# THE NATIONAL REPORT EL REPORTE NACIONAL

FOR THE COUNTRY OF POR EL PAIS DE

# **PUERTO RICO**

NATIONAL REPRESENTATIVE / REPRESENTANTE NACIONAL

## **GILBERT CINTRON MOLERO**



Western Atlantic Turtle Symposium Simposio de Tortugas del Atlantico Occidental

17-22 July / Julio 1983 San José, Costa Rica Puerto Rico National Report, WATS I Vol 3, pages 349- 363



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

### NATIONAL REPORT FOR THE COUNTRY OF

### **PUERTO RICO**

### NATIONAL REPORT PRESENTED BY

### **Gilbert Cintron**

The National Representative

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DATE SUBMITTED: 11 July 1983

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 <a href="http://www.widecast.org/What/RegionalPrograms.html">http://www.widecast.org/What/RegionalPrograms.html</a>.

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:

Gonzales, J.G. 1984. <u>National Report for Puerto Rico</u>, pp.349-363. *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

### **COUNTRY: PUERTO RICO**

TABLE 1. GEOGRAPHIC INVENTORY		
Lorenth of Constituent	04.4 1/	
Length of Coastline* (Total included adjacent islands)	914 Km	
Length of Coastline Segments		
Main Island		
North coast	229 Km	
South coast	308 Km	
East coast	96 Km	
West coast	88 Km	
Subtotal	721 Km	
Adjacent Islands		
Vieques	110 Km	
Mona	53 Km	
Culebra	30 Km	
Subtotal	196 Km	
Insular shelf area (includes Puerto Rico and Virgin Islands)	7,203 Km <sup>2</sup>	
	2	
Insular shelf area (Puerto Rico only)	5,282 Km <sup>2</sup>	
Km <sup>2</sup> of Continental Shelf Area		
Seward Extent of Jurisdictions:		
Territorial Sea	16.7 Km	
Extended Economic Zone	322 Km	
Fisheries Jurisdiction	322 Km	
Other (Describe)		

<sup>\*</sup> 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.

		Km of Shoreline	
Marine Shoreline Characteristics*	Undeveloped	Developed**	Total
Sand Beach (Total)			244.5
A. High Energy			
B. Low Energy			
2. Reef (exposed)			
3. Rocks			120.7
4. Cliffs			
5. Vegetation (Total)			*** 355.38
A. Vines			3.3
B. Grasses			28.5
C. Mangroves			147.5
D. Coconut Trees			36.1
E. Other Trees or Shrubs			128.14
F. Marshes			11.8
6. Mouths of Lagoons, Rivers, Canals			4.0
7. Total Shoreline			**** 727.5

<sup>\*</sup> Refer to SEA TURTLE MANUAL (Aerial Survey)

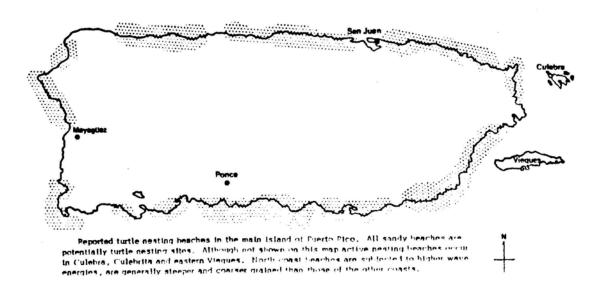


Figure 1. Reported turtle nesting beaches on the mail island of Puerto Rico.<sup>1</sup>

<sup>1</sup> 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.

<sup>\*\*</sup> Human development or use (See MANUAL)

<sup>\*\*\*</sup> Editor's note (2009): Vegetation total does not equal the sum of the constituent types.

<sup>\*\*\*\*</sup> Editor's note (2009): Shoreline total does not equal sum of the constituent components.

	BLE 3.1. NESTING BEAC beaches in geographic s			ditional information on foll	owing page.
Nar	me of Beach		Length in Km	Species Nesting (use abbreviations)*	Months of Recorded Nesting
1.	Beach of Punta Arenas,				
	Vieques		0.50	D?	May
2.	Green Beach, Vieques		0.50	3 E?	May
3.	Yellow Beach, Vieques		1.00	Cm; D 2?	May
4.	Turtle Beaches, Vieques		0.33	D 2; ? 3	May
5. 2 <sup>nd</sup> Beach S.E. of Punta Salinas, Vieques			0.25	?	May
	2 <sup>nd</sup> Beach west of Punta Icacos, Vieques		0.25	D?	May
7.	Purple Beach, Vieques		1.25	D?	May
8.	Playa Brava, Culebra		1.50	C ?; D~20	May-June
9.	Playa Resaca, Culebra		1.00	D~8	May-June
	Species *	Abbrev	viation		
Cal	retta caretta	Сс			
	elonia mydas	Cm			
Dermochelys coriacea D					
	tmochelys imbricata	E			
	pidochelys kempi	_ Lk			
	pidochelys olivacea	Lo			

TAE	BLE 3.2. NESTING BEA	CH INVEN	ITORY		
List	beaches in geographic s	equence.	Provide add	ditional information on fol	llowing page.
Nan	ne of Beach		Length in Km	Species Nesting (use abbreviations) *	Months of Recorded Nesting
1.	Playa Mujeres (Carita) o Mona	de Isla	1.40	D	April
2.	Playa Mujeres (Carita) o Mona	de Isla		D	April
3.	Playa Sardinera de Isla	Mona	1.00	Е	April
4.	Playa Sardinera de Isla	Mona		E	April
5.	Playa Punta Arena **		1.00	E ***	October ****
6.	Tablonal de Aguada **		1.00	E ***	January ****
7.	Playa Jobos de Isabela		2.50	D	April
8.	Playa Jobos de Isabela	**	2.50	E ?	April
9.	Piñones**		8.00	E	September or October ****
10.	Playa Larga N.E. of Pur	nta Tuna	4	D	April
	Species *	Abbrevi	ation		
Car	etta caretta	Сс			
Chelonia mydas Cm		Cm			
Dermochelys coriacea D					
Ere	tmochelys imbricata	E			
Lep	idochelys kempi	Lk			
Lep	idochelys olivacea	Lo			

### **TABLE 3.2. NESTING BEACH INVENTORY**

List beaches in geographic sequence. Provide additional information on following page.

- \*\* Information from outside sources
- \*\*\* Inferred from nesting season
- \*\*\*\* Inferred from date of hatching

### **TABLE 3.3. NESTING BEACH INVENTORY**

List beaches in geographic sequence. Provide additional information on following page.

Nan	ne of Beach	Length in Km	Species Nesting (use abbreviations) *	Months of Recorded Nesting
1.	Mona Island	8.00	E	10 **
2.	Culebra Island		D	
3.	Vieques Island		Cm; D; E	1
4.	Playa Resaca, Culebra Island		E	1
5.	Playa Brava, Culebra Island		E	1
6.	Playa Larga, Culebra Island		E	1
7.	West Beach of Isla Culebrita, Culebrita Island		E	1
8.	North Beach, Culebrita		E	1
9.	Playa Resaca, Culebrita		Е	11
10.	Playa Brava, Culebra Island		E	11

Species *	Abbreviation
Caretta caretta	Cc
Chelonia mydas	Cm
Dermochelys coriacea	D
Eretmochelys imbricata	E
Lepidochelys kempi	Lk
Lepidochelys olivacea	Lo

<sup>\*\*</sup> Editor's note (2009): Information on "Months of Recorded Nesting" appeared in original National Report as listed in this table. It is unclear if the number (e.g. 10) refers to the number of the calendar month (October) or the total number of months of recorded data (10 months).

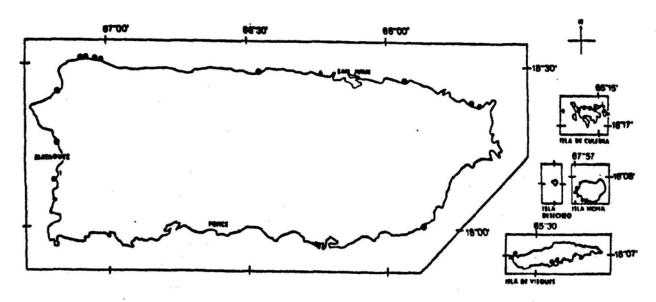
**TABLE 3.4. NESTING BEACH INVENTORY** 

List beaches in geographic sequence. Provide additional information on following page.

Naı	ne of Beach	Length in Km	Species Nesting (use abbreviations) *	Months of Recorded Nesting
1.	West Beaches of Culebrita Isl.		E	11**
2.	North Beach, Culebrita Island		E	11
3.	South Beach, Culebrita Island		Е	11
4.	Northwest Beach, Culebrita Isl.		Е	11
5.	South Beach, Cayo Norte, Culebra Island		Е	11

Species *	Abbreviation
Caretta caretta	Cc
Chelonia mydas	Cm
Dermochelys coriacea	D
Eretmochelys imbricata	E
Lepidochelys kempi	Lk
Lepidochelys olivacea	Lo

<sup>\*\*</sup> Editor's note (2009): Information on "Months of Recorded Nesting" appeared in original document as listed in this table. It is unclear if the number (e.g. 11) refers to the number of the calendar month (October) or the total number of months of recorded data (11 months).



- Seaches where twrite tracks or hatchlings have been encountered since October 1982.
   Search effort was not equal for all areas.
- a Only false crawls found.

**Figure 2. KEY** • Beaches where turtle tracks or hatchlings have been encountered since October 1982. Research effort was not equal for all areas.

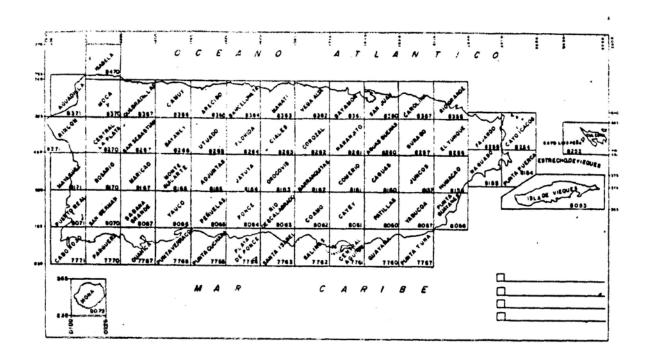
• Only false crawls found.

Quadrangle	Meters**	Quadrangle	Meters**
Aguadillo	12,180	Pta. Tuna	2,100
Isabella	19,820	Guayama	2,760
Quebradillas	8,240	Central Aguirre	720
Camuy	?	Salinas	440
Arecibo	?	Santa Isabel	180
Barceloneta	?	Playa de Ponce	
Manati	5,980	Pta Cuchara	700
Veca Baia	18,200	Yauco	
Bayamon	3,00	Pta. Berraco	2,560
San Juan	10,220	Guanica	2,460
Carolina	12,880	La Paguera	
Rio Grande	?	Cabo Rojo	4,200
Fajardo	?	Puerto Real	6,400
Icacos		Mayaguez	2,540
Pta. Puerca	10,060	Rincon	12,440
Naguabo	6,400		
Humacao	4,520		
Guayanes	9,240		
TOTA	\L		208,500 met

Editor's note (2009): This table was not numbered in the original National Report; the Editor

assigned a number (TABLE 3A) to facilitate referencing.

Editor's note (2009): The values entered in these columns were difficult to read in all cases from the original National Report; "--?--" indicates an indecipherable value.



### TABLE 3A-1. NESTING BEACH INVENTORY (supplementary page)

Please give additional information about each nesting beach identified in Table 3. Include information on color of sand, particle size, beach profile, backbeach vegetation, artificial lighting, etc.

### 1. Beach E. of Punta Arenas, Vieques

The beach is about 10 m wide and fairly flat. The sand is fine and gray. The beach is bordered by mangroves, vines and palms. There were many cattle tracks on the beach. An old 3 m wide pit was found close to the high tide line.

### 2. Green Beach, Vieques

The beach is 8-13 m wide and fairly flat. The sand is light and of medium grain. The backbeach area has scattered 1/3 meter high rocks and then a 3 m hill that only has vegetation on top. This consists of grasses, and sea grapes. The water has some underexposed beach rock. The three tracks found were only 35.5 cm wide and did not have nest pits.

### 3. Yellow Beach, Viegues

The beach is 20-30 m wide and has two 1/2 m berms with flat beach between them. Sand is fine and gray. Vegetation consists of grasses, vines, sea grapes acacia, giant milkweed, and some mangrove. One track was fresh from that night, but had been erased by concerned locals. It could still be measured and was about 104 cm. The locals seemed to know about tracks, and volunteered that they were parallel and made by a green turtle. No evidence of a pit remained, and there probable wasn't one to start out with. The other three pits were older, and at least one was a *Dermochelys*, and one was poached.

### 4. Turtle Beach, Viegues

This beach was checked by boat. There were 5 old pits and at least two were big enough to be Dermochelys.

### 5. 2<sup>nd</sup> beach S.E. of Punta Salinas, Vieques

One old pit seen on this beach by boat.

### 6. 2<sup>nd</sup> beach West of Punta Icacos, Vieques

Saw one fresh track and nest by boat, from that night.

### 7. Purple Beach, Vieques

The beach is about 15 m wide with a 30° slope up to the low berm then a relatively flat backbeach area. The sand is light and of medium grain. The vegetation consists of giant milkweed, vines, grasses, sea grapes, acacia, and some coco palms. A fair amount of *Syringodium* was washed up on the beach. Two pits were found, both poached and one was large enough to be *Dermochelys*. Saw some men on horseback with a dog.

### 8. Playa Brava, Culebra

The beach is about 25 m wide with a 30° slope up to the small berm, and then slopes gently to a second berm 1-1 1/2 m high at the vegetation line. The sand is light, of medium grain and very soft. The vegetation consists of vines, grasses, sea grapes, giant milkweed, acacia, and half of the beach has palms 100 m behind.

This beach was covered with old tracks and pits and it was impossible to tell how many had been made since the aerial survey of 16 May 1983. Only pits with tracks still visible were counted to get the figure 20, since these were probably made within the last 18 days. The smallest set of tracks was 142 cm and was listed as a possible *Chelonia mydas*. The pit was farther into the vegetation than most and the track was one of the few that crossed itself for any distance. Broken eggshells of yolkless eggs were found at 4 pits, signifying that these had been poached (unless the turtle had dropped these after covering). However, there were other signs of poaching activity and at least several others showed these signs to varying degrees.

### 9. Playa Resaca, Culebra

The beach is about 25 m wide and has 2 berms. The first berm is steep in some places, and the second gently slopes up 1 m with fairly flat beach between them. The sand is light, of medium grain, and soft. Eight tracks were still visible on the beach, but the wind was rapidly erasing them. Eggshells were found at three pits, but many more looked undisturbed.

### TABLE 3A-2. NESTING BEACH INVENTORY (supplementary page)

Please give additional information about each nesting beach identified in Table 3. Include information on color of sand, particle size, beach profile, backbeach vegetation, artificial lighting, etc.

### 1. Playa Mujeres (Carite) de Mona

The beach is about 40 m wide with a 30° slope from the water up to a 0.3 m\* (1 foot) berm, and then has a fairly flat backshore area, bordered by Australian pines. The soft carbonate sand is white and coarse. There are no buildings here, but a diurnally used landing strip is nearby.

### 2. Playa Sardinera

The beach is about 7 m wide with a 40-50° slope, and with soft carbonate sand. The backbeach vegetation consists mainly of bay cedar averaging 1 m high, and 150 m behind this are Australian pines. There are no buildings where the turtles cam up, but there are many only 1/2 km away. Immediately offshore are exposed reefs.

### 3. Playa Punta Arena

The beach is about 7-8 m wide with a slight slope. The sand is light and of medium grain. There is a 5 storey condominium and many houses and lights on the beach. The vegetation consists mainly of coco palms.

### 4. Tablonal de Aguada

This beach is about 8 m wide and fairly flat. The sand is light, of medium grain, and there is beach rock offshore. There are many 3 m high rocks in the backbeach area, with mainly coco palms and West Indian almond trees behind them. There are scattered houses in the area.

### 5. Playa Jobos de Isabela

The beach is about 10 m wide with a 20° slope up to the duneline. The sand is light and of medium grain. The dunes are fairly high in some places and the vegetation is mainly sea grapes. The *Dermochelys* laid very close to a street light, in an area where there are many houses on the dunes.

### 6. Piñones

The beach is 10 m wide and the slope varies from 0-30°, with a 1 m berm in some places. The sand is white and semi-coarse. The vegetation is mainly coco palm and Australian pines. The road is close to the beach and there are scattered houses.

### 7. Playa Larga N.E. of Punta Tuna

The beach is about 20 m wide with a 30° slope coming out of the water and then a gradual slope to the vegetation. The sand is light and of medium grain. The vegetation is mainly coco palms and sea grapes.

TABLE 4.1. NESTING CE	NSUS FOR BEACH: Bea	ch East of Punta Arenas, Vi	eques				
Table summarizes census	data for each beach listed	l in Table 3. Tables numbered	l sequentially.				
Species Number of Nests Dates of collection							
·	Nest/Night (average)	Nest/Season (estimated)					
Caretta caretta							
Chelonia mydas							
Dermochelys coriacea			24 May 1983				
Eretmochelys imbricata							
Lepidochelys kempi							
Lepidochelys olivacea							

	NSUS FOR BEACH: Gree						
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)					
Caretta caretta							
Chelonia mydas							
Dermochelys coriacea							
Eretmochelys imbricata			24 May 1983				
Lepidochelys kempi							
Lepidochelys olivacea							

TABLE 4.3. NESTING CE	NSUS FOR BEACH: Yello	ow Beach, Vieques					
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)					
Caretta caretta							
Chelonia mydas			26 May 1983				
Dermochelys coriacea			26 May 1983				
Eretmochelys imbricata							
Lepidochelys kempi							
Lepidochelys olivacea							

<b>TABLE 4.4. NESTING CE</b>			
Table summarizes census	data for each beach listed	l in Table 3. Tables numbered	l sequentially.
Species	Numbe	r of Nests	Dates of collection
'	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			27 May 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

TABLE 4.5. NESTING CE	NSUS FOR BEACH: 2nd	Beach S.E. of Punta Salinas	s, Vieques
Table summarizes census	data for each beach listed	l in Table 3. Tables numbered	l sequentially.
Species	Numbe	r of Nests	Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			27 May 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

		Beach to west of Punta Icad	
Table summarizes census	data for each beach listed	in Table 3. Tables numbered	l sequentially.
Species	Numbe	r of Nests	Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			27 May 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

TABLE 4.7. NESTING CE	NSUS FOR BEACH: Purp	ole Beach, Vieques	
Table summarizes census	data for each beach listed	l in Table 3. Tables numbered	l sequentially.
Species	Numbe	r of Nests	Dates of collection
·	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			26 May 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

TABLE 4.8. NESTING CE		•	
l able summarizes census	data for each beach listed	l in Table 3. Tables numbered	sequentially.
Species	Numbe	r of Nests	Dates of collection
•	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			03 June 1983
Dermochelys coriacea	1-2 ?		03 June 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

<b>TABLE 4.9. NESTING CE</b>	NSUS FOR BEACH: Play	a Resaca, Culebra	
Table summarizes census	data for each beach listed	l in Table 3. Tables numbered	l sequentially.
Species	Numbe	r of Nests	Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea	1?		04 June 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

Species	Number of Nests		Dates of collection
·	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta	<u> </u>		
Chelonia mydas			
Dermochelys coriacea			12, 17 April 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

Table summarizes census	data for each beach listed	l in Table 3. Tables numbered	sequentially.
Species	Numbe	r of Nests	Dates of collection
·	Nest/Night (average)	Nest/Season (estimated)	-
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			15 April 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.11) was labeled TABLE 4-3, 4 in the original National Report. The Editor changed table number to maintain consistency within this report.

TABLE 4.12 *. NESTING	<b>CENSUS FOR BEACH: P</b>	laya Punta Arena	
Table summarizes census	s data for each beach listed	l in Table 3. Tables numbered	l sequentially.
Species	Numbe	r of Nests	Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			

Eretmochelys imbricata	06 January 1983 (hatched)
Lepidochelys kempi	
Lepidochelys olivacea	

<sup>\*</sup> Editor's note (2009): This Table (4.12) was labeled TABLE 4-9 in the original National Report. The Editor changed table number to maintain consistency within this report.

### TABLE 4.13 \*. NESTING CENSUS FOR BEACH: Tablonal de Aguada

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)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			
Eretmochelys imbricata			09 March 1983 (hatched)
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.13) was labeled TABLE 4-6 in the original National Report. The Editor changed table number to maintain consistency within this report.

### TABLE 4.14 \*. NESTING CENSUS FOR BEACH: Playa Jobos de Isabela

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)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			10 April 1983
Eretmochelys imbricata			15 April 1983
Lepidochelys kempi			·
Lepidochelys olivacea			

<sup>\*</sup> *Editor's note (2009):* This Table (4.14) was labeled TABLE 4-7, 8 in the original National Report. Editor changed table number to maintain consistency within this report.

### **TABLE 4.15\*. NESTING CENSUS FOR BEACH: Piñones**

Species	Numbe	Dates of collection	
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			
Eretmochelys imbricata			26 November 1983 (hatched)
Lepidochelys kempi			

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1 ~ .~	: -l l		livacea
I ON	111111111111111111111111111111111111111	いいぐ ハル	11/21/12/2
$L \cup D$	IUUUII	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	IVACCA

<sup>\*</sup> *Editor's note (2009):* This Table (4.15) was labeled TABLE 4-9 in the original National Report. The Editor changed table number to maintain consistency within this report.

### TABLE 4.16 \*. NESTING CENSUS FOR BEACH: Playa Larga, N.E. of Punta Tuna

Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.

Species	Numbe	Dates of collection	
·	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			01 May 1983
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.16) was labeled TABLE 4-10 in the original National Report. The Editor changed table number to maintain consistency within this report.

## TABLE 4.17 \*. NESTING CENSUS FOR BEACH: Playa Sardinera (P.S.), UveroCarabinero (UC), Playa Brava (P.B.), Playa Pájaros (P.P.)

Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.

Species	Numbe	Dates of collection	
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas		3	1974 (nesting season)
Dermochelys coriacea			
Eretmochelys imbricata		13 P.S.; 8 P.B.; 1 U.C.	May-October 1982
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.17) was labeled TABLE 4-1 in the original National Report. The Editor changed table number to maintain consistency within this report.

### TABLE 4.18 \*. NESTING CENSUS FOR BEACH: Culebra Island

Species	Numbe	Dates of collection	
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea		4	1974
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.18) was labeled TABLE 4-2 in the original National Report. The Editor changed table number to maintain consistency within this report.

TABLE 4.19 \*. NESTING CENSUS FOR BEACH: Playa Sardinera (P.S.), UveroCarabinero (UC), Playa Brava (P.B.), Playa Pájaros (P.P.)

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)	_
Caretta caretta			
Chelonia mydas		3	May 1974 - February 1975
Dermochelys coriacea		3 P.S. 105 U.C. 6 P.P. 12 P.B.	November 1973 November 1973 November 1973 November 1973
Eretmochelys imbricata		20 P.S. 33 U.C. 31 P.B. 60 others	June 1974-January 1975 June 1974-January 1975 June 1974-January 1975 June 1974-January 1975
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.19) was labeled TABLE 4-1B in the original National Report. Editor changed table number to maintain consistency within this report.

### TABLE 4.20 \*. NESTING CENSUS FOR BEACH: Viegues Island

Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.

	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas		4	May-September 1981
Dermochelys coriacea		9 26	May 6-June 6, 1978 April-October 1981
Eretmochelys imbricata		2 23	May 6-June 6, 1978 December 1980-October 1981
Lepidochelys kempi		23	December 1900-October 190
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.20) was labeled TABLE 4-3B in the original National Report. Editor changed table number to maintain consistency within this report.

### TABLE 4.21\*. NESTING CENSUS FOR BEACH: Playa Resaca, Culebra Island

2		( ) 1	
Species	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas		1	May-June 1977
Dermochelys coriacea		2	May-June 1977
Eretmochelys imbricata		4	June 1975
_		3	July 1976-June 1977

Lepidochelys kempi		
Lepidochelys olivacea		

<sup>\*</sup> *Editor's note (2009):* This Table (4.21) was labeled TABLE 4-4B in the original National Report. The Editor changed table number to maintain consistency within this report.

### TABLE 4.22\*. NESTING CENSUS FOR BEACH: Playa Brava, Culebra Island

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)	
Caretta caretta		3	May-June 1977
Chelonia mydas		3	May 6-June 10, 1977
Dermochelys coriacea		4	June 1975
		1	July 1976-June 1977
Eretmochelys imbricata			
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.22) was labeled TABLE 4-5B in the original National Report. Editor changed table number to maintain consistency within this report.

### TABLE 4.23\*. NESTING CENSUS FOR BEACH: Playa Larga, Culebra Island

Species	Number	of Nests	Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			
Eretmochelys imbricata		3	June 1975
•		0	July 1976, June 1977
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> Editor's note (2009): This Table (4.23) was labeled TABLE 4-6B in the original National Report. Editor changed table number to maintain consistency within this report.

### TABLE 4.24\*. NESTING CENSUS FOR BEACH: West Beach of Isla Culebrita

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)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			
Eretmochelys imbricata		3	June 1975
-		15	July 1976-June 1977
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> *Editor's note (2009):* This Table (4.24) was labeled TABLE 4-7B in the original National Report. The Editor changed table number to maintain consistency within this report.

# TABLE 4.25. NESTING CENSUS FOR BEACH: North Beach (NB), South Beach (SB), Northwest Beach (NWB), South Beach, Cayo Norte (S.B., C.N.)

Table summarizes census data for each beach listed in Table 3. Tables numbered sequentially.

Species	Numbe	er of Nests	Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
Caretta caretta			
Chelonia mydas			
Dermochelys coriacea			
Eretmochelys imbricata		3,1 from NB 0,2 from SB 0,6 from NWB 0,7 from SB, C.W.	June 1975 July 1976-June 1977 July 1976-June 1977 July 1976-June 1977
Lepidochelys kempi			
Lepidochelys olivacea			

<sup>\*</sup> *Editor's note (2009):* This Table (4.25) was labeled TABLE 4-8B + 2A in the original National Report. The Editor changed table number to maintain consistency within this report.

### 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		١	lumbers	s of Nes	ting Tra	cks	
		Сс	Cm	D	Е	Lk	Lo	No. ID
11 April 1983	Most of the northern beaches between Playa Jobos and Las Colinas (didn't cover well between Playa Uvero & Luquillo)							
22 April 1983	Most of the beaches from Rincón north to San Juan							
22 April 1983	Playa Isabela			1				
22 April 1983	Playa Tortuguero							1

29 April 1983	The northern beaches between Punta Borinquen and Punta					
	Medio Mundo					
29 April 1983	Playa Tortuguero		1?			
29 April 1983	Playa east of town of Luquillo		1			
29 April 1983	Playa El Convento		1			
04 May 1983	Most of the beaches between					
,	Survival Beach (in Aguadilla)					
	south to Ponce. All the beaches					
	of Mona					
04 May 1983	Playa Mujeres de Mona		1?			
04 May 1983	Playa Tres Hermanos	1				4
16 May 1983	Playa Córcego					1
16 May 1983	The large eastern and North					
	western beaches of Culebrita, the					
	4 northern beaches of Culebra,					
	and almost all the beaches					
	between Playa el Convento and					
	survival Beach (Aguadilla)					
16 May 1983	Playa Larga de Culebra		3			
16 May 1983	Playa Brava de Culebra		17 ?			
16 May 1983	Playa Resaca de Culebra		19 ?			
16 May 1983	Playa Flamingo de Culebra	1?	2			
16 May 1983	Playa el Convento		8?			_
16 May 1983	Playa east of town of Luquillo		4			
16 May 1983	Piñones					4
18 May 1983	Sabana Seca					1
18 May 1983	Most of the beaches from Playa					
To May 1000	Jobos to San Juan					
03 June 1983	Most of the northern beaches					
	bewteen Playa Jobos and Playa					
	El Convento					
03 June 1983	Secret Spot Beach (3rd beach					1
00 00110 1000	west of Punta Sardina) Isabela					•
08 June 1983	Playa east of town of Luquillo,					
	Playa El Convento, Piñones, and					
	Playa Tortuguero					
17 Jun 1983	Playa Añasco, Playa Maní, and					
	all the beaches on Mona Island					
17 Jun 1983	Playa Añasco and Playa Maní			1		5
17 Jun 1983	Pocket beaches of Uvero, Mona			2?		
17 Jun 1983	Playa Carabinero, Mona					1
17 Jun 1983	Playa Mujeres, Mona		2			<u>.</u>
17 Jun 1983	Playa Punta Arena, Mona					2
26 Jun 1983	Beaches from Boringuen Beach				1	_
_5 54.7 1000	to Guajataca Beach					
	Beach east of Punta Sardina,					
26 Jun 1983	Isabela					1
20 0dii 1000	IOGNOTA					<u>.</u>

<sup>\*</sup> Editor's note (2009): In the original National Report, the information contained in this table was divided among 5 separate tables. The Editor consolidated all the information into one table and placed the information in ascending calendar order.

### TABLE 5A. AERIAL BEACH SURVEY SUMMARY \* (supplementary page)

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

The aerial surveys were conducted with one observer/recorder in an 8-seater Sikorsky helicopter that belonged to the U.S. Coast guard. The observations were usually made from the seat next to the large opening on the side of the helicopter, and as close to the beach as possible. Flying altitude was between 61-91.4 m \*\* (200-300 feet) and speed varied from 95-110 knots. Flights were made at all hours of the day.

- 4/11/83 The only observation was of a pit of the turtle that laid at Playa Jobos on 4/10/83.
- 4/22/83 A ground truth was made at playa Isabela. The beach is about 2 km long and 20 m wide, starts out float, and then slopes 30° up to sand dunes. The sand is light and of medium grain. The dunes are covered with grasses and about about 100 m behind are some coco palms. It was raining lightly, but the track seemed fairly fresh, probably from last night. There were footprints in the area and a broken eggshell was found, implying the nest had been poached. Afterwards two men were seen trying to dig the nest again.
- 4/22/83 The beach at Playa Tortuguero is about 2 km long and 13-26 m wide. The western end is very sloped and has a large amount of beach rock. The eastern end is fairly flat with very soft white sand. The vegetation consists of coco palms and sea grapes. The road is close to the beach and there are few buildings on the eastern end. The track was fairly large and the turtle probably didn't lay, since a pit was not visible.
- 4/29/83 The playas east of the town of Luquillo, and Playa El Convento are really one large stretch of beach about 7 km long and over 30 m wide. The beach is fairly flat and the sand is orange colored. There are sand dunes, and the vegetation is mainly sea grapes and coco palms. Although the beach has no buildings or roads behind it, it is frequented by many off-road vehicles.
- 5/4/83 A ground truth was made at Playa Tres Hermanos. The beach is about 2 km long but is continuous with Playa Añasco which is several kilometers longer. It is about 12 m wide and has a slight slope. The sand is light and of medium grain, and has much debris, such as bamboo washed up on it from heavy rains a few weeks earlier. The vegetation consists of grasses, vines, coco palms and West Indian almond trees. There is a housing area to the north, and the public beach of Añasco to the south.

Five old pits were found on the beach and only one still had identifiable tracks. This nest also had footprints and fresh sand dug up in the center. Many people frequent this beach.

5/4/83 The beach at Playa Córcega is about 2 km long and varies from 7-20 m wide. The sand is gray and of medium grain, and in some areas there is a 1 m berm. The vegetation consists of vines, coco palms and West Indian almond trees. There are no houses here, but there is a public beach, and there are many buildings to the north and south.

### Editor's notes (2009):

The original National Report started this supplemental table with entry of 6/3/83 on page 3-359 and began the entry of 4/11/83 on page 3-361. Editor rearranged the placement of the entries to reflect a continued sequence of observations, starting with the earliest date (4/11/83) and ending with the latest entry (6/26/83).

Editor added the metric linear distance to the British units of "feet" in the original National Report.

### TABLE 5A. AERIAL BEACH SURVEY SUMMARY \* (supplementary page, Continued)

- 5/16/83 The beaches of Culebra have not been visited yet, and there were so many tracks that it could neither be determined if they really all were *Dermochelys*, nor if any were false crawls. Playas Larga, Brava and Resaca each had at least one very fresh track. Playa flamingo had one large old track that had a different kind of tail marking and could have been a *Chelonia mydas*. It rained here earlier in the day.
- 5/16/83 At Playa El Convento, again there were too many tracks to be sure all were *Dermochelys*.
- 5/16/83 The beach at Pinones is 9.5 km long, but about 1.5 km at the western end has beach rock and some jetty-type rocks added by man. The rest of the beach varies from 10-30 m wide, and from flat to a 30° slope and a 1 m berm. The sand is white and semi-coarse, and there are sand dunes. The vegetation is mainly coco palms and Australian pines. A road runs along the entire length of the beach, but houses are sparse. In the aerial survey, all that remained to be seen were four large, old pits.
- 5/16/83 The beach at Sabana Seca is about 6 km long and 30 m wide \*\*\*, some areas are steep. The sand is soft, black and of fine grain. The vegetation is mainly coco palms and sea grapes. Many off-road vehicles are used here. A large false crawl was seen on the eastern end, where there are many houses.
- 6/3/83 A fairly large track with pit in the middle of the beach. No ground truth made.
- 6/8/83 Pilot only had time to check these four known nesting beaches. No tracks were seen.
- 6/17/83 Many pits were seen from the air at Playas Añasco and Maní but a ground truth on 19 June identified only six as probable sea turtle nests. The others were made for sand excavation. Four of the pits were made near a large sandy point at the southern end of Playa Añasco, which is the northern end of Playa Maní. These two beaches form one contiguous sandy stretch except for two small rivers that meet the sea at the sandy point. The beach is very wide at the point, has many tire tracks, and has a large sand excavation project going on in the backbeach area. Large heavy equipment is used for the sand mining. These four pits were fairly large and only one had an identifiable track.

There were two more pits at Playa Maní, of which only one had a barely measurable track about 142 cm, borderline between *C. mydas* and *Dermochelys*. The other one was close to a residential area where a fisherman said a hawksbill had laid 3 weeks ago. There are many houses close to the beach at Maní.

- 6/17/83 there were two old pits at two of the pocket beaches closest to Playa Uvero and one old one at Playa Carabinero. Since the water in front of the pocket beaches has very shallow or exposed reef, these pits were most likely made by *Eretmochelys*.
- 6/17/83 Photos were taken of the three elongated pits on Playa Mujeres. Two were wide enough to be Dermochelys when compared to tire tracks and footprints. The third one resembled the others closely, but was smaller.
- 6/17/83 Two old large pits, similar to those on Playa Mujeres.
- 6/26/83 One old medium sized pit, with part of the track still visible.

<sup>\*\*\*</sup> Editor's note (2009): Editor changed width to 30 m; original National Report listed width as "30 km".

### 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						
	1982	1981	1980	1979	1978	1977	Average Year Estimates *	
Caretta caretta								
Chelonia mydas		4				4		
Dermochelys coriacea		26			9	5		
Eretmochelys imbricata	22 *	23			2	33		
Lepidochelys kempi								
Lepidochelys olivacea								

<sup>\*</sup> Only 3 days of survey from 27-29 October 1982

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

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

Estimation of population of nesting females was done by adding results of Table 4 since these represent really individual tracks and not nests (which can be more than one per track). An overestimation could result from the fact that two or more tracks could have been from the same turtle.

TABLE 7. FORAGING	AREA	AS INVENTO	DRY	
Name of Area (or give coordinates)		orox. Area (Km²)	Species Foraging (use abbreviations & approx. numbers)	Nature of Evidence (observation, fishery, incidental catch)
Bahía Playa Blanca, Vieques Island			Cm	Observation of immature turtles
Culebra Island reefs			Cc-1; Cm-131; D-1; E-58	Observation of mature and immature turtles
Monito Island			E-10	Observation of 10 turtles in one day (29 October 1982)
Species		Abbreviation	on	
Caretta caretta Cc				
Chelonia mydas Cm				
Dermochelys coriacea D				
Eretmochelys imbricata	а	Е		
Lepidochelys kempi		Lk		
Lepidochelys olivacea		Lo		

### TABLE 9. NON-FORAGING TURTLES AT SEA. Please provide any information available on the incidence of turtles in offshore areas. Location Species and Est. Nos. Comments Date (Give Lat. & Long. Coordinates) (Abbreviations) October Lo-1 6.4-8 km \* offshore west of Punta Salinas 1967 Species Abbreviation Caretta caretta Сс Chelonia mydas Cm Dermochelys coriacea D Ε Eretmochelys imbricata Lepidochelys kempi Lk Lepidochelys olivacea Lo \* Editor's note (2009): The distance in the original National Report was noted as 4-5 miles. The Editor converted the distance to metric units. **TABLE 10. NATURAL MORTALITY** Causes **Extent of Mortality** Life Stage Unit Species (abbrev.) \* (% of Unit) Nests/eggs Ε Wild pigs and wild cats Birds: Pearly-eyed thrasher, yellow-crowned Hatchlings Ε night heron; frigate birds; feral pigs Juveniles Predators at sea Adults (in water) Ε Human predation Nesting females Е Human predation Species \* Abbreviation Caretta caretta Cc Chelonia mydas Cm Dermochelys coriacea D Ε Eretmochelys imbricata Lepidochelys kempi Lk Lepidochelys olivacea Lo TABLE 18. PUBLIC AND PRIVATE INSTITUTIONS CONCERNED WITH TURTLE CONSERVATION / MANAGEMENT / UTILIZATION No. of Active Institution or Organization Activities in Progress Name And Address Members Department of Natural Resources Box 5887 Puerta de Tierra

Puerto Rico 00906

Puerto Rico 00918

Hato Rey

Caribbean Fishery Management and Council

Suite 1108, Banco de Ponce Building

U.S. Fish and Wildlife Service Box 3005 Marine Station	
Mayaguez	
Puerto Rico 00709	

### **TABLE 20. REGULATORY AUTHORITY**

Indicate all entities with statutory responsibilities (e.g., Fisheries Departments and Ministries, Police, Coast Guard, etc.)

Name and Address of	Budget Allocation	No. of Staff	Comments on Levels of
Organization	to Turtles	Assigned	Enforcement
		to Turtles	
Department of Natural Resources			
Commonwealth of Puerto Rico			
Box 5887			
Puerta de Tierra			
Puerto Rico 00906			
U.S. Fish and Wildlife Service			
Law Enforcement Division			
Room 418			
Marine Sciences			
Geology and Physics Bldg.			
University of Puerto Rico			
Mayaguez			
Puerto Rico			

### **REPORTS AND PUBLICATIONS \***

The following is a list of the major reports and publications concerned with national turtle resources (list author, date, title, and publisher).

- 1. Caldwell, D.K. 1969. Pacific ridley sea turtle, *Lepidochelys olivacea*, in Puerto Rico. Bulletin Southern California Academy of Sciences. 68(2):112.
- Carr, A., A. Meylan \*\*, J. Mortimer, K. Bjorndal and T. Carr. Surveys of sea turtles populations and habitats in the western Atlantic. NOAA.
- 3. Carr, T. 1974. Marine turtles at Culebra Island. Department of Natural Resources.
- 4. Carr, T. 1978. The marine turtles and terrestrial reptiles of Culebra Island. U.S. Fish and Wildlife.
- 5. Carr, Tt. 1978. A survey of marine turtles at Vieques Island. Department of Marine Sciences.
- 6. Cíntrón, C y J. Thurston. 1977. Las Tortugas marinas de Puerto Rico. Department of Natural Resources.
- 7. Pritchard, P.C.H and T.H. Stubbs. 1981. Vieques Island Sea Turtle Study.
- 8. Thurston, J. 1975. Observations on the ecology of the hawksbill turtle *Eretmochelys imbricata* on Mona Island, Puerto Rico. Department of Natural Resources.

9.	Thurston, J. 1975. The green turtle, <i>Chelonia myda</i> s, at Mona Island and the hatchling green tur	rtle
	project. Department of Natural Resources.	

- 10. Thurston, J. and T.A. Wiewandt. 1975. Management of sea turtles on Mona Island. Department of Natural Resources.
- 11. Thurston, J. and W.E. Rainey. 1973. Concentrated nesting of the hawksbill sea turtle (Eretmochelys imbricata) on Mona Island, West Indies. Department of Natural Resources.

### Editor's notes (2009):

- The list of reports and publications in the original National Report did not appear in the ascending alphabetical order as presented here. Editor provided this order to maintain consistency among all national reports.
- Editor changed the spelling from "Mayan" as it appeared in the original National Report to the correct spelling.

# THE NATIONAL REPORT EL REPORTE NACIONAL

FOR THE COUNTRY OF





# PUERTO RICO



NATIONAL REPRESENTATIVE/REPRESENTANTE NA

GILBERTO CINTRON MOLERO



Simposio de Tortugas del Atlantico Occidental Western Atlantic Turtle Symposium

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



WESTERN ATLANTIC TURTLE SYMPOSIUM

San Jose, Costa Rica July 1983 MATIONAL REPORT FOR THE COUNTRY OF

Puerto Rico

NATIONAL REPORT PRESENTED BY

Gilberto Cintron The National Representative

Depto. de Recursos Naturales Address:

Box 5887, Pta. de Tiema Station San Juan, P.R.

90600

MATIONAL REPORT PREPARED BY

Department of Marine Sciences University of Puerto Rico Mayaguez, Puerto Rico 00708 Juan G. Conzález, Ph. D.

DATE SUBMITTED: July 11, 1983

Please submit this MATIONAL REPORT no later than 1 December 1982 to: IOC Assistant Secretary for IOCARIBE, & UNDP. Apartado 4540, 5an Jose, Costa Rica.

TARLE 2: COASTAL HABITAT INSCHOOL OF MARINE SHOPPLINE

್ರಾಯ್ತರು <u>ದಿಂದಡಿಯ ಅಕಿಸಿಸಿ ಆ Puerre</u> 3 ನಿಷ್ಣ	STATEMENT SHIPS SH		e. of sometime	
Tength of Coestime		UNEVE FEE	DEVELOPED	i i
	1. Sand Share (notal)			T. SAC
Langth of Coastan Seameths	A. HIGH DIEBOY B. LOH PHERY			•
Mean Laten o	2, RET (SMOSED)			
South coast	3, mecus			130 \$
Mest coast	4, alfers			763
FR SC SERVICE	5. VEGETATION (TOTAL)			E.
to be and the second of the se	A, VINES			er) er
	B. GPASSES			اري ال
Medues	C. HWWGROVES			147.5
Cultura	D. COCOMUT TREES			<b>F</b>
SUBTOTAL 193 km	E. OTHER THEES AND SHRUBS			17%, 14
s. 2 in an allow the alf sames - 7203 km 2	F, MARGES			11.6
Includes Pverto Rico and Virgin (slands)	5. HEUTHS OF LACOOMS, RIVERS, CAMALS			<u>.                                    </u>
$_{\rm Km}^2$ of trisubar shelf area (Puerro Rice only) = 5282 km $^2$	7. TOTAL SHORELINE			5.

	MAKE DF BEACH	וע אמן ובאפטא	SPECIES MESTING (Use abbreviations)*	MONTHS OF RECONDED MESTING
	Reach E. of Punts Arenss,	1/2 km	D.c.?	May
	2, Creen Beach, Vieques	1/2 tm.	3 5.4	Hay
	3, Vellow Beach, Wieques	1 ks.	D.c., C.m., 27	Yay
,	4, Turtle Beach, Wieques	1/3 km.	2 D.c., 3'	May
7	2nd beach S.E. of Punta 5, Salines, Vinques	1/4 km	•	May
<b>Z</b> 2.	2nd beach west of Punta 5, learns, Visques	1/4 15.	D.c.	APA
AL COURT	7, Purple Beach, Vieques	1 1/4 km.	D.c., !	May
	8, Pinya Brave, Culebra	1 1/2 to.	% 20 D.c., C.m. ?	May, June
	9, Flaye Resace, Culebra	1 ta.	√ 8 ئ.د.	Mav, June
	10.			

TABLE 3. RESTING BEACH INVENTORY List braches in geographic sequence, Provide additional information on following page,

Reported turtle neating besches in the main island of Fuerto files. All souly beaches are potentially turtle nesting sites. Although not shown on this map active neuting beaches over it in Culebra. Culebrite and esteen Viaques. Both coast beaches are subjected to bedon wave energies, are generally steeper and coarser grained than those of the other culative.

<u>.</u>

Species Abbreviations: continuous continuous continuous contacts c

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3-350

Seaward Extent of Jurisdictions

			-					
	MAE OF BENCH	E .	(the abbravistions)*	MONTHS OF ACCRIDED RESTING	*	T T T T T T T T T T T T T T T T T T T		
	Plays Mujeres (Carite) 1, de Isla Hens	7.1			MAK OF BEACH	E =	(Use abbreviations)	MENTER OF RECORDED RESTRIES
	Plays Hujeres (Carite g, de Isla Hena				Neat beaches of 1.Culebrite 1s.		4	-
	Pleys Serdiners 9, de Itle Mons	2	F.1.	April	2. Calabrica Ia.			-11
	Plays Sardiests 4, de Isia Mona		E.f.		South Beach S. Gulebrith is.		•	п
	S, Plays Punts Arres	1.0	1.1.1	Octoberos	4 Culebrica 19.		-	=
	6, "talimal de Apreda	1.0	E. 5 **	Januaryese	5, Cayo Herte, Gulabra la.	İ	**	=
	f. Plays Jubon do Soubela	2.5	D.c. `	April 1	6,			
	g, "Playa Johoo de Indela	1.3	F.L. 1	April	7.			·
	9. *Piñones	6.0	6.1.	September or Octobertite	=			
	Ploys large 10, H.C. of Prz. Tem.	.,	b.c.	Aprel	ď			
3	TABLE J. RESIDE SELON INVESTIGATE List benches in geographic sequence. *Information frow describes additional information on fail **Information from seasons **Information from seasons **Information from date of berching	artur grouple son information	HESTING BESCH INVESTIGNT List besches in generable sequence. Provide aditional information on fullenting page, mention seems	Shrife Abbrevittons: Cattan Leavist Co. Cattan Leavist Co. Cattan Leavist Co. Cattan Leavist Co. Criticachi 14 145-16.18 El Cattan Co. Cattan Leavist Co. Cattan Leav	TAGLE 3. RESTING BEACH INVENTORY List beaches in geographic sequence, Frovide additional information on following page.	ioration on	ca. following page,	Species Abbrevistions: Conretts curetts curetts Contracts sydes Conference Co

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252253	
Cartal Lateral Cartal Lateral Defends updas Tretmockelys indries	
beacher in gegraphic sequence.  Le editional information or fullenting page, Testation  of beresting	

MONTHS OF RECOMBED MESTING

SPECIES MESTING (Use abbreviations)\*

-

4

1. Hone leined

2, Culches feine 3, Woques Island

2

Species Abbraviations of crefts corrected for for its and a page Carachelys corriects (Embodelys) inhitatic Lepidockelys amplication of investigation of invest

₽ <b>-</b>	A. L. S. L.	
	of the same	
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6, Plays Large, Calabra 16.
Nest beach of 1sls Calo-7, brits, Calebrits Island

**M** 

9, E, O

Beaches where textle tracks or hatchilings have been ancountered since October 1982.
 Only Ealse trusts found.

3-351

4, Plays Inspen, Calabre Is. 5, Plays brown, Calabre 1s.

= =

2500 Species Abbrevistions: Caretta caretta Chelomia mydas Dermochelys corisces Fretmochelys (municata

MESTIMS MEACH ENTERTONY List beaches in goographic sequence. Provide saliticus! information on following page. THALE 1.

10, Plays Brove, Calebra to. 9,Plays Beacs, Calebrits C.Morth heath, Calebritis

41 64 0 G OMPA 73 03.77 ? ø - Andreas A \*\*\*\*\*\*\*\*\*\*\*\*\* Q O. D. A. ٠ \*\*\*\* • \*\*\*\*\*\*\*\* 0 V. \*\*\*\* \*, \*C3040 Ò . \*C40) 41 Ca Jangay \* ALWANDON о<sub>.</sub> q<sub>b</sub> ¥ L) 3 1,00 03764 43 0. 47<sub>04</sub> \$ 

Bavamor Caroline Caroline Fall Institute Fall Institute Fall Parents Fall Fall Fall Bay Salves Salves Salves Salves Salves Salves Par Caroline Caroline Salves Salves Salves Salves Salves Salves Caroline Carolin

SESSION BEAU INVESTME (Sur lemmany page)

Please give additional information about each nestion broad indeptified in Table 3. In abbie information or molecules same, permitte size, beach profile, beobleach reputation, artificial language and incomplete.

1. Beach E. of Punte Avenas, Vieques

The beach is about 10 m. wide and fairly fla: The sand is fine and gray. The beach is bordered by mangrowes, wines and palms. There were many cartle trails on the beach. An old 3 m. wide pit was found close to the high tide line.

The beach is 8-13 m wide and fairly flat. The sand is light and of medium grain. The backbeach area has scattered 1/3 m. high rooks and then a 3 m hill that only has wagetation on top. This consists of grasses, and see grapes. The water has some wmemposed bacch rook. The three tracks found were only 35.5 cm, wide and do not have pits.

3. Yellow Beach, Viegues

The beach is 20-30 m, wide and hes two 1/2 m, berms with flat beach between them. Send is fine and gray. Vegetation consists of grasses, vibes, see granes, acadia, grant militured, and some mangrove. One track was frest from that might, but had been erased by concerned locals. If could still be measured, and was shout 104 cm. The locals seemed to know about tracks, and volunteered that they were parallel and made by a green turtle. No evidence of a pit remained, and there probably wasn't one to court out with. The other three pits were older, and at least one was a fermorbelys, and one was peached.

4. Turtle Beach, Vieques

Suin meach was thecked by boat. There were 5 old pits and at least two were big wough to be <u>Dermothelys</u>.

5. 3rd boach & E. of Puota Salinas, Vieques

we ald pir sees on this beach by beat.

😅 a beach W. of Punts Icecos, Viegues

New one fresh track and nest by boat, from that might.

veryone Seath, Vinques

The month is shout 15 m wide with a 30 slope up to a low here and there a relations. First backbeach area. The sand is light and of medium grain. The veyerarian consists of giant milkweed, vines, grasses, sea grape, acadis, and some roce pains. A fair domint of <u>Syrangedium</u> was washed up one beach. Two pits were fund both poached, and one was large amough to be <u>Dermochelys</u>. Saw some men on horseball with a dog.

NUSTEN! BEACH INVENTORY (Supplierentary page)

Planse give additional information about each resting beach identified in Table 3. Include information on object of said, particle size, beach profile, beddeath vegetation, amificial lightnow, etc.

Passe Brown, Culebra

The beach is grove 25 m. wide with a 30'slope up to a small berm, and then sloves growing to a second berm 1-1 1/2 m. high at the vegetation line. The send is limit, so selicin grain and very soft. The vegetation consists of vines, grasses, sea graphs, giant milliveed, acadia, and half of the beach has palme 100 m. behind.

This beach rigs covered with old tracks and pits and jit was impossible to jet bot many had been made above the sexual survey of 16 Ma. 1987. But proposed to at 19 weeks the figure of 20, since there were probably mate within the last 18 days. The smallest set of tracks was 142 cm and was listed as a possible Chelonia sydar. The shafter factor into the vegetation than one; and the frack was one of the few that crossed itself for any distance. Broken eggshells or yokkless aggs were found at 4 pits, signifying that these had been possible (milest the turtle had dropped those after covering). Movever, there were other capts of posching activity and at least several others showed these signs to verying degrees.

Plays Messin, Cilebra

This besit is about 25 m wide and has 2 berm. The lat berm is steep in some places, and the second gently slopes up 1 m, with fairly flat beach between them. The sand us hight, of medium grain, and soft. Eight cracks were still visible on the back, but the wind was rapidly erasing them. Eight cracks were still visible on the back, but the wind was rapidly erasing them.

1

NESTING BEACH INTENTORY (Supplementary page) TABLE 3.

Please give additional information about each nexting beach identified in Table 3. Include information on color of sand, particle size. Beach profile, backbeach vegetation, artificial lighting, etc.

1) Piays Aujeres (Carite) de Mesa

The beach is shout 40 m. , wide with a 30 slope-from the water up to a 1 ft. bern, and then has a fairly flat backshore area, bordered by Australian plans. The noft carbonate send is white and corres. There are no buildings but a diversally used landing attip is meanly.

Plays Sardinera de Hona ີຄ

"The beach is about 7 m. wide with a 40-10" loop, and with soft carbonate smal. The butbleach vegetation consists mainly of hay color averaging 1 m. babled, and 150 m. babled this are Amstrallen piece. There are no buildings where the cutiles came up, but there are many only 1/2 kilometer away. Immediately offshore are exposed tests.

3) Ploys Pts. Arens

The beach is about 7-8 m. order with a slight alope. The sand is light is of medium grain. There is a 5 know condomine and many houses and lights on the beach. The wagnization consists mainly of socs palms.

4) Imblemel de Aguada

The beach is shout 3 s. wide and fulrity flat. The send if Iight, of medium prais, and there is leads real offshore. There are many 3 s. high reds in the betheach errs, with mainy coop polims and bear that are are scattered between in the area.

Plays Johos de Insbela S

The beach is shout 10 m. wids with a 10° alops up to the dumelike. The said is light and by wading grais. The dumes are fairly high in some places and the "egatetion is mainly sea grapes. The Derocchely laid wery close to a srmet light, in an eres where there are many houses on the dumes.

7. • The beach is 10 m. wide mm the slope varies from 0-30°, with a .1 m. bers the mes places. The send is milt and perfectance. The vegetation is satisfy earn accelerate means the management of the contract of

Plays Large H.B. of Pts. 7mg ٤,

This beach is shown 20 h. wide with a 30'slope coming out of the water and then a gradual alope to the vegetation. The annot all 15tht a of medium grain. The vegetation is mainly toto paims and sea grapes.

CATES OF DATA COLLECTION 24 Nay 1983 Nests/Season (Estimated) AUMER OF RESTS Heats/Alght (Average) Cretmochelys impricate Demochelys cortaces Lesidochelys olivaces SPECIES Lepidochelys tempi Caretta coretta Chelonia mydas

TABLE 4 - 1 RESTING CEMBUS FOR BEACH Beach Keet of Tweets Areans Viewuse

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

	138ch	Aback of Mests	
. \$31334\$	Masts/Kight (Avarage)	Mests/Season (Estimated)	DATES OF DATA COLLECTION
Coretta caretta			
Che landa mydsa			
Dermochelys conferes			
Cretrochelys imbricate			24 May 1983
Lesiforchelys hempt			
Lepidochelys plivaces			

Please complets one of those tables to summarize tensus data for each beach listed in Table 3. Marber tables sequentially (4-1, 4-2, 4-3, 8tc.) as anumerated in Table 3. 745LE 4 - 2 MISTING CENSUS FOR BEACH Green beach, Vicenees

•	NUMBER OF MESTS	OF MESTS	
SMCIES	Hosts/Might (Average)	Mests/Secon (Estimated)	DATES OF DATA COLLECTION
Gretts caretta			
Chelonia sydes			76 km 1981
Demochelys carlaces			26 Nay 1983
Erebrechelys imbriests			
Lep'societys kenpi			
Logisticielys Olivaces			

TARE 4 - RESTING CENSUS FOR BEACH TAIL PROPERTIES

Please complete and of these tables to simmarize cansus daffe. for each beach listed in Table 3, humber tables sequentiality. (4-1, 4-2, 4-3, stc.) as anuserized in Table 3,

	H) PPC EX	PAREN OF HESTS		
SPECIES	Hests/Hight (Average)	Wests/Season [Estimated]	DATES OF DATA COLLECTION	SPECE
Caretta caretta				Caretta carette
Chelonia Mydes				Chelonis mydes
Dermochelys cortaces			27 May 1983	t Demochelys cor
(retrochely) imbricata	•			Cretmochelys fm
Lepidochelys kempi				Lepidnchelys ken
Lepidochelys olivaces				Lepidechelys of

ADLE 4 . 4 HESTING CENSUS FOR BEACH TOTTLE Beach, Vietues

(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,

	MARK	MINIBER OF WESTS	
SPECIES	Hasts/Hight (Average)	Hests/Scason (Estimated)	DATES OF DATA COLLECTION
Caretta caretta			
Chelonia mydas			
Dermochelys confaces			27 May 1983
Gretrochelys imbricate	-		
Leoidochelys heap!			
Lenidochelys offvaces			

MAJE 4 . 6 HESTING CENSUS FOR BEACH AND BEACH to W. of Punta Leaces, Vidence in July 6 . . .

(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.

	ALS CHACKS	MONDER OF NESTS	
SPECIES	Nests/Night (Average)	Heste/Season [Estimated]	DATES OF DATA COLLECTION
Caretta caretta			
Chelonis mydes			
Dermochelys corisces			27 May 1983
Cremochelys imbricate	_		
Lepidachelys kompi	-		
Lepidechelys offwaces			

Indie 4 . 3 MESTING CENSUS FOR BEACH and beach S.E. of Punts Salines, Viegues

(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, 4-1, etc.) as anumerated in Table 3.

	Nadeun	NAGER OF MESTS	
SPECIES	Nests/Might (Average)	Nests/Season (Estimated)	DATES OF DATA COLLECTION
Caretta caretta			
Chelonia mydas			
Dermochelys confaces			26 May 1981
[retrochelys imbricata	,		
Lepidnchelys kempi			
Lepidochelys ofivaces			

TABLE 4 - 7 MESTING CENSUS FOR BEACH Purple Beach, Vienues

(name)

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

	MPGEL	MUSER OF MESTS		
SPECIES	Mats/Alght (Average)	Hests/Season (Estimated)	DATES OF DATA COLLECTION	SPECIES
Caretta coretta				Caretta caretta
Chelonia mydas			3 June 1983	Ortherit myles
Drimochelys corisess	£-3		3 June 1983	Dermochelys certaces
Eretmachelys tabricata	•			Erebnochelys Habricata
Lepidochelys keepi				Laptdochelys tampi
Lepidocholys olivaces				Lapidochelys of traces

CHIEF OF DATA COLLECTION

Nests/Sesses (Estimated)

Perts/filght (Amerage)

NUMBER OF RESTS

4 June 1983

=

TABLE 4 - 8 RESTING CENSUS FOR BEACH PROPERTY. CALABETA

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

Please completo nee of these tables to summerize contex data for each beach listed in Teble 3, Amber tables sequentially [4-1, 4-2, 4-3, etc.] as enumerated in Table 3,

TABLE 4 - 9 MESTING CENSUS FOR BEACH Plays Resect, Colober

SPECIES	Mosts/Hight (Average)	C Nests/Sacton (Estimated)	DATES OF DATA COLLECTION
Caretta coratta			
Chalente mydes			
Dermochelys certaces			12 April 1983 12 April 1983
Eretmochelys imbricate			·
turidochelys tempi			
Lepidochelys alivaces			

THOLE 4 - 1,2 MESTING CENSUS PAR BENCH Plays Pojeres do Jole Pons

Pieces complete one of these tables to summerize conses data for each beach listed is looke 3, Ruther cobies sequentially [4-1] 4-2, 4-3, etc., so exemented in Table 3,

	HAREI C	MANGEL OF RESTS	
SPECIES	Nests/Hight (Average)	HestySesses [Estimated]	BATES OF DATA COLLECTION
Caretta caratta			
Chelonia mydas			
Demachelys corlects			
Enthechalys Intericate			15 April 1983
Legidochelys kampt			
Legidochelys elivaces			

TABLE 4 - 3, 4 RESTING CENSUS FOR BEACH Plays Serdinary de 1sta Numa

Î

Please complete one of these tables to summarize center data for each beach listed in Table 3. Ambar tables separatizily (4-1, 4-2, 4-3, etc.) so enumerated in Table 3.

	b3 Shef bi	MJHER OF HTSTS		<u></u>
5310365	Hests/41ght (Average)	Heate/Season (Estimated)	DATES OF DATA COLLECTION	SPECIES
				Coretta carette
Carried Market				Chalonia mydes
7,000				De mochelys cortace
Demochelys confaces			(hatched)	
Eretmochelys imbricata			6 January 1983	Eratmochalys Imbrio
Lepidochelys kempi				Lepidochelys tempi
Lapidachelys of twaces				Lepidachelys olivac

IABLE 4 - 9 MESTING CEMSUS FOR BEACH Plays Punts Arens

(mem)

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

	NOMER (	MJABER OF RESTS	
SPECIES	Nests/Night (Average)	Netts/Sasson [Estimated]	BATES OF DATA COLLECTION
Garetta coretta		·	
Chelbnite mydan			
Demochelys certeces		-	10 April 1983
Erebmechalys imbricata			15 Apríl 1983
Lapidochelys tempt			
Lepidechelys elivaces			

TABLE 4 - 7.8 MESTING CENSUS POR BEACH Plays Johos de Cenbela

Piesse complete one of these tables to summerize census data for each brach listed in Table 3, Mumber tables sequentially (4-1, 4-2, 4-3, etc.) as enumerated in Table 3,

SPECIES (Average)  Coretta coretta	141gh (		
Cretta greatte		Weste/Sesson [Egilmate/]	SATES OF DATA COLLECTION
200 La 101 La 10			4,000 11 10
Demochelys corisces			
Erabmochalys imbricata			(hatched) 4 Match 1983
Lepidochelys tempi			
Lepidachelys allyaces			

TABLE & - 6 MESTING CENSUS FOR BEACH Tablomal de Aguada

Please complete one of these tables to summarize tensus data for each beach listed in Tele 3. Number tables sequentially (4-1, 4-2, 4-1, atc.) as enumarated in Table 3.

	MINER	MUMBER OF NESTS	
\$9ECIES	Heats/Hight (Average)	Hests/Squson [Estimated]	DATES OF DATA COLLECTION
Ciretta coratta			
Chelonia mydas			
Dermochelys confeces			,
Eretmochelys imbricate			(hatched) 26 November 1983
Lepidochelys tempi			
Lepidochelys elivaces			

TABLE 4 - 9 HESTING CENSUS FOR BEACH EXTENSIONS

Please complete one of these tables to summarize centus data for each boach listed in Table J. Munder tables sequentially (4-1, 4-2, 4-2, etc.) as enumerated in Table J.

	(Estimated) DATES OF DATA COLLECTION SPECIES	Garatta caretta	Chelonia mydel	1 Ney-1993 Dervisces	Evelopeda 1 Marie 14	Lepidothelys keepi
MINBEN OF NESTS	Hasts/Night (Average)					
	SPECIES	Ceretta ceratta	Chelenia mplas	Dermachelys corfeese	Erstweholys intricate	Lapidochalys kampi

DATES OF DATA COLLECTION

Nests/Season (Estimated)

Number of Mests

Sasting season (1974)

-

Nay-Oct. 1982

100 L 100 L

7ABLE 4 - 10 MESTING CENSUS FOR BEACH Plays Large, N.E. of Punca Time

TABLE 4 . 1 RESTING COURSE FOR BEACH PLANS (P.S. (Urato Carabinato (D.C., Plays Breva (P.3.)

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

Plassa completa and of these tables to summarize consus data for each beach listed in Table 3. Number tables sequentially {4-1, 4-2, 4-3, stc,} as commerced in Table 3.

	ADBIN (	Abusts of Mests		<u> </u>
SPECIES	No.ts/Hight (Average)	Hests/Sasson (Estimated)	ONTES OF DATA COLLECTION	
Caratta caratta				최
Chelenia sydas				<u>  6</u>
Dermichelys corticus		•	1974	8
Entwickelys Interlests				<u>a</u>
Legidachelys hampt				3
Legidochelys elivaces				<u> </u>

TABLE 4 . 2 NESTING CENSUS FOR BEACH Culebra Talbad

Please complete and of these tables to summerize censes data for each beach listed in Table 3. Number tables sequentially {4-1, 4-2, 4-3, atc.} as enumerated in Table 3.

	·		
•	ADMIN	ALPECK OF NESTS	
SPECTIES	Rests/Hight (Average)	Hests/Season (Estimated)	DATES OF DATA COLLECTION
Caretta caretta			
Chelonie sydes		-	May 1976-Peb., 1875
Dermechelys corfaces			
Erebrachelys fabricate		10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	200-1973 Jun 74-3m, 1975
Legidochelys tempi		1	
Lepidochelys offvaces			
			•

THELE 4 - 19 NESTING CENSUS FOR SEMICY Plays Paleron (P.S.), Unare Carabinete (U.C.), Plays Brave (P.S.)
(None)

Piess 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.

	RUBER	RUMBER OF MESTS	
SPECIES	Nests/Mignt (Average)	Nyate/Semson (Estimated)	DATES OF DATA COLLECTION
Caretta coretta			
Chelenia mydis		-	May-Sept 1981
Dermochelys confaces		92/6	May 6-June 6, 1978 April 1991-Oct 1981
Erebmochelys Imbricata		1/23	May 6-June 6, 1978 Dec. 1940-Oct. 1981
Legidochelys kerp!			
Lepidochelys offvaces			

TABLE 4 - 38 NESTENS CENSUS FOR BEACH VISSUEL LAIGHT

(neme)

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.

٠	1394H	NUMBER OF WESTS	
3940165	Nests/Night (Average)	Nests/Scason (Estimated)	DATES OF BATA COLLECTION
Caretta carctta		ı	May-June 1977
Chalonia mydas		-	May 6-June 10, 2977
Dereochelys corleces		4,1	June 1975, July 1976-June
Eretmochelys imbricats			
Lepidochelys kempi			
Lepidochelys Olivaces			
Carried and supplied to the supplied of the su			

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

	MAGE	Manger of hests	
SPECIES	Mests/Hight (Average)	Nests/Season (Estimated)	DATES OF DATA COLLECTION
Caretta Caretta			
Chelonia mydes			May-Jone, 1977
Dermochelys corisces		3	Mav-June, 1977
Erebmochelys imbricate		6,1	June 1975, Jul. 1975-
Lepidochalys kempi			
Lepidochelys offvaces			
A STATE OF THE PARTY OF THE PAR			

TABLE 4 - 43 RESTING CENSUS FOR SEACH Plays Reseas, Culebra Is., P. N. 4-95 (Anne)

Please complets 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.

	REGRE	MUMBER OF WESTS	
SPECIES	Nests/Night (Average)	Hests/Season (Estimated)	DATES OF DATA COLLECTION
Caretta caretta			
Chelonia mydes			.
Davmochelys corlaces			
Erotrachelys Imbricate		3, 0	June 1975 July 1976, June 1977
Lepidochelys kempi			
Lepidochelys olivaces			

TABLE 4 - 69 RESTING CENSUS FOR DEACH TITES LEAFE COLOURS Leader

Please complate one of these tables to summarize convus data for each beach listed in Table 3. Number tables sequentially {4-1, 4-2, 4-3, etc.) es enumerated in Table 3.

	NJBEN.	Numera of nests	
SPECIES	Hests/Henth (Average)	Hests/Season (Estimated)	HOWIN OF DATA COLLECTION
Caretta caretta			
Chelenia mydas			
Dermochelys curleose			
Erebeskijs berieta		3, 15	June 1975 July 1976-June 1977
Lepidochelys kempl			
Laytochelys elivers			•

1/612 4 - 73 MSTIRE COURS FOR BEACH West Beach of 1sla Guiderita

Fleets complete and of these tables to summarize consus data for each beach listed in Tobie 3. Number tables sequentially (4-1, 4-2, 4-3, etc.) as enverated in Table 3.

AEXIAL BEACH SURVEY SUPERY (Supelsmentary page) TABLE 5.

Cive any additional information available from serial aurusys. Information should include ground truth observation if conducted.

- A fairly large track, with pit in the middle of the beach. We ground truth made.
- Miles only had time to check these four known nesting beather. No tracks were seen. 6/4/83
- heap pits were seen from the six at Playse Adasco and Heaf, but a ground truth on 19 less identified only 6 as probable see turtle neath. The states were identified only 6 as probable see turtle neath. The large sandy point at the southern end of Plays Atlanco, which is the swetnern and of Plays Mail. These two beaches form one configuous analy structs, array wide at the point, has swe bashes form one configuous analy structs, and the beach is wery wide at the point. As many tire tracks, and has a large and arrayed my point. The beach is wery wide at the sand on the bathbeach area. Large heavy engagement is mend for the sand winks. These four pits were fairly large and only one had an identifiable track. 6/11/83

There were two more pits at Plays Hand, of Which only one had a bately memourable track about 142 cm., borderline between <u>C. mydas and Darmochally.</u> The exter one was close to a readdential ares where a fishermen said a basech at Mand.

- There were two old pits at two of the pocket basches closest to Flays Perra and one old does at Plays Caralherr. Since the water in front of the pecket basches has wery shallow or expeced rest, these pits were most tibaly made by <u>Evelomochelye</u>. 6/17/83
  - Thatas were taken of the three elempated pits on Plays Majerna. The wate wide smough to be Dermochalyz when compared to tire tracks and footprints. The third one treembled the others closely, but was smaller. 6/11/83
- 6/11/83 Two old large pit, similar to those on Plays Majeres.
- 6/76/0) Dam old medium sined pit, with port of track still wisible.

	Number	NUMBER OF MESTS	
SPECIES	Maste/Might (Average)	Mests/Sesson (Cotimeted)	MARKE OF DATA COLLECTION
Caretta caretta			
Chelonia mydes	•		
Dermochelys confeces			
Erstmochelys inhricates			June 1975 July 1976-June 1977
Leyfochelys kennt	•		
Lepidochelys plivaces			

(Sh), Morthwent Seach (MHB) TABLE 4 -de-ta MISTING CRISIS FOR BEACH Seach, Core Derts (5.B. C.R.)
4-34 for 18
4-54 for 189.
6-54 for 189.
7 for 189 for the first of these tables to summerize contest data
(feed)

			300 15	\$0 50 50	MESTIN	RIMBERS OF MESTING TRACKS		
UNTE	BEACHES SUMPLYIN	ÇE	83	•	u	11	91	9
18/6/9	Myst of the Morthern beaches between Plays Jobes and Plays II Convents							
6/3/83	Secret apon beach (3rd beach west of Funta Sardina, Isabela,							-
6/883	Plays east of town of Loquilla, Plays El Convents, Pifones, and Plays fortuguero.							
6/11/63	Plays Address, Plays Mani, and all beaches on Mone Island							
6/11/83	Plays Abserts and Plays Nani				-			<u>م</u>
6/11/03	Pocket beaches of Overs, Hone				¥			
8//1/9	Playa Carabinero, Mona							-
(8/11/8)	Plays Mujeres, Mons			2				-
6/11/83	Pikya Punta Arena, Mone	·						2
6/26/83	Peaches from Berinquem Beach to Godjateca heach						·	

AERIAL BERGH SURVEY SUPMARY COYS are additional information svellable from serial surveys, information should include ground truck observation if conducted. THEE S.

35B25 Species Abbreviations:
Largilla Sarcila
Torionia mydas
Torionia mydas
Torionia mydas
Torionia mydas

			t j Chelik	HINDERS OF RESTING		TRACKS				. H	RIMOERS OF MESTING TRACES	)F *EST	195 TR	923	
NTE.	GENCHES SOMMENTO	ä	*5	-	3	11	1.0.	E a	BEACHES SURVEYED	*	0	20	11	3	
0/25/83	Beach sast of Punta Sardina, Isabela							4/11/83	Most of the northern beaches between Plays Jobos and Les (Gilnas 'didn't cover between Plays Evero & Luquillo						
								4/22/03	Mast of the beackes from Mincon north to San Juan						
				Ì		-	_	4/22/83	Plays Isabels						
								1/21/83	Playe fortuguero						
								1/29/83	The Northern beaches between Punts Borinquen and Punts Hedio Mundo.			-			<u> </u>
								4/29/03	Playa Tortuguara		1	•		<u> </u>	<u> </u>
								6/55/63	Plays east of town of Luquillo						<u> </u>
					$\dashv$			4/23/83	Pleys el Convento		-				
							-	2/+/83	Most of Reaches between Survival Beach (in Aguadilia) South to Ponce, All the beaches of Mons.						
	•							3/4/03	Plays Mujeres de Mona.		-				-
748LE 5.	ACRIAL BEACH SUBVEY SUPPLIED GOOD TO BE TO				A LANGUAGE TO SERVICE	Species Abbrevietions: Little Latella Colonia mydas Hirtoriety Corlecta Tretrockelys Impires		7816 5. 000 000 011 14	AERIAL BEACH SURVEY SUPHARY Give any additional information available from serial surveys. Information thereid include ground truth observation if conducted,			Special Abbraviations: Recells sizells From the sizells F		The state of the s	

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<u></u>	-					-		9/16/83	Sabana Seca	}					
<b>}</b> -						-	<u> </u>	3/18/83	Most of the beather from Plays Johos to Ean Juan						
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1		对起程上.		Species Abbrevistins:  1 (611 s.stell)   14507	<b>ಕ</b> ಿಕ್ಕಾರ್.		TABLE S.	TABLE 5, ATAIN, DIVIN MARKY SUBMARY  TABLE 5, ATAIN, DIVIN MARKY SUBMARY  SIVE 19 Editional Information swellable From serial  Size 19 Editional Information should include pround truth  cosonation if conducted,			Specific Abbreviations Latitude accelta Printer and Colors Printer and		100	<b>មីប៉ុ</b> ក្ស	

a Teo	BEACHES SUNVEYED	ដ	5	a	3	41	87	e e
\$74/83	powering say berd		-					-
5/4/83	Playa Corcege							-
\$/16/83	The large mattern of Guestern beaches of Culebrita, the hervern place of Culebra, a Alport all the hegiths a nevern place of Convents & Servival heart (Aguadilla)							
3/16/83	Plays Larga de Culebra							
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1/16/83	Playa Flewingo de Cuisbra		=	7				
\$/16/83	Plays el Conventa			-				Ì
\$716/83	plays east of town of Luquillo	· .		-				
\$/18/83	716ones							•
1481 7.5	TABLE S. APRIAL DEACH SURVEY SURVANT		ļ	- h	pec les	Species Abbreviations:	141.00	<b>ت</b> پ

IABLE 5. AERIAL BEACH SURVEY SUMMARY
Give any additional information available from serial
surveys. Information should include mound fruith
observation if conducted.

IABLE S. AERIAL BLACH SURVEY SUNMARY (Supplementary page)

Eive any additional information available from aeriel surveys. Information should include ground truth observation if conducted. The paries surveys were conducted with one observar/recorder is an 8 seator while believing that belonged to the U. S. Coast Coast. The observations were usually made from the over mark to the large counting on the side of the believing.

And as those to the best me possible. Thinks will thank was believen 200-300 ft.

and opend varied from \$5-110 kmots. Fights were made at all hours of the day.

6/11/23 The waly observations was of the pit of the turtle that laid at Flays Johns en 4/10/83.

4/22/ED A ground traits was made at Flays leadeds. The beach do adout 2 The long and DB in idea are cross pairs. The Momes are covered with greaces and about 100 m. behind are some cross pairs. It mas raising lightly, but the track assued fairly behing probably from late sight. There were footprints in the track assued fairly applied was found, indexing the mark and benchmark and a broken against the track assued as broken against the was and a broken again.

4/22/83 The beach at Fluys furtuperto is about 2 hm. Dong and 13-26 m. wide. The western and is very sloped and has a large associate of beach reck. The scattern and is fairly full with very sloped and has a large associate of beach consistent of moto palsa and sman grapes. The read is close to the beach and there are few buildings on the success and. The track was fairly large and the testies probably didn't lay, since a pix was more well.

4/29/33 The plays east of the tame of laquille, and Flays El Couvents are really and large stratch of beach shout? Its. long and over 20 s. wide. The beach is faitly silts and the send is compre clored. There are sand dames, and the vegetation is smallly be a grown made on pains. Although the beach has no buildings or reads building, it is frequented by many off-road vehicles.

\$/4/85 A ground truck was made at Plays Tree Barnwines. The beach is about 2 km. long but is continuous with Plays Akamon which is several billutheries longer. It is about 12 m. wide and has a light about 19 m. peep of all light of several grain, and has a many about a hardon, weaked up so it from binary rates a ter week status and as hardon, weaked up so it from binary rates a tow week status. The regeteries ormaises of grammas, views, soop palms and Bust Indian ign the mostly.

: Pive old ping were found on the beach and easy one still had identifiable trocks. This mest also had forsprints and fresh amed dug up in the center. Many people frequent thing beach.

3/4/83 The beach at Plays Ofrrags is about 2 km. long and varies from 7-20 m vide. The send is gray and of mediam grain, and in some areas there is a 1 m. bern. The vagetation consists of vises, core palms and then Indiam almond treas. There are no housem here, but there is a public beach area, and there are sent built dings to the marth and south.

TASTE S. AFRIAL BEACH SURVERY SURVERY (Con'd) (Supplementary page)

Give any additional information available from aerial surveys. Information should include ground truth observation if conducted. 5/16/23 The beaches of Culebra have not been visited yet, and there were so many tracks that it could neither be determined if they really all were <u>Dermochity</u>, not if any were false tracks. Playse large, Brews and Resent each had at least one way fresh track. Plays Tlemingo had one large old track that had a different had of tail marking and could have been a <u>Chelonia mydes</u>. It rained here seriler is the day.

\$/16/83. At Plays El Convento, again there were too many tracks to be sure all were Broccheles.

\$15/13 The beach at Fidense is 9.5 he. long, but 1.5 he. at the western end has been rack and ones jetty type tocks added by man. The rests of the best braites beaut rack and ones jetty type tocks added by man. The start of the best writes them 10-20 m. wide, and from flat to a 30'slope and a 1 m. betts. The sand is white and emmi-cape and a 1 m. betts. The sand is white and emmi-cape and a 1 m. betts. The sand is white and added and are not a man of the sand is white and a read man and the sand is a read of the man and the sand is a read of the them.

5/16/83 The beach at Sebena Seca is short 6 km. long and 10 km. wide, sows ireas ere strain. The stand its soft, black and of files gradin. The vegetation is mainly coco pals and see grapes. Mony off-read webicles are much hare. A large false train was non the mattern end, where there are many houses.

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

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

Entiantion of pepulation of meeting females was done by adding results of Table 4 since these represent really individual tracks and not make (which can be more than one per track). An overestimation could result from the fact that 2 or nove tracks small have been from the same turtle.

1937 • 2 13 • • 5 皇 2 Ē • 2 2 1342 2 fretmetelys inbricata Leipdocheirs elivaces Demochely, carlacte Lepidochelys been Caretta caretta Chalonia mydes SPECIES

THALE 6. ESTIMATED POPULATIONS OF MESTIMA FDALLES.
Sommarize the estimated modes of mesting function for the years indicated and describe methods of estimation on the mest page.

\* Only 3 days of auresy from Oct. 27-29, 1962

Contract of the contract of th		•					
12 4F 20 3 NAT		SPECIES FORAGING (Use abbraviations		[Give Lat. & Long. coordinates]	9A7E 3	species Amu EST, MOS. Abbreviations)	CONNENTS
(or give coordinates)	( ) ( )		(Observation, fishery, incidental catch)		October		bet miles of impresented of Dura Calinas
Subia Playa Bisnes i. Visques Island		χ. U.	Observation of temeture turnion				
g. Chiebrs loland, reefe		0-1 8-54 0.8131 0.0 1	Observation of mature & Lemotura turkles				
Monste lelend		Q1-2	Observation of 10 turties in one day (29 oct. 1982)				
ئ							
ŝ							
TABLE 7. ETBAGGING APEAS INVENTIONS	A BALLANA		Species Abbreviations:				
			Lactifications Chalonia words Chalonia words Componenty contaces Components impricate Lepidochelys kempi Lepidochelys olivaces Lo	TantE g. MM-FORAGING TUSTLES AT SEA. Playse provide any information available on the incidence of turtles in offshore areas.	EA, ation mysilab fishore areas	ie on the	Species Abbrevistions: Carrits carries Carries are

LIFE STAGE UNIT	gPECTES (abb rev.)	CAUSES◆	EXTENT OF MORTALITY (x of unit)
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Watch 19mgs	ы	Birds: Fearly-Eyed Thrasher, Yellow-Crowned Hight Maron, frigate birds, ferol pige	
Juvaniles		Predators at sea	
Adults (in water)	■	Newsn predation	
Mesting females	ea	ı.	

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Perturnt of Matural Assumptions Description (1990)  Coribbon Flabory Numeromati  Marco Survivo Suldidum  English Suldid	TISTITUTION OR CHANNIZATION NAVE AND ADDRESS	NO. OF ACTIVE NEMBERS	ACTIVITIES IN PROGRESS	
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Mah & Wildlife Service Percement Division

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want of Materal Bases walth of P. H.

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REBILATORY AUTHORITY Indicate all entitles with statutory responsibilities (e.g., Fisheries Departments and Ministeries, Police, Cost Geary, etc.)

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The full oring is a list of the major reports and publications concerned with <u>matienal</u> turile resources (list ambhor, date, title, and publisher).

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TALE 19. PIRIC AID PRIVATE INSTITUTIONS CONCENSED WITH THATLE CONSERVATION/NUMBEROAL/ATTILIZATION