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"…I want to dwell on the past enormity of the populations of such creatures…My calculations are rough…Nevertheless, it is essential to try, because we have no conception of the way things were."

Sea Turtle Excerpt taken from*: Reefs Since Columbus*: J.B. C. Jackson: Coral Reefs (1997) 16, Suppl.: S23-S32

SEA TURTLES: A HISTORICAL PERSPECTIVE

THE CASE OF SAINT LUCIA

Photo

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Once upon a time, on a dark and stormy night, a ship anchored a few miles off a little rock in the sea known as Bird Island. Under the cover of darkness, four little tugs landed on the surface of the water, each with two men onboard. The night was clear, and although the water was a little choppy, the men were determined to get to the little island. Once they got there, they anchored their boats nearby and observed with wide eyed wonder the land around them. One, two, three, four, five, six, too many to count…Turtles were all over the beach in various stages of nesting. The men got into action and some time later, six turtles lay on their backs waiting to be carried to the mother ship. Up the wave crest, down the wave trough, row, row, row, the little tugs did the long trek to the mother ship. Creak, creak, creak, then stop to rest; creak creak creak…the 'block and tackle' crane system hauled the turtles onboard the mother ship. For the men in the little tugs, it is a long night yet…

Several bone-tired outings later, the exhausted men make their last journey to the mother ship, with every muscle in their bodies screaming for release. The cramped sleeping quarters and dry food stores of the mother ship sounded like luxury now. The weather had turned foul and the waters turbulent. The little boats were like mere toys at the mercy of Mother Nature. The men looked back upon the island they had left behind them, which was but a dot, what with the water that had covered it……

Cover Photo by Peter Jackson

ACKNOWLEDGEMENTS

The impetus for this publication came from the increasing prominence given to traditional and popular knowledge in recent times. Indeed, we often say that something is common knowledge. We never stop to think that some of the so-called commonly known issues lie with the older generation and will possibly be lost if they pass on without transmitting the memory chips embedded in their brains to younger generations.

The thirteen persons interviewed in this survey were especially cooperative and freely took the time off from their regular schedules to share a little history with us. We acknowledge and thank them for accommodating us and for taking us back into time.

Anthony Charles: Gros Islet

John Fevriere: Castries

Joseph Jn Baptiste: Castries

Evans Joseph: Castries

Romule Lagon: Castries

Allan Clifford: Anse La Raye

Cornelius Alexis: Soufriere

Aloysius Denis: Soufriere

James Mitchel: Choiseul

Matthew Stephen: Choiseul

Joseph Gaston: Micoud

Michael Kangal: Micoud

Gustave Charlemagne: Castries

Other names (full and alias) mentioned during the course of our interviews which we were not able to contact, largely, but not exclusively, because persons had passed on, include:

Leonard Stephen ("Kwez"); Ethelbert Stephen ("Wash"); Lawrence Stephen ("Anjon"); Louisy Cox; Charles Joseph ("Was"); "Mr. Boy"; Darren; "Chak"; Cadet; Lillian; "Ma Anaiee"; Lashley; Eddy King and Mr. Fitz.

The authors wish to express appreciation to the staff from the Department of Fisheries who assisted in the preparation of the questionnaire, with interviews and reviews. Gratitude also goes out to Mr. Raulston Glasgow of the Office of the Attorney General, who provided a copy of the Turtle and Fish Protection Ordinance Cap. 45 of 1911. A big 'Thank You' is likewise extended to Saint Lucia's Biodiversity Enabling Activity Project, a UNEP-GEF initiative, for providing funding assistance for this publication.

Finally, as with everything else in life, it is good to take stock and ask the question: Where from, where at, where next? This report is an attempt to document a little bit of where from, for how can we steer a clear path for the future without fully understanding from whence we came.

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Introduction

Andres Bernaldez, writing about Columbus' 2nd voyage in 1494 (Southeastern Cuba):

"But in those twenty leagues, they saw very many more, for the sea was thick with them, and they were of the very largest, so numerous that it seemed that the ships would run aground on them and were as if bathing in them."

Ferdinand Columbus, writing about the 4th voyage in 1503 (Cayman Islands):

"…in sight of two very small and low islands, full of tortoises, as was all the sea about, insomuch that they looked like little rocks…"

Edward Long (1774), writing of the late 1600s (West of the Cayman Islands):

"…it is affirmed, that vessels, which have lost their latitude in hazy weather, have steered entirely by the noise which these creatures make in swimming, to attain the Cayman isles".

Six species of sea turtles are known to nest on the beaches in the Caribbean region. Of these six species, four have been sighted in Saint Lucia's waters and there is evidence that at least three nest on the island's beaches (Green Turtle, *Chelonia mydas;* Hawksbill Turtle, *Eretmochelys imbricata;* Leatherback Turtle, *Dermochelys coraiacea*) and one, the Loggerhead Turtle, *Caretta caretta,* is occasionally sighted in the waters of Saint Lucia.

Sea turtles have been harvested from time immemorial. Like many other Caribbean nations, Saint Lucia traditionally had a sea turtle fishery, where turtles were targeted largely for their meat. The first official legislation found by the authors on sea turtles in Saint Lucia was the Turtle and Fish Protection Ordinance Cap. 45 of 1911, which was replaced by the Turtle, Lobster and Fish Protection Act No. 13 of 1971. The latter was in turn replaced by the Fisheries Act No. 10 of 1984. The Fisheries (Turtle, Lobster and Fish Protection) Regulations No. 67 of 1987 were then established, which were replaced by the Fisheries Regulations No. 9 of 1994. Both the 1911 and 1994 legislation addressed similar issues, that is, size limits based on weight, closed seasons and protection of nesting females and eggs. The current fisheries legislation in Saint Lucia, which includes provisions for sea turtle fisheries, is currently being revised.

Excerpts as above, while not quantitative in nature, give valuable indications as to the 'way things were'. One of the biodiversity-related issues constantly being raised across various sectors in Saint Lucia and elsewhere is the lack of documentation and the subsequent loss of traditional knowledge. Indeed, this subject was highlighted during the preparation of Saint Lucia's Biodiversity Country Study Report in 1998. The situation is no different for sea turtles or the sea turtle fishery in Saint Lucia. There is an urgent need to capture biodiversity information before it is lost, and this is especially so for threatened species like sea turtles. A

clear picture of 'the way things were' can help guide the future and assist in making informed management decisions. The following seeks to capture information on sea turtle fisheries in the past, by focusing on fishers aged fifty years and older.

How it was done

A detailed questionnaire **(Appendix I)** was developed containing a list of questions, focusing on social and geographical issues, catch and effort, demand, economics and trade, resource use, awareness and trends. Through the assistance of the Extension Officers of the Department of Fisheries, sea turtle fishers and 'turtle catchers' aged fifty years and older from various parts of the island were identified. These persons were contacted and requests were made for interviews, focusing on the sea turtle fishery of the past.

Thirteen interviews were conducted in Creole (French-based patois) in the various communities around the island, by staff of the Department of Fisheries. Interviewees included twelve fishers from the communities of Gros Islet, Castries (including Banannes), Anse la Raye, Soufriere, Choiseul and Micoud. Included among the twelve fishers was an opportunistic fisher, that is, one who did not go out specifically to target sea turtles, but would capture them at sea if the opportunity arose, especially if he did not have a good fishing day for other targeted species. One additional person was interviewed, who was able to provide detailed information concerning his trips to Isla Aves or Bird Island, over and above that of other persons interviewed. However, since he was not a sea turtle fisher, he was not included in the statistical analysis.

Photos were taken of the interviewees (with permission), as well as of any turtle parts or products, gear and other equipment that were available. The data obtained were analyzed and a discussion, entitled "A Historical Perspective" can be found within the main body of the report. Detailed results ("Outcome") are in **Appendix II** of this report. **"**Supplementary Fisher Contributions" made during the course of the interview are also presented towards the end of the main body of the document, following "A Closing Note"**.** **"**Geographical Maps" of the Caribbean, Saint Lucia and Bird Island can be found in **Appendix III.**

A Historical Perspective

General Issues

The fishers interviewed were among the last remaining of fishers whose first engagement in fishing occurred some 35 to 60 years ago. For the purposes of this discussion, this period will be referred to as 'the early days'. In some cases, parallels have been drawn between the early days and present time.

Among the fishers interviewed, the year of first engagement in the sea turtle fishery was 1944 **(Appendix II, Table 1).** During this time, the Turtle and Fish Protection Ordinance Cap. 45 of July 08, 1911 governed the sea turtle fishery and was subsequently replaced by the Turtle Lobster and Fish Protection Act No. 13 of 1971. Since then, the latter has been repealed and the Fisheries Act No. 10 of 1984 has come into effect. The 1984 Act, which still operates today, was first supported by the Fisheries (Turtle Lobster and Fish Protection) Regulations No. 67 of 1987, which has since been replaced by the Fisheries Regulations No. 9 of 1994. The details of the provisions governing sea turtles have changed over time, but the essence of the law is essentially the same today: For example, in 1911, the penalty for offences was not more than ninety-six dollars, with a transition to not more than two hundred and fifty dollars in 1971 and a move to not more than five thousand dollars in 1984; likewise, the minimum size limit in 1971 was fifteen pounds for all species, but moved to specific minimum size limits for different species, ranging from thirty to one hundred and twenty pounds in 1987, and from sixty to six hundred and fifty pounds in 1994; similarly, the open season was eight months long in 1911, extending from September to April each year, but moved, in 1987, to five months, extending from October to February each year. Indeed, the provisions between 1911 and 1994 all contain(ed) clauses for the protection of nesting females and eggs, a close season and weight limits.

Ninety-two percent (92%) of the interviewees specifically targeted sea turtles, while the remaining 8%, corresponding to one fisher, was an opportunistic fisher **(Appendix II, Figure 5).** The opportunistic fisher did not go out specifically to target sea turtles, nor did he own any turtle nets. However, he would capture turtles at sea using a hand harpoon, if the opportunity arose, especially if he did not have a good fishing day for small cetaceans, which was his fishery of choice.

Green and Hawksbill Sea Turtles were the dominant species of turtle caught by fishers, although the Loggerhead and Leatherback Sea Turtles were also caught **(Appendix II, Figure 1).** This trend is still apparent today.

Conservation Orientation

While interviewed fishers reported the catching of juvenile or undersized sea turtles, 75% of them indicated that when they did, they were released back into the sea **(Appendix II, Figure 2).** This may be indicative of the existence, in the early days, of a self-regulatory arrangement or sustainable use behaviour having been exhibited among fishers. Of course, release back into the sea could simply be indicative of the fact that fishers felt that a juvenile turtle was not worthy of being kept because of its small size and consequent low value. It is worth noting, too, that during the course of the interview, some fishers also indicated that there were fewer of them in the early days and that modernized vessels and equipment for capture were not available. In this regard, the supposition could be made that there were more turtles to target in the early days, less pressure on stocks and therefore less need to depend on juveniles for sustenance or economic returns. Indeed, one fisher even went on to say that juvenile sea turtles were never caught.

The probability of the self-regulation and ingrained sustainable use-type behaviour may also be perceptible with regards to particulars for egg and adult harvesting on a beach. Sixty-seven percent (67%) of fishers, including the opportunistic fisher, indicated that they did not harvest sea turtle eggs, unless they were found inside a turtle caught at sea **(Appendix II, Figure 3).** This suggests that fishers did not generally target nesting sea turtles on the beach, a type of behaviour which supported the continuation of the fishery. This is further supported by the result that 75% of fishers indicated 'the water only' as the location where they captured sea turtles; a similar percentage indicated that they did not capture sea turtles observed on the beach **(Appendix II, Figures 9 and 12).** Interestingly, the opportunistic fisher was among the fishers who did not capture sea turtles observed on the beach (**Appendix II, Figure 12),** nor did he harvest their eggs **(Appendix II, Figure 3).**

On the other hand, while the majority of fishers seemed to have exhibited behaviour in favour of sustainable use as described above, non-sustainable behaviour was also evident in some fishers. For example, 16% of fishers **(Appendix II, Figure 2)** indicated that the juvenile sea turtles caught were consumed and one of these further indicated that rather than immediately using a juvenile sea turtle for food and/or revenue, it would be released into a river to be allowed to grow into a larger sized turtle, which would, in turn, bring in higher returns. Obviously, a juvenile so held would not be contributing in any way to the continuation of the fishery through involvement in reproduction. The sea turtle fisher who indicated that he consumed everything caught at sea was justifiably, the opportunistic fisherman **(Appendix II, Figure 2)**. It is also worth noting that similar behaviour was also evident in 17% of fishers who indicated that they caught sea turtles wherever they were found, in the water and on the beach **(Appendix II, Figure 8).** Similarly, 25% of fishers indicated that they took all sea turtles observed on a beach **(Appendix II, Figure 12).** The taking of nesting sea turtles on a beach by these fishers may indicate a possible disregard for laws of the time or a lack of awareness on the protection of sea turtles for the sustenance of the fishery. Indeed, 67% (two out of three) of the fishers who took turtles observed on the beach indicated an unawareness of the existence of any law. Notably,

percentages that appeared to be involved in unsustainable behaviour were more often than not, lower than those who appeared to display regulatory or conservative behaviour.

Geographical Aspects

Sea turtles were fished for in various communities around the island **(Appendix III).** Assuming a rough division of the island into West and East coast, and in accordance with the responses obtained by fishers with regards to location(s) fished, 76% of fishing occurred off the West coast of Saint Lucia **(Appendix II, Table 2, Figure 4).** This result is not surprising given that today, the West coast is better known for the catching of Green and Hawksbill Turtles (the dominant species caught in the early days), as opposed to the East coast, which is more well-known for Leatherback Turtles. In addition, it is possible that the low mechanization of vessels in the early days may not have encouraged venturing or marine species exploitation on the more choppy and strong current-driven conditions that epitomize (d) the East coast.

Beach versus Water

All fishers reported the water as one of the locations or the more favoured location for capturing sea turtles (**Appendix II, Figures 9 and 10).** Some degree of camping also occurred on beaches, with the intention of capturing turtles on the beach and at sea **(Appendix II, Figure 7).** There was no set time of the week or year when fishers were more likely to camp on beaches, but when it was done, it ranged from one day to one week. One fisher reported that if someone or a party was already targeting turtles on a beach, there was an unwritten understanding that the newcomer would use another beach for targeting turtles.

Before delving deeper, the above paragraph may lead one to believe that persons often targeted sea turtles on the beach. However, according to the responses obtained, out of 50% (six) of the fishers who indicated that they camped on beaches with the purpose of turtle-catching **(Appendix II, Figure 7),** only half of that number (corresponding to three fishers) actually reported that they targeted nesting sea turtles on the beach. For the remainder, camping was done to maximize time and effort for an 'at sea' expedition. A similar low focus on turtle capture on the beach is also evident, where 75% of fishers indicated that they did not capture sea turtles observed on the beach (**Appendix II, Figure 12).** Low focus on beach capture of turtles is also apparent in **Appendix II, Figure 9,** where 75% of fishers indicated 'the water only' as the location where they captured sea turtles.

It is interesting to note that the few beach campers who indicated that they captured sea turtles on the beach, deployed a shift system for 'sea turtle watch' and 'sleep'. Camping occurred on the beach sand, in vessels, on the rocks, in caves or in coconut palm huts. While not exclusive to capture during camping, turtle tracks were often followed to capture sea turtles. One fisher indicated that when a sea turtle was observed on a beach, the observer would often use "a horn"

(a conch shell) to call for assistance. When assistance arrived from community persons, the turtle would be decapitated and carried to the community tied to a stick.

The seemingly low focus of turtle capture on the beach may be a reflection of the fact that the interviewees were merely not in the vicinity of the beach, especially at nights, to observe nesting sea turtles. Certainly, 58% of them indicated that they simply did not observe turtles on the beach, while 42% indicated that at any one time, they observed anywhere from one to three turtles **(Appendix II, Figure 11).** Of course, low focus of turtle capture on the beach may simply have been because of the existence and awareness of the law. Indeed, of the 75% of fishers who did not capture sea turtles observed on the beach **(Appendix II, Figure 12),** 78% of them indicated an awareness of the existence of the law. At the same time, the result of little focus on the beach for the capturing of sea turtles by fishers, as opposed to the sea, is still apparent today. Presently, when nesting sea turtles are slaughtered on a beach, this is often done by persons from adjacent communities who are not necessarily fishers, and on remote beaches, where the likelihood of detection is minimized. Traditional, bonfide fishers tend(ed) to harvest sea turtles at sea.

On the other hand, of the fishers who also captured turtles on the beach, it was interesting to attempt to discern if any level of conservation-type behaviour was evident**.** Taking note of the fact that the numbers involved were low (three fishers), 67% indicated that they caught turtles on the beach before, while and after they laid their eggs, while 33% indicated that the sea turtle would be allowed to lay its eggs before capturing it **(Appendix II, Figure 9).** This may indicate a skew towards non-sustainable behaviour in these cases, both in relation to the taking of a nesting turtle and the disregard for the timing of the taking (non-continuation of the fishery through reproduction).

During the course of the interview, one fisher volunteered that Green Turtles were mostly caught in the water, while Hawksbills were mostly caught on the beach. Given that:

- Hawksbill Turtles tend to be more localized, often found around nearshore reef areas,
- the laws of 1911 and 1971 specified that turtle nets should be set at least 100 yards from the shore; nets in the early days were reported to be set between one quarter to three miles offshore **(Appendix II, Figure 21),** that is, 440 yards to 5,280 yards,

there is merit in the report that Hawksbill capture did not generally occur in the water, but rather, on the beach. This does not mean that Hawksbill Turtles were never caught in the water, but it does indicate that some level of illegal capture on beaches did occur on the shores of Saint Lucia, perhaps especially with regards to this species.

Fishers were not able to estimate the number of sea turtles caught in a given year. However, in a week, 67% indicated that five or less sea turtles were often caught, with the remainder capturing anywhere from six to more than fifteen turtles in a week **(Appendix II, Figure 13).** One fisher indicated that on one expedition, eleven turtles were caught in one net and he was forced to

release nine of them due to excess weight (too heavy to land and manage among crew) and unmanageability (insufficient demand for immediate use or sale and no refrigeration at the time). Another reported that he caught as many as thirty turtles in one week, which was the highest that he ever caught. The opportunistic fisher indicated that he took a pre-set number of no more than two which were manageable in terms of non-wastage. In fact, one of the fishers said that it was not wise to capture too many turtles at one time because refrigeration was not available, therefore salting was the only option. He, like the opportunistic fisher, indicated that after capturing one to two turtles, he would not fish for more until that meat was used up. This may be viewed as behaviour to avoid inconvenience (more meat than can be used up without spoilage), but may be equally said to be a display of the sensitivity of fishers of the early days, as regards conservation.

Crew, Gear, and Fishing Time

The crew make-up on a sea-turtle expedition was generally two to four persons **(Appendix II, Figure 6).** Turtle parts and products, and money generated from sale were shared according to arrangements of the vessel and net owner, as well as the crew, including the presence or absence of the boat owner on the fishing expedition. For example, a boat owner who went on a fishing expedition with his crew, where he owned the boat and net would obtain one share for the boat, one for the net and the other for his presence on the trip (a total of three shares). While situations may have varied slightly with regards to ownership or presence, if the vessel and/or net owner was the same person, he would get a greater portion than the crew members, especially so if he was present on the fishing expedition.

It was generally noted that a good fishing day was determined by weather conditions and sea current patterns. That aside, 75% of fishers had no preferred day(s) of the week for fishing. Twenty-five percent (25%) had preferred fishing days and of these, 67% fished from Monday to Friday, leaving weekends for resting, and 33% fished from Thursday to Saturday, so as to facilitate sale at the marketplace on Saturday **(Appendix II, Figure 14).**

Ninety-two percent (92%) of fishers had specific net setting times, and of these, 73% preferred to set their nets in the early morning **(Appendix II, Figure 15).** Likewise, 92% of fishers had specific net hauling times and of these, 55% preferred to haul their nets in the afternoon to evening **(Appendix II, Figure 16).** Some fishers also did the reverse, that is, they set nets in the evening (27%) and hauled in the morning (45%). Fishing activities in the early morning and evening are still consistent with practices today.

Seventy-five percent (75%) of fishers reported that the moon phase had an influence on sea turtle catches **(Appendix II, Figure 17),** while 25% felt that it had no influence. Of the 75%, the majority, that is, 67%, indicated that the first and last quarters were the most favourable for sea turtle catches. This is consistent with increased sea turtle nesting observed during the quarter moon phases on Grande Anse Beach on Saint Lucia's North-East coast. This may indicate that turtles generally prefer the cover of darkness for nesting, perhaps because they are less likely to

be observed and nesting interference is less likely to occur. In addition, the first and last quarter moon phases also coincide with neap tide, that is, the lowest high tide of the lunar month or the time when there is the least variation between high and low tides. As one fisher put it, during the quarter moon phase, "the current [the tide] was better". Indeed, during the lowest high tide, there is more exposed beach (not covered by water) on which turtles can nest (a possible contributor to increased nesting in some places), although the likelihood of egg survival is lowered, as these areas are prone to inundation when the tide comes in. Of course, the responses in this survey have indicated that most sea turtle fishing in the early days took place in the water and not on the beach; however, the relationship between the quarter moon phases and increased nesting on beaches is still significant: If there are more turtles nesting during the quarter moon phases, it stands to reason that there are more turtles in the fishing waters during nesting periods; these would comprise males and females; the two come together in shallow waters near the nesting beach where courtship and mating occur. At this point, females will often mate with more than one male, and between nestings, will gather close to the nesting beach.

There did not appear to be any favoured month for the capturing of sea turtles. Indeed, some fishers even responded to the question by indicating that the best time for capturing turtles was "during the open season". Noting the there was an eight-month open season, perhaps fishers simply fished for sea turtles as long as the season was open and conditions were favourable, giving little regard to which month was most favourable in terms of numbers caught.

Sea turtle nets were the most popular gear type used to capture sea turtles, accounting for 92% of fishers **(Appendix II, Figure 18),** noting that only the opportunistic fisher (8%) used a hand harpoon, which he also used for targeting small cetaceans. Other types of gear used in addition to turtle nets included fillet nets, gaffs and spears. The majority of fishers owned two to three turtle nets, but fishers did not appear to own more than six nets **(Appendix II, Figure 19).**

Ninety-two percent (92%) of fishers indicated that they set their nets over coral reef and/or seagrass beds **(Appendix II, Figure 20),** noting as above, that the opportunistic fisher did not set nets for capturing turtles, but used a hand harpoon. The substrate on which nets were set is consistent with the foraging habitat of Hawksbill and Green Turtles respectively, the latter two species being the dominant catches reported by fishermen. Fishers set their turtle nets anywhere from one quarter to three miles offshore, accounting for 84% of fishers, and of these, 67% indicated a net setting distance of one quarter to one mile. Only one fisher indicated that he set his nets 100 miles offshore **(Appendix II, Figure 21).**

Ninety-two percent (92%) of fishers indicated a soak time of between ten to twenty-four hours, with 55% of these allowing a soak time of twenty-four hours **(Appendix II, Figure 22).** Specific care was taken in the early days not to leave nets soaking for extended periods to avoid the drowning of sea turtles. This practice is still apparent today.

Sea turtles were stored in various locations after they were caught **(Appendix II, Figure 23),** including on their backs (often with flippers tied), tied in bays, released in dug-out ponds and

released in fenced areas over seagrass beds in the sea**.** While in storage, they were sometimes fed, but there were also instances when they were not fed, which led to a reduction in their weight over time. Turtles were stored anywhere from one week to one month.

Use of Sea Turtle Resource

Almost every part of the sea turtle was used in one form or the other **(Appendix II, Table 3).** In the early days, sea turtle meat was used fresh or salted and prepared in a variety of ways, including stews, barbeques, 'souse'[1] and in soups. It was also eaten raw in special instances, where the purpose of eating was for treatment of an ailment. A few uses of sea turtle products in the early days that either may not be commonly known and/or are no longer practiced today in Saint Lucia include the following:

- the drinking of the blood from a live turtle in its raw state for the treatment of asthma - mentioned by 67% of fishers;
- the use of blood in the treatment of arthritis - mentioned by 8% of fishers;
- the use of the turtle fat for the production of oil and for the treatment of burns - mentioned by 17% of fishers;
- the use of the penis by men for its alleged aphrodisiac properties - mentioned by 58% of fishers;
- the sale of turtle shell, often for export - mentioned by 100% of fishers.

In the case of the penis, one fisher said that the penis was dried and scraped and placed in alcohol for preservation and used as an aphrodisiac drink **(Photo 1),** while another indicated that the penis was hung with a weight to lengthen it and placed in the sun to dry **(Photo 2).** The purpose of lengthening the penis was to increase economic returns that could have been obtained from the sale of it. The penis was sold by pieces or whole.

[1] 'Souse' is a local dish with meat (often pig feet) that is seasoned and boiled until tender and often served with grated cucumber. The dish referred to in the text is prepared in the same way, but done with sea turtle cartilage (calipee) found in the plastron or the underside of the turtle.

Photo 1: Sea Turtle Penis and Herbs in Alcohol

Photo 2: Dried Sea Turtle Penis

With regards to the shell, it appeared that locals were not largely involved in the jewellery-making business **(Appendix II, Figure 31),** but would often trade the shell to middlemen, perhaps for that purpose. Indeed, some fishers knew of persons in the early days who had been involved in the jewellery business, specifically in the trade of shell for the making of jewellery **(Appendix II, Figure 32).** The one fisher interviewed, whose family was involved in the jewellery-making business was from Micoud, located on the South-East coast of Saint Lucia **(Appendix III).** Fishers reported that the shells of the Hawksbill and Green Turtles **(Appendix II, Figure 33)** were used for used in the making of jewellery and other accessories, particularly the shell of the Hawksbill, given that the shell of the Green Turtle was reported as being soft, thin and brittle. Accessories included: bracelets, combs, earrings, frames for spectacles, necklaces, rings and watch strappings **(Appendix II, Figure 34).**

The use of sea turtle shell for the production of accessories is no longer believed to occur, largely because of the conclusion of the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1973, amended in 1979, which Saint Lucia acceded to in 1982 (entered into force in 1983). Of course, one may put forward that the jewellery-making and trade business using turtle shell was not prevalent in Saint Lucia in the early days, and thus eventually died out.

All fishers said that sea turtle meat was a major part of each family's diet and it would be eaten as often as it was available. Some fishers who preferred Hawksbill Turtle meat **(Appendix II, Figure 24)**, indicated that it tasted like beef. One fisher also said that he did not like to clean the meat of the Hawsksbill Turtle because his hands would "burn" from the particles of sea sponge in its diet. Some of the fishers who preferred the meat of the Green Turtle mentioned that they liked the soft texture and white colour of the cooked meat and that it tasted like pork. The Loggerhead and Leatherback Turtles were not favoured because they reportedly smelled 'fresh'[2].

[2] Fresh' here does not mean new and unsullied as in the English meaning of the word, but it refers to Saint Lucian slang for a strong odour, generally associated with fish, egg or wild meat.

One fisher even indicated that the Leatherback Turtle blood "killed grass", because of its alleged poisonous properties. Still, one fisher mentioned that he had no problems with the meat of the Leatherback Turtle as it was simply a matter of skillful preparation. The majority of fishers mentioned that they prized the meat near the flippers, because it was especially tasty **(Appendix II, Table 4, Figure 27).**

Notwithstanding the law, fishers did not seem to have a specific preferred size of sea turtle for targeting, with most of them simply indicating that the bigger the turtle was, the better. This is, of course, consistent with a bigger turtle bringing in higher economic returns.

There appeared to be less preference exhibited regarding sea turtle eggs from different species **(Appendix II, Figure 25),** although 17% indicated that they preferred the eggs of the Hawksbill Turtle. One of these fishers remarked that the eggs of the Green Turtle tasted "wild". Similarly, one fisher indicated that if he was targeting a Hawksbill Turtle on the beach, he would especially wait until it had laid its eggs before capturing it (leaving the eggs undisturbed), which may point to a non-propensity for eggs or for those of the Hawksbill Turtle. Of course, it may be argued that this fisher was simply exerting partial sustainable-use behaviour in not tampering with the eggs, but harvesting the nesting turtle itself.

Sea turtle meat was not especially sought after for special occasions. Fishers reported that they used it whenever it was available **(Appendix II, Figure 26).** However, 17% of fishers did mention that it was sought after in a stewed form for baptismal celebrations and Creole activities. It is possible, though, that the Creole activities mentioned could have been in reference to the present times, rather than to the early days.

Demand, Economics and Trade

The sea turtle fishers interviewed had also been engaged in other activities for subsistence and income. These included other types of fishing activities such as pot/trap fishing, seining and filleting, tailoring, sailing, and farming of livestock and agricultural crops. This is by no means an indication that they were not dependent on the sea turtle fishery for a living. Most Saint Lucian fishers engage in a multi-species fishery, as any one fishery does not allow for sufficient economic gain. Fisheries of Saint Lucia include: shallow shelf and reef fish, deep slope fish, large pelagics, small cetaceans, coastal pelagics, lobster, conch, sea urchins, seamoss (algae), flying fish, freshwater fish and shrimp and, in the absence of the moratorium which ran from 1996 to 2004, a sea turtle fishery. The practice, in Saint Lucia, of fishers not being dependent on only one fishery for their livelihood, is still apparent today.

All turtle meat was used as subsistence and/or sold as a source of revenue **(Appendix II, Figure 28).** The custom, in the early days, of altruism, was also apparent, as a few fishers mentioned giving meat away, likely to friends or persons in need. Bartering also appeared to have been

practiced, where turtle meat would be exchanged for agricultural produce, including chicken, rabbit, beef, honey and cassava.

Turtle products were sold largely to locals, rather than to visitors **(Appendix II, Table 5, Figure 29).** Fishers provided a wide range of prices for various products **(Appendix II, Table 6),** which was probably indicative of whom the product was being sold to (a visitor or established trader would be charged the highest prices). Prices would also have been expected to increase over time.
Turtle products, such as meat and shell, were reported as being exported to the United States, Trinidad, Martinique, England, Dominica and Japan **(Appendix II, Figure 30).** This was reported as being done by middle men (a go-between). The names "Mr. Fitz" and "Eddy King" were very commonly mentioned by fishers as being involved in the trade business. The sale of sea turtle shell was reported as bringing in the highest economic returns **(Appendix II, Figure 35; also Table 6).**

Awareness

Most fishers (67%) indicated their awareness of the existence of rules and laws that governed the sea turtle fishery in the early days **(Appendix II, Figure 36**). These 'rules/laws', largely reported as having been instituted by the Government of the day, included a close season, which extended from May to August each year, the non-disturbance of nesting turtles and eggs and weight limits. Infringement was reported as having occurred to varying degrees, ranging from 'hardly', 'sometimes' to 'often'. Responses of infringements 'sometimes occurred', accounted for 50% of fishers **(Appendix II, Figure 37).** The rules/laws mentioned by fishers are consistent with those in the 1911 and 1971 laws for the sea turtle fishery and these general provisions are still present in law today.

Isla Aves or Bird Island

Prior to delving into the information revealed by the interviewees about the sea turtle fishery and this island, it is important to provide an indication of its location **(Appendix III).** Isla de Aves (Spanish for 'Island of Birds') is a tiny and remote Caribbean islet disputed as belonging to Venezuela, lying to the west of the Leeward Islands chain at 15°40 18 N, 63°36 59 W. It is 375 meters in length and never more than 50 meters in width, and rises only 4 metres above the sea on a calm day. It is sometimes completely submerged during hurricanes. It is 115 miles southwest of Montserrat, the nearest land. It is 70 miles west of Dominica and 340 miles north of the Venezuela mainland (Wikipedia, the free encyclopaedia, 2006).

Fishers interviewed provided this account:

According to the interviewees, it was a small island off the coast of Dominica, with beach sand skirting all around. The island was reported to have had a flag of Spanish origin with a light on it. It was a nesting ground and habitat for giant Green Turtles and many bird species. The waters around the island were full of life such as eels, rays and many different types of fish. Persons from many different countries journeyed with ships to this island for the capture of these creatures, as part of the sea turtle trade.

Large ships, like the 'Lunita Compton' would anchor offshore to the island, and then small vessels would be rowed to the shore for the capturing expedition. Although sea turtles would come to nest during the day as well, most of them came at nights and thus, some persons also set up tents awaiting the arrival of the sea turtles in the evening. Some of the hunters collected birds' eggs in order to complement their trip's salary. There were so many turtles at any one time that the fishers could have captured selectively. Some turtles were captured on the beach by turning them on their backs, while others were captured in the water. Two to twenty turtles, depending on the size of the vessel, were then placed in the small vessels, manned by two to three men. The small vessels were then rowed back to the mother ship, where the turtles were hauled up using a block and tackle crane-like system. This process continued until the hunters were satisfied with their catch. The catch consisted predominantly of Green Turtles.

Fishers also reported that persons perished and vessels sank during trips to Bird Island, due to unfavourable weather and sea conditions. Pay was minimal for the turtle-catchers and sleeping facilities and food were meagre.

The turtles were brought to Saint Lucia[3], where some were sold in their entirety (wholesale) to vendors, who would, in turn, retail them to locals. Turtles and meat were sold at the Castries Market, and were an important source of meat for locals. Those that were not sold as an immediate source of meat were stored alive in a large dug out pond at Conway in Castries and a concrete pond at La Toc, Castries (North-West coast of Saint Lucia, **Appendix III**). The Government also purchased turtle meat for the hospitals (Victoria and Golden Hope) and prisons. In addition, turtle meat was exported to other countries such as Dominica, England, Martinique, Trinidad and United States of America. Turtles were also transported using smaller vessels, to communities along the West coast of Saint Lucia, such as Choiseul, for sale **(Appendix III).**

The trips to Bird Island, according to the fishers, were discontinued when the island became heavily guarded by soldiers. While all the fishers interviewed were able to supply information about Bird Island, only three of them had actually made the trip.

[3] The authors found information that indicated that that closed season did not apply to sea turtles taken from Bird Island: 1974. Value and Administration of the Fishery. In: Sea Turtles and the Turtle Industry of the West Indies, Florida and Gulf of Mexico. Edited by Thomas P. Rebel. University of Miami Press.

A Closing Note

The process for this historical survey on sea turtles was indeed a pleasurable journey for the surveyors and authors. The faces of fishers lit up as they became transported to a time gone by when life was simpler. It was a different time… a time of bartering, free giving, non-mechanization and minimal wastage. Times have changed, as evident by the ready availability of other types of meat at a reasonable cost, the advent of mechanized vessels and refrigeration, the dying out of the trade in turtle products, the institution of moratoria (1996 to 2004) and the setting of sterner penalties for offences. At the same time, some aspects have remained the same, and include varying prices for visitors as compared to locals, existence of regulations governing the sea turtle fishery and the infringement thereof, method for the sharing of catches among vessel owner and crew and a culinary taste for sea turtle meat among locals.

This report attempted to document a time gone by, make a few comparisons with present time and hopefully capture some traditional knowledge for reference by current and future generations. It is hoped that readers enjoyed reading it as much as the authors enjoyed documenting it!

Supplementary Fisher Contributions

During the course of the interview, fishers made additional comments that were worthy of note. These are presented below:

- People have to survive. The sea is there to exploit, given by God. The system allows chicken farmers to get rich but what about the farmers of the sea?

- Fishing during the full moon is best, because there is more blackfish (cetaceans). The liver of blackfish swells up during this time, which causes them to surface easily.

- When "thunder rolls", sea turtles will come close to shore and stay on the rocks overnight.

- A nesting turtle will fast for the entire nesting season until it has completed laying. It will wait in coral reef areas and survive "on its blood".

- When turtles are caught mating, the male will climb aboard the vessel if the female is caught and hauled. However, if the male is caught, the female will flee.

- Sea turtles "move more" [migrate] when the moon is "small" [quarter moons].

- During the hatching process, three turtles always die on the top, that is, the first three to crawl out of the nest.

- The penis of the sea turtle, used an aphrodisiac, must be taken in moderation. A fisher had to throw his uncle into a river to lose his erection after an overdose.

- A man can go for forty days and forty nights when he used the penis of the turtle as an aphrodisiac.

- During rainy conditions, when lightning strikes three times, turtles will come to the surface. Turtle fishermen are on standby after the first strike, which is an indication that the sea turtles are close by.

- Leatherback turtles are huge and savage. They will carry a fisherman's net away if the sun comes up while it is caught in the net.

- Turtle nests can be located by the presence of flies in an area.

- The submergence of Bird Island has caused the number of sea turtles found in Saint Lucia's waters to increase.

APPENDIX I: Sea Turtle Historical Questionnaire

Date of Interview_____
Name of Interviewer_____
Name of Recorder_____
Name of Respondent_____
Address of Respondent_____
Telephone Number of Respondent_____

Please feel free to record any additional information provided.

Social

1. How old were you when you first started fishing for/catching sea turtles? *(If an exact age is provided, please record it_____).*

(a) 10-15 years **(b)** 16-20 years **(c)** 21-25 years **(d)** Over 25 years

2. How old are you now? *(If an exact age is provided, please record it_____).*

(a) 50-55 years **(b)** 56-60 years **(c)** 61-65 years **(d)** 66-70 years **(e)** Over 70 years

Geographics

3. Where did you fish for/catch sea turtles? *(Indicate the name of the area/place and beach/bay (if applicable), whether inside or outside of Saint Lucia's waters).*

In Saint Lucia's waters	***Outside Saint Lucia's waters***
_____	_____
_____	_____
_____	_____

Catch and Effort

4. Generally, did you go out specifically to fish for/catch sea turtles or was sea turtle catching/fishing done opportunistically (when you happened to see one)?

(a) Specifically to target sea turtles **(b)** Opportunistic

5. What were your preferred day(s) of the week (if any) for sea turtle fishing/catching and why?

Day of Week	**Preference** *More than one slot may be ticked)*	**Reason**
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

6. At what time of day did you normally set out to go sea turtle fishing/catching and why*? (Time of day may be morning, afternoon, evening, night time, but in addition, prompt for specificity e.g., after 6:00 pm. Note too, that in the case of gear setting, there may be a different time for setting and retrieval).*

_____

_____

_____

7. At what time of year did you generally fish for/catch sea turtles and why? *(Indicate moon phases and months)*

Month	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Please tick month												
Moon Phase *Please tick phase*	**First quarter _____;** **Last quarter _____;** **New moon _____;** **Full moon _____;**											

8. (i) How did you capture sea turtles? *(You may circle more than one response)*

(a) By hand **(b)** Using fishing gear **(c)** Both (a) and (b) **(d)** Other_____
Please indicate

(ii) If you used gear to capture sea turtles, what type of gear did you use?

(a) Sea turtle net **(b)** Other_____

9. How many gear did you own?

Type of Gear	**Number**

10. If you used nets for catching sea turtles…

(i) How many did you tend to set at any one time?_____

(ii) Where did you most tend to set them? *(You may circle more than one).*

(a) Sandy areas **(b)** Coral reef areas **(c)** Seagrass bed areas **(d)** Other_____
Please indicate

(iii) How far offshore did you tend to set them?

_____

(iv) For how long (hours) did you tend to set them?

_____

11. How many people would generally go on a sea turtle fishing/catching trip with you?_____

12. (i) Did you ever camp out on beaches to catch sea turtles?

(a) Yes **(b)** No

(ii) If you camped out on beaches to catch sea turtles, indicate when *(month of year and day of week*).

Month	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Please tick month												

Day	**MON**	**TUES**	**WED**	**THURS**	**FRI**	**SAT**	**SUN**
Please tick day							

(iii) For how long at a time?_____

(iv) How was it done *(e.g. use of tents or other temporary shelters, sleeping bags, open air,* etc.)?

(v) Describe the waiting system *(e.g. shift system, everyone stayed up, etc)*?

_____

13. Where did you catch sea turtles? *(You may circle more than one response)*

(a) In the water (**b)** On the beach before the sea turtle laid its eggs

(c) On the beach while the sea turtle laid its eggs **(d)** On the beach after the sea turtle laid its eggs?

14. Generally, how many sea turtles did you tend to see on the beach on a given day or night?

(a) 5 and under **(b)** 6-10 **(c)** 11-15 **(d)** Over 15

15. What system did you use for taking sea turtles on the beach?

(a) Took all turtles seen **(b)** Took a pre-set number of certain species_____
Indicate species

(c) Took a pre-set number of all species **(d)** Other_____
Please indicate

16. Generally, how many sea turtles did you tend to catch in a given week (water and beach combined)? *(Indicate exact number if provided___).*

(a) 5 and under **(b)** 6-10 **(c)** 11-15 **(d)** Over 15

17. Generally, how many sea turtles did you tend to catch per year (water and beach combined)?_____

18. The highest number of sea turtles were caught…*(You may circle more than one responses)*

(a) in the water (**b)** on the beach before the sea turtle laid its eggs

(c) on the beach while the sea turtle laid its eggs **(d)** on the beach after the sea turtle laid its eggs?

19. In which month (s) did you normally catch the most sea turtles? *(Tick peak month(s))*

Month	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**
Please tick month												

20. What type of sea turtle did you catch? *(You may circle more than one response).*

(a) Green-"Torti" **(b)** Hawksbill-"Cawette" **(c)** Leatherback-"Agalou/Aclen"

(d) Loggerhead-"Cawen"

21. What type(s) of sea turtle was most commonly caught?
(Indicate 1 next to most commonly caught, 2 next to second most commonly caught, etc.). If the frequency is the same for any, use the same number)

(b) Green-"Torti"____ **(b)** Hawksbill-"Cawette"_____ **(c)** Leatherback-"Agalou/Aclen" ____

(d) Loggerhead-"Cawen"____

22. What was the most common approximate size in weight and carapace (back) length of the sea turtle(s) most often caught?

Species	**Weight**	**Carapace (back) Length**
Hawksbill		
Green		
Leatherback		
Loggerhead		

23. (i) Did you have a preferred size of sea turtle?

(a) Yes **(b)** No

(ii) If yes, what was the preferred size of sea turtle to harvest?

Species	**Weight**	**Carapace (back) Length**
Hawksbill		
Green		
Leatherback		
Loggerhead		

24. How did you store the sea turtles that you caught?

_____

25. What would you do when you caught a sea turtle which was not of the preferred size?

_____

26. Did you also tend to take/harvest the eggs of the sea turtle?

(a) Yes **(b)** No

Resource Use

27. Please provide details on the use of parts.

Parts Used *(Please tick)*	**Purpose**	**Preparation**	**Parts Discarded** *(Please list or indicate none)*
Meat			
Eggs			
Shell			
Flippers			
Blood			
Stomach			

Parts Used *(Please tick)*	**Purpose**	**Preparation**	**Parts Discarded** *(Please list or indicate none)*
Fat			
Penis			
Other _____	*(Indicate which parts were used if applicable, for medicinal purposes, the making of oil, as an aphrodisiac, etc.)*		

28. (i) Was sea turtle meat a major part of your family's diet?

(a) Yes **(b)** No

(ii) If yes, how often would you eat it?_____

29. (i) Did you prefer the meat of any particular type of sea turtle?

(a) Yes **(b)** No

(ii) If yes, indicate the type (s) and reason(s).

Species	**Preference** *(Please tick)*	**Reason**
Hawksbill		
Green		
Leatherback		
Loggerhead		

30. (i) Did you prefer the eggs of any particular type of sea turtle?

(a) Yes **(b)** No

(ii) If yes, indicate the type (s) and reason(s).

Species	**Preference** *(Please tick)*	**Reason**
Hawksbill		
Green		
Leatherback		
Loggerhead		

31. (i) Were any parts of the sea turtle particularly sought after for special occasions (e.g. weekends, birthdays, holidays, weddings, baptisms, etc.)?

(a) Yes **(b)** No

(ii) If yes, for what occasions?

_____

(iii) Please provide details on use of parts for special occasions

Parts Used *(Please tick)*	**Purpose***(if different from 27)*	**Preparation** *(if different from 27)*
Meat		
Eggs		
Shell		
Flippers		
Blood		
Stomach		
Fat		
Penis		
Other _____	*(Indicate which parts were used if applicable, for medicinal purposes, the making of oil, as an aphrodisiac, etc.)*	

32. (i) Was any part of the sea turtle considered a delicacy (something special)?

(a) Yes **(b)** No

(ii) Which parts were considered a delicacy? *(More than one may be ticked)*

Meat_____; **Eggs**_____; **Flippers**_____; **Stomach**_____; **Shell**_____; **Blood**_____; **Fat** _____; **Penis**_____; **Other**_____
Please indicate

Demand, Economics and Trade

33. (i) What did you do with the sea turtles that you caught? (*You may circle more than one response)*

(a) Sold **(b)** Ate **(c)** Bartered **(d)** Other_____
Please indicate

(ii) Indicate the level of dependence on sea turtles.

Income:	**(a)** ¼ (25%)	**(b)** ½ (50%)	**(c)** ¾ (75%)	**(d)** Fully (100%)
Food :	**(a)** ¼ (25%)	**(b)** ½ (50%)	**(c)** ¾ (75%)	**(d)** Fully (100%)
Barter :	**(a)** ¼ (25%)	**(b)** ½ (50%)	**(c)** ¾ (75%)	**(d)** Fully (100%)
Other :	**(a)** ¼ (25%)	**(b)** ½ (50%)	**(c)** ¾ (75%)	**(d)** Fully (100%)

_____
Please indicate

34. What other activities, if any, were you engaged in for a living (income)?
_____

35. What other activities, if any, were you engaged in for food (subsistence)?
_____

36. For what did you barter the sea turtles or their parts or products?
_____
_____

37. How did you share your catch among group/crew members (e.g. sharing of sea turtle meat, shell, eggs, etc., or sharing of money from sale)?

_____

_____

38. (i) Did you tend to sell (trade) sea turtle meat/other sea turtle products?

(a) Never **(b)** Sometimes **(c)** Usually **(d)** Always

(ii) Please provide trade details. *(Table reads from left to right per row)*

Sale of meat to locals **(a)** Yes **(b)** No	**Level of processing** *(may indicate more than one response)* **(a)** Fresh **(b)** Salted **(c)** Both a & b **(d)** Other_____	**Average cost per pound**
Sale of meat to visitors, hotels and restaurants **(a)** Yes **(b)** No	**Level of processing** *(may indicate more than one response)* **(a)** Fresh **(b)** Salted **(b) (c)** Both a & b **(d)** Other_____ *Please indicate*	**Average cost per pound**
Sale of eggs to locals **(a)** Yes **(b)** No	**Source of eggs** *(may indicate more than one response)* **(a)** Inside sea turtle **(b)** Laid in nest **(c)** Both	**Average cost**
Sale of eggs to visitors, hotels and restaurants **(a)** Yes **(b)** No	**Source of eggs** *(may indicate more than one response)* **(a)** Inside sea turtle **(b)** Laid **(c)** Both	**Average cost**
Sale of other parts/products to locals (a) Yes **(b)** No	**Parts/Products** (*Please tick)* **Shell___** **Flippers___** **Stomach___** **Jewellery____** **Soup_____** **Oil_____** **Penis_____**	**Average cost** **Shell_____** **Flippers_____** **Stomach_____** **Jewellery_____** **Soup_____** **Oil_____** **Penis_____** **Other_____**

	Other_____ *Please indicate*	*Please indicate*	
Sale of other parts/products to visitors, hotels and restaurants **(a**) Yes **(b)** No	**Parts/Products** (*Please tick)* **Shell**___ **Flippers**___ **Stomach**___ **Jewellery**____ **Oil**_____ **Soup**_____ **Penis**_____ **Other**_____ *Please indicate*	**Average cost** **Shell**_____ **Flippers**_____ **Stomach**_____ **Jewellery**_____ **Oil**_____ **Soup**_____ **Penis**_____ **Other**_____ *Please indicate*	
Barter of sea turtle parts/ products **(a)** Yes **(b)** No	**Parts/Products bartered** *(Please tick)* **Meat**_____ **Eggs**_____ **Shell**_____ **Flippers**_____ **Stomach**___ **Jewellery**____ **Oil**____ **Penis**_____ **Other**_____ *Please indicate*	**Level of processing of turtle meat used in barter** *(may indicate more than one response)* **(a)** Fresh **(b)** Salted **(c)** Both a & b **(d)** Other_____	
Export of sea turtle parts and products **(a)** Yes **(b)** No **Use of a middle man** **(a**) Yes **(b)** No	**Parts/Products** *(Please tick)* **Meat**_____ **Eggs**_____ **Shell**_____ **Flippers**____ **Stomach**___ **Jewellery**____ **Oil**____ **Penis**_____ **Other**_____ *Please indicate*	**Destination** **Meat**_____ **Eggs**_____ **Shell**_____ **Flippers**_____ **Stomach**_____ **Jewellery**_____ **Oil**_____ **Penis**_____ **Other**_____	**Average cost** **Meat**_____ **Eggs**_____ **Shell**_____ **Flippers**_____ **Stomach**_____ **Jewellery**_____ **Oil**_____ **Penis**_____ **Other**_____

39. (i) Were you or your family personally involved in jewellery making?

(a) Yes **(b)** No

(ii) Did you know of any person in Saint Lucia who was involved in jewellery making?

(a) Yes **(b)** No

(iii) If yes to 39 (i) and/or (ii), which species were used? *(Please tick appropriate response)*

Hawksbill Turtle_____ **Green Turtle**_____

Leatherback Turtle_____ **Loggerhead Turtle**_____

(iv) If yes to 39 (i) and/or (ii), what type of jewellery was made?

_____

_____

40. What did you consider the most valuable part of the sea turtle, in terms of returns?

_____

Awareness

41. (i) Were there any rules/laws regarding sea turtles when you started fishing for/catching sea turtles?

(a) Yes **(b)** No *(If no, skip other parts of question and move to question 42)*

(ii) If there were any rules/laws regarding sea turtles when you started fishing for/catching sea turtles, were the rules/laws based on a system set up by the fishermen or one created by the government?

(a) By fishermen **(b)** By government

(iii) What were the rules/laws?

Fishermen rules_____

_____

_____

Government laws _____

_____

_____

(iv) Based on the rules/laws, did illegal catching of sea turtles….

(a) never occur? **(b)** hardly ever occur? **(c)** sometimes occur? **(d)** often occur?

42. If no rules/laws existed at the time, how did the introduction of the laws affect the fishery (e.g. level of illegal activity, level of organisation or discord among fishermen, number of persons in fishery, etc)?

Activity	**Effect of Law on Fishery** *(Please tick appropriate response for each activity)*		
	Increase	**Decrease**	**No effect**
Level of illegal fishing/harvest			
Level or organisation in fishery			
Level of conflict/disagreement regarding fishery			
Number of persons in fishery			
Other_____ *Please indicate*			
Other_____ *Please indicate*			
Other_____ *Please indicate*			

43. (i) Do you know of any other sea turtle fisherman from the early days, who is still alive today?

(a) Yes **(b)** No

(ii) If yes, please indicate name (given and nick names) and address if known, so that they can be interviewed.

Trends and Other

44. What can you say about sea turtle catching and **Bird Island (Aves Island**) off the coast of Venezuela? *(Prompt when necessary to cover, at least, the following: who was in charge of the expedition; how long did it take to get to the island; what size of vessel was used per expedition; how many vessels were used per expedition; how many people were employed per expedition; how much was each person paid; how long were expeditions; number of sea turtles caught; how sea turtles were caught, transported and stored; what was done with the sea turtles caught; any other animals caught (e.g. birds); etc)?*

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

The following questions are not part of the historical survey and the results will not be included in the report. The opportunity was simply used to obtain fisher perceptions on current issues regarding the fishery.

45. Is the use of sea turtles, parts or products still considered important today?

(a) Definitely **(b)** Somewhat **(c)** Not at all

46. (i) Do you know that the sea turtle fishery is now closed?

(a) Yes **(b)** No

(ii) If yes, to the best of your knowledge, when was it closed?

_____

(iii) If yes, to the best of your knowledge, what reason was given by the Government for closing the fishery?

_____
_____

47. Do you understand the reason(s) (given by the Government) for closing the sea turtle fishery?

(a) Yes **(b)** No

48. **(i)** Do you agree with the reason(s) (given by the Government) for closing the sea turtle fishery?

(a) Yes **(b)** No

(ii) Why yes or no?

_____

_____

_____

(iii) If no, what do you believe were the reasons for closing the fishery?

_____

_____

49. (i) Do you think that there are the same, less, or more sea turtles today than there were when you started fishing for/catching sea turtles?

(a) The same then as now **(b)** More turtles now **(b)** More turtle in the early days

(ii) Why do you think this is so?

_____

_____

_____

50. Are you still interested in fishing for/catching sea turtles?

(a) Yes **(b)** No

51. (i) If the sea turtle fishery was re-opened, do you think that there would be a high local demand for sea turtle meat?

(a) Yes **(b)** No

(ii) Why yes or no?

_____

_____

_____

52. <u>Any Other Information</u>

THANK YOU FOR YOUR KIND COOPERATION. YOU HAVE MADE A VALUABLE CONTRIBUTION TO HISTORY!

APPENDIX II: Outcome

Note.
At various points in the presentation of this section, mention is made of an opportunistic turtle fisher. This fisher did not go out specifically to target sea turtles, but would capture them at sea if the opportunity arose, especially if did he not have a good fishing day for other targeted species. His fishery of choice was small cetaceans.

Social Aspects

The twelve (12) fishers interviewed ranged in age from fifty-six to seventy-five (56-75) years. Age of first engagement in sea turtle harvesting ranged from nine to thirty (9-30) years and of these persons, year of first engagement in sea turtle harvesting ranged from 1944 to 1969 **(Table 1**).

Table 1: Sea Turtle Fisher Demographics by Community

Community	No. of Fishers	Percentage	Age of Fisher	Year of 1st Engagement	Age of 1st Engagement
Gros Islet	1	8	75	1944	15
Castries	4	33	65	1956	17
			73	1962	30
			75	1946-1947	17-18
			60	1960	15
Anse La Raye	1	8	65	1964	25
Soufriere	2	17	57	1963	16
			69	1960	25
Choiseul	2	17	70	1950	16
			57	1969	22
Micoud	2	17	56	1957	9
			68	1956	20
	12	**100**			

Biological Aspects

Species composition was as follows **(Figure 1):**

- 12/12 fishers or 100% indicated that Green and Hawksbill Sea Turtles were included in their catches. Of these:

- 8/12 fishers or 67% caught only Green and Hawksbill Turtles
- 2/12 fishers or 17% caught Green, Hawksbill, Loggerhead and Leatherback Turtles
- 1/12 fishers or 8% caught Green, Hawksbill and Loggerhead
- 1/12 fishers or 8% caught Green, Hawksbill and Leatherback Turtles.

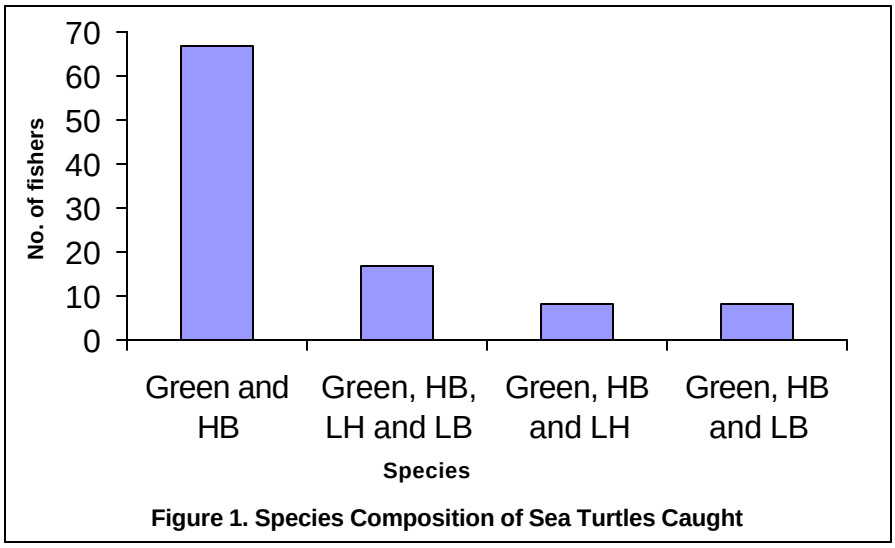


Figure 1. Species Composition of Sea Turtles Caught

Key: HB: Hawksbill; LB: Leatherback; LH: Loggerhead

Fishers reported that **juvenile** sea turtles were sometimes caught **(Figure 2):**

- 9/12 fishers or 75% said that all undersized turtles caught were released back into the sea
- 1/12 fishers or 8% indicated that undersized turtles were never caught
- 1/12 fishers or 8% reported that any undersized turtles caught were released into a river for later use
- 1/12 fishers or 8%, the opportunistic fisher, said that any turtle caught would be consumed.

} *16%*

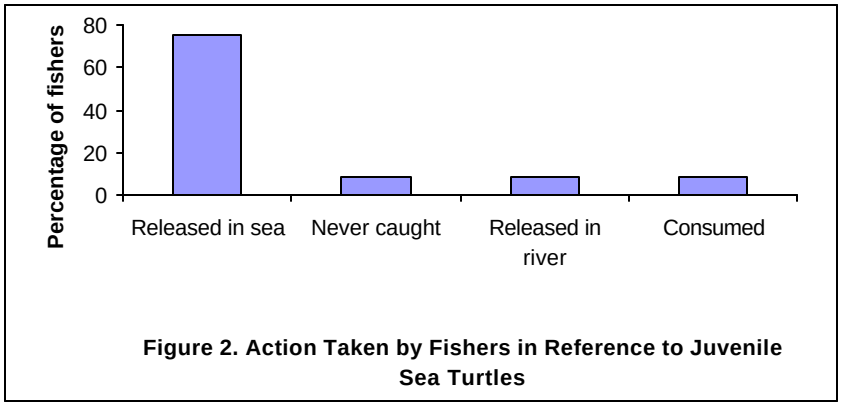


Figure 2. Action Taken by Fishers in Reference to Juvenile Sea Turtles

Level of sea turtle **egg-harvesting** varied **(Figure 3):**

- 8/12 fishers or 67%, including the opportunistic fisher, indicated that they did not harvest eggs, unless found inside the turtle
- 4/12 fishers or 33% harvested turtle eggs.

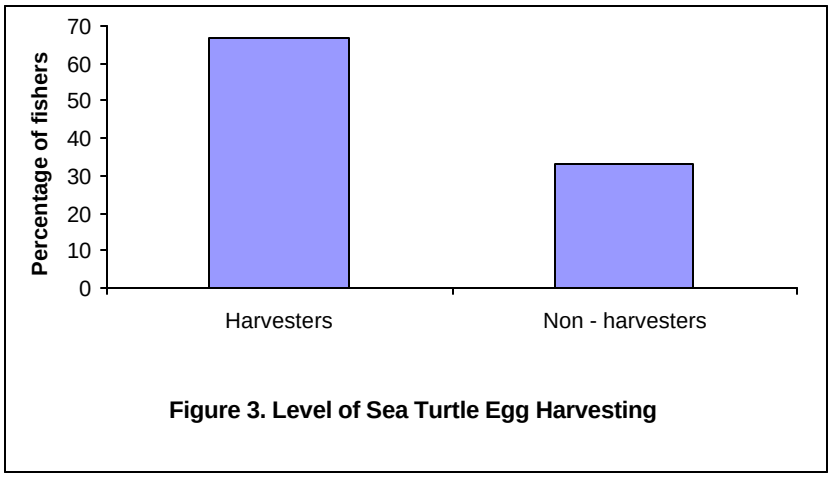


Figure 3. Level of Sea Turtle Egg Harvesting

Geographical Aspects

Persons fished for sea turtles in various communities around the island. There were twenty-nine (29) *responses* (more than one answer per person) (**Table 2, Figure 4).** If the island is roughly divided into a West and East Coast (see **Appendix III**):

- 22/29 responses or 76% fished off the West Coast
- 7/29 responses or 24% fished off the East Coast.

Table 2: Communities Where Sea Turtle Fishing Occurred

Community	Number of Responses	Percentage of Responses
West Coast		
Gros Islet	3	10
Castries	3	10
Anse la Raye	4	14
Canaries	2	7
Soufriere	3	10
Choiseul	5	17
Laborie	2	7

Community	Number of Responses	Percentage of Responses
SubTotal	**22**	**76**
East Coast		
Vieux-Fort	2	7
Micoud	4	14
Dennery	1	3
Sub Total	**7**	**24**

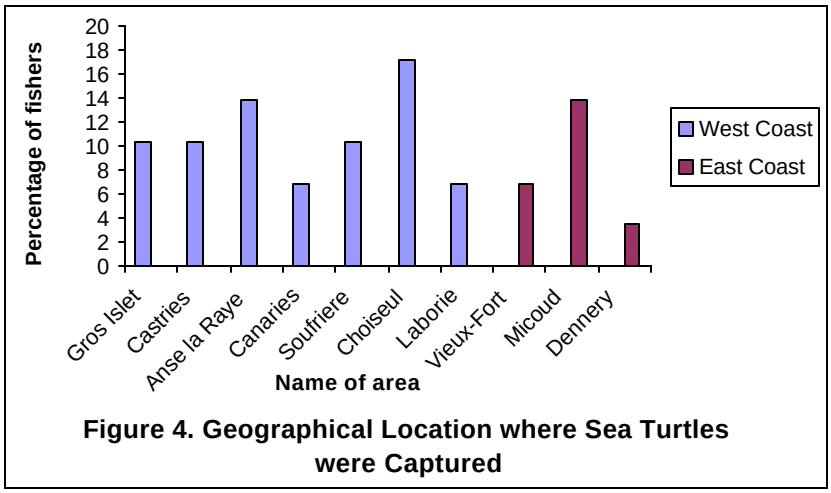


Figure 4. Geographical Location where Sea Turtles were Captured

Catch and Effort

Of the twelve (12) persons interviewed, eleven (11) or ninety-two percent (92%) were fishers who **specifically targeted** sea turtles, while one (8%), was an **opportunistic** fisher (**Figure 5**).

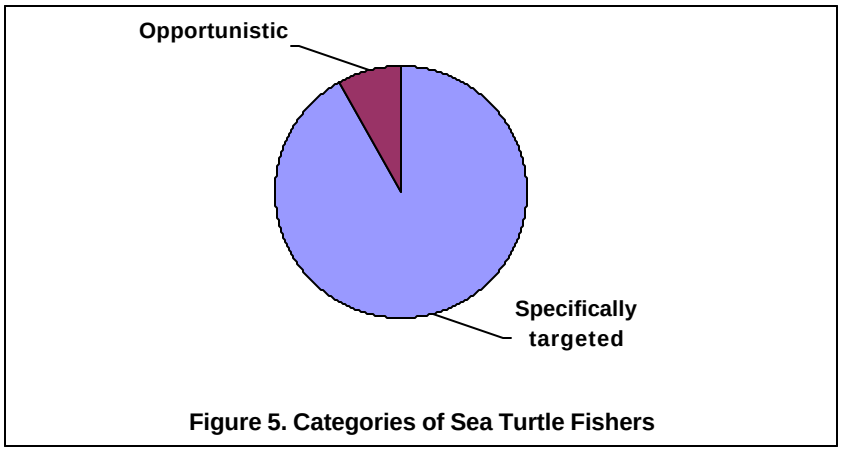


Figure 5. Categories of Sea Turtle Fishers

Manpower

The **number of crew** on a sea turtle fishing expedition varied **(Figure 6**):

- 8/12 fishers or 67% indicated that the crew would comprise two to three (2-3) persons
- 4/12 fishers or 33% indicated that the crew would comprise three to four (3-4) persons.

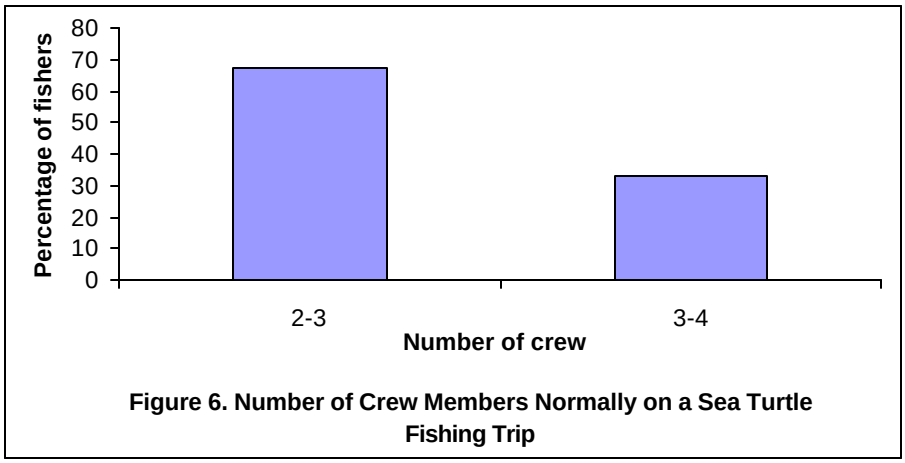


Figure 6. Number of Crew Members Normally on a Sea Turtle Fishing Trip

Where Caught and Observed

Camping was conducted on beaches with the purpose of capturing sea turtles **(Figure 7):**

- 6/12 fishers or 50% said that they camped on beaches. Of these:
    - 3/6 fishers or 50% indicated that they caught turtles on the beach
    - 3/6 fishers or 50% indicated that they captured turtles at sea

- 6/12 fishers or 50%, including the opportunistic fisher, said that they did not camp on beaches.

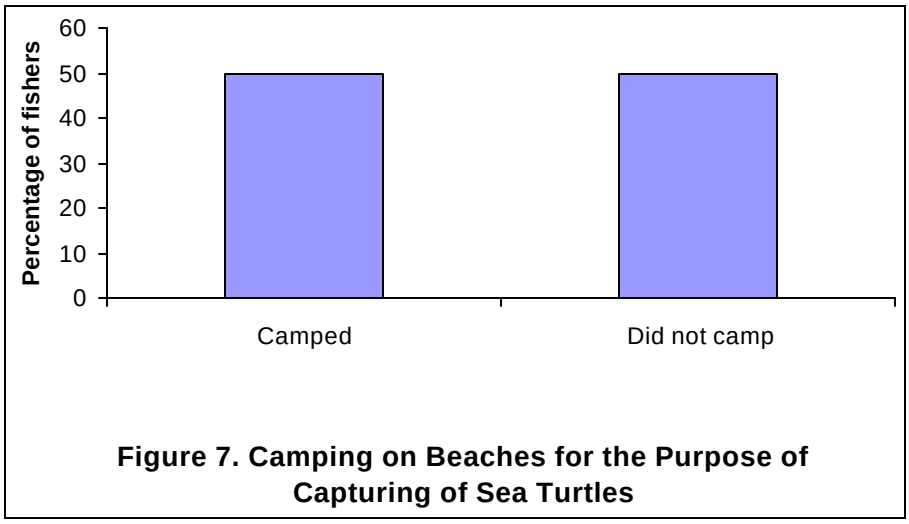


Figure 7. Camping on Beaches for the Purpose of Capturing of Sea Turtles

The **importance of location** as a factor for the **capturing** of sea turtles was indicated as below **(Figure 8):**

- For 10/12 fishers or 83%, location appeared to be important for the capturing of turtles (beach or water)
- 2/12 fishers or 17% indicated that they captured turtles wherever they were found, namely, the water and the beach.

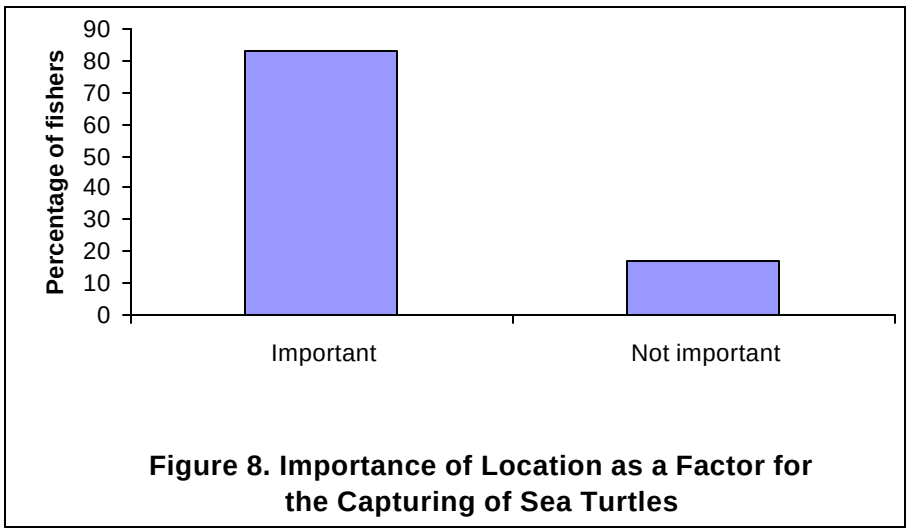
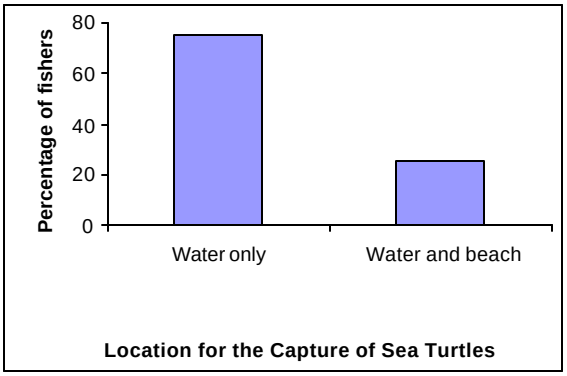


Figure 8. Importance of Location as a Factor for the Capturing of Sea Turtles

Both the **water and the beach** were reported as locations where sea turtles were **caught (Figure 9):**

- For 12/12 fishers or 100%, the water was one of the locations indicated for catching turtles. Of these fishers:
    - 3/12 fishers or 25% said that they also caught turtles on the beach. Of these:
        - 2/3 fishers or 67% indicated that they caught turtles on the beach before, while or after the turtle laid its eggs
        - 1/3 fishers or 33% indicated that turtles found on the beach were caught after they were allowed to lay their eggs
    - 9/12 fishers or 75%, including the opportunistic fisher, indicated that the water was the only location where they captured turtles.

It is important to note that no fishers reported the 'beach only' as the location where sea turtles were captured.



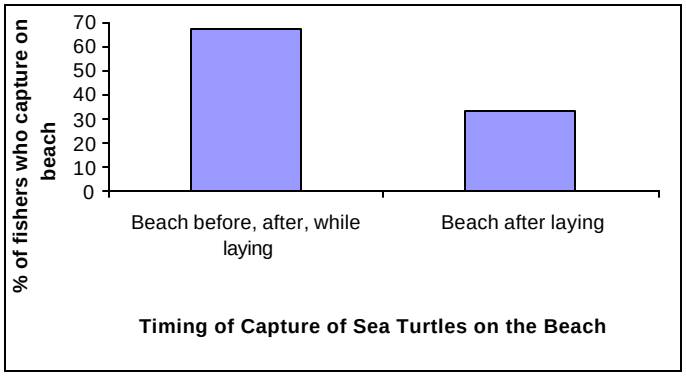


Figure 9. Location and Timing of Capture of Sea Turtles

In addition, still in relation to **water and beach** locations for the **capture** of sea turtles (**Figure 10)**:

- For 12/12 or 100%, the water was indicated among the favourable locations for catching sea turtles. Of these:
    - 1/12 fishers or 8% also included the 'beach after a turtle had laid its eggs' as favourable with regards to catching the most turtles
    - 11/12 fishers or 92% reported the water only as the favoured location for catching the most turtles.

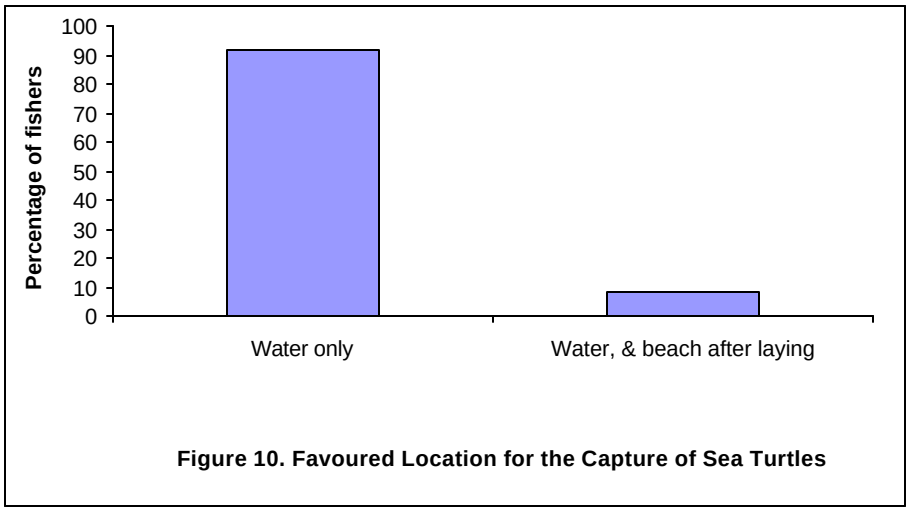


Figure 10. Favoured Location for the Capture of Sea Turtles

On a given day or night, the number of sea turtles **observed on a beach** was as follows: **(Figure 11):**

- 7/12 fishers or 58% observed no turtles on the beach. Of these:
  - 2/7 fishers or 29% said that turtles were observed in the water
  - 1/7 fishers or 14% reported the sighting of tracks on a specific beach
  - 4/7 fishers or 57% provided no other specific details
- For 5/12 fishers or 42%, when they observed turtles, they saw anywhere from one to three (1-3) turtles on the beach.

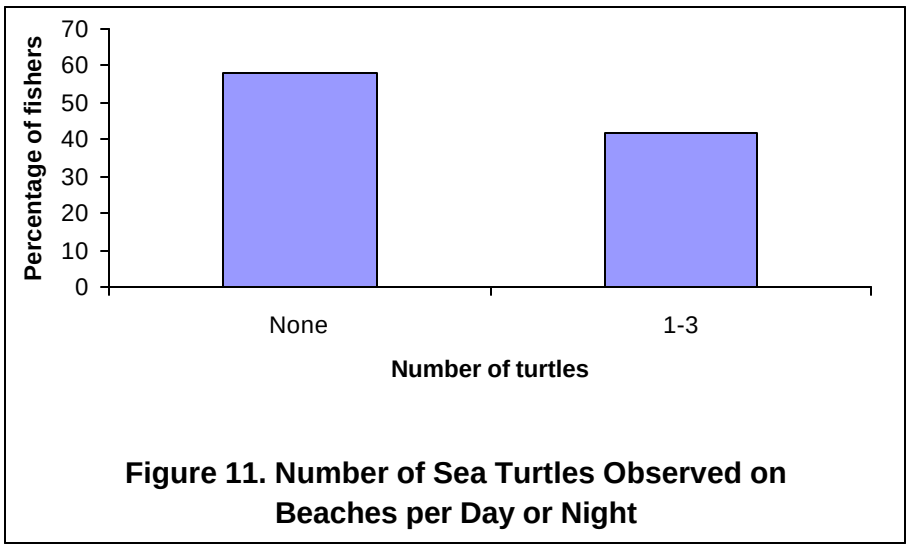


Figure 11. Number of Sea Turtles Observed on Beaches per Day or Night

In relation to the **capture of turtles observed on the beach,** turtles were either all caught or not caught at all **(Figure 12):**

- 9/12 fishers or 75%, including the opportunistic fisher, did not capture sea turtles observed on the beach
- 3/12 fishers or 25% took all turtles observed on the beach.

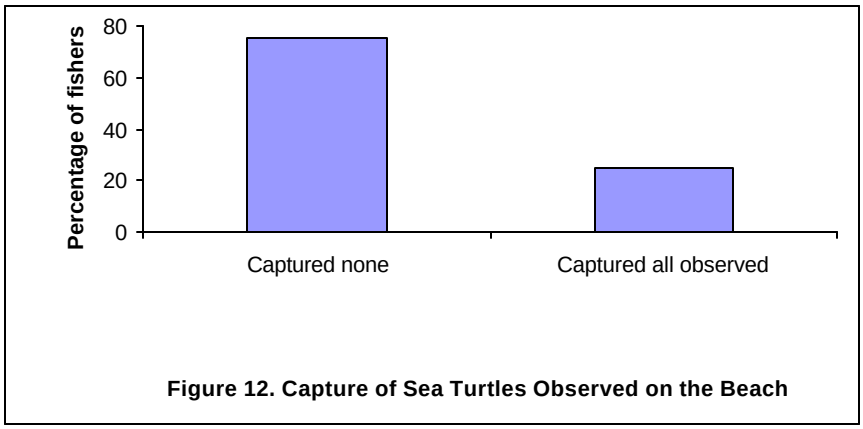


Figure 12. Capture of Sea Turtles Observed on the Beach

Numbers Captured

In a given week, the following **numbers** of sea turtles were generally **caught** (irregardless of location) **(Figure 13):**

- 8/12 fishers or 67% indicated that five or less (5) turtles were caught, with the most commonly caught number being three (3)
- 2/12 fishers or 17% said that they caught six to ten (6-10) turtles
- 1/12 fishers or 8% reported that he caught eleven to fifteen (11-15) turtles
- 1/12 fishers or 8% said that he caught over fifteen (>15) turtles.

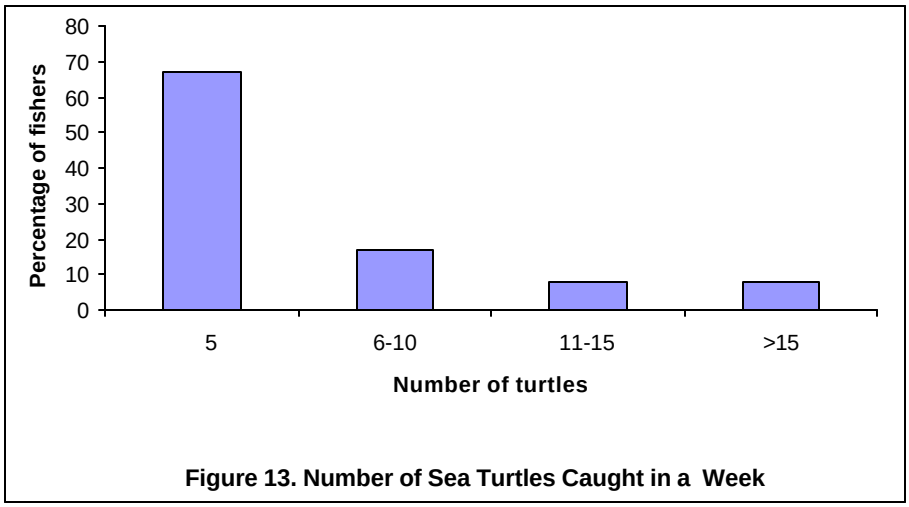
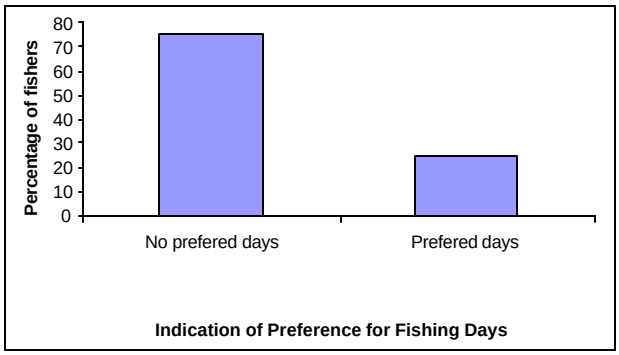


Figure 13. Number of Sea Turtles Caught in a Week

Fishing Time

Preferred days for fishing were indicated as below **(Figure 14)**:

- 9/12 fishers or 75%, including the opportunistic fisher, had no preferred day for a sea turtle fishing expedition
- 3/12 fishers or 25% had preferred fishing days. Of these:
    - 2/3 fishers or 67% indicated that they fished from Monday to Friday
    - 1/3 fishers or 33% indicated that he fished from Thursday to Saturday



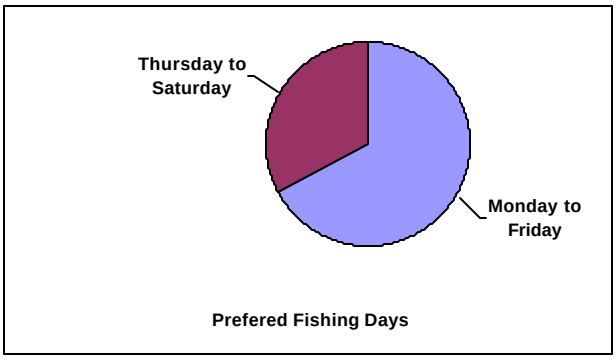
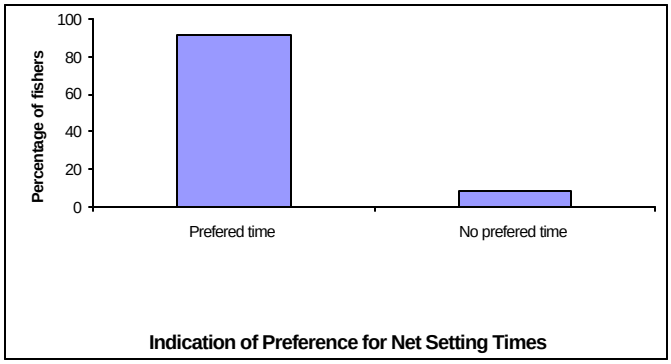


Figure 14. Fishing Days

Preferred net setting times were indicated as below (**Figure 15)**:

- 11/12 fishers or 92% had preferred net setting times. Of these:
  - 8/11 fishers or 73% set their nets in the morning, ranging between 5:00am and 9:30am
  - 3/11 fishers or 27% set their nets in the evening from as early as 4:00pm
- 1/12 fishers or 8%, the opportunistic fisher, did not have specific net setting times.



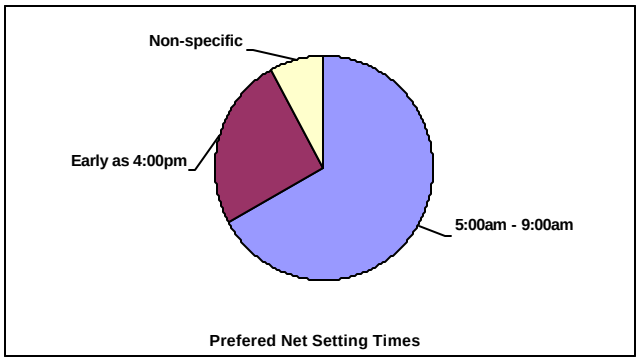
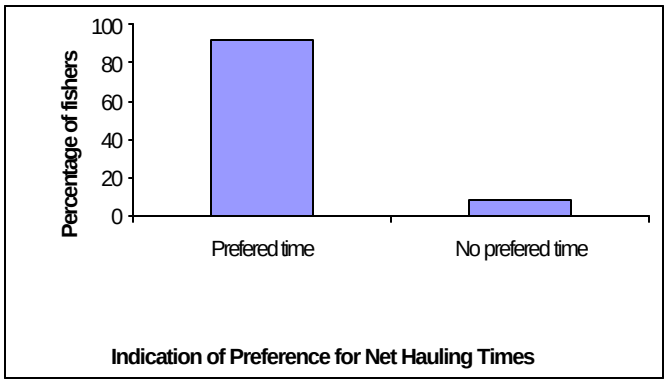


Figure 15. Net Setting Times

Preferred net hauling times were indicated as below (**Figure 16)**:

- 11/12 fishers or 92% had preferred net hauling times. Of these:
  - 6/11 fishers or 55% hauled their nets between afternoon and evening starting from 12:00pm
  - 5/11 fishers or 45% hauled their nets in the morning from approximately 5:00am
- 1/12 fishers or 8%, the opportunistic fisher, did not have specific net hauling times.



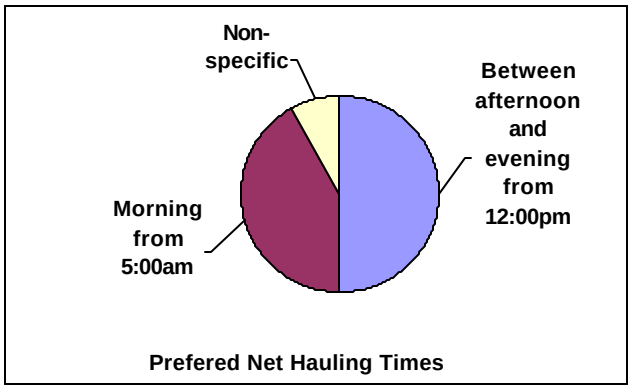
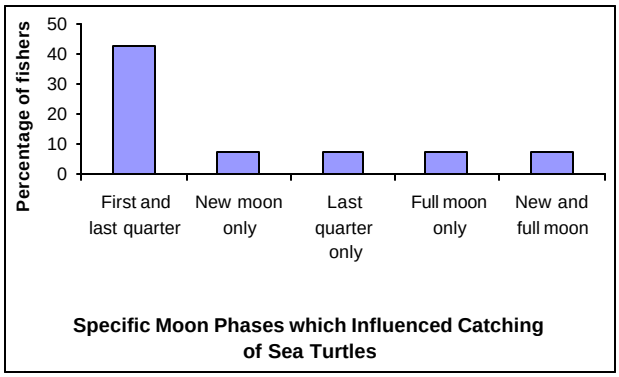


Figure16. Net Hauling Times

The majority of fishers felt that the **moon phase** influenced sea turtle catches (**Figure 17):**

- 9/12 fishers or 75% indicated that the moon phase influenced sea turtle catches. Of these:
    - 6/9 fishers or 67% generally fished for turtles in the quarter moon phase. Of these:
        - 5/6 fishers or 83% said that they generally fished for turtles during the first and last quarter of the moon phase
        - 1/6 fishers or 17% said that they generally fished for turtles during last quarter only
    - 3/9 fishers or 33% generally fished for turtles during phases of the moon other than quarter moon
        - 1/3 fishers or 33% indicated that he generally fished for turtles during the new moon phase
        - 1/3 fishers or 33% said that he generally fished for turtles during the new and full moon phases
        - 1/3 fishers or 33% generally fished for turtles during the full moon phase
- 3/12 fishers or 25% said that the moon phase was irrelevant in the catching of turtles.



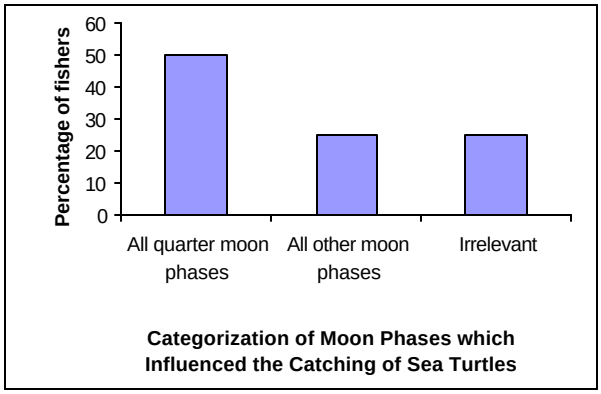


Figure 17. Moon Phases which Influenced the Capture of Sea Turtles

Fishing Gear

All of the fishers used some **type of fishing gear** for capturing sea turtles **(Figure 18)**:

- For 11/12 fishers or 92%, turtle nets were among the gear types used. Of these:
    - 1/11 fishers or 9% also used a fillet net and a gaff
    - 1/11 fishers or 9% also used a spear
    - 9/11 fishers or 82% only used turtle nets
- 1/12 fishers or 8%, the opportunistic fisher, captured sea turtles using a hand harpoon.

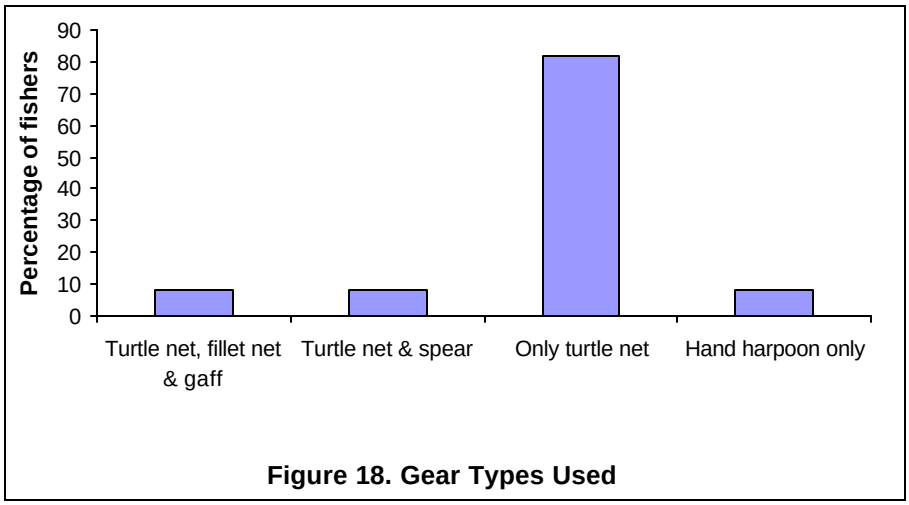


Figure 18. Gear Types Used

The **number of turtle gear** owned by the fishers ranged from one (1) to six (6) **(Figure 19):**

- 8/12 fishers or 67% owned two to three (2-3) turtle nets
- 1/12 fishers or 8% owned one (1) turtle net
- 1/12 fishers or 8% owned four (4) turtle nets
- 1/12 fishers or 8% owned six (6) turtle nets
- 1/12 fishers or 8% owned one (1) harpoon.

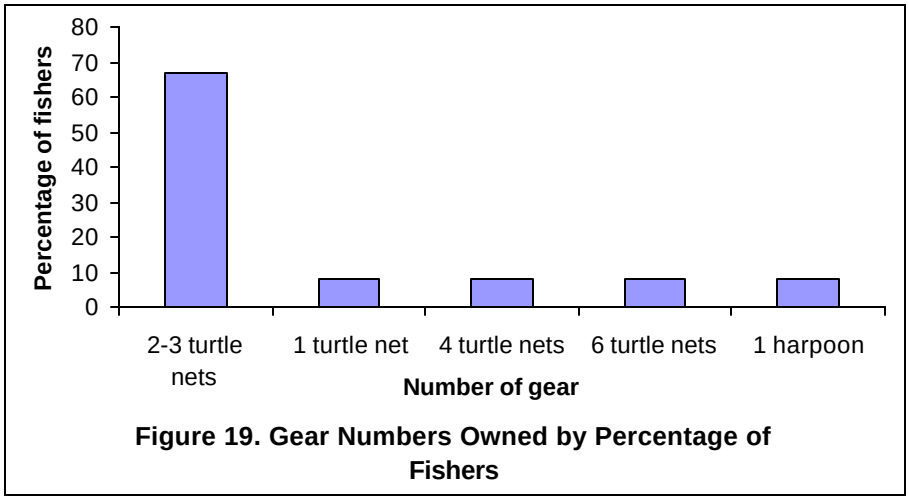
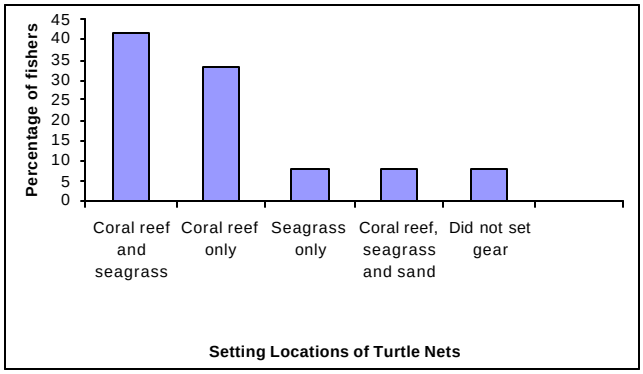


Figure 19. Gear Numbers Owned by Percentage of Fishers

Sea turtle nets were generally **set** at the same time, but in different and often a combination of **locations (Figure 20):**

- 11/12 fishers or 92% set their nets over coral reef and/or seagrass beds. Of these:
  - 5/11 fishers or 45% set their nets over coral reef and seagrass areas
  - 4/11 fishers or 36% set their nets over coral reef areas only
  - 1/11 fishers or 9% set their nets over seagrass areas only
  - 1/11 fishers or 9% set their nets over coral, seagrass and sandy areas
- 1/12 fishers or 8%, the opportunistic fisher, did not set gear.



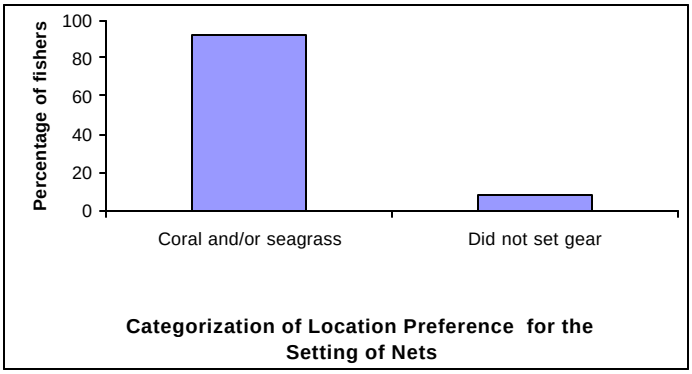


Figure 20. Influence of Bottom Substrate on Net Setting Location

The **distance from shore**, **where nets were set** varied, as follows **(Figure 21):**

- 8/12 fishers or 67% indicated a net setting distance of one quarter to one (1/4-1) mile
- 2/12 fishers or 17% indicated a net setting distance of two to three (2-3) miles

84%

- 1/12 fishers or 8% said that the net setting distance was 100 miles
- 1/12 fishers or 8%, the opportunistic fisher, did not own nets.

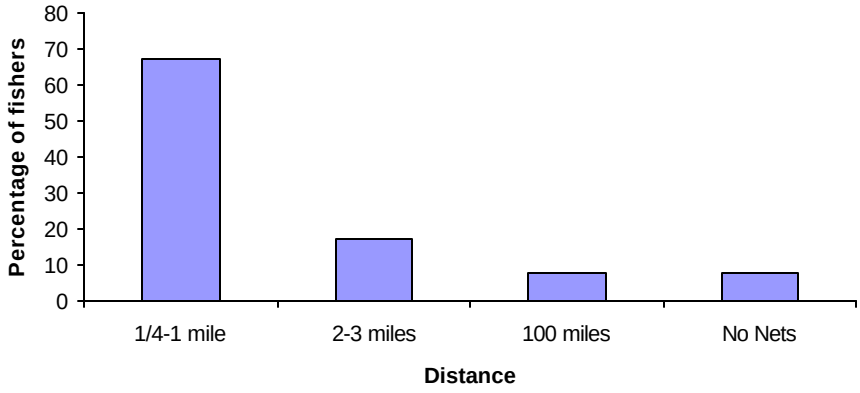


Figure 21. Sea Turtle Net Setting Distance from Shore

The **soak time for sea turtle nets** varied between fishers **(Figure 22):**

- 11/12 fishers or 92% allowed a soak time of between ten to twenty-four (10-24) hours
  - 6/11 fishers or 55% allowed a soak time of twenty four (24) hours
  - 4/11 fishers or 36% allowed a soak time from ten to thirteen (10 to 13) hours
  - 1/11 fishers or 9% allowed a soak time of ten to twenty-four (10-24) hours
- 1/12 fishers or 8%, the opportunistic fisher, did not own nets.

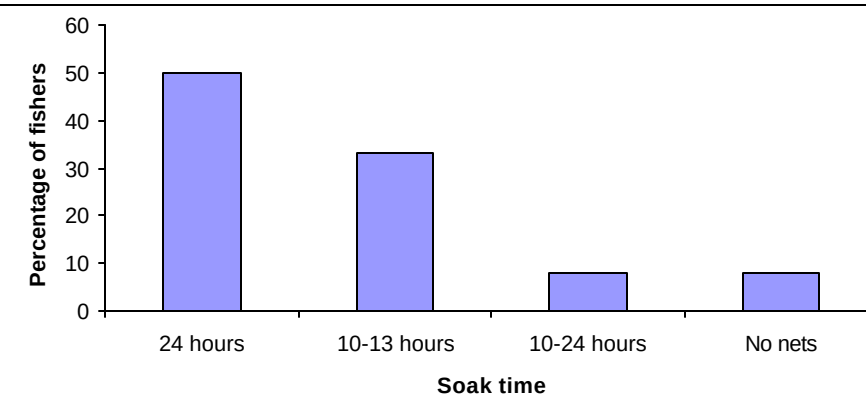


Figure 22. Sea Turtle Net Soak Time

Storage

Sea turtles were **stored** in various locations after they were caught **(Figure 23):**

- Placed on their backs**,** often with flippers tied
- Tied in bays
- Released in dug-out ponds
- Released in fenced areas over seagrass beds in the sea

Figure 23: Methods Used for the Storage of Sea Turtles

Use of Sea Turtle Resource

Turtle Parts

Most **parts** of the turtle were put to use **(Table 3):**

Table 3: Use of Turtle Parts by Fishers

Part of Turtle	Use
Meat	Food; sold for revenue
Eggs	Food; sold along with meat for revenue
Carapace (shell)	Sold for revenue; often exported for use in accessories; large ones used as containers, e.g. to hold ornamental fish; sometimes discarded;
Plastron (underside)	Food; sold for revenue along with meat; occasionally discarded;
Flippers	Food; sold along with meat for revenue;
Blood	Sometimes siphoned while turtle was still alive, for drinking, while squirting, in the raw state, for the treatment of asthma; also used in the treatment of arthritis; used in the making of blood pudding used as food or sold for revenue; sometimes discarded;
Stomach	Food; sold along with meat for revenue; was also used in the making of blood pudding used as food or sold for revenue; sometimes discarded;
Fat	Food; sold along with meat for revenue; was used in the treatment of burns;

Part of Turtle	Use
	sometimes converted to oil; sometimes discarded;
Penis	Used as an aphrodisiac; sold for revenue;

Culinary Aspects

All fishers, 12/12 or 100% indicated that sea turtle meat was an important part of their family's diet.

In relation to **meat preference**, only Hawksbill and/or Green Turtles were mentioned by fishers **(Figure 24):**

- 6/12 fishers or 50% indicated that they preferred the meat of Hawksbill Turtles
- 4/12 fishers or 33% said that the meat of the Green Turtle was preferred
- 2/12 fishers or 17% had no preference between the meat of the Hawksbill and Green Turtle.

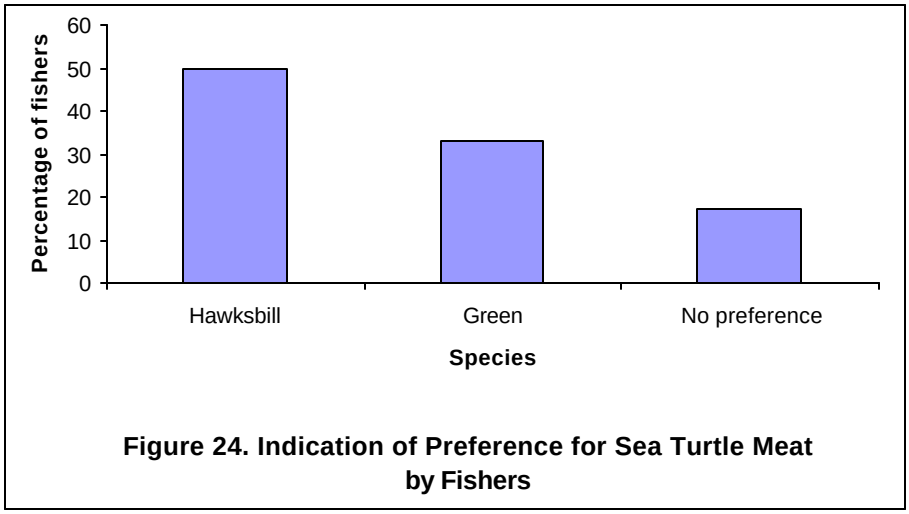


Figure 24. Indication of Preference for Sea Turtle Meat by Fishers

Egg preference varied as well **(Figure 25):**

- 8/12 fishers or 67% said that they had no preference with regards to turtle eggs
- 2/12 fishers or 17% preferred the eggs of the Hawksbill Turtle
- 2/12 fishers or 17% indicated that they did not harvest turtle eggs.

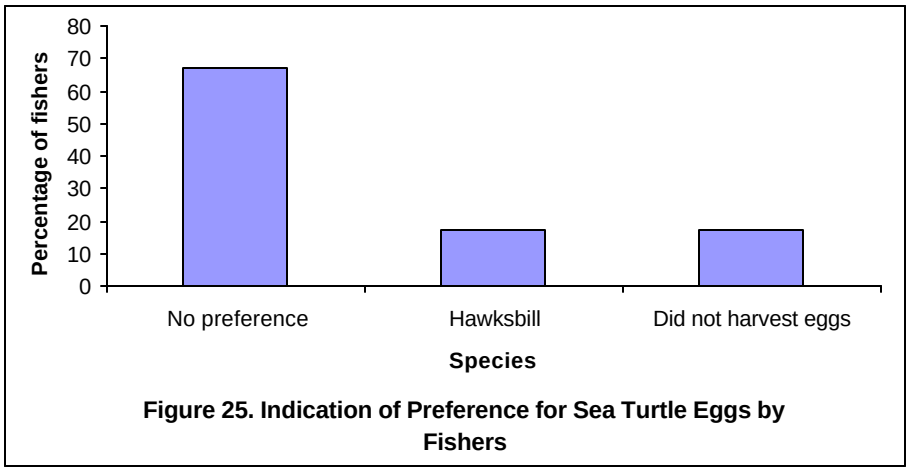


Figure 25. Indication of Preference for Sea Turtle Eggs by Fishers

While not common, turtle meat was sometimes used for **special occasions (Figure 26):**

- 10/12 fishers or 83% reported that turtle meat was not sought after for special occasions
- 2/12 fishers or 17% indicated that turtle meat was sought after for special occasions.

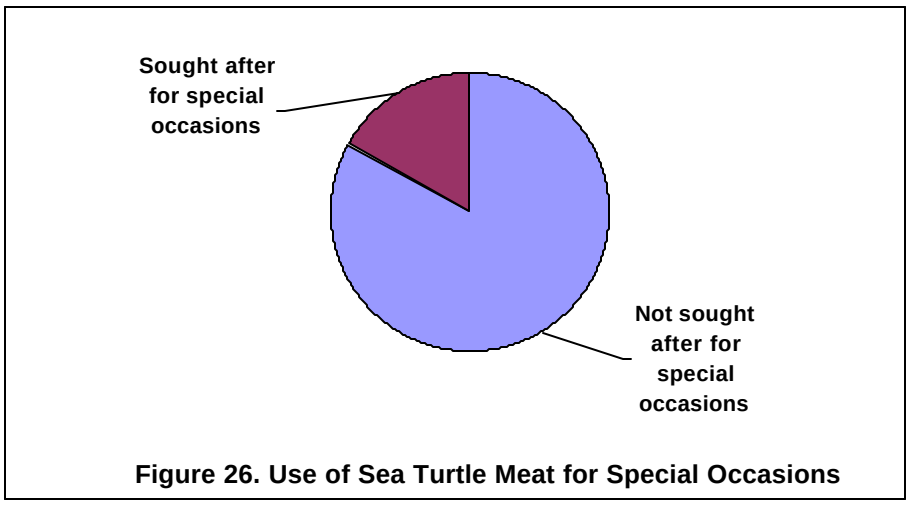


Figure 26. Use of Sea Turtle Meat for Special Occasions

All fishers considered a particular part of the turtle a **delicacy (Table 4, Figure 27):**

Table 4: Turtle Part Considered a Delicacy by Fishers

Part of Turtle	Number of Fishers	Percentage of Fishers
Meat near the flipper	7/12	58
• Meat near hind flipper	(4/7)	(57)
• Did not specify	(3/7)	(43)

Part of Turtle	Number of Fishers	Percentage of Fishers
Liver	2/12	17
Plastron (underside)	2/12	17
Meat near the flipper and liver	1/12	8

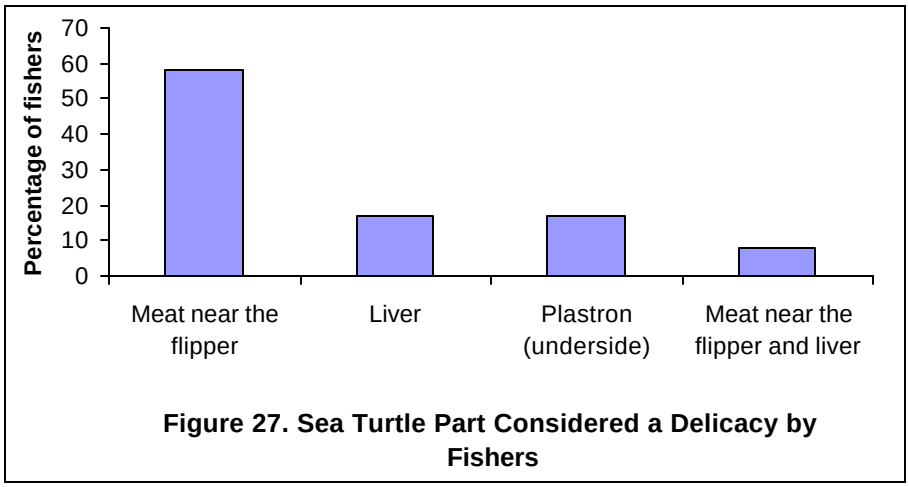


Figure 27. Sea Turtle Part Considered a Delicacy by Fishers

Demand, Economics and Trade

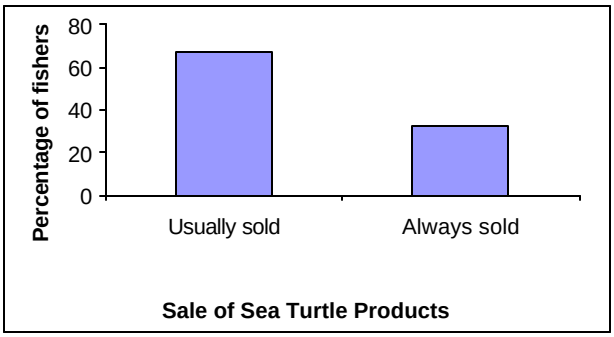
Consumption and Exchange

Sea turtle products were **consumed, sold or bartered (Figure 28):**

- 12/12 fishers or 100% reported the sale and/or consumption of turtles caught. Of these, specifically in relation to sale:
    - 8/12 fishers or 67% indicated that they usually sold turtle meat and other products
    - 4/12 fishers or 33% indicated that they always sold turtle meat and other products.

Bartering of sea turtle products was done as follows:

- 7/12 fishers or 58% indicated that they bartered turtle meat for other products
- 2/12 fishers or 17% said that they gave some of their catch away
- 3/12 fishers or 25% gave no other specific details.



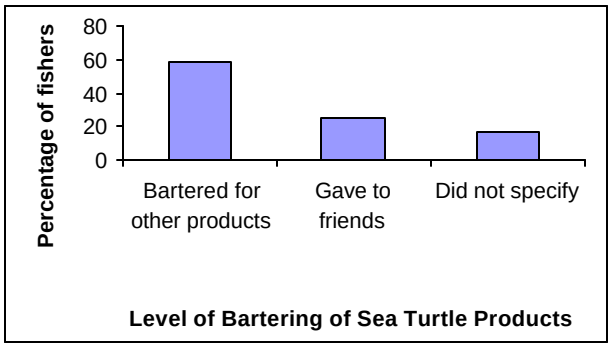


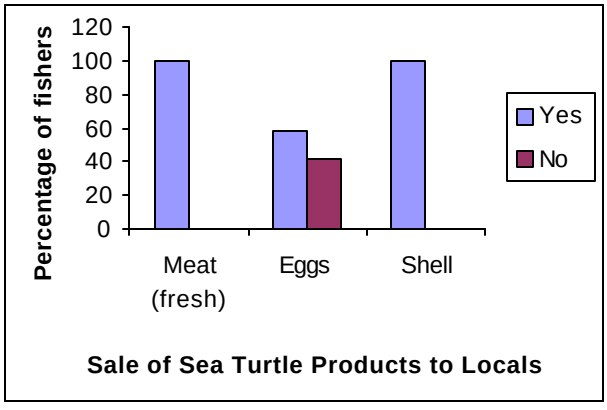
Figure 28. Sale and Bartering of Sea Turtle Products

Information obtained on the **specifics of sale** of sea turtle products was as follows **(Table 5, Figure 29):**

Table 5: Sale of Sea Turtle Products

Turtle Product	**Sale to Locals**		**Sale to Visitors, Restaurants and Hotels**	
	YES (No. or Percentage of Fishers)	**NO (No. or Percentage of Fishers)**	**YES (No. or Percentage of Fishers)**	**NO (No. or Percentage of Fishers)**
Meat (in fresh state)	12/12 or 100	0/12 or 0	6/12 or 50	6/12 or 50
Eggs	7/12 or 58	5/12 or 42	0/12 or 0	12/12 or 100
Shell	12/12 or 100	0/12 or 0	4/12 or 33	8/12 or 67

Note that while some fishers indicated that the penis of the turtle was used/sold, especially to locals (see discussion for details), it appears that the use of this product became more popular with time.



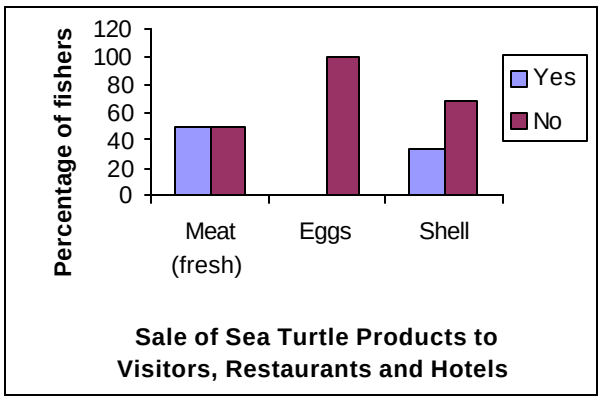


Figure 29. Sale of Sea Turtle Products

Table 6: Varied Cost of Sea Turtle Products Obtained by Respondents

Turtle Product	**Cost** (¢=cents; $=Eastern Caribbean Dollar; US$=United States Dollar)
Meat	▪ Per pound: 3¢; 4¢; 6¢; 9¢; 24¢; 25¢; 50¢; $1; $2; $3; $4; $5 ▪ Per 5 gallon bucket: $150 ▪ 25 pounds: US$100
Eggs	▪ Per pound:25¢ ▪ Per dozen: 12¢; 25¢; $3 ▪ 3 for 2¢ ▪ 5 for $$1
Shell/Scutes	▪ Shell per pound: 50¢; $2-$3; $20-$25; $20-$40; $45; $50; US$20 ▪ Per shell:$3-$5; $60-$70; $200-$300 ▪ Scutes per pound:; $5;
Penis	▪ $20 for 2 inches ▪ $150 for a whole

Export

Turtle products, shell and/or meat, were reported as having been **exported** to several countries **(Figure 30):**

- Dominca
- England
- Japan
- Martinique
- Trinidad
- United States of America

Figure 30: Countries to which Turtle Products were Reported as having been Exported

Information on the **jewellery and other accessory businesses** that utilized sea turtle shell was as follows **(Figure 31):**

- 11/12 fishers or 92% said that their families were not involved in the jewellery-making business
- 1/12 fishers or 8% indicated that he and his family were involved in the making of jewellery

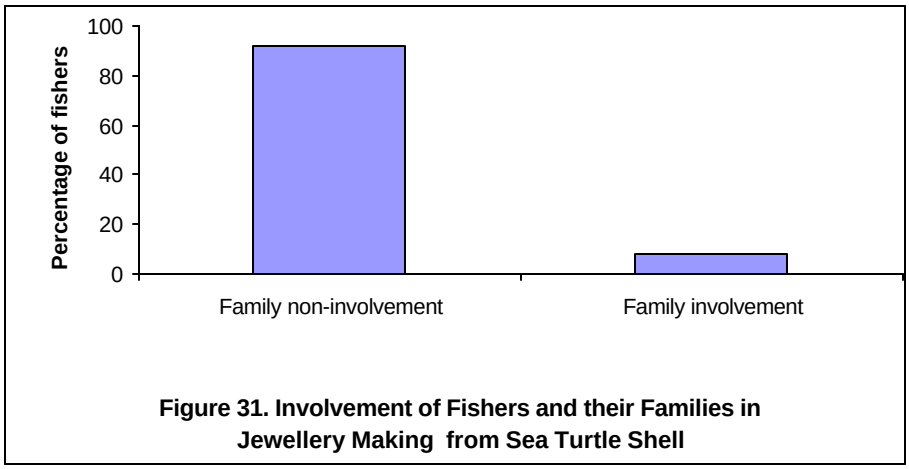


Figure 31. Involvement of Fishers and their Families in Jewellery Making from Sea Turtle Shell

Further, some fishers knew of **other persons, based in Saint Lucia,** who had been involved in the sea turtle shell **jewellery trade/business (Figure 32):**

- 8/12 fishers or 67% knew of other persons based in Saint Lucia who had been involved in the sea turtle shell jewellery trade/business
- 4/12 fishers or 33% did not know anyone based in Saint Lucia who had been involved in the sea turtle shell jewellery trade/business

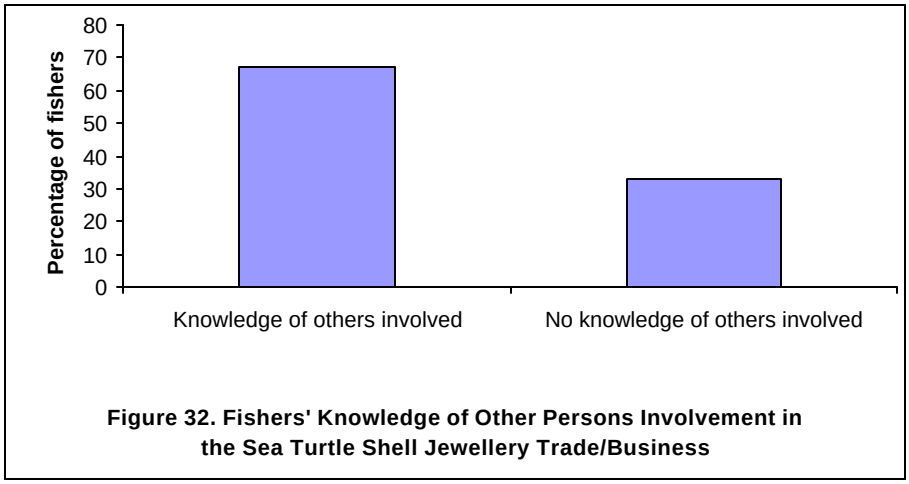


Figure 32. Fishers' Knowledge of Other Persons Involvement in the Sea Turtle Shell Jewellery Trade/Business

Species of sea turtles used in the **jewellery-business** were as follows **(Figure 33):**

- 6/12 responses or 50% indicated that Green Turtle shell was used
- 4/12 responses or 33% indicated that Hawksbill and Green Turtle shell were used
- 1/12 responses or 8% indicated that Green Turtle shell was used
- 1/12 responses or 8% indicated non-awareness of the species used.

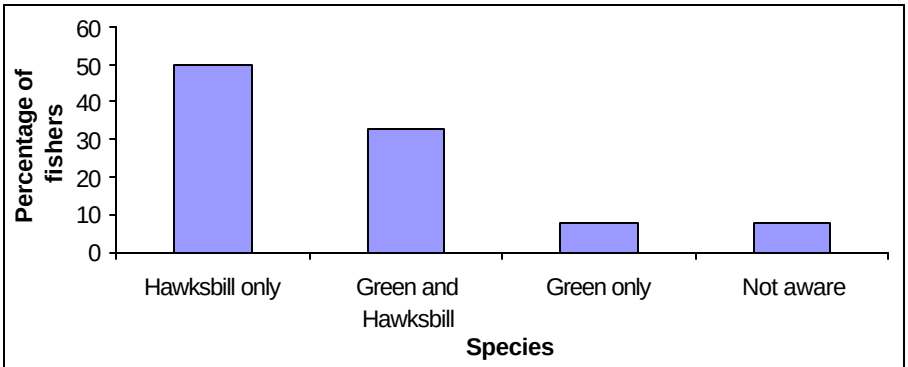


Figure 33. Species of Sea Turtle Used in the Making of Jewellery from Sea Turtle Shells

The **type of jewellery** and other accessories made was indicated as follows (**Figure 34):**

- Bracelets
- Combs
- Earrings
- Frames for spectacles
- Necklaces
- Rings
- Watch strappings

Figure 34: Accessories Made with Sea Turtle Shell

Highest Returns

The highest economic returns as indicated by fishers, was as follows **(Figure 35):**

- 7/12 fishers or 58% indicated that turtle shell brought in the highest economic returns
- 3/12 fishers or 25% reported that turtle meat brought in the highest economic returns
- 2/12 fishers or 17% said that all parts of the turtle were equally valuable with regards to economic returns

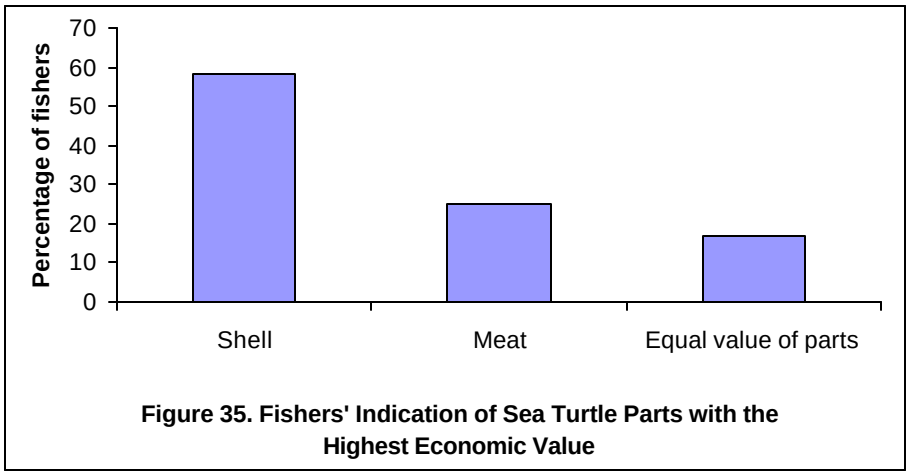


Figure 35. Fishers' Indication of Sea Turtle Parts with the Highest Economic Value

Awareness

Rules/Laws

The awareness level of fishers regarding rules/laws when they first engaged in sea turtle fishing was as follows **(Figure 36):**

- 8/12 fishers or 67% indicated that there were rules/laws. Of these:
  - 8/8 or 100% said that the rules were instituted by the Government, not the fishermen
- 4/12 fishers or 33% indicated that there were no rules/laws.

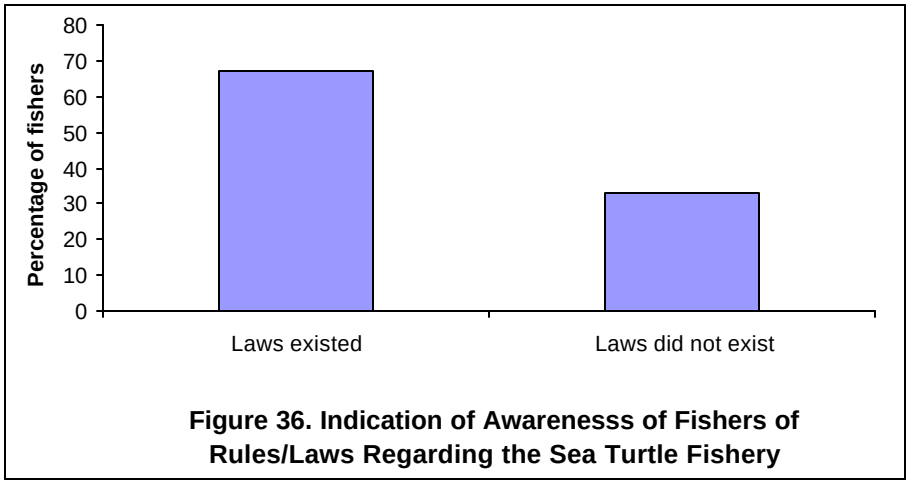
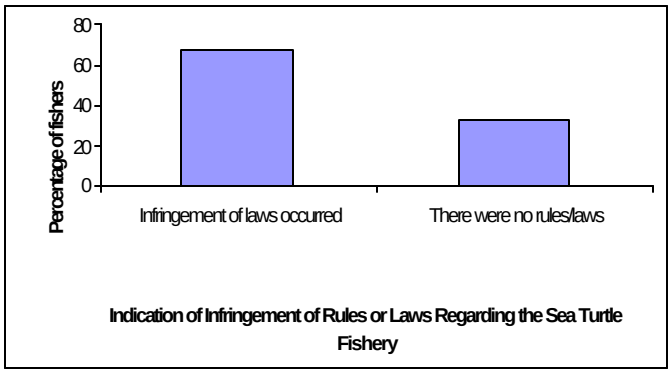


Figure 36. Indication of Awarenesss of Fishers of Rules/Laws Regarding the Sea Turtle Fishery

Infringement

Infringement of rules/laws was described as follows **(Figure 37):**

- 8/12 fishers or 67% indicated that infringement occurred. Of these:
    - 4/8 fishers or 50% indicated that infringement sometimes occurred
    - 3/8 fishers or 38% said that infringement often occurred
    - 1/8 fishers or 13% reported that infringement hardly occurred
- 4/12 fishers or 33% said that there were no rules/laws.



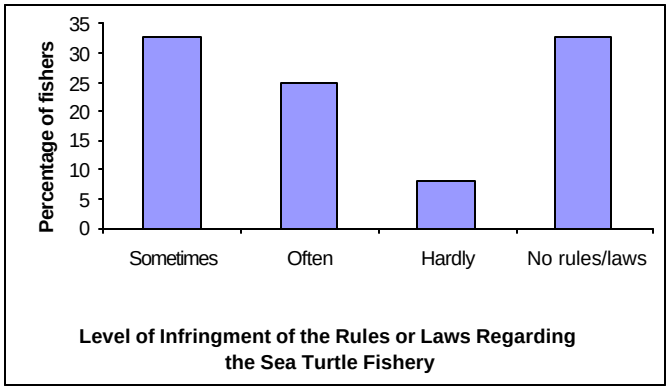


Figure 37. Infringement of Rules and Laws Regarding the Sea Turtle Fishery

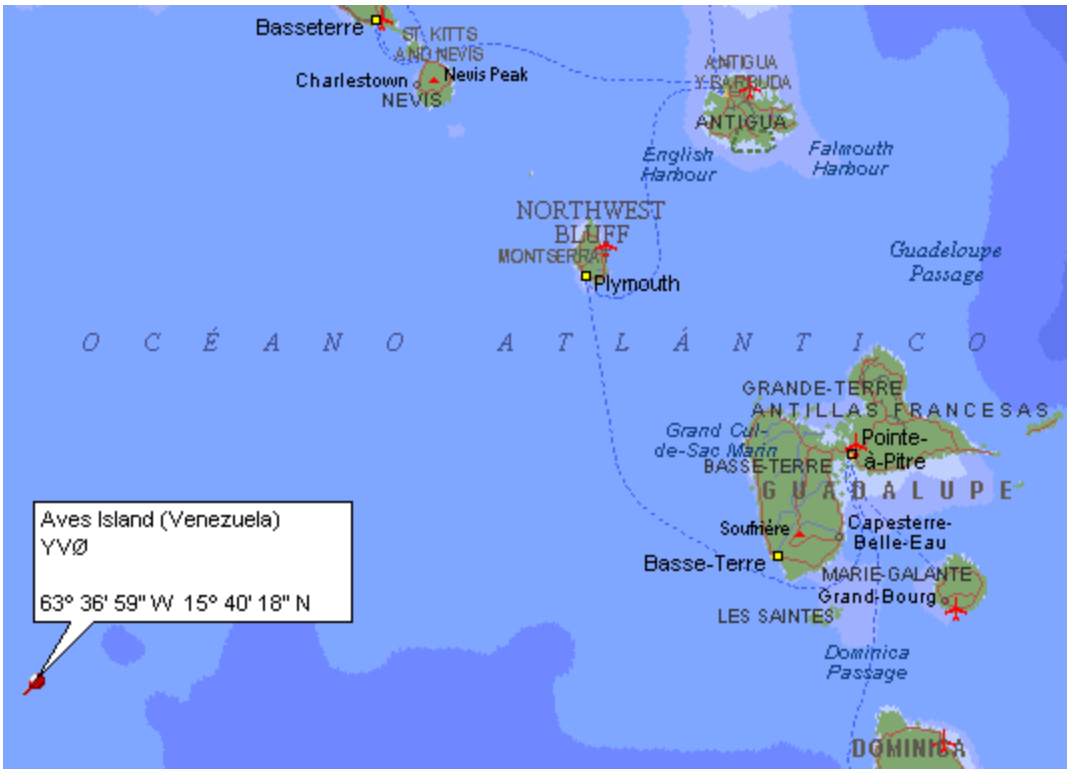
APPENDIX III: Geographical Maps

Source: http://www.smma.org.lc/Visitor%20Info.htm: 2006

Location of Saint Lucia in the Caribbean

Source: http://worldatlas.com/webimage/countrys/namerica/caribb/lgcolor/lccolor.htm: 2006

Map of Saint Lucia



Source: http://www.earth.northwestern.edu/people/alberto/caribbean/gpstations/aves.html: 2006

Location of Bird Island

FOR FURTHUR INFORMATION, PLEASE CONTACT:

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