WATS II REPORT / DATA SET

National Report to WATS II for Grenada

James Finlay

12 October 1987

WATS2 056

WIDECAST
Wider Caribbean Sea Turtle Conservation Network

With a grant from the U.S. National Marine Fisheries Service, WIDECAST has digitized the databases and proceedings of the **Western Atlantic Turtle Symposium (WATS)** with the hope that the revitalized documents might provide a useful historical context for contemporary sea turtle management and conservation efforts in the Western Atlantic Region.

With the stated objective of serving "as a starting point for the identification of critical areas where it will be necessary to concentrate all efforts in the future", the first Western Atlantic Turtle Symposium convened in Costa Rica (17-22 July 1983), and the second in Puerto Rico four years later (12-16 October 1987). WATS I featured National Reports from 43 political jurisdictions; 37 presented at WATS II.

WATS I opened with these words: "The talks which we started today have the multiple purpose of bringing our knowledge up to date about the biological peculiarities of the marine turtle populations of the western Atlantic; to know and analyse the scope of the National Reports prepared by the scientific and technical personnel of more than thirty nations of the region; to consider options for the orderly management of marine turtle populations; and in general to provide an adequate forum for the exchange of experiences among scientists, administrators, and individuals interested in making contributions for the preservation of this important natural resource."

A quarter-century has passed, and the results of these historic meetings have been lost to science and to a new generation of managers and conservationists. Their unique importance in providing baseline data remains unrecognized, and their potential as a "starting point" is neither known nor appreciated.

The proceedings document what was known at the time concerning the status and distribution of nesting and foraging habitat, population sizes and trends, mortality factors, official statistics on exploitation and trade, estimated incidental catch, employment dependent on turtles, mariculture operations, public and private institutions concerned with conservation and use, legal aspects (e.g. regulations, enforcement, protected areas), and active research projects.

Despite the potential value of this information to agencies responsible for conducting stock assessments, monitoring recovery trends, safeguarding critical habitat, and evaluating conservation successes in the 21st century, the National Reports submitted to WATS II were not included in the published proceedings and, until now, have existed only in the private libraries of a handful of agencies and symposium participants. To help ensure the legacy of these symposia, we have digitized the entire proceedings – including National Reports, plenary presentations and panels, species synopses, and annotated bibliographies from both meetings – and posted them online at http://www.widecast.org/What/RegionalPrograms.html.

Each article has been scanned from the original document. Errors in the scan have been corrected; however, to be true to the original content (as closely as we can discern it), potential errors of content have not been corrected. This article can be cited (with the number of pages based on the layout of the original document) as:

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Karen L. Eckert
WIDECAST Executive Director
June 2009

WESTERN ATLANTIC TURTLE SYMPOSIUM

MAYAGŰEZ, PUERTO RICO

12 - 16 OCTOBER 1987

NATIONAL REPORT FOR THE COUNTRY OF

GRENADA

NATIONAL REPORT PRESENTED BY

JAMES FINLAY

Fisheries Division
Ministry of Education, Culture, Cooperatives and Fisheries
St. George's, Grenada. W.I

NATIONAL REPORT PREPARED BY

JAMES FINLAY

MINISTRY OF EDUCATION, CULTURE
COOPERATIVES AND FISHERIES

October 1987

PURPOSE AND METHOD OF REPORT

This report attempts to examine aspects of the population and socioeconomics of Sea Turtles in Grenada (Carriacou and Petite Martinique), W.I. To do this the Grenada report presented to WATS I (1983) formed a basis for upgrading information related to the status of sea turtles. Because of the unique circumstances that would face research effort of this kind, the writer was only able to take the approach of gleaning information from various sources. The method was mainly by interviews, and some purposive observations made by fishermen or fisheries extension staff. The study did not attempt to make a quantitative assessment of the population and socio-economics of turtles, chiefly because of the cost in terms of man power time and resources that would have been required. In spite of this weakness, determined efforts were made to always obtain corroborative evidence on any information received. The report hopefully would yet fit within the network of information on sea turtles in the W. Atlantic and give sonic guidance or make suggestions, to managers, biologists etc, and most importantly serve the .symposium in selective ways.

The report is given as follows:

(1) An update on the characteristics of the shoreline vis á vis potential turtle nesting beaches. The details given in the WATS 1 Grenada report would not be repeated but some corrections would be made.
(2) Record and identify the areas in which turtles sighting and nestings are frequently made. Fishermen, hunters or others visiting beaches or targeting turtles or making incidental catches would have provided the basic information. The Island(s) would be divided into sectors for this purpose.
(3) Present any other data that would explain the extent of turtle exploitation and/or suggest what role that Grenada might reasonably play in the management of sea turtle exploitation and conservation in the region.

GENERAL GEOGRAPHICAL DESCRIPTION OF GRENADA

Grenada is an independent English speaking Caribbean Island with smaller Island dependencies of Carriacou, Petite Martinique, Isle De Ronde and others, all to its north and abutting St. Vincent and the Grenadines. It is the southernmost Island of the East Caribbean chain, lying between 12º N and 13º N and 61º and 62º West. (See map references). The island group has a population of approximately 110,000. The Islanders have very close strong and traditional contacts with the sea and fishing. The Islands are volcanic in origin with evidence of sandstone and shale in many areas.

The beaches on the leeward side of the main Island (Grenada) are predominantly of black sand of volcanic origin, the result of runoff on volcanic depositions. There is white sand on beaches from Grand Mall to Point Saline on the leeward side however. The windward beaches are generally white with the occasional a mixture of white and black sand. Where mangrove swamps are found to the east and southeast of the Grenada island mud/sand beaches are to be found. Isle De Ronde an Islet of approximately 1.0 square miles has white sand to the south and black sand to the northwest. Isle De Caille, a close-by island 0.52 km^2 (0.2 sq miles) and 0.5 km away has black sand. The offshore platform of the Grenada Islands consist of a submarine shelf of approximately 900 sq km of bottom varying 0-20 fathoms.

MORPHOLOGY OF THE COASTLINE

The Coastline of the Grenada Group of Islands is a pattern of sandy bays and rocky points. There is much more sandy shore than rocky shoreline. The Island is notably affected by the northeast trades winds and the north-eastern shores experience high energy swells almost

constantly. The beaches on the leeward sides have moderately sloping profiles and the land above 10-50 metres above the low tide mark are well vegetated.

The windward beaches have gentler profiles in high tide wash. However, in the Conference Bay area sand dunes spread along the beach profile up to 20-25 metres above the low tide mark. The shorter beaches occur along the windward coast where the rocky points are frequent. Here the beaches are less rough.

BY SECTOR UPDATE

AREA 1: Carriacou + Petite Martinique (including Islets adjacent to Carriacou)
AREA 2: North Grenada Island: including Isle De Ronde, Isle De Caille, Sugar Loaf, Green + Palm Island and the north coast of the main Island
AREA 3: The E coast of Grenada Island: including Grenada, Antoine and Conference Bay
AREA 4: South triangle Grenada Island: the Point Salines sector
AREA 5: The west and northwest coast Grenada Island

Area 1

Carriacou/Petite Martinique

The Carriacou Petite Martinique sector would seem to be the most frequented by turtles. According to investigations the species caught and by order of numbers are: 1st hawksbill (*Eretmochelys imbricata*), 2nd green turtle (*Chelonia mydas*), and 3rd loggerhead (*Caretta caretta*). The hawksbill is said to be the most encountered species on the Carriacou shelf and are seen to be feeders on the substrate growing on the extensive coralline shallow shelf. The Carriacou area has a shelf area in the range 5-11 fathoms. Although an outline of the relative numbers of various species caught by fishermen shows green turtle to be greatest, the juvenile hawksbill account for the abundance. The adult hawksbill (*E. imbricata*), is most common between the months from May to September, and scarce between October and April.

The green (*Chelonia mydas*) is most common during the October/November to April/May period and scarce during the May to September period.

The loggerhead (*Caretta caretta*) is the least common species and is found in the deeper open waters where the shelf edge meets the ocean. They are not found nesting but during the April to September period they are sometimes found closer to shore.

The approximate number of turtles caught in this area is given as follows. Please note that the method of capture is by turtle and lobster set-nets and the turtles are targeted a direct way.

	Species	Number Caught	Weight Range (lbs)
1.	*Eretmochelys imbricata*	1,500	200-900
2.	*Chelonia mydas*	1,900	100-700
3.	*Caretta caretta*	196	200-900

Fishermen know the green turtle feeds on seagrass beds and the hawksbill on the coralline growths, and hence the nets are set appropriately. In the nesting season the nets are set in the channels and the near-shore where turtles must pass. Until a conservation campaign is mounted it will be difficult to control the harvesting in the many bays. Carriacou has an artisanal fisheries. The notable bays where nets are set especially during the nesting season are, in Carriacou, Grand Bay, L'Esterre, Water Bay, Sparrow Bay, Hillsborough, Sandy Island and Mabouya Island.

Socio-Economics

The nests are exploited on the beaches at Carriacou. The weights given for the turtles in this area seem excessive but the occasional hawksbill can reach 900 lbs according to reports. Turtles are used for shell (mainly hawksbill and large green) and meat from all three species. The meat is transported to Grenada, Martinique or Union Island. The shells are also exported through Grenada and Union Island or Martinique.

Area 2

North Grenada Island

On the north coast of the offshore islets, the species caught and their relative abundance are: *Chelonia mydas* feeding on the sea grass beds and *E. imbricata* feeding on coralline growths. The juvenile hawksbill are seen most frequently in dives by fishermen. The leatherback, *D. coriacea,* are occasionally seen during nesting periods. The loggerheads are spotted drifting offshore but never seen nesting. These turtles are fierce when captured. The hawksbill are seen by scuba divers (i.e., fishermen targeting conch and lobsters). Reports note that juveniles are seen at a rate of 6-12 per dive and range in weight of 6-10 lbs. during the non-nesting period.

The chief method of capture of turtles is by set-nets and males and females are caught in nets because the males escort the females to the areas where they nest. The nesting pattern observed by fishermen for the hawksbill (2 weeks separation per laying) is:

- 1st laying 150 eggs
- 2nd laying 200-250 eggs
- 3rd laying 150-175 eggs (smaller in size and some immature)

Socio-Economics

The fishermen target the turtles according to the season at the quarter moons. The chief fishermen in the area report that they estimate 10-14 hawksbills of adult size are caught every 2 weeks in the area although other larger nets catch greater quantities. It is reported the (net)setters in the area export their catch to the territories such as Union Island and Martinique (French)

Area 3

Eastern Coast

This sector of Grenada includes the Conference, Antoine and Grenada bays where most of the turtle nestings occurs. The chief area however, is the Conference Bay where the approach to the beach is not restricted by rocks and the swells are strong and frequent. The only two species regularly caught nesting and basking near shore are the leatherback, *D. coriacea*, and the hawksbill, *E. imbricata*.

It is reported that the leatherback comes off the ocean nests in the period January to July each year and thereafter they are not seen nesting at all. It is also reported that at the end of the nesting of the leatherback the hawksbill begin to nest. In the words of the fishermen "the hawksbill follows the leatherback every year that God make". A notable turtle hunter for meat and eggs reports that between himself and a few others in 1985 they caught 27 leatherbacks nesting.

The largest specimen was more than 5 ft. and weighed in excess of 1,000 lbs. Fishermen report that the *D. coriacea* takes 15-20 minutes to lay, 5 minutes to rest and then returns to the sea. The fishermen say that *D. coriacea* can be caught within 4-5 days of full moon.

Fishermen made the following observations:

(a) hawksbill (*E. imbricata*)

- nesting females go far into the roots and grass off the beach to lay and makes a 1 foot deep hole, lays and then covers. The laying hawksbills caught are in excess of 100 lbs
- The layings are 14 days apart
- 1st laying: 200 mature eggs
- 2nd laying: 150 mature eggs
- 3rd laying: 20, or 50-60 eggs (many without yolk)
- Laying period is last quarter and 1st quarter; the males wait in the surf for the females.

(b) leatherback (*D. coriacea*)

- the females do not lay in wet sand. If a hole is dug and water found, the turtle will chose another spot. This turtle however makes a direct re-entrance to the sea after laying. Some of the eggs are pool ball size and some are shaped as chicken eggs with an oval profile. The leatherback digs a hole 2 feet for laying.

The turtles harvested offshore are caught mainly in set-nets. The prevalent species is the green, *Chelonia mydas*, and they are found to be mossy because they sleep in caves.

The loggerhead is thought to be an ocean turtle because it is found on the open sea, especially on the area of the ocean/shelf edge. The *C. caretta* are sometimes caught in nets but are mainly caught by fishermen who encounter them floating seemingly helplessly with sea ants on their eyeballs. The fishermen say that when the sea ants bite the eyes (GALAY) the turtles cannot see. These turtles are never caught nesting but those caught on the ocean edge always are females. See appendix for data on size of turtles brought to one market.

Socio-Economics

The turtles are caught for meat and the eggs are harvested and sold. The hunters say that when they see the cirrostratus clouds in the sky they know that turtles will nest. The hunters claim that leatherbacks nest January to June/July and the hawksbills lay June/July and thereafter until the end of the year. They agree that most of the turtles are to be found nesting in the rainy season/lightening season. The fishermen/hunters claim that the leatherback has a fat gland that can spoil the meat if it is cut inadvertently.

Area 4

Southern Triangle-Point Salines Sector

There are numerous small beaches both on the east and west of Salines Point. These are nesting areas for hawksbill and green turtles, mainly. Occasionally leatherbacks are caught in set-nets. The offshore areas on this sector of the island are good feeding grounds for both *C. mydas* and *E. imbricata*. Reports given indicate that there are channels where the turtles pass on the way from the feeding grounds or from the ocean and onto the nesting beaches. It is at these passages that the nets are set by fishermen. Frequently it is reported that hawksbills and greens are seen basking offshore. A set-net fisherman in the area reports that 1985 was a good fishing year for *E. imbricata* as 50-60 adults all except one being female. Since 1985 they have observed that the numbers caught in the nets have dropped markedly but many more plate-size hawksbill and greens than usual are seen on dives. They report that the males when caught offshore show signs of mating, as their chests become especially soft. The hawksbill is especially scarce January/ February to June, but the young are found feeding at these times. The loggerhead is hardly ever found in this area and the leatherback is least preferred since it has a “fresh" meat and is clumsy to capture.

Nestings of hawksbills and green turtles			
Species	First Nest	Peak Nest	Last Nest
Hawksbill	June	July-rain; lightening	October-December
Green	June	August-September	October

In spite of the fact that many beaches are frequented by humans, many turtles nest. During the mating season the males are weak. A turtle net hunter reports that the size range of his catches were 150- 685 lbs. The fishermen report that the green turtles in the area appear the most healthy and the meat is much preferred. The green turtle sample: a 42 1/2 inch long specimen weighed 450 lbs. Although leatherbacks are scarcely caught a specimen noted gave data: 42 1/4 inches long weighing 350 lbs.

Socio-Economics

The turtles in this area are caught mainly by nets. The eggs are harvested by young men. The shells are sold to persons who make ornaments or to traders who export them to the islands north of Grenada.

Area 5

West Coast Grenada

The west coast of Grenada Island is an area most frequently used by seive nets and so turtles do not frequent this area as they do at others, according to reports. Nevertheless there are notable feeding grounds in places such as offshore Molineire and Beausejour Bays. Divers in the area give reports of spotting many plate-size hawksbill and greens.

SOCIO ECONOMICS: GENERAL IN GRENADA

Concern for the status of sea turtles seem to have started during the 1950's when a project to assist recruitment was implemented. The artisanal nature of fisheries and the fact that artisan fishermen traditionally harvest a common property resource with little restriction on what species may or may not be caught has made it difficult to prohibit exploitation of sea animals thought to be endangered. On the other hand, concern shown by persons in authority has made it increasingly easier for managers to effect control on fishing of species such as turtles. Persons show preferences for selective types of turtles. For example, the hawksbill is preferred for shell and meat and green is much more preferred for its soft meat. Leatherbacks and loggerheads are often rejected for their "freshy" fat. The harvesting of turtles is less of an economic activity in Grenada than it is at Carriacou. Although no period data was prepared for the period 1983 to 1987, from observations reports and interviews it appears that 1985 was a good harvest year for turtles, but since then fewer landings were made.

The fact that many turtle net fishermen are quite familiar with the habits of the turtles is a threat to their abundance. At Carriacou, where most of the harvests are made and it would seem that most of the mature turtles occur, the fishermen set their nets very close to shore; this is a serious threat to the females. The most serious threat to the turtle, as it is to lobsters, is the trammel nets, that is the 2/3 - ply multiple mesh nets. The laws of Grenada provide for control on harvesting turtles and the regulations are enforced to some extent. Much will be achieved with more public awareness programmes.

The regulations related to the close season for turtles are given as follows, and this close season runs from May to September each year currently.

Based on Grenada Fisheries Act #15, 1986 with Fisheries regulations S.R.O #19, 1987.

Section 17 Turtles: No person shall:

(1) (a) Fish for, take, sell, purchase or have in his possession any turtle or part thereof;
(b) Disturb, take, sell, purchase or have in his possession any turtle eggs, or
(c) Interfere with any Turtle nesting during the close season.

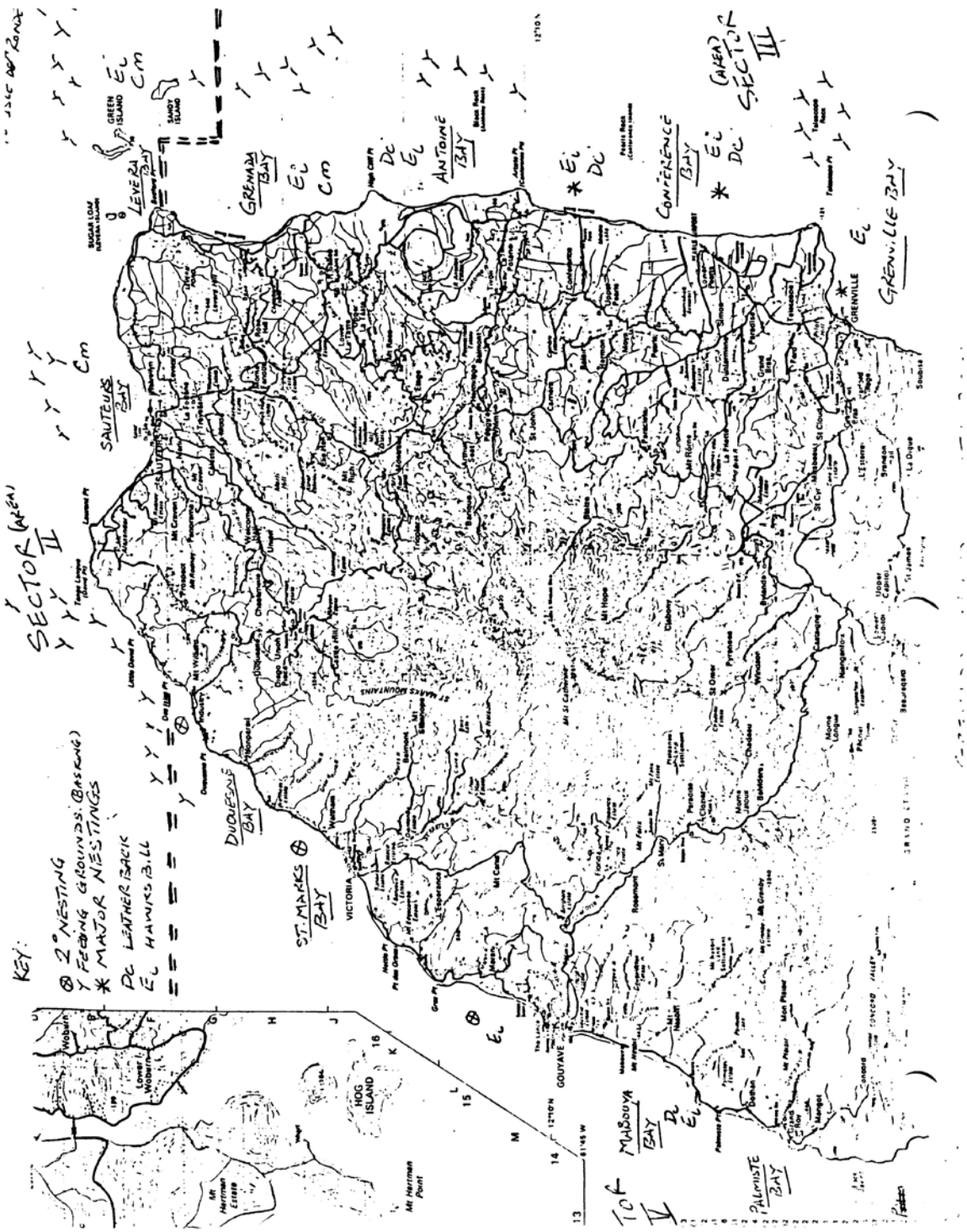
(2) The minister pray by notice published in the Gazette declare any period a closed season for turtles

(3) No person shall fish for turtle during the period of closed season for turtles

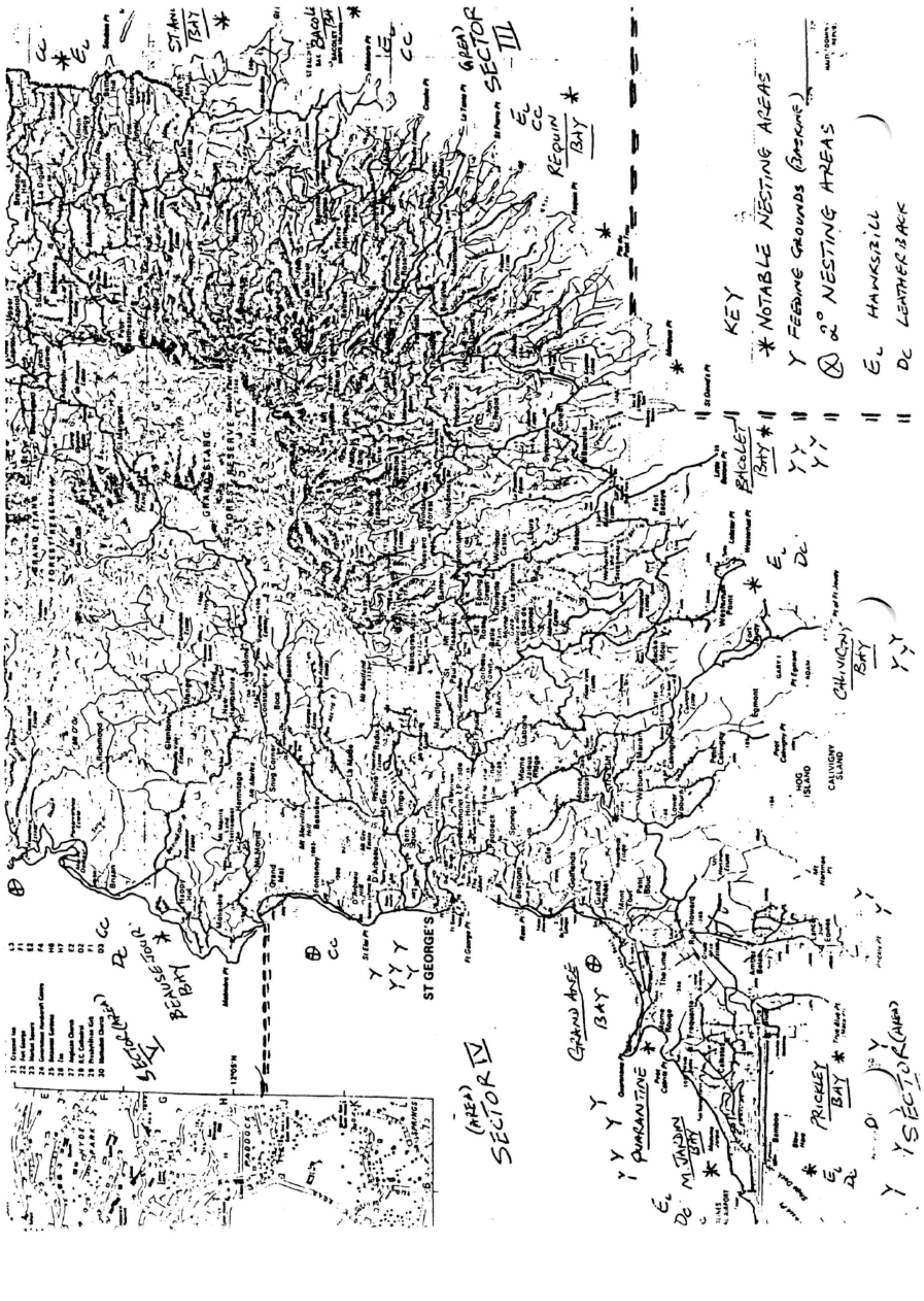
TRADE IN TURTLES

Apart from the use of turtles meat by artisanal fishermen in the villages there are special days when turtles are slaughtered at markets (market days). The fishermen from the out island of Petite Martinique bring down the turtles live or as meat to be sold in the Grenada Island. Weekly during the open season fishermen keep turtles alive for days before they are slaughtered on the market or other day.

Area	Type/species Turtle	Where Caught	Length (cm)	Weight (lbs)	Sex
Eastern District Coast	Green	Carriacou edge	78	50	Female
Eastern District Coast	Green	Carriacou edge	58	49	Female
Eastern District Coast	Green	Carriacou edge	80	64	Female
Eastern District Coast	Green	Carriacou edge	92	115	Female
Greenville edge	Loggerhead	On the edge	90	110	Female
Sauteurs	Green	Sauteurs	140	289	Female
Conference	Green	Conference & La Portrie	90	80	
Conference	Green	Conference & La Portrie	75	56	
Conference	Green	Conference & La Portrie	60	25	
Conference	Green	Conference & La Portrie	62	26	
Marquis	Green	Marquis Island	60	60	
Marquis	Green	Marquis Island	80	65	Female
Marquis	Loggerhead	On the edge	109	125	Female
St. Patrick's	Green	Livera (sic)	85	90	Female
Northern District Coast	Green	Livera	48	41	Female
Northern District Coast	Green	Livera	70	52	Female
Northern District Coast	Green	Livera	60	33	Female
Northern District Coast	Green	Livera	78	57	Female
Northern District Coast	Green	Livera	63	38	Female
Northern District Coast	Green	Livera	90	110	Female



Editor's note (2009): Maps and figures are reprinted exactly as they appear in the original document; we regret the poor quality exhibited in some cases.


KEY
* NOTABLE NESTING AREAS
Y FEEDING GROUNDS (BASKING)
2° NESTING AREAS
HAWKSBILL
LEATHERBACK
SECTOR III
SECTOR IV
REQUIN BAY
BACOLET BAY
CALIVIGNY BAY
GRAND ANSE BAY
PRICKLY BAY
QUARANTINE
ST GEORGE'S
HOG ISLAND
CALIVIGNY ISLAND
GRAND ETANG FOREST RESERVE

CARRIACOU
HILLSBOROUGH BAY
GRAND BAY
HILLSBOROUGH
BELLE VUE SOUTH
TYRREL BAY
MANCHIONEAL BAY
SALINE ISLAND
White Island
Mabouya Island
KEY
O NESTING BEACH.
Y FEEDING GROUNDS

PETIT SAINT VINCENT ISLAND
MAR
Point Tobago
WATERING BAY
BELLE VUE NORTH
KEY
O NESTING BEACH
Y FEEDING GROUND

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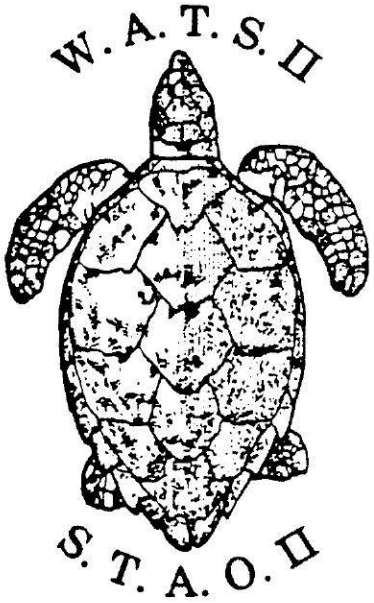

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JAMES FINLAY, MINISTRY OF EDUCATION, CULTURE COOPERATIVES AND FISHERIES

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Purpose and method of report

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BY SECTOR UPDATE

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AREA 1 CARRIACOU/PETITE MARTINIQUE

The Carriacou Petite Martinique sector would seem to be the most frequented by turtles. According to investigations the species caught and by order of numbers are; 1st Hawksbill, Eretmochelys imbricata, 2nd Green Turtle, Chelonia mydas, and 3rd Loggerhead, Caretta caretta. The Hawksbill is said to be the most encountered species on the carriacou shelf and are seen to be feeders on the substrate growing on the extensive coralline shallow shelf. The Carriacou area has shelf area in the range 5-11 fathoms. Although an outline of the relative

numbers of various species caught by fishermen shows Green turtle to be greatest, the juvenile Hawksbill account for the abundance. The adult Hawksbill E.imbricata, is most common between the months May to September, and scarce between October and April.

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SOCIO ECONOMICS

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AREA 2: North Grenada Island.

To the North Coast of Islets offshore, the species caught, Identified and according to abundance are: Chelonia mydas feeding on the sea grass beds, and E. imbricata feeding on coralline growths. The juvenile Hawksbill are seen most frequently in dives by fishermen. The leatherback D. coricea are occasionally seen at nesting periods. The loggerheads are spotted drifting offshore, but never seen nesting. These Turtles are fierce when captured. The Hawksbill are seen by scuba divers i.e. fishermen targeting Conch and Lobsters. Reports say that especially outside the nesting season juveniles are seen at a rate of 6-12 per dive and range in weight 6-10 lbs.

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Nesting pattern observed by fishermen for Hawksbill (2 weeks separation per laying)

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3rd laying 150-175 eggs (smaller in size and some immature)

SOCIO ECONOMICS

The fishermen target the Turtles according to the season at the quarter moons. The chief fishermen in the area report that they estimate that 10-14 Hawksbills of adult size are caught per each 2 weeks in the area although other larger nets catch greater quantities. The setters coming into the area export their catch to the territories such as Union Island and Martinique (French) it is reported.

AREA 3: Eastern Coast

This sector of Grenada includes the Conference, Antoine and Grenada bays where most of the Turtle nestings are Identified. The chief area however is the Conference Bay where the approach to the beach is nowhere restricted by rocks and the swells are strong and frequent. The only too species regularly caught nesting private and basking near shore are the Leatherback D. coricea and the Hawksbill E. imbricata. It is reported that the Leatherback comes off the ocean nests in the period January to July each year and thereafter they are not seen nesting at all. It is also reported that at the end of the nesting of the Leatherback the Hawksbill begin to nest. In the words of the fishermen "the Hawksbill follows the leatherback every year that God make". A notable Turtle hunter for meat and eggs reports that between himself and a few others in 1985 they caught 27 Leatherbacks nesting. The largest specimen was more than 5 ft. in excess of 1000 lbs in weight. Fishermen report that the D. coricea takes 15-20 minutes to lay 5 minutes to rest afterward and then returns to the sea. The fishermen say that D. coricea can be caught within 4-5 days of full moon. From a biological point of view the fishermen made the following observation.

(a) Hawksbill (E. imbricata)

Nesting females go far into the roots and grass off the beach to lay and makes a 1 foot deep hole; lays and then covers. The laying Hawksbill caught are in excess of 100 lbs.

The layings are 14 days apart.

1st laying - 200 eggs mature

2nd laying - 150 eggs mature

3rd laying - 20, or 50-60 eggs. (Many without yolk)

Laying period is last quarter and 1st quarter. The males wait in the surf for the females.

(b) Leatherback (D. coricea)

The females do not lay in wet sand. If a hole is dug and the water is found, the Turtle will chose another spot. This Turtle however makes a direct reentrance to the sea after laying. Some of the eggs are pool ball size and some are shaped as chicken eggs-oval outline. The Leatherback digs a hole 2 feet for laying.

The Turtles caught offshore are caught mainly in set-nets. The prevalent species is the Green Chelonia mydas, and are found to be mossy because they sleep in caves.

The Loggerhead is thought to be an ocean Turtle as it is found on the open sea especially on the area of the ocean/shelf edge. These Turtles C. caretta are sometimes caught in nets but are mainly caught by fishermen who encounter them floating seemingly helplessly with sea ants on their eyeballs. The fishermen say that when the sea ants bite the eyes (GALAY) the Turtles cannot see. These Turtles are never caught nesting but those caught on the ocean edge are females always. See appendix for data on size of Turtles brought to one market.

SOCIO ECONOMICS

The Turtles are caught for meat and the eggs are harvested and sold. The hunters say that when they see the cirro-stratus clouds in the sky they know that Turtles will nest. The hunters claim that Leatherback nest January to June/July and the Hawksbill lays June/July and

thereafter until the end of the year. They agree however that in the rainy season/lightening season most of the Turtles are to be found nesting. The fishermen/hunters claim that the Leatherback has a fat gland, that can spoil the meat, if it is cut inadvertently.

AREA 4: Southern Triangle - Point Salines Sector.

There are numerous small beaches both on the East and West of Point Salines Point. These are nesting areas for Hawksbill and Green Turtles, mainly. Occasionally Leatherbacks are caught in Set-nets. The offshore areas on this sector of the Island are good feeding grounds for both C. mydas and E. imbricata. Reports given indicate that there are channels where the turtles pass on the way from the feeding grounds or off the ocean and onto the nesting beaches. It is at these passages that the nets are set by fishermen. Frequently it is reported that Hawksbills and Greens are seen basking offshore. A set-net fisherman in the area reports that 1985 was a good fishing year for E. imbricata as 50-60 adults all except one being female. Since 1985 they have observed that the numbers caught in the nets have dropped markedly but many more plate-size Hawksbill and Greens than usual are seen on dives. They report that the males when caught offshore show signs of mating, as their chests become especially soft. The Hawksbill is especially scarce January, February to June, but the young are found feeding at these times. The Loggerhead is hardly ever found in this area and the Leatherback is least preferred since it has a :fresh" meat and is clumsy to capture.

NESTINGS OF HAWKSBILL AND GREEN TURTLES

Species	First nest	Peak nest	Last nest
Hawksbill	June	July - rain (Lightening)	October-December
Green	June	August-September	October

Inspite of the fact that many beaches are frequented by humans, many Turtles nest. During the mating season the males are weak. A Turtle net hunter reports that the size

range of his catches were 150 - 685 lbs. The fishermen report that the Green turtles in the area appear the most healthy and the meat is much preferred.

The Green Turtles : sample a 42 1/2 inch lang specimen weighed 450 lbs. Although leather backs are scarcely caught a specimen noted gave data: 42 1/4 inches lang weighing 350 lbs.

SOCIO ECONOMICS

The Turtles in this area are caught mainly by nets. The eggs are harvested by young men. The shills are sold to persons who make ornaments or to traders who export them to the North Islands above Grenada.

AREA 5: West Coast Grenada

The West Coast of Grenada Island is an area most frequently used by seive nets and so Turtles do not frequent this area as at others, according to reports. Nevertheless there are notable feeding grounds offshore in places such as off Molineire and Beausejour Bays. Divers in the area give reports of spotting many plate-size Hawksbill and Greens.

SOCIO ECONOMICS GENERAL GRENADA

Concern for the status of sea Turtles seem to have been marked during the 1950's when a project to assist recruitment was implemented.

The artisanal nature of fisheries and the fact that artisan fishermen traditionally harvest a common property resource with little restriction on what species may or may not be caught, it has been difficult to prohibit exploitation of sea animals thought to be endangered. On the other hand through the concern shown by persons in authority it is becoming increasingly

easier for managers to effect control on fishing of species such as Turtles. Persons show preferences for selective types of Turtles. For example, the Hawksbill is preferred for shell and meat and Green is much more preferred for its soft meat. Leatherbacks and Loggerheads are often rejected for their "freshy" fat. The harvesting of Turtles is less of an economic activity in Grenada than it is at Carriacou. Although no period data was prepared for the period 1983 to 1987, from observations reports and interviews it appears that 1985 was a good harvest year for Turtles but since then less landings are made.

The fact that many turtle net fishermen are quite familiar with the habits of the Turtles a threat to their abundance is posed. Especially at Carriacou where most of the catches are made and it would seem that most of the mature Turtles occur, the fishermen set their nets very close to shore and this is a serious threat to the females. The most serious threat to the Turtle as it is to lobsters is the trammel nets - i.e the 2/3 - ply multiple mesh nets. The laws of Grenada provide for control on harvesting Turtles and the regulations are enforced to some extent with more public awareness programmes much will be achieved.

The regulations related to the close season for Turtles are given as follows, and this close season runs from may to September each year currently.

Based on Grenada Fisheries Act #15, 1986 with Fisheries regulations S.R.O #19, 1987.

Section 17 Turtles: No person shall ;

(1) (a) Fish for, take, sell, purchase or have in his possession any Turtle of part thereof;

(b) Disturb, take, sell, purchase or have in his possession any Turtle eggs, or

(c) Interfere with any Turtle nesting during the close season.

(2) The minister may by notice published in the Gazette declare any period a closed season for turtles.

(3) No person shall fish for Turtle during the period of closed season for Turtles.

TRADE IN TURTLES

Apart from the use of turtles meat by artisanal fishermen in the villages there are special days when Turtles are slaughtered at markets (market days). The fishermen from the out Island of Petite Martinique bring down the Turtles live or as meat to be sold in the Grenada Island. Weekly during the open season fishermen keep Turtles alive for days before they are slaughtered on the market or other day.

AREA	TYPE/SPECIES TURTLE	WHERE CAUGHT	LENGTH/WEIGHT	SEX
Eastern district coast	green	Carriacou edge	78 cm, 50 lbs	Female
"	"	"	58 cm, 49 lbs	"
"	"	"	80 cm, 64 lbs	"
"	"	"	92 cm, 115 lbs	"
Grenville edge	Loggerhead	on the edge	90 cm, 110 lbs	"
Sauteurs	green	Sauteurs	140 cm, 289 lbs	"
Conference	"	Conference & La Portrie	90 cm, 80 lbs	
"	"	"	75 cm, 56 lbs	
"	"	"	60 cm, 25 lbs	
"	"	"	62 cm, 26 lbs	
Marquis	green	Marquis Island	60 cm, 60 lbs	
"	"	"	80 cm, 65 lbs	"
"	Loggerhead	on the edge	109 cm, 125 lbs	"
St. Patrick's	green	Livera	85 cm, 90 lbs	"
Norther (District) Coast	"	"	48 cm, 41 lbs	"
"	"	"	70 cm, 52 lbs	"
"	"	"	60 cm, 33 lbs	"
"	"	"	78 cm, 57 lbs	"
"	"	"	63 cm, 38 lbs	"
"	"	"	90 cm, 110 lbs	"