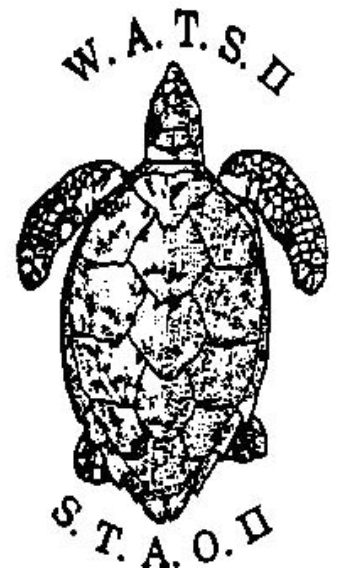


WATS II REPORT / DATA SET



National Report to WATS II for Suriname

K. Mohadin

12 October 1987

WATS2 058



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 sizes and trends, 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.

Despite the potential value of this information to agencies responsible for conducting stock assessments, monitoring recovery trends, safeguarding critical habitat, and evaluating conservation successes in the 21st century, the National Reports submitted to WATS II were not included in the published proceedings and, until now, have existed only in the private libraries of a handful of agencies and symposium participants. To help ensure the legacy of these symposia, we have digitized the entire proceedings – including National Reports, plenary presentations and panels, species synopses, and annotated bibliographies from 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 can be cited (with the number of pages based on the layout of the original document) as:

Mohadin, K. 1987. National Report to WATS II for Suriname. Prepared for the Second Western Atlantic Turtle Symposium (WATS II), 12-16 October 1987, Mayagüez, Puerto Rico. Doc. 058. 41 pages.

Karen L. Eckert
WIDECAST Executive Director
June 2009

I. INTRODUCTION

Due to the political situation of the country, our field activities could not be performed in an optimum way. One of the consequences of this situation was the arise of lack of personnel at the various station in the field, as all bushnegro personnel had to be retreated from all our field stations outside the capital of Paramaribo, thus from the field stations on the nesting beaches. In addition, for the remaining personnel however, a safe stay at the field stations was not guaranteed and they feared to work in the night particularly. Especially the work in the Galibi Nature Reserve, with Galibi beach, Baboensanti beach and Eilanti beach which could only be reached by a 5-6 hour travel by sea, had suffered much from this situation.

In addition, it was also dangerous to be on the sea and to visit and stay on the isolated beaches where we do not have permanent camps. The number of poached eggs therefore was higher this year than in the previous years.

The attached Sea Turtle Survey Data Form therefore could not be completed one-hundred percent; some information was gleaned from published results of sea turtle research / surveys already done in Suriname.

Nevertheless, I hope that the information given in this report will be helpful in determining and developing the most appropriate conservation strategy for the sea turtles.

K. Mohadin

Director of the Foundation For Nature
Preservation in Suriname (STINASU)
and
in charge of the sea turtle conservation
program in Suriname

P.O. Box 436
Paramaribo
Suriname

II. BACKGROUND

II-1 General geographic description of the Republic of Suriname

The Republic of Suriname is situated between 2° and 6° north latitude and 54° west longitude, on the north-eastern part of South America, bordering on the Atlantic Ocean to the North, on Guyana to the west, on French Guiana to the East and on Brazil to the South. Suriname with its size of about 160,000 square kilometres and a total population of about 340,000 is one of the most thinly populated countries in South America.

The annual main temperature is 80° F (the warmest month is September: 83° F and the coolest month is January: 78° F). The annual rainfall varies from 1,500 mm in the coastal region to about 3,000 mm in the mountainous hinterland. Heavy rains usually fall from mid-April to mid-July. The periods February-March and mid-August to November are relatively dry, especially the latter period.

About 80% of the country is covered with uninhabited and undisturbed neotropical rain forest. In the North and the extreme South there are a variety of unusual savanna types. Along almost the entire coast mangrove forests occur, with scattered sand beaches here and there. The mangrove forests cover about 4% of the total land surface.

II-2 Coastline and offshore areas

One of the characteristics of the Suriname coast is the continuous alteration of the shoreline. The radical changes have a cyclic nature: accretion and erosion are succeeding each other alternately. The slow westward directed N. Equatorial Current carries along the Guiana coast a large amount of mud, part of which is deposited in the Suriname mud banks.

The Amazon is held to be the source of this very mobile mud. The mud banks are separated by sections along which generally narrow sand and/or shell beaches are present. Deposition of mud on the one hand, and sand and shells on the other takes place separately. The combination of sea current and the wave action, results in a cyclical erosion of the east side of the mud banks and a silting up of the west side. Therefore mud banks and consequently the intermediate sections of the coast continually migrate to the west. The cycle is believed to repeat itself approx every 35 years. The beaches are built up of sand, shells and shell debris in all possible combinations, varying from pure sand to pure shell material.

Along the coast of Suriname the Guiana Current flows in a WNW direction. It is the continuation of the Northern Equatorial Current, and travels along the north coast of Brazil and the Guianas dividing at the Lesser Antilles into the Caribbean Current and the northwest directed Antillean Current. The water along the coast is brown due to mud particles in the water. At 20-30 km off the coast, the brown colour of this muddy water suddenly changes into a blue-green colour of much clearer water. At 50-70 km offshore the water is blue. There is a very marked tidal difference along the coast of Suriname, which clearly has an influence on the nesting periodicity of sea turtles. At Eilanti, where an extensive mud bank is located, the tide determines the accessibility of the nesting beach.

The coast lies alternately in the NE trade wind belt and the SE trade wind belt, or on the division between the two. From December to the beginning of April the NE trade winds are blowing strongly onto the coast. In these months the swells are the heaviest, and the surf the strongest. The most important movements of the sandy beaches occur between December and February. From April to June, the wind becomes more variable and the sea becomes much calmer. From June to August the SE trade wind is weak and variable. In the November to December period it gives way to more definite and stronger NE trade wind which causes the heavy swells during winter and spring.

III. SPECIES NESTING IN SURINAME

In Suriname 4 species of sea turtles are found:

- a. the green turtle (*Chelonia mydas*) and the local name *Krape*
- b. the leatherback (*Dermochelys coriacea*) and the local name *Aitkanti*
- c. the olive ridley (*Lepidochelys olivacea*) and the local name *Warana*
- d. the hawksbill (*Eretmochelys imbricata*) and the local name *Karet*

A fifth species, the loggerhead (*Caretta caretta*) has been observed nesting only once. The first two species nest in Suriname in great numbers. The number of nesting olive ridleys is declining the last years. The hawksbill nests in very small numbers.

IV. HISTORY AND KNOWLEDGE OF SEA TURTLES IN SURINAME

The earliest account of sea turtle nesting in Suriname is found in the narrative of a Labbadist expedition (Anonymous, 1686, Knappert: 1926). In Stedman's narrative (1796), comments about the consumption of turtle meat in the colony are found; he also reported having observed off the Cayenne coast on January 30 of the year 1773 one or two large turtles, floating past the ship's side. Stedman stated further that in Suriname "The turtles are generally distinguished by the names of Calipee or green turtle, and caret". It seemed that, except for a short period before the Second World War, sea turtles on the Suriname coast were never killed for food on a large scale.

At the present day sea turtle meat is not appreciated by the Caribs living near the principal nesting, places. Capture of Hawksbill for tortoiseshell was probably never important, presumably because this species is not numerous here and, according to Kappler, because American tortoise shell was worth less than that from Asia.

Geijskes (1945) records the following about the use of the meat of the green turtle. Before 1940, Green turtles were caught for export. This business was in the hands of a Mr. Berkeley at Albina. How long this trade had already been going on, and to what scale is not mentioned. No information is given about capture. Information obtained from the Caribs says that the turtles were caught as they came ashore to nest. The late Mr. Lijkwan, who for many years worked for "the Honourable" Berkeley, mentions an average of approximately 600 female turtles killed by the Indians for Berkeley for export during the period 1933 to 1940. According to Geyskes this estimate is on the low side. He mentions a number of 1,000 Green turtles and 1,500 ridleys each year.

In 1938 and 1939 for example, he had caught at least 3,000 green turtles. In 1968, a year in which more green turtles nested than in previous years, only about 1,000 came ashore in this region. This means that thirty years ago many green turtles and Ridleys nested on the beaches near the mouth of the Marowijne.

After 1940 the slaughter of turtles for export came almost to an end. Yet many turtles were still being killed on the beach by, among others, the fishermen, as appears from Geyskes remarks. About the Hawksbill Geyskes reported in 1945 that people in Suriname mostly do not recognize this species and kill the turtle only for the meat which, however, cannot be particularly tasty as the Caribe consider to be poisonous. Collecting of eggs (mostly ridley and green turtle) seems to have been quite important. This was a tradition of the coastal Caribe at least during the last century, chiefly in and near the Marowijne estuary. According to Geyskes' (1945) report, egg taking in the forties was more intensive than in the previous century, due to the increased demand by Chinese and other people of Asiatic origin, especially Javanese. The egg-takers kept the daily proceeds of eggs in their camps until enough were collected to load a boat (17,000 to 100,000). In those days the eggs were taken

to Paramaribo, the Commewijne district, and also to St. Laurent (French Guiana). No figures are mentioned for the total number of eggs taken per year.

V. NESTING BEACHES

Schulz (1975) records that as in nesting places elsewhere turtles that nest in Suriname prefer beaches that:

- a. are easily accessible from the sea
- b. have a beach platform situated high enough so that it is not reached by the springtide
- c. have a ground-water level that lies deep enough

Mud banks in front of the beach may certainly influence the visiting of turtles as their propulsion on a soft substratum is very difficult. Often leatherbacks and green turtles avoid beaches that lie behind mud banks. For the relatively small olive ridley the mud banks form no obstacle.

Characteristics of the important nesting beaches

Calibi beach

- Length: 1.5 km
- Characteristics: a sand bank is situated in front of this beach; quite stable water is almost fresh, medium sand
- Vegetation: Creeping plants (*Canavalia*, *Ipomoea*) and partly thinly grown with mangrove
- Level of human development and/or impact: none
- Nesting species: predominantly green turtle, leatherback, olive ridley
- Peak nesting months:
 - green turtle: February-May
 - leatherback: April-June
 - olive ridley: April-June

Baboensantie beach

- Length: 3 km
- Characteristics: high beach platform; water brackish to fresh in the rainy season; medium sand; quite stable
- Vegetation: creeping plants (*Canavalia*, *Ipomoea*)
- Level of human development and/or impact: none
- Nesting species: predominantly leatherback, green
- Peaking nesting months:
 - green turtle: February-May
 - leatherback: April-June
 - olive ridley: April-July

Eilanti beach

- Length: 2.5 km
- Characteristics: a large mudbank is situated in front of this beach which is being elongated at the western point by sand sedimentation; medium sand; water brackish to fresh in the rainy season
- Vegetation: the east side is thinly grown with mangrove, the west point has almost no vegetation, and in between, thinly grown with mangrove and creeping plants
- Level of human development and/or impact: few fisherman camps
- Nesting species: predominantly leatherback, most important nesting site for the olive ridley and green turtle

- Peak nesting months:
 - green turtle: March-June
 - leatherback: April-July
 - olive ridley: April-July

Matapica beach

- Length: 2 km
- Characteristics: is in state of erosion; medium sand; salt water
- Vegetation: thinly grown with mangrove with creeping plants (*Ipomoea*, *Canavalia*) between the trees
- Level of human development and/or impact: none
- Nesting species: predominantly leatherback; green turtle, olive ridley, hawksbill.
- Peak nesting months:
 - green turtle: March-May
 - leatherback: May-June
 - olive ridley: April
 - hawksbill : only two nest in July and August.

Krofajapasi beach

- Length: 5 km
- Characteristics: is a seaward side of a large sand spit moving in westward direction due to erosion at the east side and sedimentation at the west side; medium sand; saltwater
- Vegetation: creeping (*Canavalia*, *Ipomoea*) on the east side and no vegetation on the newly formed west point
- Level of human development and/or impact: many fisherman camps, tourists
- Nesting species: predominantly leatherback, green turtle, olive ridley, hawksbill
- Peak nesting months:
 - green turtle: March-June
 - leatherback: March-June
 - olive ridley: April
 - hawksbill: only one nest in April

Katcreek and Diana beach

- Length: total length 14 km (consists of several isolated beach sections)
- Characteristics: the east point is a newly formed beach; medium sand; saltwater
- Vegetation: creeping plants (*Canavalia*, *Ipomoea*) and thinly grown with mangrove
- Level of human development and/or impact: visited by hunters
- Nesting species: predominantly leatherback, green turtle, olive ridley, hawksbill
- Peak nesting months:
 - green turtle: March-June
 - leatherback: May-July
 - olive ridley: April
 - hawksbill: a total of eight nests in June, July and August

All these beaches lie east of the Suriname River (between the mouth of the Suriname River and the mouth of the Marowijne River). The few beaches west of the Suriname River are seldom visited by sea turtles. They are therefore not mentioned in this report.

VI. PROTECTION STATUS & PROTECTION MEASURES OF SEA TURTLES IN SURINAME

VI-1 Protection by law

Surinam legislation (the Game Law and the associated Game Resolution and the Nature Protection Law) has provided all sea turtle species with full protection since 1964. The Game Resolution lists all sea turtles as game species, but prohibits any one from taking, possessing, killing, selling or offering for sale, any sea turtle or parts thereof. The same Game Resolution however, does permit the collecting, transport and sale of some eggs during a part of the year and determines the area where collecting should take place. The borders of this area might be determined each year as the beaches move and in such a way as to exclude beaches of great importance to sea turtle. STINASU however, obtains permission from the Suriname Forest Service to collect a "justifiable" quota of eggs within the forbidden zone including the Galibi Nature Reserve.

The number of eggs to harvest lies between 250,000 and 400,000 eggs and is determined by the number of eggs laid in the previous year and the nesting behaviour in the beginning of the nesting season of the year concerned. Harvesting is allowed only during March- May. This collecting takes place in close collaboration with the Suriname Forest Service to ensure a controlled harvesting.

Only green turtle and leatherback eggs are collected by STINASU whereby it is attempted in the first place to collect those eggs that would be destroyed by uprooting through beach erosion and those laid below the mean high tide level and so would be washed away by subsequent spring tides, the so-called "doomed eggs". This can surely be said of the eggs collected on the Krofajapasi beach of which the east point is in a state of severe erosion and the growing west point is not high enough to prevent eggs from being washed away. The primary reason for the decision to harvest some of the eggs is the intention to attempt a rational exploitation of the eggs on a sustained-yield basis as a cheap part of the protein requirement in the diet of the population.

In addition, an abrupt total ban on the collecting of eggs of all species would probably have met with such strong resistance, both from the side of the eggs collectors and from the consumers that it could have jeopardized the entire sea turtle conservation project from the start. Collecting of eggs (mostly ridley and green turtle) seems to have been quite important in Suriname. This was a tradition of the coastal Caribs, at least during the last century chiefly in and near the Marowijne estuary. The income derived from the egg sale enables STINASU to pay for extra personnel and equipment to aid in conservation work on all sea turtle species nesting in Suriname.

VI-2 Replanting of "doomed" nests

The eggs of "doomed nests" of all species, which are not collected for sale, are relocated in manmade nests on higher reaches of the beach as much as possible. This replanting of "doomed nests" takes place during the entire nesting season on all accessible nesting beaches.

VI-3 Counting of laid nests

Daily counting of laid nests of all species still occurs since the start of the sea turtle conservation project launched in 1967. Counting takes place daily very early in the morning whereby at the same time the "doomed nests" are replanted. It may occur that in some circumstances replanting of "doomed nests" may occur at night.

VI-4 Release of head-started green turtles

In 1984 and 1985, 2928 raised green turtles of various ages were released into the sea. These turtles were the remaining ones of the sea turtle ranch at Matapica which had to be closed in 1985. All these juvenile turtles have been marked before their release.

The turtle ranch was founded in 1977 to investigate the idea that captive-raised sea turtles can contribute to the socio-economic development of a country as well as protect, and possibly increase, the wild population. Tag returns of yearlings marked in previous years have shown that the released animals are thriving and mixing with the parental wild stock on the traditional feeding grounds. The sea turtle ranch had several aspects:

- economic aspect: part of the raised animals would be brought in the international trade
- social aspect: the ranch would create employment educational aspect
- recreational aspect
- scientific aspect: information on the biology of sea turtles could be obtained
- conservation aspect: release of the raised turtles could contribute to the increase of the wild population

VI-5 Tagging program of the olive ridley

Field data show a steady decline of the number of ridley nests on the Suriname beaches. No arribadas have occurred in the last 5 years, and the reason for this decline is not yet known. In order to know more about this phenomenon Suriname has launched a tagging program of the ridleys this year. Objective is to tag as many ridleys coming ashore to nest as possible. We hope that all those countries that have some interest or investment in sea turtles will cooperate in this project and return the tags recovered so that more can be known about the decline of the number of the ridley nests on the Surinam beaches. Tags are marked PPE and tag recoveries should be returned to the NMFS. LAB-VIR. KEY, Miami, Florida, 33149.

VII. SEA TURTLE RESEARCH / SURVEY

Research in Suriname on several aspects of sea turtle biology shows the following:

VII-1-1 Inter-nesting intervals

Green turtles seem to return to nest in 1, 2, 3 or 4-year cycles; the biennial cycle probably predominates. The ridleys show a predominance of 1-year intervals and the leatherbacks a predominance of 2-year intervals.

VII-1-2 Incubation periods

The incubation period of the green turtle, as well as that of the olive ridley and the leatherback varies from an average of 52 days during February-March to 58 days during the rainy season (April-May). Transplanted nests show about the same incubation time as natural nests.

VII-1-3 Size of clutches

The average number of eggs per nest for the green turtle is 138, for the olive ridley 116, for the leatherback 85, and for the hawksbill 146. This is an average taken from a 5-year period.

VII-1-4 Hatching success

The hatching success in wild nests for the green turtle is around 84%, for the leatherback 50%, and for the olive ridley 60%. Replanted nests show a lower percentage of hatchlings; for the green turtle around 58%, for the leatherback around 39%, and for the ridley around 50%. The low emergence percentage in the nests of the leatherback is due to a high percentage of small, infertile eggs in the nests. The leatherback clutches contain on the average 30% small, infertile eggs in the nests. A study done by C. Whitmore and P. Dutton of the University of Stirling in Scotland to obtain more data on clutch size, hatching success and incubation period in natural nests (in total 39) of the green turtle shows the following:

- average clutch size of 131 eggs
- hatching success of 89.14%
- incubation period of 56.4 days

This study was done on the Krofajapasi beach during April-June 1981. In the past, some eggs had also been hatched, in styrofoam boxes. For the Green turtle the average emergence in these boxes was nearly as high as in the natural nests (around 86% vs. 84%) and for the Leatherback even higher (54% vs. 50%). The incubation period in the boxes, however, is somewhat longer than in the natural nests, which is probably due to the lower ambient temperature in the boxes.

VII-1-5 Migratory patterns

Captures at sea of Suriname-tagged turtles has yielded the following information:

- a. feeding grounds:
 - Green turtles nesting in Suriname forage on the feeding grounds centered off the coast of Ceará, Brazil)
 - recoveries of tagged olive ridleys span roughly 4,500 km of coastline, extending from Natal in Brazil to the Gulf of Venezuela, with a secondary concentration occurring in the area around the Island of Margarita and in the Gulf of Paria
 - one leatherback tagged in Suriname was caught at Salt Pond, Ghana, while four leatherbacks tagged in French Guiana were recovered at sea, at locations off the coast of Campeche (Mexico), Texas, S. Carolina and New Jersey (Pritchard, 1973a).

These recoveries confirm that at least part of the Leatherbacks nesting in our area comes from northern temperate waters

- b. number of clutches per season: it seems that most of the olive ridleys nest once per season while the green turtle and the leatherback have an average of 3 to 4 nests per season. (Also from pers. information from beach guards).
- c. degree of attachment of the turtles to a particular nesting beach: it seems that sea turtles of all species use the same nesting beaches year after year.

VII-2 Past sea turtle research / survey

Dutton, P. and Claire Whitmore. 1981. Topographical and physical characteristics of the Sea Turtle Nesting Beach at Krofajapasi in Suriname.

"Of the several factors influencing nest incubation conditions sand particle size distribution in its relation to sand aeration and the respiratory requirements of the turtle clutch and the vegetation cover in its relation to the temperature of the sand appeared to be the two single most important variables of natural incubation conditions. In addition both these variables are suggested in the literature as cues in the nest site selection behaviour of both leatherback and green turtles".

Granda, A.M. 1980. Neurological studies on green turtle and leatherback hatchings.

Hill, R.L. 1971a. Polymorphism of coastal and vertebral laminae in the sea turtle *Lepidochelys olivacea*. Surinam Turtle Notes, STINASU, Paramaribo, 1 (2): 2-9.

Hill, R.L. 1971b. The effect of rupturing eggs in sea turtle nests on the hatchling emergence percentage. Surinam Turtle Notes, STINASU, Paramaribo, 3 (2): 14-16.

Egg rupture in freshly laid nests of green turtles and leatherbacks considerably lowers the hatchling emergence percentage, many eggs failing to develop in such

clutches. The rotting contents of broken eggs certainly influences development of the remaining unbroken eggs. The importance of this in a conservation programme, the methods of the highest hatchling emergence constantly being sought for, is obvious-eggs must not be broken in order to locate and count nests of these species. However, in olive ridley nests the rotting contents of broken eggs have no effect on the rest of the clutch, the reason for which at the moment is inexplicable."

Hill, R.L. and D.J. Green. 1971. Investigation of the damage by the crab *Ocypode quadrata* to the eggs of the green turtle *Chelonia mydas*. Surinam Turtle Notes, STINASU, Paramaribo, 2 (2): 11-13.

"60% of the nests were attacked by the crab within 4 days after laying. 30% of the nests were untouched. The remaining 10% were attacked any time prior to cage-setting. Up to 93% of the eggs were eaten in some nests, especially those which were laid too shallow at depths of up to 30 cm (most nests are laid below 45 cm). Nests laid on the open sand were particularly vulnerable to crab damage; those laid in or close to the vegetation growth (*Canavalia maritime* and *Ipomoea pes-caprae*) were often untouched. The crab probably encounters great difficulties in burrowing through the rooting systems of the latter and so fewer numbers are found there".

Mrosovsky, N. 1967. How turtles find the sea. Science Journal 3: 52-57.

Mrosovsky, N. 1967. Effect of temperature on sex determination in hatchlings.

Norbar, P., et al. 1979. Comparison of the temperature in natural nest and styrofoam boxes. (No published results could be found).

Schulz, J.P. 1975. Sea Turtle Nesting in Suriname. Stichting Natuurbehoud Suriname, (STINASU) verhandeling .No 3.

Whitmore.C. and S.E. Salomon. The incidence and effect of calcite in the egg shell of a feral population of *Chelonia mydas* L from Suriname.

"The inclusion of calcite crystals in the calcareous layer of green turtle egg shells was found to have a deteriorative effect on the hatchability of the egg. No equivalent of the heavily calcite egg shells previously observed in farm reared populations was found in this feral population. However, the concentration of calcite showed some variation among feral specimens and was possibly associated with the stage of the laying season. This indicates that the deposition of calcite crystals may be a naturally occurring hazard to hatchability of the green turtle egg and may be a response to some condition experienced by the adult during the laying season (e.g., 4-5 months starvation plus the large energetic output of laying 300-400 eggs). The evidence in this paper suggested that 5% or less calcite in the calcaerous layer of the Green turtle egg shell is typical of a normal, viable egg".

VII-3 Present sea turtle research / survey

- daily counting of laid nests
- tagging of the olive ridleys in order to get answer why the number of ridley nests is decreasing on our beaches

VII-4 Future sea turtle research / survey

- daily counting of laid nest
- continued tagging of the olive ridley

MORTALITY

From time to time dead sea turtles are found on the beaches, apparently killed by fisherman. The Fisheries Service of Suriname keeps no records of entangled and killed sea turtles in the shrimp trawlers.

Number of dead sea turtles found on our beaches during January-August 1987 are:

- Galibi beach
leatherback: 2
- Baboensanti beach
leatherback: 1
- Matapica beach
leatherback: 6
- Krofajapasi beach
green turtle: 3
leatherback: 7
olive ridley: 1
- Katcreek and Diana beach
green turtle: 3
leatherback: 8

RECOMMENDATIONS

It is beyond any argument that the present world situation for all seven species of sea turtles is alarming in spite of the many conservation efforts taken by several countries to protect them in their territorial waters. The following recommendations could make a significant contribution to the survival of the sea turtles:

1. Close cooperation between countries harbouring sea turtles in general and in particular between countries that share the same sea turtle population;
2. To call upon all countries where sea turtles are present to establish effective sea turtle conservation measures, and where conservation measures already exist, to possibly improve and enforce the measures;
3. To conduct eggs replanting programs;
4. To conduct region-wide effective anti-poaching programs;
5. To call upon countries to make use of TED;
6. To develop a region wide public education program to advance conservation principles;
7. To conduct a region-wide head-start program in order to know its merits as a conservation measure;
8. To make sea turtle conservation be an economical benefit to the local people;
9. To support every effort taken by whatever country in the field of sea turtle conservation.

SURINAME
SECOND WESTERN ATLANTIC TURTLE SYMPOSIUM

WATS II
SEA TURTLE SURVEY DATA FORMS



Mail to:

Dr. Robert R. Lankford
Executive Secretary, WATS II
Department of Marine Sciences
University of Puerto Rico
Mayagüez, Puerto Rico 00708

WATS II SEA TURTLE SURVEY DATA FORMS

INSTRUCTIONS FOR WATS II SEA TURTLE DATA FORMS

This data form has been designed to assemble sea turtle nesting information prior to the WATS II Symposium. It is not a comprehensive survey form that covers all aspects of nesting observations. It has been designed to extract essential data that can be incorporated into the WATS Data Base. Please use the following guidelines.

- I. NESTING BEACH SURVEY: This section should be completed during or immediately after a night-time or morning survey of a nesting beach.

Nest Number: Number the column for each nest located.

1. Time: Record the time when a nesting or fresh tracks are observed.
2. Species : Use KEY LETTERS at bottom of page.
3. Tag Number: Record number of tag applied or already present and whether N for New tag or O for Old.
4. Carapace Length: Record length and indicate whether straight (S) or curved (C) measurement was used and in what units C = cm, or I = inches.
5. Number of Eggs: Record number of fully formed eggs.
6. Emergence Date: Record data of hatchlings emergence.
7. Number of Hatch lings: Record number of emerged hatchlings.
8. Erosion Danger: Indicate if nest seems imperilled by erosion; Y (yes), N (no).
9. Nest Protected: Indicate if barrier or disguise action taken; Y (yes), N (no).
10. Nest Relocated to another beach site indicate Y (yes) or N (no).
11. Nest Relocated to hatchery; Y (yes) or N (no).
12. Number of Eggs Harvested: Record number of eggs taken for food.
13. Number of Eggs depredated.
14. Number of Head-Start Eggs: Record number of eggs taken for head-start programs.
15. Female Harvested: Indicate if nesting female was slaughtered.

- II. AERIAL/GROUND SURVEY SUMMARY: Complete this section after summarizing aerial and nesting beach survey.

1. Please put date of survey as year/month/day.
2. Place approximate total beach length in kilometers.
3. Circle whether aerial or ground survey.
4. Indicate if fresh nests are equal to or less than 24 hrs. old.
5. Indicate if old nests are more than 24 hrs. old.
6. Indicate if false crawl is one which does not terminate in a nest.
7. Record portion or percent of nests disturbed by human or animal predator.
8. Please briefly describe how survey was conducted or how observation was made.

- III. NESTING BEACH INVENTORY

1. List name of beach in geographical sequence.
2. Place approximate total beach length in kilometers.
3. List species known to nest on this beach, with each species listed on a separate line.
4. List peak months of nesting activity by species.
5. List total nesting season by months of occurrence by species.

- IV. MORTALITY: this section should be used for data collected at fishing beaches and markets. Use a numbered line for each turtle observed.

1. Date: Record date of observation, as year, month, day.
2. Species: Use KEY LETTERS at bottom of page.
3. Sex: Record as M (male), F (female), U (unknown).

4. Carapace Length: Record carapace length and indicate S (straight-line) or C (curved-line) measurement, indicate units as cm or inches.
5. Weight: Record total body weight, indicate units as kg or lbs.
6. # Eggs: Record number of approximate number of eggs.
7. Locality: Record capture locality if known.
8. Cause: Indicate if this was a direct catch (DC), incidental catch (IC), stranding (S), destruction of nest (DN), or other (describe).

V. HEAD-START PROGRAM SUMMARY OF RELEASES

1. Source of Eggs: Indicate the nest identification number from Section I, Item 12.
2. Use a separate line for each batch released.
3. Date: Record year, month, day.
4. Species: Use KEY LETTERS at bottom of page.
5. Number: Record number released in this batch.
6. Age: Record age of released turtles in months.
7. Tag Sequence Numbers: Record first and last numbers of tag series used for each batch.
8. Time Released: Record time of release.
9. Locality: Record beach or sea area where juveniles were released.

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Galibi
 Name of Observer: E. Kiba Date: 21.04.1987 Time Start/Stop: Distance Surveyed: 1.5 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs	21 nests			
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)	N			
9.	Nest Protected? (Y/N)	N			
10.	Nest relocated to Another Beach Site? (Y/N)	N			
11.	Number of Eggs to Hatchery? (Y/N)	---			
12.	Number of Eggs Harvested	21 nests			
13.	Number of Eggs Depredated				
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname	State:	Name of Beach: Baboensanti
Name of Observer: J. Thakoer	Date: 21.04.1987	Time Start/Stop: Distance Surveyed: 3.0 km

Nest Number	Cm	Dc	Ei	Lo
1. Time				
2. Species *				
3. Tag No. N=New; O=Old				
4. Carapace Length (S/C) Units in Cm or inches				
5. Number of Eggs	43 nests	8 nests		
6. Emergence date				
7. Number of Hatchlings				
8. Erosion Danger? (Y/N)	Y	Y		
9. Nest Protected? (Y/N)	N	N		
10. Nest relocated to Another Beach Site? (Y/N)	N	N		
11. Number of Eggs to Hatchery? (Y/N)				
12. Number of Eggs Harvested	43 nests	8 nests		
13. Number of Eggs Depredated				
14. Number of Head-start Eggs				
15. Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*; Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Eilanti
 Name of Observer: R. Autur Date: 21.04.1987 Time Start/Stop: Distance Surveyed: 2.5 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs	11 nests			
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)	Y			
9.	Nest Protected? (Y/N)	N			
10.	Nest relocated to Another Beach Site? (Y/N)	N			
11.	Number of Eggs to Hatchery? (Y/N)				
12.	Number of Eggs Harvested	11 nests			
13.	Number of Eggs Depredated				
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Matabica
 Name of Observer: S. Karamantana Date: 21.04.1987 Time Start/Stop: Distance Surveyed: 2.0 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs	4 nests	6 nests		
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)	N	Y		
9.	Nest Protected? (Y/N)	N	Y		
10.	Nest relocated to Another Beach Site? (Y/N)				
11.	Number of Eggs to Hatchery? (Y/N)				
12.	Number of Eggs Harvested	11 nests	2 nests		
13.	Number of Eggs Depredated	1 nest			
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Krofajapasi
 Name of Observer: J. Kromokaryo Date: 21.04.1987 Time Start/Stop: Distance Surveyed: 5 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs	9 nests	12 nests		
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)	N	N		
9.	Nest Protected? (Y/N)	N	N		
10.	Nest relocated to Another Beach Site? (Y/N)	N	N		
11.	Number of Eggs to Hatchery? (Y/N)				
12.	Number of Eggs Harvested	5 nests	5 nests		
13.	Number of Eggs Depredated	1 nest			
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname	State:	Name of Beach: Galibi
Name of Observer: S. Katidjo	Date: 18.06.1987	Time Start/Stop: Distance Surveyed: 1.5 km

Nest Number					
1. Time					
2. Species *	Cm	Dc	Ei	Lo	
3. Tag No. N=New; O=Old					
4. Carapace Length (S/C) Units in Cm or inches					
5. Number of Eggs	5 nests	17 nests			
6. Emergence date					
7. Number of Hatchlings					
8. Erosion Danger? (Y/N)	N	Y			
9. Nest Protected? (Y/N)	N	Y			
10. Nest relocated to Another Beach Site? (Y/N)		Y			
11. Number of Eggs to Hatchery? (Y/N)					
12. Number of Eggs Harvested					
13. Number of Eggs Depredated					
14. Number of Head-start Eggs					
15. Females Harvested? (Y/N)					

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
Lk=*Lepidochelys kempfi*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Baboensanti
 Name of Observer: J. Thakoer Date: 18.06.1987 Time Start/Stop: Distance Surveyed: 3 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs	3 nests	42 nests		5 nests
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)	N	Y		N
9.	Nest Protected? (Y/N)	N	Y		Y
10.	Nest relocated to Another Beach Site? (Y/N)	N	Y		Y
11.	Number of Eggs to Hatchery? (Y/N)				
12.	Number of Eggs Harvested				
13.	Number of Eggs Depredated				
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Eilanti
 Name of Observer: R. Autar Date: 18.06.1987 Time Start/Stop: Distance Surveyed 2.5 km

Nest Number				
1.	Time			
2.	Species *	Cm	Dc	Ei Lo
3.	Tag No. N=New; O=Old			
4.	Carapace Length (S/C) Units in Cm or inches			
5.	Number of Eggs	4 nests	23 nests	31 nests
6.	Emergence date			
7.	Number of Hatchlings			
8.	Erosion Danger? (Y/N)	N	Y	N
9.	Nest Protected? (Y/N)	N	Y	Y
10.	Nest relocated to Another Beach Site? (Y/N)		Y	Y
11.	Number of Eggs to Hatchery? (Y/N)			
12.	Number of Eggs Harvested			
13.	Number of Eggs Depredated			1 nest
14.	Number of Head-start Eggs			
15.	Females Harvested? (Y/N)			

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Matapica
 Name of Observer: Ch. Tedjoe Date: 18.06.1987 Time Start/Stop: Distance Surveyed: 2 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs		15 nests		2 nests
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)		Y		N
9.	Nest Protected? (Y/N)				N
10.	Nest relocated to Another Beach Site? (Y/N)		Y		N
11.	Number of Eggs to Hatchery? (Y/N)				
12.	Number of Eggs Harvested				
13.	Number of Eggs Depredated		2 nests		
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE I. NESTING BEACH SURVEY

Country: Suriname State: Name of Beach: Krofajapasi
 Name of Observer: S. Karamantana Date: 18.06.1987 Time Start/Stop: Distance Surveyed: 5 km

	Nest Number				
1.	Time				
2.	Species *	Cm	Dc	Ei	Lo
3.	Tag No. N=New; O=Old				
4.	Carapace Length (S/C) Units in Cm or inches				
5.	Number of Eggs	1 nest	17 nests		
6.	Emergence date				
7.	Number of Hatchlings				
8.	Erosion Danger? (Y/N)	Y	Y		
9.	Nest Protected? (Y/N)				
10.	Nest relocated to Another Beach Site? (Y/N)	Y	Y		
11.	Number of Eggs to Hatchery? (Y/N)				
12.	Number of Eggs Harvested				
13.	Number of Eggs Depredated				
14.	Number of Head-start Eggs				
15.	Females Harvested? (Y/N)				

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

Country: Suriname State: Beach/Zone: Eilanti (West) Distance Surveyed: 1.5 km
 Date: 13.06.1987 Observer: K. Mophadin/R. Autar Check one: AERIAL or GROUND

Species *	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total No. of Fresh Nests			25			5	
Total No. of Old Nests			17			3	
Total No. of Fresh False Crawls			2			---	
No. of Nests Disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

The survey days have been chosen voluntary as daily countings take place on the beach.

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk= *Lepidochelys kempi*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

Country: Suriname State: Beach/Zone: Eilanti (East) Distance Surveyed: 1 km
 Date: 13.06.1987 Observer: L. Autar / E. Kiba Check one: AERIAL or GROUND

Species *	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total No. of Fresh Nests		2	16			3	
Total No. of Old Nests		1	19			2	
Total No. of Fresh False Crawls		1	1			---	
No. of Nests Disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk= *Lepidochelys kempi*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

Country: Suriname State: Beach/Zone: Baboensanti Distance Surveyed: 3 km
 Date: 13.06.1987 Observer: J. Thakoer / S. Katidio Check one: AERIAL or GROUND

Species *	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total No. of Fresh Nests		2	17			1	
Total No. of Old Nests		1	18			1	
Total No. of Fresh False Crawls							
No. of Nests Disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kempi*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

Country: Suriname State: Beach/Zone: Krofajapasi Distance Surveyed: 5 km
 Date: 13.06.1987 Observer: S. Karamantana Check one: AERIAL or GROUND

Species *	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total No. of Fresh Nests		2	5				
Total No. of Old Nests		6	4				
Total No. of Fresh False Crawls							
No. of Nests Disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*;
 Lk=*Lepidochelys kempi*; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE III. NESTING BEACH INVENTORY

Country: Suriname		State:		Recorder:	
Name of Beach	Length in Km	Species Nesting	Months Peak Nesting	Months Recorded Nesting	
Galibi	1.5	Cm	February-May	January-July	
Galibi	1.5	Dc	April-June	January-August	
Galibi	1.5	Lo	April-June	April-July	
Baboensanti	3	Cm	February-May	January-August	
Baboensanti	3	Dc	April-June	January-August	
Baboensanti	3	Lo	April-July	March-August	
Eilanti	2.5	Cm	March-June	January-August	
Eilanti	2.5	Dc	April-July	January-August	
Eilanti	2.5	Lo	April-July	March-August	
Krofajapasi	5	Cm	March-June	January-August	
Krofajapasi	5	Dc	March-June	January-August	
Krofajapasi	5	Lo	April	March-August	
Krofajapasi	5	Ei	Only one nest in April	April	
Matapica	2	Cm	March-May	February-July	
Matapica	2	Dc	May-June	January-August	
Matapica	2	Lo	April	April-August	
Matapica	2	Ei	Two nests in July & August	July-August	
Katkreek & Diana	14	Cm	March-June	February-July	
Katkreek & Diana	14	Dc	May-July	January-August	
Katkreek & Diana	14	Lo	April	April-August	
Katkreek & Diana	14	Ei	Eight nests in June, July, August	June-August	

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*; Lk=*Lepidochelys kemp*i; Lo=*Lepidochelys olivacea*; Uk=Unknown

WATS II SEA TURTLE SURVEY DATA FORM

TABLE IV. MORTALITY

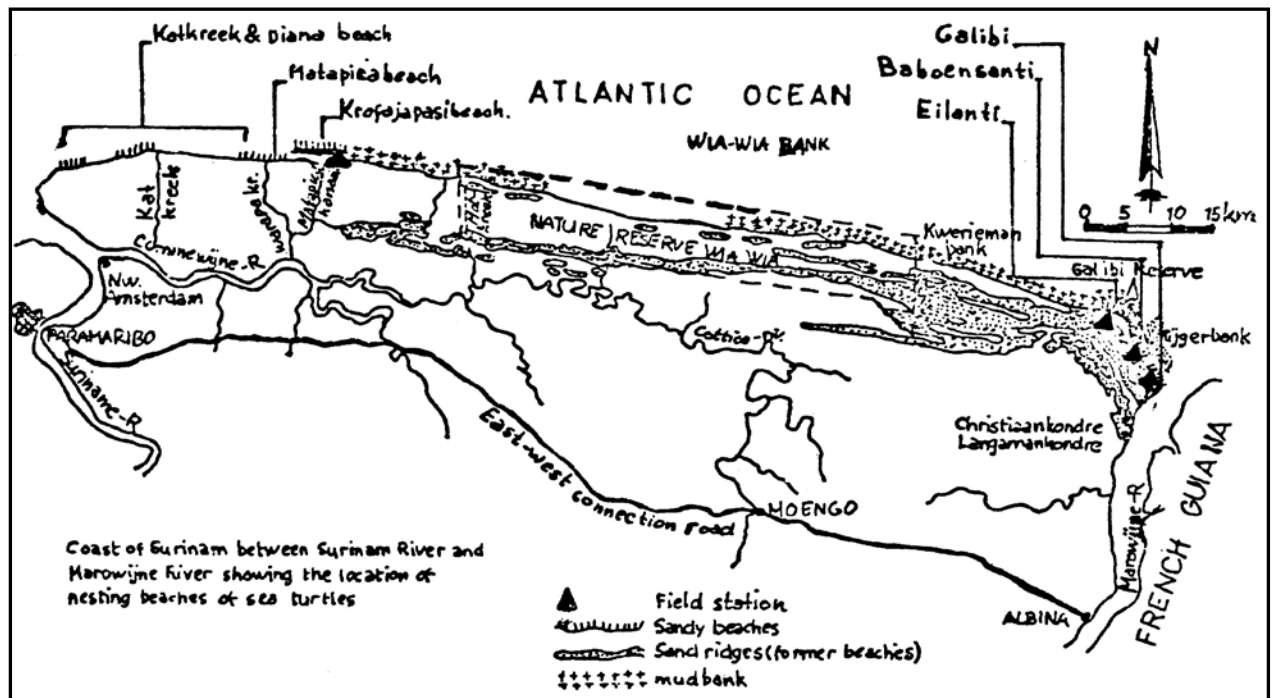
Country: Suriname State: Year: 1987 Observer:

Date	Species*	Sex	Length	Weight	# Eggs	Locality	Cause
14 March	Dc (1)	Female				Krofajapasi	
14 March	Cm (1)	Female				Krofajapasi	
23 March	Cm (1)	Female				Krofajapasi	
25 March	Cm (1)	Female				Krofajapasi	
25 March	Dc (2)	Female				Balibi	
26 March	Dc (2)	Female				Matapica	
07 April	Dc (1)	Female				Krofajapasi	
08 April	Dc (1)	Female				Baboensanti	
11 April	Dc (1)	Female				Matapica	
26 April	Dc (1)	Female				Krofajapasi	
09 May	Dc (1)	Female				Krofajapasi	
12 May	Dc (1)	Female				Krofajapasi	
13 May	Lo (1)	Female				Krofajapasi	
13 May	Dc (1)	Female				Krofajapasi	
14 May	Dc (1)	Female				Krofajapasi	
17 May	Dc (2)	Female				Matapica	
12 June	Dc (1)	Female				Matapica	
27 June	Cm (2)	Female				Katkreek & Diana	
27 June	Dc (4)	Female				Katkreek & Diana	
04 July	Lo (1)	Female				Eilanti	Killed by jaguar
19 July	Cm (1)	Female				Katkreek & Diana	
19 July	Dc (3)	Female				Katkreek & Diana	
23 August	Dc (1)	Female				Katkreek & Diana	

Comments: The figure between the brackets gives the number

* Cc=*Caretta caretta*; Cm=*Chelonia mydas*; Dc=*Dermochelys coriacea*; Ei=*Eretmochelys imbricata*; Lk=*Lepidochelys kemp*; Lo=*Lepidochelys olivacea*; Uk=Unknown

Figure 1. Map of the nesting grounds in Suriname.¹



¹ Editor's note (2009): Maps and figures are reprinted exactly as they appear in the original document; we regret the poor quality exhibited in some cases.

APPENDIX 2: NUMBER OF LAID AND TRANSPLANTED NESTS FROM JANUARY UNTIL AUGUST 1987

Green turtle

Month	Gal.		B's.		Eil.		Mat.		K'p.		K-D.	
	ld	tr	ld	tr	ld	tr	ld	tr	ld	tr	ld	tr
January	12	---	20	---	6	---	---	---	1	---	---	---
February	142	---	198	---	30	---	4	---	47	10	7	---
March	263	---	648	22	339	---	43	---	236	16	45	---
April	449	---	793	1	383	---	93	---	354	31	70	---
May	295	1	654	17	324	6	20	---	262	10	35	---
June	86	4	130	13	105	---	10	1	102	46	20	1
July	20	3	29	8	14	---	5	---	5	---	10	---
August	---	---	6	---	5	---	---	---	4	---	---	---
Total	1,267	8	2,478	61	1,206	6	175	1	1,011	113	187	1

* Locality Abbreviations: Gal. = Galibi; B's. = Baboensanti; Eil. = Eilanti; Mat. = Matapica; K'p. = Krofajapasi; K-D = Katkreek & Diana

Leatherbacks

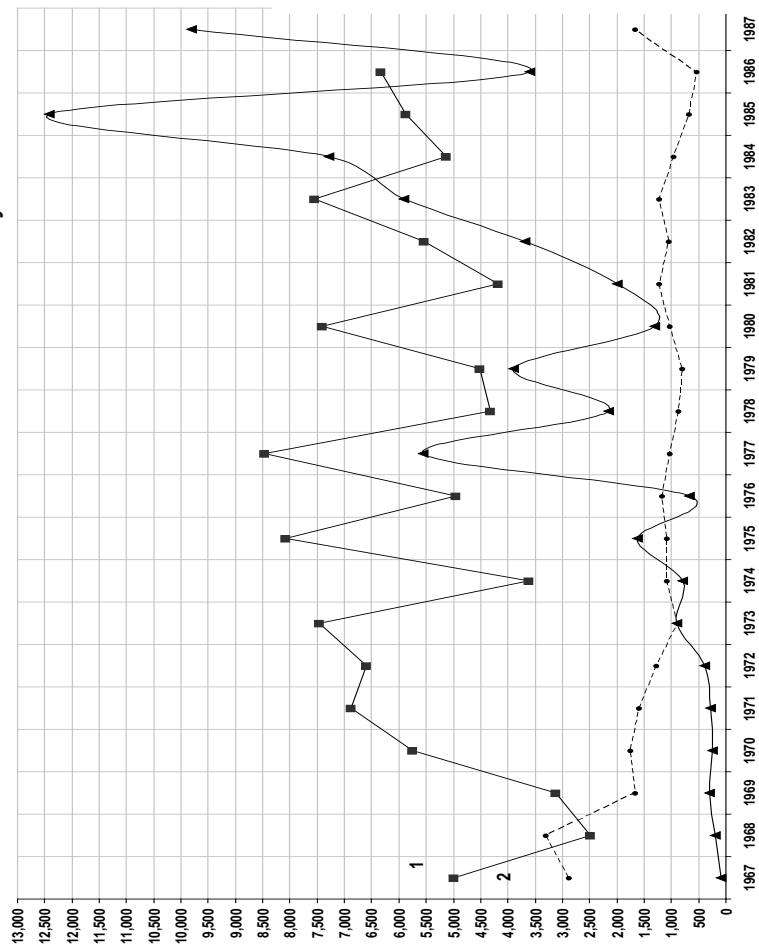
Month	Gal.		B's.		Eil.		Mat.		K'p.		K-D.	
	ld	tr	ld	tr	ld	tr	ld	tr	ld	tr	ld	tr
January	10	---	43	4	29	---	61	---	89	15	40	---
February	2	2	23	---	6	---	42	---	45	9	36	---
March	1	---	57	5	12	---	27	---	153	7	30	---
April	449	---	793	---	383	---	93	---	354	20	70	---
May	133	---	1165	48	785	23	190	---	486	18	150	---
June	199	2	1077	165	820	29	108	---	425	98	210	---
July	74	2	533	88	201	24	55	---	56	10	150	---
August	9	---	94	2	4	---	6	---	13	2	25	---
Total	877	6	3,785	312	2,240	76	582	---	1,621	179	711	---

* Locality Abbreviations: Gal. = Galibi; B's. = Baboensanti; Eil. = Eilanti; Mat. = Matapica; K'p. = Krofajapasi; K-D = Katkreek & Diana

APPENDIX 3. NUMBERS OF SEA TURTLE NESTS LAID IN SURINAME FOR THE YEARS 1967 THROUGH 1987

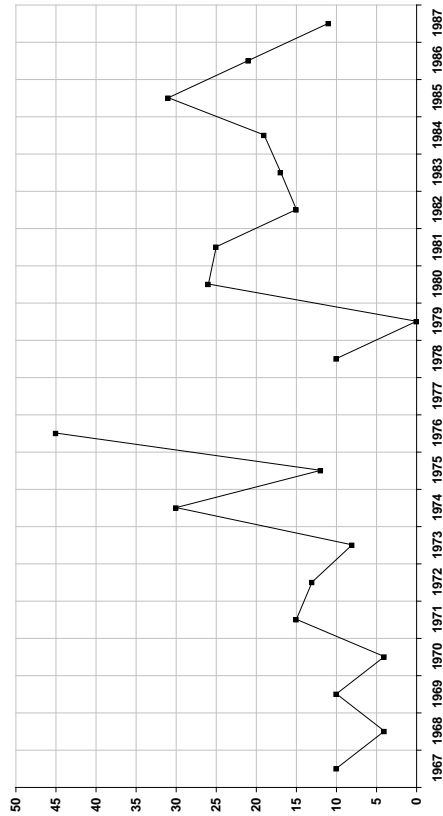
Year	Species			
	<i>Chelonia mydas</i>	<i>Dermochelys coriacea</i>	<i>Eretmochelys imbricata</i>	<i>Lepidochelys olivacea</i>
1967	?	90	10	2,875
1968	± 5,000	200	4	3,290
1969	2,495	305	10	1,665
1970	3,115	255	4	1,750
1971	5,755	285	15	1,595
1972	6,885	380	13	1,270
1973	6,600	900	8	890
1974	7,465	785	30	1,080
1975	3,610	1,625	12	1,070
1976	8,080	670	45	1,160
1977	4,955	5,565	7	1,030
1978	8,465	2,160	10	870
1979	4,330	3,900	?	795
1980	4,510	1,300	26	1,020
1981	7,410	1,990	25	1,220
1982	4,180	3,680	15	1,045
1983	5,547	5,912	17	1,212
1984	7,546	7,291	19	944
1985	5,125	12,410	31	670
1986	5,879	3,599	21	537

Number of Sea Turtle nests in Suriname for the years 1967 through August 1987



Suriname National Report to WATS II (1987)

- 1 Green turtle (*Chelonia mydas*)
 - 2 Olive ridley (*Lepidochelys olivacea*)
 - 3 Leatherback (*Dermochelys coriacea*)
 - 4 Hawksbill (*Eretmochelys imbricata*)
- (redrawn from data in original report: R. Bjorkland 2009)



APPENDIX 4. NUMBER OF POACHED, HARVESTED AND TRANSPLANTED NESTS IN SURINAME FROM JANUARY UNTIL AUGUST 1987

Poached Nests

Green turtle (Krape)		Leatherback (Aitkanti)		Olive Ridley (Warana)		Hawksbill (Karet)	
Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro
---	14	---	7	---	---	---	---
---	---	---	17	---	---	---	---
15	19	4	31	---	---	---	---
8	11	---	36	---	---	---	---
5	21	---	60	---	---	---	---
---	18	11	43	7	2	---	---
---	---	---	3	---	---	---	---
---	---	2	---	2	1	---	---
Total = 28	Total = 83	Total = 17	Total = 197	Total = 9	Total = 3	Total = ---	Total = ---

Harvested Nests

Green turtle (Krape)		Leatherback (Aitkanti)	
Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro
---	---	---	---
---	---	---	---
386	117	41	93
593	153	134	244
47	85	53	273
---	---	---	---
---	---	---	---
Total = 1,026	Total = 355	Total = 228	Total = 610

Transplanted Nests

Green turtle (Krape)		Leatherback (Aitkanti)		Olive Ridley (Warana) *		Hawksbill (Karet)	
Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro	Gal. + B's	Mat. + Kro
---	---	4	15	---	---	---	---
---	10	2	9	---	---	---	---
---	16	5	7	---	---	---	---
---	31	---	20	10	---	---	---
24	10	71	18	13	---	---	---
17	48	196	98	113	3	---	---
11	---	114	10	48	---	---	---
---	---	2	2	1	---	---	---
Total = 52	Total = 115	Total = 394	Total = 179	Total = 185*	Total = 3	Total = ---	Total = ---

* These nests were not transplanted because they would be destroyed by high tide or erosion but rather to mislead poachers.

Summary 1987

	Species			
	Green turtle	Leatherback	Olive Ridley	Hawksbill
Laid Nests	6,324	9,816	1,651	11
Harvested Nests	1,381 (21.8%)	838 (8.5%)	---	---
Transplanted Nests	167	573	188	---
Poached Nests	111	214	12	---

Locality Abbreviations: Gal. = Galibi; B's. = Baboensanti; Mat. = Matapica; Kro. = Krofajapasi

APPENDIX 3. NUMBERS OF SEA TURTLE NESTS LAID IN SURINAME FOR THE YEARS 1967 THROUGH 1987

Year	Species			
	<i>Chelonia mydas</i>	<i>Dermochelys coriacea</i>	<i>Eretmochelys imbricata</i>	<i>Lepidochelys olivacea</i>
1967	?	90	10	2,875
1968	± 5,000	200	4	3,290
1969	2,495	305	10	1,665
1970	3,115	255	4	1,750
1971	5,755	285	15	1,595
1972	6,885	380	13	1,270
1973	6,600	900	8	890
1974	7,465	785	30	1,080
1975	3,610	1,625	12	1,070
1976	8,080	670	45	1,160
1977	4,955	5,565	7	1,030
1978	8,465	2,160	10	870
1979	4,330	3,900	?	795
1980	4,510	1,300	26	1,020
1981	7,410	1,990	25	1,220
1982	4,180	3,680	15	1,045
1983	5,547	5,912	17	1,212
1984	7,546	7,291	19	944
1985	5,125	12,410	31	670
1986	5,879	3,599	21	537

APPENDIX 5. TAGGED OLIVE RIDLEY IN SURINAME IN 1987

Date of Tagging or Return	Number	Location	Returned	Remarks
02 May	PPE 101	Matapica		
22 May	PPE 301	Baboensanti		
23 May	PPE 302	Baboensanti		
24 May	PPE 303	Baboensanti		
24 May	PPE 501	Eilanti		
25 May	PPE 502-507	Eilanti		
26 May	PPE 508-510	Eilanti		
31 May	PPE 001-005	Eilanti		
01 June	PPE 006	Eilanti		
02 June	PPE 007-008	Eilanti		
04 June	PPE 009-022	Eilanti		
05 June	PPE 023-026	Eilanti		
08 June	PPE 027	Eilanti		
09 June	PPE 028-035	Eilanti		035 had not laid
10 June	PPE 036-041, 051-055	Eilanti		
10 June		Eilanti	PPE 035	
11 June		Eilanti	PPE 506	
11 June	PPE 056-057, 042-045	Eilanti		
12 June	PPE 048-050, 058-059	Eilanti		
12 June		Eilanti	PPE 505	
13 June	PPE 061-062, 076-077	Eilanti		
13 June		Eilanti	PPE 303, 507	
17 June	PPE 064, 067-071	Eilanti		
17 June	PPE 072-075, 078	Eilanti		
18 June	PPE 079-081	Eilanti		
19 June	PPE 082-089	Eilanti		
25 June	PPE 090-091	Eilanti		
25 June		Eilanti	PPE 024	
26 June		Eilanti	PPE 018, 027, 011	
26 June	PPE 092	Eilanti		
29 June	PPE 093	Eilanti		
29 June		Eilanti	PPE 042	
30 June	PPE 511-515, 517, 094	Eilanti		
30 June		Eilanti	PPE 030, 025	
01 July	PPE 095	Eilanti		
01 July		Eilanti	PPE 051	
02 July	PPE 096-098	Eilanti		
04 July	PPE 099-100	Eilanti		
04 July		Eilanti	PPE 050, 035	035 killed by jaguar
16 July	PPE 518-520	Eilanti		
16 July		Eilanti	PPE 068	

APPENDIX 6. NUMBER OF POACHED, HARVESTED AND TRANSPLANTED NESTS IN SURINAME IN 1986

Poached Nests

Months	Green turtle (Krape)		Leatherback (Aitkanti)		Olive Ridley (Warana)		Hawksbill (Karet)	
	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.
January	---	---	---	---	---	---	---	---
February	---	---	---	---	---	---	---	---
March	76	---	---	---	---	---	---	---
April	---	11	---	9	---	---	---	---
May	5	---	---	5	---	---	---	---
June	---	---	---	---	---	---	---	---
July	---	---	---	---	---	---	---	---
August	---	---	---	---	---	---	---	---
September	---	---	---	---	---	---	---	---
October	---	---	---	---	---	---	---	---
November	---	---	---	---	---	---	---	---
December	---	---	---	---	---	---	---	---
Total	76	16	---	14	---	---	---	---

Harvested Nests

Months	Green turtle (Krape)		Leatherback (Aitkanti)	
	Gal.	Mat.	Gal.	Mat.
January	---	---	---	---
February	---	---	---	---
March	838	---	16	---
April	382	48	46	42
May	985	152	929	201
June	---	---	---	---
July	---	---	---	---
August	---	---	---	---
September	---	---	---	---
October	---	---	---	---
November	---	---	---	---
December	---	---	---	---
Total	2,205	200	991	243

(Continued on next page)

**APPENDIX 6. NUMBER OF POACHED, HARVESTED AND TRANSPLANTED NESTS IN SURINAME
IN 1986 (*Continued*)**

Transplanted Nests

Months	Green turtle (Krape)		Leatherback (Aitkanti)		Olive Ridley (Warana)		Hawksbill (Karet)	
	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.
January	1	---	1	---	---	---	---	---
February	5	25	---	7	---	---	---	---
March	---	92	---	8	---	---	---	---
April	9	183	25	30	---	---	---	---
May	---	14	---	20	---	1	---	---
June	1	40	18	41	2	10	---	---
July	3	7	6	24	12	6	1	---
August	1	---	4	2	1	---	---	---
September	---	---	---	---	---	---	---	---
October	---	---	---	---	---	---	---	---
November	---	---	---	---	---	---	---	---
December	---	---	---	---	---	---	---	---
Total	20	361	54	136	15	17	1	---

Locality Abbreviations: Gal. = Galibi; Mat. = Matapica

AANTAL GELEGDE ZEESCHILDPAD NESTEN IN 1986

Krape		Gal.		B's		Eil.		Mat.		K'p		K-D		Kp-M		Total
Month		gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.
Jan.		12	1	15	---	4	---	4	---	11	---	---	---	---	---	96
Febr.		135	---	209	5	53	---	11	1	72	24	20	---	---	---	500
Mrt.		310	---	683	---	176	---	24	---	333	92	38	---	---	---	1,564
April		500	4	715	2	185	3	29	---	465	183	34	---	---	---	1,928
Mei		295	---	469	---	276	---	26	3	334	11	25	---	---	---	1,425
Juni		69	---	105	1	24	---	6	---	125	40	4	---	---	---	333
Juli		9	---	20	2	6	1	2	---	27	7	---	---	---	---	64
Aug.		4	---	9	---	4	1	---	---	---	---	2	---	---	---	19
Sept.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Okt.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nov.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dec.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total		1,334	5	2,225	10	728	5	102	4	1,367	357	123	---	---	---	5,879

Aitkanti		Gal.		B's		Eil.		Mat.		K'p		K-D		Kp-M		Total
Month		gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.
Jan.		2	---	19	1	3	---	12	---	37	---	6	---	---	---	79
Febr.		1	---	17	---	5	---	9	---	21	7	5	---	---	---	58
Mrt.		2	---	17	---	3	---	9	---	30	8	6	---	---	---	67
April		4	---	115	13	13	12	40	---	206	30	---	---	---	---	378
Mei		41	---	518	---	228	---	59	5	373	15	54	---	---	---	1,273
Juni		31	---	459	17	193	1	30	---	241	41	36	---	---	---	990
Juli		35	2	288	4	73	---	14	---	107	24	23	---	---	---	540
Aug.		6	---	49	3	8	1	5	---	9	2	8	---	---	---	85
Sept.		---	---	---	---	---	---	3	---	5	---	3	---	---	---	11
Okt.		---	---	---	---	---	---	2	---	6	---	2	---	---	---	10
Nov.		---	---	---	---	---	---	4	---	11	---	2	---	---	---	17
Dec.		---	---	---	---	---	---	16	---	63	4	12	---	---	---	91
Total		122	2	1,482	38	526	14	203	5	1,109	131	157	---	---	---	3,599

Warana		Gal.		B's		Eil.		Mat.		K'p		K-D		Kp-M		Total
Month		gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.
Jan.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Febr.		---	---	---	---	1	---	---	---	---	---	---	---	---	---	1
Mrt.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
April		---	---	---	---	3	---	5	---	2	---	---	---	---	---	10
Mei		2	---	9	---	48	---	3	---	7	1	5	---	---	---	74
Juni		---	---	27	2	141	---	5	---	20	10	15	---	---	---	208
Juli		19	---	27	11	118	1	4	---	28	6	8	---	---	---	204
Aug.		2	---	9	---	15	1	2	---	6	---	2	---	---	---	36
Sept.		---	---	---	---	---	---	1	---	3	---	---	---	---	---	4
Okt.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nov.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dec.		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total		23	---	72	13	326	2	20	---	66	17	30	---	---	---	537

AANTAL GELEGDE ZEESCHILDPAD NESTEN IN 1986 (Continued)

Katet Month	Gal.		B's		Eil.		Mat.		K'p		K-D		Kp-M		Total gel.
	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	
Jan.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Febr.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mrt.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
April	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Mei	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1
Juni	---	---	---	---	---	---	---	---	1	---	2	---	---	---	3
Juli	---	---	---	---	---	---	---	---	9	1	2	---	---	---	11
Aug.	---	---	---	---	---	---	---	---	1	---	1	---	---	---	2
Sept.	---	---	---	---	---	---	---	---	2	---	1	---	---	---	3
Okt.	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1
Nov.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dec.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Total	---	---	---	---	---	---	---	---	15	1	6	---	---	---	21

Aantal Gelegde Nesten in 1986

Krape	5,879
Aitkanti	3,599
Warana	537
Katet	21

Aantal Verplaatate nesten in 1986

Krape	381
Aitkanti	190
Warana	32
Katet	1

APPENDIX 7. MONTHS RECORDED NESTING 1986

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<u>Green Turtle</u>												
Gal. (1.5 km)	X	XX	XX	XX	XX	X	X	X				
B's.	X	XX	XX	XX	XX	XX	X	X				
Eil. (2.5 km)	X	X	XX	XX	X	X	X	X				
Kro. (5 km)	X	X	XX	XX	XX	XX	X	X				
Mat. (2 km)	X	X	XX	XX	XX	XX	X	X				
K-D (14 km)	X	XX	XX	XX	XX	X	X	X				
<u>Leatherbacks</u>												
Gal. (1.5 km)	X	X	X	XX	XX	XX	XX	X				
B's.	X	X	X	XX	XX	XX	XX	X				
Eil. (2.5 km)	X	X	X	X	XX	XX	XX	X				
Kro. (5 km)	X	X	X	XX	XX	XX	XX	X	X	X	X	X
Mat. (2 km)	X	X	X	XX	XX	XX	XX	X	X	X	X	X
K-D (14 km)	X	X	X	X	XX	XX	XX	X	X	X	X	X
<u>Olive Ridleys</u>												
Gal. (1.5 km)					X		XX	X				
B's.					X	XX	XX	X				
Eil. (2.5 km)		X		X	X	XX	XX	X				
Kro. (5 km)				X	X	XX	XX	X	X			
Mat. (2 km)				X	X	XX	XX	X	X			
K-D (14 km)					X	XX	X	X				
<u>Hawksbills</u>												
Gal. (1.5 km)												
B's.												
Eil. (2.5 km)												
Kro. (5 km)				X	X	X	XX	X	X			
Mat. (2 km)												
K-D (14 km)					X	X	X	X				

X = Months recorded nesting

XX = Month(s) peak nesting

APPENDIX 8. NUMBER AND DATE OF RELEASED REARED GREEN TURTLE

Hatch 1982 Code: 11L & 8R					
Release Date	With Tags (1) *	Only Code & Measure		Only code	Code
	Tag No.	Total	(2) *	(3) *	(4) *
06 January 1984	ST2822-2921	100			11L, 8R
11 January 1984	ST2922-3001	130			11L, 8R
12 January 1984	ST3052-3151	100			11L, 8R
13 January 1984	ST3152-3226	75			11L, 8R
14 January 1984	ST3227-3315	89		6	11L, 8R
Total		494		6	
Hatch 1983 Code: 11L & 10R; 11L & 7R					
Release Date	With Tags (1) *	Only Code & Measure		Only code	Code
	Tag No.	Total	(2) *	(3) *	(4) *
18 January 1984	ST3316-3327	144			11L, 7R
	ST3329-3460				
10 February 1984	ST3601-3700	100			11L, 7R
11 February 1984	ST3701-3866	166			11L, 7R
14 February 1984	ST3867-4082	216			11L, 7R
16 February 1984	ST3461-3500	40			11L, 7R
	3713, 3950				
	3958, 4018				
	4020, 4098	6			11L, 7R
	4207-4398	192			11L, 7R
	4201, 4211	3	18		11L, 7R
	4225				
17 February 1984			288		11L, 7R
20 February 1984			216		11L, 7R
Total	---	867	522	---	---
Total Released 1984					
Hatch 1982		494		6	
Code: 11L & 8R					
Hatch 1983		867		522	
Code: 11L & 10R;					
11L & 7R					

APPENDIX 8. NUMBER AND DATE OF RELEASED REARED GREEN TURTLE (*Continued*)

Hatch 1981	Code: 11L & 11R				
Release Date	With Tags (1) *	Only Code & Measure	Only code	Code	
	Tag No.	(2) *	(3) *	(4) *	
06 February 1985					
07 February 1985					
04 March 1985					
15 March 1985					
16 March 1985					
? March 1985					
17 April 1985	MA101-150	50			11L, 11R
16 May 1985	MA151-200	50			11L, 11R
Total	---	100	---	---	---
Hatch 1982	Code: 11L & 8R				
Release Date	With Tags (1) *	Only Code & Measure	Only code	Code	
	Tag No.	(2) *	(3) *	(4) *	
? March 1985			271		11L, 8R
Total	---	---	271	---	---
Hatch 1983	Code: 11L & 10R; 11L & 7R				
Release Date	With Tags (1) *	Only Code & Measure	Only code	Code	
	Tag No.	(2) *	(3) *	(4) *	
06 February 1985	ST4401-4500	100			11L, 10R
07 February 1985		400			
04 March 1985	ST4923-4925	3	50		11L, 10R
15 March 1985	ST4901-4922	22			11L, 10R
	ST4926-4958	33			11L, 10R
16 March 1985	ST4959-5000	42	18		11L, 10R
? March 1985					
17 April 1985					
16 May 1985					
Total	---	200	468	---	---
Total Released 1985					
Hatch 1981		100			
Code: 11L & 11R					
Hatch 1982			271		
Code: 11L & 8R;					
Hatch 1983		200	468		
Code: 11L & 10R;					
11L & 7R					
Total Released 1984 + 1985					
	With Tags (1) *	Only Code & Measure	Only code	Code	
		(2) *	(3) *	(4) *	
Hatch 1981	100	---		---	
Hatch 1982	494	---	277	---	
Hatch 1983	1,067	990	---	---	

APPENDIX 8. NUMBER AND DATE OF RELEASED REARED GREEN TURTLE (*Continued*)

	Mean Length (cm)		Mean Width (cm)		Men Weight (lbs)
	Straight	Curve	Straight	Curve	
Hatch 1981	42.7	45.4	36.4	39.0	19.3
Hatch 1982	33.0	33.8	27.6	28.6	7.6
Hatch 1983	18.6	20	16.7	17.2	1.8

Notes on the Appendix :

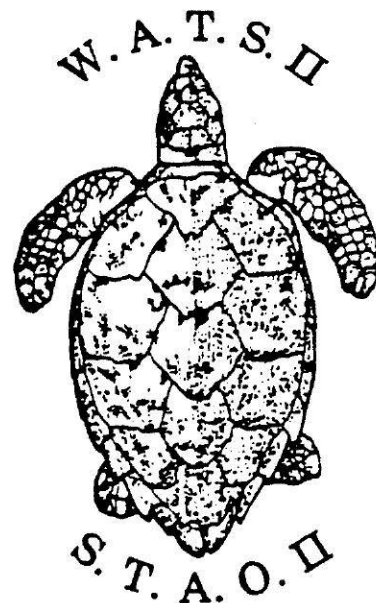
1. All turtles are double marked. The mark is a combination of a metal tag and a drill hole or a combination of two drill holes on the marginal scutes. The metal tags have been attached by drilling a hole on the scute. Tags have always been attached on the right side of the turtle. Length, width and weight have also been measured.
2. This group has a mark consisting of only two drill holes, one on each side. Also, the length, width and weight have been measured.
3. This group has only the code: two drill holes, one on each side.
4. L= left side; R=right side. Left or right is determined by placing the turtle with the tail towards you. The number before "L" and "R" indicates on which scute the mark has been placed. Counting of the marginal scutes starts from the head and progresses toward the tail.

WATS II REPORT/DATA SET

National Report to WATS II for Suriname

K. Mohadin

12 October 1987



WATS2 058

WATS II SEA TURTLE SURVEY DATA FORMS

INSTRUCTIONS FOR WATS II SEA TURTLE DATA FORMS

This data form has been designed to assemble sea turtle nesting information prior to the WATS II Symposium. It is not a comprehensive survey form that covers all aspects of nesting observations. It has been designed to extract essential data that can be incorporated into the WATS Data Base. Please use the following guidelines.

- I. NESTING BEACH SURVEY: This section should be completed during or immediately after a night-time or morning survey of a nesting beach.
Nest Number: Number the column for each nest located.
1. Time: Record the time when a nesting or fresh tracks are observed.
 2. Species: Use KEY LETTERS at bottom of page.
 3. Tag Number: Record number of tag applied or already present and whether N for New tag or O for Old.
 4. Carapace Length: Record length and indicate whether straight (S) or curved (C) measurement was used and in what units C=cm, or I = inches.
 5. Number of Eggs: Record number of fully formed eggs.
 6. Emergence Date: Record data of hatchlings emergence.
 7. Number of Hatchlings: Record number of emerged hatchlings.
 8. Erosion Danger: Indicate if nest seems imperilled by erosion; Y (yes), N (no).
 9. Nest Protected: Indicate if barrier or disguise action taken; Y (yes), N (no).
 10. Nest Relocated to another beach site indicate Y (yes) or N (no).
 11. Nest Relocated to hatchery; Y (yes) or N (no).
 12. Number of Eggs Harvested: Record number of eggs taken for food.
 13. Number of Eggs depredated.
 14. Number of Head-Start Eggs: Record number of eggs taken for head-start programs.
 15. Female Harvested: Indicate if nesting female was slaughtered.
-

- II. AERIAL/GROUND SURVEY SUMMARY: Complete this section after summarizing aerial and nesting beach survey.
1. Please put date of survey as year/month/day.
 2. Place approximate total beach length in kilometers.
 3. Circle whether aerial or ground survey.
 4. Indicate if fresh nests are equal to or less than 24 hrs. old.
 5. Indicate if old nests are more than 24 hrs. old.
 6. Indicate if false crawl is one which does not terminate in a nest.
 7. Record portion or percent of nests disturbed by human or animal predator.
 8. Please briefly describe how survey was conducted or how observation was made.
-

III. NESTING BEACH INVENTORY

1. List name of beach in geographical sequence.
 2. Place approximate total beach length in kilometers.
 3. List species known to nest on this beach, with each species listed on a separate line.
 4. List peak months of nesting activity by species.
 5. List total nesting season by months of occurrence by species.
-

E I. NESTING BEACH SURVEY:

TRY SURINAME STATE _____ NAME OF BEACH GALIBI
 OF OBSERVER E. Kiba DATE Apr 21 TIME START/STOP _____ DISTANCE SURVEYED 1.5 km
 1987

Nest Number							
Time							
Species*	Cm	Dc	Ei	Lo			
Tag Number. N = New O = Old							
Carapace Length (S/C) Units: cm or inches							
Number of Eggs	21 nests						
Emergence Date							
Number of Hatchlings							
Erosion Danger?(Y/N)	N						
Nest Protected?(Y/N)	N						
Nest Relocated to another beach site (Y/N)	N						
Number of Eggs to Hatchery? (Y/N)	-						
Number of Eggs Harvested	21 nests						
Number of Eggs Depredated							
Number of Head-start Eggs							
Females Harvested?(Y/N)							

* = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys
imbricata; Lk = Lepidochelys kemp; Lo = Lepidochelys olivacea; Uk = Unknown

Page 3

RY SURINAME STATE _____ NAME OF BEACH Ellanti 2.5 km
OF OBSERVER R. Autar DATE Apr 21 TIME START/STOP _____ DISTANCE SURVEYED _____
1987

Nest Number							
me							
Species*	Cm	Dc	Ei	Lo			
g Number. N = New O = Old							
trapace Length (S/C)							
its: cm or inches							
umber of Eggs	11 nests						
emergence Date							
umb: Hatchlings							
rosion Danger?(Y/N)	Y						
est Protected?(Y/N)	N						
Nest Relocated to another beach site (Y/N)	N						
Number of Eggs to Hatchery? (Y/N)							
Number of Eggs Harvested	11 nests						
Number of Eggs Depredated							
Number of Head-start Eggs							
Females Harvested?(Y/N)							

= Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; Lo = Lepidochelys olivacea; Uk = Unknown

Page 3

TRY SURINAME STATE _____ NAME OF BEACH Krofajapasi 5 km.
OF OBSERVER J. Kromokaryo DATE Apr 21 TIME START/STOP _____ DISTANCE SURVEYED _____
1987

Nest Number							
Time							
Species*	Cm	Dc	Ei	Lo			
Tag Number .N = New O = Old							
Carapace Length (S/C) Units: cm or inches							
Number of Eggs	9 nests	12 nests					
Emergence Date							
Number of Hatchlings							
Proximity Danger?(Y/N)	N	N					
Nest Protected?(Y/N)	N	N					
Nest Relocated to another beach site (Y/N)	N	N					
Number of Eggs to Hatchery? (Y/N)							
Number of Eggs Harvested	5 nests	5 nests					
Number of Eggs Depredated	1 nest						
Number of Head-start Eggs							
Females Harvested?(Y/N)							

* Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys
ricata; Lk = Lepidochelys kemp; Lo = Lepidochelys olivacea; Uk = Unknown

I. NESTING BEACH SURVEY:

COUNTRY SURINAME STATE _____ NAME OF BEACH Baboensanti 3 km
 OF OBSERVER J. Thakoer DATE June 18 TIME START/STOP _____ DISTANCE SURVEYED _____
 1987

Nest Number						
Species	Cm	Dc	Ei	Lo		
Tag Number. N = New O = Old						
Carapace Length (S/C) Units: cm or inches						
Number of Eggs	3 nests	42 nests		5 nests		
Emergence Date						
Number of Hatchlings						
Perceived Danger?(Y/N)	N	Y		N		
Nest Protected?(Y/N)	N	Y		Y		
Nest Relocated to another beach site (Y/N)	N	Y		Y		
Number of Eggs to Hatchery? (Y/N)						
Number of Eggs Harvested						
Number of Eggs Depredated						
Number of Head-start Eggs						
Females Harvested?(Y/N)						

= Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys
ricata; Lk = Lepidochelys kemp; Lo = Lepidochelys olivacea; Uk = Unknown

WATS II SEA TURTLE DATA FORMS

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

COUNTRY SURINAME STATE _____ BEACH/ZONE Eilanti (west) DISTANCE SURVEYED 1.5 km
 DATE: June 13, 1987 OBSERVER: K. Mohadin / R. Autar Circle one: AERIAL OR GROUND

Species*	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total no. of fresh nests			25			5	
Total no. of old nests			17			3	
Total no. of fresh false crawls			2			—	
No. of nests disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

The survey days have been chosen voluntary as daily countings take place on the beaches.

*Cc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; Lo = Lepidochelys olivacea; Uk = Unknown

WATS II SEA TURTLE DATA FORMS

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

COUNTRY SURINAME STATE _____ BEACH/ZONE Elanti (East) DISTANCE SURVEYED 1 km
 DATE: June 13, 1987 OBSERVER: L. Autar / E. Kiba Circle one: AERIAL OR GROUND

Species*	Co	Cm	Dc	Ei	Lk	Lo	Uk
Total no. of fresh nests		2	16			3	
Total no. of old nests		1	19			2	
Total no. of fresh false crawls		1	1			-	
No. of nests disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

*Co = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; Lo = Lepidochelys olivacea; Uk = Unknown

WATS II SEA TURTLE DATA FORMS

TABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

COUNTRY SURINAME STATE _____ BEACH/ZONE Baboensanti DISTANCE SURVEYED 3 km
 DATE: June 13, 1987 OBSERVER: J. Thakoor/S. Katidie Circle one: AERIAL OR GROUND

Species ^a	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total no. of fresh nests		2	17			1	
Total no. of old nests		1	18			1	
Total no. of fresh false crawls		-	-				
No. of nests disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

^aCc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; Lo = Lepidochelys olivacea; Uk = Unknown

WATS II SEA TURTLE DATA FORMSTABLE II. AERIAL AND GROUND SURVEY SUMMARY DATA FORM

COUNTRY SURINAME STATE _____ BEACH/ZONE krofajapasi DISTANCE SURVEYED 5 km
 DATE: June 13, 1987 OBSERVER: S. Karamantana Circle one: AERIAL OR GROUND

Species ^a	Cc	Cm	Dc	Ei	Lk	Lo	Uk
Total no. of fresh nests		2	5				
Total no. of old nests		6	4				
Total no. of fresh false crawls							
No. of nests disturbed							

Please provide below a brief description of how the survey or observation was completed. Particularly indicate interval between survey days and why this interval was selected and if survey dates were timed to occur the day/night after high (spring tide):

^aCc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; Lo = Lepidochelys olivacea; Uk = Unknown

TABLE III. NESTING BEACH INVENTORY

List Beaches in geographic sequence. Provide additional information on an attached page. Please list each species that occurs on beach on a separate line even if months of occurrence are the same.

COUNTRY SURINAME

STATE _____

RECORDER _____

NAME OF BEACH	LENGTH IN KM	SPECIES NESTING	MONTHS PEAK NESTING	MONTHS RECORDED NESTING
Galibi	1.5 km	Cm	Febr - May	Jan - July
-	-	Dc	Apr - June	Jan - Aug
-	-	Lo	Apr - June	Apr - July
Baboensanti	3 km	Cm	Febr - May	Jan - Aug
-	-	Dc	Apr - June	Jan - Aug
-	-	Lo	Apr - July	March - Aug
Ellanti	2.5 km	Cm	March - June	Jan - Aug
		Dc	Apr - July	Jan - Aug
		Lo	Apr - July	March - Aug

*Cc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; El = Eretmochelys imbricata; Lk = Lepidochelys kemp; = Lepidochelys olivacea = Uk = Unknown

TABLE III. NESTING BEACH INVENTORY

List Beaches in geographic sequence. Provide additional information on an attached page. Please list each species that occurs on beach on a separate line even if months of occurrence are the same.

COUNTRY SURINAME STATE _____ RECORDER _____

NAME OF BEACH	LENGTH IN KM	SPECIES NESTING	MONTHS PEAK NESTING	MONTHS RECORDED NESTING
Krofajapasi	5 km	Cm	March - June	Jan - Aug
-	-	Dc	March - June	Jan - Aug
-	-	Lo	April	March - Aug
-	-	Ei	only one nest in April	April
Matapica	2 km	Cm	March - May	Febr - July
-		Dc	May - June	Jan - Aug
-		Lo	April	April - Aug
-		Ei	two nests in July & Aug	July - Aug

*Cc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; = Lepidochelys olivacea = Uk = Unknown

TABLE III. NESTING BEACH INVENTORY

List Beaches in geographic sequence. Provide additional information on an attached page. Please list each species that occurs on beach on a separate line even if months of occurrence are the same.

COUNTRY SURINAME

STATE _____

RECORDER _____

NAME OF BEACH	LENGTH IN KM	SPECIES NESTING	MONTHS PEAK NESTING	MONTHS RECORDED NESTING
Katkreek & Diana beach	14 km	Cm	March - June	Febr. - July
-	-	Dc	May - July	Jan - Aug
-	-	Lk	April	Apr - Aug
-	-	Ei	eight months June, July, A.	June - Aug

*Co = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempi; = Lepidochelys olivacea = Uk = Unknown

TABLE IV. MORTALITY

COUNTRY <u>SURINAME</u> STATE <u> </u>		YEAR <u>1987</u> OBSERVER <u> </u>					
Date	*Species	Sex	Length	Weight	# Eggs	Locality	Cause
March 14	Dc (1)	female				Krofajapasi	
" 14	Cm (1)	"				Krofajapasi	
" 23	Cm (1)	"				Krofajapasi	
" 25	Cm (1)	"				Krofajapasi	
" 25	Dc (2)	"				Galibi	
" 26	Dc (2)	"				Matapica	
Apr. 7	Dc (1)	"				Krofajapasi	
" 8	Dc (1)	"				Baboensanti	
" 11	Dc (1)	"				Matapica	
" 26	Dc (1)	"				Krofajapasi	

Comments: The figure between the brackets gives the number.

*Cc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kempii; Lo = Lepidochelys olivacea; Uk = Unknown

TABLE IV. MORTALITY

COUNTRY <u>SURINAME</u> STATE _____		YEAR <u>1987</u> OBSERVER _____					
Date	*Species	Sex	Length	Weight	# Eggs	Locality	Cause
May 9	Dc (1)	female				Krofajapasi	
" 12	Dc (1)	"				Krofajapasi	
" 13	Lo (1)	"				Krofajapasi	
" 13	Dc (1)	"				Krofajapasi	
" 14	Dc (1)	"				Krofajapasi	
" 17	Dc (2)	"				Metabica	
June 12	Dc (1)	"				Metabica	
" 27	Cm (2)	"				Katkreek & Diana	
" 27	Dc (4)	"				Katkreek & Diana	
July 4	Lo (1)	"				Eilanti	killed by jaguar

Comments:

*Cc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kemp; Lo = Lepidochelys olivacea; Uk = Unknown

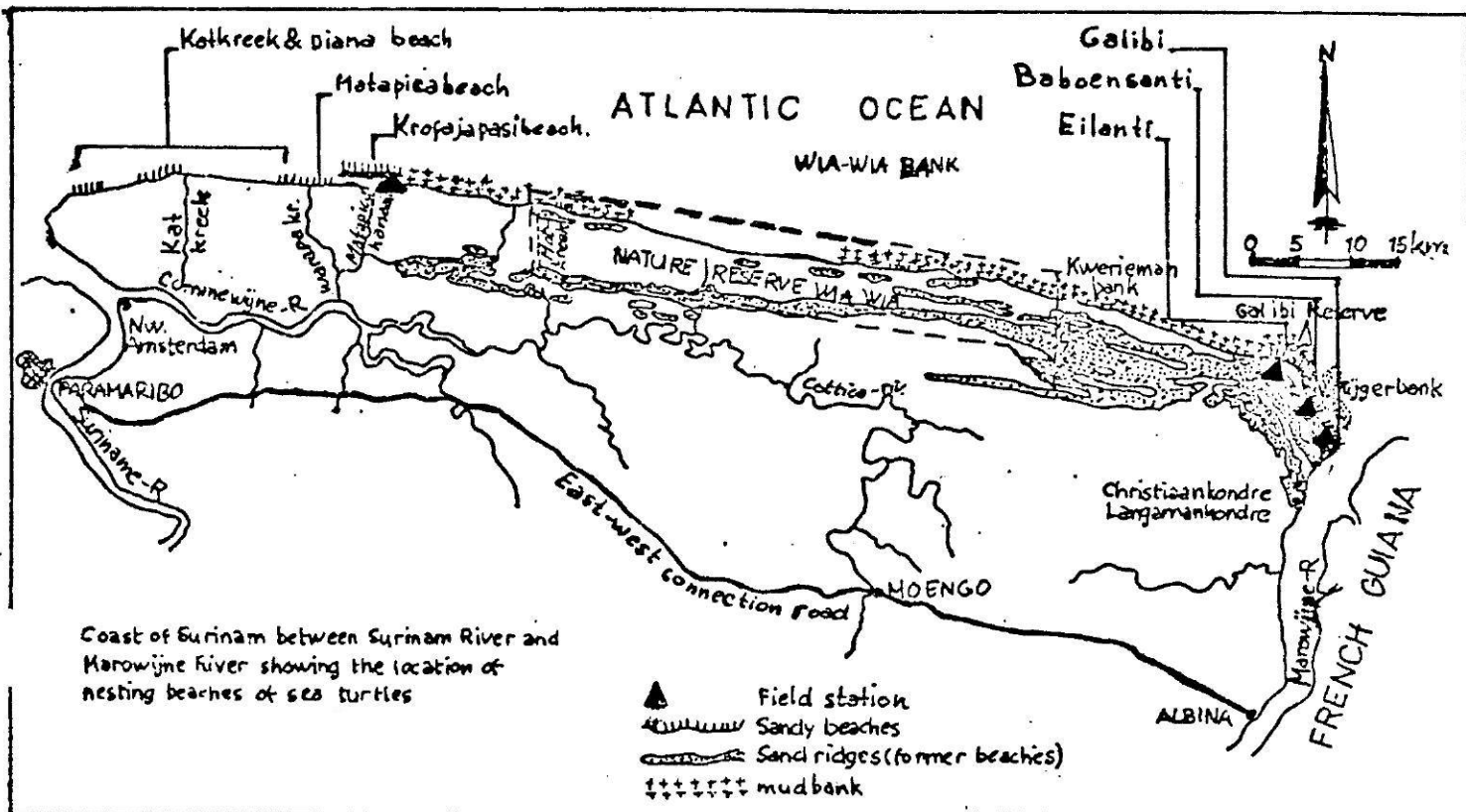
TABLE IV. MORTALITY

COUNTRY SURINAME STATE _____ YEAR 1982 OBSERVER _____

[illegible]

Comments:

*Cc = Caretta caretta; Cm = Chelonia mydas; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Lk = Lepidochelys kemp; Lo = Lepidochelys olivacea; Uk = Unknown



	GAL		B'S		EIL				K'P		K-D		
	ld	tr	ld	tr	ld	tr		tr	ld	tr	ld	tr	
Jan	12	-	20	-	6	-	-	-	1	-	-	-	
Febr	142	-	193	-	30	-	4	-	47	10	7	-	
Mrch	263	-	648	22	339	-	43	-	236	16	45	-	
April	449	-	793	1	383	-	93	-	354	31	70	-	
May	295	1	654	17	324	6	20	-	262	10	35	-	
June	86	4	130	13	105	-	10	1	102	46	20	1	
July	20	3	29	8	14	-	5	-	5	-	10	-	
Aug	-	-	6	-	5	-	-	-	4	-	-	-	
Total	1267	8	2478	61	1206	6	175	1	1011	113	187	1	

Leatherback

	GAL		B'S		EIL		MAT		K'P		K-D		
	ld	tr	ld	tr	ld	tr	ld	tr	ld	tr	ld	tr	
Jan	10	-	43	4	29	-	61	-	89	15	40	-	
Febr	2	2	23	-	6	-	42	-	45	9	36	-	
Mrch	1	-	57	5	12	-	27	-	153	7	30	-	
April	449	-	793	-	383	-	93	-	354	20	70	-	
May	133	-	1165	48	785	23	190	-	486	18	150	-	
June	199	2	1077	165	820	29	108	-	425	98	210	-	
July	74	2	533	88	201	24	55	-	56	10	150	-	
Aug	9	-	94	2	4	-	6	-	13	2	25	-	
Total	877	6	3785	312	2240	76	582	-	1621	179	711	-	

NUMBERS OF SEA TURTLE NESTS LAID IN SURINAME

FOR THE YEARS 1967 THROUGH 1987

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
CM	?	+5000	2495	3115	5755	6885	6600	7465	3610	8080	4955	8465	4330	4510	7410	4180	5547	7546	5125	5879
90	90	200	305	255	285	380	900	785	1625	670	5565	2160	3900	1300	1990	3680	5912	7291	12401	3599
20	2875	3290	1665	1750	1595	1270	890	1080	1070	1160	1030	870	795	1020	1220	1045	1212	944	670	537
FI	10	4	10	4	15	13	8	30	12	45	7	10	?	26	25	15	17	19	31	21

• Chelonia mydas

• Dermochelys coriacea

• Lepidochelys olivacea

• Eretmochelys imbricate

Number of sea turtle nests laid in Suriname for the years 1967 through August 1987

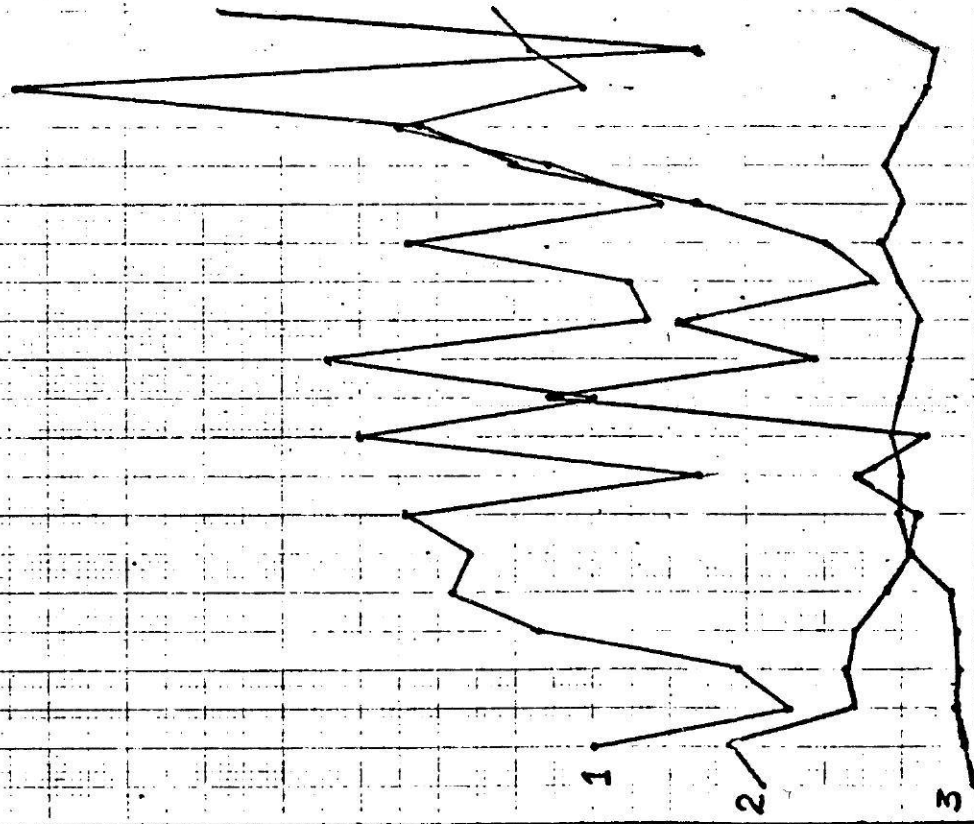
1 Green turtle (*Chelonia mydas*)

2 Olive ridley (*Lepidochelys olivacea*)

3 Leatherback turtle (*Dermochelys coriacea*)

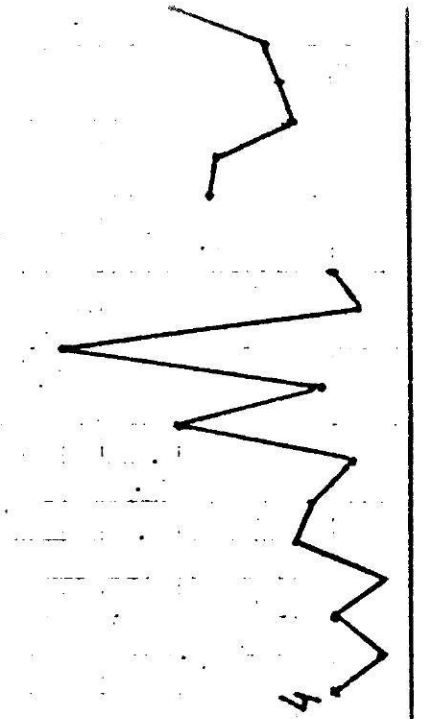
4 Hawksbill (*Eretmochelys imbricata*)

13,000
12,500
12,000
11,500
11,000
10,500
10,000
9,500
9,000
8,500
8,000
7,500
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0



1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
Aug. 1987

50
45
40
35
30
25
20
15
10
5
0



1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987

NUMBER OF POACHED, HARVESTED AND TRANSPLANTED NESTS IN SURINAME FROM JAN. TILL AUG.1987

Poached nests								Harvested nests				Transplanted nests							
Green turtle (Krape)		Leatherback (Aitkanti)		Olive ridley (Warana)		Hawksbill (Karet)		Greenturtle (Krape)		Leatherback (Aitkanti)		Greenturtle (Krape)		Leatherback (Aitkanti)		Olive ridley (Warana)*		Hawksbi (Karet)	
Cal.+ B's	Mat.+ Kro	Gal.+ B's	Mat.+ Kro	Gal.+ B's	Mat.+ Kro	Gal.+ B's	Mat.+ Kro	Gal.+ B's+ Ei	Mat.+ Kro	Gal.+ B's+ Ei	Mat.+ Kro	Gal.+ B's+ Ei	Mat.+ Kro+ K'D	Gal.+ B's+ Ei	Mat.+ Kro+ K'D	Gal.+ B's+ Ei	Mat.+ Kro+ K'D	Gal.+ B's+ Ei	Mat.+ Kro+ K'D
-	14	-	7	-	-	-	-	-	-	-	-	-	-	4	15	-	-	-	-
-	-	-	17	-	-	-	-	-	-	-	-	-	10	2	9	-	-	-	-
15	19	4	31	-	-	-	-	386	117	41	93	-	16	5	7	-	-	-	-
8	11	-	36	-	-	-	-	593	153	134	244	-	31	-	20	10	-	-	-
5	21	-	60	-	-	-	-	47	85	53	273	24	10	71	18	13	-	-	-
-	18	11	43	7	2	-	-	-	-	-	-	17	48	196	98	113	3	-	-
-	-	-	3	-	-	-	-	-	-	-	-	11	-	114	10	48	-	-	-
-	-	2	-	2	1	-	-	-	-	-	-	-	-	2	2	1	-	-	-
28	83	17	197	9	3	-	-	1026	355	228	610	52	115	394	179	185*	3	-	-

These nests were not transplanted because they would be destroyed by high tide or erosion but rather to mislead poachers.

Summary 1987:

	Green turtle	Leatherback	Olive ridley	Hawksbill
aid nests:	6324	9816	1651	11
arvested nests:	1381 (21,8 %)	838 (8,5 %)	-	-
ransplanted nests	167	573	188	-
oached nests:	111	214	12	-

Date of tagging or return	Number	Location	Returned	Remarks
May 2	PPE 101	Matapica		
22	PPE 301	Baboensanti		
23	PPE 302	Baboensanti		
24	PPE 303	Baboensanti		
24	PPE 501	Eilanti		
25	PPE 502-507	Eilanti		
26	PPE 508-510	Eilanti		
31	PPE 001-005	Eilanti		
June 1	PPE 006	Eilanti		
2	PPE 007-008	Eilanti		
4	PPE 009-022	Eilanti		
5	PPE 023-026	Eilanti		
8	PPE 027	Eilanti		
9	PPE 028-035	Eilanti		035 had not laid
10	PPE 036-041, 051-055	Eilanti		
10		Eilanti	PPE 035	
11		Eilanti	PPE 506	
11	PPE 056-057, 042-045	Eilanti		
12	PPE 048-050, 058-059	Eilanti		
12		Eilanti	PPE 505	
13	PPE 061-062, 076-077	Eilanti		
13		Eilanti	PPE 303,507	
17	PPE 064 067-071	Eilanti		
17	PPE 072-075, 078	Eilanti		
18	PPE 079-081	Eilanti		
19	PPE 082-089	Eilanti		
25	PPE 090-091	Eilanti		
25		Eilanti	PPE 024	
26		Eilanti	PPE 018,027, 011	
26	PPE 092	Eilanti		
29	PPE 093	Eilanti		

Date of tagging or return	Number	Location	Returned	Remarks
June 29		Eilanti	PPE 042	
30	PPE 511-515, 517,094	Eilanti		
30		Eilanti	PPE 030,025	
July 1	PPE 095	Eilanti		
1		Eilanti	PPE 051	
2	PPE 096-098	Eilanti		
4	PPE 099-100	Eilanti		
4		Eilanti	PPE 050, 035	035 killed by a jaguar.
16	PPE 518-520	Eilanti		
16		Eilanti	PPE 068	

NUMBER OF POACHED, HARVESTED AND TRANSPLANTED NESTS IN SURINAME IN 1986

	Poached nests								Harvested nests				Transplanted nests							
	Green turtle (Krape)		Leatherback (Aitkanti)		Olive ridley (Warana)		Hawksbill (Karet)		Greenturtle (Krape)		Leatherback (Aitkanti)		Greenturtle (Krape)		Leatherback (Aitkanti)		Olive ridley (Warana)		Hawksbill (Karet)	
	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.	Gal.	Mat.
Jan.	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-
Febr.	-	-	-	-	-	-	-	-	-	-	-	-	5	25	-	7	-	-	-	-
March	76	-	-	-	-	-	-	-	838	-	16	-	-	92	-	8	-	-	-	-
April	-	11	-	9	-	-	-	-	382	48	46	42	9	183	25	30	-	-	-	-
May	-	5	-	-	-	-	-	-	985	152	929	201	-	14	-	20	-	-	-	-
June	-	-	-	5	-	-	-	-	-	-	-	-	1	40	18	41	2	10	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	3	7	6	24	12	6	1	-
Aug.	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4	2	1	-	-	-
Sept.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oct.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nov.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
Tot.	76	16	-	14	-	-	-	-	2205	200	991	243	20	361	54	136	15	17	1	-

AANTAL GELEGDE ZEESCHILDPAAD NESTEN IN 1986

AITKANTI

KRAPE

1986

Mnd.	G A L		E ' S		E I L		M A T		K ' P		K - D		K p - M		T O T
	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	
Jan.	12	1	15	-	4	-	4	-	11	-	-	-	-	-	79
Febr.	135	-	209	5	53	-	11	1	72	24	20	-	-	-	58
Mrt.	310	-	683	-	176	-	24	-	333	92	38	-	-	-	67
April	500	4	715	2	185	3	29	-	465	183	34	-	-	-	378
Mei	295	-	469	-	276	-	26	3	334	11	25	-	-	-	1273
Juni	69	-	105	1	24	-	6	-	125	40	4	-	-	-	980
Juli	9	-	20	2	6	1	2	-	27	7	-	-	-	-	540
Aug.	4	-	9	-	4	1	-	-	-	-	2	-	-	-	85
Sept.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Okt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Nov.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
Dec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51
Tot.	1334	5	2225	10	728	5	102	4	1367	357	123	-	-	-	3599

KARET

WARANA

Mnd.	G A L		B ' S		E I L		M A T		K ' P		K - D		K p - M		T O T
	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	gel.	ver.	
Jan.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Febr.	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Mrt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	3	-	3	-	2	-	-	-	-	-	-
Mei	2	-	9	-	48	-	3	-	7	-	1	5	-	-	1
Juni	-	-	27	2	141	-	5	-	20	10	15	-	-	-	3
Juli	19	-	27	11	118	1	4	-	28	6	8	-	-	-	11
Aug.	2	-	9	-	15	1	2	-	6	-	2	-	-	-	2
Sept.	-	-	-	-	-	-	1	-	3	-	-	-	-	-	3
Okt.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Nov.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tot.	23	-	72	13	326	2	20	-	66	17	30	-	-	-	21

Aantal gelegde nesten in 1986/Aantal verplaatste nesten.

Krape : 5879 Krape : 301

Aitkanti : 3599 Aitkanti : 190

Warana : 537 Warana : 32

Karet : 21 Karet : 1

MONTHS RECORDED NESTING 1986

<u>GREEN TURTLE</u>	JAN	FEBR	MARCH	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
GAL (1.5 km)	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x	x	x				
B'S	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x	x				
EIL (2.5 km)	x	x	<u>x</u>	<u>x</u>								
KRO (5 km)	x	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x	x				
MAT (2 km)	x	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x	x				
K-D (14 km)		<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x		x				

LEATHERBACK

GAL	x	x	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x				
B'S	x	x	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x				
EIL	x	x	x	x	<u>x</u>	<u>x</u>	x	x				
KRO	x	x	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x	x	x	x	x
MAT	x	x	x	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	x	x	x	x	x
K-D	x	x	x	x	<u>x</u>	<u>x</u>	<u>x</u>	x	x	x	x	x

OLIVE RIDLEY

GAL					x		<u>x</u>	x				
B'S					x	<u>x</u>	<u>x</u>	x				
EIL		x		x	x	<u>x</u>	<u>x</u>	x				
KRO				x	x	<u>x</u>	<u>x</u>	x	x			
MAT				x	x	<u>x</u>	<u>x</u>	x	x			
K-D					x	<u>x</u>	x	x				

HAWKSBILL

GAL												
B'S												
EIL												
KRO				x	x	x	<u>x</u>	x	x			
MAT												
K-D					x	x	x	x				

x = month peak nesting

NUMBER AND DATE OF RELEASED

GREEN TURTLE

Release date	HATCH 1981 code: 11 L 11R					HATCH 1982 code 11 L 8 R					HATCH 1983 11 L 10 R; 11 L 7 R				
	with tags 1		only code and meas	only code	code	with tags 1		only code and meas	only code	code	with tags 1		only code and meas	only code	code
	tag no.	total				tag no	tot.				tag no	tot.			
6-1-84						ST2922 - 2921	100			11L 8R					
11-1-84						ST2922 - 3001	130			11L 8R					
12-1-84						ST3052 - 3151	100			11L 8R					
13-1-84						ST3152 - 3226	75			11L 8R					
14-1-84						ST3227 - 3315	89		6	11L 8R					
Total							494		6						
18-1-84											ST3316 - 3327	144			11L 7R
											3329 - 3460				
10-2-84											ST3601 - 3700	100			11L 7R
11-2-84											ST3761 - 3866	166			11L 7R
14-2-84											ST3867 - 4082	216			11L 7R
16-2-84											ST3461 - 3500	40			11L 7R
											3713, 3950, 3958, 4013, 4020, 4098	6			11L 7R
											4207 - 4398	192			11L 7R
											4201, 4211, 4225	3	18		11L 7R
17-2-84													298		11L 7R
20-2-84													216		11L 7R
Total												867	522		
Total 1984							494		6			867	522		

Release date	HATCH 1981 code: 11 L 11R						HATCH 1982 code 11L 8R						HATCH 1983 11L 10R; 11 L 7R					
	with tags 1		only code and meas2	only code 3	code 4	total	with tags 1		only code and meas2	only code 3	code 4	total	with tags 1		only code and meas2	only code 3	code 4	total
	tag no.	total					tag no.	tot.					tag no.	tot.				
6-2-85													ST4401 - 4500	100			11L 10R	
7-2-85															400			
4-3-85													ST4923 - 4925	3	30		11L 10R	
15-3-85													ST4901 - 4922	22			11L 10R	
													ST4926 - 4958	33			11L 10R	
16-3-85													ST4959 - 5000	42	18		11L 10R	
7-3-85										271	11L 8R							
17-4-85	MA 101 -	150			11L 11R													
16-5-85	MA 151 -	200			11L 11R													
Total		100								271				200	468			
Total 1985		100								271				200	468			
Total 1984 + 1985		100						494		277				1067	990			

1. All turtles are double marked. The mark is a combination of a metal tag and a drill hole or a combination of two drill holes on the marginal scutes. The metal tags have been attached by drilling a hole on the scute. Tags have always been attached on the right side of the turtle. Length, with and weight have also been measured.

2. This group has a mark consisting of only two drill holes one at each side. Also the length, the width and the weight have been measured.

3. This group has only the code: two drill holes, one at each side.

4. L- left side; R- right side.

Left or right is determined by placing the turtle with the tail towards you.

The number before L and R indicates on which scute the mark has been placed; counting of the marginal scutes starts from the head towards the tail.

	Mean length in cm		mean width in cm		mean weight in LBS
	Straight	curve	straight	curve	
Hatch'81	42.7	45.4	36.4	39.0	19.3
Hatch'82	33.0	33.8	27.6	28.6	7.6
Hatch'83	18.6	20	16.7	17.2	1.8

N= 75.

I. INTRODUCTION.

Due to the political situation of the country our field activities could not be performed in an optimum way. One of the consequences of this situation was the arise of lack of personnel at the various station in the field, as all bushnegro personnel had to be retreated from all our fieldstations outside the capital of Paramaribo, thus also from the fieldstations on the nesting beaches. Also for the remaining personnel however, a safe stay at the fieldstations was not guaranteed and they feared to work in the night particularly. Especially the work in the Galibi Nature Reserve-with Galibi beach, Baboensanti beach and Eilanti beach - which could only be reached by 5-6 hour travel by sea, had much suffered from this situation.

In addition, it was also dangerous to be on the sea and to visit and stay on the isolated beaches where we do not have permanent camps. The number of poached eggs therefore was this year higher than in the previous years.

The attached Sea Turtle Survey Data Form could therefore not be completed for the hundred percent; for some information there had to be referred to published results of sea turtle reseach/survey already done before in Suriname.

Nevertheless, I hope that the information given in this report will be helpful in determining and developing the most appropriate conservation strategy for the sea turtles.

K.Mohadin

Director. of the Foundation For Nature
Preservation in Suriname (STINASU) and
in charge of the sea turtle conservation
program in Suriname. .

P.O.Box 436. Paramaribo/Suriname

Surinam mudbanks.

The Amazon is held to be the source of this very mobile mud. The mudbanks are separated by sections along which generally narrow sand and/or shell beaches are present. Deposition of mud on the one hand, and sand and shells on the other takes place separately.

The combination of sea current and the wave action, results in a cyclical erosion of the east side of the mudbanks and a silting up of the west side. Therefore mudbanks and consequently the intermediate sections of the coast continually migrate to the west.

The cycle is believed to repeat itself approx every 35 years. The beaches are built up of sand, shells and shell debris in all possible combinations, varying from pure sand to pure shell material.

Along the coast of Suriname the Guiana Current flows in a WNW direction. It is the continuation of the Northern Equatorial Current, and travels along the north coast of Brazil and the Guianas dividing at the Lesser Antilles into the Caribbean Current and the northwest directed Antillean Current. The water along the coast is brown due to mud particles in the water. At 20-30 km off the coast, the brown color of this muddy water suddenly changes into a blue-green color of much clearer water. At 50-70 km offshore the water is blue. There is a very marked tidal difference along the coast of Suriname, which clearly has an influence on the nesting periodicity of sea turtles. At Eilanti, where an extensive mudbank is located, the tide determines the accessibility of the nesting beach.

The coast lies alternately in the NE tradewind belt and the SE tradewind belt, or on the division between the two.

From December to the beginning of April the NE tradewind are blowing strongly onto coast. In these months the swells are the heaviest, and the surf the strongest.

III SPECIES NESTING IN SURINAME.

In Suriname 4 species of seaturtles are found:

- a The Green turtle (Chelonia mydas), local name: Krape
- b The Leatherback (Dermochelys coriacea), local name: Aitkanti
- c The Olive Ridley (Lepidochelys olivacea), local name: Warana
- d The Hawksbill: (Eretmochelys imbricate), local name: Karet

A fifth species, the Loggerhead (Caretta caretta) has been observed nesting only once.

The first two species nest in Suriname in great numbers.

The number of nesting Olive Ridleys is declining the last years.

The Hawksbill nests in very small numbers.

In 1938 and 1939 for example, he had caught at least 3000 green turtles. In 1968, a year in which more green turtles nested than in previous years, only ca 1000 came ashore in this region.

This means that thirty years ago many green turtles and ridleys nested on the beaches near the mouth of the Marowijne.

After 1940 the slaughter of turtles for export came almost to an end. Yet many turtles were still being killed on the beach by, among others, the fishermen, as appears from Geyskes remarks.

About the hawksbill Geyskes reported in 1945 that people in Suriname mostly do not recognize this species and kill the turtle only for the meat which, however, cannot be particularly tasty as the Caribs consider to be poisonous. Collecting of eggs (mostly ridley and green turtle) seems to have been quite important. This was a tradition of the coastal Caribs at least during the last century - chiefly in and near the Marowijne estuary. According to Geyskes (1945) report, eggtaking in the forties was more intensive than in the previous century, due to the increased demand by chinese and other people of Asiatic origin, especially Javanese. The egg takers kept the daily proceeds of eggs in their camps, until enough were collected to load a boat (17000 tot 100.000). In those days the eggs were taken to Paramaribo, the Commewijne district, and also to St. Laurent (French Guiana). No figures are mentioned for the total number of eggs taken per year.

Vegetation: creeping plants (Canavalia, Ipomoea)

Level of human development and/or impact: none

Nesting species: predominantly leatherback, green turtle, olive ridley

Peaking nesting months: leatherback: Apr - June

green turtle: Febr - May

olive ridley: Apr - July

Eilanti beach.

Length: 2,5 km

Characteristics: a large mudbank is situated in front of this beach which is being elongated at the western point by sand sedimentation medium sand; water brackish to fresh in the rainy season.

Vegetation: the east side is thinly grown with mangrove, the west point has almost no vegetation, and in between thinly grown with mangrove and creeping plants.

Level of human development and/or impact: few fisherman camps.

Nesting species: predominantly leatherback, most important nesting site for the olive ridley, green turtle.

Peak nesting months: leatherback: Apr - July

green turtle: Mrch - June

olive ridley: Apr - July

Matapica beach.

Length: 2 km

Characteristics: is in state of erosion; medium sand; salt water

Vegetation: thinly grown with mangrove with creeping plants (Ipomoea, Canavalia) between the trees.

Level of human development and/or impact: none

Nesting species: predominantly: leatherback; green turtle, olive ridley, hawksbill.

Peak nesting months: leatherback: May - June

name River and the mouth of the Marowijne River) The few beaches west of the Suriname River (between the mouth of the Suriname River and the mouth of the Corantijn River) are seldom visited by sea turtles. They are therefore not mentioned in this report.

which the east point is in a state of severe erosion and the growing west-point is not high enough to prevent eggs to be washed away.

The primary reason for the decision to harvest some of the eggs is the intention to attempt a rational exploitation of the eggs, on a sustained - yield basis as a cheap part of the protein requirement in the diet of the population.

In addition, an abrupt total ban on the collecting of eggs of all species would probably have met with such strong resistance, both from the side of the eggs collectors and from the consumers that it could have jeopardised the entire sea turtle conservation project from the start. Collecting of eggs (mostly Ridley and Green turtle) seems to have been quite important in Suriname.

This was a tradition of the coastal Caribs-at least during the last century-chiefly in and near the Marowijne estuary.

The income derived from the egg sale enables STINASU to pay for extra personnel and equipment to aid in conservation work on all sea turtle species nesting in Suriname.

VI-2 Replanting of "doomed" nests.

"Doomed nests" of all species which are not collected for sale are relocated in man-made nests on higher reaches of the beach as much as possible. This replanting of "doomed nests" takes place during the whole nesting season on all accessible nesting beaches.

VI-3 Counting of laid nests.

Daily counting of laid nests of all species still occurs since the start of the sea turtle conservation project launched in 1967.

Counting takes place daily very early in the morning whereby at the same time the "doomed nests" are replanted.

It may occur that in some circumstances replanting of "doomed nests" takes also place in the night.

- 14 -

that more can be known about the decline of the number of the ridley nests on the Surinam beaches.

Tags are marked PPE and tag recoveries should be returned to the NMFS. LAB - VIR.

KEY, Miami Fl. 33149.

incubation period in natural nests (in total 39) of the Green turtle shows the following:

- average clutch size: 131 eggs.
- hatching success 89,14%.
- incubation period 56,4 days.

This study was done on the Krofajapasi beach during April-June 1981.

In the past, some eggs had also been hatched in styrofoam boxes.

For the Green turtle the average emergence in these boxes was nearly as high as in the natural nests (around 86% vs 84%) and for the Leatherback even higher (54% vs 50%).

The incubation period in the boxes however is a somewhat longer than in the natural nests, which is probably due to the lower ambient temperature in the boxes.

VII-1-5 Migratory patterns.

Captures at sea of Surinam-tagged turtles give us the following information:

- a. Green turtles nesting in Suriname forage on the feeding grounds centered off the coast of Ceará (Brazil); recoveries of tagged Olive ridleys span roughly 4500 km of coastline, extending from Natal in Brazil to the Gulf of Venezuela, with secondary concentration occurring in the area around the Island of Margarita and in the Gulf of Paria; one Leatherback tagged in Suriname was caught at Salt Pond, Ghana, while four Leatherbacks tagged in French Guiana were recovered at sea, at locations off the coast of Campeche (Mexico), Texas, S. Carolina and New Jersey (Pritchard, 1973a).

These recoveries confirm that at least part of the Leatherbacks nesting in our area comes from northern temperate waters.

maintaining unbroken eggs. The importance of this in a conservation programme, the methods of the highest hatchling emergence constantly being sought for, is obvious - eggs must not be broken in order to locate and count nests of these species. However in olive ridley nests the rotting contents of broken eggs have no effect on the rest of the clutch, the reason for which at the moment is inexplicable"

Hill, R.L. & D.J. Green, 1971. Investigation of the damage by the crab Ocypode quadrata to the eggs of the Green turtle Chelonia mydas- Surinam Turtle Notes, Stinasu, Paramaribo, 2 (2):11 - 13.

" 60% of the nests were attacked by the crab within 4 days after laying. 30% of the nests were untouched. The remaining 10% were attacked any time prior to cage - setting.

Up to 93% of the eggs were eaten in some nests, especially those which were laid too shallow at depths of up to 30 cm (most nests are laid below 45 cm). Nests laid on the open sand were particularly vulnerable to crab damage; those laid in or close to the vegetation growth (Cana- valia maritima and Ipomoea pes-caprae) were often untouched.

The crab probably encounters great difficulties in burrowing through the rooting systems of the latter and so fewer numbers are found there".

Mrosovskiy, N, 1967. How turtles find the sea-Science J., 3: 35-57.

- Effect of temperature on sex determination in hatchlings.

Norber, P., et al 1979. Comparison of the temperature in natural nest and styrofoam boxes. (No published results could be found).

Schulz, J.P. 1975. Sea Turtle Nesting in Surinam. Stichting Natuurbehoud Suriname (STINASU) verhandeling No 3.

Whitmore, C. & S.E. Salomon. The incidence and effect of Calcite in the egg shell of a Feral Population of Chelonia mydas L from Suriname.

" The inclusion of calcite crystals in the calcareous layer of green turtle egg shells was found to have a deteriorative effect on the hatchability of the egg. No equivalent of the heavily calcite egg shells previously observed in farm reared populations was found in this feral population.

MORTALITY

From time to time dead sea turtles are found on the beaches, apparently killed by fisherman.

The Fisheries Service of Suriname keeps no records of entangled and killed sea turtles in the shrimptrawlers.

Number of dead sea turtles found on our beaches during Jan - Aug 1987.

Galibi beach.

Leatherback: 2

Baboensanti beach.

Leatherback: 1

Matapica beach.

Leatherback: 6

Krofajapasi beach.

Green turtle: 3

Leatherback : 7

Olive ridley: 1

Katcreek and Dianabeach.

Leatherback : 8

Green turtle: 3

RECOMMENDATIONS

It is beyond any argument that present world situation is alarming for all the seven species of sea turtle, in spite of the many efforts taken by several countries to increase the survival of the sea turtles belonging to their territorium.

The following recommendations could make a significant contribution to the survival of the sea turtles.

1. Close cooperation between countries harbouring sea turtles in general and in particular between countries which share the same sea turtle population.
2. To call upon all countries where sea turtles are present, to establish effective sea turtle conservation measures, and where conservation measures already exist, to possibly improve and enforce the measures.
3. To conduct eggs replanting program.
4. To conduct region wide effective anti-poaching program.
5. To call upon countries to make use of TED.
6. To develop a region wide public education program to advance conservation principles.
7. To conduct a region wide head-start program in order to know its merits as a conservation measure.
8. To make sea turtle conservation be of economical benefit to the local people.
9. To support every effort taken by whatever country in the field of sea turtle conservation.

