

# A Preliminary Investigation of the Queen Conch Fishery in St. Vincent & the Grenadines

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## Background

St. Vincent and the Grenadines is an archipelago state consisting of 34 islands and islets located in the eastern Caribbean (Figure 1). The fishing industry for queen conch (*Strombus gigas*) is artisanal in nature, yet is considered an important fishery for the country. Conch are typically found to inhabit areas with sand, seagrass and algal bottoms and are known to migrate from shallow to deeper waters throughout their life history. These habitats are primarily found on the transboundary Grenada Bank and thus, the fishery is based mainly in the Grenadine Island chain.

Despite being a target fishery, relatively little information exists about the distribution, abundance and size structure of the Grenada Bank queen conch population, total landings, number of fishers, catch per unit effort, consumption patterns (for both local households and the local tourism market), its economic importance and the amount of illegal activities associated with the fishery. In order to obtain some baseline information and assist with the development of a management plan, a small scoping study was conducted in June 2008. A variety of 17 stakeholders across the island state were interviewed in order to gain some initial insight into the queen conch fishery and its practices in the country today.

## Current Status of Fishery

A total of 45 fishers were identified as operating in the conch fishery in June 2008. Most fishers report that they fish conch approximately six days a week out of lobster season (1 May – 31 August). The majority of conch fishers also fish lobster for a livelihood and indicate that as a result they may fish conch less frequently during the lobster open season. In the Grenadines, the most common fishing boat type is a flat transom vessel powered by outboard engines. These small, locally-made wooden 'bow and stern' boats are also known as Dories or Cigarette speedboats (Box 1). These boats are not fishery specific and are used for many types of fishing including queen conch. Approximately 17 dories are currently active in the conch fishery of St. Vincent and the Grenadines.

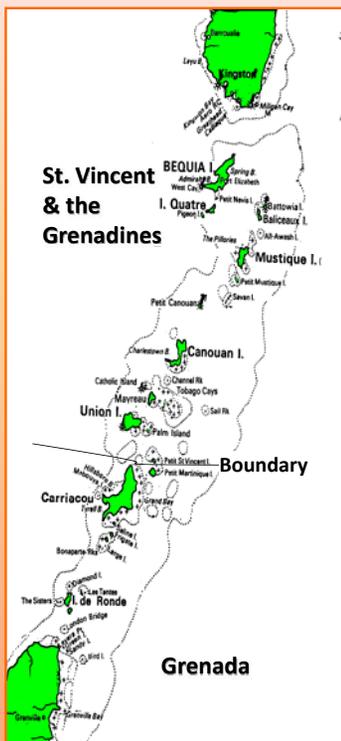


Figure 1. Geographic location and detail of the Grenadine Islands of the transboundary Grenada Bank.

## Fishing Practices

Typically three fishers work on each boat consisting of a diver, floater and boat operator (driver) (Figure 2). The diver collects conchs in a mesh bag using SCUBA gear aided with the use of mask, snorkel and fins. The floater remains on the surface free-diving and watching over the diver relaying information between the diver and boat operator. The floater is in charge of periodically lowering a 'basket' or canvas bag to the diver in which conch are loaded and then hauled up by the driver of the boat. Once onboard, a small hole is made or 'knocked' into the shell of each conch (Figure 3), after which all conchs are neatly stacked and kept inside the boat (Figure 4). Conch is harvested primarily for its meat in St. Vincent and the Grenadines and as a result, the conch shells are not typically landed. Despite this, care is taken by fishers to not discard shells within conch fishing grounds. It is a common belief amongst fishers that disposal of empty conch shells on conch fishing grounds could adversely affect conch stocks by destroying the productivity of the fishing ground. There is currently no reported use of the guts of conch within the state.



Figure 2. The three team members (diver, floater and driver) that make up a typical conch fishing crew.



Figure 3. The driver carefully 'knocks' a hole in the shell of the harvested conch to remove the meat.



Figure 4. Conch shells are neatly stacked and care is taken to discard them away from the fishing grounds.

A typical fishing trip consists of 3 - 4 hours and a total of three SCUBA tanks are used per trip. Fishers report that fishing occurs at an average depth of 28 m (90 ft) and ranges from 12 – 40 m. Average catch per trip is 45 kg (100 lbs) of un-cleaned conch meat although landings are reported to range from 0 to 90 kg (0 to 200 lbs). A maximum crude harvest estimate is approximately 4,536 kg (10,000 lbs) a week totalling 217,724 kg (480,000 lbs) or 217.72 metric tons a year of un-cleaned meat based on catch rates out of lobster season (as a result this figure is considered an over-estimate of actual annual harvest). Stakeholders report that the vast majority of conch landed is sold locally for use both in households and to supply the tourism market (restaurants, yachts and hotels) within the Grenadine Islands.

## Fishers Perception of the Conch Fishery

- 80% of fishers believe that conch getting **smaller**
- All fishers surveyed agree that :
  - **Less** Conch
  - Having to fish **Deeper**
  - **Decline** in both the health of the fishing grounds & nursery habitats
- Biggest **problems** in fishery :
  - Cost of fuel, depth of fishing grounds, price received for conch & lack of government support
- Fishers should help make decisions about the fishery

## Monitoring and Management Plan

In October 2008 a draft management plan was completed based on FAO 's 'Revised Manual for the Monitoring and Management of Queen Conch'. A baseline data collection and monitoring system will be implemented by the St. Vincent and the Grenadines Fisheries Division in order to further assess the current status of the fishery and evaluate its sustainability. This will include collecting both biological and socioeconomic information. Required biological information will include data on the conch population structure (size, weight and maturity of individuals), abundance and distribution patterns of conch over the Grenada Bank, identification of nursery and spawning grounds, and the extent of the spawning season. Socioeconomic information will include data on fishers, fishing effort and their livelihoods, seafood consumption patterns and the market distribution patterns of conch within St. Vincent and the Grenadines and for export.

### Box 1. 'Bow and Stern' Vessel or Dory (Cigarette/Speedboat)

**Description:** Pointed bow and flat stern

**Length range:** 11 – 27 ft (4 – 9 m)

**Width range:** 3 – 7 ft (1 – 3 m)

**Horsepower range:** 14 – 115 hp

**Type of fishing:** Multi-species fishing: Including hand-lines, trolling, floating and sinking palang, traps, spear (using SCUBA and free-diving gears)



Adapted from Gill, D. (2006) and Staskiewicz, T. (2006).

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