

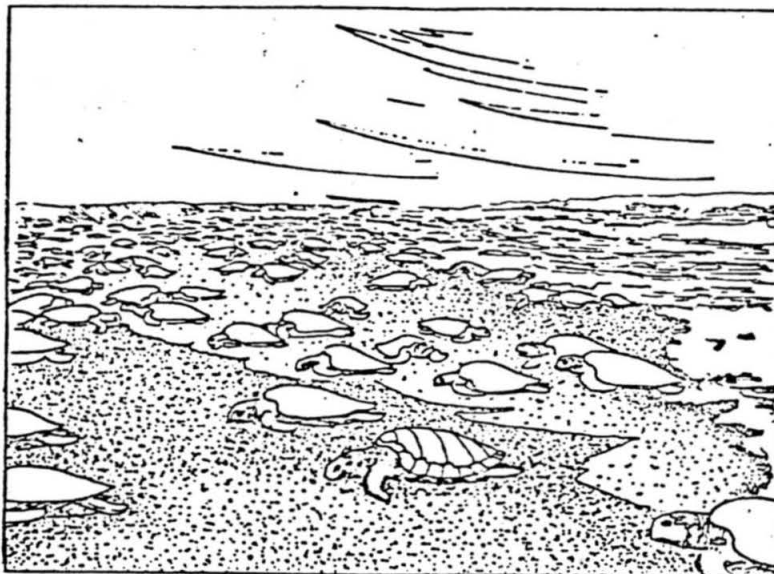
ACTION PLAN

RESTORATION AND ENHANCEMENT OF ATLANTIC RIDLEY TURTLE POPULATIONS

Playa de Rancho Nuevo, Mexico and Padre Island National Seashore, Texas

1978 - 1988

JANUARY 1978



An International Plan devised by:

National Park Service

Fish and Wildlife Service

National Marine Fisheries Service

Texas Parks and Wildlife Department

Instituto Nacional de Pesca

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INTRODUCTION

The following material was developed for the express purpose of providing guidelines for the restoration of Atlantic Ridley Turtle (Lepidochelys kempi) through enhancement of nesting success and survival at Rancho Nuevo, Tamaulipas, Mexico, and reestablishment of a breeding population at Padre Island National Seashore, Texas. This plan complies with policy directions for endangered species within areas of the Republic of Mexico and the United States. The plan is a part of the "Recovery Plan" being developed for marine turtles.

BACKGROUND

HISTORICAL AND CURRENT STATUS

The Atlantic Ridley Turtle has long been recognized as an endangered species and possibly the most endangered of all sea turtles (IUCN, 1968; Pritchard, 1969; Meylan, Marquez and Carr, 1977). It was formally protected as an Endangered Species by the United States in 1970 (Federal Register, 1970).

This species was long considered a "mystery" turtle and was widely suspected of being a hybrid (Carr, 1952: 1955). Werler (1951) published information on the first known nesting site which occurred at Padre Island, Texas, but the enigma of the location of the species primary nesting area remained a mystery until 1961 (Carr, 1963; Hildebrand, 1963).

In 1961, a film made in 1947 was discovered, which revealed that a 1947 nesting aggregation at Rancho Nuevo contained approximately 40,000 females. This population has continued to decline from that level to an aggregation of 200 females in 1977 despite protection of the nesting beach by the Mexican government since 1966 (Meylan, Marquez and Carr, 1977).

The evidence of critical population decline for a species, which has historically nested, at least sporadically, on Padre Island National Seashore (PINS) promoted the Southwest Region of the National Park Service (NPS) to request the Fish and Wildlife Service (FWS), through the National Fish and Wildlife Laboratory (NFWL) to conduct a study of the feasibility of reestablishing the Atlantic Ridley Turtle on PINS. In May of 1977, the Gainesville Field Station, NFWL, initiated an intensive background review of the situation. Field studies of the PINS habitat and Playa de Rancho Nuevo were begun in July 1977. A summary of the resultant report (Campbell, 1977) with recommendations, was presented to the joint Secretary's and Southwest Regional Advisory Boards at Padre Island on September 26, 1977. A memorandum summarizing this meeting is included in Appendix I. A summary of the biological data on the Atlantic Ridley is given in Appendix II.

FEASIBILITY STUDY - PADRE ISLAND NATIONAL SEASHORE

For this study, "feasibility" was taken to encompass biological appropriateness as well as mechanical and political possibility. The study thus progressed in several simultaneous phases; 1) documentation of the Atlantic Ridley Turtle as a natural nesting species on PINS, 2) a review of the mechanical and biological problems associated with the movement of sea turtle eggs from the natal beach for the purpose of restoring and enhancing ancestral populations, and 3) contact with all Mexican and U.S. agencies and individuals who would be required for an operation of this complexity to determine their willingness and potential to contribute to the effort.

The initial focus was on a literature review of the subject with additional contact with individuals who might possess data not yet published. The "List of Authorities" (page 25) lists those individuals who contributed significantly to this effort. In addition, valuable unpublished data were obtained from Mrs. Ila Loetscher and Mr. Earl Lippoldt of South Padre Island, Texas.

The physical suitability of the beaches at PINS were examined by land and from the air and compared to the beaches at Rancho Nuevo over a three-week period in July-August 1977.

Finally, contacts with appropriate representatives of the Texas Department of Parks and Wildlife, the Department of Commerce (National Marine Fisheries Service), Fish and Wildlife Service (Office of Endangered Species), Instituto Nacional de Pesca (Republic of Mexico), and various academic and conservation organizations were made to discuss the problem and their interest and potential contributions to the program.

Results

The literature review and correspondence failed to document any evidence of large scale nesting aggregations of Atlantic Ridley Turtles on PINS beaches in recent times. The nesting of individual females, however, was documented as occurring with some regularity over the last ten years and earlier. Nesting by other sea turtle species was also documented. Hatching success, as well as could be documented, suggests that the nests were fertile and that the physical nature of the beach is suitable for egg incubation.

Additionally, no evidence of any physical problems with PINS beaches was located. Examination of the beaches revealed strong similarities between the National Seashore beaches and the nesting beaches at Playa de Rancho Nuevo. Beach slope and profile, sand grain size and so forth all appear to be essentially the same on the two beaches. Average differences in air and water temperatures do exist between the two areas which might be of some significance but these are minimal over the seasonal period of concern (late Spring) and were judged to be unimportant for the program recommended here.

The mechanical and biological problems associated with transplanting sea turtle eggs have been resolved over many years of effort and the process is now a routine operation for experienced personnel. Only one area of uncertainty was identified; the feasibility of actually establishing new colonies on new beaches. Physically moving eggs, hatching them and rearing the young has been accomplished throughout the world (Bullis, 1977) and is a continuing operation in many areas. Many factors may contribute to the difficulty of such an effort. The still poorly-understood imprinting of hatchling sea turtles to their natal beach, the enormous mortality of hatchlings over their first year of life, and the lack of a suitable method for tagging hatchlings for later recognition as adults all may have played significant roles in the apparent failure of previous programs.

We identified the following factors as being the minimum necessary for the potential success of any reintroduction or transplant program:

- 1) An essentially natural orientation exposure for the hatchlings on the natal beach and off-shore waters. Incubation should occur in the sand from this beach to avoid possible chemical imprinting during the incubation period.
- 2) A captive rearing program of six months to one year to bring the hatchlings up to a size where predator mortality will be reduced.

- 3) An adequate technique for marking the young to allow recognition as adults.
- 4) A release program which places the young in the proper area and habitat for animals of their age class so that they enter the system at an appropriate place and time in association with naturally occurring young of the same year class.

No single sea turtle transplant program we have reviewed has successfully addressed all of these factors although some are still too new to be fully evaluated.

The interest and concern for the Atlantic Ridley was high in all individuals and agencies contacted. Agency support for the proposed reintroduction was unanimous. There was concern expressed, however, that the low populations remaining in Mexico could not support any removal of eggs for such a program. This factor is, of course, a subjective one and difficult to assess, but compensatory mechanisms were nevertheless designed which would help to minimize the potential problem. The captive rearing of as many hatchlings from the Mexican beach as are removed to Texas should return more adults to Mexico than would the natural recruitment from the eggs removed to Texas if the "head starting" concept has any validity at all.

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RESTORATION/ENHANCEMENT PROGRAM

This portion of the plan deals with specific activities designed to maintain and restore Atlantic Ridley turtles on Playa de Rancho Nuevo and Padre Island National Seashore beaches. It is divided into sections that are sufficiently detailed so as to provide information on implementation actions and responsible agencies.

I. Coordination.

- A. Agency Coordinating Committee. This committee will serve in an overview capacity responsible for general coordination of activities to assure suitable communications and continuity as the various projects evolve. All U.S. news releases will be coordinated by NPS, Santa Fe, New Mexico.

Membership includes representatives of each agency and Mexico.

Members are:

Jorge Carranza, Director, Instituto Nacional de Pesca

Don Ekberg, National Marine Fisheries Service

Hal Irby, Texas Parks and Wildlife

Ro Wauer, National Park Service

Jack Woody, Fish and Wildlife Service

B. Science Advisory Board. This board will serve as consultants throughout the course of the program on general subjects that range from format to detailed scientific actions. Members are:

Archie Carr, University of Florida (Chairman)

Henry Hildebrand, Texas A & I University

Rene Marquez M., Subdivision de Tortuga Marinas

Peter Pritchard, Florida Audubon Society

The National Park Service will serve as coordinating agency for this Board and provide reimbursement for travel and per diem when advice and counsel is required.

C. Annual reviews are necessary to evaluate past, current and future phases of the program.

II. Program Authorization.

Four permits are required to implement the action program.

A. Mexico Permit. The key to the entire program is Mexico's participation and support. Jorge Carranza will initiate the necessary permits for the collection and moving of turtles and eggs from Rancho Nuevo.

B. Endangered Species/Convention Permit. Jack Woody will initiate a request for authorization to handle and transport eggs and turtles immediately upon completion of this plan.

C. Texas Permit. Hal Irby will initiate a request for authorization from the State of Texas upon receipt of a copy of the Endangered Species Permit application.

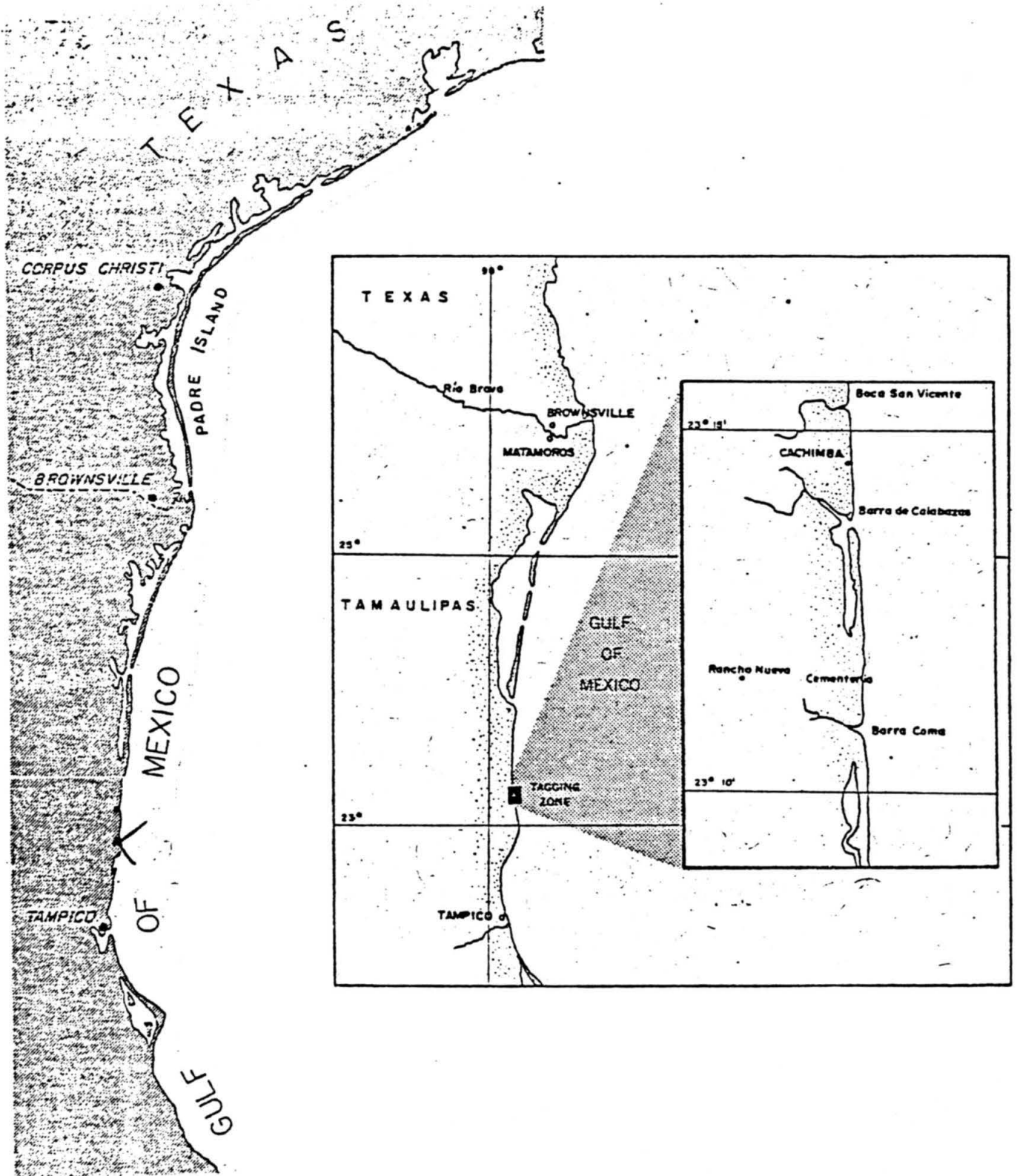
D. Padre Island Permit. The Superintendent will be responsible for all activities in this phase of the program, including the revision of the area Resources Management Plan.

III. Program Activities.

The following actions fall into line and each depends upon the preceding one. The Program must continue for at least ten years and so the actions discussed below must be implemented annually. Cost estimates are included on the Implementation Chart (page 18).

A. Site Selection. The Playa de Rancho Nuevo site will be located adjacent to the known Mexican nesting site. At Padre Island, a suitable site will be selected in a protected portion of PINS, and situated above high tide but permitting vehicular access south and north along the beach. Site utilization will be restricted on only two months annually; all equipment will be removed after the annual hatching periods. See Figure 1 for general locations. No impact to the beaches and environments are anticipated; visitor interpretation will be incorporated into the PINS beach phase of the project.

Figure 1



B. Site Preparation. Playa de Rancho Nuevo beach operations will be the responsibility of Mexico with cooperation by the FWS. Padre Island beach activities will fall under the responsibility of the Superintendent, PINS, with cooperation of U.S. and Mexican biologists.

C. Rancho Nuevo Beach Monitoring and Egg Collections.

Responsibility for this phase of the program falls under Mexico with cooperation of FWS. It includes:

1. Beach monitoring activities designed to protect nesting turtles and their eggs from native and human predators during the entire nesting/hatching season; i.e. early April through mid-September. Special equipment is necessary for the Rancho Nuevo operations. The FWS will furnish vehicles and the NPS will provide radios for the total period of early April to late July.
2. FWS personnel will assist with the collection of 2,000 eggs that will be gloved-hand collected as laid and immediately deposited in sand brought from the Padre Island beach site. The egg-filled containers will be transported back to Padre Island by helicopter for hatching. Up to 2,000 hatchlings will be collected at Playa de Rancho Nuevo within a 48 hour period and immediately transported to NMFS Laboratory at Galveston for "headstarting."

D. Playa de Rancho Nuevo Investigations. The research program will be the responsibility of Mexico (Dr. Rene Marquez M.) with the cooperation of FWS. The program will:

1. Evaluate and quantify natural predation on turtle eggs.

Natural predation on nests will be analyzed by establishing and monitoring two 0.5 km sections of beach where no egg removal or predator control will be conducted. Predatory species will be identified and population levels estimated and compared to similar data for adjacent sectors of beach where eggs are removed. These data will be utilized to formulate predator management recommendations which eventually could lend to actions that could replace or supplement egg removal and transplanting efforts.

2. Determine distribution, sex ratios, and behavior of adult turtles in the waters off the beach before and after nesting aggregations.

Aerial and surface reconnaissance of the waters off the nesting beach will be conducted to determine sex ratio, distribution, and activity of adult turtles before, between, and after nesting arribadas. All nesting females which are permanently tagged during nesting activity will be marked

with a visible marker of short duration (ca. 1-2 weeks) to permit aerial estimates of the proportion of adults visible off the beach which have been tagged or have nested in the previous arribada.

The use of sonic and/or radio transmitters for monitoring the movements of adults during these periods and, especially, during the dispersal away from the beach after the final arribada will be explored and implemented if preliminary experiments indicate no trauma to the specimens.

In conjunction with the tagging efforts, periodic monitoring of beaches removed from the primary beach at Rancho Nuevo will be conducted to evaluate the extent of incidental use of secondary beaches.

3. Participate in on-going Mexican programs for tagging nesting females and for evaluating demographic characteristics of the nesting female population. Standard measurements of all tagged and recaptured individuals will be taken.

- E. Care for Hatchlings (RN and PINS). New hatchlings will be permitted to leave their sand boxes and make their own way down the beach to the surf. The sites will be well protected from predators.

Hatchlings will be collected from the surf and placed in holding tanks for up to two days before being shipped to the Galveston Laboratory.

Turtles shall be shipped in styrofoam boxes by helicopter. They must be moist and out of direct sun. An estimated 100 turtles (up to four deep) can be placed in each styrofoam cooler, 12 inches by 24 inches. Extra coolers should be available in order to allow discretion in packing.

F. Rearing Project. Responsibility for this phase of the program falls under the National Marine Fisheries Service. Once turtles are received from PINS and Playa de Rancho Nuevo sites they will be placed in flow-through systems, i.e., tanks and raceways at the East Lagoon facility. Each group will be maintained separately. They will be fed a diet of chopped, boneless, scaleless fish, shrimp and other marine foods available at the time. The turtles will be fed 5% to 8% of their body weight per day or whatever volume of food they will consume in three to four hours.

After November 15, the turtles will be placed in special heated containers which are equipped with the best designs of water treatment facilities to handle the waste products of the turtles. A necessary temperature of approximately 22°C will be maintained.

Water will be exchanged whenever it is determined that the water is below quality for the turtles. The turtles will be maintained for periods of up to one year, and then released.

- G. Release and Monitoring. This phase of the program will continue under the responsibility of the NMFS. The Padre Island and Rancho Nuevo imprinted turtles will be released at periods up to one year at locations and times determined to be the most logical for young turtles to occur. The turtles will be placed in styrofoam transport boxes, kept moist, cool and ventilated and moved by boat to the release points.

Turtles will be released on grass flats off of Florida's west coast and the lower Gulf of Mexico, and other locations where yearling turtles have been observed. All turtles will be tagged with numbered tags and selected individuals will receive sonic tags for tracking studies. In year two, some one-year turtles will receive radio transmitters for aircraft or satellite tracking.

IMPLEMENTATION CHART

Implementation program covers the first three years following the adoption of the plan.

<u>STEPS</u>	<u>DESCRIPTION OF ACTIVITY</u>	<u>YEAR OF START</u>	<u>RESPONSIBILITY</u>	<u>ANNUAL BUDGET</u>	<u>REMARKS</u>
A.	Site Preparation	1978			
	Rancho Nuevo		FWS	\$4,000.	
	Padre Island		NPS	4,000	
B.	R.N. Beach Monitoring,	1978	FWS	7,000	
	Egg Collections, and		NPS	3,500	
	Transportation				
C.	R.N. Investigations	1978	FWS	7,000	
D.	Care of Hatchlings	1978			
	Rancho Nuevo		FWS	2,000	
	Padre Island		NPS	2,000	
E.	Rearing Project	1978	NMFS	25,000	To be amortized over ten years
F.	Release and Monitoring	1979	NMFS		To be determined later

OCT 7 1977

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Memorandum

To: Director, National Park Service

From: Regional Director, Southwest Region

Subject: Restoration of the Atlantic Ridley Turtle as a Cooperative Interagency Project

The Atlantic Ridley Turtle is an "endangered species" that once nested on Padre Island National Seashore but is now restricted to isolated beaches in Mexico. The species in 1972 was declared to be the "most endangered sea turtle." And the IUCN 1977 report stated that the estimated breeding population was a mere 1,200 animals in 1974, a sharp decline from the 40,000 estimate in 1940.

It was with these data in mind, and an awareness of the massive development of the South Padre Island beaches, that a restoration feasibility study was instigated by the Southwest Region and by the U.S. Fish and Wildlife Service. Although the final report has not been completed (due date is December 1, 1977), the summary and recommendations were prepared for a presentation to the joint Secretary's and Southwest Regional Advisory Boards that met at Padre Island last week. A copy of the Summary and Recommendations, as well as an Atlantic Ridley data sheet, is attached for your review.

The Advisory Board Presentation, given by Regional Chief Scientist Ro Wauer, Fish and Wildlife Service Biologist Dr. Howard Campbell, and Mr. John Smith, Texas Parks and Wildlife Department, convinced the Board that an Interagency Project must be initiated immediately. It is hoped a recommendation of that nature will be made to the Secretary.

The restoration project should begin by summer 1978. The State of Texas already has talked with Mexico about obtaining turtle eggs. The Texas Department of Parks and Wildlife will host a meeting in late November for agency personnel to develop a plan of attack and a timetable. I believe that this gathering should heavily involve Regional level personnel, who will follow through on activities

already started. It is particularly important that the National Park Service, Fish and Wildlife Service, and the National Marine Fisheries Service cooperate fully. Each agency must play a significant role if the project is to be successful. I hope that the topic can be addressed at the next joint Senior Staff Meeting.

Funds are available to begin the program in FY 1978, although additional funds should be programmed for FY 1980 and beyond when monitoring becomes an essential part of the program.

[S] Theodore R. Thompson

Enclosures

cc:
Superintendent, Padra Island
Field Assistant to the Regional Director

RHWauer:mbg 10/6/77

ONR

ATLANTIC RIDLEY

(Lepidochelys kempii [Garman])

KINGDOM: Animalia
 CLASS: Reptilia
 ORDER: Testudinata
 FAMILY: Cheloniidae
 OTHER COMMON NAMES: Mexican ridley; Kemp's ridley; Tortuga lora.

DATA:

Entered into system: To be determined.
 Updates: 22 Sept. 76; 25 Feb. 77.

LEGAL STATUS:

Federal: Endangered (Federal Register Vol. 35 (233):18319,
 2 Dec. 70).
 States: Endangered: Florida, Georgia, Maryland, New Jersey,
 South Carolina, Texas. Protected: Alabama, North
 Carolina.

REASONS FOR CURRENT STATUS:

General population decline and human overutilization are significant factors in causing the present low numbers of sea turtles. Diurnal nesting on a single beach in Mexico makes this turtle particularly susceptible to predation by man and wild animals. Commercial harvesting of eggs and skin has played a significant role in the decline (IUCN 1968). Harvesting has recently (1966) been prohibited by the Mexican government, but no upward trend in population numbers has been observed (Pritchard and Marquez M. 1973). Predation by wild animals is acute especially on hatchlings. Crabs, fish, reptiles, birds and mammals are predators; adult predation limited to sharks (Rebel 1974).

Because of aggregate nesting on a single beach, Rancho Nuevo in Tamaulipas State, Mexico, any habitat modification could result in loss of the entire breeding population.

Sea turtles are caught incidental to commercial fishing activities. Turtles drown in trawls, others are consumed by fishermen, sold in local markets or mutilated as a result of entanglement with the trawls (U.S. Department of Commerce 1976). According to Pritchard (1976) Riddleys are caught north and south of the Rio Grande off the states of Florida, Louisiana and Texas. Also in Tabasco, Veracruz and off the Campeche Bank in Mexico.

PRIORITY INDEX:

Not assigned.

ATLANTIC RIDLEY

DESCRIPTION:

A small sea turtle with a heart-shaped, unusually broad (in comparison to other sea turtles), keeled carapace which is serrated behind the bridge. Triangular shaped head with a somewhat hooked beak with large crushing surfaces. Plastron has several small pores on each side which lead to Rathke's glands (secretory structures).

Hatchlings black on both sides. As turtle matures the bridge and hingeless plastron change to white then yellow and the carapace to gray then olive green. Head and paddle-like limbs gray.

Adults weigh between 35 and 42 kg and have a carapace length of 56 to 70 cm.

Close examination of carapace reveals five pairs of pleural shields with the nuchal shield touching the first costals. Twelve to fourteen marginals on each side of carapace and pores in the four bridge shields.

Black and white photographs in Carr (1952, 1967), Ernst and Barbour (1972), Bustard (1973), Rebel (1974) and Pritchard (1976).

RANGE:

Adults restricted to Gulf of Mexico. Immatures observed along the coast as far north as Massachusetts and sighted infrequently along European shores.

Former range probably equivalent to present (IUCN 1968; Witham 1976).

RANGE MAP:

Distribution shown by shading, nesting sites by dots.

STATES/COUNTIES:

Alabama: Baldwin, Mobile. Delaware: Sussex. Florida: Bay, Brevard, Broward, Charlotte, Citrus, Collier, Dade, Dixie, Duval, Flagler, Franklin, Gulf, Hernando, Hillsborough, Indian River, Jefferson, Lee, Levy, Manatee, Martin, Monroe, Nassau, Okaloosa, Palm Beach, Pasco, Pinellas, St. Johns, St. Lucie, Santa Rosa, Sarasota, Volusia, Wakulla, Walton. Georgia: Bryan, Camden, Chatham, Glynn, Liberty, McIntosh. Louisiana (Parishes): Cameron, Iberia, Jefferson, Lafourche, Plaquemines, St. Bernard, St. Mary, Terrebonne, Vermilion. Maryland: Worcester. Massachusetts: Barnstable, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth. Mississippi: Hancock, Harrison, Jackson. New Jersey: Atlantic, Cape May, Monmouth, Ocean. New York: Nassau, Suffolk. North Carolina: Brunswick, Carteret, Currituck, Dare, Hyde, New Hanover,

ATLANTIC RIDLEY

Onslow, Pender. Rhode Island: Newport, Washington. South Carolina: Beaufort, Charleston, Colleton, Georgetown, Horry. Texas: Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, Willacy. Virginia: Accomack, Northampton.

HABITAT:

Shallow coastal and estuarine waters. Often associated with subtropical shorelines of Red mangrove (Rhizophora mangle) (Witham 1976).

FOOD AND FORAGING BEHAVIOR:

Diet consists primarily of invertebrates, mostly crabs (Arenaeus, Calappa, Callinectes and Hepatus), but also shrimp, snails, sea urchins, sea stars, medusae, fish and occasionally marine plants (Ernst and Barbour 1972; Pritchard and Marquez M. 1973; R. Marquez M., personal communication).

SHELTER REQUIREMENTS:

Not known.

NESTING OR BEDDING:

Entire population nests on approximately 24 km of beach between Barra del Tordo and Ostional in state of Tamaulipas, Mexico. Prefer sections of beach backed up by extensive swamps or large bodies of open water having seasonal narrow ocean connections (Pritchard and Marquez M. 1973).

Well-defined and elevated dune area necessary for successful nesting. Pritchard and Marquez M. (1973) suggest that this provides a landmark for the turtle to dig a nest that will be above mean high tide.

RITUAL REQUIREMENTS:

Not known.

OTHER CRITICAL ENVIRONMENTAL REQUIREMENTS:

Females land in large numbers only when strong or moderate north winds blow. Pritchard (1976) suggests that this may cover the turtle's tracks and/or dissipate nesting smell.

POPULATION NUMBERS AND TRENDS:

In 1947 a Mexican, Mr. Herreva, filmed nesting. Estimates based on this film put the 1947 breeding population at 40,000. Despite protection of nesting beach since 1966, the breeding population now is reported to be between 2,000 and 4,000 females (Pritchard and Marquez M. 1973).

ATLANTIC RIDLEY

The 1947 film shows what is believed to be the entire breeding population swarming ashore at once. Such a massive landing is called an "arribada". R. Marquez M. (personal communication) observed nesting since 1966 and reported the number within the arribadas declining. In 1976 the largest contained approximately 150 females and there are usually between five and seven arribadas a season.

Failure to rebuild population numbers despite beach protection may be a result of population structure. Since survivorship is low; Pritchard (1976) suggests the population will take time to recover.

REPRODUCTION:

Nesting occurs from April to June during which time turtles appear off Tamaulipas. After strong wind females swarm ashore to nest in daylight hours.

Females nest a maximum of three times a season with an inter-nesting interval of from 10 to 28 days. Individuals often nest annually with an average clutch size of 110 eggs (Pritchard 1969a; Lund 1976).

Copulation takes place offshore near laying beach and some pairs stay embraced for several hours. Black and white photographs of courtship and mating activities in Bustard (1973).

MANAGEMENT AND CONSERVATION:

Mexico is involved in several programs to increase population numbers including: Patrolling nesting beaches to curtail predation by man, and fencing nest areas to diminish natural predation. Annual hatchery activities re-nest approximately 330 clutches and release 20,000 hatchlings. Adult tagging programs conducted to gather more biological information (R. Marquez M., personal communication).

Pritchard (1976) suggests perfection and widespread adoption of a trawl net equipped with a wide mesh guard panel to prevent incidental catch of sea turtles.

Attempts at Padre Island, Texas to stock turtles with Tamaulipas eggs. One untagged turtle reportedly nested there, and swimming turtles observed in vicinity, however, results inconclusive (Lund 1974).

Other efforts should include: Develop means to tag hatchlings, learn more about first year and general biology (Pritchard 1969b).

ATLANTIC RIDLEY

Marquez M. (1976b) recommends formation of seven Natural Reserves for Mexican coasts which include Playa de Rancho Nuevo, Tamaulipas State, the Atlantic ridley's nesting beach.

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PREPARER'S COMMENTS

None.

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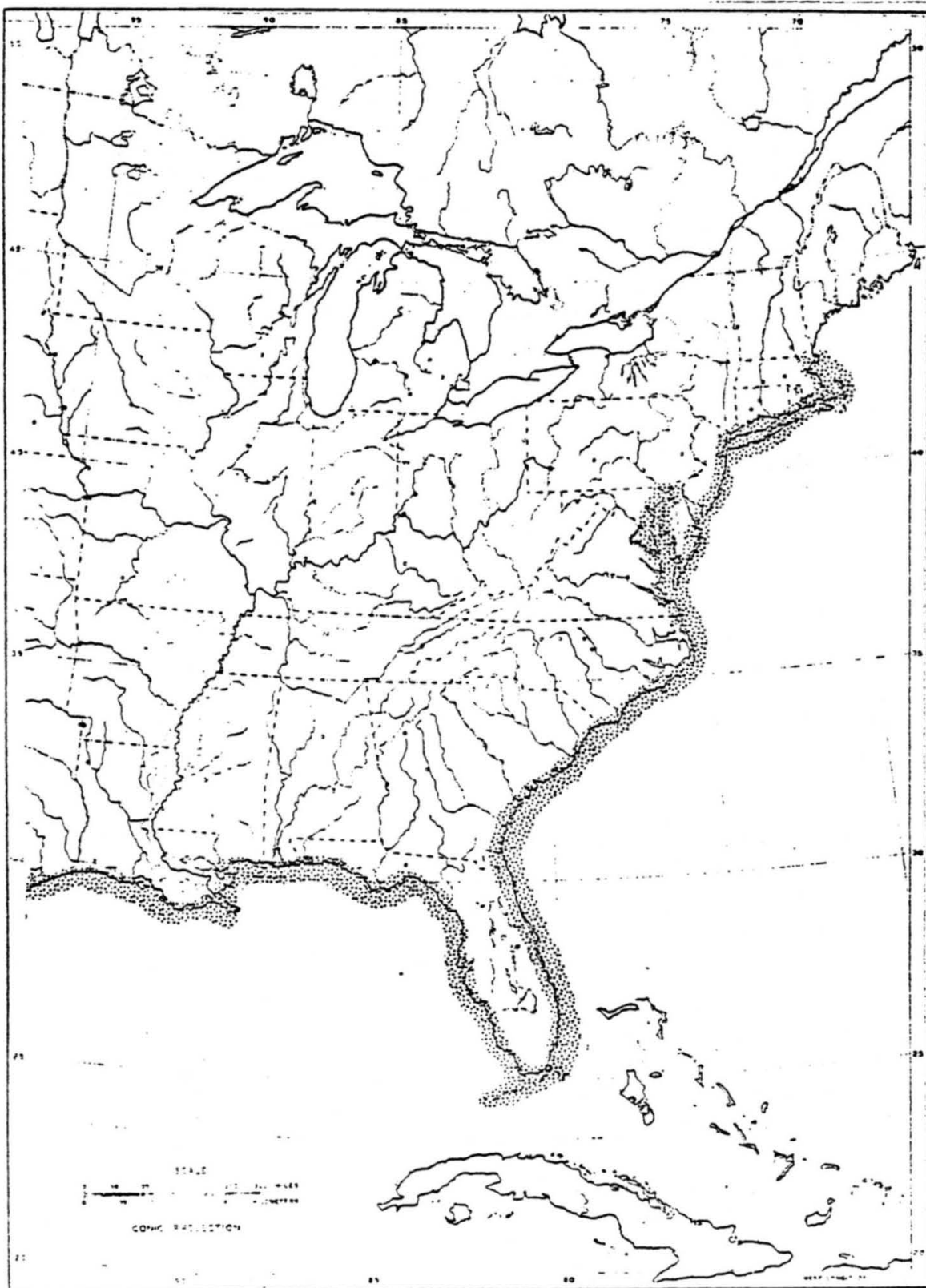
GATEKEEPER:

None designated.

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Dots indicate nesting sites

