

THE NATIONAL REPORT EL REPORTE NACIONAL

FOR THE COUNTRY OF
POR EL PAIS DE

BELIZE

NATIONAL REPRESENTATIVE / REPRESENTANTE NACIONAL

WINSTON MILLER



Western Atlantic Turtle Symposium
Simposio de Tortugas del Atlantico Occidental
17-22 July / Julio 1983

San José, Costa Rica
Belize National Report, WATS I Vol. 3, pages 41-48



**WESTERN ATLANTIC TURTLE SYMPOSIUM
San José, Costa Rica, July 1983**

NATIONAL REPORT FOR THE COUNTRY OF

BELIZE

NATIONAL REPORT PRESENTED BY

W.G. Miller

The National Representative

Address:

Fisheries Unit Lab

Princess Margaret Drive

Belize City, P.O. Box 146- Belize

NATIONAL REPORT PREPARED BY

W.G. Miller, Frederic Berry and John Fletemeyer

DATE SUBMITTED: 25 January 1984

Please submit this NATIONAL REPORT no later than 1 December 1982 to:

IOC Assistant Secretary for IOCARIBE
% UNDP, Apartado 4540
San José, Costa Rica



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 size and trend, 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. In most cases it was the first time a national sea turtle assessment had been conducted.

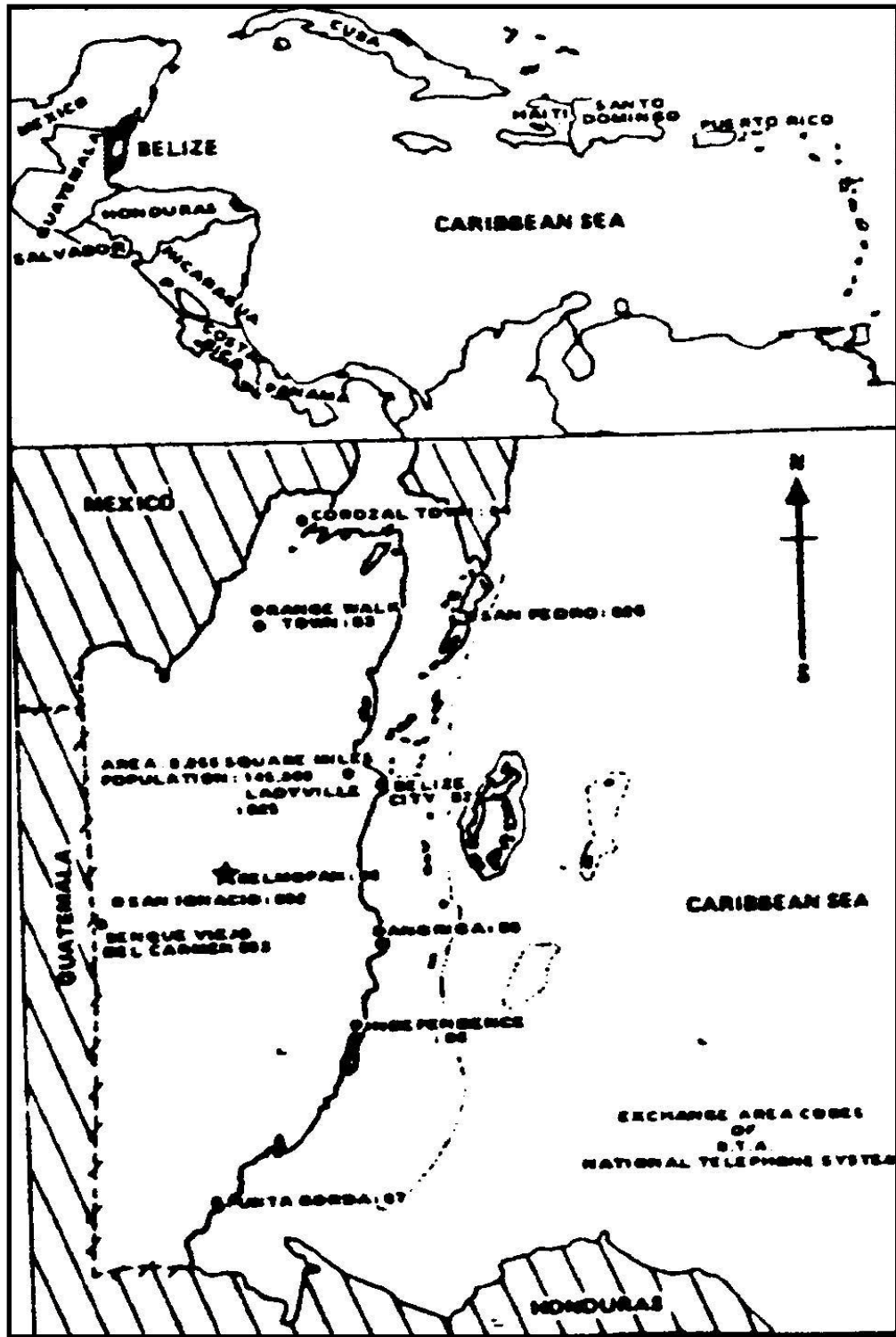
Despite the potential value of this information to agencies responsible for conducting stock assessments, monitoring recovery trends, and safeguarding critical habitat in the 21st century, the hand-written National Reports, largely illegible in the published proceedings, have slipped into obscurity. To help ensure the legacy of these symposia, we have digitized the entire proceedings, including the National Reports, plenary presentations and panels, and annotated bibliographies of 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 should be cited:

Miller, W.G., F. Berry and J. Fletemeyer. 1984. National Report for Belize, pp.41-48. *In*: Bacon, P., F. Berry, K. Bjorndal, H. Hirth, L. Ogren and M. Weber (Editors), Proceedings of the First Western Atlantic Turtle Symposium, 17-22 July 1983, San José, Costa Rica. Volume III: The National Reports. RSMAS Printing, Miami.

*Karen L. Eckert
WIDECAST Executive Director
June 2009*

Figure 1. Belize – W.A.T.S. National Report Study Area.¹



¹ Editor's note (2009): Maps and figures are reprinted exactly as they appear in the original WATS I Proceedings (Bacon et al. 1984); we regret the poor quality exhibited in some cases.

COUNTRY: BELIZE

Length of Coastline*	250 Km**
Continental Shelf Area	7,540 Km ² ***
Seaward Extent of Jurisdictions	
Territorial Sea	4.8 Km
Extended Economic Zone	
Fisheries Jurisdiction	4.8 Km
Other (Describe)	
<p>* Coastline length is the measurement of the national seaward boundary of a country; i.e., the distance from border to border for a coastal country and the distance around an island country. ** <i>Editor's note (2009)</i>: listed as 386 km by the World Fact Book (Central Intelligence Agency), 12 Nov 2008 (https://www.cia.gov/library/publications/the-world-factbook/geos/bh.html) *** <i>Editor's note (2009)</i>: listed as 8,727.3 km² by World Resources Institute, 12 Nov 2008 (http://earthtrends.wri.org/text/coastal-marine/variable-62.html)</p>	

Marine Shoreline Characteristics*	Km of Shoreline		
	Undeveloped	Developed**	Total
1. Sand Beach (Total)	42.00	63.00	105.00
A. High Energy	16.00	5.00	21.00
B. Low Energy	26.00	58.00	84.00
2. Reef (exposed)	111.30	166.95	278.25
3. Rocks	14.85	1.65	16.50
4. Cliffs	0.10	1.90	2.00
5. Vegetation (Total)			
A. Vines			
B. Grasses	232.18		232.18
C. Mangroves	530.76	24.78	555.54 ***
D. Coconut Trees	11.25	53.15	64.40
E. Other Trees or Shrubs			
F. Marshes	8.04	24.15	32.19***
6. Mouths of lagoons, rivers, canals			
7. Total Shoreline	***950.48	335.58	***1286.06
<p>* Refer to Sea Turtle Manual (Aerial Survey) ** Human development or use (See Manual) *** <i>Editor's note (2009)</i>: Totals corrected from original to reflect accuracy in summed values</p>			

TABLE 3.1. NESTING BEACH INVENTORY			
List beaches in geographic sequence. Provide additional information on following page.			
Name of Beach	Length in Km	Species Nesting (Use Abbreviations)*	Months of Recorded Nesting
1. Ambergris	15	Cm, Cc	June, July
2. Half Moon	2	Cm, Cc	June, July
3. Long	5	Cm, E	June, July, August
4. Caulker	9	Cm, Cc	June, July
5. Chapel	5	Cm, Cc	June, July, August
6. Goff	1	E	June, July, August
7. Placencia	22	E, Cc	June, July
8. Ranguana	0.5	E, Cc	June, July, August
9. Lime	0.5	E, Cc	June, July, August
10. Hunting	0.5	E, Cc	June, July, August
*Species	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kempfi</i>	Lk		
<i>Lepidochelys olivacea</i>	Lo		

TABLE 3.2. NESTING BEACH INVENTORY			
List beaches in geographic sequence. Provide additional information on following page.			
Name of Beach	Length In Km	Species Nesting (use abbreviations)*	Months of Recorded Nesting**
1. Nicholas	0.2	E, Cc	June, July, August
2. Frank's	0.2	E, Cc	June, July, August
3. Pompion	0.1	E, Cc	June, July, August
4. Round	0.3		
5. Silk	0.2	Cm, E	
6. South Water	0.3		
7. Tobacco	0.9		
8. Sapodilla	2.0	E, C, Cm	June, July, August
9. Glovers	10.0	E, Cc, Cm	June, July, August
10. Turnette	20.0		
* Species	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kempfi</i>	Lk		
<i>Lepidochelys olivacea</i>	Lo		
** June, July, August represent the months when most sea turtle nesting activity is observed.			

TABLE 4.1. NESTING CENSUS FOR BEACH: Ambergis			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		10	07 July, 1982
<i>Chelonia mydas</i>		6	07 July, 1982
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempfi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.2. NESTING CENSUS FOR BEACH: Half Moon			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		12 represents a combined estimate for <i>Caretta caretta</i> and <i>Chelonia mydas</i>	07 July, 1982
<i>Chelonia mydas</i>			07 July, 1982
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempfi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.3*. NESTING CENSUS FOR BEACH: Long			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		7	12 June, 1982
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		4	12 June, 1982
<i>Lepidochelys kempfi</i>			
<i>Lepidochelys olivacea</i>			

* *Editor's note (2009)*: Original National Report listed this as TABLE 4.6. Editor relabeled it as TABLE 4.3 to provide a sequential numbering of all like tables.

TABLE 4.4*. NESTING CENSUS FOR BEACH: Placencia			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		3	1979-1981
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		1	1979-1981

TABLE 4.4*. NESTING CENSUS FOR BEACH: Placencia			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : Original National Report listed this as TABLE 4.7. Editor relabeled it as TABLE 4.4 to provide a sequential numbering of all like tables.			

TABLE 4.5*. NESTING CENSUS FOR BEACH: Ranguana			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		3	1981-1983
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		4	1981-1983
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : Original National Report listed this as TABLE 4.8. Editor relabeled it as TABLE 4.5 to provide a sequential numbering of all like tables.			

TABLE 4.6*. NESTING CENSUS FOR BEACH: Lime			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		3	1982-1983
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		4	1982-1983
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : Original National Report listed this as TABLE 4.9. Editor relabeled it as TABLE 4.6 to provide a sequential numbering of all like tables.			

TABLE 4.7*. NESTING CENSUS FOR BEACH: Pompion			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		3	1982-1983
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		7	1982-1983

TABLE 4.7*. NESTING CENSUS FOR BEACH: Pompion			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : Original National Report listed this as TABLE 4.13. Editor relabeled it as TABLE 4.7 to provide a sequential numbering of all like tables.			

TABLE 4.8*. NESTING CENSUS FOR BEACH: Sapodilla			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		2	1981-1983
<i>Chelonia mydas</i>		5	1981-1983
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		6	1981-1983
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : Original National Report listed this as TABLE 4.18. Editor relabeled it as TABLE 4.8 to provide a sequential numbering of all like tables.			

TABLE 4.9*. NESTING CENSUS FOR BEACH: Glovers			
Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.			
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>		3	1981-1983
<i>Chelonia mydas</i>		2	1981-1983
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		5	1981-1983
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : Original National Report listed this as TABLE 4.19. Editor relabeled it as TABLE 4.9 to provide a sequential numbering of all like tables.			

TABLE 5. AERIAL BEACH SURVEY SUMMARY								
Give any additional information available from aerial surveys. Information should include ground truth observation if conducted.								
Date	Beaches Surveyed	Numbers of Nesting Tracks						
		Cc	Cm	D	E	Lk	Lo	No ID
01 July, 1982	Reef Point							3
01 July, 1982	Palmers Point							1
01 July, 1982	Grassy Caye							1

TABLE 5. AERIAL BEACH SURVEY SUMMARY								
Give any additional information available from aerial surveys. Information should include ground truth observation if conducted.								
Date	Beaches Surveyed	Numbers of Nesting Tracks						
		Cc	Cm	D	E	Lk	Lo	No ID
01 July, 1982	Three Corner Caye							1
01 July, 1982	Sandbore Caye							1
01 July, 1982	N.E. Caye, Glovers Reef							1
01, 02 August 1981	*							
25, 26 August 1980	*							
Species	Abbreviation							
<i>Caretta caretta</i>	Cc							
<i>Chelonia mydas</i>	Cm							
<i>Dermochelys coriacea</i>	D							
<i>Eretmochelys imbricata</i>	E							
<i>Lepidochelys kempfi</i>	Lk							
<i>Lepidochelys olivacea</i>	Lo							
* All sand beaches and reefs and most of shoreline surveyed. No sea turtle tracks sighted								

Table 5. AERIAL BEACH SURVEY SUMMARY (Supplementary page)

Give any additional information available from aerial surveys. Information could include ground truth observation if conducted.

Refer to Map below for area covered during aerial survey.

Figure 2. Map showing Flight Path of Aerial Surveys conducted on June 6, 1982, July 1, 1982 and July 2, 1982. Total flight time was 7.1 hours.

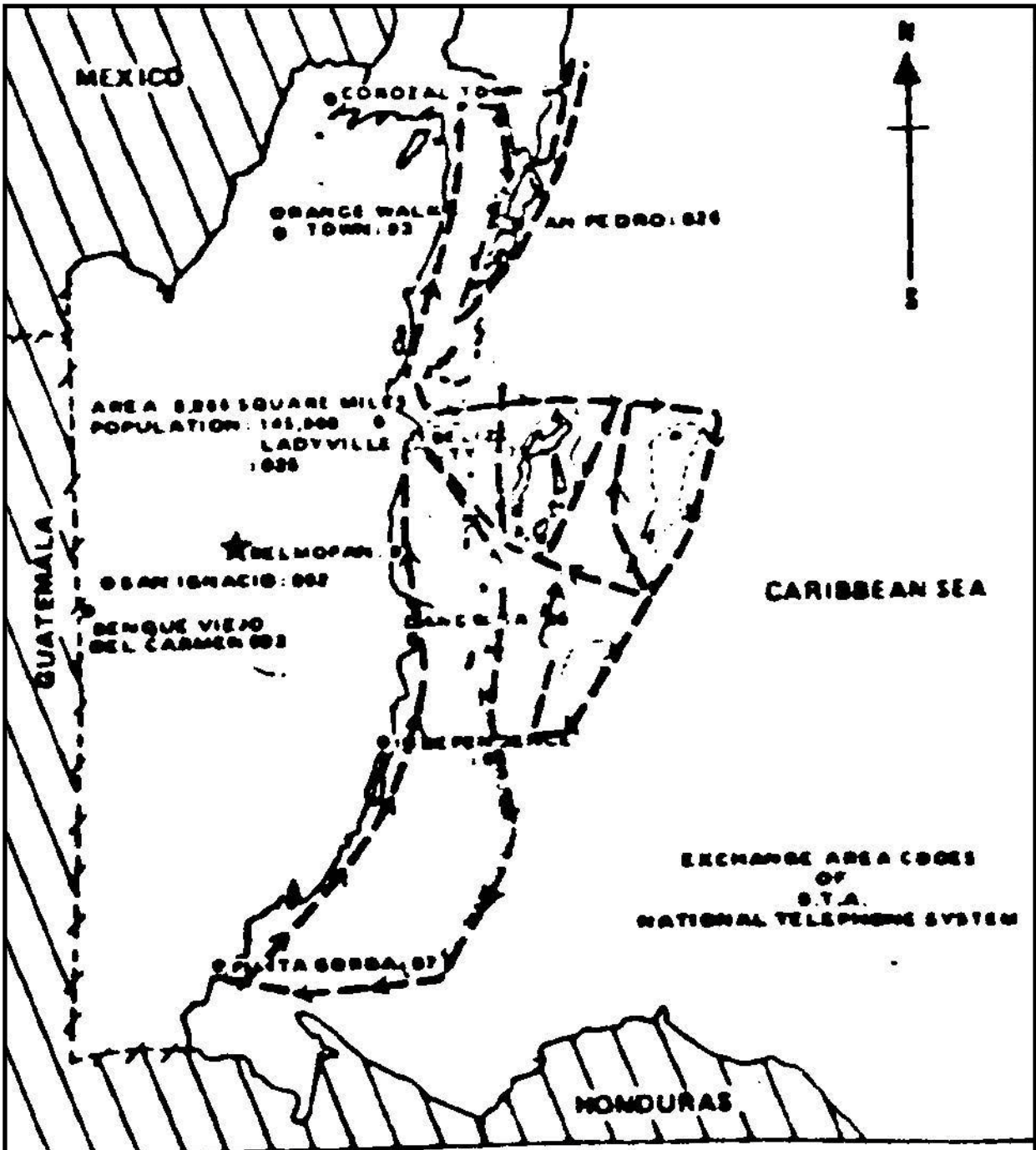


TABLE 6. ESTIMATED POPULATION SIZE OF NESTING FEMALES						
Summarize the estimated number of nesting females for the years indicated and describe methods of estimation on the next page.						
Species	Year					Average Year Estimates*
	1982	1981	1980	1979		
<i>Caretta caretta</i>						40
<i>Chelonia mydas</i>						19
<i>Dermochelys coriacea</i>						
<i>Eretmochelys imbricata</i>						31
<i>Lepidochelys kempfi</i>						
<i>Lepidochelys olivacea</i>						
* Mean estimate for recent years 1979 - 1982						

TABLE 6A. ESTIMATED POPULATION OF NESTING FEMALES (Supplementary page)

Please give brief details on methods of estimation for Table 6.

An average year estimate is given in Table 6 that is based on the estimates by beach in Table 4. Those estimates were based on limited interviews with fishermen and beach residents and beach and aerial surveys.

TABLE 10. NATURAL MORTALITY			
Life Stage Unit	Species (Abbrev.)	Causes*	Extent of Mortality (% of Unit)
Nests/eggs		Human poaching, raccoons?	
Hatchlings		Birds, crabs, predatory reef fish (other?)	
Juveniles		Predatory fish	
Adults (in water)		?	
Nesting females		?	
Species	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kempfi</i>	Lk		
<i>Lepidochelys olivacea</i>	Lo		
* Natural mortality causes may include: Beach erosion of nests; egg and/or nestling predation by crabs, wild animals, seabirds, etc.; disease; sharks and other predators at sea, etc.			

TABLE 13. ESTIMATED INCIDENTAL TURTLE CATCH (Give estimated numbers and/or weights)				
Species	Year			Type of Fishing Activity & Method of Estimation
	1982	1981	1980	
<i>Caretta caretta</i>				
<i>Chelonia mydas</i>				Incidental catch of juveniles by divers and fishermen
<i>Dermochelys coriacea</i>				
<i>Eretmochelys imbricata</i>				Incidental catch of juveniles by divers and fishermen
<i>Lepidochelys kempfi</i>				
<i>Lepidochelys olivacea</i>				

TABLE 13A. ESTIMATED TURTLE CATCH BY FOREIGN FISHERMEN (Supplementary page)

Please describe the type of foreign fishing in your waters and provide estimates for:

1. Number of foreign vessels catching turtles
2. Number of foreign fishermen catching turtles
3. Year of estimate.

There is no direct evidence of foreign fishing. However, fishing floats floating ashore and secondary reports by fishermen of foreign fishing supports the belief that foreign fishing is being carried out off the coast of Belize. It is also believed that the Japanese are mainly responsible for this foreign fishing pressure. It is impossible to estimate the catch of turtles.

TABLE 16. EMPLOYMENT DEPENDENT ON TURTLES			
Activity	Total Annual Numbers of Persons	Est. Annual Income From Turtles	Comments
Fishing	20-30	Unknown	This represents the estimate for full-time turtle fishermen.
Processing			
Selling			

TABLE 16A. EMPLOYMENT DEPENDENT ON TURTLES (Supplementary page)

In addition to marketed products, it is estimated that the following are taken annually from beaches or at sea for subsistence use:

- A: Subsistence exploitation
1. Estimated number of eggs: 10,000
 2. Estimated number of nesting females: 7
 3. Number of turtles caught at sea: 7

B: Social aspects

In addition to the described fishery activities, exploitation of turtles may be permitted in some countries according to special rights or privileges extended to certain groups of people. If such specialized turtle exploitation exists, please give details (i.e., beach rights, ethnic traditions, specific seasons of the year, special permits, etc.).

TABLE 18. PUBLIC AND PRIVATE INSTITUTIONS CONCERNED WITH TURTLE CONSERVATION/MANAGEMENT/UTILIZATION		
Institution or Organization Name and Address	No. of Active Members	Activities in Progress
Fisheries Unit Ministry of Health, Housing, & Coops	6	Market surveys and enforcement of regulations

TABLE 20. REGULATORY AUTHORITY			
Indicate all entities with statutory responsibilities (e.g., Fisheries Departments and Ministries, Police, Coast Guard, etc.)			
Name and Address of Organization	Budget Allocation to Turtles	No. of Staff Assigned to Turtles	Comments on Levels of Enforcement
Ministry of Trade and Industry, Cooperatives and Consumer Protection Belmopan Belize*	NA	NA	Opportunistic
* The Fisheries Regulations 1963 are attached for sea turtles p.1-31.			

BELIZE

STATUTORY INSTRUMENT

No. 66 of 1977

REGULATIONS made by the Minister responsible for Fisheries in the exercise of the powers conferred upon him under section 9 of the Fisheries Ordinance, Chapter 133 of the Laws, and all other powers thereunto him enabling.

(Gazetted 1st October, 1977)

1. (1) These Regulations may be cited as the

FISHERIES REGULATIONS 1977

Short Title

- (2) The Fisheries Regulations OF 1963 and the amendments thereto are hereby revoked.

PART I PRELIMINARY

2. In these Regulations:

"bonefish" means the fish commonly known in this country as macabi, the scientific name of which is *Albula vulpes linne*;

"cape length" means carapace measurements of crawfish determined at the most anterior edge of the groove between the horns directly above the eyes, then proceeding along the middle line to the edge of the carapace;

"closed season" means in relation to any kind or species of fish, a time or season during which the taking of that kind or species of fish is prohibited by these regulations;

"conch" means any mollusc of the species *Strombus. Gigas*;

"crawfish" means fish of the genus *Panulirus* which is commonly known as crayfish or spiny lobster;

"crustacean" includes marine and fresh water shrimp, crabs and crawfish;

"lobster trap" means any device that is designed for use, or is capable of being used for or in connection with the taking of crawfish;

"mesh size" means the measurement from knot to knot across the diagonal of the tightly stretched wet mesh;

"scale fish" means all members of the class Pisces;

"seine" means a net of any description used for taking fish by drawing along the bottom of the sea or fresh water (whether drawn on the beach or otherwise);

"shellfish" means any mollusc, specifically including oysters, clams, mussels, scallops, and snails, including members of the genus *Strombus*;

"to buy" means to come into possession or attempt to possess property in fish by means of an offer or exchange for money or other valuable consideration;

"to sell" includes an exchange or an offer or attempt to sell or exchange for money or for any other valuable consideration or an agreement to sell and any exposition of the goods in association with a mark indicating a price shall be deemed to be an offer to sell;

"to take" includes all operation (preparatory, and subsequent attempt whether successful or not-- to capture, kill, pursue, or otherwise harm or reduce to possession any fisheries resource;

"turtle" means a marine as distinguished from a terrestrial or fresh water species of tortoise.

PART II GENERAL

3. No person shall take in the waters of Belize or buy, sell or have in his possession crawfish-
 - (a) if the cape length is less than 3¼ inches or the tail weight is less than 4 ounces;
 - (b) between the 15th day of March and the 14th day of July inclusive in any year
 - (c) that is buried, has egg, or spawn;
 - (d) that has had the berries, eggs or spawn removed;
 - (e) that is moulting or has a soft shell.
4. No person shall detach or otherwise remove from any female lobster any eggs or spawn or the setae or fibre to which any eggs or spawn are or have been attached.
5. No person shall take any soft shelled crustacean.
6. No person shall take conch in the waters of Belize during the mouths of July, August and September in any year.
7. No person shall take scale fish in the waters of Belize using Scuba' – equipment except under special permit from the Fisheries Administrator.
8. In all areas; outside the barrier reef and within a radius of two mile of the mouth of the Belize River, Haulover Creak and Sibun River, no person shall take fish by means of any beach seine, trap, weir or stop net.
9. No person shall buy or sell bonefish after the 31st of December 1977.
10. No person shall take or have in his possession any turtle during the period from the first day of June to the thirty first day of August inclusive in an year, or take any turtle at any time when the same shall be found on the shores of Belize and adjacent cays thereof.
11. No person shall take or have in his possession of turtle eggs.
12. No person shall set or attempt to set within one hundred yards of the shores of Belize or of the adjacent cays thereof any net or seine, or other instrument whatsoever for the purpose or with the intent of taking turtles.
13. No person shall, take, buy, sell or have in his possession any turtle of the following description: -
 - (a) green turtle (*Chelonia mydas*) less than 50 pounds in weight;
 - (b) hawksbill turtle (*Eretmochelys imbricata*) less than 50 pounds in weight;
 - (c) loggerhead turtle (*Caretta caretta*) less than 30 pounds in weight.

14. No person shall after the 30th day of June 1977 export or attempt to export any turtle or any articles made from any part of a turtle otherwise than under a license granted by the Minister.
15. (1) Subject to paragraph (2) of this regulation, no person shall capture any fish in the waters of Belize with a net constructed of a natural or artificial fibre the mesh size of which is less than 3 inches.

(2) The prohibition in paragraph (1) of this Regulation shall not apply to-
 - (a) throw or cast nets;
 - (b) the holder of a special licence for a scientific investigation who maybe permitted to use webbing of a smaller mesh provided that such devices be of an approved pattern and that the written authority of the Fisheries Administrator is obtained and entered on the licence at the time of issue
 - (c) trawl or seine nets the mesh size of which is not less than 1½ inches.
(3) The provision of this regulation shall not apply to the meshes of a device constructed of materials other than synthetic or natural fibre webbing, where the design conforms to specifications laid down for that device for the purpose of releasing the fish or for the escape of such fish.
16. No person shall capture a fish of such a variety or in such quantities as would result in wanton waste and any fish captured as aforementioned shall be released immediately.
17. No beach seine, trap, weir, or stop act shall be set, hauled or otherwise used for the purpose of taking fish at any place situated within a distance of half a mile from any city, township, village, settlement or other inhabited locality in Belize.
18. No person shall use anaesthetics, in the water of Belize except under special permit from the Fisheries Administrator,
19. (1) No person shall take, buy, or sell any coral;
20. (1) No person shall
 - (a) have in his possession or buy, sell, export or attempt to export any raw, or unprocessed black coral;
 - (b) buy, sell; export or attempt to export black coral in any form.

except under a licence obtained therefore from the Fisheries Administrator under the Regulation.



THE NATIONAL REPORT EL REPORTE NACIONAL

FOR THE COUNTRY OF
POR EL PAIS DE

BELIZE

NATIONAL REPRESENTATIVE/REPRESENTANTE NACIONAL

WINSTON MILLER



Western Atlantic Turtle Symposium
Simposio de Tortugas del Atlantico Occidental

17-22 July/Julio 1983
San Jose, Costa Rica



WESTERN ATLANTIC TURTLE SYMPOSIUM

San Jose, Costa Rica

July 1983

NATIONAL REPORT FOR THE COUNTRY OF

BELIZE

NATIONAL REPORT PRESENTED BY

W. G. Miller

The National Representative

Address: Fisheries Unit Lab

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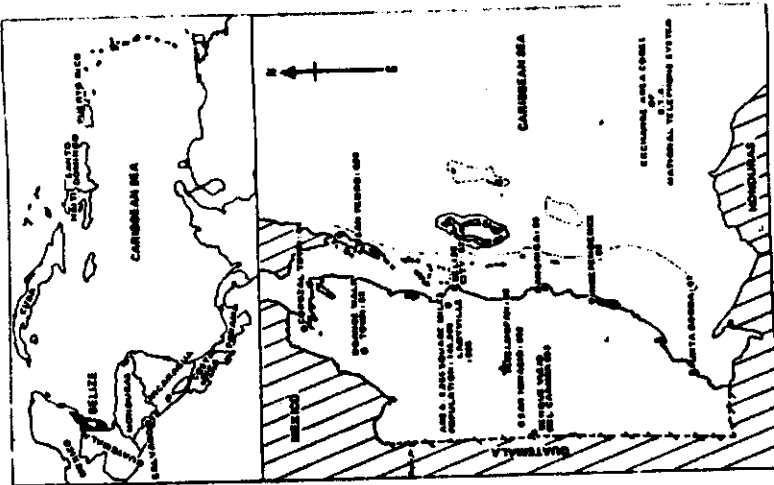
NATIONAL REPORT PREPARED BY

W.G. Miller, Fredrick Berry, and John R. Fletenmeyer

DATE SUBMITTED: January 25, 1984

Please submit this NATIONAL REPORT no later than 1 December 1982
to: IOC Assistant Secretary for IOCARIBE, 3 UNDP, Apartado 4540,
San Jose, Costa Rica.

FIGURE 1: Belize--M.A.T.S. National Report Study Area.



Country Belize
 Length of Coastline 220 km
 km² of Continental Shelf Area 2,450 km²
 Seaward Extent of Jurisdiction:
 Territorial Sea 12 nm
 Extended Economic Zone 200 nm
 Fisheries Jurisdiction 200 nm
 Other (Inscribed)

TABLE 1. GEOGRAPHIC INVENTORY

* Coastline length is the measurement of the national seaward boundary of a country; i.e., the distance from border to border for a coastal country and the distance around an island country.

MARINE SHORELINE CHARACTERISTICS*	km OF SHORELINE	
	UNDEVELOPED	TOTAL
1. Sand Beach (Total)	42.0	105.0
A. High Energy	16.0	21.0
B. Low Energy	26.0	84.0
2. Reef (exposed)	111.3	278.25
3. Rocks	14.85	16.5
4. Cliffs	0.10	2.0
5. Vegetation (Total)		
A. Vines		
B. Grasses	232.18	232.18
C. Mangroves	530.76	530.76
D. Coconut Trees	11.25	64.0
E. Other Trees or Shrubs		
F. Marshes	8.04	32.0
6. Mats of Lagoons, Piers, Canals		
7. Total Shoreline	982.48	1,381.06

TABLE 2. COASTAL HABITAT INVENTORY OF MARINE SHORELINE * Refer to SEA TURTLE M.S.A. (Aerial Survey) ** Human development or use (See MANUAL)

NAME OF BEACH	LENGTH IN km	SPECIES NESTING (Use abbreviations)*	MONTHS OF RECORDED NESTING
1. Ambergris	15	Cc, Cc	June, July
2. Half Moon	2	Cc, Cc	June, July
3. Long	5	Cc, E	June, July, August
4. Cailler	9	Cc, Cc	June, July
5. Chipee	5	Cc, Cc	June, July, August
6. Goff	1	E	June, July, August
7. Placencia	22	E, Cc	June, July
8. Niquiare	0.5	E, Cc	June, July, August
9. Lime	0.5	E, Cc	June, July, August
10. Nanting	0.5	E, Cc	June, July, August

TABLE 3. NESTING BEACH INVENTORY LIST BEACHS IN GEOGRAPHIC SEQUENCE. Provide additional information on following page.

Species Abbreviations:
 Cc Caretta caretta
 C Caretta
 D Dermochelys coriacea
 E Eretmochelys imbricata
 Lc Lepidochelys olivacea
 Le Lepidochelys olivacea

NAME OF BEACH	LENGTH IN IN	SPECIES NESTING (Use abbreviations)*	MONTHS OF RECORDED NESTING
1. Richies	0.2	E., Cc	June, July, August
2. Frank's	0.2	E., Cc	June, July, August
3. Peapton	0.3	E., Cc	June, July, August
4. Round	0.3		
5. Slik	0.2	Ch, E.	
6. South Water	0.3		
7. Tobacco	0.9		
8. Sapodilla	2.0	E., Cc, Ch	June, July, August
9. Glowers	10.0	E., Cc, Ch	June, July, August
10. Turnette	20.0		

TABLE 3. NESTING BEACH INVENTORY.
List beaches in geographic sequence.
Provide additional information on following items.

*June, July, and August represents the months when most sea turtle nesting activity is observed.

Species Abbreviations:
Cc *Caretta caretta*
Ch *Chelonia mydas*
D *Dermochelys coriacea*
E *Eretmochelys imbricata*
Lk *Lepidochelys kempi*
Ls *Lepidochelys olivacea*

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>		10	7/10/72
<i>Chelonia mydas</i>		6	7/10/72
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 1. NESTING CENSUS FOR BEACH Ambryis

(name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>		12 (Represents a combined estimate for <i>Caretta caretta</i> and <i>Chelonia mydas</i>)	7/20/72
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 2. NESTING CENSUS FOR BEACH Half Noon

(name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>		7	6/12/72
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		4	6/12/72
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 3. NESTING CENSUS FOR BEACH Long

(name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<u>Carattia caratta</u>		3	1979-81
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>		1	1979-81
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 7. NESTING CENSUS FOR BEACH Piassera (name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<u>Carattia caratta</u>		3	1982-83
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>		6	1982-83
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 8. NESTING CENSUS FOR BEACH Lins (name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<u>Carattia caratta</u>		3	1981-83
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>		6	1981-83
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 9. NESTING CENSUS FOR BEACH Response (name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<u>Carattia caratta</u>		3	1982-83
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>		7	1982-83
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 10. NESTING CENSUS FOR BEACH Pemion (name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Flight (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>		2	1981-83
<i>Chelonia mydas</i>		5	1981-83
<i>Bornachelys carolinae</i>		6	1981-83
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 19 NESTING CENSUS FOR BEACH Sapodilla (name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

DATE	BEACHES SURVEYED	NUMBERS OF NESTING TRACKS						
		Cc	Ch	Bc	E	Lk	Lk	Lo
1/07/82	Roof Point							3
	Palmar Point							1
2/07/82	Grassy Caye							1
	Three Corner Caye							1
	Sandbar Caye							1
	N.E. Cape, Glover Reef							1
8/25/80	All sand beaches and reefs and most of shoreline							
8/28/80	Surrounding area, turtle tracks sighted.							
8/01/81								
8/02/81								

TABLE 5. AERIAL BEACH SURVEY SUMMARY
Give any additional information available from aerial surveys. Information should include ground truth observation if conducted.

SPECIES ABBREVIATIONS:
Cc *Caretta caretta*
Ch *Chelonia mydas*
Bc *Bornachelys carolinae*
E *Eretmochelys imbricata*
Lk *Lepidochelys kempi*
Lo *Lepidochelys olivacea*

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Flight (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>		2	1981-83
<i>Chelonia mydas</i>		2	1981-83
<i>Bornachelys carolinae</i>		6	1981-83
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 19 NESTING CENSUS FOR BEACH Glowers (name)

Please complete one of these tables to summarize census data for each beach listed in Table 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3.

TABLE 5. AERIAL BEACH SURVEY SUMMARY
(Supplementary page)

Give any additional information available from aerial surveys. Information should include ground truth observation if conducted.
Refer to map below for area covered during aerial survey.

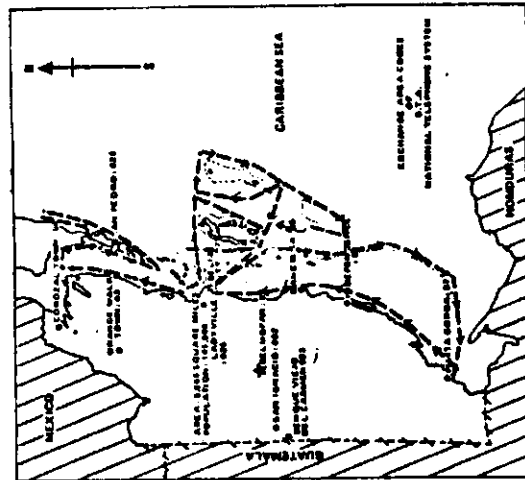


Figure 2: Map showing Flight Paths of Aerial Surveys conducted on June 5, 1982, July 1, 1982 and July 2, 1982. Total flight time was 7.1 hours.

SPECIES	YEAR				Average Year Estimate
	1961	1962	1960	1979	
<i>Caretta caretta</i>					80
<i>Chelonia mydas</i>					19
<i>Bornachelys carolinae</i>					31
<i>Erismacelys imbricata</i>					
<i>Leptochelys kempi</i>					
<i>Leptochelys olivacea</i>					

TABLE 6. ESTIMATED POPULATIONS OF NESTING FEMALES. Summarize the estimated number of nesting females for the years indicated and describe methods of estimation on the next page.

(1) Mean estimate for recent years (1979-1982). There is not sufficient data to make a precise estimate by year.

TABLE 6. ESTIMATED POPULATIONS OF NESTING FEMALES. (Supplementary page)

Please give brief details on methods of estimation for Table 6.

An average year estimate is given in Table 6, that is based on the estimates by beach in Table 4. These estimates were based on 110 land interviews with fishermen and beach residents/beach and aerial surveys.

LIFE STAGE UNIT	SPECIES (abbrev.)	CAUSES*	EXTENT OF MORTALITY (% of unit)
Nests/eggs		Human Poaching, Raccoons, ?	
hatchlings		Birds, Crabs, Predatory Reef Fish (others)	
Juveniles		Predatory Fish	
Adults (in water)		?	
Nesting females		?	

TABLE 10. NATURAL MORTALITY. * Natural mortality causes may include: Beach erosion of nesting sites; wild nesting predation by crabs, wild animals, sea birds, etc.; disease; sharks and other predators at sea; etc.

Species Abbreviations:
Cc *Caretta caretta*
Ch *Chelonia mydas*
Bc *Bornachelys carolinae*
Er *Erismacelys imbricata*
Lk *Leptochelys kempi*
Lo *Leptochelys olivacea*

NAME OF PORT OR SITE	SPECIES LANDED (Use abbrev)	FISHING GEAR USED	DATUMS OF LANDINGS (1)	NUMBERS & WEIGHTS (Estimate)
1. Belize City Market	Cc, Ch, Er	Nets (frequently taken incidentally when diving)	Sept.-Nov.	200/40, 480kg
2. Newtown Barracks	Cc, Ch, Er	Nets	Feb.-May	50/8, 300kg
3. Central Town				75/15, 675kg
4. Dangriga				90/15, 840kg
5. Punta Gorda				250/46, 750kg
6. San Pedro				180/14, 300kg
7. Caye Caulier				70/7, 700kg
8. Sarteneja				90/14, 300kg

TABLE 11. LANDING SITES FOR TURTLES & TURTLE PRODUCTS. *There is a fairly heavy trade in juveniles to satisfy tourist demand. +occasionally turtles are landed in the months of DEC. and JAN.

Species Abbreviations:
Cc *Caretta caretta*
Ch *Chelonia mydas*
Bc *Bornachelys carolinae*
Er *Erismacelys imbricata*
Lk *Leptochelys kempi*
Lo *Leptochelys olivacea*

SPECIES	YEAR			METHOD OF DETERMINATION
	1982	1981	1980	
<u>Caretta caretta</u>	400	425	415	Market Surveys and Reports From Fishermen
<u>Chelonia mydas</u>	280	325	350	Market Surveys and Reports From Fishermen
<u>Dermochelys coriacea</u>				
<u>Eretmochelys imbricata</u>	325	370	360	Market Surveys and Reports From Fishermen
<u>Lepidochelys kempi</u>				
<u>Lepidochelys olivacea</u>				

TABLE 12. TOTAL ANNUAL TURTLE LANDINGS IN NUMBERS AND WEIGHTS (N/Tg)
Do not include turtle caught incidental to other
fishing operations (e.g., shrimp trawling).

SPECIES	YEAR			TYPE OF FISHING ACTIVITY & METHOD OF ESTIMATION
	1982	1981	1980	
<u>Caretta caretta</u>				
<u>Chelonia mydas</u>				Incidental Catch of Juv. by Divers and Fishermen
<u>Dermochelys coriacea</u>				
<u>Eretmochelys imbricata</u>				Incidental Catch of Juv. by Divers and Fishermen
<u>Lepidochelys kempi</u>				
<u>Lepidochelys olivacea</u>				

TABLE 13. ESTIMATED INCIDENTAL TURTLE CATCH
Give estimated numbers and/or weights.

TABLE 15. ESTIMATED TURTLE CATCH BY FOREIGN FISHERMEN
(Supplementary page)

Please describe the type of foreign fishing in your waters
and provide estimates for:

1. Number of foreign vessels catching turtles.
2. Number of foreign fishermen catching turtles.
3. Year of estimate.

*There is no direct evidence of foreign fishing. However fishing floats
floating ashore and secondary reports by fishermen of foreign fishing
supports the belief that foreign fishing is being carried on off the
coast of Belize. It is also believed that the Japanese are mainly
responsible for this foreign fishing pressure. It is impossible to
estimate the catch of turtles.

TABLE 16. EMPLOYMENT DEPENDENT ON TURTLES
(Supplementary page)

In addition to marketed products, it is estimated that the
following are taken annually from beaches or at sea for
subsistence use:

A: Subsistence exploitation

1. Estimated number of eggs: 10,000
2. Estimated number of nesting females: 7
3. Number of turtles caught at sea: 7
4. Other: _____

ACTIVITY	TOTAL ANNUAL NUMBERS OF PERSONS	EST. ANNUAL INCOME FROM TURTLES	COMMENTS
Fishing	20-30	Unknown	This represents the estimate for full-time turtle fishermen.
Processing			
Selling			

TABLE 16. EMPLOYMENT DEPENDENT ON TURTLES

B: Social aspects

In addition to the described fishery activities,
exploitation of turtles may be permitted in some countries
according to special rights or privileges extended to
certain groups of people. If such specialized turtle
exploitation exists, please give details (i.e., beach
rights, ethnic traditions, specific seasons of the year,
special permits, etc.).

