, and a closed fishing season that seeks to protect spawning individuals during the spawning season. For example, in Belize there is prohibition of conch fishing using SCUBA or Hookah to protect the adult spawning stock in deeper waters since 1977. In addition, several island nation states including Belize, Turks and Caicos, Bahamas, Jamaica, St.Kitts and Nevis, and St. Lucia, have established a number of marine reserves as management tools that provide a spatial refuge for all marine life contained therein, including queen conch.

It has already been acknowledged that poaching occurs and is a constant challenge for all fisheries. In this regard, it should be noted that some countries have taken specific measures to safeguard against the negative impacts of such poaching activities. In Jamaica, the annual TAC is reduced to take into account the amounts lost to foreign poaching. In TCI, a radar tracking system is being used to test the capacity to identify foreign vessels entering national waters.

Argument 6: The petitioner used the information of 2003 CITES conch significant trade review which states that intensive fishing pressure has led to population declines resulting in densities so low that recruitment failure is a risk to local fisheries in parts of Belize, Colombia, the Dominican Republic, Haiti, Honduras, Panama, Puerto Rico. The petitioner also claims that the overfishing of queen conch population densities so low that a mate finding Allee effect is preventing recruitment and preventing the species' ability to recover from overexploitation

Two major CRFM Fishing States, Belize and Jamaica have done regular conch surveys for the past 18 years and have records of increasing or stabilized conch density and shell length in their fisheries (national reports submitted to the WECAFC queen conch Working Group meeting in October 2012). This suggests that recruitment and reproduction are not being negatively impacted under current fishing pressure. Also, as noted earlier, production performance has been sustained with little or no change in fishing grounds for the major fishing states, suggesting again that recruitment and reproduction are not being impaired under present fishery management and operation arrangements.

Argument 7: The petitioner also claims that water pollution in the form of heavy metals is a significant threat to queen conch populations and having a physiological impact on its reproduction.

There is no scientific evidence that water pollution in the form of heavy metals is a significant threat to queen conch populations and is having a physiological impact on their reproduction in CRFM States. Adult spawning conch populations are mainly found in the deep waters where water mixing is dominated by the effects of the predominant open ocean currents and wind actions, and hence it could be assumed that water pollution by heavy metals in the coastal and marine waters of the island nation states may not be a significant concern. Moreover, as fishing operations and production have been maintained on generally the same fishing grounds, this suggests that reproduction in these areas is not adversely affected by chemical or other pollution, as is the case for the Florida fishing grounds. In addition, Caribbean countries are moving towards an ecosystem approach to fisheries (EAF) management (see information at www.clmeproject.org), and this should serve to address this issue in time to prevent a similar situation elsewhere in the Caribbean, by ensuring that water quality is routinely monitored for contaminants known to be dangerous to conch growth and reproduction.

Conclusion

In view of the further clarifications provided by the opportunity of this response, the Caribbean Regional Fisheries Mechanism, as the regional fisheries management organization charged with the responsibility to promote responsible and sustainable management of the fishery resources of its Member States, respectfully submits that the petition to list queen conch as an endangered or threatened species is not warranted and should therefore not be supported. In particular,

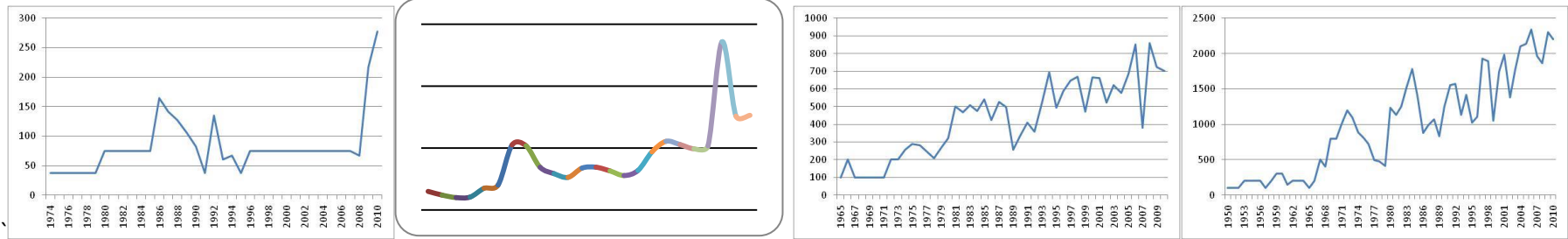
- a. CRFM Member States disagree that conch landings in the region are “grossly underestimated”, in view of the efforts countries have made in recent years to improve monitoring and management of their queen conch fisheries, especially the major fishing States.
- b. CRFM Member States disagree that Queen Conch is being harvested at unsustainable levels, resulting in population declines, stock collapses, as well as recruitment and reproductive failure. Harvest levels are managed through quota systems for the major fishing States, and these levels are informed either by regular visual surveys and data analysis or by conventional stock assessment techniques.
- c. CRFM Member States disagree that Queen Conch trade is suspected to be unsustainable in many Caribbean countries, and illegal harvest, including fishing of illegal species in foreign waters and subsequent illegal international trade is believed to be a common and widespread problem throughout the Caribbean region. IUU fishing is a global problem for all major and certainly globally valuable fisheries. CRFM States are working to address this issue generally. In the meantime, the CITES measures in place are considered to be an effective tool for limiting the amount of IUU fishing activities directed at queen conch.
- d. CRFM Member States disagree that conch densities are so low that recruitment failure is a risk to local fisheries in the Caribbean region, especially in view of the fact that fishery production performance has been maintained using the same general fishing grounds.
- e. The petitioner failed to consult the CRFM states or made any effort to obtain readily available scientific and commercial information regarding the conservation status and management of Queen Conch in the CRFM States, and instead relied on information that is obsolete, unreliable and incorrect.

List of References

1. CRFM 2006. CRFM Fishery Report - 2006. Volume 1. Report of Second Annual Scientific Meeting – Port of Spain, Trinidad and Tobago, 13 - 22 March 2006. pps. 6 – 7, 16, 34. (188 pages)
2. CRFM. 2007. CRFM Fishery Report - 2007. Volume 1. Report of Third Annual Scientific Meeting – Kingstown, St. Vincent and the Grenadines, 17 - 26 July 2007. pps. 4, 22 – 24. (54 pages)
3. CRFM 2008. CRFM Fishery Report - 2008. Volume 1. Report of Fourth Annual Scientific Meeting – Kingstown, St. Vincent and the Grenadines, 10 - 20 June 2008. pps. 4, 80 – 81. (219 pages)
4. CRFM 2009. CRFM Fishery Report - 2009. Volume 1. Report of Fifth Annual Scientific Meeting – Kingstown, St. Vincent and the Grenadines, 09 - 18 June 2009. pps. 4 – 7, 28 – 45. (180 pages)

5. CRFM 2011. CRFM Fishery Report - 2011. Volume 1. Report of Seventh Annual Scientific Meeting – Kingstown, St. Vincent and the Grenadines, 16 - 24 June 2011. pps. 6 – 8, 28 – 57. (77 pages)
6. CRFM 2012. CRFM Fishery Report - 2012. Volume 1. Report of Eighth Annual Scientific Meeting – Kingstown, St. Vincent and the Grenadines, 20 - 30 June 2012. pps. 4 – 5, 21 – 35. (150 pages)Belize National Conch Report 2012. Belize Fisheries Department. 2012. Unpublished.
7. Jamaica National Conch Report 2012. Jamaica Fisheries Division. 2012. Unpublished.
8. Bahamas National Conch Report 2012. Bahamas Fisheries Division. 2012. Unpublished.
9. Turks and Caicos National Conch Report 2012. Turks and Caicos Fisheries Division. Unpublished.
10. Antigua and Barbuda National Conch Report 2012. Antigua and Barbuda Fisheries Division. Unpublished.
11. Belize Conch Stocks Assessment Report 2010. Belize Fisheries Department 2010. Unpublished.

Figure 1. Trends in Conch meat landings for 12 countries in the Caribbean region

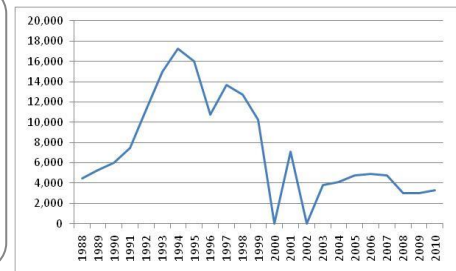
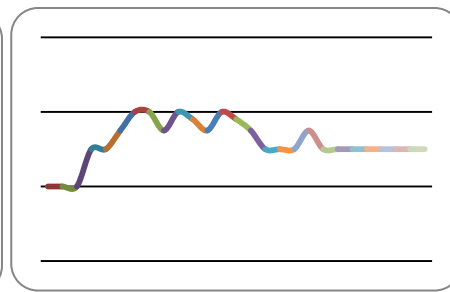
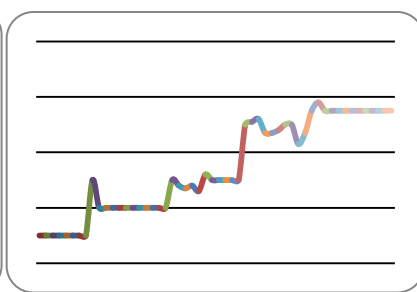
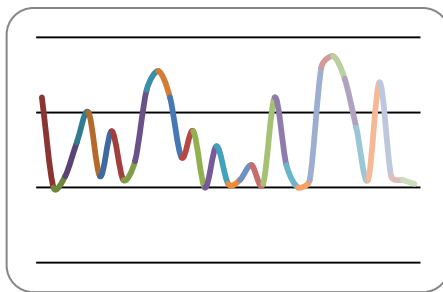


Anguilla conch landings

Antigua and Barbuda conch landings

Bahamas conch landings

Belize conch landings

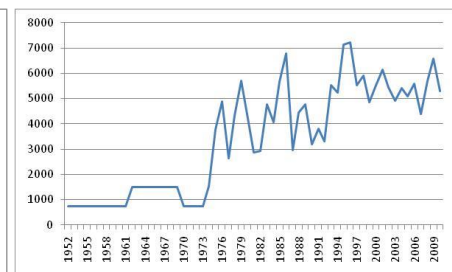
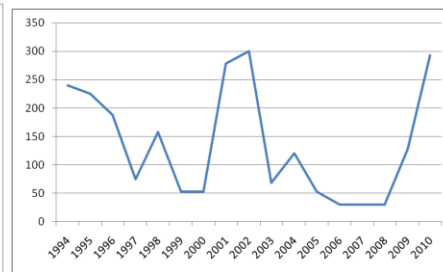
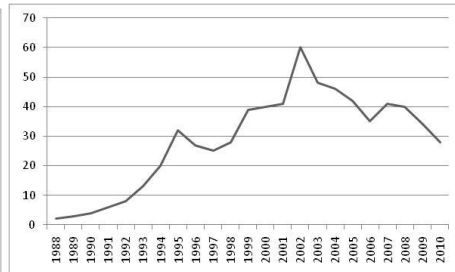
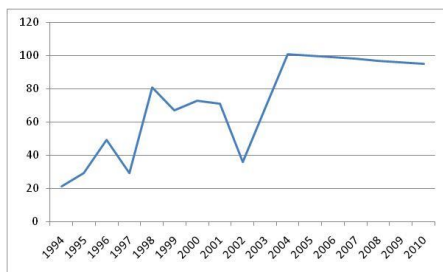


Grenada conch landings

Guadalupe conch landings

Haiti conch landings

Jamaica conch landings



St. Kitts and Nevis conch landings

St. Lucia conch landings

St. Vincent and the Grenadines conch landings

Turks and Caicos conch landings