

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

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DATE SUBMITTED: 11 July 1983

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

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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:

Gonzales, J.G. 1984. National Report for Puerto Rico, 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	
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 ²
Insular shelf area (Puerto Rico only)	5,282 Km ²
Km ² of Continental Shelf Area	
Seward Extent of Jurisdictions:	
Territorial Sea	16.7 Km
Extended Economic Zone	322 Km
Fisheries Jurisdiction	322 Km
Other (Describe)	
* 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.	

TABLE 2. COASTAL HABITAT INVENTORY OF MARINE SHORELINE			
Marine Shoreline Characteristics*	Km of Shoreline		
	Undeveloped	Developed**	Total
1. 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
<p>* Refer to SEA TURTLE MANUAL (Aerial Survey)</p> <p>** Human development or use (See MANUAL)</p> <p>*** <i>Editor's note (2009):</i> Vegetation total does not equal the sum of the constituent types.</p> <p>**** <i>Editor's note (2009):</i> Shoreline total does not equal sum of the constituent components.</p>			

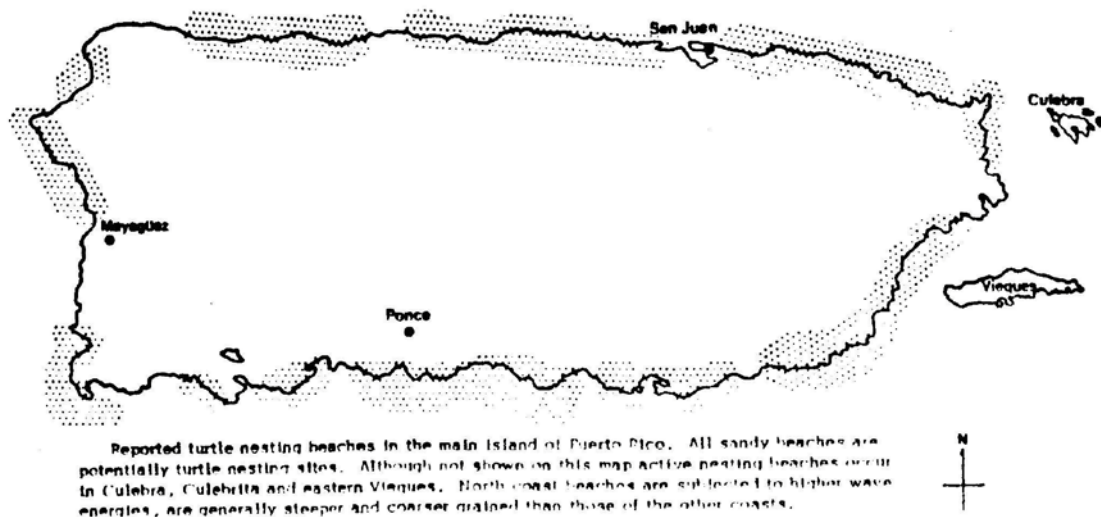


Figure 1. Reported turtle nesting beaches on the mail island of Puerto Rico.¹

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.

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. 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 nd Beach S.E. of Punta Salinas, Vieques	0.25	?	May
2 nd 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 *	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kemp</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. Playa Mujeres (Carita) de Isla Mona	1.40	D	April
2. Playa Mujeres (Carita) de Isla Mona		D	April
3. Playa Sardinera de Isla Mona	1.00	E	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 Punta Tuna	4	D	April
Species *	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kemp</i>	Lk		
<i>Lepidochelys olivacea</i>	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.			
Name 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		E	11
10. Playa Brava, Culebra Island		E	11
Species *	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kemp</i> i	Lk		
<i>Lepidochelys olivacea</i>	Lo		
** <i>Editor’s note (2009):</i> 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.

Name 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		E	11
4. Northwest Beach, Culebrita Isl.		E	11
5. South Beach, Cayo Norte, Culebra Island		E	11
Species *	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kemp</i>	Lk		
<i>Lepidochelys olivacea</i>	Lo		
** <i>Editor's note (2009):</i> 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)			

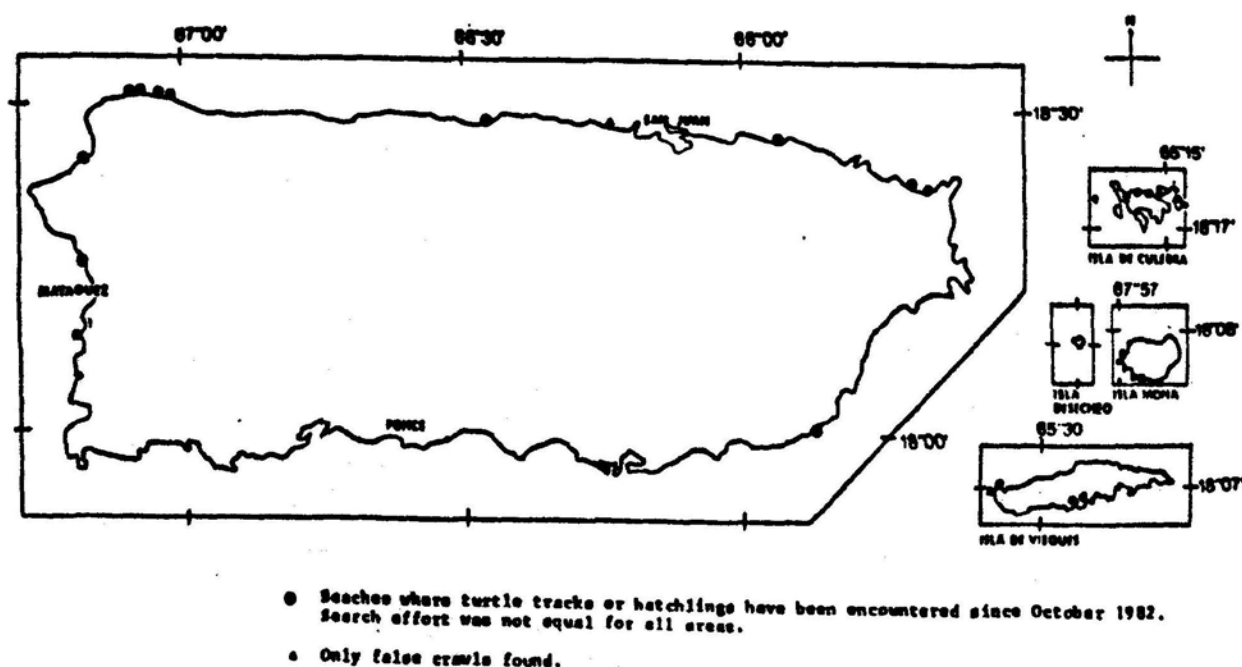


Figure 2. KEY ● Beaches where turtle tracks or hatchlings have been encountered since October 1982. Research effort was not equal for all areas.
○ Only false crawls found.

TABLE 3A. SANDY BEACH INVENTORY BY QUADRANGLE *

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		
TOTAL			208,500 meters

* *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.

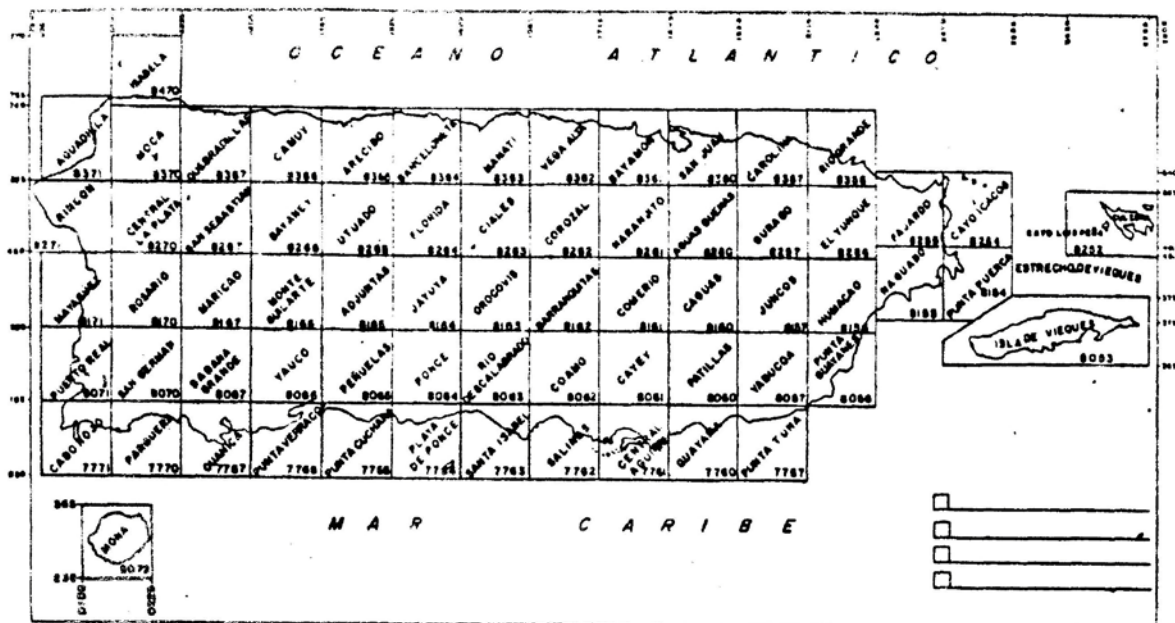


TABLE 3A-1. NESTING BEACH INVENTORY (supplementary page)

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, Vieques

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, Vieques

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

5. 2nd beach S.E. of Punta Salinas, Vieques

One old pit seen on this beach by boat.

6. 2nd 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 came 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 CENSUS FOR BEACH: Beach East of Punta Arenas, 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			24 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.2. NESTING CENSUS FOR BEACH: Green 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			24 May 1983
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.3. NESTING CENSUS FOR BEACH: Yellow 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			26 May 1983
<i>Dermochelys coriacea</i>			26 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.4. NESTING CENSUS FOR BEACH: Turtle 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			27 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.5. NESTING CENSUS FOR BEACH: 2nd Beach S.E. of Punta Salinas, 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			27 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.6. NESTING CENSUS FOR BEACH: 2nd Beach to west of Punta Icacos, 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			27 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.7. NESTING CENSUS FOR BEACH: Purple 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			26 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.8. NESTING CENSUS FOR BEACH: Playa Brava, Culebra			
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>			
<i>Chelonia mydas</i>			03 June 1983
<i>Dermochelys coriacea</i>	1-2 ?		03 June 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.9. NESTING CENSUS FOR BEACH: Playa Resaca, Culebra			
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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>	1 ?		04 June 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4.10 *. NESTING CENSUS FOR BEACH: Playa Mujeres de Isla Mona			
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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			12, 17 April 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* Editor's note (2009): This Table (4.10) was labeled TABLE 4-1, 2 in the original National Report. The Editor changed table number to maintain consistency within this report.			

TABLE 4.11 *. NESTING CENSUS FOR BEACH: Playa Sardinera de Isla Mona			
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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			15 April 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* 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 CENSUS FOR BEACH: Playa Punta Arena			
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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			

<i>Eretmochelys imbricata</i>			06 January 1983 (hatched)
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			09 March 1983 (hatched)
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			10 April 1983
<i>Eretmochelys imbricata</i>			15 April 1983
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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			
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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			26 November 1983 (hatched)
<i>Lepidochelys kemp</i>			

<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			01 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>		3	1974 (nesting season)
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		13 P.S.; 8 P.B.; 1 U.C.	May-October 1982
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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			
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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>		4	1974
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* <i>Editor's note (2009)</i> : 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>		3	May 1974 - February 1975
<i>Dermochelys coriacea</i>		3 P.S. 105 U.C. 6 P.P. 12 P.B.	November 1973 November 1973 November 1973 November 1973
<i>Eretmochelys imbricata</i>		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
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* 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: Vieques 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>		4	May-September 1981
<i>Dermochelys coriacea</i>		9 26	May 6-June 6, 1978 April-October 1981
<i>Eretmochelys imbricata</i>		2 23	May 6-June 6, 1978 December 1980-October 1981
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* 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			
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>			
<i>Chelonia mydas</i>		1	May-June 1977
<i>Dermochelys coriacea</i>		2	May-June 1977
<i>Eretmochelys imbricata</i>		4 3	June 1975 July 1976-June 1977

<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
<p>* <i>Editor's note (2009)</i>: 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.</p>			

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)	
<i>Caretta caretta</i>		3	May-June 1977
<i>Chelonia mydas</i>		3	May 6-June 10, 1977
<i>Dermochelys coriacea</i>		4	June 1975
		1	July 1976-June 1977
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
<p>* <i>Editor's note (2009)</i>: This Table (4.22) was labeled TABLE 4-5B in the original National Report. Editor changed table number to maintain consistency within this report.</p>			
TABLE 4.23*. NESTING CENSUS FOR BEACH: Playa Larga, 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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		3	June 1975
		0	July 1976, June 1977
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
<p>* <i>Editor's note (2009)</i>: This Table (4.23) was labeled TABLE 4-6B in the original National Report. Editor changed table number to maintain consistency within this report.</p>			

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)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		3 15	June 1975 July 1976-June 1977
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* 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	Number of Nests		Dates of collection
	Nest/Night (average)	Nest/Season (estimated)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		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
<i>Lepidochelys kemp</i>			
<i>Lepidochelys olivacea</i>			
* 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	Numbers of Nesting Tracks						
		Cc	Cm	D	E	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 Jobos to San Juan							
03 June 1983	Most of the northern beaches between Playa Jobos and Playa El Convento							
03 June 1983	Secret Spot Beach (3rd beach west of Punta Sardina) Isabela							1
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				1
17 Jun 1983	Playa Punta Arena, Mona							2
26 Jun 1983	Beaches from Borinquen Beach to Guajataca Beach							
26 Jun 1983	Beach east of Punta Sardina, Isabela							1
* <i>Editor's note (2009):</i> 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 flat, and then slopes 30° up to sand dunes. The sand is light and of medium grain. The dunes are covered with grasses and 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.

*** 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						Average Year Estimates *
	1982	1981	1980	1979	1978	1977	
<i>Caretta caretta</i>							
<i>Chelonia mydas</i>		4				4	
<i>Dermochelys coriacea</i>		26			9	5	
<i>Eretmochelys imbricata</i>	22 *	23			2	33	
<i>Lepidochelys kempfi</i>							
<i>Lepidochelys olivacea</i>							
* 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 over-estimation could result from the fact that two or more tracks could have been from the same turtle.

TABLE 7. FORAGING AREAS INVENTORY			
Name of Area (or give coordinates)	Approx. Area (Km ²)	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		
<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 9. NON-FORAGING TURTLES AT SEA.

Please provide any information available on the incidence of turtles in offshore areas.

Location (Give Lat. & Long. Coordinates)	Date	Species and Est. Nos. (Abbreviations)	Comments
6.4-8 km * offshore west of Punta Salinas	October 1967	Lo-1	
Species	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kemp</i>	Lk		
<i>Lepidochelys olivacea</i>	Lo		
* <i>Editor's note (2009)</i> : 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

Life Stage Unit	Species (abbrev.) *	Causes	Extent of Mortality (% of Unit)
Nests/eggs	E	Wild pigs and wild cats	
Hatchlings	E	Birds: Pearly-eyed thrasher, yellow-crowned night heron; frigate birds; feral pigs	
Juveniles		Predators at sea	
Adults (in water)	E	Human predation	
Nesting females	E	Human predation	
Species *	Abbreviation		
<i>Caretta caretta</i>	Cc		
<i>Chelonia mydas</i>	Cm		
<i>Dermochelys coriacea</i>	D		
<i>Eretmochelys imbricata</i>	E		
<i>Lepidochelys kemp</i>	Lk		
<i>Lepidochelys olivacea</i>	Lo		

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
Department of Natural Resources Box 5887 Puerta de Tierra Puerto Rico 00906		
Caribbean Fishery Management and Council Suite 1108, Banco de Ponce Building Hato Rey Puerto Rico 00918		

U.S. Fish and Wildlife Service Box 3005 Marine Station Mayaguez Puerto Rico 00709		
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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
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.
2. 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, *Chelonia mydas*, at Mona Island and the hatchling green turtle 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
POR EL PAIS DE

PUERTO RICO

NATIONAL REPRESENTATIVE/REPRESENTANTE NACIONAL

GILBERTO CINTRON MOLERO



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

Puerto Rico

NATIONAL REPORT PRESENTED BY

Gilberto Cintron
The National Representative

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DATE SUBMITTED: July 11, 1983

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.

II

TABLE 2: COASTAL HABITAT INVENTORY OF MARINE SHORELINE

MARINE SHORELINE CHARACTERISTICS

% OF SHORELINE

UNDEVELOPED	DEVELOPED	TOTAL
-------------	-----------	-------

1. SAND BEACH (TOTAL)

- A. HIGH ENERGY
B. LOW ENERGY

2. REEF (EXPOSED)

3. ROCKS
4. CLIFFS

5. VEGETATION (TOTAL)

- A. VINES
B. GRASSES
C. MANGROVES
D. COCONUT TREES
E. OTHER TREES AND SHRUBS
F. MARSHES

6. MOUTHS OF LAGOONS, RIVERS, CANALS

7. TOTAL SHORELINE

Length of Coastline

(Total including adjacent islands) 314 km

Length of Coastline Segments

Main Island

North coast	72.8
South coast	30
East coast	9
West coast	8
SUBTOTAL	721 km

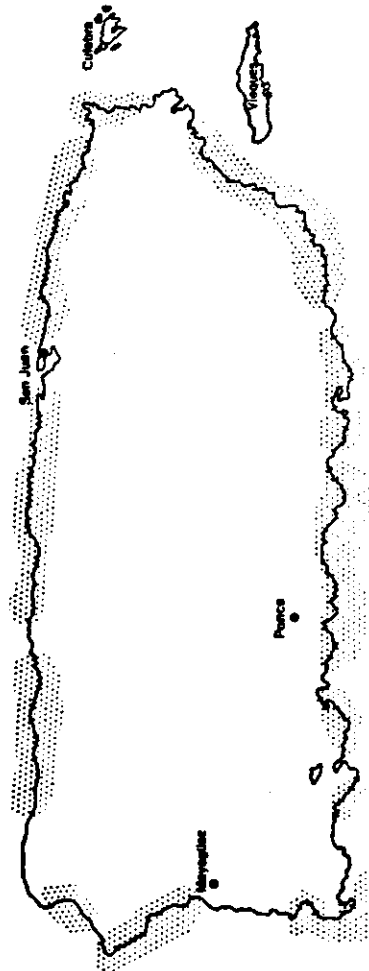
Adjacent Islands

Vieques	110
Mona	53
Culebra	33
SUBTOTAL	193 km

km² of Insular shelf area - 7203 km²
(includes Puerto Rico and Virgin Islands)km² of insular shelf area
(Puerto Rico only) - 5282 km²

Seaward Extent of Jurisdictions

Territorial Sea	16.7 km
Extended Economic Zone	322 km
Fisheries Jurisdiction	322 km



Reported turtle nesting beaches in the main island of Puerto Rico. All sandy beaches are potentially turtle nesting sites. Although not shown on this map, turtle nesting beaches occur in Culebra, Culebrita and eastern Vieques. North coast beaches are exposed to highest wave energies, are generally steeper and contain grained than those of the other coasts.

TABLE 3. 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
Beach E. of Punta Arenas, 1. Vieques	1/2 km	D.C.?	May
2. Green Beach, Vieques	1/2 km	3 E.A.	May
3. Yellow Beach, Vieques	1 km	D.C., C.M., 2?	May
4. Turtle Beach, Vieques	1/3 km	2 D.C., 3?	May
2nd beach S.E. of Punta 5. Salinas, Vieques	1/4 km	?	May
2nd beach west of Punta 6. Icaroe, Vieques	1/4 km	D.C.	May
7. Purple Beach, Vieques	1 1/4 km	D.C., ?	May
8. Pine Grove, Culebra	1 1/2 km	~ 20 D.C., C.M.?	May, June
9. Pine Resaca, Culebra	1 km	~ 8 D.C.	May, June
10.			

Species Abbreviations:
C.C. Culebra
C.M. Culebra
D.C. D.C.
E.A. E.A.
E.E. E.E.
E.L. E.L.
E.M. E.M.
E.N. E.N.
E.O. E.O.
E.P. E.P.
E.Q. E.Q.
E.R. E.R.
E.S. E.S.
E.T. E.T.
E.U. E.U.
E.V. E.V.
E.W. E.W.
E.X. E.X.
E.Y. E.Y.
E.Z. E.Z.

NAME OF BEACH	LENGTH IN KM	SPECIES RESTING (Use abbreviations)*	MONTHS OF RECORDED RESTING
Playa Mujeres (Carrizal)	1.4	D.C.	April
Playa Mujeres (Carrizal)	"	D.C.	April
Playa Mujeres (Carrizal)	1.0	D.C.	April
Playa Mujeres (Carrizal)	"	D.C.	April
Playa Mujeres (Carrizal)	1.0	D.C.	October
Playa Mujeres (Carrizal)	1.0	D.C.	January
Playa Mujeres (Carrizal)	2.5	D.C.	April
Playa Mujeres (Carrizal)	2.5	D.C.	April
Playa Mujeres (Carrizal)	8.0	D.C.	September or October
Playa Mujeres (Carrizal)	4.0	D.C.	April

TABLE 1. NESTING BEACH INVENTORY
List beaches in geographic sequence.
Provide additional information on following page.
Information from nesting season
ascertained from date of hatching

Species Abbreviations:
Cc Carrizal
Ca Carrizal
D Carrizal
E Carrizal
L Carrizal
Lo Carrizal

NAME OF BEACH	LENGTH IN KM	SPECIES RESTING (Use abbreviations)*	MONTHS OF RECORDED RESTING
1. Playa Mujeres (Carrizal)	8 km	E	10
2. Playa Mujeres (Carrizal)	"	D	
3. Playa Mujeres (Carrizal)	"	D, E, Ca	1
4. Playa Mujeres (Carrizal)	"	E	1
5. Playa Mujeres (Carrizal)	"	E	1
6. Playa Mujeres (Carrizal)	"	E	1
7. Playa Mujeres (Carrizal)	"	E	1
8. Playa Mujeres (Carrizal)	"	E	1
9. Playa Mujeres (Carrizal)	"	E	11
10. Playa Mujeres (Carrizal)	"	E	11

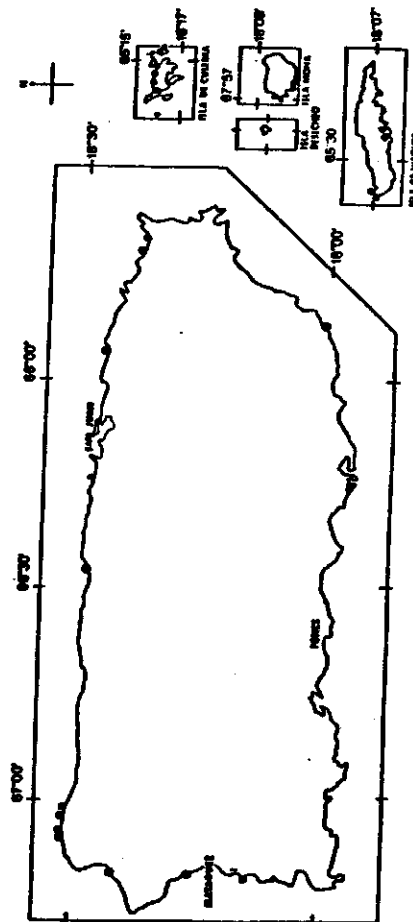
TABLE 2. NESTING BEACH INVENTORY
List beaches in geographic sequence.
Provide additional information on following page.

Species Abbreviations:
Cc Carrizal
Ca Carrizal
D Carrizal
E Carrizal
L Carrizal
Lo Carrizal

NAME OF BEACH	LENGTH IN KM	SPECIES RESTING (Use abbreviations)*	MONTHS OF RECORDED RESTING
West beaches of 1. Culabrita Is.		E	11
North Beach, 2. Culabrita Is.		E	11
South Beach, 3. Culabrita Is.		E	11
Northwest Beach, 4. Culabrita Is.		E	11
South Beach, 5. Cayo Norte, Culabrita Is.		E	11
6.			
7.			
8.			
9.			
10.			

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

Species Abbreviations:
Cc Carrizal
Ca Carrizal
D Carrizal
E Carrizal
L Carrizal
Lo Carrizal



* Beaches where turtle tracks or hatchlings have been encountered since October 1982.
* Search effort was not equal for all areas.
* Only false crabs found.

TABLE 3. NESTING BEACH INTERVIEW
(Supplementary page)

Please give additional information about each nesting beach identified in Table 2. Include information on color of sand, particle size, beach profile, backbeach vegetation, artificial lighting, etc.

1) Playa Mujeres (Carita) de Nona

The beach is about 40 m. wide with a 20° slope from the water up to a 1 ft. berm, and then has a fairly flat backbeach 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 Bardinera de Nona

The beach is about 2 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 come up, but there are many only 1/2 kilometer away. Immediately offshore are exposed reefs.

3) Playa Pta. Arena

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

4) Bahía de Agaña

The 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 trees in the backbeach area, with mostly coco palm and West Indian almond trees behind them. There are scattered houses in the area.

5) Playa, Jiboa de Isabella

The beach is about 10 m. wide with a 20° slope up to the dune-like. 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) Pilemos

The beach is 10 m. wide and the slope varies from 0-20°, with a 1 m. berm in some places. The sand is white and medium-grained. 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 Pta. Tula

This 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 & of medium grain. The vegetation is mainly coco palm and sea grapes.

SPECIES	NUMBER OF NESTS		DATES OF DATA COLLECTION
	Nests/Night (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			24 May 1983
<i>Lepidochelys olivacea</i>			

TABLE 4 - 2. NESTING CENSUS FOR BEACH Green Beach, Yucatan

(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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			24 May 1983
<i>Lepidochelys olivacea</i>			

TABLE 4 - 1. NESTING CENSUS FOR BEACH Beach East of Punta Arenas, Yucatan

(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>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			26 May 1983
<i>Eretmochelys imbricata</i>			
<i>Lepidochelys kempi</i>			26 May 1983
<i>Lepidochelys olivacea</i>			

TABLE 4 - 3. NESTING CENSUS FOR BEACH Yellow Beach, Yucatan

(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			27 May 1983
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 4. NESTING CENSUS FOR BEACH Turtle Beach, Vieques
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			27 May 1983
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 6. NESTING CENSUS FOR BEACH 2nd beach to U. of Punta Icaros, Vieques
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			27 May 1983
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 5. NESTING CENSUS FOR BEACH 2nd beach S.E. of Punta Salinas, Vieques
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			26 Mar 1981
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 7. NESTING CENSUS FOR BEACH Purple Beach, Vieques
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			3 June 1983
<u>Dermochelys coriacea</u>	1-27		3 June 1983
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 6 NESTING CENSUS FOR BEACH Playa Iruva, Culabra (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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			12 April 1983 17 April 1983
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 1,2 NESTING CENSUS FOR BEACH Playa Iruva de Isla Nona (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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>	11		4 June 1983
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 3 NESTING CENSUS FOR BEACH Playa Rosado, Culabra (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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>			15 April 1983
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 3,4 NESTING CENSUS FOR BEACH Playa Sardinera de Isla Nona (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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>			(hatched) 6 January 1983
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 5. NESTING CENSUS FOR BEACH Playa Punta Arena
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			10 April 1983
<u>Eretmochelys imbricata</u>			15 April 1983
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 7,8 NESTING CENSUS FOR BEACH Playa Jabon de Izabella
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>			(hatched) 9 March 1983
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 6 NESTING CENSUS FOR BEACH Tablonal de Aguada
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>			
<u>Eretmochelys imbricata</u>			(hatched) 26 November 1983
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 9 NESTING CENSUS FOR BEACH Pilonas
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			1 May 1973
<u>Bornachelys caribaea</u>			
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 10. NESTING CENSUS FOR BEACH Playa Larga, N.E. of Punta Tumb
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Bornachelys caribaea</u>		4	1974
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 2. NESTING CENSUS FOR BEACH Culebra Island
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>		3	nesting season (1974)
<u>Bornachelys caribaea</u>			
<u>Eretmochelys imbricata</u>		11 P.S. 8 P.S. 1- D.C.	May-Oct. 1982
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 1. NESTING CENSUS FOR BEACH Playa Berdiana (P.B.), Puerto Carabimero (D.C.), Playa Brava (P.B.)
(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>Caretta caretta</u>			
<u>Chelonia mydas</u>		3	May 1974-Feb., 1975
<u>Bornachelys caribaea</u>			
<u>Eretmochelys imbricata</u>		20 P.S. 10 P.S. 11 P.S. 12 P.S. 20 others	Nov.-1973 Jan. 74-Jan. 1975
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 19. NESTING CENSUS FOR BEACH Playa Berdiana (P.B.), Puerto Carabimero (D.C.), Playa Brava (P.B.)
(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>Caretta caretta</u>		4	May-Sept 1981
<u>Chelonia mydas</u>		9/16	May 6-June 6, 1978 April 1981-Oct 1981
<u>Dermochelys coriacea</u>		2/23	May 6-June 6, 1978 Dec. 1980-Oct. 1981
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 3A. NESTING CENSUS FOR BEACH Playa Brava, Isla de P. R.
(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>Caretta caretta</u>		3	May-June 1977
<u>Chelonia mydas</u>		3	May 6-June 10, 1977
<u>Dermochelys coriacea</u>		4,1	June 1975, July 1976-June 1977
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 3B. NESTING CENSUS FOR BEACH Playa Brava, Isla de P. R.
4108 (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>Caretta caretta</u>		1	May-June, 1977
<u>Chelonia mydas</u>		2	May-June, 1977
<u>Dermochelys coriacea</u>		4,3	June 1975, Jul. 1976-June 1977
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 4A. NESTING CENSUS FOR BEACH Playa Brava, Isla de P. R.
4109 (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>Caretta caretta</u>			
<u>Chelonia mydas</u>			
<u>Dermochelys coriacea</u>		3, 0	June 1975 July 1976, June 1977
<u>Eretmochelys imbricata</u>			
<u>Lepidochelys kempi</u>			
<u>Lepidochelys olivacea</u>			

TABLE 4 - 4B. NESTING CENSUS FOR BEACH Playa Brava, Isla de P. R.
(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		MONTH OF DATA COLLECTION
	Nests/Month (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		3, 15	June 1975 July 1976-June 1977
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 7a. NESTING CENSUS FOR BEACH West Beach of Isla Calabrita
(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		MONTH OF DATA COLLECTION
	Nests/Month (Average)	Nests/Season (Estimated)	
<i>Caretta caretta</i>			
<i>Chelonia mydas</i>			
<i>Dermochelys coriacea</i>			
<i>Eretmochelys imbricata</i>		3, 1 - from 28 8-12 from 28 2-12 from 28 C.R.	June 1975 July 1976-June 1977
<i>Lepidochelys kempi</i>			
<i>Lepidochelys olivacea</i>			

TABLE 4 - 7b. NESTING CENSUS FOR BEACH North Beach (NB), South Beach (SB), Northwest Beach (NWB),
South Beach, Core Beach (S.B., C.B.)
(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.

- 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 Amasco and Maní, but a ground track on 15 June identified only 6 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 Amasco, 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 humbird 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 Barrera 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 There were taken of the three elongated pits on Playa Mujeres. Two were close 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 track still visible.

DATE	BEACHES SURVEYED	NUMBERS OF NESTING TRACKS									
		Cc	Dm	E	Lt	Lo	Mo	NO	PD	TD	UD
6/3/83	West of the Northern beaches between Playa Joles and Playa El Convento										
6/3/83	Secret spot beach (3rd beach west of Punta Sardinia, Isabela)										1
6/8/83	Playa east of town of Laquilla, Playa El Convento, Pifones, and Playa Tortuguero.										
6/17/83	Playa Amasco, Playa Maní, and all beaches on Mosa Island										
6/17/83	Playa Amasco and Playa Maní			1							5
6/17/83	Pocket beaches of Puerto, Mosa			27							
6/17/83	Playa Carabinero, Mosa										1
6/17/83	Playa Mujeres, Mosa		2								1
6/17/83	Playa Punta Arena, Mosa										2
6/26/83	Beaches from Beringum Beach to Ocuiltepec Beach										

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*
Dm *Dermochelys coriacea*
E *Eretmochelys imbricata*
Lt *Lepidochelys olivacea*
Lo *Lepidochelys olivacea*
Mo *Monodactylus tomentosus*
NO *Naso ocellatus*
PD *Pseudocentrotus domus*
TD *Turkey duck*
UD *Unidentified*

TABLE 5. 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 S-60 helicopter that belonged to the U. S. Coast Guard. The observations were usually made from the east coast to the large opening on the side of the helicopter, and as close to the beach as possible. Flying altitude was between 200-300 ft. and speed varied from 55-110 knots. Flights were made at all hours of the day.

4/11/83 The only observations were of the pit of the turtle that laid at Playa Jabon on 4/10/83.

4/23/83 A ground truth was made at Playa Isabela. The beach is about 2 km. long and 20 m. wide, starts out flat, and then slopes 30° up to sand dunes. The sand is light and of medium grain. The dunes are covered with grasses and 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 up the nest again.

4/22/83 The beach at Playa Terrapuerto is about 2 km. long and 13-26 m. wide. The western end is very slumped 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 plays east of the town of Laquilla, 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 grape and coco palm. 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 Yres Barron. The beach is about 2 km. long but is continuous with Playa Alamo which is several kilometers longer. It is about 12 m. wide and has a slight slope. The sand is light & 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 plum trees. There is a housing area to the north, and the public beach of Alamo is to the south.

Pile 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 Corraja 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 area, and there are many buildings to the north and south.

TABLE 5. AERIAL BEACH SURVEY SUMMARY (Con'd)
(Supplementary page)

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

5/16/83 The beaches of Culabra have not been visited yet, and there were so many tracks that it could neither be determined if they really all were *Prionochelys*, nor if any were false tracks. Playa Largo, Bona and Masaca 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 *Prionochelys*.

5/16/83 The beach at Pifonias is 9.5 km. long, but 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 1 m. berm. The sand is white and sand-coursed, and there are sand dunes. The vegetation is mainly coco palm 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 Iba is about 6 km. long and 20 km. wide, some areas are steep. The sand is soft, black and of fine grain. The vegetation is mainly coco palm 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.

TABLE 6. ESTIMATED POPULATIONS 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 2 or more tracks could have been from the same turtle.

SPECIES	1982	1981	1980	1979	1978	1977
<i>Caretta caretta</i>						
<i>Chelonia mydas</i>		4				4
<i>Prionochelys carolinensis</i>		26			9	5
<i>Eretmochelys imbricata</i>	220	23			2	33
<i>Lepidochelys kempi</i>						
<i>Lepidochelys 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.

* Only 3 days of survey from Oct. 27-29, 1982.

NAME OF AREA (or give coordinates)	APPROX. AREA (sq. mi.)	SPECIES FORAGING (Use abbreviations approx. numbers)	NATURE OF EVIDENCE (Observation, fishery, incidental catch)
1. Bahia Playa Blanca Viquez Island		C.M.	Observation of immature turtles
2. Oculobre Island, reef		D-1 E-5A C.M.-131 G.C.-1	Observation of mature & immature turtles
3. Mendito Island		E-10	Observation of 10 turtles in one day (29 Oct. 1982)
4.			
5.			
6.			

TABLE 7. FORAGING AREAS INVENTORY

Species Abbreviations:
 Cc *Caretta caretta*
 Cm *Chelonia mydas*
 D *Dermochelys coriacea*
 E *Eretmochelys imbricata*
 Lk *Leptodechelys kempi*
 Lo *Leptodechelys olivacea*

LOCATION (Give Lat. & Long. coordinates)	DATE	SPECIES AND EST. NOS. (Abbreviations)	COMMENTS
	October 1987	L.O. 1	A-tailed offshore west of Santa Catalina

TABLE 9. NON-FORAGING TURTLES AT SEA.
 Please provide any information available on the
 incidence of turtles in offshore areas.

Species Abbreviations:
 Cc *Caretta caretta*
 Cm *Chelonia mydas*
 D *Dermochelys coriacea*
 E *Eretmochelys imbricata*
 Lk *Leptodechelys kempi*

LIFE STAGE UNIT	SPECIES (abbrev.)	CAUSES*	EXTENT OF MORTALITY (% of unit)
Nests/eggs	E	Wild pigs and wild cats	
Hatchlings	E	Birds: Sooty-Sided Shearwater, Yellow-Crowned Night Heron, frigate birds, Laysan pigeon	
Juveniles		Predators at sea	
Adults (in water)	E	Human predation	
Nesting females	E	" "	

TABLE 10. NATURAL MORTALITY

* Natural mortality causes may include:
 Beach erosion of nests; egg and/or
 nestling predation by crabs, wild
 animals, sea birds, etc.; diseases;
 sharks and other predators at sea;
 etc.

Species Abbreviations:
 Cc *Caretta caretta*
 Cm *Chelonia mydas*
 D *Dermochelys coriacea*
 E *Eretmochelys imbricata*
 Lk *Leptodechelys kempi*
 Lo *Leptodechelys olivacea*

INSTITUTION OR ORGANIZATION NAME AND ADDRESS	NO. OF ACTIVE MEMBERS	ACTIVITIES IN PROGRESS
Department of Natural Resources Box 3887, Puerto de Tientsin, P.R. 00906		
Caribbean Fishery Management and Control Box 1108 Banco de Ponce Building Rico May, P.R. 00918		
P. S. Fish and Wildlife Service Box 3851, Marine Station Mayaguez, Puerto Rico 00709		

TABLE 18. PUBLIC AND PRIVATE INSTITUTIONS CONCERNED WITH TURTLE CONSERVATION/MANAGEMENT/UTILIZATION

NAME AND ADDRESS OF ORGANIZATION	BUDGET ALLOCATION TO TURTLES	NO. OF STAFF ASSIGNED TO TURTLES	COMMENTS ON LINES OF ENFORCEMENT
Department of Natural Resources Commonwealth of P. R. Box 3887 Puerto de Tientsin, P.R. 00906			
P. S. Fish & Wildlife Service Law Enforcement Division Room 419 Marine Station, Mayaguez and Physics, Bldg. 009, Mayaguez, P.R.			

TABLE 20. REGULATORY AUTHORITY
Indicate all entities with statutory responsibilities (e.g., Fisheries Departments and
Ministeries, Police, Coast Guard, etc.)

REPORTS AND PUBLICATIONS

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

1. Thurston, J. and H. E. Rainey, 1973. Concentrated nesting of the Hawksbill Sea Turtle (*Eretmochelys imbricata*) on Nona Island, West Indies. Department of Natural Resources.
2. Thurston, J. and T. A. Wernick, 1975. Management of Sea Turtles on Nona Island. Department of Natural Resources.
3. Thurston, J., 1975. The green turtle, *Chelonia mydas*, at Nona Island and the hatching green turtle project. Department of Natural Resources.
4. Carr, T., 1974. Marine turtles at Culbre Island. Dept. Nat. Res.
5. Peitzhard, P.C. R. and T.H. Stubbs, 1981. Vinuesa Island Sea Turtle Study.
6. Clarén, C. J. Thurston, 1977. Las Tortugas marinas de P. R., Department of Natural Resources.
7. Thurston, J., 1975. Observations on the ecology of the Hawksbill turtle, *Eretmochelys imbricata*, on Nona Island, P. R., Department of Natural Resources.
8. Caldwell, R. E., 1989. Pacific Ridley Sea Turtle, *Lepidochelys olivacea*, in P.R. Bull. So. Calif. Acad. Sci. 68 (2): 112.
9. Carr, T., 1976. A survey of Marine Turtles at Vinuesa Island. Department of Marine Sciences.
10. Carr, T., 1978. The Marine Turtles and commercial reptiles of Culbre Island. P. S. Fish & Wildlife.
11. Carr, A., A. Mayan, J. Martinez, E. Riondel and T. Carr. Surveys of Sea Turtle populations and habitats in the Western Atlantic. NOAA