UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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July 11, 1985 F/SEC5:LHO:rb

TO: F/M - Carmen J. Blondin

THRU: F/SEC - Richard J. Berry
F/SEC5 - Eugene L. Nakamura

FROM: F/SEC5 - Larry H. Ogren

SUBJ: Trip Report - Foreign Travel to Costa Rica, C.A., May 13 - June 11, 1985, Phase 2*

Purpose

1. To assist Dr. Harold Hirth, University of Utah, principal investigator, obtain information on the reproductive biology and migration of the leatherback sea turtle, *Dermochelys coriacea*, in the western Caribbean.

2. To conduct aerial surveys of Costa Rica's east coast beaches and determine nesting densities and distribution for the leatherback sea turtle for WATS II status report.

3. To provide technical training for Costa Rican biologists in sea turtle biology and research methodology.

Background

This was the second phase of the research started earlier this season (March 24 - April 9, 1985). Tagging work continued throughout the period; research emphasis included orientation and nest site selection of adults, and hatching success and sea finding efficacy of neonates.

Chronology of Events

- May 13-14. Enroute to Costa Rica. Called WATS II steering committee officer, Dr. Manuel Murrillo. Arranged meeting with University of Costa Rica student trainee, Javier Mendez. Chartered aircraft for flight to Caribbean coast.

- May 15. Flew to Tortuguero by way of Limon. Conducted aerial survey of Caribbean coast beach from Limon north to Tortuguero (see enclosures). Nesting activity was concentrated near Matina and Parque Nacional Tortuguero. Abundant sign of humans on beach from Limon to Parismina. Footprints of egg poachers (hueveros) very noticeable from aircraft. No sign of poachers north of Parismina within park boundaries. Departed Tortuguero in afternoon by outboard motor boat for Jalova station at south end of park via Tortuguero Lagoon and Conu Negro.

* No cost travel. Funded by New York Zoological Society grant.

- May 16 - June 8. Continued tagging study for remainder of nesting season. A few individual turtles were still nesting during the last week of the study, i.e., 0, 1, or 2 per night per 5 km of beach. Peak nesting occurred in April - May. Observed natural emergences of nests at night and determined hatching success for wild nests and compared the data collected with results obtained from nests transplanted in hatchery. Very low or nil hatching success from eggs obtained from hueveros in Parismina. All nests contained some undeveloped eggs and/or few deformed full-term hatchlings. Observed nest site selection of adults and orientation of both adults and hatchlings as related to sea finding ability and their respective time/duration of nesting and emergence-run-to-sea.

- June 9-11. Departed Tortuguero for San Jose via Limon. Conducted aerial survey of nesting beach from Tortuguero to Limon. Nesting activity greatly diminished--most nesting observed at middle and south end of park and near Matina and Rio Pacuare. Departed Costa Rica on June 11, 1985.

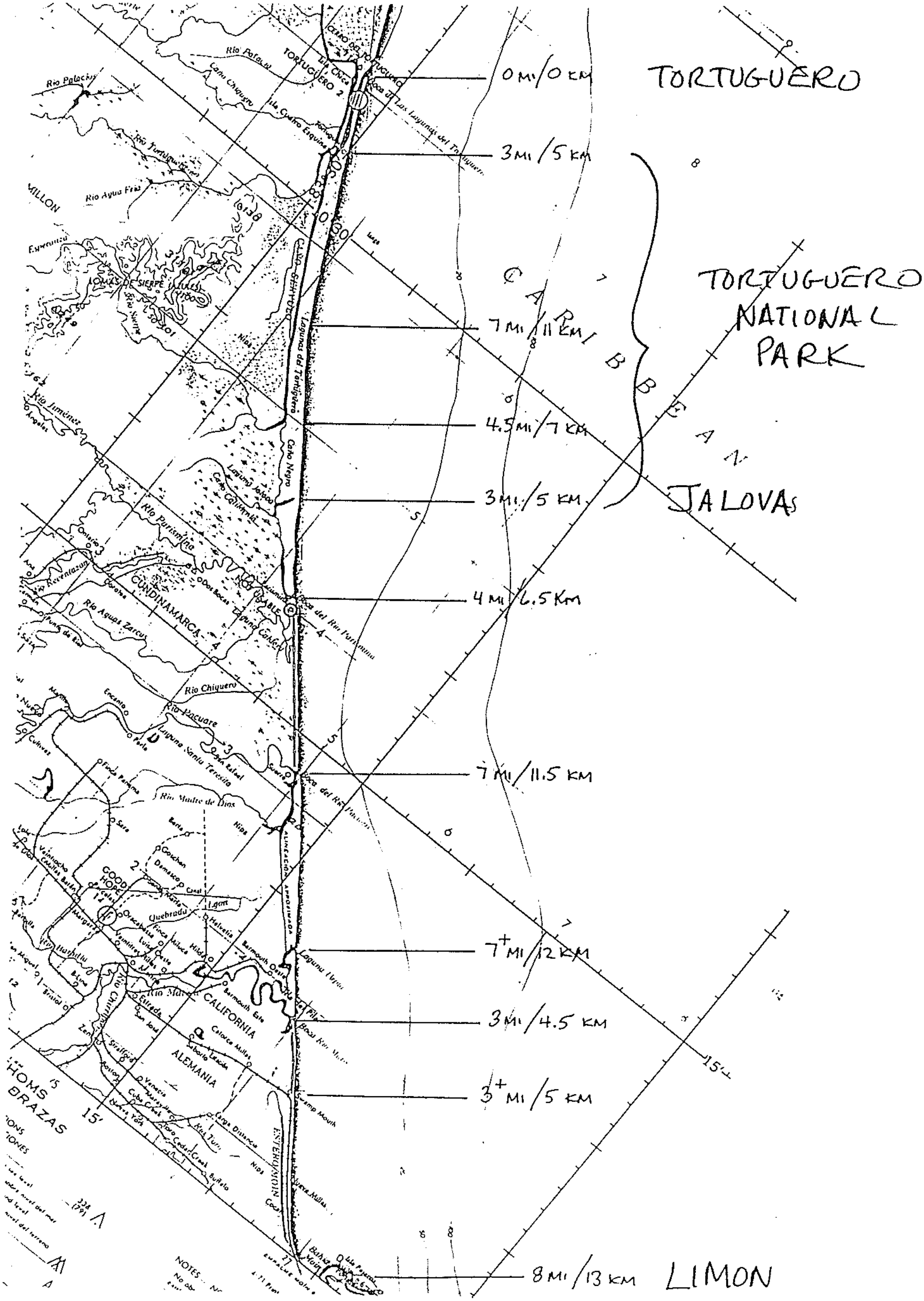
Summary

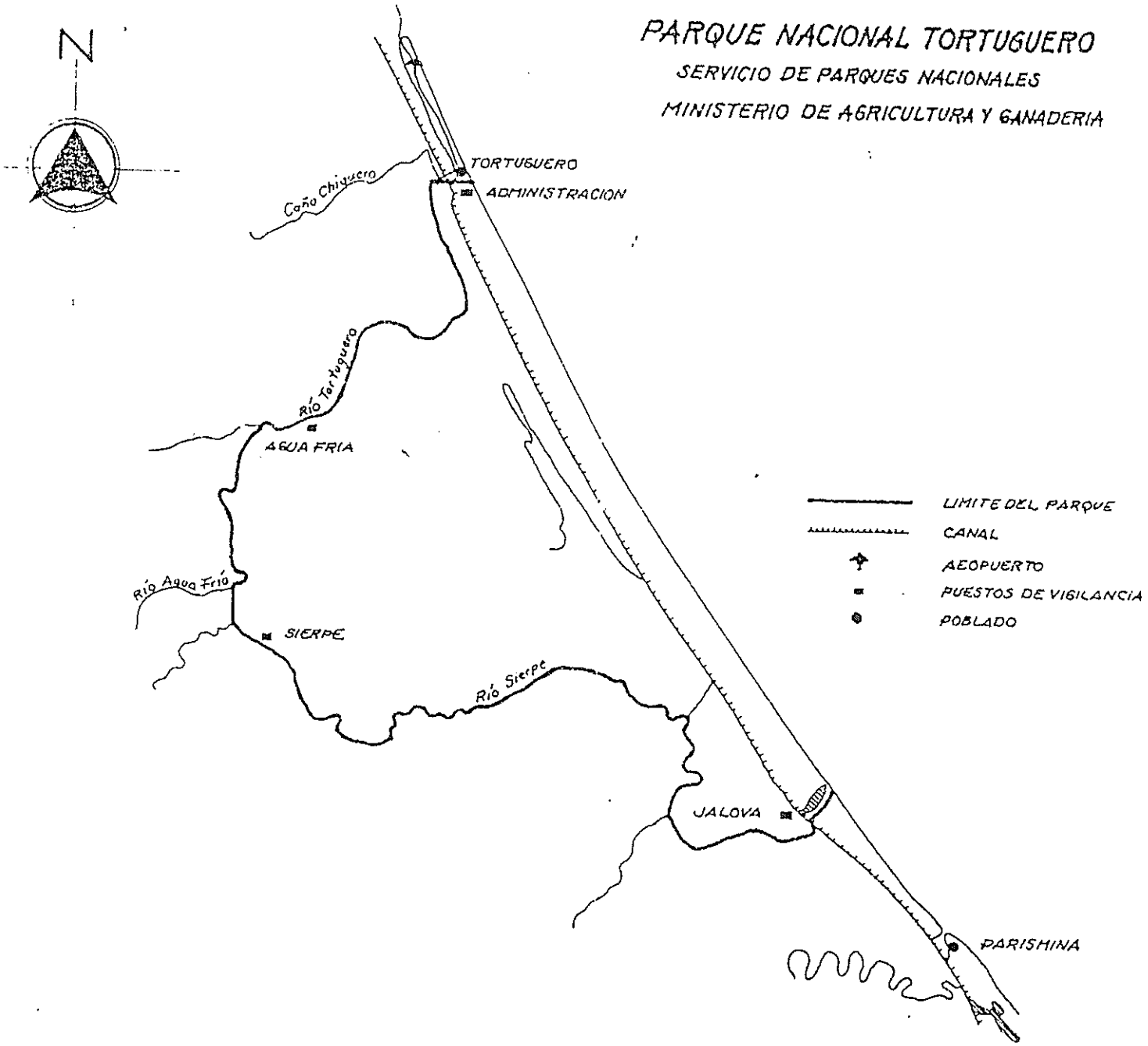
Leatherback reproductive ecology study successfully completed--individual variations within this Costa Rican population were observed in detail. Much data were collected on adult meristics, nest site selection, egg complements--their number, size, fertility--and neonate size, orientation, and emergence behavior.

Important questions were raised on the future of this colony. Higher sea levels and subsequent beach erosion and pervasive human interference are adversely impacting this colony. Intensive egg collecting continues--and has been documented for several decades--its effects may become manifest only when the current breeders die off and diminished recruitment becomes apparent. Survival for a part of this colony may be insured if the park's refuge status remains inviolate. The "rookery" is extensive, some fifty or so miles long, but perhaps 95% of the reproductive effort in the southern portion is lost every year to hueveros alone.

Enclosures (2)

cc:
F/SECx4 - F. Berry


TORTUGUERO
0 MI/0 KM
3 MI/5 KM
TORTUGUERO NATIONAL PARK
7 MI/11 KM
4.5 MI/7 KM
3 MI/5 KM
JALOVAS
4 MI/6.5 KM
7 MI/11.5 KM
7+ MI/12 KM
3 MI/4.5 KM
3+ MI/5 KM
8 MI/13 KM
LIMON
CARIBBEAN
Laguna del Tortuguero
Caño Negro
Laguna Jalova
Río Parismina
CUNDINAMARCA
Río Aguas Zarcas
Río Chiquero
Río Pacuare
Laguna Santa Teresita
Río Madre de Dios
GOOD HOPE
CALIFORNIA
ALEMANIA
ESTERO MOÍN
Río Palacios
Río Agua Fría
LOMAS SIERPE
Río Jiménez
15'


PARQUE NACIONAL TORTUGUERO
SERVICIO DE PARQUES NACIONALES
MINISTERIO DE AGRICULTURA Y GANADERIA
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ADMINISTRACION
Caño Chiquero
Río Tortuguero
AGUA FRIA
Río Agua Frío
SIERPE
Río Sierpe
JALOVA
PARISMINA
LIMITE DEL PARQUE
CANAL
AEOPUERTO
PUESTOS DE VIGILANCIA
POBLADO