

**1995 ANNUAL REPORT
SEA TURTLE CONSERVATION PROJECT
ON VIEQUES ISLAND**

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**A REPORT TO
U.S. NAVAL STATION
ROOSEVELT ROADS NAVAL FACILITIES
VIEQUES, PUERTO RICO**

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METHODOLOGY

A. EGG COLLECTION AND BEACH COVERAGE

Several beaches were patrolled early in the morning and at night. Nesting areas were identified and sea turtles eggs were collected (Tables 1 and 2). Collection of green sea turtle eggs was not possible during the reporting period.

B. BEACH HATCHERY

Grass and wild supralitoral plants growing around the hatchery are removed periodically. Empty eggs shells, yolkless and rotten eggs are removed from the artificial nests. No structural maintenance of the hatchery was required during project duration.

C. EGG HANDLING AND RELOCATION

When fresh tracks were found during beach patrolling, nests areas were identified and eggs search was initiated until the nests were found. The turtle eggs were collected one by one and placed in a styrofoam box, partially filled with a fine layer of sand, transported to the hatchery located at the Naval Ammunition Support Department, at Mosquito Beach area, and transplanted in artificial nests (Matos & Belardo 1991, 1992) (Appendix 2).

Whenever a sea turtle was found nesting during the night patrols, her eggs were relocated. The configuration of the artificial nest closely resembled a natural nest. During transplanting, the yolkless eggs were placed on top of the yolked eggs, as occurs in their natural conditions. Finally, the eggs were covered with damp sand and a 45.7 cm circle of wire mesh was placed on top of each nests so that when hatchlings emerged they were counted for reproduction success rates.

TABLE 1. LEATHERBACK (*Dermochelys coriacea*) NESTING ACTIVITY SUMMARY BY BEACH

BEACH	In-situ	Poached	Eroded	Relocated	Nest	Crawl	Nester
Playa Brava	2	0	0	0	2	0	1
Yellow Beach	9	0	0	0	9	0	6
Puerto Diablo	0	0	0	0	0	0	0
Blue Beach	0	0	0	0	0	0	0
Playa Navio	0	0	0	0	0	0	0
Sun Bay	0	0	0	3	3	0	2
Playita	0	0	0	0	0	0	0
Red Beach	0	0	0	0	0	0	0
El Gallito	0	0	0	0	0	0	0
TOTALS	11	0	0	3	14	0	9

TABLE 2. HAWKSBILL (*Eretmochelys imbricata*) NESTING ACTIVITY SUMMARY BY BEACH

BEACH	In-situ	Poached	Eroded	Relocated	Nest	Crawl	Nester
Jalovita	2	1	0	0	3	0	2
Playa Navio	0	0	0	0	0	0	0
Tamarindo Sur	0	0	0	0	0	0	0
Punta Arenas	3	0	0	0	3	0	3
Jalova	2	1	0	0	3	0	1
Playa Fanduca	3	0	0	2	5	0	2
Playa Brava	0	0	0	0	0	0	0
Sun Bay	0	0	0	0	0	0	0
Media Luna	0	0	0	0	0	0	0
Yellow Beach	2	0	0	1	3	0	2
Coffe	1	0	0	0	1	0	1
TOTALS	13	2	0	3	18	0	11

RESULTS AND DISCUSSION

A.NESTING

The 1995 nesting season began on April 11 and extended until October 9, 1995. Thirty two (32) emergences were identified on the study area during these season. From this, fourteen (14) nests belonged to Leatherbacks and eighteen (18) to Hawksbills. Twenty (20) females (9 Leatherbacks and 11 Hawksbills) comprised the 1995 breeding population in the study area. Green turtle nesting beach patrol couldn't be accomplished during 1995 due to vehicle failure, dirt road conditions, and unexploded ordnance in the access road. The vehicle was sent to Fajardo on two occasions for mayor repairs (At the beginning of the Leatherback nesting season and at the end of the Hawksbill nesting season). On May 1995, the biologist Edgardo Belardo was unexpectedly ceased. The development of the project was affected. On September 1995, he was recruited again, continuing the recopilation of data.

Only six (6) nests were relocated to the hatchery during this season (3 Leatherback, 3 Hawksbill) (Table 3).

The mean clutch size for Leatherback was 94.0 eggs, the mean clutch size for Hawksbill was 134.0 eggs.

Table 3. TOTAL OF NESTS RELOCATED BY SPECIES

SPECIES	NESTS	TOTAL EGGS
Leatherback	3	282
Hawksbill	3	402

B. HATCHING

Hatchery operation resulted in the release of five hundred twenty one (521) hatchlings which represents an overall mean hatching success of 76.3 %.

Two hundred seventeen (217) Leatherback hatchlings were released, which represents a 76.95% hatching success. Three hundred four (304) Hawksbill hatchlings were released with a hatchling success of 75.62% (Appendix 4).

C. PREDATION

No predation occurred during the incubation period nor during release.

D. MEASUREMENTS AND TAGGING OF NESTING TURTLES.

During this nesting season no sea turtles were tagged. Several night patrols were conducted but no sea turtle came to nest at the site.

E. EDUCATIONAL ACTIVITIES

The education program is an important part of this project. During 1995 six lectures were offered to two hundred forty six (246) students and twenty four (24) adults (parents, teachers, leaders) using slides, videos, posters, preserved specimens and brochures about the Conservation Project (Table 4). This year we had the opportunity to assist to the "Fifth Symposium of the Sea Turtle Biology" in South Carolina. A poster showing the results obtained during four years of the project was presented (Appendix 1).

TABLE 4. LECTURES OFFERED DURING 1995

INSTITUTION	Origin	Persons
Buffalo State College	E.U.	12 students, 1 adults
Club 4 H	Vieques	47 students, 4 adults
Juanita Rivera Albert Elementary School Kinder-1st Grade	Vieques	53 students, 1 adults
19 Septiembre Junior High School	Vieques	60 students, 8 adults
Franklin D. Roosevelt Elementary School	Vieques	36 students, 3 adults
Liga Atlética Policiaca Summer Camp	Vieques	38 Students, 7 adults

ANECDOTAL ACCOUNTS

1. On February 19, 1995, fisherman Carlos Cruz Porfil reported a dead Green sea turtle at Mosquito pier. After evaluation we concluded that the turtle was killed by a shark.
2. On May 7, 1995 a dead Leatherback was found on Cayo Berdiales (Puerto Ferro). The cause of the death was unknown. This turtle was 1.30 m long and 1.00 m wide (Appendix 4).

ACKNOWLEDGMENTS

Our deep appreciation to Mr. Wiston Martínez, as well as, the staff of the Public Works Department of U.S. Naval Station Roosevelt Roads, Ceiba, PR., for their assistance to the project. Our gratitude is extended to the DNER Corps of Rangers, and the dactilographist Maritza Rivera. In addition, we appreciated the assistance given to the project by the Maritime Unit of the Puerto Rico Police Department and the maintenance personnel of the Sun Bay Beach Facilities, Recreation and Sport Department. We also thank Mr. Rafael O. Jackson and his staff, OPI Cerro Matías Vieques and Action Service Guards. Maritza Cintrón for the computer graphics.

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APPENDIX 1

VIEQUES ISLAND SEA TURTLE CONSERVATION PROJECT, 1990 - 1994

Belardo - Ayala, Edgardo

Department of Natural and Environmental Resources of Puerto Rico
Natural Reserves, Sanctuaries and Wildlife Refuge Division.

Vieques Island is located at the East side of Puerto Rico, has ideal beaches for the nesting of sea turtles. Yearly some numbers of leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricata*) and green turtle (*Chelonia mydas*) come to nest.

The illegal hunting of nesting females, poaching, nest destruction by natural factors and the predation by mongoose have diminish these population.

Before 1990 no program for the protection of sea turtles on Vieques Island was ever made. In order to meet the need to improve conservation efforts that in some manner will increase the reproductive success of this species a conservation project in conjunction with Roosevelt Roads Naval Base at Ceiba was initiated in the Island.

The main objectives of this project were:

1. To determine nesting localities and numbers for leatherback (*D. coriacea*), hawksbill (*E. imbricata*) and green turtle (*C. mydas*) sea turtle around the Island.
2. To estimate the total number of sea turtles nest made within the project areas.
3. To increase reproductive success by protecting the eggs until they hatched and the hatchlings are released.
4. To protect gravid females while nesting.
5. To promote public education by involving the community students and volunteers in the project.

During the last 4 years of the project a total of 310 sea turtles nest were found (Figure 1) in which 161 were from leatherbacks, 91 from hawksbills and 58 from green turtles.

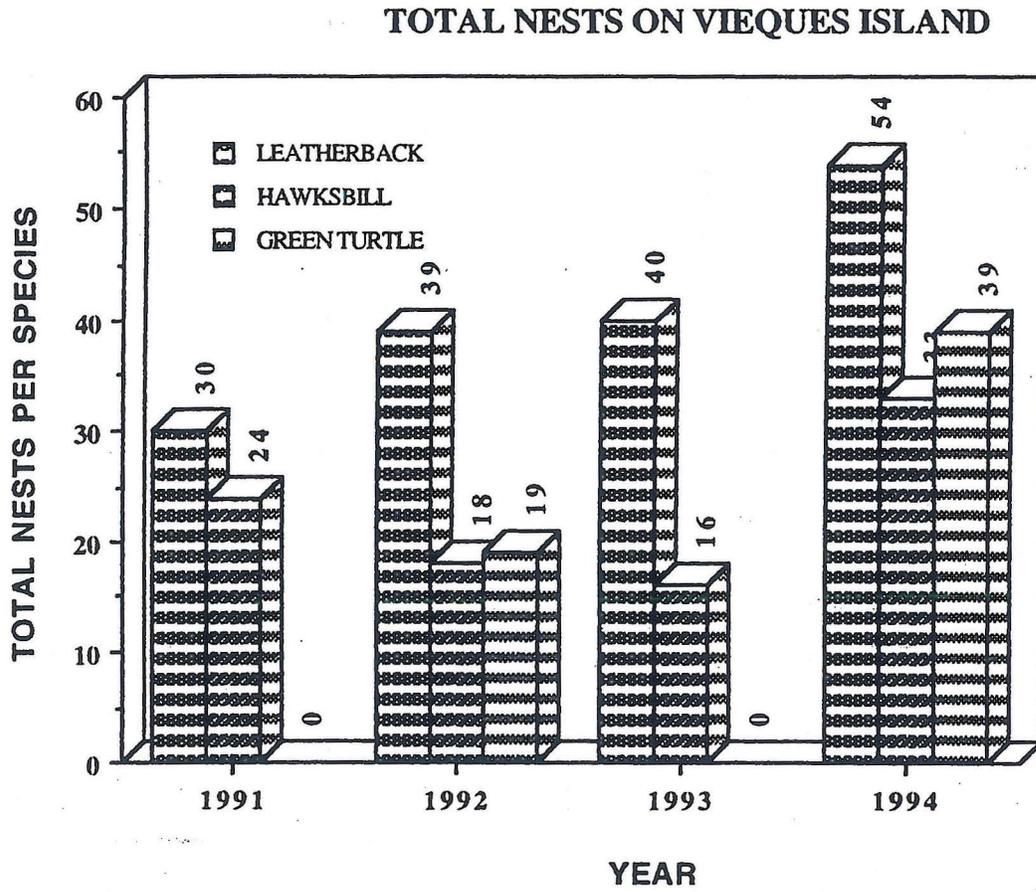


Figure 1.

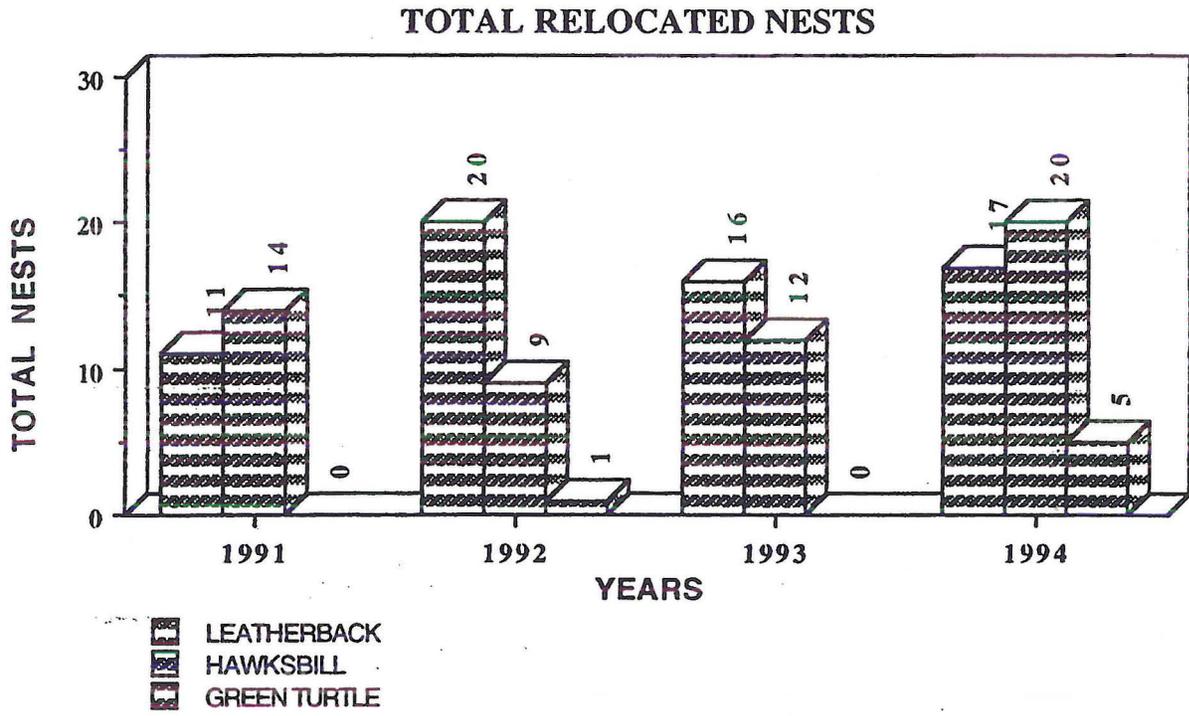


Figure 2.

A total of 125 nest were relocated on the hatchery (64 leatherback, 55 hawksbill and 6 green).

TOTAL HATCHLINGS RELEASED

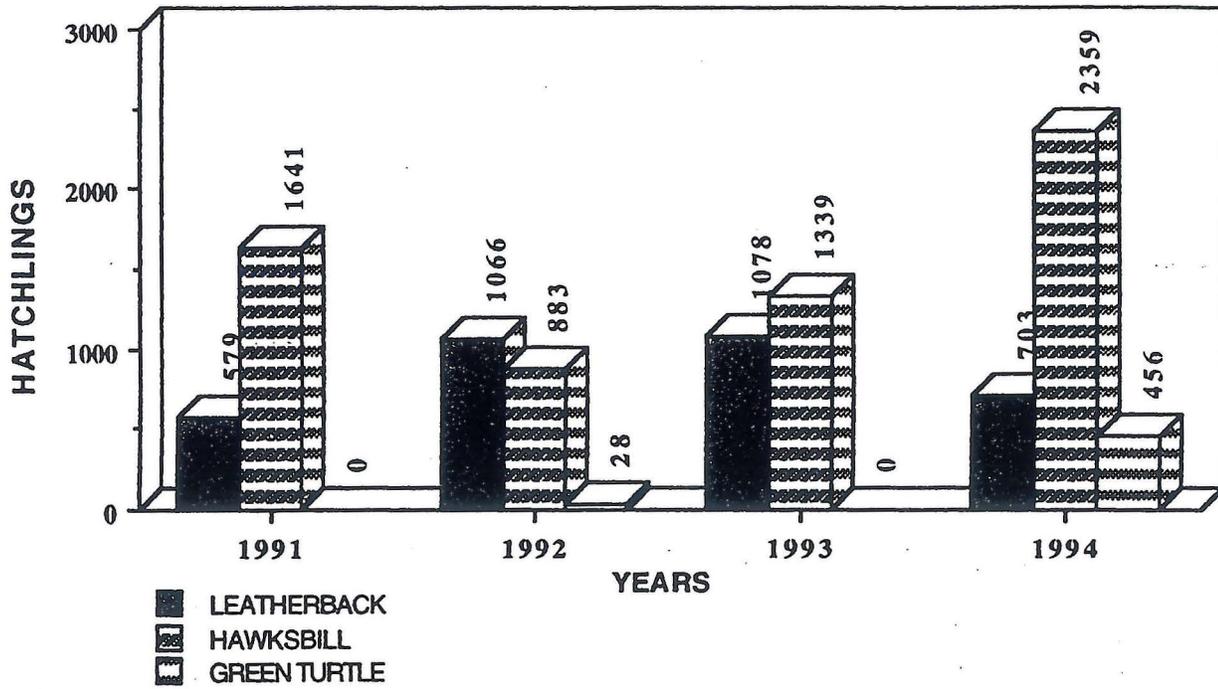


Figure 3.

A total of 10,112 hatchlings from the hatchery were released (3,426 leatherbacks, 6,222 hawksbill and 484 green).

APPENDIX 2

Figure 1. Percent of Leatherback Turtle Nests per Beach, 1995

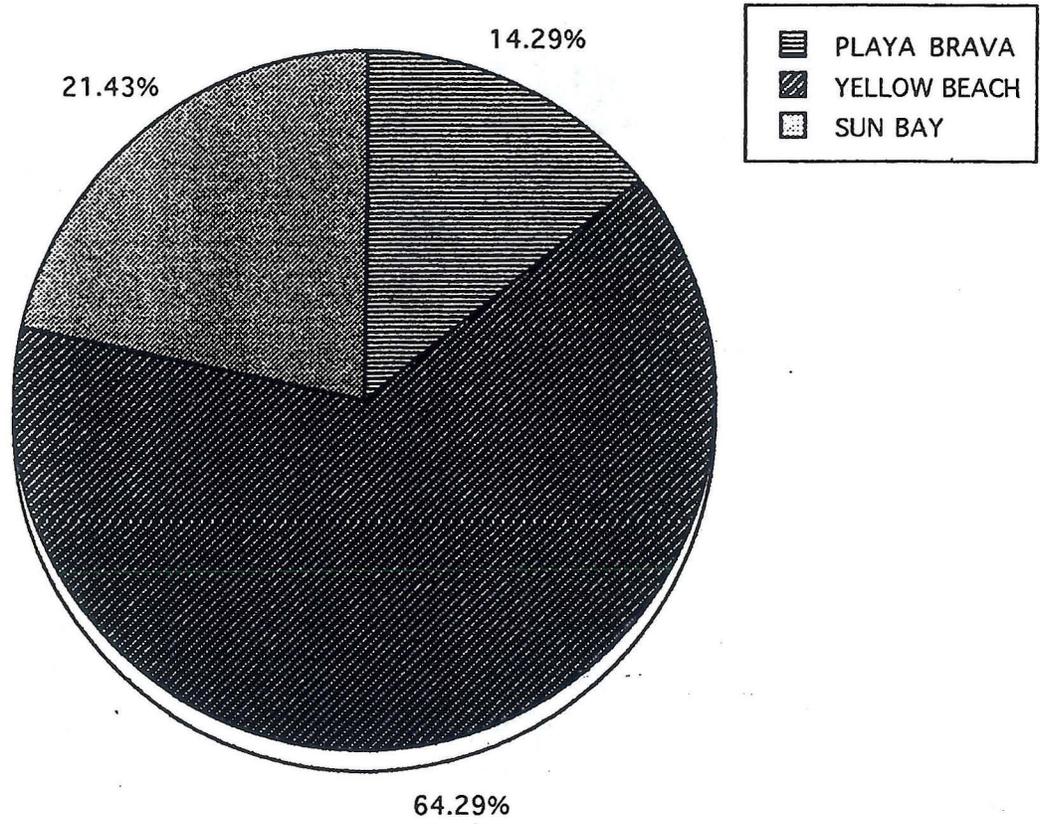


Figure 2. Percent of Hawksbill Turtle Nests per Beach, 1995

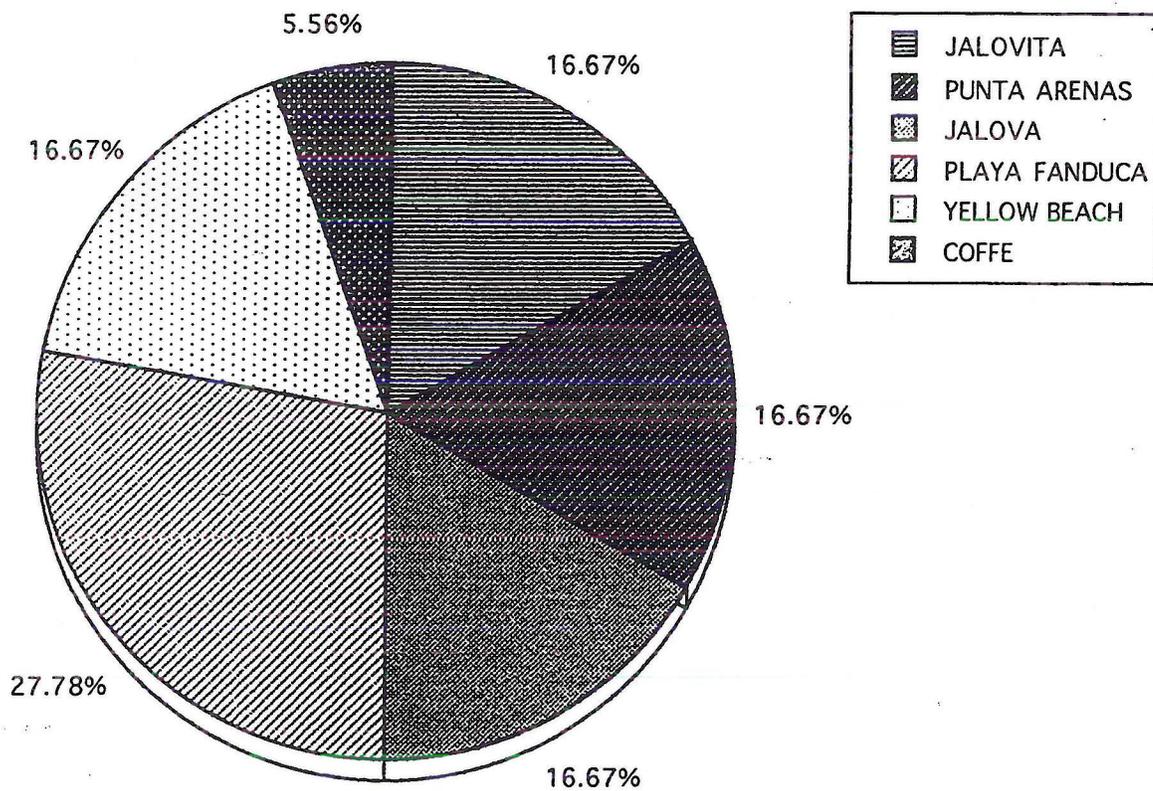


Figure 3. Mean Hatching Success for Leatherback Nests

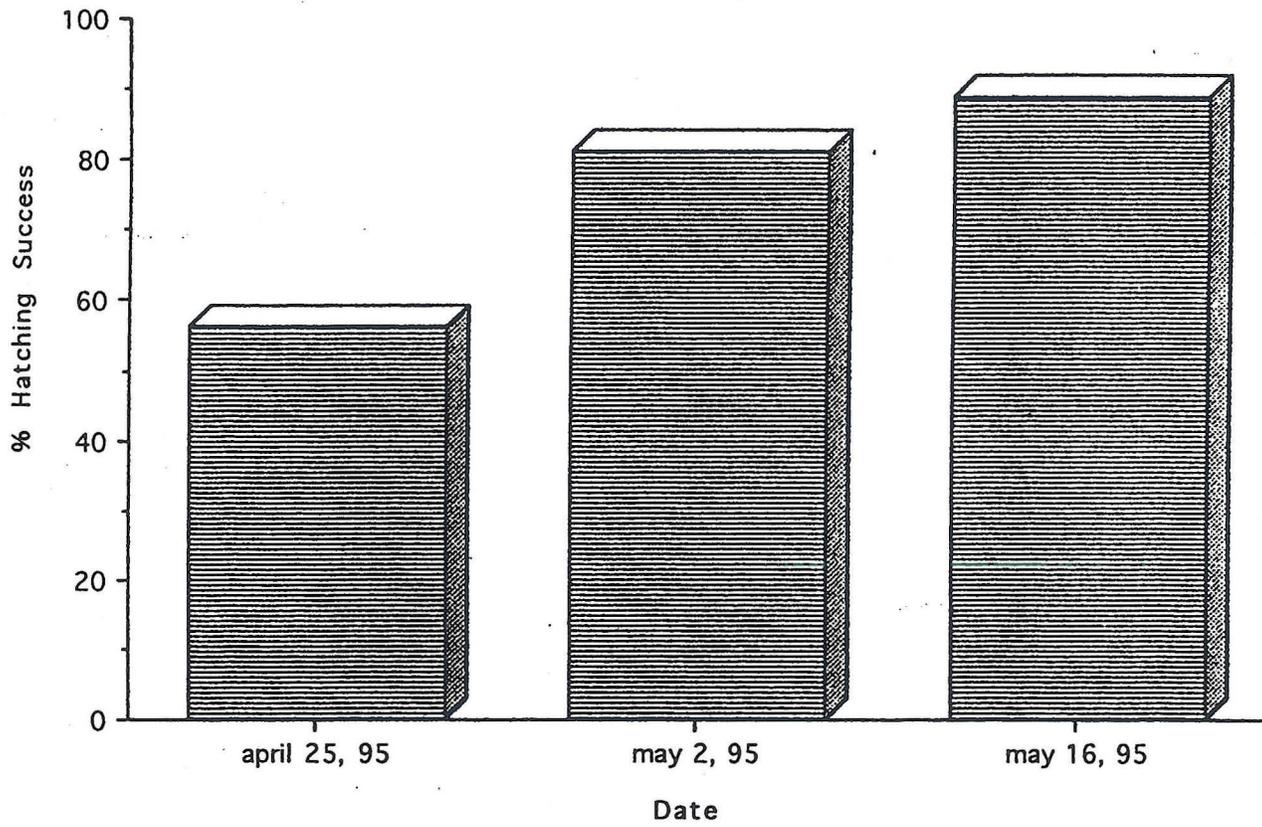


Figure 4. Hawksbill Incubation Time by Date, 1995

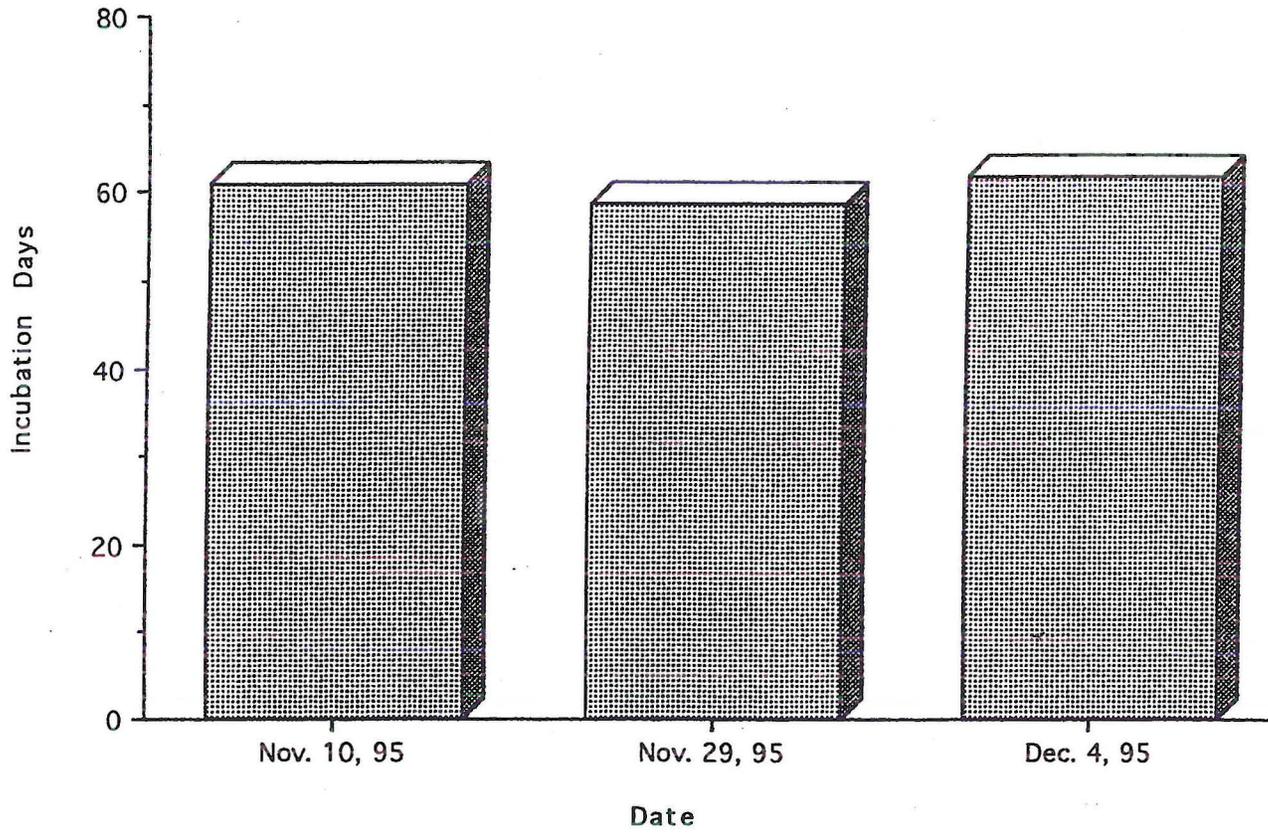
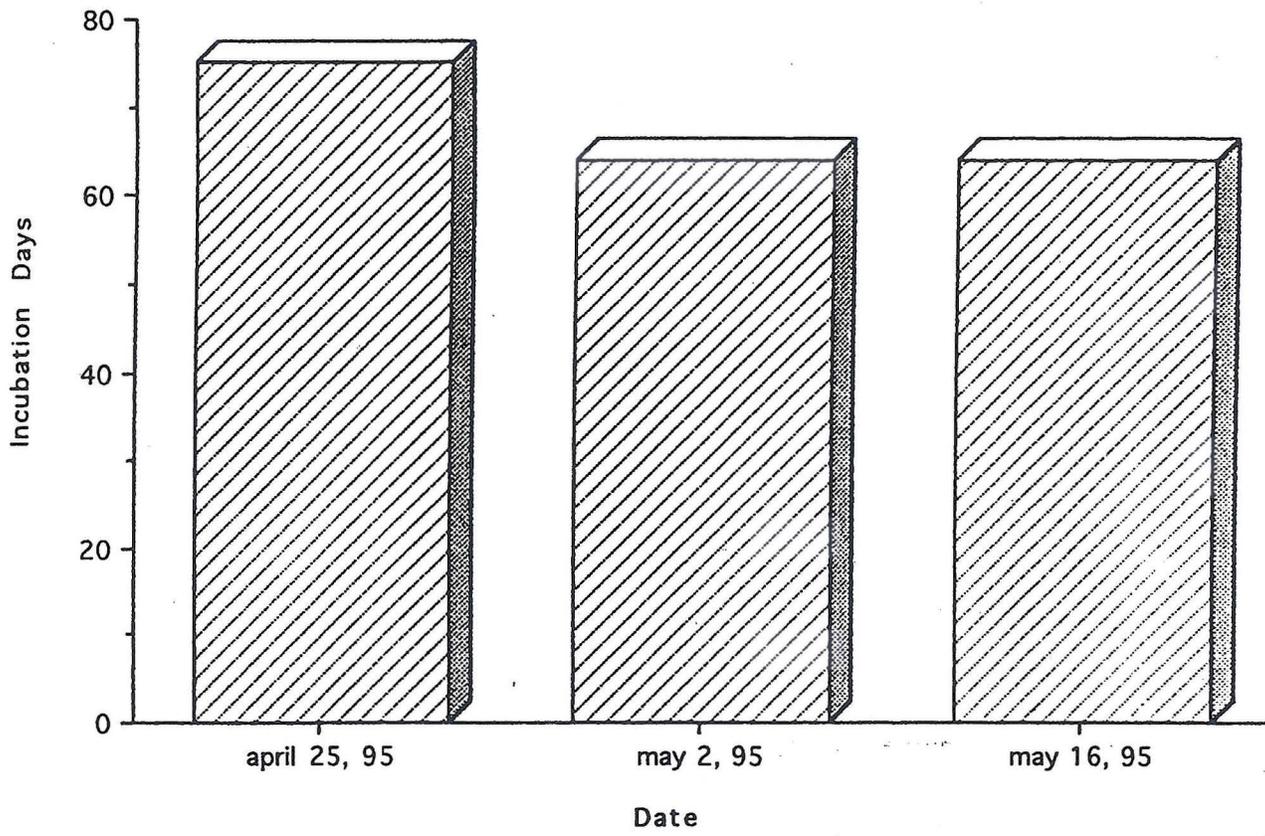


Figure 5. Leatherback Incubation Days by Date, 1995



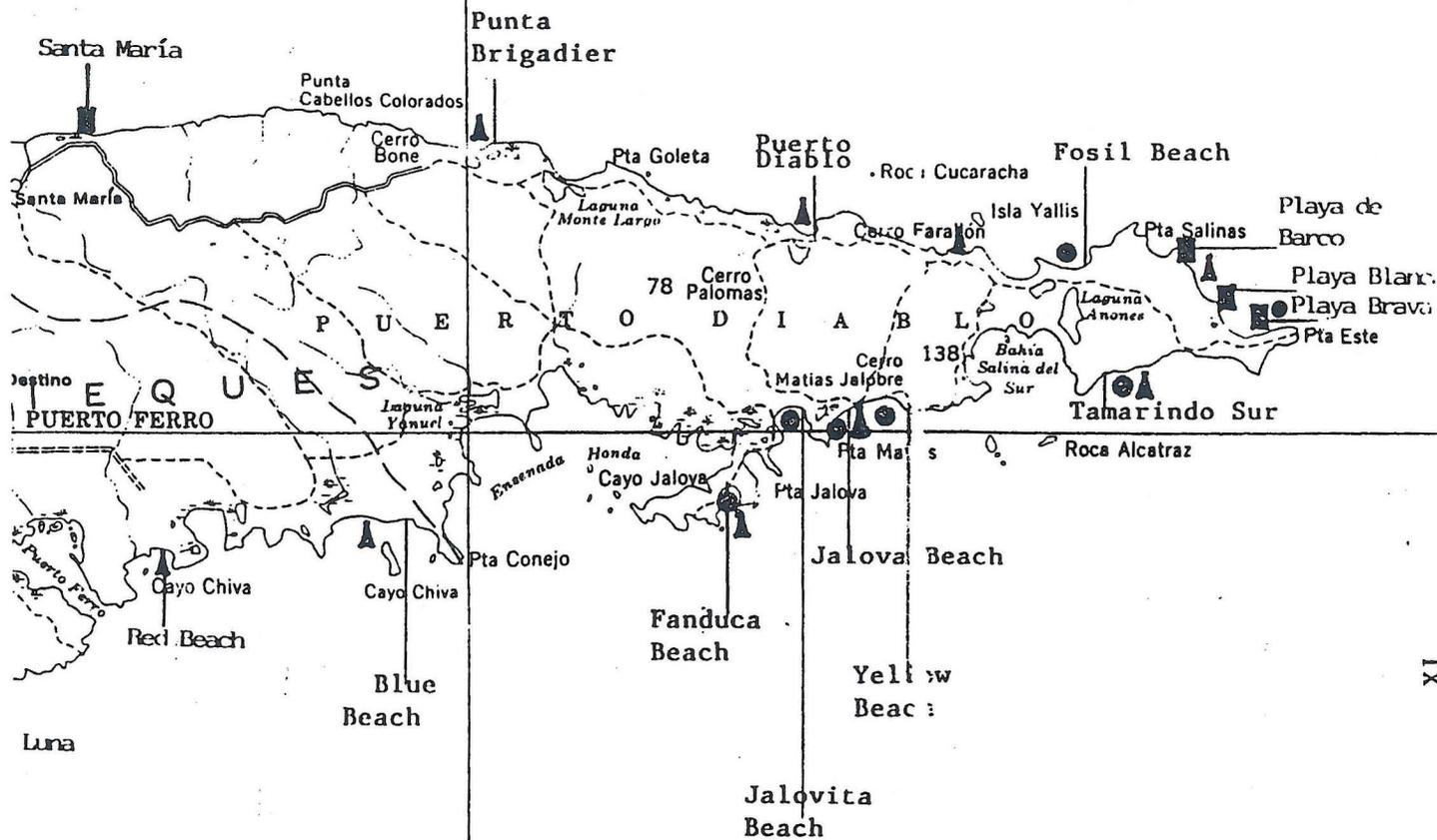
APPENDIX 3

IS AT VIEQUES ISLAND



V I E Q U E S

- ▲ LEATHERBACK
- HAWKBILL
- GREEN



264 000 | 65° 22' 30"

| 272 000