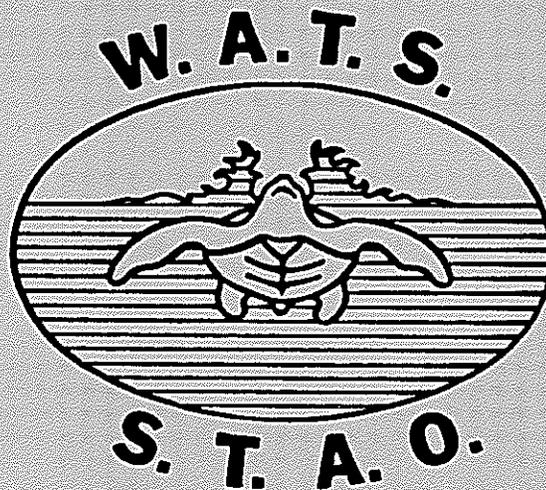


PROCEEDINGS
OF THE
WESTERN ATLANTIC TURTLE SYMPOSIUM



San Jose, Costa Rica
17-22 July 1983



ENGLISH EDITION

VOLUME 2

Appendix 6

ANNOTATED BIBLIOGRAPHY OF
SEA TURTLE RESEARCH IN THE WESTERN ATLANTIC

PROCEEDINGS OF THE WESTERN ATLANTIC TURTLE SYMPOSIUM



EDITORS

Peter Bacon
Fred Berry
Karen Bjorndal
Harold Hirth
Larry Ogren
Michael Weber

SYMPOSIUM ON
SEA TURTLE RESEARCH
OF THE WESTERN ATLANTIC
(POPULATIONS AND SOCIOECONOMICS)

17-22 July 1983
San Jose, Costa Rica

Sponsored By The
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ANNOTATED BIBLIOGRAPHY of SEA TURTLE RESEARCH

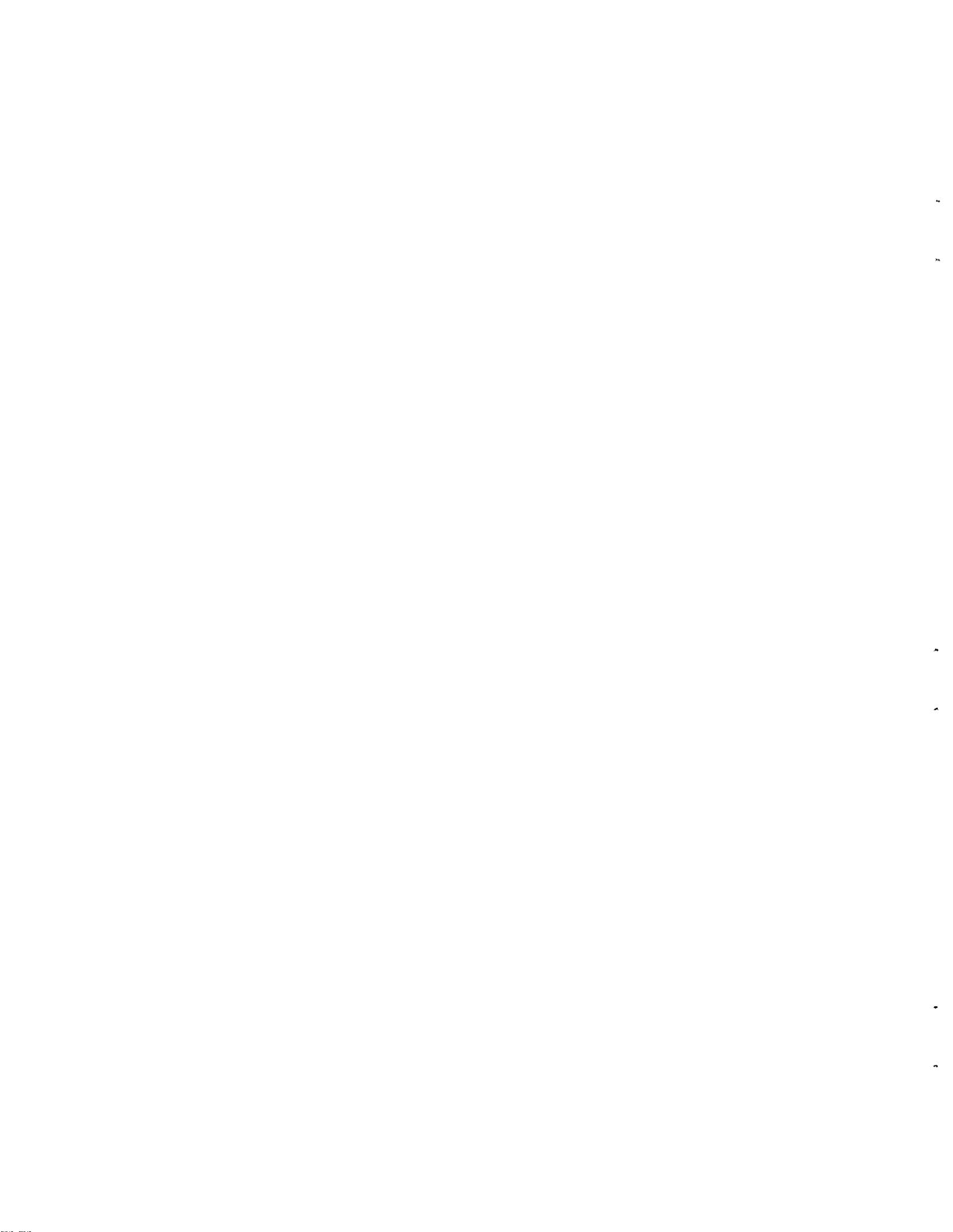
in the

WESTERN CENTRAL ATLANTIC

Peter R. Bacon

University of the West Indies
Jamaica

June 1983



This Annotated Bibliography of Sea Turtle Research in the Western Central Atlantic has been prepared as a background document for the Western Atlantic Turtle Symposium (WATS), July, 1983, San José, Costa Rica. It contains references to sea turtle research, populations and socioeconomics. Collection of references has been in progress for some time, but the major work of annotation and cross referencing was carried out between November, 1982, and May, 1983. Only papers received up to the end of May, 1983, are included here. Financial support for this Bibliography was provided by FAO, through their Fishery Resources & Environment Division, whose help is gratefully acknowledged

Sources of information

Published information on sea turtles was obtained from a variety of sources:

(a) Bibliographies

Bonnet, B. 1979. Introduction bibliographique a la physiologie de la tortue verte, Chelonia mydas (L), avec references complementaires recentes - 1974 a 1979 - sur l'ecologie, l'exploitation et la protection de l'espece. Collection Travaux et Documents, No.4; UER Sciences.

Carr, A.F., Iverson, J.B. & Jackson, D. 1979. Sea Turtle Bibliography, Worldwide 1974 -77 (Draft). Center for Natural Areas, Maine, 14 pages.

- Dodd, C.K. 1979. A Bibliography of endangered and threatened amphibians and reptiles in the United States and its territories (Conservation, distribution, natural history, status). Smithsonian Herpetological Information Service, No. 46; 35 pages. (Plus various Supplements).
- E.S.I.C. 1980. Bibliography of sea turtles. Prepared by the Environmental Science Information Center, National Oceanic Atmospheric Administration, Rockville, Maryland, Nov. 1980.
- FAO 1979 Turtle: Library & Documentation Division - ISIS Batch Retrieval, Data Base & Bibliography 13/08/79; 10 pages.
- Rebel, T.P. 1974. Sea Turtles and the turtle industry of the West Indies, Florida and the Gulf of Mexico, University of Miami Press, 250 pages. Bibliography, pages 143 - 236.

(b) Symposia & Meetings

Papers delivered at a number of Symposia, Conferences, Workshops and Society Meetings have been included only when these have been published in "Proceedings". These appear in the Bibliography by author, and the Proceedings are cited by editor.

(c) Libraries

The author is grateful for access to and assistance received in the libraries of the University of the West Indies; The British Museum of Natural History, London; National Marine Fisheries Service, Miami and Panama City, Florida; and the University of Florida, Gainesville. Thanks are due to Professor A. Carr, Ms. J. Mortimer &

Ms. A. Meylan, University of Florida, Gainesville, for access to their personal libraries.

Types of publications consulted

This Bibliography contains 954 annotated reference citations, which were derived from the following publications:-

Scientific journals	604
Books	56
Theses	12
Newsletters	36
Government Reports	116
Miscellaneous	130

The last category includes conference proceedings, reports to the international agencies and manuscript reports.

References were published in the following languages:-

English	841
Spanish	64
French	19
Dutch	13
Portuguese	8
German	8
Danish	1

Scope of the Bibliography

As far as possible, only references relevant to the Western Central Atlantic Region have been included. This region is as defined by WECAFC/FAO - Fishing Area 31 - and extends approximately from Latitudes 35° N to 10° S, and Longitude 20° E to the coastline of the Americas. This definition excludes parts of Brazil and the United States of America and Ascension Island, while including Bermuda. Consequently, references to sea turtles in the southern parts of Brazil and US states north of the Carolinas have usually been omitted from this Bibliography.

For ease of treatment in the geographical indexing, Puerto Rico and the US Virgin Islands are given separately from mainland USA. Isla Aves is listed with Venezuela, however, as are the Colombian islands of San Andres and Providencia listed with Colombia, as much less information was available for these islands.

A number of general reference works on sea turtle biology, and some on physiology and taxonomy, are included where the research was carried out in the Region or where the data is of importance to the WATS symposium objectives.

The Bibliography contains the following numbers of references to the six sea turtle species found in the Region:-

<u>Chelonia mydas</u>	332
<u>Caretta caretta</u>	254
<u>Dermochelys coriacea</u>	187
<u>Eretmochelys imbricata</u>	134
<u>Lepidochelys kempi</u>	124
<u>Lepidochelys olivacea</u>	61

Published works are included from the earliest paper in 1731 up to 1983. There was a dramatic increase in sea turtle research in the 1970's as the following listing of date of publication shows:-

Year of Publication	Number of papers	
Before 1900	21	
1900 - 1909	15	
1910 - 1919	10	
1920 - 1929	12	
1930 - 1939	16	
1940 - 1949	29	
1950 - 1959	52	
1960 - 1969	169	
1970 - 1979	401	
1980 - 1983	223	+ 6 undated

References to sea turtle research in the United States of America dominated the geographical citations, as shown :-

Country	Number of papers
U.S.A.	260
Mexico	85
Costa Rica	66
Suriname	47
Cayman Islands	34
French Guiana	33
Nicaragua	31
Venezuela	31
All other countries	below 30

Annotation of references

The annotations provided are an attempt to summarize the content and major findings of each paper. Author synopses were used in many cases or a brief abstract compiled to suit WATS objectives. In a few cases references are listed which were not seen; these are about 10% of the total. Where a reference or information has been obtained from another author's paper, this is included in the form of a quotation.

A number of papers were too extensive or too detailed for brief annotation. These are indicated in the text as "General review" or "Book", or some such designation. The following list gives those major review/ general reference type papers:-

Bacon, 1975, 1981; Bjorndal, 1982a; Bustard, 1972; Caldwell & Caldwell, 1969b; Carr, 1952, 1967a; Carr et al, 1980; Carr, Meylan et al, 1982; Cato, Prochaska & Pritchard, 1978; Fretey, 1981; Harless & Morlock, 1979; Henderson, 1978; Hirth, 1971; Ingle & Smith, 1949; Mack et al, 1982; Marquez et al, 1976; Mrosovsky, 1983b; Parsons, 1962; Pritchard, 1967b, 1971a, 1979a; Pritchard & Marquez, 1973; Rainey & Pritchard, 1972; Rebel, 1974; Rudloe, 1979; Schulz, 1975; Solomon & Baird, 1979; Zwinenberg, 1974, 1975b, 1976b, 1977.

The Index

The Index has been prepared to aid information retrieval. The listing gives detailed cross-referencing by country, by species and by aspect of sea turtle biology. Indexing is based on key-words and on subject content. Several papers were "Not seen", but these have been included in the index by using their title and subject matter. Books and major general review papers have been indexed under country and species as far as possible.

Acknowledgements

In addition to the funding agency and those institutions and persons listed above, the assistance of the following is acknowledged. The many authors who kindly sent copies of their reprints, especially D.W.Owens & C.K.Dodd; The Island Resources Foundation and Environmental Research Projects for providing copies of their reports, and to Dr. Goodwin for permission to include some unpublished material; Ms. N.K. Bacon for transferring much of the data to cards; to my students Ms. C.Henry and Ms. B. Chow for assistance with library search and compilation.

CORRECTIONS & ADDITIONS

In acknowledging that the annotation and indexing of the Bibliography is incomplete; authors are requested to send copies of any papers not included, or any comments for corrections or additions, either to the WATS Secretary - Frederick H. Berry, National Marine Fisheries Service, 75 Virginia Beach Drive, Miami, Florida 33149, U.S.A. or to the Author of the Bibliography.

SUPPLEMENTAL REFERENCE LIST

Several additional references were added following the Symposium in San Jose. These are listed at the end of the Bibliography without annotation or indexing.



- ABASCAL, J. 1971. ¿Se extingue la caguama en nuestras aguas ?
Mar y Pesca, Havana, Sept.; 21 - 27.
General account (in spanish) of exploitation of
loggerheads on beaches and with nets. Nesting
beaches are listed on the Isla de Pinos.
- ABERSON, A.A. 1947. Proposals transmitted to the Chairman,
Caribbean Research Council by the Caribbean
Coordination Commission, Netherlands, by letter
dated 30 th October, 1947.
Letter points out the need for inter-caribbean
protection of sea turtles.
- ACKERMAN, R.A. 1977. The respiratory gas exchange of sea turtle
nests, (Chelonia, Caretta). Resp. Physiol. 31;
19 - 38.
Sea turtles lay about 100 eggs in a 25 cm diameter
chamber, excavated to about 50 cm deep. The eggs
exchange gas during their 60 day incubation period.
The sand restricts the exchange of gases so that
as embryonic development proceeds PO_2 decreases
and PCO increases inside the nest.
- ACKERMAN, R.A. 1980. Physiological and ecological aspects of gas
exchange by sea turtle eggs. Amer. Zool. 20; 575-583.
Rate of growth and mortality of embryos is related
to respiratory gas exchange since maximum growth and
hatchling success appear to occur in respiratory
environments similar to those observed in natural
nests. Embryonic growth slows and mortality
increases in environments in which gas exchange is
reduced below naturally occurring levels. Gas
exchange considerations may influence nest construction
clutch size and incubation time among sea turtles.

- ACKERMAN, R.A. 1981. Growth and gas exchange of embryonic sea turtles. Copeia 1981; 757 - 765.
Increase in mass of embryonic sea turtles (Chelonia mydas, Caretta caretta) with incubation time can be described by a decaying exponential growth equation and appears sigmoidal in pattern. The coefficients required to fit the growth equation to the embryonic data vary among and within species depending on the mass and incubation times of the sea turtle population. When groups of eggs are incubated in artificial nests where gas exchange can be manipulated, rates of growth and hatching success are related to nest gas exchange. Maximum growth rates (60 days incubation) and hatching success occur in a respiratory environment similar to a natural nest. Where movement of respiratory gases between the nest and atmosphere are limited, embryonic growth rate is reduced.
- ACKERMAN, R.A. & PRANGE, H.D. 1972. Oxygen diffusion across a sea turtle (Chelonia mydas) egg shell. Comp. Biochem. Physiol. 43A; 905 - 909.
The mean diffusion coefficient K of the outer membrane of the turtle egg shell is $6.59 \times 10^{-6} \text{ cm}^3 \text{ STP sec}^{-1} \text{ cm}^{-2} \text{ mm Hg}^{-1}$. This coefficient is probably twice that of the chick egg shell and outer membrane.
- ACKMAN, R.G. & BURCHER, R.D. 1965. Cod liver oil fatty acids as secondary reference standards in the GLC of polyunsaturated fatty acids of animal origin: Analysis of a dermal oil of the Atlantic Leatherback turtle. J. Amer. Oil Chemists Soc. 42 (1); 38 - 42.
The leatherback dermal fat is primarily for /

bouyancy. Compared to marine oils and other sea turtles, the presence of dodecanoic acid and a high percentage of tetradecanoic acid are noteworthy. Comparatively high proportion of C₂₀ and C₂₂ tetraene acids in proportion to other acids of these chain lengths is unusual.

- ACKMAN, R.G., HOOPER, S.N. & FRAIR, W. 1971. Comparison of the fatty acid compositions of depot fats from freshwater and marine turtles. Comp. Biochem. Physiol. 40B; 931 - 944.
Fatty acids in depot fats of Dermochelys coriacea, Caretta caretta caretta and Lepidochelys kempi were determined. Dermochelys was exceptional in having 9.5% lauric acid, possibly replacing palmitic acid. Trans-6-hexadecanoic acid occurred in these marine forms, but not in freshwater species.
- ADAMS, D.E. 1966. More about the ridley operation in Padre Island: Egg transplanting. Int. Turtle & Tortoise Soc. J. 1(1); 18-20, 40-42, 45.
Lepidochelys kempi eggs from Mexico were transplanted to beach hatcheries on Padre Island, Texas, in an attempt to establish a second nesting population there. Transplanting techniques are described.
- AGASSIZ, A. 1888. Three cruises of the U.S. Coast and Geodetic Survey steamer "Blake". Bull. Mus. Comp. Zool. 14. Brief notes given on sea turtle sightings in the Caribbean.
- AGASSIZ, A. 1857. North American Testudinata. Contr. Nat. Hist. U.S. 1 & 2, Boston.
(Quoted by Rebel 1974) Taxonomic treatment including sea turtles.

- AGASSIZ, A. & COPE, E.D. 1871. Proc. Amer. Assoc. Adv. Sci. 19; 235.
 (Quoted by Rebel 1974) Source of the Family
 Chelonidae.
- AGUAYO, C.G. 1953. La tortuga bastarda (Lepidochelys olivacea kempi) en Cuba. Mem. Soc. Cubana Hist. Nat.
21 (2); 211 - 219.
 Description given of L. kempi, with key to the
 families of sea turtles and Cuban turtles. Records
 given of isolated L. olivacea from Gibara, Oriente
 Province, Cuba. The determinations for L. kempi
 are questionable.
- AHRENFELDT, R.H. 1954. Identification of the amphibians and reptiles
 recorded in Jamaica by Hans Sloane (1688-1689).
Copeia 1954; 105 - 111.
 Descriptions given of Chelonia mydas, Caretta caretta,
 and Eretmochelys imbricata.
- ALEXANDER, A.B. 1902a. Statistics of the fisheries of the south
 Atlantic states. Rept. Comm. U.S. Comm. Fish. Fish.
29; 343 - 410.
 Gives data on production and notes on fishing
 methods for turtles.
- ALEXANDER, A.B. 1902b. Statistics of the fisheries of the Gulf
 states. Rept. U.S. Comm. Fish. Fish. 29; 411 - 482.
 Fisheries statistics given and notes on fishing
 methods.
- ALLEN, E.R. & NEILL, W.T. 1953. Know your reptiles: the green
 turtle. Fla. Wildlife. 7 (4); 19, 32.
 Gives life history notes on Chelonia mydas.
- ALLEN, R.R. & NEILL, W.T. 1957. Another record of the Atlantic
 leatherback, Dermochelys c. coriacea, nesting on
 the Florida coast. Copeia 1957; 143 - 144.
 This is the second nesting record in 100 years.
 Hatchlings found in July 1955 on Melaleuca Hotel
 beach, Dade County.

ANDERSON, S. 1981. The raccoon (Procyon lotor) on St. Catherine's Island, Georgia, 7. Nesting sea turtles and foraging raccoons. Amer. Mus. Novitates. No. 2713. 9 pages. An estimated 250 clutches of loggerhead eggs laid on beaches of St. Catherine's Island, Georgia, in 1977. Clutches averaged 139 eggs in June and 101 in July. Raccoon tracks were more abundant near areas with trees, but all parts of the beach were occupied at some time. Raccoons did not shift their ranges during the turtle nesting season. Any one place on the beach was within the home ranges of about 10 raccoons and the number of raccoons was usually between 1000 & 2000 on 29 km² of high ground and the same area of salt marsh. Roughly one third of all loggerhead nest disturbances were by raccoons, one third by pigs and one third by other animals or erosion.

ANDRE, J.B. & WEST, L. 1981. Nesting and management of the Atlantic loggerhead Caretta caretta caretta (Linnaeus) (Testudines: Cheloniidae) on Cape Island, South Carolina, in 1979. Brimleyana 6; 73 - 82. Nesting activity of the Atlantic loggerhead was monitored at Cape Romain National Wildlife Refuge during 1979. The nesting season was 106 days, from mid-May through August. An estimated total of 1093 clutches was laid with an average of 136.6 nests per km. 71% of all turtle emergences were false crawls. 379 nests were removed to an on-site hatchery producing 10,185 hatchlings from 117 nests. Mean clutch size was 117.0 (\pm 4.31) and hatching success 74.4%. Raccoons and erosion destroyed most nests, but 714 produced 3,605 hatchlings. Rainfall associated with hurricane David destroyed all unhatched eggs in beach and hatchery areas. Removal of raccoons during the nesting season reduced predator damage.

- ANON 1961. The leathery turtle of luth.
Oryx, 6; 116 - 125.
A general account of the biology of Dermochelys with notes on its endangered status.
- ANON 1966. Mercado de tortugas marinas en el Caribe Mexicano. 1966. Bol. Prog. Nac. Mercado Tortugas Mar. 1 (3); 2 pages.
Describes the tagging programme initiated in 1963. Data given on 10 Caretta caretta and 1 Chelonia mydas tagged on Isla Mujeres and Cozumel. Some eggs taken from slaughtered females were incubated successfully.
- ANON 1967. Unieke broadplaats van zeeschildpad voor Surinaamse kust. Surinaams Nieuws, 17; 10.
(Quoted by Brongersma, 1968) Suggests that Lepidochelys olivacea comes from the coast of Africa to deposit eggs in Suriname.
- ANON 1969a. Do turtles sniff their way to Ascension ?
New Scientist, 41 (636); 355.
Migration of Chelonia mydas 1,400 miles from feeding grounds along the coast of Brazil to Ascension Island may be by smelling a chemical trait in the water of the island.
- ANON 1969b. Captively reared green turtle spawns.
Fla. Conserv. News, 5 (2); 5.
A pair of Chelonia mydas raised in captivity were observed mating in 1968 and the female laid in June 1969. Attempts to incubate the eggs failed.
- ANON 1970. Turtles with a new lease of life.
Southern Living, 5; 27,29.
Short article on conservation efforts for Caretta population nesting on Sanibel and Captiva Islands on the Florida west coast.

ANON

1973. New hope for the green turtle.

Mariculture Ltd., Grand Cayman, 17 pages.

Notes that mating appears to be a protracted event, in the artificial pond of Mariculture Ltd. one pair was observed copulating for 12 days in succession. 38 days after the onset of mating activity the female deposited a clutch of eggs on the artificial beach.

ANON

1974a. Turtle livestock culture: a new food technology. Food Engineering 1974, July; 58 - 59.

Short note on captive culture and farming of C. mydas, largely referring to the Cayman Islands Turtle Farm and its prospects.

ANON

1974b. Kemp's ridley nesting on Padre Island, Texas. Smithsonian (Phenomena, Comments & Notes), 5(5); 6.

Note on the translocation of eggs from Rancho Nuevo to Padre Island in an attempt by National Marine Fisheries Service to establish a second nesting colony of L. kempi.

ANON

1974c. Monitoring of hawksbill turtle nests on Mona continues. Carib. Cons. Assoc. Newsletter, 2 (4, 5 & 6); 5.

The small island of Mona, 45 miles west of Puerto Rico, may be one of the most important nesting areas for hawksbills. The note describes the work of J. Thurston in May 1974, in a project supported by the Puerto Rico Department of Natural Resources. Suggests that if results show its importance for hawksbill nesting this could be used to help protect Mona against damaging development.

ANON

1975a. Turtle slaughter in Trinidad.

Oryx, 13; 6 - 7.

(Quoted by Ross, 1982) Leatherbacks reported to be taken in large numbers as nesting turtles and their eggs.

ANON

1975b. Loggerhead sea turtles given a helping hand.

Fish & Wildl. News, Oct. 1975; 7.

Describes the collection, incubation and release of over 11,000 Caretta caretta from Merrit Island National Wildlife Refuge. Prevention of raccoon predation was a major reason for the hatchery operation. Hatching success was 85%. Chelonia mydas also nests on this beach, possibly the northernmost nesting site for this species.

ANON

1976. Incidental capture of sea turtles by fishermen in Florida: Preliminary report of the Florida West Coast Survey. Univ. Fla. Marine Advisory Prog. 3 pages.

Interview-based survey of incidental capture and mortality of turtles by shrimpers in western Florida. Highest reported capture rate was 1 turtle every 27 fishing days (6 turtles a season).

ANON

1977a. Cold-stunned sea turtles warmly welcomed at NASA Centre. NASA Activities, March 1977; 16.

Not seen

ANON

1977b. "Clearly on the skids", Kemps ridley highlights turtles plight. World Wildl. News, 5 (3); 2 - 5.

Not seen

ANON

1977c. NPCA Sea Turtle Survey.

Nat. Parks & Conserv. Mag. 51 (4); 23 - 24.

The National Parks and Conservation Authority conducted a survey of sea turtles in the Atlantic and Gulf coast national seashores, wildlife refuges and parks. None of the 17 parks or refuges reported nesting by E. imbricata, D. coriacea or L. kempi, although Padre Island National Seashore formerly contained a L. kempi rookery. Loggerheads were predominant, nesting in 14 of the 17 areas. The only exception was Cape Canaveral National Seashore/Merritt Island National Wildlife Refuge where a few C. mydas nested. Mortality was reported from feral ungulates, especially hogs, outboard motors and fishing nets, and beach vehicles. Management problems and activities are discussed.

ANON

1978a. Nursing the Atlantic ridley back to health. Conserv. News, 43 (15); 8 - 10.

Not seen

ANON

1978b. Mexico: the turtles are gathering for their nesting season massacre. IUCN Bull. 10 (6); 42-43. Largely concerned with Pacific turtles, but discusses the decline of L. olivacea and C. mydas in Mexican waters due to overexploitation. Also gives a report on the IUCN/WWF project to rebuild turtle populations.

ANON

1978c. Restoration and enhancement of Atlantic ridley turtle populations at Playa de Rancho Nuevo, Mexico, and Padre Island National Seashore, Texas. Draft Report, Ridley Action Plan Team, Nat.Park Serv., US Fish & Wildl.Serv., US Nat. Mar. Fish. Serv., Texas Parks & Wildl., Inst. Nac.Pesca), 18 pages.

In June 1978, 2,000 eggs of L. kempi collected,

from Rancho Nuevo nests and transported to Padre Island, Texas, for incubation. The young turtles were allowed to enter the water naturally, then collected and transported to Galveston. They will be headstarted for 1 year before release in grass beds off the Florida west coast, lower Gulf of Mexico and other areas known to be inhabited by juvenile L. kempi.

ANON

1979a. The Atlantic ridley turtle is fighting for existence. IUCN Bull. (New Series), 10 (1); 7.

Not seen

ANON

1979b. Loggerhead sea turtles found dead along Texas coast. Endangered Species Tech. Bull. 4 (4); 3.

More than 60 dead C. caretta washed ashore along the Texas coast since March 9th. Approximately 45 - 50% had apparent mutilations to the neck or flippers or had flippers removed. Specimens were mostly juvenile females of 40 - 60 lbs, which were below typical nesting size, so the incidents probably occurred at sea. A few C. mydas in similar condition were collected between Rio Grande and Galveston.

ANON

1979c. Designers say turtle-proof trawl 'perhaps' ready in 1980. Defenders, 54 (3); 183.

Short note on the sea turtle excluder device being developed by US National Marine Fisheries Service.

ANON

1979d. Critical habitat determined for leatherback sea turtle. Endangered Species Tech. Bull. 4(4); 6. National Marine Fisheries Service has designated as critical habitat waters adjacent to Sandy Point Beach, St. Croix. The species is thought to use these waters for courting, breeding and access to and from the nesting beach. Sand mining could impact on the critical habitat of Dermodochelys.

ANON

1980. Turtle war concluded, but bitterly.
Defenders, 55 (5); 325 - 327.

Not seen

AUDUBON, J.J.

1926. The turtlers. pages 194 - 202 in Delineations of American Scenery and Character, G.A.Baker & Co., New York.

(Reference quoted by Rebel, 1974, is pages 370 - 376 in Ornithological Biography, Vol. II, Adam & Charles Black, Edinburgh).

Describes nesting by C. mydas on Dry Tortugas from April to June, E. imbricata on the outer keys in July and August. Clutch sizes averaged 140 and 100 respectively. Caretta visits keys in April and June laying three sets of eggs averaging 170. Average number of eggs for D. coriacea in two sets is 350. Adult turtles are killed on beaches and in estuaries by cougars, lynxes, bears and wolves. The green turtle feeds chiefly on Zostera marina, cutting near the roots to procure the most succulent parts. Hawksbills feed on seaweeds, crabs, shellfish and fish. The trunk turtle feeds on molluscs, fish, crustacea, sea urchins and various marine plants. Article describes exploitation of turtles by nets, harpoons and pegs. One man was capable of catching 800 green turtles in 12 months. Turtles were kept in crawls freely washed by the tides.

BABCOCK, H.L.

1930. Variation in the number of costal shields in Caretta. Amer. Nat. 64 (690); 95 - 96.

Considerable variation exists in carapace costal shields in loggerheads, no satisfactory explanation is offered for this polymorphism.

BABCOCK, H.L.

1931. Notes on Dermochelys. Copeia 1931; 142.

Taxonomic discussion, comparing specimens in the U.S. National Museum from Costa Rica, Ceylon and West Africa. Suggests individuals pass from one ocean to the next, so probably only one valid species.

- BABCOCK, H.L. 1937. The sea turtles of the Bermuda Islands, with a survey of the present state of the turtle fishing industry. Proc. Zool. Soc. Ser.A., 107; 595 - 601. Five species are present. Dermochelys is rare, C. mydas is common, E. imbricata is found feeding on ascidians and Physalia, C. caretta is sedentary depleted, annually about 1500 - 1600 lbs taken, L. kempi is possibly present also.
- BACON, P.R. 1967. Leatherback turtles. J. Trinidad Field Nat. Club, 1967; 2 - 3. Dermochelys coriacea is reported nesting in Trinidad 1965 - 66. Records are given of carcasses found on beaches at Matura, Fishing Pond and Las Cuevas.
- BACON, P.R. 1969a. Report on the Trinidad Sea Turtle Conservation Project. Ann. Rept. Trinidad Field Nat. Club 1969; 18 - 35. Reports nesting records for C. mydas, E. imbricata L. olivacea and D. coriacea during 1965 - 1969. Nesting beaches, nesting season and behaviour are given for D. coriacea, also a record of injuries and nest clutch size. It is estimated that 20 - 30% of the seasons breeding population is destroyed each year by human predation.
- BACON, P.R. 1969b. The leatherback turtle project, progress report 1967 - 1968 and recommendations. J. Trinidad Field Nat. Club 1969; 8 - 9 . Gives beach patrol records for D. coriacea and recommends protection during the nesting season.
- BACON, F.R. 1970a. Political restrictions make safe nesting possible. Int. Turtle & Tortoise Soc. J. 4 (3); 6 - 7. A popular account describing how poaching stopped when a government curfew was imposed on freedom of movements at night during the 1970 political unrest in Trinidad.

BACON, P.R.

1970b. Studies on the leatherback turtle, Dermochelys coriacea (L.), in Trinidad, West Indies. Biol. Conservation, 2 (3); 213 - 217.

A study during 1965 - 1969 showed that nesting of Dermochelys occurs on the north and east coast, especially at Paria and Matura Bays, from March to August reaching a peak in April and May. A relationship between breeding season and local increase in jellyfish populations is suggested. The dimensions, colour patterns, injuries, commensals of adult female leatherbacks are given. Mean carapace length was 158 cm. Most females left the sea to nest between 2100 hours and midnight. The nesting population at Matura was estimated at 100 per year, 30% of which is killed annually by local villagers. Considerable natural loss of nests occurs due to beach erosion. There is need for a conservation programme.

BACON, P.R.

1971a. Tagless turtles.

Int. Turtle & Tortoise Soc. J., 5 (3); 26 - 27.

Large numbers of Dermochelys with tag holes were recorded in Trinidad prior to the start of the local tagging programme. These probably came from a population tagged in a neighbouring country.

BACON, P.R.

1971b. Sea turtles in Trinidad and Tobago, pages 78 - 84 in Marine Turtles, IUCN Publ. New Series, Suppl. Paper No. 31, 109 pages.

Reports regular nesting by D. coriacea, C. mydas, E. imbricata and L. olivacea, and one nesting record for C. caretta. The nesting population of Dermochelys is estimated at 200 - 250 females. The conservation regulations are quoted.

BACON, P.R.

1971c. Further nesting records for sea turtles in the Caribbean. Newsletter, Caribbean Conservation Association, 2 pages.

Nesting records are given for Antigua, Dominica, Montserrat and St. Vincent. Leatherbacks are rare nesters in Antigua; nesting of C. mydas and E. imbricata in Dominica occurs at Scotts Head, Canefield, Tarou, Mero, bays between Salisbury and Plymouth, Douglas Bay, Toucary Bay; and of C. mydas at Thibaud, Melville Hall, between Rosalie and La Plaine; of Dermochelys at Thibaud, Melville Hall, Rosalie Bay and Bout Sable. On Montserrat Dermochelys is unknown; C. mydas and E. imbricata nest at Little Bay and Isles Bay. Dermochelys nests in St. Vincent at Sandy Bay and Richmond.

BACON, P.R.

1973a. The orientation circle in the beach ascent crawl of the leatherback turtle, Dermochelys coriacea, in Trinidad. Herpetologica, 29 (4); 343 - 348.

The beach ascent track studied from 1971 - 1972 showed three patterns - Short tracks, common on steep, unobstructed slopes with dark background and constant light conditions; tracks over 10 m long, common on flatter beaches; orientation circling tracks, mainly made on cloudy moonlight nights. Suggests that changing illumination disorients the leatherback leading to circling.

BACON, P.R.

1973b. Appraisal of the stocks and management of sea turtles in the Caribbean and adjacent regions. Rept. to the Working Group on Fisheries Resources at the VI th International Coordinating Group Meeting of C.I.C.A.R., Cartagena, Colombia, July, 1973, 27 pages.

See Bacon, 1975.

- BACON, P.R. 1973c. Observations on the loss of tags by sea turtles. J. Trinidad Field Nat. Club, 1973; 68 - 71. 17 of the 98 D. coriacea located on Trinidad beaches from 1970 - 1972 had tag holes suggesting the loss of tags. One animal and a L. olivacea had tags showing minimal corrosion.
- BACON, P.R. 1973d. The status and management of the sea turtle resources of Trinidad and Tobago. Rept. to the Ministry of Agriculture, Trinidad, 40 pages. Summary of Bacon, 1969a, updated to include data from nesting seasons to 1973.
- BACON, P.R. 1975. Review on research, exploitation and management of the stocks of sea turtles in the Caribbean region. FAO Fisheries Circular, No.334, 19 pp.
- Review paper
- BACON, P.R. 1981. The status of sea turtle stocks management in the Western Central Atlantic. WECAF Studies, No. 7; 38 pages.
- Review paper
- BACON, P.R. & MALIPHANT, G.K. 1971. Further studies on sea turtles in Trinidad and Tobago. J. Trinidad Field Nat. Club 1971; 2 - 17. Reports the Dermodochelys nesting records for 1970, with a revised population estimate, and gives keys for the identification of adults and hatchlings.
- BAINBRIDGE, J.S. & PRITCHARD, P.C.H. 1974. The world's largest sea turtles remain a reptilian mystery. Smithsonian, 5 (6); 64 - 68, 70, 72 - 73. Popular account of sea turtles mainly concerned with Suriname and French Guiana.

- BALAZS, G.H. 1979. An additional strategy for possibly preventing the extinction of Kemp's ridley, Lepidochelys kempi. Marine Turtle Newsletter, 12; 3 - 4.
Suggests the establishment of a reservoir of captive Kemp's ridleys through dissemination of hatchlings in small groups of 4 - 10 for rearing and permanent maintenance by 50 or more responsible aquariums, oceanariums or zoological facilities in the USA, Mexico and other countries.
- BARBOUR, J. 1976. Up from the sea.
Internat. Wildlife, Jan-Feb; 4 - 13.
Popular review of attempts to conserve turtles.
- BARTH, R. 1962a. Beobachtungen an einer verstümmelten schildkroete, Chelonia mydas. Ann. Acad. Brasil Cienc. 34 (3); 411 - 413.
Reports female C. mydas nesting with injuries probably caused by sperm or killer whale. (In German).
- BARTH, R. 1962b. Observacoes sobre a grande tartaruga marina, Chelonia mydas, feitas na Ilha de Trindade.
Ann. Acad. Brasil. Cienc., 34 (3); 405 - 409.
7 beaches recognised on the east and south of the island, with beach sand of 77.3% calcium of organic origin. Praia dos Cabritos, Portuguesas, Andrada, Tartarugas, Praia pequena, Tunel & Principe.
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Texas Game & Fish; 28.
Records 1,200 lb leatherback in a shrimp trawl at Port Aransas.
- BAVIN, C.R. 1982. Enforcement of restrictions on importation of sea turtle products, pages 541 - 544 in Bjorndal, K.A. (Editor) Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Describes the effects of international trade on sea turtle populations and the efforts of customs officers to control entry of products to the U.S.A.

- BEAN, M. 1983. Turtle trouble on Grand Cayman. Defenders, 58 (1-2); 14 - 19.
Detailed discussion of the technical and economic problems preventing the Cayman Turtle Farm from becoming a viable, self-contained venture, and of the political activities associated with attempts to relax US and CITES restrictions on international trade in sea turtle products.
- BEEBE, C.W. 1938. Zara venture.
Harcourt, Bruce and Co. New York.
Not seen.
- BELL, J.C. & NICHOLS, J.T. 1921. Notes on the food of Carolina sharks. Copeia 1921; 17 - 20.
26 shark stomach contents from individuals about 3 m long were examined, 6 had sea turtle remains.
- BELL, R. & RICHARDSON, J.I. 1978. An analysis of tag recoveries from loggerhead sea turtles (Caretta caretta) nesting on Little Cumberland Island, Georgia, pages 20 - 24 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. Sea Turtles, 24-25 July, 1976, Jansen Beach, Florida, Fla. Mar. Res. Publ. No. 33, 66 pages.
647 female Caretta tagged from 1964 - 1976.
44 tag returns (7%), 13 nesting on another beach (30%), 52% of returns(40% of those tagged) from trawls.
- BENNETT, S.H & RICHARDSON, J.I. 1977. Within season nest periodicity of the loggerhead (Caretta caretta) nesting on Little Cumberland Island, Camden County, Georgia. Paper read at 1977 Amer. Soc. Ichthyol. Herp. Meeting, Gainesville, Florida.
Not seen.

- BENTLEY, T.B. & DUNBAR-COOPER, A. 1980. A blood sampling technique for sea turtles. Final report for Contract No. Na-80-GE-A-00082, for N.M.F.S. 4 pages, 10 figs. Describes a safe procedure for taking venous blood from adult and juvenile C. caretta and details separating plasma from cellular components for subsequent blood analysis.
- BENTLEY, T.B. & LUTZ, P.L. 1979. Diving anoxia and nitrogen breathing anoxia in the marine loggerhead turtle. Amer. Zool. 19; Abstract 660, page 982. Diving induced anoxia resulted in marked fall in blood pH from 7.47 to 6.7. Blood PO₂ fell from 65 to 118. Lactic acid increased throughout the dive and bicarbonate fell. Nitrogen respiration produced a similar pattern of oxygen and lactic acid changes.
- BENTUVIA, A. & RIOS, C.E. 1970. Report on a R/V Choco cruise to Providencia Island and adjacent banks of Quitasueno and Serrana near the Caribbean islands of Colombia. Proyecto para el Desarrollo de la Pesca Maritima en Colombia. Comunicaciones, 1 (2); 9 - 45. Hawksbills seasonally abundant on Colombia's offshore atolls and banks. Up to 100 per day can be taken from reef areas in nets; nesting females also taken from beaches. The shell is exported at a high price.
- BJORNDAL, K.A. 1979a. Nutrition and grazing behaviour of the green turtle, Chelonia mydas, a seagrass herbivore. Ph.D. Thesis, University of Florida, Gainesville, 72 pages. A carrying capacity of 138 adult green turtles per hectare of Thalassia testudinum was derived from digestibility and energy coefficients of seagrass .

- BJORNDAL, K.A. 1979b. Urine concentrations of ammonia, urea and uric acid in the green turtle, Chelonia mydas. Comp.Biochem.Physiol., 63A; 509- 510.
Urine samples taken from green turtles off Miskito Cays, Nicaragua, were examined for ammonia, urea and uric acid. Urea was present in the highest concentration, ammonia in the lowest. pH varied from 5.5 to 8.9; both pale-yellow and dark-green urine were observed.
- BJORNDAL, K.A. 1979c. Cellulose digestion and volatile fatty acid production in the green turtle, Chelonia mydas. Comp. Biochem. Physiol. 63A; 127 - 133.
Cellulose is digested as efficiently as it is in ruminants. Acetate, butyrate and propionate are the volatile fatty acids produced in decreasing order of concentration. Organic acids produced in the cecum provide 15.2% of daily energy requirements. Hydrogen is the major gas evolved during in vitro fermentation of cecum contents.
- BJORNDAL, K.A. 1980a. Nutrition and grazing behaviour of the green turtle, Chelonia mydas. Marine Biology, 56 (2); 147 - 154.
The apparent digestibility coefficients for 4 size classes of green turtles feeding on Thalassia testudinum were measured in Union Creek, Great Inagua, Bahamas, during 1975 and 1976. Values ranged from 32.6 - 73.9% for organic matter; 21.5 - 70.7% for energy; 71.5 - 93.7% for cellulose; 40.3 - 90.8% for hemicellulose and 14.4 - 56.6% for protein. Digestive efficiency increased as water temperature and body size increased. No seasonal variation in the nutrient composition of T. testudinum blades was found. Grazing on the grass may be limited by its low quality as a forage, so turtles maintained grazing plots of young leaves by constant recropping.

- BJORNDAL, K.A. 1980b. Demography of the breeding population of the green turtle, Chelonia mydas, at Tortuguero, Costa Rica. Copeia 1980; 525 - 530.
- Life history parameters are presented for 14 cohorts of adult female green turtles tagged at Tortuguero. For each cohort, survivorship, instantaneous death rate and net reproductive rate are determined. Low adult survivorship has been attributed to exploitation by man. Reduced survivorship then accounts for reduced net rate of production. The effects of the two above parameters on population stability and projections of survival are examined.
- BJORNDAL, K.A. (Editor) 1982a. Biology and Conservation of Sea Turtles. Smithsonian Institution, Washington, 583 pages.

General papers

- BJORNDAL, K.A. 1982b. The consequences of herbivory for the life history pattern of the Caribbean green turtle, Chelonia mydas, pages 111 - 116 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
- The seagrass T. testudinum has a high fiber content and low forage quality. C. mydas shows two adaptations - a hind gut fermentation system and a selective grazing pattern. But, the nutrient limitation results in low growth rate, delayed sexual maturity and low annual reproductive effort. A Costa Rican turtle feeding on Thalassia can allocate only 10% annual energy budget to reproduction while a Suriname turtle 24% as it feeds on algae. Carrying capacity for T. testudinum beds is 138 adult female C. mydas per hectare.

- BJORNDAL, K.A. 1982c. Does turning green turtles on their backs affect subsequent reproductive performance ? Marine Turtle Newsletter, 22; 15 - 16.
Letter compares subsequent renestings and remigrations on a section of Tortuguero Beach, Costa Rica, of turtles in 1975 which were turned with that of turtles tagged in 1977 which were not turned. The data indicate that turning turtles does not affect future reproductive performance of the colony, as far as reproductive periodicity is concerned. Author advises minimum disturbance of nesting turtles, but turning is supported where necessary during a tagging project.
- BJORNDAL, K.A., MEYLAN, A.B. & TURNER, B.J. 1983. Sea turtles nesting at Melbourne Beach, Florida, I. Size, growth and reproductive biology. Biol. Conservation, 26; 65 - 77.
From 1972 - 1978, 2,910 C. caretta and 18 C. mydas were tagged as they came ashore to nest on Melbourne Beach, Florida. Nesting C. caretta averaged 92.0 cm straightline carapace length and grew at a mean rate of 0.57 cm yr⁻¹. Most common remigration intervals were 2 and 3 years. 82 Caretta shifted to other beaches in the same nesting season and 46 shifted to other beaches in later seasons. Interseasonal nesting movements spanned 700 km of coastline, while intraseasonal movements ranged over 290 km. The 18 C. mydas nested from early June to late August. Mean straightline carapace length was 11.0 cm and a 2 year remigration interval predominated. No C. mydas tagged on Melbourne Beach has been seen on other beaches.

BLANCANEAUX, F. 1973. Proposition de projet de realisation de reserves naturelles integrales sur le littoral nord-ouest de la Guyane francaise. ORSTOM, Cayenne, 12 pages, 2 maps.

Records the nesting beaches for D. coriacea, C. mydas, E. imbricata as all the littoral coast between 53°40' - 53°45' west; Les Mattes and Awara Beaches; the littoral zone at Pointe Isere and the littoral zone west of Crique Iracompany. Recommends the establishment of a reserve for this important nesting area.

BLANCK, C.E. & SAWYER, R.H. 1979. Developmental biology of the loggerhead sea turtle, Caretta caretta.

Amer. Zool. 19; Abstract no. 520, page 955.

Hatch rates from wild, untouched nests on Ossabaw Island were 0%, transplanted nests yielded 75.7%.

Nests transplanted to a hatchery area gave 72% hatching success while those transported to a laboratory at the University of South Carolina and incubated under controlled conditions produced 74.5%.

BLANCK, C.E. & SAWYER, R.H. 1981. Hatchery practices in relation to early embryology of the loggerhead sea turtle, Caretta caretta (Linne). J. Exp. Mar. Biol. Ecol. 49; 163 - 177.

See Blanck & Sawyer 1979.

BOEKE, J. 1907. Rapport betreffende een voorlospig onderzoek naar den toestand von de visscherii in de industrie van zeeprdukten in de kolonia Curacao, 1; 121 pages. (In Dutch) An account of the turtle fishery of Curacao, with a description of a method of raising juvenile turtles in small ponds.

- BOWEN, J.D. 1960. To save the green turtle. Americas, 12 (12); 14 - 17.
Accounts of the fisheries for C. mydas and the conservation efforts at Tortuguero since 1959.
- BOYER, D.R. 1965. Ecology of the basking habit in turtles. Ecology, 46; 99 - 118.
Field and laboratory studies were combined in an assessment of the biological implications of the basking habit. Physical factors found to influence the rate of heat gain were light intensity, angle of incidence, water and air temperature, wind and cloud cover. Biological factors included behaviour, shape and weight, but rarely colour. Motivation studies were conducted to identify the environmental factors initiating and directing basking. The purposes of basking were identified as firstly a thermal control method and secondarily drying of the skin and shell.
- BRADDON, S., CAFFREY, B.B. & PIKE, J.R. 1982. Identification of suspect sea turtle meat samples and determination of species, a law enforcement problem. NOAA Tech. Memo. NMFS-SEFC-TM-105, U.S. Dept. Commerce, 12 pages, 15 figs.
In order to enforce the US-Endangered Species Act (as amended 1978) by controlling unlawful trade and possession of sea turtle meat, an effective means of identification of meat samples by species was required. Investigations of both electrophoretic and isoelectric focusing techniques revealed the advantages of the latter in relative speed of analysis, insensitivity to sample application technique and high resolution with excellent reproducibility. The paper explains the application of the isoelectric focusing technique.

- BRAVO, R. 1970. Reprieve for the turtles of Rancho Nuevo. Oceans Mag. 3 (5); 42 - 47. Lepidochelys kempi breeding biology is described, with accounts of arribadas and the conservation efforts over the previous 4 years.
- BRICE, J.J. 1969. The fish and fisheries of the coastal waters of Florida. Rept. U.S. Comm. Fish. Fish., 22; 263 - 342. Notes on the breeding of C. caretta and C. mydas are given.
- BRONGERSMA, L.D. 1961. Notes upon some sea turtles. Zoologische Verhandelingen, 51; 1 - 46. Largely taxonomic account, with several references to sea turtle records from the region - including C. mydas, C. caretta, L. olivacea and L. kempi.
- BRONGERSMA, L.D. 1968a. Notes upon some turtles from Surinam. Kon. Ned. Akad. Wetensch. Proc. Ser. C. Biol. Med. Sci., 71 (2); 114 - 127. 5 species are reported from Suriname; notes are given on C. mydas and C. caretta. Records of L. olivacea are doubtful.
- BRONGERSMA, L.D. 1968b. Miscellaneous notes on turtles. 1. Kon. Ned. Akad. Wetensch. Proc. Ser. C. Biol. Med. Sci., 71 (5); 439 - 442. Notes on L. kempi in the Gulf of Mexico and eastern Atlantic.
- BRONGERSMA, L.D. 1968c. Turtles. Mar. Observer., 38; 18 - 34. Reviews Atlantic turtle sightings.
- BRONGERSMA, L.D. 1969. Miscellaneous notes on turtles IIA & IIB. Kon. Ned. Akad. Wetensch. Ser. C. Biol. Med. Sci., 72 (1); 76 - 103. Reviews records for foraging of D. coriacea with some regional records. A specimen examined from Bonaire.

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Gives notes on the anatomy, ocean records and records from the Netherlands Antilles of D. coriacea.
- BRONGERSMA, L.D. 1972. European Atlantic turtles. Zool. Verh. Rijksmus. Nat. Hist. Leiden., 121; 1 - 318.
Suggests that the origin of the majority of turtles washed up on European shores is the Caribbean and Gulf of Mexico, following dispersal by ocean currents.
- BROWN, H.H. 1942. The sea fisheries of Trinidad & Tobago. Report of Comptroller for Development and Welfare in the West Indies by the Director of Fisheries Investigations. Advocate Co. Ltd., 44 pages.
Notes that hawksbill and green turtles approach beaches in July and the turtle fishery increases from April to September.
- BROWN, H.H. 1946. The fisheries of the Windward and Leeward Islands. Development & Welfare Bull., No. 20. Bridgetown, Barbados.
Outlines the conservation laws and notes the decrease in turtles since 1774.
- BROWNELL, B. 1974. Las tortugas marinas de Venezuela. Natura; 35 - 39.
Not seen.
- BROWNELL, W.N., RAINEY, W.E. & SMITH, B.A. 1973. Preprint of Survey of the fishes of Aves Island. Island Resources Foundation Research Report, 11 pages.
In July 1971, 25 adult green turtles, including 5 mating pairs, observed by divers. None seen in November.

- BRUGIERE, J.M. 1971. Les tortues marines.
ORSTOM, Cayenne, 7 pages.
Contains a list of species recorded in French
Guiana and their major nesting areas.
- BRUNDAGE, H.M. 1982. Ocean travellers.
Delaware Conservationist., 25 (1); 24 - 25.
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Delaware waters, but mention is made of L. kemp
at Rancho Nuevo and of C. mydas at Tortuguero
and Aves Island.
- BUDKER, P. 1933. La peche au remora dans la mer des Antilles.
La Terre et la Vie, 6; 373 - 374.
(In French) (Quoted by Fretey, 1978 .Remoras
used to catch turtles, probably C. mydas and
E. imbricata.)
- BUITRAGO, J. 1980. Attempts to protect hawksbills in a
Venezuelan national park. Marine Turtle Newsletter,
14; 4 - 5.
Los Roques islands have 2,500 km² of shallow water
and 25 km of good turtle beaches. Until 1973 they
supported 50,000 kg yr⁻¹ of turtle fishery, mostly
for hawksbills. They are now part of a National
Park System; however, poaching continues and 80%
of nests were destroyed in 1979. Eggs are removed
from protected nests at 45 - 55 days and placed
in boxes where hatch rates are high. 1,500
hatchlings have been released each year and then
headstarted in a corral for 100 days.
- BULLIS, H.R. 1978. The biological and technological basis for
further development of artisanal fisheries in
the Caribbean area. Proc. Gulf Caribb. Fish. Inst.,
30; 166 - 173.
The potential of a controlled fishery for
hawksbill turtles is discussed. Suggestions for/

rehabilitation of the hawksbill turtle stocks are presented. Population modelling of this turtle is based on mark recapture data, largely for the green turtle. It is estimated that the range of survival from nested egg to sexual maturity is 2 - 3%, and in the case of heavy predation it may be as low as 0.1%.

BULLIS, H.R. & DRUMMOND, S.B. 1978. Sea turtle capture off the southwestern United States by exploratory fishing vessels 1950 - 1976. pages 45 - 50 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. on Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ. No. 33, 66 pages. Records sea turtle captures by exploratory fishing vessels off S.E. U.S.A. since 1950. A total of 44 C. caretta, 7 C. mydas, 4 E. inbriicata and 1 D. coriacea were taken in depths of 5 - 50 fathoms in 6,282 hours trawling with gear comparable to commercial shrimp nets.

BURCHFIELD, P.M. 1982. Report on United States/Mexico conservation of Kemp's ridley sea turtle at Rancho Nuevo, Tamaulipas, Mexico, 1981. Prelim. Rept. to U.S. Fish & Wildl. Serv. on Contract 14-16-0002-81-913, Albuquerque, N.M., 53 pages.

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BURCHFIELD, P.M. & FOLEY, F.J. 1982. Report on United States/Mexico conservation of Kemp's ridley sea turtle at Rancho Nuevo, Barra Coma, Tamaulipas, Mexico, 1982. Prelim. Rept. to Inst. Nac. de la Pesca and U.S. Fish & Wildl. Serv., Albuquerque, N.M. 49 pages.

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- BURNE, R.H. 1905. Anatomy of the leatherback turtles, Dermochelys coriacea. Proc. Sci. Meeting Zool. Soc. London., 1; 291 - 324.
Detailed description of external and some internal anatomy of D. coriacea.
- BURNETT-HERKES, J. 1968. Aquarium and fisheries. Monthly Bull. Bermuda Dept. Agric. Fish., 38 (11); 92 - 93.
Note on tagging and on Carr's Tortuguero hatchling distribution programme. 600 Tortuguero eggs were buried at Nonsuch Island in 1968. Notes that a loggerhead was disturbed while nesting on Elbow Beach in 1966.
- BURNETT-HERKES, J. 1974. Returns of green turtles (Chelonia mydas) tagged at Bermuda. Biol. Conservation, 6; 307-308.
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- BUSTARD, R. 1972. Sea turtles - their natural history and conservation. Collins, 220 pages.
Book. General account, largely about Australia.
- BYLES, R. 1982. Radio-tracking of a Kemp's ridley off the Virginia coast. Report to U.S. Fish & Wildl. Serv. Endangered Species Office, 21 pages.
Techniques of radio-tracking are described for studies on L. kempii.
- CABALLERO, C. & CABALLERO, E. 1962. Trematodos de las tortugas de Mexico, X. Presencia de Occhidasma amphiorchis (Braun, 1899)Loose, 1900, en una tortuga marina, Chelone mydas, de las costas de Estado de Tamaulipas, Mexico. An. Inst. Biol. Univ. Mexico., 33 (1-2); 47 - 55.
Gives a list of trematodes of turtles in the Gulf of Mexico, including O. amphiorchis in C. mydas previously known from C. caretta.

- CAINE, E.A. 1982. Preliminary study of sea turtle epibionts: what there is and direction of study. Amer.Zool., 22 (4); Abstract 548, page 951.
The carapaces of 41 nesting loggerheads were examined for epibionts at Pritchard's Island, South Carolina. Predominant symbionts were amphipods and barnacles, specimens of sponges, molluscs, annelids, tunicates and green algae were common. The occurrence of barnacle spat and amphipods is inversely correlated, but there was no correlation between carapace length (turtle age) and epibiont occurrence.
- CALDWELL, D.K. 1959a. The loggerhead turtles of Cape Romain, South Carolina. Bull. Fla. St. Mus. 4 (10); 319 - 348.
Detailed account of nesting of C. caretta. No relationship was found between nesting time and moon, tide or weather. Site selection is discussed. Data given on incubation, hatching success, hatchling biology and natural mortality.
- CALDWELL, D.K. 1959b. On the status of the Atlantic leatherback turtle, Dermochelys coriacea coriacea, as a visitant to Florida nesting beaches, with natural history notes. Quart. J. Fla. Acad. Sci., 21 (3); 285 - 291.
There are 11 nesting records on the Atlantic coast of Florida in 1957. Clutches contained 127 and 129 eggs.
- CALDWELL, D.K. 1960. Sea turtles of the United States. Fish & Wildl. Serv. Fish. Leaflet, 492; 20 pages.
A review of knowledge about nesting and general biology of five species, with comments on the turtle fishery and the need for conservation.

- CALDWELL, D.K. 1961. The ecology and systematics of the shore fishes of Jamaica. Yearbook Amer. Phil. Soc.; 275 - 277.
Reports D. coriacea, C. mydas, C. caretta and E. imbricata. Limited summer nesting occurs of C. mydas and C. caretta on the north coast.
- CALDWELL, D.K. 1962a. Comments on the nesting behaviour of Atlantic loggerhead sea turtles, based primarily on tagging returns. J. Fla. Acad. Sci., 25; 287 - 302.
Land development on Jekyll Island caused a shift of nesting to Little Cumberland Island. Tag returns show 2 - 3 year nesting intervals with multiple nesting at 12 - 15 day intervals. Group nesting is likely to be the common behaviour.
- CALDWELL, D.K. 1962b. Growth measurements of young captive Atlantic sea turtles in temperate waters. Los Angeles County Mus. Contr. Sci., 50; 1 - 8.
Growth data are given for C. mydas and E. imbricata, with notes on C. caretta and L. kempfi. Suggests that maturity takes longer in subtropical populations.
- CALDWELL, D.K. 1963. The green turtle and man.
Copeia 1963; 710 - 712.
Review of Parsons, J.J. 1962. 'The Green Turtle and Man', Univ. Fla. Press.
- CALDWELL, D.K. 1966. A nesting report on the American ridley.
Int. Turtle & Tortoise Soc. J., 1 (1); 10 - 13, 30.
The main Atlantic ridley site is Rancho Nuevo, Mexico. Reports that conservationists are taking eggs to Padre Island, Texas, and that a 15 km stretch of beach at Tamaulipas has been protected since April, 1966.

- CALDWELL, D.K. 1968. Baby loggerhead turtles associated with sargassum weed. Quart. J. Fla. Acad. Sci., 31 (4); 271 - 272.
Juvenile C. caretta were collected from beach drift and had bryozoa and tubicolous polychaetes typical of sargassum weed communities.
- CALDWELL, D.K., BERRY, F.H., CARR, A. & RAGOTZKIE, R.A. 1959. Multiple and group nesting by the Atlantic loggerhead turtle. Bull. Fla. State Mus., 4 (10); 309 - 318.
Tagging records suggest grouping for multiple nesting emergences. Loggerheads have 2 or more clutches per season. Paper includes egg count data.
- CALDWELL, D.K. & CALDWELL, M.C. 1969a. Addition of the leatherback sea turtle to the known prey of the killer whale, Orcinus orca. J. Mammalogy, 54 (3); 636.
Three killer whales each had leatherback remains.
- CALDWELL, D.K. & CALDWELL, M.C. 1969b. Sea turtles, pages 623 - 626 in Firth, F.E. The Encyclopedia of Marine Resources, Van Nostrand Reinhold Co..
General - descriptions and natural history.
- CALDWELL, D.K. & CARR, A. 1957. Status of the sea turtle fishery in Florida. Trans. 22nd N. Amer. Wildl. Conv. March 1957; 457 - 463.
Fisheries data given on C. caretta, C. mydas, & L. kempi. Recommends a ban on egg collecting and taking of adults from North Carolina to Texas.
- CALDWELL, D.K., CARR, A. & HELLIER, T.R. 1955a. A nest of the Atlantic leatherback turtle, Dermochelys coriacea coriacea (Linnaeus), on the Atlantic coast of Florida, with a summary of American nesting records. Quart. J. Fla. Acad. Sci., 18 (4); 279 - 284.
Nesting on Hutchinson Island in mid-July 1955.
This is the second reliable nest record in 100 years.

CALDWELL, D.K., CARR, A. & HELLIER, T.R. 1955b. Natural history notes on the Atlantic loggerhead turtle, Caretta caretta caretta. Quart. J. Fla. Acad. Sci., 18 (4); 292 - 302.

Nesting is recorded from Fort Pierce to Daytona Beach, Florida. Nesting records for Cuba include Flaya Baracoa, west of Habana, north Cuba and Varadero Beach Matanzas Province where Caretta is common and Gibara Island where loggerheads are rare but hawksbills nest from May to July. Some carapace length and width measurements are given for juvenile loggerheads.

CALDWELL, D.K., CARR, A. & OGREN, L.H. 1950. Nesting and migration of the Atlantic loggerhead turtle. Bull. Fla. State Mus., 4 (10); 295 - 308.

Nesting and tag records are given for Florida and Georgia, and the known rookeries listed. Loggerhead nesting behaviour is described.

CALDWELL, D.K. & ERDMAN, D.S. 1969. Pacific ridley sea turtle, Lepidochelys olivacea, in Puerto Rico. Bull. So. Calif. Acad. Sci., 68 (2); 112.

L. olivacea taken at sea off San Juan, this is evidence that they occur but are rare in local waters.

CALDWELL, D.K. & RATHJEN, W.F. 1969. Unrecorded West Indian nesting sites for the leatherback and hawksbill sea turtles, Dermochelys coriacea and Eretmochelys imbricata imbricata. Copeia 1969; 622 - 623. Records Dermochelys at Sandy Point, St. Kitts, western coast of Nevis, northeast coast on Barbados; Eretmochelys on Aves Island.

- CALDWELL, D.K., RATHJEN, W.F. & HSU, B.C.C. 1969. Surinam ridleys at sea. Int. Turtle & Tortoise Soc. J., 3; 4 -5,23. Data from the FAO exploratory fishing survey vessel R/V Calamar suggest either a resident population of L. olivacea off the northeast coast of South America or constant recruitment from Africa.
- CAMPBELL, H.W. 1974. Turtles at the brink. Our endangered species. Bull. Md. Herpetol. Soc., 10 (1); 1 - 5. Discusses the status of sea turtles in the United States.
- CARDONA, R. & de la RUA, R. 1972. Protegamos nuestras tortugas. Inst. Nac. de la Pesca Cuba, Centro de Invest. Pesqueras, Bol. Divulg. Tec., Habana, 5; 35 pages. Descriptions given of nesting seasons, exploitation, and foraging areas of D. coriacea, C. caretta, C. mydas and E. imbricata. Techniques of incubation in beach hatcheries are described, with release of juveniles; also for removal of eggs from females during slaughter and their subsequent incubation. In Cuba the main fishing season for turtles corresponds to the general fishing season, so that breeding adults are heavily exploited.
- CARR, A.F. 1942. Notes on sea turtles. Proc. New England Zool. Club., 21; 1 - 16. Taxonomic discussion on C. caretta, C. mydas and L. kempi, with notes on distribution.

Note: Carr, A.; Carr, Archie; Carr, A.F. and Carr, A.F.jr., are assumed to be the same person throughout this listing.

- CARR, A.F. 1952. Handbook of turtles: the turtles of the United States, Canada and Baja California. Comstock Publishing Assoc., Ithaca, N.Y. 542 pages.
General Book.
- CARR, A.F.jr. 1954a. The passing of the fleet. A.I.B.S. Bulletin, IV (5); 17 - 19.
Describes historic exploitation of turtles and effects on stock depletion. Relates to the socio-political history of the Caribbean.
- CARR, A. 1954b. The zoogeography and migrations of sea turtles. Yearbook Amer. Philos. Soc. 1954; 138-140.
Specific breeding localities are established for green turtles in Costa Rica and eastern Trinidad; hawksbills in Costa Rica, Tobago and eastern Trinidad; leatherbacks in Costa Rica, Tobago and eastern Trinidad; and possible record of L. kempi in Trinidad.
- CARR, A.F. 1955. The riddle of the ridley. Animal Kingdom, 58 (5); 146 - 156.
Discusses the problems of the life history of L. kempi and its validity as a separate species.
- CARR, A. 1957. Notes on the zoogeography of the Atlantic sea turtles of the genus Lepidochelys. Rev. Biol. Trop., 5 (1); 45 - 61.
L. kempi may be a far ranging species. No nesting site is known in Florida, and the evidence for a long-range migration is discussed.
- CARR, A. 1961a. Pacific turtle problem. Natural History, 70 (8); 64 - 71.
Discusses morphometric and colour differences between Atlantic and Pacific turtle populations.

- CARR, A. 1961b. The ridley mystery today.
Animal Kingdom, 64 (1); 7 - 12.
As a nesting site is not known for L. kempi, suggests either scattered emergencies with no rookeries or nesting on inaccessible shores, where tracks are easily obliterated, or nesting by day.
- CARR, A.F. 1961c. Ratsel der ridley-schildkroten.
Tier, 12; 32 - 36.
(In German) See Carr, 1961b.
- CARR, A. 1962. Guideposts of animal navigation.
BSCS Pamphlets No. 1. Amer. Inst. Biol. Sci.,
36 pages.
A general account of navigation, including much on sea turtles.
- CARR, A. 1963a. Orientation problems in the high seas travel and terrestrial movements of marine turtles, pages 179 - 193 in Bio-Telemetry. Pergamon Press. Brief account of migration studies at Tortuguero and Ascension, in which visual tracking was unsatisfactory. Telemetry is better as a female can carry apparatus and will not travel more than 30 miles per day. Hatchlings employ a telotaxis, tending to move towards the better illuminated sky. Wet sand initiates a swimming response in young turtles.
- CARR, A. 1963b. Panspecific reproductive convergence in Lepidochelys kempi. Ergebnisse der Biologie, 26; 298 - 303.
Describes the rediscovery of concentrated nesting area of L. kempi at Rancho Nuevo, Mexico. Data given on arribadas, when the whole reproductive effort is concentrated in one area. The migration to Rancho Nuevo depends on a refined, composite orientation process demanding bicoordinate navigation ability.

- CARR, A. 1964a. Transoceanic migrations of the green turtle. Bioscience, 14 (8); 49 - 52.
Program at the University of Florida to test the assumption that C. mydas is capable of long-range, open-water navigation. Chelonia is a periodic long-distance migrant, and the paper discusses the possible advantages for Brazilian coast feeding turtles making the long migration to Ascension Island and the necessity for navigational ability of the mature females. The hatchlings can return by passive migration in ocean currents.
- CARR, A.F. 1964b. Transoceanic migrations of the green turtle. Naval Res. Rev., 17 (10); 12 - 18.
See Carr, 1964a.
- CARR, A. 1965. The navigation of the green turtle. Scientific American, 212 (5); 78 - 86.
Gives an account of the biology of C. mydas at Tortuguero, Costa Rica, with discussion of their ability to navigate and locate remote oceanic islands. Mark-recapture studies were used to confirm that at least some individuals of the green turtle population of Ascension Island travel to Brazil, 1,400 miles away, to feed and return. Routes along which the navigation takes place are postulated. It is believed that the energy saved among young turtles taking the east to west journey to Brazil by drifting with the south equatorial current. Physiological factors aiding target detection are examined and methods for enhancing efficient turtle tracking are proposed.

- CARR, A.F. 1967a. So excellent a fishe.
The Natural History Press, Garden City, N.Y.,
248 pages.
General Book. Popular account of the author's
work with turtles in the Caribbean.
Insights on migration, nesting,
foraging and conservation.
- CARR, A. 1967b. Adaptive aspects of the scheduled travel
of Chelonia, pages 35 - 55 in Storm, R.M.
Animal Orientation and Navigation, Proc. 27th.
Ann. Biol. Coll. Oregon State Univ. Press.
Details given and discussed on the reproductive
cycle of C. mydas, based on results from the
Tortuguero colony; the disappearance of first-
year turtles; site discrimination; time and
distance in tag recoveries; the problems of
open sea migration; studies of the sea-finding
sense and the evolution of island-finding.
- CARR, A.F. 1967c. 100 turtle eggs.
Natural History, 76; 46 - 51.
The green turtle lays 100 eggs, four times a
season. If fewer, then predation prevails; if
more, they are too heavy to carry. The social
advantages in hatching and avoidance on the way
to the sea are highlighted.
- CARR, A.F. 1967d. No one knows where the turtles go.
Natural History, 76; 40 - 43, 52 - 54, 58 - 59.
Part II of '100 turtle eggs', describes some
sea-finding experiments with C. mydas and
discusses the 'lost years'.
- CARR, A.F. 1968. Sea turtles: a vanishing asset.
IUCN Publ. New Ser., 13; 162 - 168.
Not seen

- CARR, A. 1969a. Sea turtle resources of the Caribbean and Gulf of Mexico. IUCN Bull. Jan-March 1969, 2 (10); 74 - 83.
List the five genera present and the degree of exploitation. Describes the conservation programme in Costa Rica.
- CARR, A.F. 1969b. Survival outlook of the west-Caribbean green turtle colony, pages 13 - 16 in Marine Turtles. IUCN Publ. New Ser. Suppl. Paper, No. 20; 100 pages.
Only 2 important nesting grounds occur in the Caribbean - Aves Island, Venezuela, and Tortuguero, Costa Rica. Aves Island furnishes most of the green turtles for the eastern Caribbean. The legal take in Costa Rica is insupportably heavy and the rookery will inevitably become exhausted. Cooperative effort between Costa Rica and Nicaragua appears essential for protection of the green turtle.
- CARR, A. 1969c. Carne para el futuro. Tecnica Pesquera, 23; 24 - 26.
(In Spanish) An account of conservation and hatching techniques being employed in Costa Rica to ensure future turtle supplies.
- CARR, A. 1969d. How do turtles find the sea ?
Nature and Science, 6 (8); 12 - 14.
Not seen
- CARR, A. 1970. Green sea turtles in peril. National Parks Magazine, 44; 19 - 24.
Notes the increase in use of turtle products, leather, oil and shell. At Tortuguero there are fluctuations in number of nesting females, possibly affected by the conservation efforts. Suggests that international cooperation is needed and that turtle farms be strictly controlled.

- CARR, A. 1971. Research and conservation problems in Costa Rica, pages 29 - 33 in Marine Turtles, IUCN Publ. New Ser. Suppl. Paper No. 31; 109 pages. Discusses the problems of conserving an animal which is migratory, economically valuable, prone to cross international boundaries and heavily exploited in both breeding and feeding grounds. The joint accord between Costa Rica, Nicaragua and Panama was never ratified, so exploitation continues on the Miskito Bank. In Costa Rica harpoon boats are prohibited within 1 mile of shore and wardens patrol the beaches. Tortuguero National Park has been approved but not yet inaugurated. Tag returns suggest a range of homing to 0 - 29 km of previous nesting sites. Mature female C. mydas grow about 2.5 mm per year after nesting, the periodicity of reproduction changes frequently from a 3 year to a 2 year period.
- CARR, A. 1972a. Great reptiles, great enigmas. Audubon, March 1972, 74 (2); 24 - 35. A general account of turtle species and their biology on a global basis. The plight of L. kempi under threat from poachers and incidental catch and the exploitation of E. imbricata for its shell are discussed. Attention is paid to the commercial utilization of turtle steak and soup and the problems of conserving an animal about which so little is known. The state of knowledge about homing and navigation in C. mydas is reviewed.
- CARR, A.F.jr. 1972b. The case for long-range chemoreceptive piloting in Chelonia, pages 469 - 483 in Animal Orientation and Navigation, Symp. Nat. Aeronaut. Space Admin., 1970, Sci. & Tech. Office, N.A.S.A., Washington.
- Not seen

CARR, A. 1975. The Ascension Island green turtle colony.
Copeia 1975; 547 - 555.

Two populations feed along the coast of Brazil, from Suriname and from Ascension. Ascension population sites of recapture extend from a distance of 2,700 km north and south of Recife, along the Brazilian bulge.

CARR, A. 1977a. Crisis for the Atlantic ridley.

Marine Turtle Newsletter, 4; 2 - 3.

Letter to Sir Peter Scott, Chairman Survival Service Commission, on plight of L. kempi at Rancho Nuevo, Mexico. The following population estimates are given -

year	Est.nesting arrival	Total mature popl.
1947	40,000	162,400
1970	2,500	10,150
1974	1,200	4,872

Incidental capture is a major mortality factor.

CARR, A. 1977b. Last chance for the sea turtle,

Worldbook Yearbook -Events of 1976, Annual

Suppl. to the World Book Encyclopedia, pages 136 - 152.

Not seen

CARR, A. 1979. The Windward Road.

Univ. Florida Press, 258 pages.

General Book. Reissue of 1955 edition by A.Knopf, contains chapters on L. kempi, Trinidad, Costa Rican turtles and the turtle fishermen of Cayman.

CARR, A.

1980. Some problems in sea turtle ecology.

Amer. Zool., 20; 489 - 498.

Tagging programmes have revealed parts of the patterns of reproductive migration of some turtle populations, but much of the ecological geography of the species remains unknown. Kemp's ridley and the Tortuguero green turtle populations are used as examples of strong and weak areas. Possible causes of one-season nesting and its bearing on sea turtle demography are discussed. An apparent dichotomy in the 'lost-year' ecology is suggested. Some hatchlings of both species evidently drift away in major currents, while others pass this stage circling in local eddies, Chelonia in the west Caribbean gyre and L. kempi within the Gulf of Mexico.

CARR, A.F.

1982. Notes on the behavioural ecology of sea turtles, pages 19 - 26 in Bjorndal, K.A. (Editor),

Biology and Conservation of Sea Turtles,

Smithsonian Institution, Washington, 583 pages.

The peculiar stereotyped egg cavity excavation process is discussed as an example of innate behaviour patterns. This behavioural trait separates turtles from tortoises and terrapins. Also briefly reviewed are hatchling emergence, beach traverse, traverse of the surf and orientation after passing the breakers. The lost year and the sargassum theory of hatchling refuge are discussed, as is the possibility that basking and hibernating are alternatives to migration.

CARR, A., BJORN DAL, K., CARR, D., CARR, P., CARR, T., MEYLAN, A., MEYLAN, P., FORTINER, J., CHELLAR, G., RUIZ, A., RAINY, W. & OTHERS. 1980. Survey and preliminary census of marine turtle populations in the Western Atlantic. Final report to Nat. Mar. Fish. Serv. (Contract 03-78-008-0025), Caribbean Cons. Corp. April 1980, 88 pages text and 47 pages appendices.

Review paper

CARR, A.F. & CALDWELL, D.K. 1956a. The ecology and migrations of sea turtles: 1. Results of field work in Florida, 1955. Amer. Mus. Novitates, 1793. Paper concerned with C. mydas and L. kempi on the Gulf coast of Florida. About 1,000 individuals per year are caught in tangle nets. The local population of C. mydas consists almost entirely of non-breeding juveniles, possibly strays from main Caribbean populations. About 5,500 were present in the local population, most about 12 - 115 lbs. The local population of L. kempi contains only sexually immature individuals, and is strongly seasonal in occurrence. Population size about 3,750 with a yearly catch of 300. A few are caught containing eggs.

CARR, A. & CALDWELL, D. 1956b. Don't give tag to baby. Fla. Wildl. Mag., April 1956; 30 - 31. Popular article advising to look out for tagged turtles. Explains how Indian River area once supported a thriving turtle fishery but this has collapsed through over fishing. The tagging programme is basic to proposed conservation and recovery of the Florida turtles.

- CARR, A.F. & CALDWELL, D.K. 1958. The problem of the Atlantic ridley turtle (Lepidochelys kempi) in 1958. Rev. Biol. Trop., 6 (2); 245 - 262.
Some details of the anatomy of L. kempi are given, plus a historical review of records of adults and hatchlings. L. kempi is probably endemic to the Gulf of Mexico. Undiscovered rookeries are expected on still unexplored beaches in Mexico and probably contain the total species population.
- CARR, A. & CARR, M.H. 1970a. Recruitment and remigration in a green turtle nesting colony. Biol. Conservation, 2 (4); 282 - 284.
Not seen
- CARR, A. & CARR, M.H. 1970b. Modulated reproductive periodicity in Chelonia. Ecology, 51 (2); 335 - 337.
15 years of tagging records contain 447 remigration return records. At Tortuguero, Costa Rica, turtles return to nest every 2 or 3 years, some at 4 year intervals, some at 9. This indicates weak site tenacity. Some may modulate from 2 - 3 year cycles or vice versa. This probably reflects changes in ecological conditions at the feeding grounds.
- CARR, A. & CARR, M.H. 1972. Site fixity in the Caribbean green turtle. Ecology, 53 (3); 425 - 429.
Tag returns at Tortuguero show definite site fixity, but their site discrimination is not absolute. Modal distance between successive returns was 0.2 km, with up to 7 km from previous nest site. This wide dispersal indicates how colony proliferation may occur. No Tortuguero turtle has ever been found on another shore. Location of nesting site is probably olfactory in long term.

- CARR, A., CARR, M.H., & MEYLAN, A.B. 1978. The ecology and migrations of sea turtles, 7. The west Caribbean green turtle colony. Bull. Amer. Mus. Nat. Hist., 162 (1); 1 - 46. The average sexually mature population in the west Caribbean over 6 years, 1971 - 1976, was 62,538. Estimates that until 1976 15,000 mature and sub-adult turtles were probably being taken (i.e. 10,000 off the Miskito Banks, 4,000 annual take in Costa Rica, assumed 1,000 per annum subsistence take in Colombia and Mexico). From a 22 year tagging programme at Tortuguero, no turtle tagged on this beach was ever reported on another nesting shore.
- CARR, A. & COLEMAN, P.J. 1974. Seafloor spreading theory and the odyssey of the green turtle. Nature, 249 (No.5453); 128 - 130. A possible explanation is given why the sub-population of C. mydas travels 2,000 km from foraging grounds in Brazil to nesting beaches in Ascension Island. Increasing distances resulting from gradual separation of South America and Africa in the early tertiary induced ancestors of this species to swim increasing distances seawards.
- CARR, A.F. & GIOVANNOLI, L. 1951. The ecology and migrations of sea turtles, 2. Results of field work in Costa Rica, 1955. Amer. Mus. Novitates, 1835. Tagging studies show multiple nesting at 10 - 14 day intervals in C. mydas, long-distance individual movement and possible migration to feeding grounds in Panama and Nicaragua. A detailed account of the nesting behaviour of C. mydas is given.

- CARR, A.F. & GOIN, C. 1955. Guide to the reptiles, amphibians, and freshwater fishes of Florida. Univ. Fla. Press, Gainesville, 341 pages.
Taxonomic descriptions and local distributions of C. mydas mydas, E. imbricata imbricata, Caretta caretta caretta, L. kempi and D. coriacea are given.
- CARR, A. & GOODMAN, D. 1970. Ecological implications of size and growth in Chelonia. Copeia 1970; 783 - 786.
Turtles grow fast to maturity and after their first nesting, growth is negligible. First nesting can occur at 29 - 30 ". Differences in size between populations, eg. smaller Tortuguero females and larger Ascension females, may be influenced more by maturation size and factors involved in migration than by growth after maturity, i.e. Ascension turtles need to be larger as they must travel further without feeding.
- CARR, A. & HIRTH, H. 1961. Social facilitation in green turtle siblings. Animal Behaviour, 9 (1-2); 68 - 70.
Tests made at the green turtle nesting grounds at Tortuguero, Costa Rica, show that turtles hatching singly have reduced prospects for emerging from the nest and even less chance of reaching the sea. Observations through glass-sided nests show group facilitation of emergence. Data from Ascension show that metabolic heating acts as thermal cooperation affecting the fitness of a set of eggs.
- CARR, A. & HIRTH, H. 1962. The ecology and migrations of sea turtles, 5. Comparative features of isolated green turtle colonies. Amer. Mus. Novitates, No. 2091; 1 - 42.
Describes mannerisms of landing or stranding for nesting, including sand smelling, movement to suitable dry sand. Turtles have a high alarm threshold at this stage. 'Half-moon' tracks are thought to be a final, fine scale, site-finding process at the end of the high seas journey.

- CARR, A.F., HIRTH, H. & OGREN, L. 1966. The ecology and migrations of sea turtles, 6. Hawksbill turtle in the Caribbean sea. Amer. Mus. Novitates, 2248; 20 pages. A detailed report, largely concerned with Eretmochelys at Tortuguero, Costa Rica; gives nesting range, size and measurements, reproductive cycle, habitat and food, nesting behaviour which is discussed at length, migration and site tenacity, hatchling orientation and survival status.
- CARR, A. & INGLE, R.M. 1959. The green turtle (Chelonia mydas mydas) in Florida. Bull. Mar. Sci. Gulf and Caribb., 9 (3); 315 - 320.
The first record of green turtles nesting in North America. 2 females laid eggs north of Vero Beach on July 11th, 1957, and on Hutchinson Island on June 27th., 1958.
- CARR, A.F., IVERSCH, J.B. & JACKSON, D.R. 1979. Marine turtles, pages xiv - 1 to xiv - 45 in Summary and analysis of environmental information on the continental shelf and Blake Plateau from Cape Hatteras to Cape Canaveral. U.S. Natl. Tech. Infor. Serv. Center for Natural Areas, South Gardiner.
Gives species composition in the study area, effects of man, natural mortality, status, summary of marine turtle research and extensive bibliography.
- CARR, A. & KING, W. 1975. Questions and answers on sea turtle conservation. Caribbean Cons. Corp. Florida, 17 pages.

CARR, A.F. & MEYLAN, A.B. 1980a. Evidence of passive migration of green turtle hatchlings in sargassum. Copeia 1980; 366 - 368.

Analysis of gut contents of post hatchling Caretta confirmed that young turtles become part of the sargassum ecosystem after entry to the sea. Passive drifting with ocean currents, in the shelter of sargassum rafts may be one of the habitats for post hatchling sea turtles, at least for the Tortuguero population, as observation in Panama and Costa Rica suggest.

CARR, A. & MEYLAN, A.B. 1980b. Extinction or rescue for the hawksbill ? Oryx, 15 (5); 449 - 450.

Not seen

CARR, A., MEYLAN, A., MORTIMER, J., BJORN DAL, K. & CARR, T. 1982. Surveys of sea turtle populations and habitats in the Western Atlantic (Draft). NOAA Technical Memo. NMFS-SEFC, 91 pages.

Review paper

CARR, A.F. & OGREN, L.H. 1959. The ecology and migrations of sea turtles, 3. Dermochelys in Costa Rica. Amer. Mus. Novitates, 1958; 29 pages.

Gives observations of nesting and eggs on Matina Beach, Costa Rica. The orientation and care of hatchlings in captivity is discussed.

CARR, A.F. & OGREN, L.H. 1960. The ecology and migrations of sea turtles, 4. The green turtle in the Caribbean Sea. Bull. Amer. Mus. Nat. Hist., 121 (1); 1 - 48.

An account of the 1959 season at Tortuguero, giving data on nesting females, periodicity of re-nesting, frequency, incubation periods and hatchling emergence evidence of site tenacity and migration presented.

CARR, A., OGREN, L. & McVEA, C. 1981. Apparent hibernation by the Atlantic loggerhead turtle, Caretta caretta, off Cape Canaveral, Florida. Biol. Conservation, 19; 7 - 14.

During winter of 1978 large numbers of torpid Caretta were taken by shrimp trawlers in Fort Canaveral ship channel. Experimental trawl drags raised 56 in 123 mins and 100 in 128 mins. This implies that in the temperate-zone sections of its range the loggerhead hibernates.

CARR, A., ROSS, F. & CARR, S. 1974. Nesting behaviour of the green turtle, Chelonia mydas, at a mid-ocean island breeding ground. Copeia 1974; 703 - 706. Turtles arriving from Brazilian feeding grounds were tracked along beaches of Ascension Island during the internesting period. Average speed of movement along the shore was 1.5 km hr^{-1} .

CARR, A.F. & SCHROEDER, R.E. 1967. Caribbean green turtle: imperiled gift of the sea. Nat. Geographic, 131 (6); 876 - 890. Popular, well illustrated account of research and conservation efforts with C. mydas, largely centered on Costa Rica.

CARR, A. & STANCYK, S. 1975. Observations on the ecology and survival outlook of the hawksbill turtle. Biol. Conservation, 8; 161 - 172. The hawksbill has declined to endangered status before its ecology has been adequately investigated. A limited amount of data has accumulated at Tortuguero. Stomach contents of 11 females and 13 males and 5 unsexed showed a wide variety of marine plant and animal parts, mainly benthic invertebrates. Hawksbills nest at least twice a year, renesting at about a three week interval. Tortuguero animals go to the Miskito Cays, Nicaragua.

CARR, A. & SWEAT, D. 1969. Long-range recovery of a tagged yearling Chelonia on the east coast of North America. Biol. Conservation, 1; 341 - 342.

A specimen of C. mydas headstarted to 1 year old and then released off the Florida Keys in 1967 was recaptured off Cape Hatteras in November 1968. This shows that turtles reared in captivity are viable and that headstarting is an important way of getting hatchlings through the critical phase of their life cycle. Headstarting is, thus, a useful conservation tool.

CARR, A.F. III & DODD, C.K. 1983. Sea turtles and the problem of hybridization, pages 277 - 287 in C. Schonewald-Cox et al (Editors), Genetics and Conservation. A reference for managing wild animal and plant populations. Addison-Wesley.

Because of threats imposed by hybridization, the translocation of eggs or hatchlings to effect sea turtle recovery can be recommended only where the species or population is locally extinct or so reduced as to make the risk of adverse effects of genetic contamination a justifiable option.

CARR, D. & CARR, P.H. 1977. Survey and reconnaissance of nesting shores and coastal habitats of marine turtles in Florida, Puerto Rico, and the U.S. Virgin Islands.

Report to Nat. Mar. Fish. Serv., 52 pages.

The season for Florida loggerheads was May to late September, peaking late June and July, during 1976 and 1977. 90% of the populations nested from Volusia to Broward. The Florida population was estimated at 41,524 (similar to earlier estimates of Lund 1974 at 50,000). The mainland of Puerto Rico was virtually devoid of nesting, while some nests were seen on Vieques, Mona and Culebra. 13 tracks in June, 11 in September in St. Croix, none on St. Thomas or St. John. Several nests seen on Little Hans Lollipop Island.

- CARR, T. 1974. The marine turtles of Culebra Island. Report to Dept. of Nat. Resources, Commonwealth of Puerto Rico, 12 pages.
In June 1974, 19 nests, 4 were leatherbacks.
See Carr, T. 1977 .
- CARR, T. 1977. The marine turtles and terrestrial reptiles of Culebra Island, Report to U.S. Fish & Wildl. Serv., 43 pages.
Nesting beach areas are identified for C. mydas, E. imbricata, C. caretta and D. coriacea, only the hawksbill is a regular nester, also on Culebrita. Developmental and foraging habitat is present for green and hawksbill turtles.
There is heavy human predation on all species.
- CARR, T. 1978. A survey of marine turtles at Vieques Island. Report to Dept. of Nat. Resources, Commonwealth of Puerto Rico, 16 pages.
Records loggerhead, leatherback, green and hawksbill and some olive ridley. Leatherbacks and hawksbills are the most common nesters.
12 nesting beaches are reported, also good forage areas for greens and hawksbills. Heavy human predation is noted.
- CARRANZA, J. 1967. Survey of the marine fisheries and fishery resources of the Yucatan Peninsula, Mexico. Thesis, Univ. Michigan, 193 pages.
The sea turtle fishery is a major part of the marine fishery of Yucatan, but production has declined since 1950's. Status of stocks data is given for 1956 - 1959, mostly for C. mydas.
- CASAS-ANDREU, G. 1970. Programas nacionales para el estudio, conservacion y fomento de las tortugas marinas, III. Congreso Nac. de Med. Vet. Zootecn. Piscicult. (Veracruz, Mexico. Report of speech.
Not seen

- CASAS-ANDREU, G. 1971. National and regional report: Mexico, pages 41 - 46 in Marine Turtles, IUCN Publ. New Ser. Suppl. Paper, No. 31; 109 pages.
Programmes of research and conservation of sea turtles were initiated in 1966. The main Atlantic beach is Barra Coma, Tamaulipas, frequented by L. kempi. In 1969, protected 10,000 nesting females and incubated 37,690 eggs, producing 35,428 hatchling turtles at a loss of only 6%. In 1970, protected 2,000 females, incubated 32,620 eggs, only 19,748 hatchlings resulted (42% mortality) with 2% mortality after birth, 19,353 released to the sea. A decline of not less than 86% in the Mexican turtle fishery is noted between 1967 - 1970, due largely to falling populations.
- CASAS-ANDREU, G. 1978. Analisis de la anidacion de las tortugas marinas del genero Lepidochelys en Mexico. An. Centro Cienc.del Mar. y Limnol. Univ. Nac. Auton. Mexico, 5 (1); 141 - 158.
(In Spanish) A year study in 1970 at Barra Coma, Tamaulipas, of L. kempi, describes nesting areas, nesting seasons, behaviour; correlations are found between arribadas and moon phases, tide conditions and sea temperatures. Nest depth, clutch sizes, incubation period are given.
- CATESBY, N. 1731-1743. The natural history of Carolina, Florida, and the Bahama Islands. 2 vols. London.
In 1730 the principal supply of meat eaten in Jamaica was turtle. 40 sloops supplied meat from the Cayman Islands. (Quoted by King, 1982).
- CATO, J.C., PROCHASKA, F.J. & PRITCHARD, P.C.H. 1978. An analysis of the capture, marketing, and utilization of marine turtles. Report to Nat. Mar. Fish. Serv., Contract 01-7-042-11283, 119 pages.
Review paper

- CHAVEZ, H. 1966. Propositos y finalidades. Bol. Prog. Nac. Mercado Tortugas Mar. 1 (1); 16 pages.
287 females tagged by Tampico fisheries biology station; carapace length and nesting locations are given.
- CHAVEZ, H. 1967. Nota preliminar sobre la recaptura de ejemplares marcados de tortuga lora, Lepidochelys kempii. Bol. Prog. Nac. Mercado Tortugas Mar., 1 (6); 5 pages.
285 L. kempii tagged in Tamaulipas. 30,000 eggs transferred for protection and 100 hatchlings held in captivity to study growth, feeding and parasites.
- CHAVEZ, H. 1968. Mercado y recaptura de individuos de tortuga lora, Lepidochelys kempii (Garman). Mexico Inst. Nac. Inv. Biol. Pesq., 19; 1 - 28.
From April to July, 1966, 285 female L. kempii tagged while nesting near Barra Coma, Tamaulipas. Nesting on average at 25 days intervals, evidence of annual periodicity in reproductive cycle. Shell length increased by up to 1 cm in 349 - 373 days. Growth of 4 hatchlings in an aquarium was 64.7 mm and 252.8 g after 188 days. 17 females were recaptured great distances away in the Gulf of Mexico, but most recaptures were within 4 - 12 km offshore.
- CHAVEZ, H. 1969. Tagging and recapture of the lora turtle, (Lepidochelys kempii). Int. Turtle & Tortoise Soc. J., 3 (4); 14 - 19, 32 - 36.
During internesting period turtles stay in area of the nesting beach. They possibly migrate to feeding grounds together and many are caught in shrimp nets. Turtles encountered up to 39 km from the coast, on average between 4 - 12 km. Concentrate in two zones, Louisiana coast and area near Ciudad del Carmen.

CHAVEZ, H., CONTRERAS, M. & HERNANDEZ, T.P.E. 1967. Aspectos biológicos y protección de la tortuga lora, Lepidochelys kempí (Garman) en la costa de Tamaulipas, Mexico. Inst. Inv. Biol. Pesq., 17; 40 pages.

Describes the work at Rancho Nuevo. Length of 24 individuals of L. kempí hatchlings was 38.0 - 46.0 mm, weight 14.0 - 18.0 g. For 203 adult females length was 595 - 750 mm, average 646.4 mm, with weights of 17 adults at 39.0-49.3 kg. Observations of some solitary and some arribada nesting. The largest was on May 31st and following containing 1,500 turtles. The majority lay in daylight, nests built high above the tide level. Some examples with renesting intervals of 20 - 28 days, average clutch size 110, incubation period 50 - 70 days, with maximum at 56 days. Hatching always occurs in the morning from 0517 - 0850 hrs. 29,937 eggs transplanted. Wind speed and direction appear as regulating factors in the arribadas, not the moon phase. (In Spanish).

CHAVEZ, H., CONTRERAS, M. & HERNANDEZ, T.P.E. 1968. On the coast of Tamaulipas. Int. Turtle & Tortoise Soc.J., 2 (4); 20 - 29, 37, and (5); 16 - 19, 27 - 34. Largely as for Chavez et al., 1967. Also with data on the major predators - Ocypode albicans, coyotes, Coragyps a. atratus, with Caranx hippos and Scianops ocellata the major predators offshore. Notes that permanent protection has been given to the area since 1966.

CHAVEZ, H. & FAUFMANN, R. 1974. Información sobre la tortuga marina Lepidochelys kempí (Garman), con referencia a un ejemplar marcado en México y observado en Colombia. Bull. Mar. Sci. Gulf & Caribb., 24; 372 - 377.

(In Spanish) A specimen tagged while nesting in Tamaulipas, Mexico, nested also near Santa

Marta; this is the first nesting record for L. kempi outside Mexico and one of the few good records of this species in the Caribbean. It appears also that this individual nested on two beaches 5,400 kms apart.

- CHERFAS, J. 1978. A tale of two turtles.
New Scientist, 78 (1104); 514 - 516.
The 20 mile stretch of beach at Rancho Nuevo is the only remaining nesting ground of the Atlantic ridley. The population has suffered serious decline; aspects of turtle biology are discussed and headstarting is considered as a primary conservation measure.
- CHERFAS, J. 1979. The song of the turtle.
New Scientist, 13th Dec.; 880 - 882.
A report of matters discussed at the World Conference on Sea Turtle Conservation, Washington, 1979.
(See Bjorndal, 1982a.
- CICAR 1968. Marine turtles. Sect. IV, 3 pages in Symposium on Investigations and Resources of the Caribbean Sea and Adjacent Regions, 1968.
Brief report of activities in research on turtles and the need for a regional programme.
- CLARK, D.R. & KRYNITSKY, A.J. 1980. Organochlorine residues in eggs of loggerhead and green sea turtles at Merrit Island, Florida - July and August 1976. Pesticides Monitor. J., 14 (1); 7 - 10.
Not seen
- CLAYTON, D. 1975. Farming green turtles: 'keep it small and simple'. Fish Farming Internat., 2 (3); 9 - 11.
A general article referring to several parts of the region, discussing turtle diseases, markets, sales income, products utilization. Concludes that

the prospective turtle farmer should (1) establish the latest world, national and state conservation position and its effects on the proposed venture and its markets, (2) keep farm production rate to about 6000 - 8000 turtles per year, (3) Keep it simple, using natural resources where possible, such as lagoons for turtle grow out and turtle grass as the main feedstock, (4) ensure that initial turtles or eggs can be obtained from sources close to the site, (5) cost the farm on only a proportion of sales going to developed countries. This avoids overstimulation of demand for products from wild sources, (6) set up a research capability and (7) assemble a breeding herd to supply the production unit.

COKER, R.E.

1906. Natural history of cultivation of the diamond-back terrapin, with notes on other forms of turtles. North Carolina Geol. Surv. Bull., 14;

Chelonians seldom seen in Carolina, although formerly abundant. L. kempi is commonly seen, D. coriacea only occasional with one record at 800 lbs. Caretta lays from May to August, with up to 130 eggs in a nest.

COLLI, C.

1976. The threat to the green turtle.

Virgin Islander, 2 (3); 3 - 4.

Not seen

CONSIDINE, J.L. & WINBERRY, J.J. 1978. The green sea turtle of the Cayman Islands. Oceanus, 21 (3); 50 - 55.

Describes the farming-culture operation and gives a history of the fishery for C. mydas in the Cayman Islands. Notes that turtle hunting has been illegal in the Caymans since 1970.

COOPER, ST.G.C. & BACON, P.R. (EDITORS) The Natural Resources of Trinidad and Tobago, Edward Arnold, London, 223 pages.

Five species are caught and marketed locally, D. coriacea, C. mydas, E. imbricata, L. olivacea and C. caretta, and a range of products is in use. In excess of 25,000 kilos of meat sales recorded annually. Turtle protection regulations give a closed season from April - September, but there is little enforcement.

COPE, E.D. 1887. Catalogue of batrachians and reptiles of Central America and Mexico. Bull. U.S. Natl. Mus., 32; 1 - 98.

Lists Chelonia imbricata and C. agassizi only.

COX, B.A. & MAUERMAN, R.G. 1976. Incidental catch and disposition by the Brownsville-Port Isabel Gulf shrimp fleet. Cameron Cooperative Extension Service, San Benito, Texas, and Texas Shrimp Assoc., Brownsville, Texas, 5 pages.

Interview-based data on incidental capture and mortality of turtles by shrimpers in Texas, Louisiana and Alabama. Louisiana shrimpers caught 1 turtle in 53 fishing days (4 a season), Texas about 5 a season and Alabama about 2 a season. The mortality was estimated at about 21 - 25%.

CRAIG, A.K. 1966. Geography of fishing in British Honduras and adjacent coastal waters. Louisiana State University Press, Baton Rouge, Coastal Studies Series, No.14, 143 pages.

From the middle seventeenth century turtling was the most important colonial fishery, using harpoons or nets which were introduced later mainly for hawksbills. The green turtle declined in the 1920's. Few turtlemen still ply their trade; loggerhead, green and hawksbill populations are concentrated near the barrier reef in the same area as human

settlements. Because of low numbers, nets are preferred to harpoons, decoys are used and placed near dormitory areas. The nesting season is at peak in June - July, when nets are placed near the beaches. Turtle crawls are rarely necessary as turtles are so scarce.

- CROMIE, W.J. 1966. Operation green turtle. Proc. U.S. Naval Inst. No. 766, vol. 92 (12); 59 - 69.
Well illustrated account of the U.S. Navy's involvement in Carr's Operation Green Turtle translocating hatchlings from Tortuguero.
- CROMIE, W.J. 1968. Adventures and misadventures of the green turtle, Part 1. Misadventures. Animal Kingdom, 71(2); 4 - 11.
Not seen
- CUNHA, O.R. 1975. Sobre a ocorrencia da tartaruga de couro Dermodochelys coriacea (Linnaeus, 1758) na foz do rio Amazonas (Chelonia, Dermochelyidae). Bol. Mus. Par. E. Goeldi, 81; 1 - 16.
(In Portuguese) Report of a 300 kg leatherback in the mouth of the Amazon River.
- CUNNINGHAM, B. & HURWITZ, A.P. 1936. Water absorption by reptile eggs during incubation. Amer. Nat., 70 (731); 590 - 595.
Increase in weight and size of incubation eggs of C. caretta is attributed to water absorption.
- Da COSTA, R.S. 1969. Alguns dados biologicos da aruana, Chelonia mydas (Linnaeus) nas aguas cearensis. Bull. Est. Pesca, 9 (3); 21 - 34.
(In Portuguese) 1965 - 1969 records from Canon Quebrada Beach, Aracati, Ceara, Brazil, for turtles caught in floating gill nets and at a fish weir. 273 individuals, 26.3% males, caught in /

the fish weir with carapace length 35.1 - 130 cm; 86 individuals, 17.3% males in the gill net with carapace length of 30.1 - 110.0 cm. All stomachs were empty, gonad macroanalysis indicates no breeding in this area.

- DALTON, S.A. 1979a. Temporal patterns of locomotor activity in hatchling sea turtles. Ph.D. Thesis, Univ. Florida, 154 pages.
- DALTON, S.A. 1979b. The swimming frenzy of hatchling green turtles, Chelonia mydas. Amer. Zool., 19 (3); 952.
Hatchlings maintain their swimming frenzy for several days. This is long enough to carry them away from coastal areas.
- DANIEL, H. 1980. Dianne, the turtle, is tracked by satellite. NOAA News, 5 (16); 5, 8.
Not seen
- DANIEL, R.S. & SMITH, K.V. 1946. Observations on the sea-approach behaviour of the loggerhead turtle (Caretta caretta). American Psychologist, 1; 462.
Not seen
- DANIEL, R.S. & SMITH, K.V. 1947a. The migration of newly-hatched loggerhead turtles towards the sea. Science, 106; 398 - 399.
Suggest that the brightness reflected from the surf elicits a positive phototaxis in emerging hatchlings. The nesting female is thought always to select a site where the surf is visible.
- DANIEL, R.S. & SMITH, K.V. 1947b. The sea approach behaviour of the neonate loggerhead turtle. J. Comp. Phys. Psychology, 40 (6); 413 - 420.
See Daniel & Smith 1947a.

- DAVIS, G.E. & WHITING, M.C. 1977. Loggerhead sea turtle nesting in Everglades National Park, Florida, U.S.A. Herpetologica, 33; 18 - 28.
Aerial surveys give fewer nesting records than ground surveys; show a 10% increase in nesting in the Park over the last 10 years and a lower percentage of false crawls than on more disturbed beaches. Data given on raccoon predation, clutch size, and interesting intervals.
- DEAN, R. & STEINBACH, D.W. 1981. Endangered marine turtles of the Gulf coast. Texas Agricultural Extension Serv., The Texas A & M Univ., 4 pages.
C. mydas, E. imbricata, L. kemp, and D. coriacea occur in the Gulf of Mexico and are 'endangered species', i.e. in danger of extinction throughout all or a significant part of their range. Caretta is a 'threatened species', i.e. likely to become endangered within the foreseeable future. For each of these species, data is given on range, natural history, current status and special conservation problems. Each is described and illustrated.
- DELIKAT, D.S. 1980. IXTOC 1 oil spill and Atlantic ridley turtle survival, pages 312 - 319 in Edge, B.L. (Editor) Coastal Zone '80, vol. III. Proc. 2nd. Symp. Coastal & Ocean Manag. (Also reprinted in Underwater Nat., 1981, 13 (1); 13 - 15.)
The annual summer hatching of the endangered L. kemp was threatened by the serious June 3rd, 1979 offshore oil spill at the IXTOC 1 blowout in the Gulf of Mexico. Oil travelled in the direction of the nesting grounds in eastern Mexico, but it is not known if this oil had any effects on the nesting success. Paper stresses importance of oil spill contingency planning to protect nesting and foraging areas.

- De SOLA, C.R. & ABRAMS, F. 1933. Testudinata from S.E. Georgia. Copeia 1933; 12.
C. mydas taken by shrimpers off Sapelo, St. Simon's, Jekyll and Cumberland Islands. E. imbricata rarely seen, C. caretta mates at sea, in April - May, breeds on the islands from June to August and hatchlings appear in November - December.
L. kemp is common, breeding on the islands also.
D. coriacea is rare off this part of the coast.
- DIEMONT, J. 1941. Visscherij II. Het schildpadbedrijf aan de Marowijnemonding. Verslag Dept. Landbouw -Econ. Zaken Suriname, jaar 1940; 135 - 138.
(Quoted by Brongersma, 1968 - Four species of turtle present in Suriname, some calipee exported to England and New York. Discusses the possibility of preparing salted and dried meat for consumption by local population).
- DIMOND, M.T. 1965. Hatching time of turtle eggs. Nature, 208; 401 - 402.
Largely concerned with the freshwater Testudo elegans, but gives short notes on emergence of hatchlings of C. mydas and C. c. caretta.
- DITMARS, R.L. 1910. Reptiles of the World. MacMillan Co, New York.
Descriptions given of the Dermochelyidae and Testudinidae, pointing out slight differences in Atlantic and Pacific forms.
- DITMARS, R.L. 1936. Reptiles of North America. Doubleday Doran & Co., New York.
All species in U.S.A. waters are described.
- DOBIE, J.L., OGREN, L.H. & FITZPATRICK, J.F. 1961. Food notes and records of the Atlantic ridley turtle (Lepidochelys kemp) from Louisiana. Copeia 1961; 109 - 110.

14 L. kempfi captured from 1952 - 1958. The stomachs of 2 specimens contained principally fragments of Callinectes, small molluscs, muscle tissue, plant parts and mud. 3 others had the gastropods Nucula, Nassarius, Corbula and Mulinia, with Callinectes sapidus and C. ornatus.

DODD, C.K.

1978. Terrestrial critical habitat and marine turtles. Bull. Maryland Herp. Soc., 14 (4); 233 - 240.

The definition of 'critical habitat' published by Fish & Wild. Service and Nat. Mar. Fish. Serv. in January 1978, includes requirements for (1) space for individual and population growth and for normal behaviour, (2) food, water, air, light, minerals and other physiological requirements, (3) cover and shelter, (4) sites for breeding, reproduction, or rearing offspring, (5) habitats protected from disturbance and representative of the geographical distribution for the species. Sandy Point, St. Croix, proposed as leatherback critical habitat; Also areas of Mona, Culebra, Culebrita, Cayo Norte for hawksbills. A long list of American territory areas under review for proposal is given.

DODD, C.K.

1981. Nesting of the green turtle, Chelonia mydas (1), in Florida: Historic review and present trends. Brimleyana, 7; 39 - 54.

Reports nesting in the 1800's on Florida keys and Cape Sable. The next reliable record for C. mydas is of 2 prior to 1959. The number steadily increased to 366 nests in 1980. Reasons for the apparent increase may be - better surveillance, protective legislation, success of headstart programme on Hutchinson Island or possible immigration from populations further south.

- DODD, C.K. 1982.^a Does sea turtle aquaculture benefit conservation ?, pages 473 - 480 in Bjorndal, K.A. (Editor) The Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. Author concludes that, despite claims that aquaculture benefits sea turtle conservation, (1) aquaculture could stimulate markets leading to proliferation of farms and ranches, (2) it could encourage marketing of luxury products which will undermine local conservation laws, (3) farms may spawn conservation-type activities and mislead the public into thinking sea turtles are significantly recovered, and (4) all the above could lead to continued exploitation of wild populations.
- DODD, C.K. 1982b. Nesting of the green turtle, Chelonia mydas, in Florida - a hopeful trend ? ASB Bull., 29; 58. Records suggest increase in numbers of green turtles nesting in Florida.
- DONOSO-BARROS, R. 1964a. Nota sobre Lepidochelys kempi en las costas de Cumana. Lagena, 2; 20 - 21.
L. kempi is present on the north coast of South America.
- DONOSO-BARROS, R. 1964b. Anotaciones sobre las tortugas marinas de Venezuela. Lagena, 3; 26 - 31.
Not seen
- DONOSO-BARROS, R. 1965. Distribucion de las tortugas en Sudamerica. No. 8. Publ. Ocas. del Museo Nac.Hist. Nat., Santiago de Chile, 14 pages.
General distribution is given of C. m. mydas, C. c. caretta, L. olivacea, E. imbricata and D. coriacea found along most of the coastline of Atlantic South America.

- DUERDEN, J.E. 1901. The marine resources of the British West Indies. West Indian Bull., 2.
Fishery records for 1900 show that Jamaica exported green turtles valued at £7,248 and E. imbricata at £1,693; the value of tortoiseshell was up to 20 s per lb. There is evidence of marked turtles travelling from Jamaica to the Mosquito coast, up to 500 miles. Suggests there is need for cultivation as the stocks are depleted. Also need to improve transport as mortality is high. C. mydas is shipped alive to England. Grenada produced £400 of tortoiseshell and St. Lucia £100.
- DUKE, J.A. 1967. Herpetological dietary. Bioenvironmental and Radiological-safety feasibility studies, Atlantic-Pacific Interoceanic Canal, Batelle Memorial Inst. Ohio, Unpublished Report, 35 pages. Records the uses of green, hawksbill, ridley, loggerhead and leatherback turtles as food by indigenous people in Panama and Central America.
- DUNCAN, D.D. 1943. Capturing giant turtles in the Caribbean. Nat. Geographic, 84; 177 - 190.
- Not seen
- DUNLAP, C.E. 1955. Notes on the visceral anatomy of the giant leatherback turtle (Dermochelys coriacea coriacea). Bull. Tulane Med. Fac., 14; 55 - 69. Autopsy on 2 females, probably sexually mature. Data given on circulation, histology of kidneys and ovaries, analysis of urine, examination for intestinal parasites.

- DUNN, E.R. 1918a. Caretta kemp in Jamaica. Copeia 1918; 75 - 76.
Record based on a cranium of 54 mm traded at Port Antonio in 1894, the identification based on skeletal material at Smith College, Va.
- DUNN, E.R. 1918b. Los generos de anfibios y reptiles de Colombia, IV. Reptiles, ordenes Testudineos, y Crocodilinos. Caldasia, III (13); 307 - 335. Cnelonia abundant in the Guajira area. Notes given on the distribution of Chelonia, Caretta, Eretmochelys, Lepidochelys and Dermochelys.
- DUTTON, P. & WHITMORE, C. 1983. Saving doomed eggs in Suriname. Marine Turtle Newsletter, 24; 8 - 10.
Report of an 8 month study at Krofajapasi, Suriname, in 1982. Clutches laid below spring tide level were considered 'doomed' and relocated either to hand-dug nests at a higher level or into styrofoam boxes in a central hatchery. Estimate that 21% of total clutches laid by C. mydas and 31.6% by D. coriacea were doomed. 111 C. mydas nests were relocated, 109 D. coriacea nests relocated, using only 4 persons, so limited personnel can save large numbers of turtle eggs.
- EAGLESON, K.W., MORGAN, E.L., STONEBURNER, D.L. & McCOLLOUGH, N., 1978. Loggerhead sea turtle tracking by satellite - preliminary report. ASB Bull., 25 (2); 73.
Describes technique of radio-telemetry used to track C. caretta in the field.
- EARLL, E. 1887. Eastern Florida and its fisheries: the fisheries and fishery industries of the United States. U.S. Comm. Fish. Fish. 2; part 14.
Fisheries statistics, with some turtle data.

- EASELEY, J.E. 1982. Is the turtle excluder device cost effective ?
Commercial Boating, Oct. 1982; 17 - 19, 22.
Preliminary test data on the turtle excluder device (TED) suggests that fishermen will have private incentive to invest in the device. Tests indicate that the device improves the dynamics of trawl operation and gives some small improvement in shrimp catch rates. The small improvements make investment in the TED a profitable one.
- ECKERT, S. & ECKERT, K. 1983. U.S. Virgin Islands: Leatherback Project. Marine Turtle Newsletter, 24; 4.
Dermochelys nests at Sandy Point. Records are for March 20th 1982 to July 11th. 86 nests were found on 2.4km of beach, made by 19 females in 6 weeks. Average number of nests per female was 4.4; the average internesting interval 10 days; average clutch size 112.7 eggs; incubation time 63.4 days and hatching success 63.4% only. 31% of doomed eggs were relocated, there was further loss by beach erosion, predation from mongooses, night herons and crabs.
- ECKERT, S.A., ECKERT, K.L. & BOULON, R.H. 1982. Tagging and nesting of leatherback sea turtle (Dermochelys coriacea), Sandy Point, St. Croix, U.S. Virgin Islands, 1981/82. Rept. to U.S. Fish. Wildl. Serv., Washington, 22 pages and appendix.
Not seen
- EHRENFELD, D.W. 1967. North, south, east or west.
Int. Turtle & Tortoise Soc. J., 1 (5); 24 - 29.
Not seen

EHRENFELD, D.W. 1968. The role of vision in the sea-finding orientation of the green turtle (Chelonia mydas): 2. Orientation mechanism and range of spectral sensitivity. Animal Behaviour, 16 (2,3); 281 - 287. Studies on a Costa Rican beach showed that unilateral blindfolding of turtles caused continuous turning towards the side with the uncovered eyes. Turtles with one eye covered with a neutral density filter of 1% transmittance were able to find the sea along paths which deviated from a direct seaward course towards the side of the uncovered eye. The green turtle is extremely myopic on land and relies on what resembles tropotactic orientation of some invertebrates with simple light receptors. Sea-finding is based on light intensity discrimination rather than colour discrimination.

EHRENFELD, D.W. 1974. Conserving the edible sea turtle: can mariculture help? Amer. Sci. Jan-Feb. 1974; 23 - 31. Reviews the general biology of C. mydas. Problems in captive culture are reviewed, e.g. the problem of feeding in captivity, and/or not using natural productive sea grass beds, control over reproductive biology. Most farms presently parasitize wild populations. Providing sufficient space for breeding adults, with control of their wastes, is a further problem, as is the stimulation of markets resulting from sale of farm products.

EHRENFELD, D.W. 1979. Behavior associated with nesting, pages 417 - 434 in Harless, M. & Morlock, H. (Editors), Turtles: Perspectives and Research, Wiley & Sons, 695 pages.

Not seen

- EHRENFELD, D.W. 1980. Commercial breeding of captive sea turtles: status and prospects, in Murphy, J.B. & Collins, J.T., Reproductive Biology and Diseases of Captive Reptiles. SSAR, Contrib. Herpetol., No. 1.
Not seen
- EHRENFELD, D.W. 1982. Options and limitations in the conservation of sea turtles, pages 457 - 463 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. Because of limited understanding of turtle biology, a conservative conservation strategy is required. The techniques with lowest risk and greatest promise are those with lowest cost and simplest technology. Conservation priorities are - (1) protection of nesting grounds and aquatic habitats, (2) use of hatcheries and short range transplantation to protect eggs at nesting beaches, (3) conservation education, (4) control of international trade, (5) national and international coordination of conservation strategies, (6) use of improved fishing trawls. Lower priority is accorded to- (1) long range transplantation, (2) headstarting, (3) fishery catch management, (4) manipulation of sex ratios, (5) cottage industry turtle ranching, (6) commercial captive breeding. Commercial ranching and farming are not considered as conservation activities.
- EHRENFELD, D.W. & CARR, A. 1967. The role of vision in the sea-finding orientation of the green turtle (Chelonia mydas). Animal Behaviour, 15 (1); 25 - 36. Principal sea-finding process is visual inspection of landscape and horizon. An avoidance of dark or

attraction to open, brighter areas may or may not be involved. True colour preferences may not play a part in sea-finding behaviour although marine turtles are less sensitive to red light than freshwater ones.

EHRENFELD, J.G. & EHRENFELD, D.W. 1973. Externally secreting glands of freshwater sea turtles. Copeia 1973; 305 - 314.

It is proposed that the externally secreting axillary and inguinal glands of C. mydas be called Rathke's glands after their discoverer. The function of the secreted substance is discussed.

EHRENFELD, D.W. & KOCH, A.L. 1967. Visual accommodation in the green turtle. Science, 155 (3764); 827 - 828. The turtle eye is myopic in air and emmetropic in water. It is thus unlikely that migratory turtle behaviour is based on the use of stars in navigation.

EHRHART, L.M. Chelonia mydas mydas nesting on Merritt Island, Florida. Fla. Sci., 38 (Suppl. 1); 5. 1975. Reports the emergence of a single C. mydas in the Merritt Island National Wildlife Refuge, Florida, in 1973, and again in 1974. This gives the northernmost record in Florida and the Western Hemisphere for this species. Mean carapace length was 106.2 cm, mean plastron length 82.5 cm, weights were 125 and 138 kg.

EHRHART, L. M. 1976. Studies on marine turtles at Kennedy Space Center and an annotated list of amphibians and reptiles of Merritt Island. Final report to N.A.S.A., Kennedy Space Center, Biological Sciences Section, Biomedical Office Code MD 1-119. Morphometric data includes weights of 261 Caretta.

- EHRHART, L. M. 1977. Cold water stunning of marine turtles in Florida east coast lagoons: rescue measures, population characteristics and evidence of winter dormancy. Amer. Soc. Ichthyol. Herpetol., Gainesville, Fla. (Abstracts).
143 turtles, C. mydas and C. caretta, were rescued after being stunned by an exceptionally cold winter in 1977 in Florida. Water temperatures reached 4°C. Suggests turtles may overwinter on the bottom in a dormant state.
- EHRHART, L. M. 1979a. Analysis of reproductive characteristics of Caretta caretta in east-central Florida. Amer. Zool., 19; Abstract 519, page 955.
Data from area of Kennedy Space Center, Florida, 1976 - 1978. Composite year class proportions were noted among recoveries of tagged Caretta over several years. Returning females showed considerable site-tenacity, the mean distance between multi-annual recoveries was 5.47 km. Within season nesting interval modes showed significant variation from year to year. Clutch size ranged from 65 - 173, positively related to size of female.
- EHRHART, L. M. 1979b. Threatened and endangered species of the Kennedy Space Center, part I. Marine turtle Studies. Final report to the N.A.S.A., Univ. Central Fla., Orlando, 151 pages.
(See also previous reports for 1977 and 1978)
Loggerheads showed no regular reproductive cycle, are markedly site tenacious, nest from May to August; greens nest from June to August and re-emergence intervals vary from year to year. Loggerhead mean clutch size was 110, egg weight and clutch size did not change over the season. Mosquito Lagoon shown to be important developmental habitat for Chelonia and Caretta.

- EHRHART, L. M. 1979c. Patterns of sea turtle mortality on the east central Florida coast, 1977 - 1978. Fla. Sci. (suppl.); 42; 26. Significant numbers of dead Caretta found in Brevard and Volusia Counties in Nov/Dec. 1977. At least 34 carcasses stranded on the beaches. Mortality subsided to one per week from January to September 1978, then in late September and early October 1978 massive mortality with 84 carcass strandings. 1 green turtle carcass was reported in June 1978. Causes of mortality obscure.
- EHRHART, L. M. 1979d. Reproductive characteristics and management potential of the sea turtle rookery at Canaveral National Seashore, Florida. Proc. 1st. Conf. Sci. Res. in Nat. Parks. Vol. 1., pages 397 - 399. U.S. Nat. Park. Serv. Trans. & Proc. Series No. 5.
- Not seen
- EHRHART, L. M. 1982. A review of sea turtle reproduction, pages 29 - 38 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 585 pages. Courtship and mating have been described only for C. mydas. There is much nesting behaviour data but need for quantification and comparative ethologic synthesis. Much information is available on clutch sizes and body size. There is an inverse relationship of egg size and clutch size. The most commonly observed multi-annual cycles are 2 and 3 years, but data is sparse. The within-season internesting intervals average 12 - 15 days in some species and 9 - 10 days in others. Number of clutches per nesting year is up to 11, fertility rates seem fairly stable at 80 - 90% in Caretta and Dermochelys.

EHRHART, L.M. & YODER, R.G. 1976. Initial results of studies of marine turtles in Mosquito Lagoon, Merritt Island, NW Brevard County, Florida. Fla. Sci., 39 (Suppl.); 3.

Mosquito Lagoon appears to be an important juvenile developmental habitat for C. caretta.

EHRHART, L.M. & YODER, R.G. 1977. Results of marine turtle studies at the Merritt Island National Wildlife Refuge, summer 1976. Fla. Sci., 40 (Suppl.); 11 - 12. Studies continued in their 4th year during 1976. 3 C. mydas, 318 C. caretta were measured, tagged, weighed and released on a 40 km beach as a result of 53 nightly patrols during May to August. It is estimated that 598 ± 130 C. caretta nested at least once on Merritt Island in 1976, with mean weights of 117.3 kg and for C. mydas 131.1 kg.

EHRHART, L. M. & YODER, R.G. 1978. Marine turtles of Merritt Island National Wildlife Refuge, Kennedy Space Center, Florida, pages 25 - 30 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. on Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida. Fla. Dept. Nat. Res. No. 33, 66 pages. Reports, 1973 - 51 loggerheads and 1 green
1974 -111 " 2 "
1975 -121 " 2 "

Greens are the northernmost nesting record in the Western Hemisphere.

ENGELHARDT, G.P. 1912. The turtle market at Key West. Mus. News, Brooklyn Inst. Arts Sci., 7; 73 - 74.

Not seen

- ERDMAN, D.S. 1969. Pacific ridley sea turtle, Lepidochelys olivacea, in Puerto Rico. Southern Calif. Acad. Sci., Bull. 68 (2); 112.
- Not seen
- ERNST, C.H. & BARBOUR, R.W. 1972. Turtles of the United States. Univ. Press Kentucky, 347 pages.
- Sea turtles are discussed, pages 207 - 255, with detailed descriptions and biological synopses. Notes are given on origins and evolution, parasites, commensals and symbionts, and on care in captivity.
- EVERMANN, B.W. 1900. Investigations of the aquatic resources and fisheries of Puerto Rico. Bull. U.S. Fish. Comm.; 20.
- Sparse notes on turtles, caught with gill nets in some areas. E. imbricata and C. mydas mostly at the eastern end of the island, as there are few good beaches.
- FAHY, W.E. 1954. Loggerhead turtles, Caretta caretta caretta, from North Carolina. Copeia 1954; 157 - 158.
- A short note giving dimensions of one male and 7 female loggerheads captured several miles off the southeast coast of North Carolina. Parameters presented include weight, length, carapace width and length, plastron length and maximum head width.
- FAIRBAIRN, P. W. & HAYNES, A.M. 1981. Jamaican surveys of the West Indian manatee (Trichechus manatus), Dolphin (Tursiops truncatus), sea turtles (Families Cheloniidae and Dermochelyidae) and booby terns (Family Laridae), pages 289 - 295 in National Reports and Selected Papers presented at the 3rd session of the working party on Assessment of Marine Fishery Resources, WECAFC, FAO Fisheries Report No. 278, supplement, 313 pages.
- Sea turtles were most abundant off the south /

coast, with a mass gathering of 200 individuals in Portland Bight, March 1982. Total sightings May 1981 - April 1982 were 598, species not determined.

- FEAZEL, C.T. 1980. The turtle run; from Ascension to Brazil and back. Sea Frontiers, 26 (4); 240 - 243. Popular account of migration of C. mydas from foraging grounds in Brazil to nesting areas on Ascension Island.
- FENCHEL, T.M., McROY, C.P., OGDEN, J.C., PARKER, P. & RAINEY, W.E. 1979. Symbiotic cellulose degradation in green turtles, Chelonia mydas L. Applied & Environ. Microbiol. 37 (2); 348 - 350. Postgastric, fermentative breakdown of structural plant tissue demonstrated in C. mydas. About 90% cellulose is hydrolyzed, bacterial and protozoan numbers are compared with those of the rumen.
- FERREIRA, M.M. 1968. Sobre a alimentacao da aruana, Chelonia mydas Linnaeus, ao longo da costa do estado do Ceara. Arq. Est. Biol. Mar. Univ. Fed. Ceara, 8 (11); 83 - 86. (In Portuguese) 94 stomachs from green turtles caught along the coast of Ceara state had 88.3% marine benthic algae - Rhodophysaea, Chlorophysaea, Phaeophysaea in decreasing order, with Diplanthera as a secondary food, and occasional molluscs, ascidians, sponges, bryozoans, crustacea and echinoderms in decreasing order.
- FERREIRA, M. 1972. As tartarugas marinhas do Brazil. Arq. Cien. Mar., 12 (1); 17 - 20. Descriptive notes with local names and general occurrence of D. coriacea, C. mydas, E. imbricata, C. caretta and L. olivacea. (In Portuguese).

- FIEDLER, R.H. 1928a. Trade in fresh and frozen fishery products and related marketing considerations in Jacksonville, Florida. U.S. Bur. Fish. Doc. 103b.
Turtle fishery 34th in importance in 48 fishery products marketed in Jacksonville. Hotels and restaurants are the only demand for turtle products.
- FIEDLER, R.H. 1928b. Trade in fresh and frozen fishery products and related marketing considerations in Atlanta, Georgia. U.S. Bur. Fish. Doc. 1039.
Turtles supplied from Florida for hotel and restaurant trade.
- FIEDLER, R.H. 1938. Fishery industries of the U.S. (1936)
U.S. Bur. Fish. Admin., Rept. 27.
Sparse notes on sea turtle data among fishery products from U.S.A. waters, south Atlantic and Gulf States.
- FIEDLER, R.H. 1941. Fishery industries of the U.S. (1939).
U.S. Bur. Fish., Admin. Rept. 41.
Notes on the Florida turtle fishery, including values of the catch.
- FIEDLER, R.H., LOBELL, M.J. & LUCAS, C.R. 1943a. The fisheries and fishery resources of the Caribbean area. A report of the Caribbean Fishery Mission. U.S. Dept. Interior, Washington.
Some turtle fishery methods are described, and a detailed description of oceanography in the Caribbean area is given.
- FIEDLER, R.H., LOBELL, M.J. & LUCAS, C.R. 1943b. The fisheries and fishery resources of Nicaragua. A report of the Caribbean Fishery Mission. U.S. Dept. Interior, Washington.
Up to \$8,000 of turtle products exported in 1941.

FIEDLER, R.H., LOBELL, M.J. & LUCAS, C.R. 1943c. The fisheries and fishery resources of Costa Rica. A report of the Caribbean Fishery Mission. U.S. Dept. Interior, Washington.

Costa Rica exported 163,000 kg valued at \$8,600 of meat and shell at \$2,197 in 1939.

FIEDLER, R.H., LOBELL, M.J. & LUCAS, C.R. 1943d. The fisheries and fishery resources of British Honduras. A report of the Caribbean Fishery Mission. U.S. Dept. Interior, Washington.

Brief mention of the green turtle in the fishery.

FIEDLER, R.H., MANNING, J.R. & JOHNSON, F.F. 1932. Fishery industries of the U.S. for 1932. Rept. U.S. Comm. Fish. Fish. App. 3.

Turtle products are listed for Louisiana and Florida.

FIEDLER, R.H., MANNING, J.R. & JOHNSON, F.F. 1934. Fishery industries of the U.S. for 1933. U.S. Comm. Fish. Fish. App. 1.

Florida produced 31,068 lbs of C. mydas meat valued at \$1,896; while Louisiana produced 27,820 lbs of C. caretta meat valued at \$556.

FINLAY, J. 1983. Main developments in Grenada fisheries (1979 - 1982) and summary of national statistics, pages 11 - 17 in National Reports and Selected Papers presented at the 3rd session of the working party on Assessment of Marine Fishery Resources, WECAFC, FAO Fisheries Report No. 278 supplement, 313 pages.

Estimated landings in '000 lbs for all turtles

1978		1980		1981	
total	markets	total	markets	total	markets
-	20.0	6.8	1.5	7.8	1.9

- FISCHER, W. (EDITOR) 1978. FAO Species Identification Sheets for Fishery Purposes, Western Central Atlantic (Fishing Area 31), FAO Rome, pag. var. vol 1-7.
See Marquez, R. 1978.
- FISHER, M. 1971. Summary of information on progress in captive culture techniques made by 'Mariculture', pages 90 - 91 in Marine Turtles, IUCN Publ. New Ser. Suppl. Pap. No. 31, 109 pages.
The Mariculture Farm was set up in 1968. In 1971 40,000 turtles were in captivity in tanks on land. Suggests farmed turtles will contribute to conservation by (1) producing better quality than wild products, (2) use of doomed eggs.
- FITTER, R.S.R. 1961. The leathery turtle or luth. Oryx, 6; 116 - 125.
Includes data from Matina, Costa Rica, in an estimate of world population size for D. coriacea of about 1000 pairs.
- FLETEMEYER, J.R. 1977a. Coastwatch - Florida. Underwater Naturalist, 10 (4); 26 - 29.
An account of sea turtle nesting in southeast Florida, stressing the importance of increasing development of the coastal area on the nesting of C. caretta.
- FLETEMEYER, J.R. 1977b. The lost year. Sea Frontiers, 23 (1-6); 23 - 26.
Recent evidence from tracking experiments suggests that newly hatched loggerheads swim out to sea until they encounter masses of sargassum weed where they passively float for several months.

- FLETEMEYER, J.R. 1977c. Rare albino turtle.
Sea Frontiers, 23 (4); 233.
An albino hatchling C. mydas found at Jensen Beach, Florida, was held at the Miami Seaquarium and grew to 33 lbs in 2 years.
- FLETEMEYER, J.R. 1978a. Underwater tracking evidence of neonate loggerhead sea turtles seeking shelter in drifting sargassum. Copeia 1978; 148 - 149.
Tracking with an underwater propulsion unit allowed three successful attempts at following hatchlings which stopped swimming after reaching weed masses. The evidence for association with sargassum is reviewed and the author concludes that neonate loggerheads and possibly other species inhabit drifting sargassum weed mats.
- FLETEMEYER, J.R. 1978b. Report. Sea Turtle Monitoring Project
Broward County Environ. Quality Control Bd.,
8 pages and tables.
Includes tagging methods, nesting activity,
C. mydas and C. caretta and some D. coriacea
nesting is monitored, strandings, poaching,
development impacts and headstarting (pen-
rearing).
- See also reports for 1979 - 97 pages
1980 - 93 pages
1981 - 82 pages
1982 - 95 pages
- FLETEMEYER, J.R. 1978c. The Sea Turtle.
Undersea Journ., 10 (2); 14 - 15.
Not seen

- FLETEMEYER, J.R. 1979. Ascension Island development: lessons from Florida. Marine Turtle Newsletter, 11; 2-3. Some effects of developed shoreline in Florida on Caretta caretta include - (1) nests concentrated in less heavily developed areas, (2) many nests close to high tide line in vulnerable positions, (3) significantly higher number of false crawls, (4) large number of nests destroyed by beach cleaning equipment, (5) hatchlings killed by cars or lost by disorientation.
- FLETEMEYER, J.R. 1980. The leatherback, turtle without a shell. Sea Frontiers, 26 (5); 302 - 305. An account of Dermochelys morphology, feeding on jellyfish, swimming in hatchlings and possible migration.
- FLETEMEYER, J.R. & PARNELL, B. 1979. Orientation and behavior of three species of pen-reared yearling sea turtles. Amer. Zool., 19; Abstract 511, page 953. Tracking was done over a 51 hour period under a selected range of calm and rough conditions during day and night. Pen-reared sea turtles were found to orientate in a direction away from land. Coordinate data collected over 15 min sample periods revealed non-random orientation within and out of sight of land. In all cases the turtles were carried northwards when they entered the Gulf Stream implying that this current may play an important role in dispersal from the natal beach.
- FLORES, C. 1966. Nuevos registros de Lepidochelys kempfi (Garman) en la costa oriental de Venezuela. Lagena, 12; 11 - 14. Records L. kempfi on east coast of Venezuela. (In Spanish)

- FLORES, C. 1969. Notas sobre reptiles acuaticos de Venezuela y su importancia economica. Lagena, 21-22; 1 -19. (In Spanish) Dermochelys is present, E. imbricata nests on Margarita and Tortuga, C. mydas on beaches near Cumana, C. caretta is found in waters around Sucre and Margarita, nests on the mainland but is not common, L. kempfi occurs near Cumana, Isla La Tortuga, Islas Piritu. (The illustration given is of L. olivacea).
- FLORES, C. & HOIT, D.E. 1965. Notas sobre la tortuga verde o de sopa en los alrededores de Cumana (Edo.Sucre, Venezuela). Lagena, 8; 37 - 39.
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- FORD, J. 1879. The leather turtle.
American Nat., 13; 633 - 637.
Not seen
- FOSTER, P. & CHAPMAN, C. 1975. The care and maintenance of young leatherback turtles, Dermochelys coriacea, at the Miami Seaquarium. Int. Zoo. Yearbook, 15; 170 - 171.
Not seen
- FOWLER, H.W. 1906. Some cold-blooded vertebrates of the Florida Keys. Proc. Acad. Nat. Sci. Philadelphia.
Brief notes on sea turtles seen or reported on the Keys.
- FOWLER, H.W. 1914. The food of the loggerhead turtle (Caretta caretta). Copeia 1914; 4.
A large loggerhead sent to the Philadelphia Aquarium from New Jersey had the alimentary canal completely filled with remains of hermit crabs (Pagurus pollicaris) and borers (Natica duplicata).

- FOWLER, L. E. 1978. Hatching success and nest predation in the green sea turtle, *Chelonia mydas*, at Tortuguero, Costa Rica. M.Sc. Thesis, Univ. Florida, 57 pages.
See Fowler, 1979.
- FOWLER, L. E. 1979. Hatching success and nest predation in the green sea turtle, *Chelonia mydas*, at Tortuguero, Costa Rica. *Ecology*, 60 (5); 946 - 955.
From an investigation in July-Nov. 1977, 42% of 350 nests emerged, 38% in the study area destroyed by predators. On the total beach area surveyed outside the study area, 57% of 237 nests emerged with 24% destroyed by predators. The mean % emergence was 83%; \pm 13% of all eggs deposited did not hatch; mean incubation period was 62 days; mean clutch size was 104 eggs.
- FRAIR, W. 1969. Aging of serum proteins and serology of marine turtles. *The Serological Museum. Bull.* No. 42; 1 - 3.
Serological studies suggest a close relationship among the five types of sea turtle.
- FRAIR, W. 1970. The world's largest living turtle. *Salt Water Aquarium*, 6 (5); 234 - 241.
General account of biology of *D. coriacea*, including size, distribution, nesting areas, nesting behaviour, diet, maintenance of hatchlings in captivity.
- FRAIR, W. 1972. Leatherback: Northward Ho ! *Aquasphere*, 6 (3); 12 - 15.
Account of nesting in the tropics, Suriname, French Guiana, and of migration to north temperate waters, where higher body temperature aids survival.

- FRAIR, W. 1977a. Sea turtle red blood cell parameters correlated with carapace lengths. Comp. Biochem. Physiol. 56(4A); 467 - 472.
The longer the length of carapace the higher the packed volume of red cells, the larger the erythrocytes and the lower the red cell counts. These grouped parameters may have physiological implications.
- FRAIR, W. 1979. Taxonomic relations among sea turtles elucidated by serological tests. Herpetologica, 35 (3); 239 - 244.
Quantitative turbidimetric immunoprecipitation tests indicated a close affinity for the 5 marine turtles, with Caretta, Eretmochelys and Lepidochelys being more closely related to each other than to Chelonia and these 4 genera distinct from Dermodochelys. Evidence is presented that Lepidochelys is closest to sea turtle ancestry.
- FRAIR, W., ACKMAN, R.G. & MROSOVSKY, N. 1972. Body temperature of Dermodochelys coriacea: warm turtle from cold water. Science, 177; 791 - 793.
Deep-body temperature of D. coriacea captured in cold water was 18°C above the water level. The large size probably favours heat retention from muscular activity. Work was done on a specimen taken off Key West in October 1971.
- FRAIR, W. & PROL, B. 1978. Taxonomic study of the giant leatherback turtle (Dermodochelys coriacea). Nat. Geogr. Soc. Res. Rept., 1969; 187 - 194.
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- FRANCIS, K. 1978. Kemp's ridley sea turtle conservation programs at South Padre Island, Texas, and Rancho Nuevo, Tamaulipas, Mexico, pages 51 - 52 in Richardson, G.E. (Editor), Proc. Florida & Interregional Conf. sea turtles, 24 -25 July, Jensen Beach, Fla., Fla. Mar. Res. Publ. No. 33; 66 pages.
First eggs transplanted and hatchlings released on Padre Island in 1967. Nesting occurred in 1976, possibly some transplants. There is also an active education programme.
- FRAZER, N.B. 1981. Correlation of nesting attempts of the Atlantic loggerhead, Caretta caretta, with tidal cycles: a final word ? ASB Bull., 28 (2); 95 - 96
No correlation found between state of the tide and emergence for nesting of C. caretta.
- FRAZER, N.B. 1982a. Growth and age at maturity of loggerhead sea turtles: review and prospectus. Marine Turtle Newsletter, 22; 5 - 8.
Studies on growth rates in C. caretta are reviewed. It appears that loggerheads mature in the wild at ages in excess of 6 - 7 years. Methods for obtaining more precise estimates are discussed.
- FRAZER, N.B. 1982b. The survival rate of juvenile loggerhead sea turtles (Caretta caretta) necessary to maintain a stable population size. ASB Bull., 29.
Not seen
- FRAZER, N.B. 1983a. Effect of tidal cycles on loggerhead sea turtles (Caretta caretta) emerging from the sea. Copeia 1983; 516 - 519.
Experiments on Little Cumberland Island, Georgia, compared with Cape Canaveral, showed that Caretta associate their emergence with high tide on beaches with high tidal amplitude, though not on beaches of similar shape and lower tidal amplitude. This pattern is modified by rainfall, or tides at dusk or dawn.

- FRAZER, N.B. 1983b. Survivorship of adult female loggerhead sea turtles, Caretta caretta, in the wild. ASB Bull., 30 (2); 56.
- Not seen
- FRAZER, N.B. & EHRHART, L.M. 1983. Relating straight-line to over-the-curve measurements for loggerheads. Marine Turtle Newsletter, 24; 4 -5.
The equation computed for converting straight-line measures with calipers to over-the-curve measures with tape for carapace length and width in C. caretta was -
- $$SL = \frac{(OC - 5.24)}{1.02} = 0.980(OC) - 5.14$$
- This is not appropriate for use with animals over 50 cm long (OC) or less than 45 cm long (SL) or for other species.
- FRAZIER, J.G. 1980. Marine turtles and problems in coastal management, pages 2395 - 2411 in Edge, B.L. (Editor), Coastal Zone '80, Vol. III. Proc. 2nd. Symp. Coastal & Ocean Manag.
Direct exploitation of turtles has been intense and responsible for depleting many populations, but indirect contaminants, introduced by man, include a wide variety of substances ranging from radioactive, light and sound pollution, to thermal, chemical and physical disturbances. This paper draws attention to potential problems relating to pollutants, particularly chemicals.
- FRETEY, J. 1976. Les tortues marines de Guyane française, (1). Le Courrier de la Nature, No. 41; 12 pages. Gives a description of the nesting habitat in French Guiana at Bourda-Montjoly, Kourou, Pointe Isere and between the Mana and Maroni

Rivers. Five species nest between February and September, and the nesting process is described. Causes of mortality are beach erosion, entrapment of nesting females and hatchlings in driftwood, to be dehydrated and killed by the sun, infiltration of freshwater from the marshes, birds particularly Cathartes aura ruficollis, the crab dog Cerdocyon thous, coatis Nasua narica, jaguars Panthera onca, ocelots Felis pardalis, and jaguarondi F. yaguarondi caimans Paleosuchus palpebrosus and Caiman crocodilus, crabs particularly Ocypode quadrata and at sea a range of fish. (In French)

- FRETEY, J. 1977a. Causes de mortalite des tortues luths adultes (Dermochelys coriacea) sur le littoral guyanais. Le Courrier de la Nature, No. 52; 257 - 266. (In French) Describes major causes of mortality to nesting female leatherbacks as entrapment in dead mangroves and driftwood, swampy conditions, mudflats and killing by man.
- FRETEY, J. 1977b. Les cheloniens de Guyane francaise. 1. Etude preliminaire. Mem. Univ. Paris VII; 202 pages.
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- FRETEY, J. 1978a. Requiem pour tortue luth. La Vie des Betes, 236; 14 - 17. (In French) Nesting beaches in French Guiana are a last refuge for D. coriacea. Heavy mortality occurs due to entrapment in driftwood and loss of eggs and hatchlings to various predators. The Atlantic population is estimated to be only 15,000 individuals. Recommends establishment of a hatchery to aid conservation. Notes that the law for protection of nature is, by itself, not sufficient.

- FRETEY, J. 1978b. Mensurations de tortues luths femelles adultes, Dermochelys coriacea (Linne), en Guyane francaise. Bull. Soc. Zool. France, 103 (4); 518 - 523.
(In French) 834 female Dermochelys measured in French Guiana, showed carapace length mean at 1.67 m (Straight-line with calipers), breadth 0.92 m and head 0.24 m. Weighing proved impractical.
- FRETEY, J. 1978c. Accompagnement a terre de tortues luths, Dermochelys coriacea (Linne), par de remoras. Rev. fr. Aquariol., 2; 49 - 50.
(In French) French Guiana nesting female leatherbacks occasionally accompanied by remoras. Some of them become detached and die on the beach, others return with the turtle to the sea.
- FRETEY, J. 1979a. Commensalism between Remora remora and marine turtles during nidification. Cybium, 3 (7); 40.
Note on attachment of remoras to D. coriacea emerging to nest on French Guiana beaches.
- FRETEY, J. 1979b. Delimitation des plages de nidification des tortues marines en Guyane francais. C.R.Soc. Biogeogr., 496; 173 - 191.
(In French) Nine large nesting beaches are present in French Guiana, and are described in detail. Because of continuous alteration of the dynamic littoral area there is considerable change in the location and morphology of these sites. 5 beaches between the estuaries of the Organabo and Maroni Rivers are important only for nesting of D. coriacea.

- FRETEY, J. 1980. Les pontes de la tortue luth, Dermochelys coriacea, en Guyane française. Rev. Ecol. (Terre Vie), 34; 649 - 654.
(In French) 26 clutches of eggs of D. coriacea were studied in French Guiana. Total number of eggs in a nest was 114.52 ± 21.47 , percentage of yolkless eggs can be up to 45.5%. Diameter of yolked eggs ranged from 44.5 - 64.7 mm, their average weight was 87.88 ± 8.19 g.
- FRETEY, J. 1981. Tortues marines de Guyane. Editions du Leopard d'Or, Paris, 136 pages.
(In French)
General Book. Popular account of turtles on French Guiana beaches, with extensive pictorial documentation of ecology and behaviour of adults and young.
- FRETEY, J. 1982. Note sur les traumatismes observés chez des tortues luths adultes, Dermochelys coriacea (Vandelli)(Testudines, Dermochelyidae). Rev. fr. Aquariol., 8 (4); 119 - 128.
(In French) Numerous wounds of different origins described on female leatherbacks in French Guiana. On land, injury occurs in contact with mangroves and driftwood; at sea, boat screws and sharks provoke serious amputations or even kill many turtles. Evidence suggests left natatory limbs are most often damaged.
- FRETEY, J. & BOUR, R. 1980. Redécouverte du type de Dermochelys coriacea (Vandelli)(Testudinata, Dermochelyidae). Boll. Zool. Padova, 47; 193 - 205.

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- FRETEY, J. & FRENAY, D. 1980. Predation des nids de tortues luth (Dermochelys coriacea) par les chiens des villages indiens Galibi en Guyane française. Revue Med. Vet., 131 (12); 861 - 867.
(In French) French Guiana has the most important nesting areas for D. coriacea. Stray dogs from indian villages unearth hundreds of nests and prey upon hatchlings. Control of stray dogs is important if this species is to be preserved.
- FRETEY, J. & LESCURE, J. 1976. Guyane française; les infortunes de la tortue marine. La Recherche, 70 (7); 778 - 781.
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- FRETEY, J. & LESCURE, J. 1979. Rapport sur l'étude de la protection des tortues marines en Guyane. Notes sur le projet de Réserve Naturelle de Basse Mana. Rept. Lab. Zool. Mus.Nac. Hist. Nat. Paris., 56 pages.
(In French) Three species still nest in French Guiana, D. coriacea, C. mydas and L. olivacea. 8 nesting beaches have been delimited - at Cayenne-Montjoly, Sinnamary-Karouabo, Organabo, Azteque, Farez, Pointe Isere, Kawana and Les Hattes-Awara. During 1979, tagging and nest counting was carried out on selected beaches.
- FRETEY, J. & LESCURE, J. 1981. Predation des tortues marines par les oiseaux en Guyane française. L'Oiseau et R.F.O., 51 (2); 139 - 145.
(In French) Various bird species prey on marine turtles in French Guiana, especially Dermochelys. Eggs uncovered by beach erosion or later-nesting females are eaten by small species, eg. grey plover, Pluvialis squatarola, and sanderling, Calidris alba. The nocturnal yellow-crowned

night heron, Nycticorax violacea, and diurnal black vulture, Coragyps atratus, prey on hatchlings. Coragyps eats eggs and dead females.

FRETEY, J. & LESCURE, J. 1982. A leatherback hatchery in French Guiana. Marine Turtle Newsletter, 23; 4 -5. Two principal factors responsible for egg destruction in French Guiana are beach erosion and infiltration of water from coastal marshes. Of 4,410 leatherback nestings at Les Hattes in April - May 1979, only 4.3% produced hatchlings. A hatchery was established in 1981, under the French Ministry of Environment, World Wildlife Fund, Greenpeace and the French Guiana Administration, and has the capacity to incubate 7,000 eggs per season. Doomed eggs are collected and incubated in polystyrene boxes, the average hatch rate was about 65%. Hatchlings were released in artificial sand tunnels on beaches at night.

FRETEY, J. & RENAULT-LESCURE, O. 1978. Presence de la tortue dans la vie des Indiens Galibi de Guyane française. J. D'Agric. Trad. et Bot. Appl., 25; 2 - 23. (In French) Sea turtles are an important part of the diet and oral traditions of the Galibi. Sea turtles are less important in the diet than mammals, birds and above all fish. L. olivacea is caught sometimes, its small size and weight enable indians to transport it to their villages. Lepidochelys is also caught accidentally in fishing nets. Eggs of L. olivacea, C. mydas and are eaten, in order of preference, either raw or cooked in various ways.

- FRICK, J. 1976 . Orientation and behaviour of hatchling green turtles (Chelonia mydas) in the sea. Animal Behaviour, 24; 849 - 857.
Hatchlings were tracked for several kilometers, non-random headings were maintained even when turtles were out of sight of land, one group taken out to sea in a boat and released showed poor orientation.
- FRITTS, T.H. & HOFFMAN, W. 1982. Diurnal nesting of marine turtles in southern Brevard County, Florida. J. Herpetol., 16 (1); 84 - 86.
Records of diurnal nesting by turtles are reviewed. Little information available for major rookery of C. caretta in S.E. USA . Reports that in Brevard County diurnal nesting may be more common than usually assumed. Nesting monitored from July to August for 28 days in 1980 on an 85 km coast section and 3 Caretta were found nesting in daylight, plus reports of 5 others and 1 C. mydas. A trend for diurnal nesting to be associated with time of high tide is suggested. 9 diurnal nestings in a total of 3498 successful nesting forays.
- FRITTS, T.H. & REYNOLDS, R.P. 1981. Pilot study of the marine mammals, birds and turtles in OCS areas of the Gulf of Mexico. Office of Biol. Serv., Fish & Wildl. Serv., 139 pages.
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- FUENTES, C.D. 1967. Perspectivas del cultivo de tortugas marinas en el Caribe Mexicano. Bol. del Programa Nac. Mercado de Tortugas Marinas, 1 (10); 9 pages.
(In Spanish)Loggerhead is most abundant in waters of Caribbean coast of Mexico, but is not so

popular with fishermen as C. mydas. Camps have been established during the nesting season on Isla Mujeres to protect C. caretta and C. mydas and to incubate eggs. Turtles caught around the Mexican Caribbean islands are processed in Yucatan, much of the turtle meat exported to the USA.

FUGLER, C.M. & WEBB, R.G. 1957. Some noteworthy reptiles and amphibians from the States of Oaxaca and Veracruz. Herpetologica, 13 (2); 103 - 108.
3 juvenile L. olivacea kempi purchased in the district of Alvarado, Veracruz. Another juvenile caught at Nautla, Veracruz. The average measurements of carapace length 43 mm.

FULLER, D.A. 1978. The habitats, distribution, and incidental capture of sea turtles in the Gulf of Mexico. Working paper on sea turtles for the task force developing the draft shrimp management plan for the US Gulf of Mexico. Centre for Wetland Resources, Louisiana State University, Baton Rouge, 44 pages.
Review for C. mydas, E. imbricata, C. caretta, L. kempi, L. olivacea and D. coriacea of distribution, reproduction, growth and mortality, foraging habitat and diet, migration and population status. Particular reference to distribution and abundance in northern Gulf of Mexico. Major mortality factors include exploitation, habitat loss and incidental capture. The last is reviewed with data on species, sex and age composition, amount of related shrimping effort.

- FURBEC, B. 1979. Head-started sea turtle nesting.
The American Eagle, Sept. 1979.
 A turtle released at Hutchinson Island in 1972 at 8" long and 3+ lbs, nested at Jupiter beach, Tallahassee in 1979, being then 34" and 180 lbs.
- GADOW, H. 1909. Cambridge Natural History, 8; 312 - 329. McMillan Co., New York.
 Gives general descriptions, anatomy and taxonomy of sea turtles. D. coriacea ranges from Florida to Brazil, is widespread but rare, and E. imbricata is important for its shell, the technique for removing this tortoiseshell is described.
- GALLAGHER, R.M., HOLLINGER, M.L., INGLE, R.M. & FUTCH, C.R. 1972. Marine turtle nesting on Hutchinson Island, Florida, in 1971. Fla. Dept. Nat. Res. Marine Res. Lab. Spec. Sci. Rept., No. 37; 1 - 11.
 First nesting of C. caretta was 7th May, peaked first week of July, last on 10th September, with 1,420 nests. Possibly up to 3,350 nests on the whole island, 28% destroyed by raccoons. Total egg production estimated at 402,000. Time intervals between nesting were multiples of 12 - 16 days. 22 C. mydas nests from 26 June to 30 August; 6 D. coriacea from 17 May to 30 June.
- GARMAN, S. 1884. Contributions to the natural history of the Bermudas. Bull. U.S. Nat. Mus., 25; 1 - 353.
 4 species listed for Bermuda. Green turtles are caught at sea and on beaches, by early 1600's became rare enough for Bermuda Assembly to prohibit killings of turtles less than 45.7 cm. About 40 turtles a day were caught by two boats in 1800's.

- GARMAN, S. 1888. Reptiles and batrachians from the Caymans and Bahamas. Bull. Essex Inst., 20; 1 - 13.
Not seen
- GEIJSKES, D.C. 1945. De visscherij aan de beneden Marowijne. Rapport over de visscherij in Suriname. VI - Report Agricult. Expt. Sta. Paramaribo, 34 pages. (In Dutch) (Quoted by Schulz, 1975) Reports C. mydas, C. caretta, E. imbricata and D. coriacea in Suriname. Data are given on nesting, nesting beaches, periodicity of renesting, exploitation and export and the taking of eggs by Galibi Carib indians.
- GEUS, D. 1967. Communication on nesting sites of turtles in Surinam. Natuurhist. Maandbl. Limb., 56 (5); 71.
Popular account of work carried out in Suriname, especially by Pritchard (See also Pritchard, 1967).
- GILBERT, C.R. & KELSO, D.P. 1971. Fishes of the Tortuguero area, Caribbean Costa Rica. Bull. Fla. St. Mus., 16; 1 - 54.
Notes that the bull shark, Carcharinus leucas, feeds on juvenile turtles.
- GIRAL, F. 1955. Grasas de tortugas Mexicanas. Ciencia, 15 (4,5); 65 - 69.
(In Spanish) Review of work on L. olivacea, C. caretta and C. mydas in Mexico. Also data data on composition of turtle oils.
- GOELDI, E.A. 1902. Chelonios do Brazil. Bol. Mus. Goeldi. III; 499 - 560.
Gives records of D. coriacea, C. mydas and C. caretta in Brazil. (In Portuguese).

- GOIN, C.J. 1968. Comments upon the origin of the herpetofauna of Florida. Quart. J. Fla. Acad. Sci., 21 (1); 61 - 70.
Notes that sea turtles are found in Florida and are all tropicopolitan. These include Chelonia, Eretmochelys, Caretta, Lepidochelys and Dermochelys.
- GOMEZ, E.D. 1982. Problems of enforcing sea turtle conservation laws in developing countries, pages 537 - 539 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Problems include pressures of subsistence or survival economies; ignorance of conservation principles and laws; traditional rights and practices not subject to national or international laws; inadequate enforcement; laxity and possibly corruption of legal and police services; social and political instability; external world demand and trade enticements.
- GONZALES, J. 1982. Las pieles marinas: primicias de una curiosa industria. Mar y Pesca, 203; 14 - 17.
(In Spanish) Outlines the importance of the skins of Carey, E. imbricata, Caguana, C. caretta, and tortuga, C. mydas, in international trade, especially with Japan, for making shoes, boots, handbags, belts, key rings. Describes the development of an artesanal industry in curing reptile leather and producing similar goods in Cuba locally.
- GOODE, A. 1877. Amer. Jour.Sci.Arts, 114; 290.
(Quoted by Mowbray & Caldwell, 1958 - lists D. coriacea but not L. kempi in Bermuda. Full reference not given).

- GOODRIAN, J. 1946. Rapport ten behoeve van het velraatsplan. Nederlandische Antillen, page 30.
(In Dutch) Notes human predation on eggs along the coast destroys potential for developing the sea turtle resource. Suggests the Lac de Bonaire could be fenced off for captive culture purposes. Also notes that protective legislation is required.
- GOODWIN, M.H. 1981. Head-starting: evaluations and alternatives. Marine Turtle Newsletter, 19; 4 - 5.
The success of headstarting could not be established without a research programme of close to 20 years and large capital investment. Attention to artisanal management may be more cost effective, and would allow close monitoring of wild populations.
- GOODWIN, M.H. & PUTNAM, K. 1980. Conservation of the hawksbill sea turtle in Grenada. Progress report to WWF-US, 31st. October, 1980, 7 pages.
See Goodwin & Putnam 1981a.
- GOODWIN, M.H. & PUTNAM, K. 1981a. Conservation of the hawksbill sea turtle in Grenada. Final report to WWF-US, 31st. March, 1981., 8 pages.
2,706 eggs from slaughtered turtles purchased from local turtle hunters and incubated on Carriacou. 1,042 hatchlings released on known nesting beaches. An additional 1,378 hatchlings entered the sea from undisturbed nests protected on beaches. Overall hatch of 52% in hatchery, compares with 60% in natural nests.
- GOODWIN, M.H. & PUTNAM, K. 1981b. Conservation of hawksbill sea turtles in the Grenadine Islands (Carriacou, West Indies). Progress report to WWF-US, 15th. August, 1981, 9 pages.
See Goodwin & Putnam 1982.

GOODWIN, M.H. & PUTNAM, K. 1982. Conservation of hawksbill sea turtles in the Grenadine Islands (Carriacou-West Indies), Final report to WWF-US, 31st. January, 1982, 6 pages, 7 annexes.

A project to promote community management of living marine resources, especially E. imbricata, has been instituted in Carriacou. Principal activities include (1) operation of a hatchery for protected incubation of sea turtle eggs, (2) establishment of a community marine conservation and management resource centre.

GOODWIN, M.H. & REID, D.M. (undated). Observations on hawksbill sea turtles, Eretmochelys imbricata (L), in the Grenadine Islands, West Indies. 17 pages. Eggs of Eretmochelys obtained from natural nests and slaughtered females incubated artificially. Hatchlings were reared for 20 months and showed rapid increase in weight. Turtles tracked when released by SCUBA and observations made on feeding habits, respiratory activity and probable range. Direct observation is a valuable tool for study of this species and the establishment of preserves is an important conservation activity.

GOODWIN, M.M. 1971. Some aspects and problems of the use and exploitation of marine turtles, pages 98 - 102 in Marine Turtles, IUCN Publ. New Series, Suppl. Paper No. 31, 109 pages. Major problem of estimating exploitation is poor records kept locally and unwillingness of commercial concerns to make their data available. Boats from Martinique, St. Lucia and Dominica take about 150 turtles a year from Aves Island. An American company is buying whole turtles in St. Lucia and flying them to Puerto Rico, largely C. mydas. Turtle available in Puerto Rican hotels. Fisherman take many small hawksbills for tourists.

- GORMAN, J. 1981. Sea turtles in jeopardy.
Discover, March 1981; 104 - 105.
Not seen
- GOSSE, P.H. 1851. A naturalist's sojourn in Jamaica.
Longman, London, 508 pages.
(Quoted by Caldwell, 1959) Notes occurrence of
'off-sized eggs' in Atlantic leatherbacks.
- GRASSMAN, M.A. & OWENS, D.W. 1981a. Olfactory imprinting in
loggerhead turtles (Caretta caretta). Amer.Zool.
21; abstract 72.
Sea turtles have been imported as embryos or
hatchlings to beaches in order to establish new
nesting populations, but with few reports of
success. Eggs were treated with Morpholine or
2-Phenylethanol in the nest and for a month post
hatch, together with untreated groups. Entry to
choice chambers was monitored and results showed
that some chemicals were more attractive than
others. There is some evidence to substantiate
the hypothesis that imprinting takes place in
the nest.
- GRASSMAN, M. & OWENS, D. 1981b. Evidence of olfactory imprinting in
loggerhead turtles. Marine Turtle Newsletter,
19; 7 - 10.
Experimental animals kept in sea water, some
replicates exposed to 5×10^{-5} m morpholine or
 5×10^{-5} m 2-phenylethanol in 0.9 % instant ocean,
showed significant increase in percentage entries
to simultaneous choice compartments to morpholine-
treated water. This supports the hypothesis that
chemical nature of the nest environment may affect
animals orientation behaviour in later life.

- GRASSMAN, M. & OWENS, D.W. 1982. Development and extinction of food preferences in the loggerhead sea turtle (Caretta caretta). Copeia 1982; 965 - 969. Hatchlings developed preferences for fish or pellets when initially experienced these diets in the laboratory. Similar preference was not significant in animals initially fed shrimp. Based on this it was assumed that fish and pellet-fed animals were imprinted. However, reversable food preferences in relation to initial feed does not support the imprinting hypothesis.
- GREER, A.E., LAZELL, J.D. & WRIGHT, R.M. 1973. Anatomical evidence for a countercurrent heat exchange in the leatherback turtle (Dermodochelys coriacea). Nature, 244 (No. 5412); 181. Leatherbacks show the two classic adaptations of birds and mammals for retaining body heat; an insulating layer of subepidermal fat and a counter current heat exchanger. The latter in the fore and hind flippers occurs at the junction with the body.
- GROOMBRIDGE, B. (COMPILER) 1982. The IUCN Amphibia-Reptilia Red Data Book. part 1. Testudines, crocodylia, Rhynchocephalia. 426 pages.
- GUDGER, E.W. 1948. The tiger shark, Galeocerdo tigrinus, on the North Carolina coast, and its food and feeding habits. J. Elisha Mitchell Sc. Soc., 64; 221 - 233. In the Gulf of Mexico tiger sharks are the most important marine predators on sea turtles.
- GUNDLACH, J. 1867. Revista y catalogo de los reptiles Cubanos. An. Soc. Esp. Hist. Nat.; 102 - 122. Reports C. mydas in shallow water feeding on marine plants; C. caretta common, but only eggs used; E. imbricata common, but only shell used and D. coriacea rare, one record of nesting on Playa del Quemado, near Habana. (In Spanish).

- GUNDLACH, J. 1875. Catalogo de los reptiles Cubanos. An. Soc. Esp. Hist. Nat., 4; 347 - 368.
Turtle data a repetition of Gundlach 1867.
- GUNDLACH, J. 1881. Apuntes para la fauna Puerto Riqueña. An. Soc. Esp. Hist. Nat., 10; 305 - 317.
Reports C. mydas and D. fabricata and another of 'criollo' shell type.
D. coriacea more common than in Cuba, hatchlings also seen. (In Spanish).
- GUNTER, G. 1961. Status of turtles on the Mississippi coast. Gulf Research Repts., 7 (1); 89 - 92.
Sea turtles have declined in numbers and federal agencies are concerned with the numbers drowned in trawls by commercial shrimpers. All sea turtles, except L. olivacea, occur in Mississippi waters.
- HAINES, H.G. 1974. A herpesvirus disease of farmed green turtles. Proc. 5th. Ann. Workshop World Maricult. Soc.; 183 - 194.
Virology of a disease causing gray patch on the skin of hatchlings is described.
- HAINES, H.G. 1978. A herpesvirus disease of green sea turtles in aquaculture. Marine Fisheries Review, 40 (3); 33 - 37.
Gray-patch disease which affects hatchlings of C. mydas in captivity is basically a cutaneous disorder which in severe cases causes death. The cutaneous lesions typically occur in epizootic fashion and up to 60 - 90% of separate groups of hatchlings may be effected. There is no cure but lesions resolve spontaneously and then hatchlings survive. Increased temperature is one factor in spread of this disease.

- HAINES, H. & KLEESE, W.C. 1977. Effects of water temperature on a herpesvirus infection of sea turtles. Infect. Immun., 15 (3); 756 - 759.
A gray-patch disease in cultured C. mydas showed increased incidence with increase in temperature. Culture tanks should be kept cool to avoid this aspect of heat stress.
- HALEY, D. 1977. Let's help the Atlantic loggerhead. Nat. Parks & Conserv. Mag.; 12 - 15.
A map with Atlantic loggerhead nesting sites is given. Loss of habitat, predation by man and animal, and shrimp trawlers nets have all contributed to the decline of C. caretta.
- HANIF, M. 1972. Sea turtles of the Caribbean. Topics in West Indian Natural History, No. 2., Virgin Islands Conserv. Soc., 5 pages.
Publicity brochure for VICS giving biological data on C. mydas, C. caretta, E. imbricata, L. olivacea and D. coriacea in the Caribbean. Also lists activities of the Caribbean Conservation Association.
- HARDY, A. 1959. The Open Sea: its natural history, part II, Fish and fisheries. Houghton Mifflin Co., Boston, 322 pages.
L. kempfi and C. caretta occasionally stray from the Gulf of Mexico into European waters.
- HARLAN, R. 1827. Genera of North American reptilia, and a synopsis of the species. J. Acad. Nat. Sci. Phila., 5; 317 - 372; and 6; 7 - 38.
Lists 4 species of Chelonia in North America, C. mydas, C. caretta, C. caoana and Coruido coriacea.

- HARLESS, M. & MORLOCK, H. (EDITORS) 1979. Turtles: Perspectives and Research, Wiley, New York, 695 pages.
Contains 30 contributed papers (1) methods, (2) vital functions, (3) sensory processes, (4) behaviour, (5) reproduction and development, (6) population dynamics. Discusses captive culture for research, conservation requirements and techniques and future research. Some physiological and neurological data included.
- HARPER, R.M. 1927. Natural resources of southern Florida. Fla. State Geol. Surv. 18th. Ann. Rept.
Brief notes and some statistics on marine resources other than fish, which includes turtles.
- HART-DAVIS, D. 1969. The mystery of Ascension's turtles. Zodiac, 2 - 3.
Describes seasonal migrations of C. mydas between Brazil and Ascension. Account given of Carr monitoring movements with telemetry units and staff of Mariculture, Grand Cayman, collecting eggs for ranching.
- HASTINGS, R.W., OGDEN, L. & MABRY, M.T. 1976. Observations on the fish fauna associated with offshore platforms in the northeastern Gulf of Mexico. Fishery Bulletin, 74; 382 - 402.
As lighted, permanent structures at sea attract sizeable populations of pelagic fish, and as fish predation is a major cause of hatchling mortality, young turtles attracted to lighted offshore structures might be subjected to increased predation.
- HAY, O. P. 1908. On three existing species of sea turtles, one of them (Caretta remivaga) new. Proc. U.S. Nat. Mus., XXXIV; 183 - 193, 6 plates.
Anatomical, particularly osteological, description of Colpochelys kempfi and Caretta caretta, based on specimens from U.S. waters and Gulf of Mexico.

- HAWK, E.G. 1978. Growth and feed conversion efficiency of young green turtles, Chelonia mydas, in sea water and dilute sea water. Masters Thesis, Univ. Puerto Rico, 107 pages.
- Not seen
- HEFFINGTON, V. 1970. Hatching a new steak. Tropic, 4 (33); 28, 30.
Account of turtle mariculture project in Grand Cayman. Eggs taken from the wild and 1% of yearlings released to the sea. Turtles are raised in plastic tanks and larger concrete tanks, taking 3,500 C. mydas to market at 150 lbs in 1.5 years.
- HENDERSON, G.E. (EDITOR), 1978. Proceedings of the Florida and Interregional Conference on Sea Turtles, 24 - 25 July, Jensen Beach, Florida. Fla. Dept. Nat. Res., No. 33, 66 pages.
General Conference - individual papers cited by author.
- HENDRICKSON, J.R. 1974. Marine turtle culture - an overview. Proc. 5th. Ann. Meeting World Maricult. Soc., 167 - 181.
The major problem is dependence on wild stocks, due to continuing difficulties in getting enough reproduction in closed cycle farming. The economics of turtle farming is discussed.
- HENDRICKSON, J.R. 1980. The ecological strategies of sea turtles. Amer. Zool., 20; 597 - 608.
An ecologically-oriented study of the probable evolutionary history and present relationships of sea turtles.

HENDRICKSON, J.R. 1980. Chemical discrimination of tortoise-shell materials and reptilian leathers. U.S. Fish. Wildl. Serv. Endangered Species Rept. No. 7. (Based on Contract 14-16-0002-3701, Final Rept. 17th. Jan. 1979).

Report of a study to determine whether the amino acid composition of sea turtle shell could be used to differentiate between species and populations of sea turtles. The method could be useful as a law enforcement tool, permitting species identification from small samples of unknown specific origin, and for management purposes in identifying interbreeding population units of sea turtles. Secondary purpose to examine feasibility of amino acid analysis for identification of unknown reptile skins or leathers, also as a law enforcement tool. 227 samples of hard keratin from sea turtles examined for relative proportions of 17 component amino acids. Discrimination of skins and leathers was not possible, discrimination of sea turtle keratin was possible, but much variation suggests this does not offer the desired simple technique for species and population discrimination.

HENDRICKSON, J.R. 1982. Nesting behaviour of sea turtles with emphasis on physical and behavioural determinants of nesting success or failure, pages 53 - 57 in Bjorndal, K.A. (editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

Species show variations in minor details which can be related to coping with different nest environments. These variations must be taken into account in species-specific conservation programmes for management of nesting beaches.

HENDRICKSON, J.R. & HENDRICKSON, L.P. 1980. Living tags for sea turtles. Progress Rept. on Contract 14-16-0002-80-229 to U.S. Fish. Wildl. Serv., Albuquerque, N.M., 16 pages.

Not seen

HENDRICKSON, J.R., WOOD, J.R. & YOUNG, R.S. 1977. Lysine:histidine rations in marine turtle shells. Comp. Biochem. Physiol., 57 B: 285 - 286.

Amino acid analysis of scute material for wild hawksbill and both wild and farmed green turtles showed significant differences in the rations of lysine to histidine. Results suggest dietary influence on shell keratin composition within the genus Chelonia, but a genetic distinction between Chelonia and Eretmochelys. Work carried out for the U.S. Fish and Wildlife Service to determine whether sufficient differences exist to enable species identification for law enforcement purposes.

HENDRICKSON, L. P. & HENDRICKSON, J.R. 1981. A new method for marking sea turtles ? Marine Turtle Newsletter, 19; 6 - 7.

Experiments carried out at Galveston and Miami on grafting procedures (1) discs of epithelial tissue cut with a Keyes skin punch, (2) plastral discs in carapace sites, (3) irregular pieces of tissue gouged out with a keyes puch, (4) plugs of marginal-scute shell reversed and replaced in original sites, bonded with a waterproof surgical cement. Chemical treatments with melanin-destroying substance monobenzylether of hydroquinone. The chemical treatments had short lived blanching effects, but after 11 months grafts showed up well.

- HERMANS, J.J. 1961. Schildpadden en hun betekenis voor de Nederlandse Antillen, Unpublished report of Caraibische Mar. Biol. Inst., Curacao, 71 pages. (In Dutch) Curacao has no turtle protection laws. Bonaire has local government legislation of June, 1961, which prohibits taking and selling of turtles and turtle eggs. This is enforced by the civil police. St. Maarten record of female D. coriacea coming ashore to nest April, 17th. 1960.
- HIGGINS, E. & LORD, R. 1926. Preliminary report on the marine fisheries of Texas. U.S. Bur. Fish. Doc. 1009. (Quoted by Rebel, 1974 - The absence of data on turtles suggests a low status for the turtle fishery at this time in Texas.)
- HIGGS, C. 1983. The Bahamas fishing industry, pages 1 - 2 in National Reports and Selected Papers presented at the 3rd session of the working party on Assessment of Marine Fishery Resources, WECAFC, FAO Fisheries Rept. No. 278- supplement; 313 pages. Suggests that, since the five genera of marine turtles in Bahamian waters are on the verge of disappearing as an economic asset, it is not worth considering their potential productivity.
- HILDEBRAND, H.H. 1963. Hallazgo del 'area de anidacion' de la tortuga marina 'lora', Lepidochelys kempfi (Garman), en la costa occidental del Golfo de Mexico. Ciencia Mex. XXII (4); 105 - 112. Principal existing rookery at Rancho Nuevo, Tamaulipas, where 40,000 L. kempfi nest in one day on a 1 mile beach. Also considerable isolated nesting from Soto la Marina to Punta Jerez. There is scattered nesting from Port Aransas, Texas, to Tuxtla in Veracruz. Greatest nesting activity from 0900 - 1300 hrs, possibly as a defence against nocturnal coyotes. Riddleys nest 3 times per season

about 180 eggs in the first clutch dwindling to 80 - 110 in the third. No regular interval between nestings, largely animals come ashore during strong winds. Commercial utilization is intense, mainly for eggs; the oil is used as lung and skin medicine.

HILDEBRAND, H.H. 1982. A historical review of the status of sea turtle populations in the western Gulf of Mexico, pages 447 - 453 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. All species have declined from Louisiana to Yucatan, because of human predation, except possibly D. coriacea. Major feeding grounds of L. kempi are the crustacean-rich areas off Louisiana and Tabasco-Campeche, nesting also in western Gulf of Mexico. Historical decline of C. mydas in Texas discussed, from over 230,000 kg yr⁻¹ to virtually nil, when capture was banned in 1963. Climatic changes may have contributed to this decline also.

HILL, G.D. 1979. The troubled turtle. NOAA Magazine, January, 1; 20 - 23. Status update on world conservation and stocks utilization, and discussion of incidental catch in Gulf of Mexico.

HILL, R. 1980. (Dreft) Summary of sea turtle activity in Florida 1979: compiled from reports from permit holders, US Fish & Wildl.Serv., coastal refuge managers, and Florida State Park superintendents, 20 pages. Lists 20 beaches monitored for sea turtle nests. Total nests was 7,318, total eggs collected was 12,243 on 4 beaches, 35,031 hatchlings released. Of 13 tag returns, one was from Brazil. Notes C. mydas headstart project at Jensen Beach 1979.

- HILL, R.L. 1971a. Surinam turtle notes - 1. Polymorphism of costal and vertebral laminae in the sea turtle Lepidochelys olivacea. Stichting Natuurbehoud Suriname (STINASU), Meded. 2; 3 - 9.
The number of costal and vertebral laminae in L. olivacea was investigated during 1970 on 250 nesting adult females and 2,000 hatchlings from undisturbed nests and 2,000 from replanted nests.
- HILL, R.L. 1971b. The effect of rupturing eggs in sea turtle nests on the hatchling emergence percentage. Suriname turtle notes - 3. Stichting Natuurbehoud Suriname (STINASU), Meded. 2; 14 - 16.
Finding eggs by probing damages eggs and the rotting lowers hatchling emergence; this is not a good method in conservation work.
- HILL, R.L. & GREEN, D.J. 1971. Surinam turtle notes - 2.
Investigation of the damage by the crab Ocypode quadrata to the eggs of the green turtle, Chelonia mydas. Stichting Natuurbehoud Suriname (STINASU), Meded. 2; 11 - 13.
Studies at Bigisanti Beach, Suriname, during 1969 gave estimates of 60% of C. mydas nests attacked by crabs within 4 days of laying. An average of 11.8% of the eggs were eaten, with up to 93% in some cases. Protecting nests with wire cages reduces the damage.
- HILLABY, J. 1963. The fate of the sea turtles. New Scientist, 371; 776 - 777.
Mentions survival status of L. kempi in Mexico and discusses international attempts at the conservation of this species.

- HILLABY, J. 1968. The fate of sea turtles.
Sea Frontiers, 11 (1); 4 - 13.
Largely concerned with attempts to protect
L. kempi in Mexico.
- HILLESTAD, H.O. (Undated) Preliminary concepts for estimating
population parameters of marine turtles frequenting
the Georgia coast. Rept. Southeastern Wildl. Serv.
Inc. Georgia to Nat. Mar. Fish. Serv., 9 pages.
Discusses conceptualisation for measurements of
resident populations as a prerequisite to an
analysis of the relative impact of commercial
shrimpers on marine turtles.
- HILLESTAD, H.O., REIMOLD, R.J., STICKNEY, R.R., WINDOM, H.L. &
JENKINS, J.H. 1974. Pesticides, heavy metals and
radioactive uptake in loggerhead sea turtles from
South Carolina to Georgia. Herp. Rev., 5 (3); 75.
Not seen
- HILLESTAD, H.O., RICHARDSON, J.I., McVEA, C. & WATSON, J.M. 1982.
Worldwide incidental capture of sea turtles, pages
489 - 495 in Bjorndal, K.A. (Editor), Biology and
Conservation of Sea Turtles, Smithsonian
Institution, Washington, 583 pages.
Shrimp trawlers capture and drown more turtles
than any other form of incidental capture. Records
are given for waters of South America, Central
and North America.
- HILLESTAD, H.O., RICHARDSON, J.I. & WILLIAMSON, G.K. 1978.
Incidental capture of sea turtles by shrimp
trawlermen in Georgia. Proc. 32nd Ann. Conf.
Southeastern Assoc. Fish & Wildl. Agencies, Hot
Springs, Virginia, Nov. 5 - 8, 1978.
101 commercial shrimpers took 30.7 turtles per
vessel per year. A minimum of 778 turtles drowned
in 1976.

- HIRTH, H.F. 1962. Cloacal temperatures of the green and hawkshell sea turtles. Copeia 1962; 647 - 648. Temperatures were taken before egg laying in one group and after egg laying in another. There was no significant difference in cloacal temperatures between the two groups. Hawksbills showed similar body temperature to sea and sand temperatures.
- HIRTH, H.F. 1971. Synopsis of biological data on the green turtle, Chelonia mydas (Linnaeus) 1758. FAO Fisheries Synopsis, No. 85; 79 pages.
General review and Synopsis - data on taxonomy, morphology, distribution, life history, population dynamics, exploitation, diet, mortality, management.
- HIRTH, H.F. 1978. A model of the evolution of green turtle (Chelonia mydas) remigrations. Herpetologica, 34 (2); 141 - 147.
Long distance remigration possibly evolved from a stage of passive drift. Green turtles move between feeding pastures and nearby nesting beaches, their movements based upon familiarity with the local environment.
- HIRTH, H.F. 1980. Some aspects of the nesting behavior and reproductive biology of sea turtles. Amer. Zool., 20; 507 - 523.
Basic reproductive data from 21 C. mydas, 8 D. coriacea, 7 Eretmochelys, 7 L. olivacea and 6 C. caretta, 1 L. kempfi are provided from population studies. Some intraspecific and interspecific relationships between size of nester and clutch size, egg size and hatchling size are analysed. Reproductive rate (numbers of hatchlings

per female per year) in 11 populations varied from 35 - 200 in L. olivacea and C. caretta. Analysis of nesting emergence and time spent on the beach (chelonery) is given. Notes relatively large number of yolkless eggs laid by many leatherbacks and some hawksbills.

HIRTH, H.F. 1982. Weight and length relationships of some adult marine turtles. Bull. Mar. Sci., 32 (1); 336 - 341.

Weight to carapace length relationships were found to be significant in 17 of 19 populations, of six species of adult turtles. Sizes of nesting green turtles at Ascension were distinctive.

HIRTH, H.F. & SCHAFFER, W.M. 1974. Survival rate of the green turtle, Chelonia mydas, necessary to maintain stable populations. Copeia 1974; 544 - 546.

$$C = (1 - P) / B$$

where C = survival rate of hatchlings to maturity,
P = survival rate of adults between nestings,
B = number of female hatchlings produced by an adult each season.

In constant environments no less than 2.2 and perhaps as many as 10 hatchlings per 1000 must survive to reproductive maturity to maintain stable populations.

HOFFMAN, W. & FRITTS, T.H. 1982. Sea turtle distribution along the boundary of the Gulf Stream current off eastern Florida. Herpetologica, 38 (3); 405 - 409.

Aerial surveys out to 222 km off eastern Florida during August 1980 revealed turtles distributed in a narrow zone west of the Gulf Stream. Of 255 C. caretta, only 3 were east of the Gulf Stream

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the others were in water markedly cooler than the Gulf Stream. Of 18 Dermochelys, all were seen west of the Gulf Stream in water less than 70 m deep. This is in contrast to the deep water oceanic ecology often hypothesised for this species.

HOLDEN, M.W. 1964. Sea turtle nesting survey on Cape Sable Beach, Everglades National Park, Fla. 1964 season. Rept. to Everglades Nat. Park, 19 pages.

Not seen

HOLDEN, M.W. 1965. Further notes on sea turtle nesting on Cape Sable. Rept. to Everglades Nat. Park, 8 pages.

Not seen

HOOKER, D. 1908a. The breeding habits of the loggerhead turtle and some early instincts of the young. Science, N.S., XXVII; 490 pages.

Caretta caretta breeds April - June in the USA, approximately 100 eggs per nest take 50 days to incubate.

HOOKER, D. 1908b. Preliminary observations on the behaviour of some early hatched loggerhead turtles, (Thalassochelys caretta). Yearbook Carnegie Inst. Wash. 1907, No. 6; 111 - 112.

Not seen

HOOKER, D. 1909. Report on the instincts and habits of newly hatched loggerhead turtles. Yearbook Carnegie Inst. Wash. 1908, No. 7; 124.

Not seen

HOPKINS, S.R. & MURPHY, T.M. 1981. Reproductive ecology of *Caretta caretta* in South Carolina. Study completion report, South Carolina Wildl. Mar. Res. Dept; 96 pages.

At sea activity associated with terrestrial emergences was characterised for *Caretta* as well as activity patterns by sonic and radio tracking of 37 adult females during 1977 - 1979. Information is given on activity, movements and habitat utilization, and on abiotic and biotic factors affecting nest failure. The feasibility of raccoon aversion therapy on protection of *Caretta* eggs is examined.

HOPKINS, S.R., MURPHY, T.M., STANSELL, K.B. & WILKINSON, P. M. 1978. Biotic and abiotic factors affecting nest mortality in the Atlantic loggerhead turtle, Contrib. S. Carolina Mar. Res. Centre, No. 89; 22 pages.

Fates were determined for 458 nests of *C. caretta* on 4 South Carolina barrier islands. Raccoons, *Procyon lotor*, destroyed 56.1% overall and from 16.4 - 86.3% on individual islands. Poachers took 47.5% from one island and abiotic factors another 14.2%. *Ocypode quadrata* only destroyed 2.4% and overall hatch was 6.1%.

HOPKINS, S. & RICHARDSON, J. (Undated) Loggerhead turtle. S. Carolina Wildl. Mar. Res. Dept. Wildl. Notes, 2 (3); 6 pages.

Not seen

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Off-road vehicle, pedestrian and tricycle tracks interfere with the ability of hatchling turtles to reach the ocean. The extended period of travel

required to negotiate suitable paths to the surf, together with the tendency to invert, may increase the susceptibility of C. caretta to stress and predation during transit to the ocean when hatching on ORV-impacted or heavily used bathing beaches.

HUGHES, G.R. 1982. Nesting cycles in sea turtles - typical and atypical, pages 81 - 89 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 533 pages. Notes that some tagging programmes are in their 3rd decade, but still a dearth of information on the proportion of the population that nests in more than one season. Nesting cycles exist in all species, some showing regular/unmodulated cycles, others irregular or modulated ones. The major cause of uncertainty is the monel metal tag; loss of tags has led to serious uncertainty in population studies.

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- IRELAND, L.C. 1979a. Homing behaviour of juvenile green turtles, Chelonia mydas, pages 761 - 764 in Handbook of Biotelemetry and Radio Tracking. Amlander, C.J. & MacDonald (Editors), Pergamon Press.
10 juvenile green turtles netted inshore at Bermuda were equipped with ultrasonic transmitters and released at locations 1.5 - 4 kms from capture sites. Each turtle was tracked by investigators from a small boat. 5 returned to capture sites on same day, 5 showed site tenacity for more than 2 weeks.
- IRELAND, L.C. 1979b. Optokinetic behaviour of the hatchling green turtle, (Chelonia mydas), soon after leaving the nest. Herpetologica, 35 (4); 365 - 370.
Hatchlings, from eggs from Costa Rican beaches incubated in Bermuda, were tested in an optokinetic drum and showed an innate capacity for, or the early development of, optokinetic behaviour.
- IRELAND, L.C. 1979c. Homing behavior of immature green turtles. Amer. Zool., 19; Abstract 509, page 952.
20 immature green turtles netted inshore in Bermuda were equipped with ultrasonic transmitters and released at locations 1.5 - 6.8 km from capture sites. Each turtle was tracked from a boat with an acoustic receiver and directional hydrophone. 12 turtles returned to capture site the same day, study confirmed utility of acoustic telemetry as a tracking tool. The sensory basis of homing behaviour is unknown.
- IRELAND, L.C., FRICK, J.A. & WINGATE, D.B. 1978. Nighttime orientation of hatchling green turtles, (Chelonia mydas) in open ocean, pages 420 - 429 in Schmidt-Koenig, K. & Keeton, W.T. (Editors), Animal Migration, Navigation and Homing, Springer-Verlag.
On leaving a beach the travel path is roughly

at right angles and this is continued when out of sight of land at turtle-eye level. Hatchlings were equipped with sonic transmitters or with chemical lights. The only directional preference was away from land, which moves hatchlings away from their inshore predators.

IRVINE, A.E., CAFFIN, J.E. & KOCHMAN, H.I. 1981. Aerial surveys for manatees and dolphins in western peninsular Florida with notes on sightings of sea turtles. Office of Biol. Serv., Fish & Wildl. Serv. (FWS/OBS-80/50).

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IUCN

1973a. IUCN Resolution.

IUCN Bull., 1973; page 8.

Resolution concerning a superport on Mona Island, Puerto Rico - Whereas the beaches of Mona are regularly used for the nesting of the rare hawksbill turtle IUCN/SSC urges Puerto Rico to preserve Mona and exclude development not compatible with the continued existence of their unique natural environments. Resolution adopted following a statement from the Governor of Puerto Rico 15th. Sept., 1973.

IUCN

1973b. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Spec. Suppl. IUCN Bull., 4 (3); 12 pages.

Lists E. imbricata, L. kempfi, in Appendix 1 (trade subject to strict regulation) and C. caretta, C. mydas, D. coriacea in Appendix II (species not necessarily threatened, but likely to become so if trade not regulated).

IUCN

1975. National Parks of Costa Rica. Basic working paper to Int. Conf. Mar. Parks & Reserves, Tokyo, Japan, 12 - 14 May, 1975, IUCN, Morges, Switzerland, 132 pages.

Records Punta Cahuita, south of Tortuguero, with an Atlantic coral reef area where E. inbricata feeds regularly on turtle grass, and Tortuguero, a major nesting ground for C. mydas.

IUCN

1979. Proceedings of the 14th Session of the General Assembly of IUCN and 14th Technical Meeting, Ashkhabad, USSR, 26th September - 5th October, 1978, 155 pages and annexes.

Resolutions concerning the sea include -

p. 53. Incidental take - urges all nations that fish in the seas to enact legislation, conclude international agreements, modify fishing techniques, etc., to reduce loss and economic damage by incidental take.

p. 58. Sea turtles - urges government of the United States of Mexico (a) to identify and protect immediately the remaining sea turtle nesting beaches, and (b) to prohibit immediately any commercial take, export, or sale of sea turtles, their eggs and products, and (c) to ratify the Convention on International Trade in Endangered Species of Wild Flora and Fauna (particularly with reference to L. olivacea and C. mydas on the Pacific coast, but because all Mexican turtles are severely threatened).

IUCN

(Undated) Data Atlas: critical marine habitats of the Wider Caribbean, planning a marine conservation strategy for the Caribbean region, IUCN, Morges, Switzerland.

42 maps showing distribution of major habitats and biological resources. Map 3:11 shows sea turtle nesting and foraging areas.

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- JANSSEN, J.J. 1972. Sea turtles Dermochelys coriacea, Eretmochelys imbricata, Chelonia mydas and Lepidochelys olivacea on the beaches of Surinam. Lacerta, 31; 3 - 12.
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- JARVIS, N.D. 1932. The fisheries of Puerto Rico. U.S. Bur. Fish. Invest. Rept. 13.
(Quoted by Rebel, 1974, who notes the fact that sea turtles are not mentioned reflects the insignificance of the industry in this island).
- JOHNSON, W.A. 1980. Cayman Turtle Farm Ltd., the crock of gold. Brit. Herp. Soc. Bull., 2; 20 - 22.
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- JOYCE, J.C. 1982. Protecting sea turtles while dredging. The Military Engineer, 481; 282 - 285.
In the maintenance dredging of the entrance channel at Canaveral Harbour, Florida, there was conflict between construction activity and endangered or threatened species. The offshore Canaveral ship channel had highest known population of sea turtles on east coast, largely C. caretta, but also C. mydas and L. kemp. Approximately 1,250 Caretta were removed from dredging area, but some mortality occurred. Experimental monitoring showed that the use of a California type draghead, with cage opening on top of the draghead doors significantly reduced capture and mortality of sea turtles.

- JUHL, R., BULLIS, H.R., DURKIN, T. ET AL. 1968. Report of the evaluation team on resources and harvesting, pages 220 - 223 in Symposium on Investigations and Resources of the Caribbean Sea and Adjacent Regions, CICAR I, 1968.
Data given on fisheries resources of the Caribbean sea and Gulf of Mexico including sea turtles.
- KALBER, F.A. & BEAUMARIAGE, D.S. 1977. A review of research by Florida Department of Natural Resources on species of trans-Caribbean importance, pages 227 - 229 in Symposium on Progress in Marine Research in the Caribbean and Adjacent Regions, CICAR II, 1976, FAO Fisheries Report No. 200, 1977, 547 pages. Chelonia mydas is hatched, grown, tagged and released at several locations in Florida. Tag return from Venezuela and Surinam showing long distance migration. Hatching facilities are being improved.
- KAPPLER, A. 1881. Hollänisch-Guiana, erlebnisse und erfahrungen während einer 43-jährigen aufenthalts in der Kolonie Suriname. Stuttgart, 495 pages.
(In German) (Quoted by Schulz, 1975, the oldest detailed account of zoological observations on sea turtles in Suriname. Mentions the occurrence of green, olive ridley, leatherback and two hawksbill species near the mouth of the Marowijne River. These species are described.
- KAUFMANN, R. 1966. Das vorkommen von meeresschildkröten in Kolumbien und ihre nutzung als nahrungsquelle. Natur. Mus., 96 (2); 44 - 49.
Four species reported on beaches of Caribbean Colombia. C. caretta is common, D. coriacea, E. imbricata and C. mydas are rare. All species are utilized for food by coastal peoples.
(In German).

- KAUFMANN, R. 1967. Wachstumsraten in gefangenschaft gehaltener meeresschildkröten. Mitt. Inst. Colombo-Aleman Invest. Cient., 1; 65 - 72.
Account of hatching and growth of juvenile Caretta, Eretmochelys and Chelonia. These species grow much more rapidly during the first 5 months than earlier reports suggest. The possibility of establishing a hatchery on the Atlantic coast of Colombia is considered. (In German)
- KAUFMANN, R. 1968. Zur brutbiologie der meeresschildkröte Caretta caretta caretta L. Mitt. Inst. Colombo-Aleman Invest. Cient., 2; 45 - 56. (In German)
Nesting localities of C. caretta east of Santa Marta, Colombia, are open beaches on average 25 - 30 m wide, ascending with straight or smoothly sloping gradient up to the vegetation. No dunes are present, but always a strong surf. Population has declined markedly due to intensive trapping, so average size of females emerging is less than on other Caribbean populations. About 300 nests found on 7.5 km of beach. Nest building behaviour is described. The average clutch size was 106 eggs, mean maximum diameter 43.3 mm, mean egg weight 38.4 g.
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First report of D. coriacea nesting on Caribbean coast of Colombia in 1970. 7 nesting females seen, 4 other nests, 7 emergences of hatchlings recorded. 2 females tagged, one renested 20 days later on same beach. Nesting behaviour is described and compared with C. caretta. (In German)

KAUFMANN, R.

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Nesting at mouth of Rio Piedras to mouth of Rio Don Diego and also from mouth of Rio Palamino to village of Dioulla. Coastline of Alta Guajira Peninsula unsuitable for nesting. Total nesting beaches for 55 - 60 kms. Nesting reported for C. caretta, C. mydas, D. coriacea and E. imbricata, possibly L. olivacea. C. mydas, E. imbricata occasional, D. coriacea rare. During nesting seasons of 1966, 1967 & 1970, total of 675 emergences of Caretta, each year from April to August. Estimates about 300 nests per year, or for all beaches 2,400 Caretta nests per year on 60 km. Population at about 400 - 600 females. Human predation is heavy. Recommends Don Diego-Buritaca area should be a sanctuary for restocking populations over the next 5 - 10 years.

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year	1970	1971	1972	1973	
turtle					
catch	1.5	1.6	2.0	1.6	'000 tons

KLIMA, E.F. & McVEY, J.P. 1982. Headstarting the Kemp's ridley turtle, Lepidochelys kempi, pages 481 - 487 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

The international programme to preserve and restore Kemp's ridley has three parts - (1) enhancement of nesting success and survival at Rancho Nuevo, (b) establishment of a 2nd breeding population at Padre Island National Seashore, Texas, (c) experimental study to evaluate the concept of headstarting. Headstarting began at Galveston in 1978, 68% survival rate with release of \pm 2,000 juveniles. Kemp's ridley is best reared in individual containers treated with antibiotics immediately when sick or injured. Tagged yearlings released in the Gulf of Mexico and returns show survival after release.

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- LITWIN, S.C. 1981. Chelonia mydas mydas (Green turtle) nesting. Herp. Rev., 12 (3); 81.
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- LOENNBURG, E. 1894. Note on reptiles and batrachians collected in Florida in 1892 and 1893. Proc. U.S. Nat. Mus., 17; 317 - 339.
 Collections include C. mydas, E. imbricata, C. caretta. General biological data is given for each species.
- LONG, ? 1774. History of Jamaica, or general survey of the ancient and modern state of that island. London, T. Loundes.
 In the eighteenth century the garrisons of Jamaica derived most of their supply of fresh meat from turtles found in abundance around the Cayman Islands.

- LUEDERWALDT, H. 1926. Os chelonios Brasileiros.
Rev. Mus. Paulista, XIV; 1 - 60, 12 plates.
 A literature survey and descriptions are given for
C. mydas, E. imbricata and C. caretta in Brazil.
Dermochelys is also recorded. (In Portuguese)
- LUHMAN, M. 1935. Two new trematodes from the loggerhead turtle
 (Caretta caretta). J. Parasitology, 21 (4); 274 - 276.
 Provides a list of 21 previously recorded trematode
 parasites of Caretta and gives details of 4 new
 distribution records from Caretta in the Dry Tortugas,
 Florida.
- LUND, F. 1976. Atlantic ridley, pages 523 - 525 in Layne, J.N.
 (Editor), Inventory of rare and endangered biota of
 Florida. Fla. Aud. Soc. & Fla. Dept. Environ.,
 Maitland, Microfiche.
 Gives description and status of L. kemp.
- LUND, F. 1978. Atlantic green turtle - pages 23 - 24
 Atlantic hawksbill - " 24 - 25
 Atlantic ridley - " 25 - 26
 Atlantic loggerhead - " 35 - 36
 Atlantic leatherback - " 54 - 55
 in McDiarmid, R.W. (Editor), Amphibians and Reptiles,
 Vol. 3 in Pritchard, P.C.H. (Series Editor), Rare
 and Endangered Biota of Florida, Univ. Press Fla.,
 Gainesville.
 Gives biological descriptions and status reports
 on the above species.
- LUSTY, J. 1971. Report on the turtle soup industry, pages
 92 - 94 in Marine Turtles, IUCN Publ. New Series,
 Suppl. Paper No. 31; 109 pages.
 Only the green turtle is used. The older, larger
 males or females are preferred and it is suggested

that culling these animals at the end of their reproductive life is probably good husbandry. The gelatinous meat known as calipee or calipash is the most important ingredient in soup making, and is often taken from turtles slaughtered for their red meat. The high prices paid play an important part in local economies. Estimates that numbers used in United Kingdom and Europe are less than 1,000 per year whole frozen turtles, another 1,000 cut up frozen and dried calipee from 3 - 4,000 others. From the Caribbean in the past 25 years, John Lusty Ltd., London, has received less than 400 whole turtles and dried calipee from 1,000 more. Some conservation measures are suggested.

MACBRIDE, D.H.

1946. Monstrous sea turtle at Bull Bay.

Nat. Hist. Notes (Jamaica), 3 (27); 40.

Reports occurrence of Dermochelys and includes marine plants and molluscs in the diet.

MACK, D.

1983. Worldwide trade in wild sea turtle products: an update. Marine Turtle Newsletter, 24; 10 - 15.

Major review and update of trade in turtle products. Commercial trade in tortoiseshell, stuffed turtles, sea turtle meat and skins has declined worldwide since 'CITES' came into force in 1975. Japan is a major importer of turtle skins and shell, from exporting countries of Panama, Cuba, Haiti, Mexico and the Cayman Islands. The hawksbill is probably most heavily exploited in the Caribbean, which accounted for about 25% of all tortoiseshell imported by Japan in 1970's and nearly 40% in 1980 - 1981. Cayman Island fishermen buy shell in other countries; hawksbill shell from Cuba is the most expensive in the region and is sold by the Cuban government.

- MACK, D., DUPLAIX, N. & WELLS, S. 1982. The sea turtle: an animal of divisible parts, pages 545 - 563 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
- Review paper - concerned with trade in turtle products on a worldwide basis, with extensive information on the region.
- MACKEY, D.J. 1980. Turtle traders, worldwide commerce in turtle products. Oceans July 1980; 59 - 61.
- Popular report of the international trade in products from C. mydas, E. imbricata and L. olivacea, based on the World Conference on Sea Turtle Conservation, 1979 (See Mack et al, 1982, reference above). Also considers the role of turtle farming and suggests that farming may be detrimental to the survival prospects of turtles because it stimulates a market for their products.
- MACLEAN, W.P., KELLNER, R. & DENNIS, H. 1977. Island lists of West Indian amphibians and reptiles. Smithsonian Herp. Inform. Serv. No. 40.
- Not seen
- MANN, T.M. 1977. Impact of developed coastline on nesting and hatchling sea turtles in southeastern Florida. M.Sc. Thesis, Florida Atlantic Univ., Boca Raton, Fla., 100 pages.
- Not seen
- MANN, T.M. 1978. Impact of developed coastline on nesting and hatchling sea turtles in southeastern Florida, pages 53 - 55 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. on Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida; Fla. Mar. Res. Publ. No. 33; 66 pages.
- Sea turtle nesting and hatchling emergence were

recorded along 12 miles of developed beach between Delray Beach and Ft. Lauderdale, Florida. Nesting densities were compared with other sections of the coast. The bearings of emerging hatchlings were measured at 397 nests. Artificial light intensities were measured and post emergent contents in 422 nests were assessed for impact of vehicular and pedestrian beach traffic. Nesting C. mydas and C. caretta did not avoid lighted or developed beaches. Hatchlings were disoriented by lights, especially on moonless nights. Externally applied pressure on soft beaches increased mortality in the nests.

MARICULTURE

1973. A Mariculture Ltd., supplement to - The Cayman Islands Northwester, Oct. 1973; 21 pages.

Illustrated supplement giving details for investors of the Mariculture Turtle Farm on Grand Cayman. Data given on their technique for raising turtles, the products and their markets, and supporting research and conservation aspects.

MARQUEZ, R.

1965. Algunas observaciones sobre las tortugas marinas de importancia comercial en Mexico. Inst. Nac. Inv. Biol. Pesq. Contrib. 11; 13 pages.

Not seen

MARQUEZ, R.

1966. La cria artificial de la tortuga blanca (Chelonia mydas mydas Linnaeus) en Tortuguero, Costa Rica. Inst. Nac. Inv. Biol. Pesq., Mexico. Reviews methods used at Tortuguero and gives some instructions on hatchery operation. (In Spanish)

MARQUEZ, R.

1968. Las tortugas marinas de Mexico.

MS. Nat. Inst. Pesca, Mexico.

Important green turtle nesting area in Quintana Roo along the mainland and around the cays. This was once the main Mexican turtle fishing area, now superceeded by the Pacific L. olivacea fishery. (In Spanish)

MARQUEZ, R.

1972. Resultados preliminares sobre edad y crecimiento de la tortuga lora, Lepidochelys kempi (Garman). Mem. IV Congreso Nac. Oceanogr. Mexico, D.F., 17 - 19 Nov. 1969; 419 - 427.

(In Spanish) Young turtles grew at 87 mm per year 1, 117 year 2 and 111 year 3. Adult female annual growth rose from 32,6 mm in 1966 to 37.3 mm in 1967. Growth is thus logarithmic. Sexual maturity is reached at length of about 580 mm, the animal is about 5.5 years old.

MARQUEZ, R.

1976a. Estado actual de la pesqueria de tortugas marinas en Mexico, 1974. Serie Inform. Inst. Nac. Pesca/ Si. i 46; 27 pages.

(In Spanish) Production given as 1967 -10,950 t; 1968 - over 13,600; 1969 - less than 5,100, probably only 4,000 turtles. Greater than \$300 for one stuffed turtle in the tourist trade. Production of skins 1968 - 338 t valued at 3.2 M pesos, in 1969 fell to 57 t valued at 1 M pesos; market closed in 1974. Eggs in 1965 - 150 t, about 3,750,000 eggs, market closed in 1966. Dried meat of L. olivacea - 93.8 t in 1967, 12 t of C. mydas. Dermochelys oil valued at \$50.00 par liter, a 40 kilo turtle producing 4 liters. Shell of Eretmochelys up to 5 t before the market closed.

MARQUEZ, R.

1976b. Reservas naturales para la conservacion de las tortugas marinas de Mexico. Inst. Nac. Pesca, Mexico, No. 83; 22 pages.

(In Spanish) The 7 reserves proposed include two in region, (a) Rancho Nuevo, Tamaulipas, a beach of 17.6 km., and (b) Isla Contoy, Quintana Roo, with beach length 9.5 km.

- MARQUEZ, R. 1976c. La acuacultura en Mexico.
Fiscis, 1 (4); 3 - 4. (In Spanish)
Describes hatchery programs and techniques.
- MARQUEZ, R. 1978a. Natural reserves for the conservation of
marine turtles of Mexico, pages 56 - 60 in Henderson,
G.E. (Editor), Proc. Florida & Interregional Conf.
Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida,
Fla. Mar. Res. Pub. No. 33; 66 pages.
(See also Marquez, 1976b.)
Two reserves proposed (a) Rancho Nuevo - where
L. kempi, C. caretta and C. mydas nest, and (b)
Isla Contoy - where C. mydas, C. caretta and
E. imbricata nest. The latter includes Isla Mujeres
where a hatchery released 10,000 hawksbill hatchlings
each year.
- MARQUEZ, R. 1978b. Tortugas marinas - Terminologica Tecnica, in
Fischer, W. (Editor) FAO Species Identification Sheets
For Fishery Purposes, Western Central Atlantic
(Fishing Area 31), vols 1 - 7.
Illustrated identification sheets for the 6 species
occurring in the West Central Atlantic area, listing
scientific name, vernacular names, distinctive
characters, size, geographical distribution and
behaviour, present fishing grounds, main fishing
gear and principal forms of utilization.
- MARQUEZ, R. 1978c. The Atlantic ridley in Mexico: 1978 season
and conservation programme. Marine Turtle Newsletter,
9; 2.
Nesting season began in April, last arribada on 18th
June 1978. Total eggs transplanted to nursery was
85,833. Of these 65,316 reburied in sand with 55.9%
hatch, 20,517 planted in styrofoam boxes with 66.6%
hatch; 53,953 hatchlings released at Rancho Nuevo,
balance to Galveston.

- MARQUEZ, R. 1982a. Atlantic ridley project 1981. Marine Turtle Newsletter, 21; 4. 15th year of effort by the Mexican Government. 95% of eggs laid at Rancho Nuevo transplanted. High seas and rainfall destroyed 13,130 eggs, 14% of total. 92,319 eggs collected from 898 nests, 56,548 hatchlings released, 2,246 eggs incubated at Galveston. Reports 44 nesting emergences, 2 important arribadas. 228 turtles tagged and some tag returns.
- MARQUEZ, R. 1982b. Atlantic ridley project, 1982: preliminary account. Marine Turtle Newsletter, 23; 3 - 4. 16th year of project, 5th year of cooperation with USA. Of a total 874 nests, 753 were translocated, 12.2% lost to predators or poachers. 67,571 eggs transplanted to corrals, 10,332 to styrofoam boxes, overall hatching success was 69.5%. Over 47,000 hatchlings released on the beach, 2,020 sent to Padre Island, Texas, 1,524 hatchlings sent to Galveston for headstarting. Hatch rate was 75.5%. Over the last 4 years, 6,694 turtles released less than 1 year old. About 190 are kept as breeding stock in several USA aquaria and at the Cayman Island turtle farm.
- MARQUEZ, R. & CONTRERAS, M. 1967. Mercado de tortuga lora, Lepidochelys kemp en la costa de Tamaulipas. Inst. Nac. Inv. Biol. Pesq. Bol. del Programa Nac. Mercado de Tortugas Marinas, 11 (1); 1 - 8. (In Spanish) 271 female L. kemp marked during the nesting season from May to July, 1967. 5 important arribadas, most numerous and prolonged on 7 - 9 June. 3 females renesting at 20 - 24 days, 1 at 42 days. Some marked in previous years recorded also.

- MARQUEZ, R., VILLANUEVA, A. & CONTRERAS, J.L. 1973. Instructivo para la proteccion de las tortugas marinas. Inst. Nac. Pesca, Mexico, Serie Divulgacion INP/SD: 2; 33 pages. (In Spanish) Manual of instructions for collection and incubation of eggs in a beach hatchery. Model sheets are provided for data recording.
- MARQUEZ, R., VILLANUEVA, A. & PENAFLORES, C. 1976. Sinopsis de datos biologicos sobre la tortuga golfina, Lepidochelys olivacea (Eschscholtz, 1829). Inst. Nac. Pesca, Mexico, INP/52 Sinopsis sobre la Pesca; 61 pages. Gives synopsis of nomenclature, taxonomy, morphology, biometry, migration, life cycle, diet, growth, behaviour, population dynamics, exploitation, protection and protective regulations. General review and Synopsis.(In Spanish)
- MARQUEZ, R., VILLANUEVA, A. & SANCHEZ PEREZ, M. 1982. The population of the Kemp's ridley sea turtle in the Gulf of Mexico - Lepidochelys kempii, pages 159 - 164 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. L. kempi shows individual fecundity (seasonal mean total number of eggs) = 140.8; frequency of nesting = 1.304 nests per turtle per season; cycle of reproduction repeated with yearly, biennial and triennial patterns. Preliminary estimate of recruitment $R = 0.0572$. A simple model is developed for this life cycle.
- MARTINEZ, J.L. 1948. The Cuban fishing industry. U.S. Fish & Wildl. Serv. Fish. Leaflet, 308. Contains brief turtle catch statistics.

- MAST, S.O. 1911. Behaviour of the loggerhead turtle in depositing its eggs. Papers Tortugas Lab, Carnegie Inst. Wash., 3; 63 - 67.
C. caretta reported on the beach for 52 minutes laid 150 eggs, followed by two smaller batches, the last of 80 eggs.
- MASTERS, C.O. 1970. Sea Turtles. Ward's Bull., 10 (70); 1 & 5.
General account of sea turtle biology, largely of C. mydas.
- McATEE, W.L. 1934. The loggerhead. Nature Mag., 21 - 22.
Notes that depredations of man and hogs are much more important than natural predators.
- McDIARMID, R.W. 1978. Amphibians and Reptiles. vol. 3, pages 1 - 74 in Pritchard, P.C.H. (Series Editor), Rare and Endangered Biota of Florida, Univ. Fla. Press.
Status accounts of sea turtles.
(See also Lund, 1978).
- McFARLANE, R.W. 1963. Disorientation of loggerhead hatchlings by artificial road lighting. Copeia 1963; 153.
Describes conditions on a developed nesting beach and behaviour of hatchlings attracted by road lighting and killed by cars.
- McGEHEE, A. 1978. Factors affecting the hatching success of loggerhead sea turtle eggs. ASB Bull., 25 (2); 90.
Describes technique for study of moisture content, temperature and salinity around nests of C. caretta in Florida. These factors are thought to influence hatching success.

- MCMURTRAY, J.D. 1983. Hatching success of eggs remaining in loggerhead sea turtle nests partially depredated by raccoons. ASB Bull., 30 (2); 71.
Not seen
- MEDEM, F. 1958. Informe sobre reptiles Colombianos II. Bol. Mus. Cienc. Nat. vols 2 & 3 (1957,1957); 13-15.
Not seen
- MEDEM, F. 1962a. Tortugas marinas. Sucesos Mag., 285; 6 pages.
Popular account of species, particularly C. caretta and D. coriacea, on Colombia's Caribbean coast and of human predation and destruction. (In Spanish)
- MEDEM, F. 1962b. Estudio sobre tortugas marinas. Corp. Auton. Regional de Los Valles del Magdalena y del Sinu, Informe sobre la Comision Real. en la Costa Atlantica; 12 pages.
(In Spanish) In the study area between Cabo San Agustin and Boca del Rio Buritaca, Caretta nested April to August, C. mydas from August to October, E. inbricata all year and Dermochelys from March to July, with peak nesting in May. Leatherbacks nested between Naranjo, Cabo San Juan de Guia and Cabo de Vela, also near Acanti on the Gulf of Uraba. Some biological data is given. Because of declining catches, Colombian turtle fishermen are moving to Panama.
- MEDEM, F.J. 1965a. Bibliografia comentada de reptiles Colombianos. Rev. Acad. Colomb. Cienc. Exact. Fis. Nat., 12 (47); 299 - 346.
Not seen.

- MEDEM, F. 1965b. Informe sobre migracion reproduction y comportamiento de la tortuga marina "Gogo" o "Caguamo" (Caretta caretta caretta). Corp. Auton. Regional de Los Valles del Magdalena y del Sinu; 12 pages. (In Spanish)
Reports that C. caretta is not common. A few nest on the mainland beaches. Some general biological information is given.
- MENDONCA, M.T. 1979. Growth rate of immature green Chelonia mydas and loggerhead Caretta caretta sea turtles in the wild. Amer. Zool., 19 (3); Abstract 512, page 953. For both species, taken from Mosquito Lagoon, Florida, growth rates were slower in the wild than previously reported from captivity. Chelonia averaged 3.24 cm and Caretta 6.15 cm per year. In the lagoon, Caretta of any size class grew at a faster rate than Chelonia and the tentative age of maturity in this habitat is predicted at 13 - 15 years for Caretta and 30 years for Chelonia.
- MENDONCA, M.T. 1981. Comparative growth rates of wild immature Chelonia mydas and Caretta caretta in Florida. J. Herpetol., 15 (4); 447 - 451.
(See Mendonca 1979).
- MENDONCA, M.T. & EHRHART, L.M. 1978. Preliminary findings of population structure and movements in a lagoonal sea turtle Cheloniidae population. ASB Bull., 25(2); 74.
Movements of juvenile C. mydas and C. caretta were studied in Mosquito Lagoon, Florida, using photographic and ultrasonic tracking techniques. Average size of greens was less than 20 kg, loggerheads less than 80 kg. Lagoon is an important developmental habitat.

- MENDONCA, M.T. & EHRHART, L.M. 1982. Activity, population size and structure of immature Chelonia mydas and Caretta caretta in Mosquito Lagoon, Florida. Copeia 1982; 161 - 167.
- All green turtles were immature, 40% of individuals sampled weighed less than 20 kg, almost all Caretta were immature, only 6% heavier than 80 kg, indicating that Mosquito Lagoon was an important developmental habitat. Both species were present throughout the year, Chelonia was more vulnerable to net capture in the warmer months. The role of developmental habitats in the life history of both species is examined.
- MENDOZA, F. 1966. Mercado de tortugas marinas en el Caribe Mexicano. Inst. Nac. Invest. Biol. Pesq. Bol. del Programa Nac. Mercado de Tortugas Marinas, 1 (3); 1 - 2.
- Not seen
- MEYLAN, A.B. 1978. The behavioural ecology of the West Caribbean green turtle (Chelonia mydas) in the internesting habitat. M.Sc. Thesis, Univ. Florida, Gainesville, 131 pages.
- See Meylan, 1982a.
- MEYLAN, A.B. 1982a. Behavioral ecology of the west Caribbean green turtle (Chelonia mydas) in the internesting habitat, pages 67 - 80 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
- Study at Tortuguero, Costa Rica,; the longshore waters off the nesting beach are occupied for up to 3 months of each reproductive cycle. 26 female C. mydas were tracked after emergence from the sea to nest. Most travelled parallel to the shore, within the 24 m

contour line, up to 10.1 km from the nest site. Turtles normally left the nesting area within 24 hrs, maximum travel speed recorded was 4.5 km hr^{-1} , with mean continuous travel speeds of 2 km hr^{-1} . Turtles held course independently of current systems.

MEYLAN, A.

1982b. Sea turtle migration - evidence from tag returns, pages 91 - 100 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

Tagging has provided evidence of periodic travel between foraging grounds and nesting beaches. There is evidence of group migration in some species. Tag return data show average travel speeds of 20-40 km day⁻¹ sustainable for long periods, also migration against currents.

MEYLAN, A.

1982c. Estimation of population size in sea turtles, pages 135 - 138 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

Population censusing is important in conservation where data is needed on population stability and on the effectiveness of management practices. The most feasible approach is to monitor nesting females on beaches, but multi-year sampling is essential because of large annual fluctuations in nesting arrivals.

MEYLAN, A.B., BJORNDAL, K.A. & TURNER, B.J. 1983. Sea turtles nesting at Melbourne Beach, Florida, II. Post-nesting movements of Caretta caretta. Biol. Conservation, 26; 79 - 80.

Recaptures of 34 Caretta tagged at Melbourne Beach, Florida, indicate post-nesting dispersal to foraging grounds in the Bahamas, Cuba, Dominican Republic, US eastern seaboard, Florida Keys and Gulf of Mexico.

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Most distant recovery was that in the Dominican Republic at 1,500 km. Travel against the Gulf Stream suggested by recapture on north coast of Cuba. This was 11 days after tagging and required a minimum speed of travel of 70 km day^{-1} , the most rapid migratory speed reported for Caretta. 14 of the 34 turtles were caught incidentally to fishing for other marine species.

MEYLAN, A. & MACK, D. (In press) Sea turtles of the West Indies - a vanishing resource. Trinidad Nat. Mag.

Not seen

MILSOM, W.K. 1975. Development of bouyancy control in juvenile Atlantic loggerhead turtles, Caretta caretta caretta. Copeia 1975; 758 - 762.

Study of growth and swimming ability in loggerhead hatchlings; details given of care in captivity, including diet and control of diseases. Control over bouyancy and ability to dive is developed gradually over several days.

MITTERMEIER, R.A. 1971a. Turtle motif in Panama. Int. Turtle & Tortoise Soc. J., 5 (1); 22 - 25. Describes carvings of C. mydas, and decoys used in the turtle fishery in Panama.

MITTERMEIER, R.A. 1971b. Status of the market in southeastern Mexico. Int. Turtle & Tortoise Soc. J., 5 (3); 15 - 19. Reports on commercial importance of E. imbricata and several freshwater species offered for sale.

MOLL, E.O. 1979. Reproductive cycles and adaptations, pages 305 - 331 in Harless, M. & Morlock, H. (Editors), Turtles: Perspectives and Research, Wiley & Sons, 695 pages.

Not seen

- MONROE, R.M. 1898. The green turtle, and the possibilities of its protection and increase on the Florida coast. Bull. U.S. Bur. Fish., 17; 273 - 275.
Discusses occurrence in region of C. mydas, also brief mention of loggerhead and hawksbill. Notes that lagoons are important juvenile feeding habitat, and importance of protecting nesting females. C. mydas nests May to August, laying 130 - 180 eggs per clutch, with incubation taking 10 - 12 weeks.
- MONTOYA, A.E. 1966. Programa nacional de marcado de tortugas marinas. Inst. Nac. Invest. Biol. Pesq., 14; 1 - 39.
(In Spanish) Largely concerned with Pacific coast of Mexico resources of L. olivacea, but brief mention of L. kempfi in Tamaulipas.
- MONTOYA, A.E. 1969. Programas de investigacion y conservacion de las tortugas marinas en Mexico, pages 34 - 53 in Marine Turtles, IUCN Publ. New Series, Suppl. Paper No. 20; 100 pages.
(In Spanish) At 97°50' W, 23°10' N in Barra de Calabazas in Tamaulipas, where L. kempfi nests principally from April to June. There is a closed season for capture of turtles in the Gulf of Mexico and Caribbean Sea from May 1st to August 31st. A map is given showing capture sites in the Gulf of Mexico of turtles tagged at Barra Calabazas.
- MONTOYA, A.E. & VARGAS, E. 1968. Marcado de tortuga lora, Lepidochelys kempfi (Garman) en la costa de Tamaulipas. Inst. Nac. Invest. Biol. Pesq., 11 (2); 1 - 11.
(In Spanish) 323 L. kempfi tagged while nesting on 17 km beach from Barra de Tordo to Barra San Vicente from April to June, 1968. 9 turtles renested at intervals of 1 - 46 days, 9 turtles tagged in previous years were also recorded.

- MORREALE, S.J., RUIZ, G.J., SPOTILA, J.R. & STAUDORA, E.A. 1982. Temperature-dependent sex determination: current practices threaten conservation of sea turtles. Science, 216; 1245 - 1247. Temperature determines sex of hatchling C. mydas. Cold and cool nests (less than 28° C) produced almost no females (0 -10%) and warm, thermostable nests (greater than 29.5° C) produced almost all females (95 - 100%). A few intersex hatchlings were produced at lower temperatures. This occurs also in C. caretta and L. olivacea. Turtles do not possess heteromorphic sex chromosomes. The middle third of development is the critical time for sex determination.
- MORRIS, Y.A. & OWENS, D.W. 1982. Corticosterone and stress in sea turtles. Amer. Zool., 22; abstract 587. Data given indicates that all ages of sea turtles have an active adrenal cortex which responds to a diversity of stimuli by increasing the secretion of corticosterone.
- MORRIS, Y.A., OWENS, D.W. & McVEY, J.F. 1981. Testosterone in the immature Kemp's ridley sea turtle. Amer. Zool., 21 (4); abstract 289, page 962. Describes the evaluation of sex ratio by testosterone radioimmunoassay in a captive headstarted population of Kemp's ridley.
- MORTIMER, J.A. 1976. Observations on the feeding ecology of the green turtle, Chelonia mydas, in the western Caribbean. M.Sc. Thesis, Univ. Florida, Gainesville, 100 pages. See Mortimer, 1981.

- MORTIMER, J.A. 1981. The feeding ecology of the west Caribbean green turtle (Chelonia mydas) in Nicaragua. Biotropica, 13; 49 - 58.
Stomach contents of 243 subadult and adult C. mydas taken from foraging grounds off eastern Nicaragua, showed that Thalassia testudinum accounted for 78.9% dry weight. Turtles grazed youngest growth at bases of blades and avoided blades encrusted with epiphytic plants or animals. Remaining food items were other seagrasses 9.7%, algae 8.3%, benthic substratum 1.8%, animal matter 1.4%. In the northern part of Nicaragua Thalassia was 90% of diet, while fleshy red algae predominated in southerly parts of foraging range. Turtles migrating between feeding and nesting grounds consumed greater amounts of Syringodium filiforme, red algae and terrestrial plant debris. Differences were not apparent in diet of the two sexes.
- MORTIMER, J.A. 1982a. Factors influencing beach selection by nesting sea turtles, pages 45 - 51 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Largely concerned with beaches of Ascension Island, but reviews literature on edaphic and biotic factors influencing beach selection. Turtles nest in all types of sand, so grain size is not important to selection. Biotic factors such as predation on eggs and hatchlings and interspecific competition among females have probably been more important in determining world-wide nesting patterns than the geological characters of the beaches.
- MORTIMER, J.A. 1982b. The feeding ecology of the sea turtles, pages 103 - 109 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Four of the 5 genera are carnivorous, and there is

little data on diets for Dermochelys, Lepidochelys, Eretmochelys or Caretta. Diet of C. mydas is better known as it forages seagrasses, or occasionally on algae. Stomach contents of 243 turtles from Nicaraguan foraging grounds showed Thalassia 80% of dry weight. Turtles graze bases of Thalassia to get youngest growth, remaining food items were other seagrasses 10%, algae 8%, benthic substrate 2%, animal matter 1%. No difference was noted between diets of the two sexes.

- MOULTON, J.M. 1963. The recapture of a marked leatherback turtle in Casco Bay, Maine. Copeia 1963; 434 - 435. Describes travelling habits of a small group of leatherbacks, one previously tagged. Travelling range over a given period of time appears to be small.
- MOUNT, R.H. 1975. The reptiles and amphibians of Alabama. Auburn Printing Co., 347 pages. Lists D. coriacea in Alabama waters.
- MOWBRAY, L.S. & CALDWELL, D.K. 1958. First record of the ridley turtle from Bermuda, with notes on other sea turtles and the turtle fishery of the islands. Copeia 1958; 147 - 148. Specimen of L. kempfi caught at sea. Turtle fishing is not organised; a few greens, some hawksbills taken for food; Caretta frequent, Dermochelys occasional. Possible nesting by Chelonia at Warwick in 1955.
- MOYA, R. 1979. La tortuga, recurso recuperado. Technica Pesquera, 11 (124); 21 - 28. (In Spanish) Information on Mexican turtle distribution on Atlantic and Pacific coasts, the state of exploitation and national regulations. Notes on turtle culture techniques included.

- MROSOVSKY, N. 1967. How turtles find the sea.
Science J., 3 (11); 52 - 57.
New born turtles reach the sea quickly and efficiently by taking the most direct path. Describes a series of experiments designed to determine the stimulus responsible for this. The turtle arena test showed that brightness differentials between land and sea horizon was the primary factor, and that turtles could appreciate this through the wide field of view afforded by the position of their eyes. Cloudiness had an unfavourable effect on orientation.
- MROSOVSKY, N. 1968. Nocturnal emergence of hatchling sea turtles: control by thermal inhibition of activity. Nature, 220 (5174); 1338 - 1339.
Experiments conducted at Bigisanti, Suriname, showed that activity of hatchlings was inhibited by sand temperatures above 28.5°C. It is suggested that this serves to keep emerging hatchlings in the nest until after dark when beach sand temperatures are lower and that this reduces potential predation.
- MROSOVSKY, N. 1970. The influence of the sun's position and elevated cues on the orientation of hatchling sea turtles. Anim. Behaviour, 18 (4); 648 - 651.
During tests on the sea-finding ability of hatchling C. mydas and E. imbricata, a reaction to sun's position was indicated by a deviation from the shortest route to the sea. When cues on the horizon were cut off, turtles were disorientated. Sea-finding orientation depends on a relatively simple tropotactic reaction.
- MROSOVSKY, N. 1971. Black vultures attack live turtle hatchlings. Auk, 88 (3); 672 - 673.
Reports that Coragyps atratus attacks and kills live hatchlings of D. coriacea during the not uncommon daytime emergences.

- MROSOVSKY, N. 1972a. Spectrographs of the sounds of leatherback turtles. Herpetologica, 28 (3); 256 - 258.
Sounds include sighs and sharp belches. The leatherback wails, groans, roars and bellows when attacked. Suggests auditory communication is possible at mating. The sound of breaking waves is within auditory range and possibly used in island finding or in locating the sea.
- MROSOVSKY, N. 1972b. The water-finding ability of sea turtles, behavioural studies and physiological speculations. Brain, Behav. & Evol., 5 (2-3); 202-225.
Field experiments with hatchling green sea turtles show that a positive phototropotaxis will account for many aspects of their ability to find the sea after emerging from the nest.
- MROSOVSKY, N. 1977. Individual differences in the sea finding mechanism of hatchling leatherback turtles. Brain, Behav. & Evol., 14 (4); 261 - 273.
Hatchling D. coriacea in Suriname showed differences in orientation ability during sea finding behaviour; this suggests different visual powers.
- MROSOVSKY, N. 1980. Thermal biology of sea turtles. Amer. Zool., 20; 531 - 547.
Discusses the role of temperature in the determination of sex in embryos, duration of incubation, emergence from the nest, activity, growth, survival, hibernation, internesting interval and distribution of sea turtles. Methods of measuring temperature in adults are considered in detail. Attention is paid to whether temperature determined sexual differentiation has adaptive value.

MROSOVSKY, N.

1981. Plastic jellyfish.

Marine Turtle Newsletter, 17; 5 - 7.

Data given that 44% of adult non-breeding leatherbacks examined had plastic in their stomachs. In some cases death was directly attributable.

MROSOVSKY, N.

1982. Sex ratio bias in hatchling sea turtles from artificially incubated eggs. Biol. Conservation, 23; 309 - 314.

Experiments conducted in Suriname showed that artificial incubation of eggs of C. mydas above ground in styrofoam boxes resulted in a 23% drop in number of hatchlings with ovaries, compared to clutches left in natural beach conditions. Styrofoam boxes were 1 - 1.5° C cooler than sand on the beach at nest depth and thus responsible for masculinization. The use of styrofoam boxes may not be desirable in conservation of sea turtles.

MROSOVSKY, N.

1983a. Ecology and nest site selection of leatherback turtles. Biol. Conservation, 25; 47 - 56.

Dermodochelys often nests where eggs are destroyed by high tides. Poor nest site selection was up to 40% in the Guianas and appears to be related to beach topography. Sparse tree lines and lagoons on the landward side of the nesting areas make sea-finding difficult for hatchlings if nests are dug too far from the sea. Suggests that the leatherback adopts a scatter nesting strategy that ensures at least some nests will be sited appropriately. Relocating eggs of 'doomed' nests may not be good conservation if this puts back into the population genes favouring poor nest-site selection.

- MROSOVSKY, N. 1983b. Conserving sea turtles.
British Herp. Soc., London, 176 pages.
General - Book.
- MROSOVSKY, N. & CARR, A. 1967. Preference for light of short wave lengths in hatchling green turtles, Chelonia mydas, tested on their natural nesting beaches. Behavior, 28 (314); 217 - 231.
Turtles preferred blue and green stimuli to red. When used singly these stimuli were more effective than the red in distracting the hatchlings on their way to the sea. Preference was due to a response to light of high or increasing intensity and-or to light of shorter wavelength.
- MROSOVSKY, N. & FRITCHARD, P.C.H. 1971. Body temperature of Dermochelys coriacea and other sea turtles. Copeia 1971; 624 - 631.
Egg temperatures and body temperatures of green, leatherback and ridley turtles were measured for nesting turtles in Suriname and French Guiana. Egg temperatures averaged 30.6°, 29.7° and 28.7°C for leatherback, green and ridley respectively. Offshore sea temperatures were 27.5° C and up to 1.25°C higher in the shallows. Leatherbacks offshore the nesting beach may be more than 3°C than their surrounding environment.
- MROSOVSKY, N. & SHETTLEWORTH, S.J. 1968. Wavelength preferences and brightness cues in the water finding behaviour of sea turtles. Behavior, 32 (4); 211 - 257.
A preference for light of short wavelength was found and the factor of brightness manipulates the hatchling's preference for light. Movement towards the most open area was dependent on simultaneous appreciation of intensities by both eyes.

- MROSOVSKY, N. & SHETTLEWORTH, S.J. 1975. On the orientation circle of the leatherback turtle, Dermochelys coriacea. Animal Behaviour, 23 (3); 566 - 591.
Hatchling D. coriacea tested at Bigisanti, Suriname, showed circling behaviour when moving from nest to sea. These orientation circles were more frequent in overcast weather or rain. No explanation is provided for this behaviour which differs from the straight path movements normally made by C. mydas.
- MROSOVSKY, N. & SHETTLEWORTH, S.J. 1982. What double tagging studies can tell us. Marine Turtle Newsletter, 22;11-15. Double tagging aids in obtaining more tag returns and also enables estimates of tag loss. Formulae are provided for this and for the estimation of remigration rates.
- MROSOVSKY, N. & YNTEMA, C.L. 1980. Temperature dependence of sexual differentiation in sea turtles: implications for conservation. Biol. Conservation, 18; 271 - 280.
A change of 1 - 2° C in incubation temperature can make a considerable difference to the sex ratio of hatchlings. Incubation of eggs in styrofoam boxes may result in masculinizing turtle populations, which has implications for current hatchery and conservation practices.
- MULVILLE, D. 1960. Trade winds and Turtles. Putnam & Co. Ltd., London, 248 pages.
Book - describes sailing to Aves Island and catching turtles.
- MURPHY, J.B. & COLLINS, J.T. 1980. Reproductive biology and diseases of captive turtles. SSAR Contrib. Herp., No. 1. Chapter on commercial breeding of sea turtles, with data on disease control.

- NAVID, D. 1982. Conservation and management of sea turtles: a legal overview, pages 523 - 535 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Reviews national and international legislation and conventions for sea turtle conservation. Many regulations listed. National legislation is often unsatisfactory and requires coordination throughout the region. Future legal requirements to better conserve turtles, their eggs and their habitats are suggested.
- NECK, R.W. 1978. Occurrence of marine turtles in the lower Rio Grande of south Texas, U.S.A. (Reptilia, Testudines). J. Herpetol., 12 (3); 422 - 427. Notes that the Geologist R.A.F.Fenrose reported the presence of large green turtles, 3 - 4 ft long, laying eggs on the sandy shore of the Rio Grande, Texas. Identification uncertain, but probably C. mydas. Nesting in riparian habitat is unusual.
- NEILL, W.T. 1958. The occurrence of amphibians and reptiles in salt water areas, and a bibliography. Bull. Mar. Sci. Gulf & Caribb., 8; 1 - 97.
Review of worldwide occurrence of C. mydas, E. imbricata, C. caretta, L. olivacea, L. kempfi and D. coriacea. Gives nesting beaches, diet, foraging habitat data for each species and some brief discussion of utilization.
- NEILL, W.T. & ALLEN, R. 1959. Additions to the British Honduras herpetofaunal list. Herpetologica, 15; 235 - 240. Notes the numerous islands and reefs should provide turtle nesting habitat. C. mydas present in fishery, Caretta most prominent, Eretmochelys once produced large amount of shell, Dermochelys not reported.

- NELLIS, D.W. & SMALL, V. 1982. Mongoose predation on sea turtle nests. (In preparation - quoted in Small, 1982).
- NICEFORO, M. 1953. Tortugas marinas de Colombia. Boln. Inst. La Salle, 40 (192/193); 1 - 9. (In Spanish)(Quoted by Chavez & Kaufmann, 1974) A male L. kempfi, 678 mm long, in the Museo La Salle, Bogota, was collected by Sr. Giacometto in Boquilla, east of Cartagena, July 1952. The determination was confirmed by Nedem (1965).
- NIETSCHMANN, B. 1971a. The exploitation of hawksbill turtles, east coast of Nicaragua: results and recommendations from a preliminary study. MS submitted to Dept. Recursos Nat. Ren.Min. Agric. Ganad., Managua, Nicaragua. Eretmochelys in danger of extermination due to human predation. 1971 survey from Set Net Cays to King Cay showed about 15,000 eggs destroyed in one month, 90,000 for the entire coast. Probably only 5% of eggs laid survive; 50 - 60% of adult females which nested were caught and killed. Some netting and harpooning occurs also. High fishing pressure due to high price of shell, eggs, meat and calipee. Recommends a complete ban on hawksbill fishing for three years to avoid complete collapse of the resource.
- NIETSCHMANN, B. 1971b. Hunting and fishing focus among the Miskito Indians, eastern Nicaragua. Human Ecology, 1 (1); 41 - 67. Study of the Miskito Indians of eastern Nicaragua showed that the coastal area they exploited had the largest feeding grounds of C. mydas in the Western Hemisphere, dominated by Zostera and Thalassia. The green turtle was the major source

of meat and turtling was concentrated on feeding grounds up to 28 miles from the village. About 819 C. mydas taken 1968 - 1969, yielding about 76,860 lbs of butchered meat, or 70% of meat consumed. 2,055 lbs of hawksbill meat used also. Changing exploitative patterns were observed in the Miskito society when a commercial company was established to trade in turtle products.

- NIETSCHMANN, B. 1971c. The destruction of the fauna of the Atlantic coast of Nicaragua. Collected papers on Vanishing Species and Societies, Nicaragua, Dept. Geogr. Univ. Michigan.
- Not seen
- NIETSCHMANN, B. 1973. Between land and water, the subsistence ecology of the Miskito Indians. Seminar Press, New York.
- Popular account of work in Nicaragua on the Miskito Indians and their utilization of sea turtle resources.
- NIETSCHMANN, B. 1974. When the turtle collapses, the world ends. Natural History, 83; 34 - 43.
- Not seen
- NIETSCHMANN, B. 1975a. Following the underwater trail of a vanishing species: the hawksbill. Nat. Geogr. Soc. Res. Repts., 1972.
- Report on research programme in Nicaragua with methodology and summary of findings.
- NIETSCHMANN, B. 1975b. Protecting endangered and depleted fauna in Nicaragua. Collected papers on Vanishing Species and Societies, Dept. Geogr. Univ. Michigan.
- Not seen

- NIETSCHMANN, B. 1975c. Who will kill the last turtle ?
Collected papers on Vanishing Species and
Societies, Dept. Geogr. Univ. Michigan.
Not seen
- NIETSCHMANN, B. 1977. Memorias de Arrecife Tortuga. Historia
natural y economica de las tortugas en el Caribe
de America Central. Geogr. Dept. Univ. Michigan,
Serie Geogr. y Naturaleza, No. 2; 258 pages.
(In Spanish) Book - on turtle biology and
socioeconomics of the Miskito Indians of
Nicaragua, Much detailed description of turtle
resources, plus extensive quotation from earlier
published works.
- NIETSCHMANN, B. 1979a. Caribbean edge. The coming of modern times
to isolated people and wildlife. Bobbs-Merrill
Co., 280 pages.
Book - describes research among the Miskito
Indians on east coast of Nicaragua. Emphasises
the damage done to these people and the turtle
resource when harvesting for subsistence was
replaced by over-exploitation for foreign trade.
Space devoted to turtling techniques and to the
history and importance of turtles in this part
of the Caribbean.
- NIETSCHMANN, B. 1979b. Ecological change, inflation, and migration
in the far western Caribbean. The Geogr. Review,
69 (1); 1 - 24.
Describes the traditional turtle fishery of the
Miskito 'Indians' and the changes brought about
by the establishment of 3 turtle processing
companies starting in 1969. From 1969 - 1976 up
to 10,000 green turtles were exported each year.
With this sudden rise in human predation on the
Miskito Banks reduction in population became
evident.

NIETSCHMANN, B.

1982. The cultural context of the turtle subsistence hunting in the Caribbean and problems caused by commercial exploitation, pages 439 - 445 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. The diverse cultural patterns that once linked indigenous coastal and island societies to sea turtles are mostly gone. Colonisation has reduced indigenous people and commercial exploitation has reduced turtles. Some fishing communities exist, faced with two potentially dangerous situations - the loss of sea turtles through over exploitation or through their protection by prohibitive legislation.

NMFS

1978a. Critical habitat of endangered and threatened fish and wildlife: proposed determination of critical habitat for the leatherback sea turtle. Nov. 29, 1978. Office of Marine Mammals and Endangered Species, National Marine Fisheries Service, Washington.

NMFS

1978b. Listing and protecting loggerhead sea turtles as "threatened species" and populations of green and olive ridley sea turtles as threatened species or "endangered species", July 28, 1978. Office of Marine Mammals and Endangered Species, National Marine Fisheries Service, Washington.

NMFS

1978c. National Plan for the Recovery and Management of Marine Turtles, preliminary draft June 15th, 1978. National Marine Fisheries Service, Washington.

Lists species and major nesting beaches and drafts a plan for recovery of populations.

- NYE, W. 1886. Fish and fishing at Abaco Island.
U.S.Fish. Comm. Bull., 6; 125 - 126.
Fishery statistics given including mention
of sea turtles.
- OGDEN, J.C., ROBINSON, L., WHITLOCK, H., DAGENHARDT, H. & CEBULA, R.
1983. Diel foraging patterns in juvenile green
turtles (Chelonia mydas L.) in St. Croix, US
Virgin Islands. J. Exp. Mar. Biol. Ecol., 66;
199 - 205.
Not seen
- OGREN, L.H. 1962. Notes on sea turtles of Louisiana, paper
to 12th. Ann. Meet. Amer. Soc. Ichths. Herps.,
S.E.DIV., Ocean Springs, Mississippi, Oct, 1962.
Not seen
- OGREN, L.H. 1977. Survey and reconnaissance of sea turtles
in the northern Gulf of Mexico. National Marine
Fisheries Service, Panama City, Florida, 8 pages.
Aerial survey of nesting beaches May - August
1977 from Florida to Texas. Notes incidental
nesting of Atlantic ridley north of its primary
rookery at Rancho Nuevo from 1968 - 1976. Some
scattered Caretta nesting also from 1942 - 1962.
1977 census showed paucity of turtle sign. Notes
that northern Gulf nesting is sparse because
coastal habitat may be unsuitable.
- OGREN, L.H. & EKBERG, D.R. 1978. National Marine Turtle Management
Program, page 61 in Henderson, G.E. (Editor),
Proc. Florida & Interregional Conf. on Sea Turtles
24 - 25 July, 1976, Jensen Beach, Florida, Fla.
Mar. Res. Publ., No. 33; 66 pages.
Three species have been placed on the list of
endangered species, L. kempi, E. imbricata and

D. coriacea, and C. mydas, C. caretta and L. olivacea are proposed for inclusion on the threatened species list. The National Marine Fisheries Service management plan is scheduled to last approximately 10 years. Short term goals of assessment of non-directed mortality and of prototype trawl development will be completed as soon as possible. Habitat and population modeling will begin the first year. Since most critical habitat and incidental catch areas are in the S.E. Region, the program will initially focus in this region.

OGREN, L.H. & McVEY, C. 1982. Apparent hibernation by sea turtles in North American waters, pages 127 - 132 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

Reports, that need confirmation, of overwintering by hibernation of turtles at Cape Canaveral and in the Gulf of Mexico at the same latitude of 29° N. These include C. mydas and L. kempfi at Cedar Key, Florida. Hibernation is apparently a response to low water temperature and dormancy occurs below 15° C. The lower lethal temperature appears to be below 8° C.

OGREN, L.H., WATSON, J.W. & WICKHAM, D.A. 1977. Loggerhead sea turtles Caretta caretta encountering shrimp trawls. Marine Fisheries Review, 39 (11); 15 - 17. Observations by SCUBA divers show that one turtle evaded the trawl, 2 tried to outdistance but tired and got caught. Suggest use of an excluder panel.

- OLIVIERA, J.P.H. 1951. De nota previa sobre a fauna e flora marinha bentonica de Ilha de Trindade. Mem. Inst. Oswaldo Cruz, 49; 443 - 456.
Notes that loggerheads use beach areas on Trindade Island.(In Portuguese)
- OWENS, D.W. 1974. A preliminary experiment on the reproductive endocrinology of the green sea turtle (Chelonia mydas). Proc. World Maricult. Soc., 5; 215 -231.
A preliminary hormone forcing experiment is described using C. mydas at Cayman Islands Farm. Immature Chelonia injected with gonadotropin induced marked hypertrophy of testicular and epididymal tissue. Testosterone, proprionate and estradiol-dipropionate treatment groups showed striking development of 1ry and 2ry sexual characters.
- OWENS, D.W. 1976. Endocrine control of reproduction and growth in the green sea turtle Chelonia mydas. Ph. D. Thesis, University of Arizona, 109 pages.
Five endocrine physiology experiments are described working on green turtles at Cayman Turtle Farm. The project goals were to contribute to comparative endocrinology of this unusual reptile and develop a physiological understanding which might benefit the conservation and culture of this endangered species.
- OWENS, D.W. 1977. More on the tag loss problem. Marine Turtle Newsletter, 3; 8.
Large loss of tags in Cayman Turtle Farm, 35 out of 120 due to corrosion of cross pieces of monel metal tags. Notes loss of plastic tags less than 5%; but this was in confined tank situations.

OWENS, D.W.

1980a. Studies of behavioural thermoregulation in hatchling sea turtles. Amer. Zool., 20; Abstract 190, page 763.
In gradients of 26.5° - 33° C and 28.5° - 36.8°C hatchling green turtles chose 29.1° day and 30.0° C night and 30.2° day and 31.0° C night respectively; temperatures which greatly exceed surface water temperatures in suspected drift areas. Increases in weight and length were significantly higher in hatchlings raised at 31° C as opposed to 28° - 25° C. There is some indication that higher temperatures are needed for normal metabolism.

OWENS, D.W.

1980b. The comparative reproductive physiology of sea turtles. Amer. Zool., 20; 549 - 563.
Preliminary anatomical and endocrinological studies have provided a basis for explaining several of the unusual biological systems of sea turtles. In C. mydas and L. olivacea, the female has a very massive pair of simultaneously functioning ovaries, and thus appears similar to other chelonians. Corpora hemorrhagica, corpora lutea and corpora atretica from active ovaries are described. Ovulation coincides with a luteinizing hormone and progesterone surge. Sperm are probably stored for the season after a single mating period which appears to occur prior to the first ovulation.

OWENS, D.W.

1981. Sea turtles face extinction today. Marine Education, 2 (2); 3 - 4, 7.
General account of sea turtle biology, their utilization, and efforts by US scientists to conserve and resuscitate turtle populations.

OWENS, D.W.

1982. The role of reproductive physiology in the conservation of sea turtles, pages 39 - 44 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

A technique for sex determination in juveniles is described, based on testosterone levels. A number of other techniques in physiology that may be of use to conservation are - hormone radioimmunoassay, blood sampling, X-ray photography, laparotomy, hormone manipulation and electroejaculation. These techniques can be used without damage to turtles.

OWENS, D.W. & GERN, W.A. 1982. The pineal gland and melatonin in sea turtles, in Lofts, B. (Editor), IXth Int. Symp. on Comparative Endocrinology.

Not seen

OWENS, D.W., GERN, W.A. & RALPH, C.L. 1978a. The effects of pinealectomy and sham pinealectomy on serum melatonin in the green sea turtle. Amer. Zool., 18; Abstract 338, page 625.

Experiments are described which indicate that pineal melatonin is primarily released at night and that sham pinealectomy greatly alters the melatonin secretion dynamics of C. mydas.

OWENS, D.W.

1978b. A physiological model to control cyclic reproductive events in the green sea turtle. Herpetologist's League, Tampa Meeting, H-7. Mating and nesting in C. mydas occurs predictably during spring and summer in both hemispheres, except at the equator where nesting takes place throughout the year. A possible "zeitgeber" for migration may be subtle photoperiod changes;

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these would require a very sensitive physiological monitoring system. Possibly the pineal complex and one of its secretions, melatonin, may provide such a sensitive system. The pineal body is large, serum and cerebrospinal fluid titers of melatonin have pronounced diurnal rhythms with levels increasing 100 - 200% at sunset. The length of night dictates the amount of melatonin secreted which may be monitored as an index of time of year. This annual clock may be modulated by state of nutrition and recent thermal history. Further support for this model is the low melatonin levels in mating and nesting females during the spring.

OWENS, D.W., GERN, W.A. & RALPH, C.L. 1980. Melatonin in the blood and cerebrospinal fluid of the green sea turtle, Chelonia mydas. Gen. Comp. Endocrinol., 40 (2); 180 - 187.

A pronounced diurnal rhythm of melatonin content was evident in both serum and cerebrospinal fluid. Adult females that were mating or nesting exhibited the lowest serum levels measured for this species.

OWENS, D.W., GRASSMAN, M.A. & HENDRICKSON, J.R. 1982. The imprinting hypothesis and sea turtle reproduction. Herpetologica, 38; 124 - 135.

Experiments, designed to test the hypothesis that sea turtles learn characteristic components of their natal beach early in life, are hampered by other aspects of life histories. In Caretta a food preference is acquired with an olfactory component, but food imprinting does not occur and this preference is lost. Imprinting on chemical cues has not been

demonstrated satisfactorily. Authors suggest that Hendrickson's 'social facilitation model' warrants increased consideration, for some populations. This hypothesis supposes that first-time nesters follow experienced adults to the nesting beach which they 'learn' by olfactory and navigation systems.

OWENS, D.W. & HENDRICKSON, J.R. 1978. Endocrine studies and sex ratios of the green sea turtle, Chelonia mydas, pages 12 - 14 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ. No. 33; 66 pages. Experiments conducted at Cayman Turtle Farm, using a radioimmunoassay for serum testosterone, an accurate method for sexing immature sea turtles by predicting males, was developed. Sex ratios of turtles incubated and reared at the farm all differed significantly from the 1:1 ratio.

OWENS, D.W., HENDRICKSON, J.R. & ENDRES, D. 1979. Somatic and immune responses to bovine growth hormone, bovine prolactin and diethylstilbestrol in the green sea turtle. Gen. Comp. Endocrinol., 38; 53 - 61.

Not seen

OWENS, D.W., HENDRICKSON, J.R., LANCE, V. & CALLARD, I.P. 1976. Testosterone in the immature sea turtle, response to bovine FSH and as a sexing technique. Amer. Zool., 16; Abstract 258, page 438. Problems of sexing immature reptiles, in this case sea turtles, can be overcome by measuring testosterone levels by radioimmunoassay before and after injection of FSH. Testosterone levels give 97% accuracy in sexing, while FSH injection can give 100% accuracy.

OWENS, D.W., HENDRICKSON, J.R., LANCE, V. & CALLARD, I.P. 1978. A technique for determining the sex of immature Chelonia mydas using a radioimmunoassay.

Herpetologica, 34; 270 - 273.

Immature C. mydas can be sexed reliably by assaying plasma testosterone levels. Because only males had detectable levels of testosterone in the serum, they were readily distinguishable from females.

OWENS, D.W., HENDRICKSON, J.R. & OWENS, M.A. 1977. Somatic effects of growth hormone, prolactin and diethylstilbestrol in the green sea turtle, Chelonia mydas. Northwest Regional Comp. Endocrinologists Soc.

Not seen

OWENS, D.W. & RUIZ, G.J. 1980. New methods of obtaining blood and cerebrospinal fluid from marine turtles.

Herpetologica, 36; 17 - 20.

Blood is obtained via the paired dorsal cervical sinuses; cerebrospinal fluid by insertion of a needle through the foramen magnum into brain ventricle 4. Both methods used extensively by the authors cause little stress or damage to the turtles.

PADILLA, R.R.

1974. Generalidades sobre la pesqueria de tortugas marinas en Isla Mujeres, Q.Roo.

Inst. Nac. Pesca, Serie Divulg. 7; 9 pages.

(In Spanish) Reports nesting areas, nesting season and area of capture of C. mydas, C. caretta, E. imbricata and D. coriacea in Quintana Roo giving also market and conservation data and mapping the nesting sites.

- PARKER, G.H. 1926. The growth of turtles.
Proc. Nat. Acad. Sci., 12 (7); 422 - 424
 Turtles grow rapidly but growth varies. Caretta
 from Florida at hatching weighed 20 g and at
 4.75 months 800 g, at 3 years 19 kg. Time to
 reach maximum of 500 lbs not known.
- PARKER, G.H. 1929. The growth of the loggerhead turtle.
Amer. Nat., 63 (687); 367 - 373.
 Reports on growth and weight of captive
 adult and hatchling loggerheads from Key
 West, Florida. C. caretta 20 g at hatching,
 4.8 cm carapace length; at 4.5 years weighed
 37 kg, 63 cm long and 50 cm wide carapace.
- PARRISH, F.K. 1958. Miscellaneous observations on the
 behaviour of captive sea turtles. Bull. Mar.
 Sci. Gulf & Caribb., 8 (4); 348 - 355.
 Reports observations on behaviour of 4 species
 of sea turtles at Marineland, Florida, over
 4.5 month period. There was no aggression,
 definite respiratory patterns were shown,
 varying degrees of territoriality also. There
 is discussion of feeding, sleeping, swimming
 and other behavioural aspects.
- PARSONS, J.J. 1956. San Andres and Providencia.
Univ. Calif. Publ. Geogr., 12 (1); 84 pages.
 Reports nesting of C. caretta and fishery for
E. imbricata on the Colombian islands of San
 Andres and Providencia. Notes that these coral
 atolls have supported a hawksbill fishery for
 more than 100 years.
- PARSONS, J.J. 1962. The green turtle and man.
 Univ. Florida Press, 126 pages.
General- book. Detailed historical survey of
 western Atlantic region, book
 considers zoogeography, ecology,
 life history & economics of
C. mydas.

- PARSONS, J.J. 1972. The hawksbill turtle and the tortoise shell trade. Etudes de Geogr. trop. Offer. a Pierre Gourou, pages 45 - 60.
Detailed historical review of the hawksbill turtle shell trade.
- PERCHARDE, P.L. 1974. Underwater observations on Conus erminus. Born 1778 in Trinidad and Tobago. Verh. Natur. Gesell. Basel, 84 (11); 501 - 509.
Caretta caretta is a predator in shallow water on Conus erminus.
- PHILIBOSIAN, R. 1976. Disorientation of hawksbill turtle hatchlings, Eretmochelys imbricata, by stadium lights. Copeia 1976; 824.
A short report on disorientation, and - or disruption of the ability of hatchlings of Eretmochelys to utilize brightness cues to locate the sea, by artificial sources adjacent to nesting beaches. Observation at the stadium in Frederiksted, St. Croix, US Virgin Islands.
- PHILIBOSIAN, R. & YNTEMA, J.A. 1977. Annotated checklist of the birds, mammals, reptiles and amphibians of the Virgin Islands and Puerto Rico. Information Services, US Virgin Islands.
Gives presence or nesting records for Mona, Monita, the rest of Puerto Rico, St. Thomas, St. John, Anegada, and St. Croix of green, hawksbill, loggerhead, leatherback and olive ridley.
- PHILLIPS, E.J. 1972. 100 to 1
Int. Turtle & Tortoise Soc. J., 6 (2); 23.
Not seen

- PHILLIPS, E.J. 1978. Raising hatchlings of the leatherback turtle, Dermodochelys coriacea. Brit. J. Herpetol. 5; 667 - 668.
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- PICKETT, J. & TOWNSON, S. 1980a. Political problems for the Cayman Turtle Farm: which way conservation ? Brit. Herpetol. Soc. Bull., 1; 18 - 20.
Not seen
- PICKETT, J. & TOWNSON, S. 1980b. Are sea turtles threatened by some conservationists ? Brit. Herpetol. Soc. Bull., 2; 12 - 14.
Not seen
- PINNER, E. 1967. Orientierungs-und navigationsprobleme der Karibischen suppenschildkrote, Chelonia mydas. Naturwiss. Runsch., 20 (12); 530 - 531.
Not seen
- POND, R.F. 1972. The white sea turtle. Int. Turtle & Tortoise Soc. J., 6 (3); 6 - 8.
Not seen
- POPE, C.H. 1939. Turtles of the U.S. and Canada. Alfred Knopf, New York, 343 pages.
General - book. All species are described, with data on behaviour and habitat.
Extensive bibliography.
- PRITCHARD, P.C.H. 1964. Turtles of British Guiana. J. Brit. Guiana Mus., 39; 19 - 45.
Not seen - more detailed account given in Pritchard 1966 & 1969f.

- PRITCHARD, P.C.H. 1966. Sea turtles of Shell Beach, British Guiana. Copeia 1966; 123 - 125.
Records Lepidochelys olivacea, E. imbricata, C. mydas and D. coriacea at Shell Beach, Guyana. Nesting not observed for Lepidochelys or Eretmochelys, but measurements obtained from shells found on the beach. Nesting was seen of C. mydas and dead Dermochelys were found. Interviews with temporary Amerindian dwellers confirmed the presence of turtles.
- PRITCHARD, P.C.H. 1967a. To find the ridley.
Int. Turtle & Tortoise Soc. J., 1 (4); 30-35, 48.
Not seen
- PRITCHARD, P.C.H. 1967b. Living turtles of the world.
T.F.H. Publications, 288 pages.
General - book. Descriptions and illustrations of sea turtle species on pages 196 - 208.
- PRITCHARD, P.C.H. 1968. Report on Warana Sea-turtle Programme. The Ark Underway; 2nd Rept. World Wildl. Fund, 1965 - 67. WWF, Switzerland, 177 - 179, 277.
Reports a grant from World Wildlife Fund to buy entire seasons egg production from Eilanti Beach, Suriname, of L. olivacea. 300,000 eggs purchased, placed in a hatchery and many young released to the sea. In the following season nests were marked but not disturbed.
- PRITCHARD, P.C.H. 1969a. Summary of World sea turtle survival situation. IUCN Bull., 2 (11); 90 - 91.
The national situation is stated for Costa Rica, Suriname, Guyana, French Guiana and Mexico. International conservation and research requirements are discussed.

- PRITCHARD, P.C.H. 1969b. Report on sea turtle survival situation in the Guianas, pages 17 - 18 in Marine Turtles, IUCN Publ. New Ser. Suppl. Pap. No. 20; 100 pages. In Guyana, leatherbacks nest on beaches at Punta Playa; several species at Leguan Island, Tiger Island, 63-beach, Father's Beach, Papaya Beach, Suddie Beach, Turtle Beach, Mahaica-Mahaicony. Shell Beach in the NW District is the most important, with Dermochelys nesting in early months, Chelonia from March to July, Lepidochelys in June and July, and Eretmochelys until late August. Recommends that Shell Beach become a sanctuary. In French Guiana, the largest nesting population of Dermochelys in the hemisphere is centered on Silebache, which also supports nesting of Chelonia and Eretmochelys.
- PRITCHARD, P.C.H. 1969c. Studies of the systematics and reproductive cycles of the Genus Lepidochelys. Ph. D. Thesis Univ. Florida, Gainesville , 196 pages.
- Not seen
- PRITCHARD, P.C.H. 1969d. The survival status of ridley sea turtles in American waters. Biol. Conservation, 2 (1); 13 - 17.
- L. olivacea shows diffuse nesting at Shell Beach, Guyana, nesting also in Suriname; present in the sea from Natal, Brazil, to Cumana, Venezuela.
- L. kempfi which only nests in the southern part of Tamaulipas, Mexico, should be safe if existing protection schemes can be continued.

- PRITCHARD, P.C.H. 1969e. Sea Turtles of the Guianas.
Bull. Fla. State Mus., 13 (2); 85 - 140.
Summarizes investigations of nesting beaches in Guyana during 1964, 1965 and 1967, in Suriname during 1966 - 1968 and French Guiana in 1967. C. mydas, E. imbricata, D. coriacea and L. olivacea nest in Guyana, particularly at Shell Beach. The same species nest in Suriname, although E. imbricata is rare. L. olivacea sometimes forms huge nesting aggregations at Eilanti, and individuals nest there in successive years. D. coriacea, C. mydas and probably E. imbricata nest in large numbers in French Guiana, particularly at Silebache. Survival and conservation of sea turtles in northern South America is discussed.
- PRITCHARD, P.C.H. 1971a. The leatherback or leathery turtle, Dermochelys coriacea. IUCN Monograph, No. 1; 39 pages.
General - Synopsis. Gives taxonomy, common names, descriptions, diet, breeding range, nesting, clutch size, eggs, injuries, hatchlings, mortality, migrations, parasites and commensals, and world population estimates.
- PRITCHARD, P.C.H. 1971b. Sea turtles in French Guiana, pages 38 - 40 in Marine Turtles, IUCN Publ. New Ser. Suppl. Pap. No. 31; 109 pages.
Most important nesting ground for Dermochelys in French Guiana, and one of the most important in the world, is situated between Point Isere

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and the Organabo River. The name Silebache is used by local people. Peak nesting months appear to be May to July, when up to 300 leatherbacks nest in a night. Tagging programmes indicate that turtles re-nest at intervals of about 10 days and may nest 7 or 8 times within a season. Some turtles tagged in Suriname later nested at Silebache. C. mydas and L. olivacea were moderately common at Silebache, C. caretta was seen once and E. imbricata 2 - 3 times. Legislation gives total protection from 1st May to 31st July, during period of most intensive breeding, although this is not enforced. Minor mortality of nesting females from entrapment in driftwood, a few killed for shark bait or by jaguars. Minor egg collection by Carib Indians, probably not more than 3 - 4%. Large numbers of eggs lost to beach erosion or by later turtles digging them up. A transplantation programme is suggested to overcome this problem.

PRITCHARD, P.C.H.

1973. International migrations of South American sea turtles, Cheloniidae and Dermochelidae. Anim. Behav., 21 (1); 18 - 27.
Tag recapture studies revealed that green turtles nesting on Suriname beaches are primarily recruited from feeding locations near the State of Ceara, Brazil, while olive ridleys after nesting in Suriname spread out over 3,800 km off the coast of northern South America. One recovery of a Suriname leatherback was made off the coast of Ghana.

- PRITCHARD, P.C.H. 1976a. Post-nesting movements of marine turtles (Cheloniidae and Dermochelyidae) tagged in the Guianas. Copeia 1976; 749 - 754.
Six recoveries of leatherbacks tagged in the Guianas were from the United States, Mexico, Venezuela and Ghana, which rank among the longest migrations made by any species of turtle. 72 ridley recaptures were from Barbados, Trinidad, Isla Margarita,†Amapa, Brazil. 91 green turtles were recovered, all but one from Brazil and most from the states of Ceara and Alagoas, where they mingle with Ascension Island turtles.
- PRITCHARD, P.C.H. 1976b. Endangered species. Kemp's ridley turtle. The Florida Naturalist; 15 - 19.
Account of biology, of Carr's search for the 'bastard turtle' and the Rancho Nuevo conservation programme.
- PRITCHARD, P.C.H. 1978. The ridley story, part II. The Florida Naturalist; 10 - 12.
Completion of article by Pritchard, 1976b.
- PRITCHARD, P.C.H. 1979a. Encyclopedia of Turtles.
T.F.H. Books.
Revised and expanded version of Pritchard, 1967b.
General - book.
- PRITCHARD, P.C.H. 1979b. Head starting and other conservation techniques for marine turtles, Cheloniidae and Dermochelyidae. Int. Zoo Yearbook, 19; 38 - 42.
Not seen

- PRITCHARD, P.C.H. 1980. The conservation of sea turtles: practices and problems. Amer. Zool., 20; 609 - 617.
Reviews techniques for conservation and for restoration of depleted sea turtle populations. These are - banning international commerce; operating artificial hatcheries, on natural beaches or with styrofoam incubators; headstarting; protection of nesting females by beach patrols; translocation of eggs or hatchlings to replenish or introduce. Suggests should pursue logically sound restoration programmes and constantly monitor and review these.
- PRITCHARD, P.C.H. 1981a. Criteria for scientific evaluation of head-starting. Marine Turtle Newsletter, 19; 3 - 4.
Proof of efficacy of 'head-starting' for sea turtle restoration requires - demonstration that these animals have a greater chance of becoming part of the breeding population than natural hatchlings; demonstration that this is most cost effective way of restoring populations; and this must be demonstrated for each species.
- PRITCHARD, P.C.H. 1981b. Report on United States/ Mexico conservation of Kemp's ridley sea turtle at Rancho Nuevo, Tamaulipas, Mexico, 1980. Prelim. Rept. on US Fish & Wildl. Contract 14-15-0002-80 - 216, Albuquerque, N.M., 42 pages.
Not seen
- PRITCHARD, P.C.H. 1982a. Nesting of the leatherback turtle, Dermochelys coriacea, in Pacific Mexico, with a new estimate of world population status. Copeia 1982; 741 - 747.
Reports the largest known nesting concentration

of Dermochelys on the Mexican Pacific coast. Preliminary estimate of the size of this population combined with available information from other populations in French Guiana and Caribbean Costa Rica gives a new world estimate of 115,000 mature females. Endangered status is still considered justified due to maintained severe stress on all major populations.

PRITCHARD, P.C.H.

1982b. Recovered sea turtle populations and U.S. Recovery Team efforts, pages 503 - 511 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

Recovery of a sea turtle population is always protracted and requires virtually complete protection. The U.S. National Marine Fisheries Service with Fish & Wildlife Service, SE Region, established a Sea Turtle Recovery Team to write a recovery plan to delineate the tasks necessary for restoring all sea turtle populations in the southeast to a status not requiring their designation as endangered or threatened species. Activities of this team are discussed. There is some evidence that populations of C. caretta in the region are recovering, but this may be misleading as natural fluctuations do occur.

PRITCHARD, P.C.H.,

BACON, P.R., BERRY, F.H. et al. 1982. Sea turtle manual of research and conservation techniques.

Western Atlantic Turtle Symposium, IOCARIBE, San Jose, Costa Rica, (1st Edition), 95 pages.

General manual - gives techniques for species identification, habitat description, survey, conservation, hatcheries, headstarting, captive culture.

PRITCHARD, P.C.H. & GREENHOOD, W.G. 1968. The sun and the turtle.
1968. Int. Turtle & Tortoise Soc. J., 2; 20 -25.

Not seen

PRITCHARD, P.C.H., GREENHOOD, W.G. & POONAI, N.O. 1967. Memorandum regarding sea turtle conservation in Guyana. Minister of Agric. & Nat. Res. Guyana, 2 pages. Sporadic nesting of C. mydas, D. coriacea, L. olivacea and E. imbricata occurs on beaches throughout Guyana. Only site of concentrated nesting is Shell Beach. Here evidence from field visits in 1964, 1965 and 1967 indicates that the degree of human predation is not compatible with their continued existence. Propose the area from Shell Beach to Kamwatta Beach declared a complete wildlife refuge. This protection should be for a fixed period to allow necessary recovery of populations, after which controlled, sustained exploitation may be allowed.

PRITCHARD, P.C.H. & MARQUEZ-M., R. 1973. Kemp's ridley turtle or Atlantic ridley, Lepidochelys kempi. IUCN Monograph, 2; 1 - 30 General-Synopsis. Gives taxonomy, common names, description, diet, reproduction, breeding range, nesting, renesting, clutch size, eggs, incubation, fertility, injuries, hatchlings, mortality, migration parasites, commensals, and stocks assessment.

PUERTO RICO 1944. Fishery Bull. Div. Fish. Wildl. Conserv. Dept. Agric. Commerce of Porto Rico, January. Summary of fisheries legislation, including those regulations covering sea turtles.

- PUTNEY, A.D. 1979. List of Parks and Protected Areas of the Caribbean. Eastern Caribbean Natural Area Management Program, 5 pages.
Provides a list of reserve areas, many of which include sea turtle nesting and foraging grounds. Although not specifically mentioned, this gives an indication where full and incidental protection is given to turtles.
- RABALAIS, S.C. & RABALAIS, N.N. 1980. The occurrence of sea turtles on the south Texas coast. Contrib. Marine Science, 23; 123 - 129.
Results of a 3 year survey of south Texas beaches indicate that sea turtles are stranded most frequently in April-May and November, and most often on Mustang Island and northern Pedro Island. Strandings increased from 1976 - 1979. C. caretta was most common, majority sub-adults. Information on strandings, occurrence and life history in Texas waters is given for L. kempfi, E. imbricata, D. coriacea and C. mydas.
- RADCLIFFE, V. 1972. Conservation of the Caribbean carapace. The American Way, Dec. 1972; 32 - 35.
Popular account of sea turtle biology and conservation problems in the Caribbean area based largely on the work of the Island Resources Foundation and their "Project carapace" data gathering expeditions.
- RAGOTZKIE, R.A. 1959. Mortality of loggerhead turtle eggs from excessive rainfall. Ecology, 40; 303 - 305.
2 of 17 nests marked at a site on Sapelo Island, Georgia, 1955 - 1957, produced hatchlings. Heavy rain in September probably killed embryos. In a nesting season, May to July, eggs laid after 1st July likely to be destroyed by September rains.

RAINEY, W.E.

1974. Report on poaching on the Isla Aves Faunal Preserve (1971-1974). Island Resources Foundation, St. Thomas, 5 pages.

Isla Aves declared a Faunal Preserve by a Presidential Decree No. 1069, August 23rd, 1972. Reports visits by poachers in November, 1871, a yacht from St. Lucia and fishing vessel from the French islands; September 1972 a trading schooner from Anguilla took 40 turtles and returned in October with two other vessels; August 1973 a large fishing boat from the French islands took turtles, a fishing trawler from St. Lucia took 5 turtles; March 1974 marks on the beach indicated several turtles taken.

RAINEY, W.E.

1975a. A guide to natural history observation on Isla Aves. Island Resources Foundation, St. Thomas, 8 pages.

Isla Aves is the site of the last remaining major green turtle nesting aggregation in the eastern Caribbean. The Guide describes vegetation, seabird colonies and terrestrial invertebrates. Principally C. mydas nests at Aves. The report includes a map giving tag returns from Puerto Rico, Martinique, St. Lucia, Grenada and Venezuela.

RAINEY, W.E.

1975b. The green sea turtle nesting aggregation at Aves Island, Eastern Caribbean. Research Project Synopsis, Island Resources Foundation, St. Thomas, 3 pages.

Outlines plans for research of 1975 nesting season, the first when a significant proportion of previously tagged C. mydas are expected.

- RAINEY, W.E. 1976(?). Preliminary report on sea turtles in the United States Virgin Islands. Ms Island Resources Foundation, St. Thomas, 23 pages. Reviews human impact on sea turtle habitats and gives nesting data on Dermochelys, Chelonia, and Eretmochelys in St. Croix, St. Thomas and St. John with reports on L. olivacea and Caretta at sea. Nesting records are from 1968 to 1976.
- RAINEY, W.E. 1977. Tagging at Aves Island, Venezuela. Marine Turtle Newsletter, 2; 6 - 7. Tagging has been carried out at Aves Island since 1971. Tag loss through failure of monel metal cattle ear tags is a major problem. Corrosion and opening of the clenched tip occur, corrosion being most prevalent at the sharp, deformed corners. Suggests redesign to remove sharp edges from closure end.
- RAINEY, W.E. 1981. Guide to sea turtle visceral anatomy. NOAA Tech. Memo., NMFS-SEFC-82, U.S. Dept. Commerce; 82 pages. A laboratory manual giving general recommendations for dissection and photographs illustrating the anatomy of C. mydas, C. caretta, L. olivacea and D. coriacea, adults and hatchlings.
- RAINEY, W.E. & PRITCHARD, P.C.H. 1972. Distribution and management of Caribbean sea turtles. Wildl. Manag. Inst., Washington, & Caribb. Res. Inst.; 17 pages. General review - Detailed discussion of status of sea turtles in the Caribbean region.

- RAMIREZ, E. 1975. Contribucion al conocimiento de "la tortuga Gogo", Caretta caretta caretta (L), en la costa norte Colombiana. Operacion Tortuga Marina, 1974 - 1975, Proyecto Parques Nacionales y Vida Silvestre, INDERENA; 51 pages.
(In Spanish) Detailed study of D. coriacea, E. imbricata, C. mydas, L. kempí and C. caretta. The first 4 have diminished considerably, only Caretta being fairly common. Caretta shows most nesting between June and July, with 45 days incubation. Much biological data provided, particularly on Caretta.
- RAMOS, P.R. 1974. Generalidades sobre la pesqueria de tortugas marinas en Isla Mujeres, Q. Roo. Inst. Nac. Pesca, Serie Divulg., 7; 1 - 8.
Not seen
- RANDALL, J. 1965. Grazing effects on sea grasses by herbivorous reef fishes in the West Indies. Ecology, 46 (3); 255 - 260.
Notes grazing of sea grass beds by C. mydas, and expresses the opinion that the immense productivity of sea grass beds can be truly appreciated if measures are taken to restore the population of C. mydas to its former pre-colombian level.
- RANDALL, J.E. & SCHROEDER, R.E. 1962. New underwater park. Sea Frontiers; 1 - 10.
Describes Buck Island Reef National Monument, Virgin Islands, proclaimed a park December 1961. Green turtle nesting occurs, green and hawksbill turtles present on the reef.

- RAY, C. & SPRUNT, A. 1971. Parks and conservation in the Turks and Caicos Islands. 45 pages.
Brief notes on sea turtle nesting areas which may be included in proposed reserves.
- REBEL, T.P. 1974. Sea turtles and the turtle industry of the West Indies, Florida and the Gulf of Mexico. Univ. Miami Press, Coral Gables, Florida, 250 pp.
General review (Update of Ingle & Smith, 1949)
Gives taxonomy, description, distribution, growth, habitat, diet, breeding habits, migration, details of fishing methods and products given by country.
- REBELL, G., RYWLIN, A. & HAINES, H. 1975. A herpesvirus type agent associated with skin lesions of green sea turtles in aquaculture. Amer. J. Vet. Res., 36 (8); 1221 - 1224.
A herpesvirus isolated from skin lesions on C. mydas is described; details of pathology and suggested treatment are given.
- REBELL, G., RYWLIN, A. & ULRICH, G. 1974. Coccidiosis in the green turtle (Chelonia mydas) in mariculture. Proc. 5th. Ann. Workshop World Maricult. Soc.
Gives symptoms, diagnosis and control of a coccidian intestinal protozoal infection on C. mydas at Cayman Turtle Farm. Disease and associated mortality appeared 30 days after hatching and in 60 days spread through the batch of hatchlings. Symptoms were emaciation and lethargy, also impaction of the gut.

REICHART, H.A.

1978. Green turtle ranch pilot project
Matapica, Suriname. Marine Turtle Newsletter,
7; 5.

August 1977 facilities established at Matapica field station of the forest service, to raise newly hatched C. mydas in captivity. This project aimed to 'headstart' for release to sea at age of lowest mortality; to mark and thus study migrations; to eliminate use of fossil fuel in hatchery work; to improve diet and hatchery techniques. Overall it seeks to investigate the feasibility of commercial turtle farming in Suriname.

REICHART, H.A.

1982. Farming and ranching as a strategy for sea turtle conservation, pages 465 - 471 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

Stresses the importance of adjusting conservation programmes to local socioeconomic conditions, especially through providing developing countries with economic motivation to conserve their wild turtle populations. Uses examples from Suriname's green turtle ranching project to show how 'doomed' eggs can be used and headstarted individuals raised in hatcheries to decrease natural mortality and provide jobs, income and conservation education, while benefiting local turtle populations. About 1,000 yearlings are released each year from this feasibility project.

- REIGER, G. 1975. Green turtle farming, a growing debate. Sea Frontiers; 215 - 223.
Background account of turtling in the Cayman Islands, followed by brief presentation of points for and against turtle farming. An account of the Cayman Turtle Farm is presented.
- REINHARDT, J. & LUTKEN, C.F. 1862. Bidrag til det vest indiske origes og naurligen til de dansk-vestindiske oers herpetologie. Videns. Medd. Naturhist. Foren. Kobenhavn; 284 - 290.
(In Danish) Notes that there is no firm evidence of nesting by C. caretta in the Danish West Indies (now US Virgin Islands).
- RICHARDSON, J. 1981. The Georgia management plan for the incidental capture of marine turtles, pages 42 - 44 in Odom, R.R. & Guthrie, J.W. (Editors), Proc. Nongame & Endangered Wildl. Symp., GA, Dept. Nat. Res. Tech. Bull., WL-5.
Incidental capture of turtles is Georgia's greatest management problem. Other management objectives include computerised data storage and retrieval (10,000 nesting records to date), tagging technology and tag recovery record programme, research and conservation projects, law enforcement and public education about sea turtles. These aspects are discussed.
- RICHARDSON, J.I. 1978. Results of a hatchery for incubating loggerhead sea turtle (Caretta caretta Linne) eggs on Little Cumberland Island, Georgia, page 15 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ., No. 33 ; 66 pages.
The Little Cumberland Island loggerhead turtle
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research project has used a hatchery since 1965 as a defence of the eggs against crab, Ocypode, and raccoon, Procyon, predators. This is on a natural dune surrounded by an electrified fence. The hatchery is moved each season. Eggs were transplanted the same night they were laid, hatching success 60%, at least 80,000 hatchlings released since 1965 at 5 - 10 m from the waters edge on the night they emerged.

RICHARDSON, J.I. & HILLESTAD, H.O. 1978. Ecology of a loggerhead sea turtle population in Georgia, pages 22 - 37 in Odom, R.R. & Landers, L. (Editors), Proc. Rare & Endangered Wildl. Symp., GA. Dept. Nat. Res. Tech. Bull., WL-4.

Not seen

RICHARDSON, J.I. & RICHARDSON, T.H. 1982. An experimental population model for the loggerhead sea turtle (Caretta caretta), pages 165 - 176 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. 16 years tag data from Little Cumberland Island, Georgia, used to establish a population model for Caretta. Model predicts annual recruitment (39% nesting females), mean longevity of nesting females (3 years as adults), turnover time of nesting females (6 years). Observed recruitment to the seasonal nesting population appears to be a potentially sensitive indicator of changes in hatchling production, assuming hatchlings return to their natal beach.

- RICHARDSON, J.I., RICHARDSON, T.H. & DIX, M.W. 1978. Population estimates for nesting female loggerhead sea turtles (Caretta caretta) in the St. Andrew Sound area of southeastern Georgia, U.S.A., pages 34 - 38 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ., No. 33; 66 pages.
13 years of data, 1964 - 1976, allows population estimates of 771 (\pm 100) adult females for Little Cumberland Island. Annual nesting population averages 11% of this population.
- RICHARDSON, T.H., RICHARDSON, J.I., RUCKDESCHEL, C. & DIX, M.W. 1978. Remigration patterns of loggerhead sea turtles (Caretta caretta) nesting on Little Cumberland and Cumberland Islands, Georgia, pages 39 - 44 in Henderson, G.E. (Editor), Proc. Florida & Inter-Regional Conf. Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ. No. 33; 66 pages.
453 remigrations of female loggerheads to Little Cumberland and Cumberland Islands from individuals tagged 1964 through 1974. Modal migration interval was 2.5 years, about 3% were one year migrations. One year migration was not recorded for C. mydas. After adjustment for tag loss, an estimated 49% of all turtles tagged have returned.
- REIDMAN, S.R. & WITHAM, R. 1974. Turtles - extinction or survival ? Abelard-Schuman, New York, 156 pages.
Not seen
- RIVERO, J.A. 1978. Los anfibios y reptiles de Puerto Rico. Univ. Puerto Rico, 148 pages.
(In Spanish) Details of exploitation, nesting and general biology of D. coriacea, C. caretta, C. mydas, E. imbricata and L. olivacea in Puerto Rico.

- ROBLES, A. 1976. The endangered hawksbill.
Bull. Chicago Herp. Soc., 10; 6 - 10.
Not seen
- ROOSEVELT, T. 1917. Notes on Florida turtles.
Amer. Mus. Journ., 17; 289 - 291.
Loggerheads seen in bay near Punta Gorda and records shark attacks on adults, causing damage and death. Also escape of turtle from shark by splashing behaviour or hardness of the carapace.
- ROSS, J.P. 1978. Present status of sea turtles. A summary of recent information and conservation priorities, IUCN/WWF Report, March 1978; 46 pages.
Not seen
- ROSS, J.P. 1981. Leatherbacks nesting in the Dominican Republic. Marine Turtle Newsletter, 18; 5 - 6.
1980 survey estimates about 300 leatherbacks nest in Dominican Republic each year and nearly all adults and eggs taken for food. 6 nesting beaches are listed.
- ROSS, J.P. 1982. Historical decline of loggerhead, ridley, and leatherback sea turtles, pages 189 - 195 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Reviews distribution and nesting populations of C. caretta, L. olivacea and D. coriacea. All are known to have declined in numbers. In each species, a large proportion of the extant population is concentrated in a few nesting areas. Total number of large populations is small. Commercial exploitation is major cause.

- ROUTA, R. 1967. Sea turtle survey of Hutchinson Island, Florida. Quart. J. Fla. Acad. Sci., 30; 287 - 294. Largely loggerheads, a few green turtles. Nesting occurs from May to August, with peak at the end of June. In 1967, estimates 5,265 nests with 658, 125 eggs of which 412 with 51,500 eggs were destroyed by natural factors.
- ROZE, J.A. 1955. Las tortugas marinas de Venezuela. Revista Pecuaria, 240; 9 - 11. (In Spanish) Turtle resources have declined considerably so there is no major fishery in Venezuela. Hawksbill turtles are caught incidentally to other fishery and the small amount of shell is largely exported. C. mydas grows to 40 kg, the mating season at Aves Island is from 15th July - 15th October, in the balance of the West Indies it is from May to October. E. imbricata is omnivorous, mating from May to August; Caretta is rare, Dermochelys is occasional.
- RUCKDESCHEL, C., ELLIS, L. & SHOOP, C.R. 1982. Dermochelys coriacea nesting. Herp. Rev., 13 (4); 126.
Not seen
- RUCKDESCHEL, C. & ZUG, G.R. 1982. Mortality of sea turtles, Caretta caretta, in coastal waters of Georgia. Biol. Conservation, 22; 5 - 9.
Not seen
- RUDLOE, J. 1979. Time of the turtle. Alfred Knopf, New York, 273 pages. General biology and fisheries exploitation of turtles, particularly in the southern USA.

- RUIZ, A. 1969. La tortuga verde en Costa Rica. Tecnica Pesquera; 31 - 33.
Gives general ecology, levels of government protection and hatchery operations for C. mydas in Costa Rica. (In Spanish)
- RUIZ, G.J., STANDORA, E.A., SPOTILA, J.R., MORREALE, S.J. CAMHI, M. & EHRENFELD, D. 1981. Artificial incubation of sea turtle eggs affects sex ratio of hatchlings. Proc. Joint Meeting Soc. Study Amphib. Rept. & Herpetol. League, page 68.
Not seen
- RUTZLER, K. & STERRER, W. 1970. Oil pollution: damage observed in tropical communities along the Atlantic seaboard of Panama. Bioscience, 20; 222 - 224.
Reports that an oil spill on the Atlantic coast of Panama killed sea turtles.
- SAHRHAGE, D. 1971. Activities of FAO in the field of marine turtle research and management, pages 95 - 97 in Marine Turtles, IUCN Publ. New Series Suppl. Pap. No. 31; 109 pages.
FAO has made available its machinery, expertise in fishery research, stock assessment and in management; facilitated a tripartite meeting on green turtles between representatives from Costa Rica, Nicaragua and Panama; assisted in data collection; sponsored preparation of a green turtle species synopsis; and is preparing species identification sheets.
- SAND, G.X. 1972. The return of the sea turtle. Int. Turtle & Tortoise Soc. J., 6 (2); 24 - 27.
Describes conservation work in Costa Rica involving egg collection, incubation and hatchery operations and attempts to rear C. mydas using natural foods.

- SCHMIDT, C. 1962. Conservation of sea turtles.
Intern. Zoo Yearbook, 4; 70 - 71.
Not seen
- SCHMIDT, J. 1916. Marking experiments with turtles in the
Danish West Indies. Medd. Komm. Havunders.
Serie Fiskeri, 5 (1); 1 - 26.
Records St. Thomas, St. Jan and St. Croix have
Dermochelys, Caretta, Chelonia and Eretmochelys.
Tortoiseshell in 1870 was 49,332 lbs valued
at £32,503 and 1898 76,760 lbs. One firm sold
100 - 232 lbs each year 1903 - 1913. Good
hawksbill areas were Sail Rock, Little St. Thomas
and Frenchmans Cap, the nesting season from
June to October. Dermochelys nesting March to
May, Chelonia possibly May to October. Marking
experiments showed little migration of C. mydas,
14% recaptures in other parts of islands. Most
specimens caught locally weighed less than 100 lb.
- SCHMIDT, K.P. 1946. Turtles collected by the Smithsonian
Biological Survey of the Panama Canal Zone.
Smithsonian Misc. Colln., 106 (8); 1 - 9.
Annotated list of 10 species of turtles, which
includes sea turtles.
- SCHMIDT, S. & WITHAM, P.R. 1961. In defense of the turtle.
Sea Frontiers, 7 (4); 211 - 219.
Project at Stuart, Florida, began in 1956 to
transplant, hatch and rear C. mydas, C. caretta
and E. imbricata. Also D. coriacea which fed
readily on ripe tomatoes. Prolonged cold weather,
hurricanes, predation, exploitation and coastal
development led to decline of green turtles,
in the Indian River area. Project aims to
restock this area.

- SCHROEDER, R.E. 1966. Buffalo of the sea.
Sea Frontiers; 176 - 183.
Describes how turtles can turn underwater pastures into protein for the expanding and hungry world population. Turtle grass extends from Florida to Brazil and could be harvested as food for turtle farms. Suggests high rate of reproduction makes hatchery management a feasible process in stocks restoration.
- SCHROEDER, W.C. 1931. The turtle industry of Key West, Florida.
Mem. U.S. Bur. Fish., S-239; 1 - 4.
Not seen
- SCHULZ, J.P. 1964. Zeeschildpadden II. Zeeschildpadden in Suriname. Landsbosbeheer, Paramaribo, 44 + 28 pages.
(In Dutch) (Quoted by Schulz, 1975)
- SCHULZ, J.P. 1967. Zeeschildpadden I. Een Literatuurstudie. Revised edition, Landsbosbeheer, Paramaribo, 79 + 15 pages.
(In Dutch) (Quoted by Schulz, 1975).
- SCHULZ, J.P. 1969a. Zeeschildpadden II. Zeeschildpadden in Suriname. Revised edition, Landsbosbeheer, Paramaribo, 106 + 17 pages.
(In Dutch) (Quoted by Schulz, 1975).
- SCHULZ, J.P. 1969b. National situation report re- marine turtles in Surinam ,pages 19 - 33 in Marine Turtles, IUCN Publ. New Series Suppl. Pap. No. 20; 100 pages.
Gives details with maps of colony sites, nesting beaches for L. olivacea, C. mydas, E. imbricata and D. coriacea. Relative abundance of nesting individuals for 1968 season was C. mydas ± 800, L. olivacea 1,000 - 1,500 , D. coriacea ± 40,

E. imbricata less than 5 females. Very little exploitation of rookeries has occurred since 1940, killing ceased 1964, but heavy human predation on eggs continues. Describes the conservation legislation, conservation authority and educational/propaganda projects undertaken.

SCHULZ, J.P.

1970. Nature preservation in Surinam. Meded. Ned. erl. Comm. Intern. Natuur, 20; 22 pages.

Details are given of nature reserves protecting sea turtles at Galibi (proposed) - ca 4,000 ha near mouth of Marowijne River; nesting beaches for C. mydas and L. olivacea, and at Wai-Wai (1961, enlarged 1966) - 53 km of coast and 14,000 ha of mudbanks, with nesting areas of C. mydas, L. olivacea, E. imbricata and D. coriacea.

SCHULZ, J.P.

1971a. Situation report on marine turtles nesting in Surinam, pages 68 - 74 in Marine Turtles, IUCN Publ. New Series Suppl. Pap. No. 31; 109 pages.

Gives details of colony sites, total numbers of nests 1967 - 1970, nest site fixity, reproductive cycles, hatching success, exploitation and conservation. Sale of eggs to the Mariculture Turtle Farm is documented. Notes considerable attrition of Suriname turtles in Brazilian waters.

SCHULZ, J.P.

1971b. Nesting beaches of sea turtles in west French Guiana. Proc. K. Ned. Akad., Wet. Ser. C. Biol. Med. Sci., 74 (4); 398 - 404.

Reports nesting by C. mydas, D. coriacea, E. imbricata and L. olivacea, possible Caretta,

on a beach between the mouths of the Marowijne River and Organabo Creek in French Guiana. Dermochelys nests in very large numbers, and probably for this species this beach is the worlds most important nesting area.

SCHULZ, J.P.

1975. Sea turtle nesting in Surinam. Meded. Nederl. Comm. Intern. Natuur. 23; 143 pages, 28 plates.

General & review. Gives data on nesting beaches, nesting behaviour, clutch size, inter-nesting, breeding cycles, populations, incubation, hatchlings, predation, migrations, exploitation and on conservation.

SCHULZ, J.P.

1982. Status of sea turtle populations nesting in Suriname with notes on sea turtles nesting in Guyana and French Guiana, pages 435 - 437 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.

C. mydas, L. olivacea, E. imbricata and D. coriacea nest frequently in Suriname, C. caretta only recorded once. Main nesting areas are the Galibi Nature Reserve and at Matapica-Krofajapasi; also a few small beaches. Characteristically a continuous westward movement of the shoreline. C. mydas population at 5,000 nesting females in 1976 - 1979, this population feeds off the Brazilian coast. Guyana aerial survey in 1976 showed no tracks, suggests populations have been destroyed. Possibly 15,000 Dermochelys on beach at Les Hattes-Aouarra in 1979 season.

- SCHWARTZ, A. 1954. A record of the Atlantic leatherback turtle (*Dermochelys coriacea coriacea*) in South Carolina. *Herpetologica*, 10; 7.
Reports an immature female of 680 lbs caught in October in South Carolina waters.
- SCHWARTZ, A. & THOMAS, A. 1975. A check-list of West Indian amphibians and reptiles. *Carnegie Mus. N.H. Spec. Publ.No.1*; 216 pages.
Not seen
- SCHWARTZ, F.J. 1977a. Effects of sharksucker, *Echeneis naucrates*, disc on scaled and scaleless fishes and sea turtles. *ASB Bull.*, 24 (2); abstract 84.
Describes experiments with *E. naucrates* which showed this species attached to various fish and sea turtles as a 'parasite picker', eroding skin and muscles.
- SCHWARTZ, F.J. 1977b. Reptilia; testudines; Chelonidae (modern sea turtles), pages 303 - 308 in Cooper, J.E., Robinson, S.S. & Funderburg, J.B. (Editors), *Endangered and Threatened Plants and Animals of North Carolina*. N.C. State Mus. Nat. Hist., Raleigh, N.C.
Lists *Caretta* resident and nesting April - October, *Chelonia* not nesting, *L. kempi* feeding but not nesting, *Eretmochelys* not nesting, *Dermochelys* a single 1966 nesting record.
- SCHWARTZ, F.J. 1978. Behavioural and tolerance responses to cold water temperatures by three species of sea turtles (Reptilia, Cheloniidae) in North Carolina. *Fla. Mar. Res. Publ.*, 33; 16 - 18.
three species, *L. kempi*, *C. caretta* and *C. mydas* exposed to cold water in outdoor tanks during 8 observation periods November - March, 1968 - 1976.

Lethal temperatures were between 5.0 - 6.5° C. Young and hatchling turtles tolerated cold water longer than adults. Survival in lethal cold water was longest in L. kempi, then Caretta and then Chelonia. Observations suggest that survival of turtles is unlikely during long exposure to cold water in northern latitudes.

SCHWARTZ, F.J.

1979 (?). Status of sea turtles, Chelonidae and Dermochelidae, in North Carolina. J. Elisha Mitchell Sci. Soc., 92 (2); 76 - 77.

Reports Caretta on entire coast April -November nesting on shore from April - October; Chelonia does not nest; L. kempi feeds but does not nest; Eretmochelys does not nest; and Dermochelys only recorded nesting once on Cape Lookout, June 1966.

SCHWARTZ, F.J.

1982. Correlation of nest sand asymmetry and percent loggerhead sea turtle egg hatch in North Carolina determined by geological sorting analyses. ASB Bull., 29; 83.

Not seen

SEAMAN, G.A. & RANDALL, J.E. 1962. The mongoose as a predator in the Virgin Islands. J. Mammalogy, 43 (4); 544 - 546.

Reports attempted predation on Chelonia mydas nest on Buck Island, August 1960. Mongoose digging a hole was disturbed. This has been observed by locals previously. Possibly there is also predation on hatchlings. Hawksbills and greens have been continuous nesters since the early 1960's on Buck Island.

- SEAN (Various) SEAN Bulletin. Scientific Event Alert Network, Smithsonian Institution, Washington. Lists marine turtle strandings, largely on United States coastline.
- SEATER, S.R. 1972. World wildlife progress. Int. Turtle & Tortoise Soc. J., 6 (1); 13 - 17.
Not seen
- SEFTON, N. 1974. Now they're farming turtles. Oceans, 7 (5); 34 - 35.
Popular account of farming practices for C. mydas, discusses economics, life history, incubation, artificial feeding and processing of turtle products.
- SEIDEL, W.R. & McVEA, C. 1982. Development of a sea turtle excluder shrimp trawl for the southeast U.S. penaeid shrimp fishery, pages 497 - 502 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Describes development of a sea turtle excluder device for trawls by National Marine Fisheries Service. Gives design, prototypes, summary of field evaluations.
- SEYFERT, F. 1977. The plight of the loggerhead. Sea Frontiers, 23 (1-6); 19 - 22.
Popular account of declining nesting, incidental catch and beach mortality from human predation, of Caretta, mostly in the United States.
- SHABICA, S.V. 1982. Planning for protection of sea turtle habitat, pages 513 - 518 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages.
Two steps are required -(a) identification of

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the habitat on which the resource depends, and (b) elaboration of criteria and implementation of regulations to prevent habitat degradation and to see that habitat improvement will occur. Sea turtle habitat includes beach and ocean areas.

SHABICA, S.V. & STONEBURNER, D.L. 1978. Raccoon predation on sea turtle nests, Canaveral National Sea Shore. ASB Bull., 25 (2); 74.

Predation by Procyon lotor on C. caretta is described and suggestions made for protective management of the turtles.

SHELFER, L.

1978. Florida's enforcement of marine turtle conservation laws, page 65 in Henderson, G.E. (Editor), Proc. Florida & Interregional Conf. Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ. No. 33; 66 pages. Florida marine patrol of 200 officers enforce laws for Department of Natural Resources. Prior to 1953, Florida had enacted laws to protect loggerhead and green turtles, all eggs and nests May through August. Florida Legislature in 1974 passed a law for full protection of all sea turtles year round. Strict law enforcement has increased public awareness and led to decline in violations of sea turtle protection laws.

SHOOP, C.R.

1978. Europium tagging of green sea turtles. Marine Turtle Newsletter, 8; 1 - 2.

Project to develop a suitable tag for hatchling C. mydas that would be recognisable in adults. Europium is not transported across gut barrier but is deposited in heart muscle, liver, kidney and bone. Through neutron activation analysis tagged animals recognisable up to 160 days, but not after two years or individually.

- SHOOP, C.R. & RUCKDESCHEL, C. 1982. Increasing turtle stranding in the southeast United States: a complicating factor. Biol. Conservation, 23; 213 - 215. Increased strandings of dead C. caretta on southeast US shores may result from increased fishing efficiency and improved recruitment of young turtles to the population. The practice of dumping unwanted fish overboard encourages feeding loggerheads which are thus more likely to get caught in trawls. Alternative methods of handling incidental catch should be considered to reduce likelihood of killing turtles.
- SIMON, M.H. 1975. The green sea turtle, Chelonia mydas; collection, incubation and hatching of eggs from natural rookeries. J. Zool.(Lond)., 176 (1); 39 - 48. Describes collection 1971 - 1973 of 188,568 eggs of C. mydas from beaches on Ascension Island, Guyana, Suriname and Costa Rica, for hatching at the Mariculture Ltd., farm on Grand Cayman. Almost all of these eggs came from nests which 'doomed' by tidal wash or volcanic sand so that loss of hatchlings to the wild was small in comparison with the numbers of eggs collected.
- SIMON, M.H., ULRICH, G.F. & PARKES, A.S. 1975. The green sea turtle (Chelonia mydas): mating, nesting and hatching on a farm. J. Zool. (Lond)., 177; 411 - 423. Describes attempts to stock the Mariculture Ltd., turtle farm on Grand Cayman with farm-reared eggs. To establish a breeding colony, collection of adults and progress in breeding to the end of 1973 are documented.

SMALL, E.

1982a. Sea turtle nesting at Virgin Islands National Park and Buck Island Reef National Monument, page 17 in Abstracts of Colloquium on Long-Term Ecological Research in the Virgin Islands, July 27th, 1982. Virgin Islands Nat. Parks, U.S. Dept. Interior, 25 pages.

See Small, V. 1982b. (Author assumed to be same)

SMALL, V.

1982b. Sea turtle nesting at Virgin Islands National Park and Buck Island Reef National Monument, 1980 - 1981. Research/Resources Manag. Rept. Ser-61, U.S. Dept. Interior, Nat. Parks Serv., SE Regional Office, Atlanta, Georgia, 54 pages.

Hawksbills only in Virgin Islands National Park, historic records of D. coriacea and C. mydas. Nesting on 12 of total 31 beaches, season from early July - late October, 1980, early June to December, 1981. Major nest predators mongooses and feral dogs. Mortality factors include high seas and tropical storms. Data given on hatch success, which in 1980 -1981 was 60.2 & 69.9 %. Buck Island had 45 nests, possibly Eretmochelys, predation by mongooses and man.

SMITH, F.G.W.

1950. Recommendations for the protection and rational exploitation of the sea turtles. Proc. Gulf Caribb. Fish. Inst., 1; 114 - 116. Recommends ban on egg taking or females on beaches at all times, limit adult catch to 75 lbs for C. mydas and 25 lbs for E. imbricata. These regulations should be uniform throughout the Caribbean to aid enforcement. Domestic use rather than export should be encouraged. Experimental farms and hatcheries should be set up for research purposes.

SMITH, F.G.W.

1954. Taxonomy and distribution of sea turtles, pages 513 - 515 in Galtsoff, P.S.(Editor) Gulf of Mexico: its origin, water and marine life. U.S. Fish. Bull., No. 89.

Taxonomy, key to identification given for Dermochelys, Caretta, Eretmochelys, Chelonia and Lepidochelys kempfi. Notes that coastal development and heavy fishing have contributed to decline in numbers. Green turtle fishing declined and now mostly concentrated in the Florida Keys, using turtles shipped from Nicaragua and Cayman Islands. C. mydas still nests on the Keys, E. imbricata and C. caretta seen on the Keys, D. coriacea rarely seen in the Gulf of Mexico. Landings of turtles were - Louisiana 1936, 3500 lbs, no catch today; 1890 northern Gulf 90,793 lbs; Florida 1890 468,256 lbs with 50,000 lbs in 1954.

SMITH, H.M. & SMITH, R.B. 1979. Synopsis of the herpetofauna of Mexico, vol 6, Guide to Mexican turtles, Bibliographic Addendum III, John Johnson Publ., North Bennington VT., 1044 pages.

Lists 6 species of sea turtles in Mexican waters; most data on Pacific nesting areas.

SMITH, H.M. & TAYLOR, E.H. 1950. An annotated checklist and key to the reptiles of Mexico exclusive of the snakes. Bull. U.S. Natl. Mus., 199; 1 - 253. Taxonomic treatment, with collection data and some nesting localities of sea turtles. Notes nesting of L. kempfi on Isla Mujeres, Q. Roo.

- SMITH, M.H., HILLESTAD, H.O., MANLOVE, M.N., STRANEY, D.O. & DEAN, J.M.
1978. Management implications of genetic variability in loggerhead and green sea turtles. XIII th Congress Game Biologists; 302 - 312. Records a striking difference in levels of genetic variability in C. caretta populations, from S. Carolina, Georgia and Florida, and in C. mydas populations, from Florida and Grand Cayman Island. This needs explanation and has implications for management of these natural resources.
- SMITH, P.W. & LIST, J.C. 1950. Notes on Mississippi amphibians and reptiles. Amer. Midl. Nat., 53 (1); 115 - 125. Reports specimen of L. kempfi, 69 mm carapace length, found off Chandeleur Island, Louisiana; stomach contained parts of crabs and gastropods.
- SMITH, W.G. 1968. A neonate Atlantic loggerhead turtle, Caretta caretta caretta, captured at sea. Copeia 1968; 880 - 881.
A post-hatchling loggerhead captured within a sargassum raft off Florida. Possible that Caretta juveniles associate with sargassum for shelter from predation, although it is not known whether they stay there exclusively.
- SOLIS, R.M. 1966. Mercado de tortugas marinas en el Caribe Mexicano. Bol. Prog. Nac. Mercado de Tortugas Marinas, 1 (3); 3 pages.
(In Spanish) Describes tagging of C. mydas and C. caretta on mainland Quintana Roo, Mexico. Only small population of nesting females found.

- SOLOMON, S.E. & BAIRD, T. 1976. Studies on the egg shell (oviducal and oviposited) of Chelonia mydas. J. Exp. Mar. Biol. Ecol., 22 (2); 145 - 160.
Describes structure, calcification and composition of green turtle egg shells.
- SOLOMON, S.E. & BAIRD, T. 1977. Studies on the soft shell membranes of the egg shell of Chelonia mydas. J. Exp. Mar. Biol. Ecol., 27 (1); 83 - 92.
As in avian egg shells the soft membranes consist of fibres with electron dense cores and a mantle. The core is homogenously dense in oviposited eggs and pitted in oviducal eggs. The fibres are histochemically a protein-carbohydrate complex.
- SOLOMON, S.E. & BAIRD, T. 1979. Aspects of the biology of Chelonia mydas L. Oceanogr. Mar. Biol. Ann. Rev., 17; 347 - 361.
Lists major nesting sites in western Atlantic as Aves, Tortuguero, Trinidad, Suriname and Ascension. Former rookeries present in the Bahamas, Florida, Dry Tortugas and Cayman Islands have been completely destroyed.
- SOMBERG-HONIG, J.T. 1967. Zeeschildpadden aan de Surinaamse kust i - iii. Panda Nieuws, 4 (2); i-ii, 3-1,4.
(Quoted by Brongersma, 1968, who states that paper deals with turtle beaches of Suriname, "but repeats the erroneous statement that C. caretta breeds in Suriname") (In Dutch).
- SPOCZYNSKA, J.O.I. 1970. Dermochelys coriacea, a challenge. Int. Turtle & Tortoise Soc. J., 4 (1); 24 - 26.
Cultured hatchling Dermochelys in medium of 1 lb Tidman's Sea Salt to 12 gals water at 27.7 - 28.8°C at Dallas Zoo, Texas. Hatchlings fed indifferently at lower temperatures.

- SPOCZYNSKA, J.O.I. 1971. A green turtle study.
Int. Turtle & Tortoise Soc. J., 5(3); 12 - 14.
Describes methods used to maintain 6 hatchling green turtles in captivity. Hatchlings were aggressive, bites treated successfully with gentian violet. Shellfish and crustacea formed the major portion of preferred diet of the hatchlings.
- SPOTILA, J.R. & FOLEY, R.E. 1979. Telemetry of movement and body temperature from green turtles, Chelonia mydas, at Tortuguero, Costa Rica. Amer. Zool., 19; Abstract 658, page 982.
Sonic telemetry used to transmit temperatures of adult green turtles, one free swimming female had deep body temperature 0.7 - 1.0°C higher than water, another was 32.8 - 37.1° C while swimming rapidly in water at 29.1°C. Deep body temperatures are given for females walking on a beach and digging the body pits, and of eggs.
- SPOTILA, J.R., STANDORA, E.A., MORREALE, S.J. & RUIZ de CLARK, G.J. 1981. Effects of incubation temperature on the sex of hatchling Caribbean green turtles.
Final Rept. Rutgers Univ., for sub-grant activity on USFWS Project 14-16-002-80-222; 29 pages.
Not seen
- SPOTILA, J.R., STANDORA, E.J., MORREALE, S.J., RUIZ, G.J. & PUCCIA, C. 1983. Methodology for the study of temperature related phenomena affecting sea turtle eggs. Endangered Species Report, 11; 51 pages. Fish & Wildl. Serv., Albuquerque, N.M.
Methods are given for measurement of temperature and histological identification of sex in

hatchling turtles. Detailed instructions given on the use of thermocouples and thermistors and on the relative merits of various measurement devices and techniques, designed to assist field biologists carry out experiments on natural nesting beaches.

STANCYK, S.E.

1982. Non-human predators of sea turtles and their control, pages 139 - 152 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. Most important egg predators are ghost crabs, Ocypode, and mammals, eg. raccoons, dogs and pigs. Land-based hatchling predators include mammals, birds and crabs. Nearshore aquatic predators are more important, including fish, sharks and some invertebrates. Juveniles and adults taken mainly by sharks, but adult predation is thought to be light. Control methods are discussed. Non-human predation is insignificant compared with other mortality pressures.

STANCYK, S.E., TALBERT, D.R. & MILLER, A.B. 1979. Estimation of loggerhead turtle nesting activity in South Carolina by aerial surveys. Amer. Zool., 19; Abstract 515, page 954.

Concurrent aerial and beach surveys were conducted on the South Carolina coast 1976 - 1978, to verify and standardise aerial countings. Accuracy of the aerial counts increased when observers were experienced, flights early in the morning, fresh tracks only were counted, between flight intervals were less than 5 days.

STANDORA, E.A., SPOTILA, J.R. & FOLEY, R.E. 1979. Telemetry of movement and body temperature data from green turtles, Chelonia mydas, at Tortuguero, Costa Rica. Amer. Zool., 19; Abstract 981, page 657. Multichannel sonic transmitters were attached to 5 adult female green turtles and allowed detection of the animals at distances in excess of 10 km. Temperature sensing devices could be detected at more than 3 km. Data from free swimming turtles and turtles exercised on the beach during day and night, showed maximum body temperature for a swimming individual was 37.1°C, which was 8.0°C higher than the water temperature.

STEDMAN, J.G. 1796. Narrative of a five year's expedition against the revolted negroes of Surinam in Guiana, on the wild coast of South America, from the year 1772 to 1776. Vol. 1. London. (Quoted by Schulz, 1975. States that turtle meat was consumed in the colony of Surinam. Observations of 2 large turtles off Cayenne in January 1773, mention of a turtle called 'calipee' or green turtle and 'caret').

STEJNEGER, L. & BARBOUR, J. 1943. A check-list of North American amphibians and reptiles, 5th. Edition, Bull. Mus. Comp. Zool., 93; 260 pages. Type localities, distribution and range of sea turtles given, pages 209 - 212, for C. mydas, C. caretta, E. imbricata, L. kempi, L. olivacea and D. coriacea.

- STERNBERG, J. 1981. The worldwide distribution of sea turtle nesting beaches. Center for Environ. Education, Washington; 5 pages, 6 maps.
6 maps give major and minor nesting beaches of C. mydas, C. caretta, E. imbricata, L. kempi, L. olivacea and D. coriacea. Supporting text.
- STERNBERG, J. 1982a. Sea turtle hunts throughout the world. Center for Environ. Education, 16 pages.
Includes introduction by J. Frazier on the importance of ecologists taking an economic view of conservation. Report concerned with maps of 'hunts', i.e. the sources of turtles supplied to major markets.
- STERNBERG, J. 1982b. Directory of sea turtle conservation programs in the southeastern U.S. Sea Turtle Rescue Fund, Washington; 1 - 71.

Not seen
- STEVENSON, K. 1979. Saving the turtle.
Newsletter, Caribbean Conserv. Assoc., 1 (19);
9 - 12.
Popular account of work of Environmental Research Projects, a non-profit American and Canadian company looking at hawksbill conservation in Carriacou.
- STICKNEY, R.R. & WHITE, D.B. 1972. Vertebrate aquaculture research under the Sea Grant Program at Skidaway Institute of Oceanography during 1971. Tech. Rept. Series No. 72 -1, Georgia Mar. Sci. Center; 22 pages.
Reviews work on captive culture of a variety of marine species, including C. mydas and C. caretta.

- STICKNEY, R.R., WHITE, D.B. & PERLMUTTER, D. 1973. Growth of green and loggerhead sea turtles in Georgia on natural and artificial diets. Bull. Georgia Acad. Sci., 31; 34 - 37.
Describes use of artificial pelleted food for aquarium culture of C. caretta and C. mydas. Growth rates are compared with turtles fed more natural foods.
- STONEBURNER, D.L. 1980. Body depth: an indicator of morphological variation among nesting-groups of adult loggerhead sea turtles (Caretta caretta). J. Herpetol., 14; 205 - 206.
Not seen
- STONEBURNER, D.L. 1982. Satellite telemetry of loggerhead sea turtle movement in the Georgia Bight. Copeia 1982; 400 - 408.
Movements of 8 loggerheads tracked using transmitters compatible with the NASA Nimbus 6 Satellite. Observations showed satellite telemetry is a viable technique for monitoring movements of larger turtles. Loggerheads are stereotypic between nesting attempts and there was no random wandering while at sea.
- STONEBURNER, D.L. & EHRHART, L.M. 1981. Observation on Caretta c. caretta: a record internesting migration in the Atlantic. Herp. Review, 12; 66.
Not seen
- STONEBURNER, D.L., NICORA, M.N. & BLOOD, E.R. 1980. Heavy metals in loggerhead sea turtle eggs (Caretta caretta): evidence to support the hypothesis that demes exist in the western Atlantic population. J. Herpetol., 14; 171 - 175.
Not seen

- STONEBURNER, D.L. & RICHARDSON, J.I. 1981. Observations on the role of temperature in loggerhead turtle nest site selection. Copeia 1981; 238 - 241.
Behavioural patterns described as sand nuzzling and smelling are common among nesting turtles. Proposed that loggerhead turtles select sites in response to a thermal cue. Abrupt increase of sea sand temperature from 2.05- 3.55°C up a beach stimulated excavation.
- STONEBURNER, D.L., RICHARDSON, J.I. & WILLIAMSON, G.K. 1982. Observations on the movements of hatchling sea turtles. Copeia 1982; 963 - 965.
Biotelemetry experiments at Little Cumberland Island, Georgia, revealed that hatchlings move first out into open water and then doubled back to sheltered inshore locations, such as tidal creeks, in some cases swimming against longshore currents and across converging tidal channels.
- STUART, L.C. 1963. A checklist of the herpetofauna of Guatemala. Misc. Publ. Mus. Zool. Univ. Michigan, 122; 1 - 150.
Lists 5 species of sea turtles.
- STUBBS, T. 1972. Organabo. Int. Turtle & Tortoise Soc. J., 6; 18 - 23.
Popular description of leatherback nesting area in French Guiana and of predation by crabs on hatchlings. Fretey, 1979, comments that there is difficulty knowing which beach Stubbs visited.

- SWEAT, D.E. 1968. Capture of a tagged ridley turtle. Quart. J. Fla. Acad. Sci., 31; 47 - 48. L. kempfi released May 1966 between Barra de las Calabazas and Cachimba, Tamaulipas, Mexico, was captured December 1966 after 212 days after travelling 955 miles. Carapace length had increased by 4 cm.
- SWINGLE, W.E., DAMMANN, A.E. & YNTEMA, J.A. 1969. Survey of the commercial fishery of the Virgin Islands of the United States. Proc. Gulf & Caribb. Fish. Inst., 22; 110 - 121. Sparse notes on the turtle fishery are included.
- TALBERT, O.R., STANCYK, S., DEAN, J.M. & WILL, J.W. 1980. Nesting activity of the loggerhead turtle (Caretta caretta) in South Carolina, 1. A rookery in transition. Copeia 1980; 709 - 718. Nesting activity of Caretta surveyed during 1972 - 1976. A hatchery operated 1973 - 1976 reduced raccoon predation and yielded a higher percentage of hatchlings, predation also reduced by nightly patrols. No correlation between a nesting decline and any specific human activity. Occurrence of dead turtles on the beach was correlated with shrimping activity. The area is undergoing development and management of the Caretta population may explain stabilization of the nesting population from 1976.
- TANGLEY, L. 1980. Rebirth for Mexico's mystery turtle. Defenders, 55 (6); 376 - 386. Well illustrated account of Mexican ridley conservation programme, and a discussion of arribada nesting behaviour.

- THAYER, G.W., ENGEL, D.W. & BJORN DAL, K.A. 1982. Evidence for short-circuiting of the detritus cycle of seagrass beds by the green turtle, Chelonia mydas L. J. Exp. Mar. Biol. Ecol., 62; 173 - 183. Suggests that apart from providing nutrients to the sea turtle, C. mydas, turtle grazing on sea grass and releasing partially digested and enriched faeces effectively reduces the time for decomposition of sea grass beds as opposed to normal procedures.
- THOMPSON, E.F. 1945. The fisheries of Jamaica. Development and Welfare Bull., No. 18; Bridgetown, Barbados. A catch rate of 300 - 600 turtles per year, mostly hawksbills, is recorded, at a total annual value of \$10,000. The stocks show serious decline and a plan for captive culture is suggested.
- THOMPSON, E.F. 1946. The fisheries of British Honduras. Development and Welfare Bull., No. 21; Bridgetown, Barbados. Mention of green turtle in Belize fishery. A small industry, exporting E. imbricata shell also.
- THOMPSON, E.F. 1947. The fisheries of Cayman Islands. Development and Welfare Bull., No. 22; Bridgetown, Barbados. C. mydas largely from Nicaragua and Honduras. Adults now very rare in Caymans. Fishery presently not economic. Special trap net described for E. imbricata, this species on the decline.

- THURSTON, J. 1973. A brief report on turtle nesting on Mona Island. Rept to Nat. Mar. Fish. Serv., 4 pages.
105 nests recorded in 1 mile of beach, possibly hawksbills. Protection is recommended.
- THURSTON, J. 1974. Where birds soar and turtles nest: an expedition to Aves Island. Oceans, 7 (5); 8 - 15. (Part 1)
Not seen
(Part 2, 1975)
- THURSTON, J. 1976. Observations on the ecology of the hawksbill turtle, Eretmochelys imbricata, on Mona Island, Puerto Rico. Proc. 11th Meeting Assoc. Island Mar. Labs. Caribb. July 1976, Abstract.
Hawksbill dominant on Mona Island. 1974 nesting population at least 60 females. Season from May to January, 1975, peak in September. Only other turtle was C. mydas; juveniles abundant.
- THURSTON, J. & WIEWANDT, T.A. 1976. Management of sea turtles at Mona Island. Unpublished rept. to Dept. Nat. Res., Puerto Rico.
Hawksbill nesting on nearly all 7.2 km of beaches on a 32 km coastline. Scattered details of nestings and sightings given, plus suggestion for total preservation. Possible predators are iguanas, the sorsol bird, Margarops fuscatus, yellow-crowned night heron, Nyctinassa violacea, frigate birds, feral pigs and cats.
- TIGHE, S.A. 1981. Grazing of seagrasses by the turtle, Chelonia mydas, in St. Croix, USVI. M.S. Thesis, Fairleigh Dickenson Univ., 39 pages.
Not seen

TIMKO, R.E. & BEBLANC, D. 1981. Radio tracking juvenile marine turtles. Marine Fisheries Review, 43; 20 - 24. A headstarting program for aiding the population recovery of endangered marine turtles has been evaluated by use of radio tracking. Tracking hardware, aircraft installation and procedures are described.

TIMKO, R.E. & KOLZ, A.L. 1982. Satellite sea turtle tracking. Marine Fisheries Review, 44 (4); 19 - 24. A female C. caretta weighing 96 kg was instrumented with a bouyant cylindrical radio transmitter developed jointly by US Fish and Wildlife Service and National Marine Fisheries Service. This was attached to rear edge of carapace with a nylon tether, turtle tracked by NIMBUS 6 satellite system for 8 months 1979 - 1980. Turtle released 20 miles off Mississippi into Gulf of Mexico and travelled west and south to within a few miles of Brownsville, Texas. Total tracking distance exceeded 1,400 miles.

TOVAR, D. 1971. La situacion de las tortugas marinas en la costa Atlantica de Panama. Report to Parques Nacionales y Vida Sylvestre, Recursos Naturales Renouables ; 10 pages.

Not seen

TOWLE, E.L. 1978. Report on sea turtle nesting, sighting, egg and hatchlings for 1978 in the U.S. Virgin Islands and a recommended research methodology for dealing with hatchling disorientation on the beach (with specific reference to leatherback nests at Sandy Point, St. Croix.

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Island Resources Foundation, Report to NOAA/NMFS, USA; 29 pages.

Detailed report giving major nesting beaches with 10 nests or more on St. Croix for Dermochelys Eretmochelys and Chelonia, plus a list of 32 additional nesting beaches, with a map. 24 bays listed as important for nesting on St. Thomas, with nesting mainly July - October. As it is not feasible to screen off lights from beaches, management options are to accept hatchling disorientation mortality, to make nightly patrols to collect disoriented hatchlings or to erect lights near the sea to attract them to water. The last option might disorient the adult females.

TOWNSEND, C.H.

1906. Growth of confined hawksbill turtles. Bull. N.Y. Zool. Soc., 22; 291.

Two E. imbricata from Key West at 60 and 50 lbs at 7 or 8 years old raised in a small salt water pond on seaweed, garden plants and clams.

TOWNSON, S.

1980. Observations and notes on the captive breeding of the green sea turtle (Chelonia mydas) on Grand Cayman, British West Indies. Brit. Herp. Soc. Bull., 1; 11 - 17.

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TRESSLER, D.K.

1923. Marine products of commerce.

Reinhold Publ. Co., New York; 762 pages.

Gives statistics for turtle products from the United States.

TRESSLER, D.K. & LEMON, J.McW. 1951. Marine products of commerce: their aquisition, handling, biological aspects and the science and technology of their preparation and preservation. Reinhold Publ.Co., New York; 782 pages.

C. mydas only turtle commonly eaten, chief fishery is off Key West, West Indies, eastern Nicaragua. Gill nets used from March - September. Eastern Costa Rica fishery mostly turns turtles. Hawksbill chief source of tortoiseshell.

TRUE, F.W.

1884. The fisheries and fishery industries of the United States, Sect. 1. Pt. 2; the useful aquatic reptiles and batrachians. U.S. Comm. Fish. Fish., 1893.

(Quoted by Rebel, 1974, a review giving life history and biological data).

TUFTS, C.E.

1972. Report on the Buritaca Marine Turtle Nesting Reserve with emphasis on biological data from 'Operacion tortuga 1972' and recommendations for the future. Report to INDERENA, Bogota, Colombia; 73 pages.

(Quoted by Schulz, 1975. Tufts reports on experiments with eggs and hatchling loggerheads in Colombia. Hatchlings might be able to perceive light beneath the surface of the sand. Tufts notes that in natural nests the yolksac is internalised before crawling upwards and the membranes are removed by drying and abrasion).

UBEDA, L.

1973. Algo sobre Caleta Grande: quelonios y caimaneros. Mar y Pesca, 93; 28 - 31.

(In Spanish)Report of turtle catching and hawksbill shell collecting, concerned largely with the fishermen.

- ULRICH, G.F. 1978. Incidental catch of loggerhead turtles by South Carolina commercial fisheries. Rept. to N.M.F.S.; 48 pages.
- Not seen
- ULRICH, G.F. & OWENS, D.W. 1974. Preliminary observations on the reproduction of Chelonia mydas under farm conditions. Proc. World Maricult. Soc., 5; 205 - 214.
- Concerns wild caught C. mydas from nesting beaches in Costa Rica, Surinam, Guyana and Ascension Island and the turtle fishing grounds off eastern Nicaragua, which were successful in breeding under farm conditions. Of 11,268 eggs laid, 4,770 produced normal turtles, over 30%.
- ULRICH, G.F. & PARKES, A.S. 1978. The green sea turtle (Chelonia mydas): further observations on breeding in captivity. J. Zool. (Lond.), 185; 237 - 251.
- Mating, nesting and hatching of the green sea turtle on Mariculture Ltd. farm, Grand Cayman, in 1973 recorded. Paper reports similar findings for the 1974 season.
- UNDERWOOD, G. 1960. Dispersal and differentiation of terrestrial faunas in the Caribbean. Proc. 3rd Meeting Assoc. Island Mar. Labs. Caribb., April 1960, Jamaica; 28 pages.
- Notes that the West African form of the ridley turtle (Lepidochelys olivacea) has been reported in Cuba and may occur on other islands.

- UNDERWOOD, G. 1962. Reptiles of the Eastern Caribbean. Caribb. Affairs (N.S.), 1; 192 pages. Gives taxonomic and general descriptions of 6 turtle species nesting or resident in the Eastern Caribbean region.
- UNEP 1979. A strategy for the conservation of living marine resources and processes in the Caribbean Region. Final rept. of IUCN with financial support from WWF. UNEP/CEPAL 1979; 56 pages. Elements mapped in the Caribbean Data Atlas include sea turtles - "data complete and reliable according to best knowledge".
- U.S.DEPT. COMMERCE 1976. Proposed listing of the green sea turtle (Chelonia mydas), loggerhead (Caretta caretta) and Pacific ridley sea turtle (Lepidochelys olivacea) as threatened species under the Endangered Species Act of 1973. NOAA/NMFS, Washington.
- U.S.DEPT. COMMERCE 1978. Final environmental impact statement. Listing and protecting the green sea turtle (Chelonia mydas), loggerhead sea turtle (Caretta caretta) and Pacific ridley sea turtle (Lepidochelys olivacea) under the Endangered Species Act of 1973. NOAA/NMFS, Washington, 144 pages.
- U.S.DEPT. COMMERCE 1979. The latest development in world fisheries (March 1979, part 1). Foreign Fisheries Analysis Division circular; 12 pages. Mexican Government and several cooperative associations operate 13 turtle protection stations in 7 states. The Dept. of Fisheries released 60,000 hatchlings in 1978, compared to an average of 30,000 in previous years.

- U.S.DEPT. COMMERCE 1981. Construction, installation, and handling procedure for the National Marine Fisheries Service Sea Turtle Excluder Device. NOAA Tech. Memo. NMFS-SEFC-71; 12 pages.
Design specifications and handling instructions given on a brochure for the sea turtle excluder device to be attached to the mouth of shrimp trawls to reduce incidental catch.
- U.S.DEPT. INTERIOR 1958-59. Cuba's fishing industry. U.S.Fish Wild. Serv. Comm. Fish MN-1.
Cuba produced 59,997 lbs of turtle meat.
- U.S.DEPT. INTERIOR 1977. Conserving our fish and wildlife heritage. Ann. Rept. FY 1976 U.S.Fish. Wild. Serv.
Merritt Island Refuge includes some of the best sea turtle nesting habitat in the Western Hemisphere. 74 - 75 sea turtle nursery beaches are protected on coastal national wildlife refuges, including Cape Romain and Savannah, South Carolina, and Hobe Sound, Florida.
- U.S.DEPT. INTERIOR 1978, Endangered and threatened wildlife and plants: proposed determination of critical habitat for the leatherback sea turtle. Federal Register, 43 (57).
- U.S.DEPT. INTERIOR 1980. Selected vertebrate endangered species of the seacoast of the United States. Biol. Serv. Prog. Fish Wildl. Serv.
Individual papers on sea turtles-
FWS/OBS-80/01-12 Leatherback sea turtle
-13 Green sea turtle
-22 Hawksbill turtle
-30 Kemps(Atlantic) ridley sea turtle.

- U.S.DEPT. INTERIOR 1981a. Conservation of leatherback turtle habitat, Sandy Point, St. Croix, U.S.Virgin Islands. Fish Wildl. Serv. Environ. Assessment; 44 pages. Sandy Point is primary, remaining nesting area in Virgin Islands. Decline has been due to hunting for eggs and oil for medicinal purposes.
- U.S.DEPT. INTERIOR 1981b. Recovery plan for St. Croix population of the leatherback turtle (Dermochelys coriacea). Fish. Wildl. Serv.; 20 pages. Detailed background information on general biology, distribution, migrations and world nesting areas of D. coriacea. Nesting beaches in St. Croix are listed and reasons for endangerment discussed, including effects of coastal development. Local legislation is presented. An implementation schedule for the recovery plan is outlined.
- VAN RHIJN, F.A. 1979. Optic orientation in hatchlings of the sea turtle, Chelonia mydas, 1. Brightness: not the only optic cue in sea finding orientation. Mar. Behav. Physiol., 6; 105 - 121. The mean orientation direction of sea-finding hatchling green turtles was not related to the largest horizontal vector of the radiation field. Suggests orientation dependent on a multi-input unit system including geotaxis.
- VAN'T HOF, T. & NEWTON, E.C. 1980. A marine park on Bonaire. Proc. Assoc. Island Mar. Labs. Caribb., 15; 33. All coral reefs around Bonaire are protected, and this includes hawksbill habitat. Implementation of regulations in May 1979.

- VARGAS-MOLINAR, T.P.E. 1973. Resultados preliminares del mercado de tortugas marinas en aguas Mexicanas (1966-1970). Inst. Nac. Pesca, Ser. Informe, INP/SI i 12; 27 pages.
(In Spanish) Reports on tagging programme at Tamaulipas Zone III- Barra Calabazas to Cachimba 1966 - 1968 and 1970. 321 L. kempi marked in 1968, 337 in 1970, mostly in May or June.
- VARONA, L.S. 1974. A new capture of Lepidochelys olivacea (Testudinata, Cheloniidae) from Cuba. Poeyana: Inst. Zool. Acad. Cienc. Cuba, 137; 1-4.
Reports capture of L. olivacea on the Gulf of Mexico coast of Cuba.
- VIOSCA, P. 1961. Turtles tame and truculent. La Conserv., 13 (7 -8); 5 - 8.
5 sea turtles recorded from Louisiana. L. kempi most abundant, C. mydas, C. caretta and D. coriacea rare. Ridley reported to nest on beaches of the Chandeleur Island group.
- VOLLBRECHT, J.L. 1947. Skeeter turtle hunt. Fla. Outdoors, June; 6 - 7.
Report on C. caretta nesting and general biological data on this species.
- WAUER, R.H. 1978. "Headstart: for an endangered turtle. Nat. Parks & Conserv. Mag., 52 (11); 16 - 20.
Describes the L. kempi headstart project carried out by Mexico and the USA at Padre Island National Seashore and the Galveston Laboratory of US National Marine Fisheries Service.
- WEBER, M., ROET, E., ESCHERICH, P.C., McMANUS, R.E. & TEEPLE-HEWES, J., 1983. Sea turtles in trade. An evaluation.
Center for Environ. Education, Washington, 38 pages.
Not seen

WEHLE, D.H.S. & COLEMAN, F.C. 1983. Plastics at Sea.

Natural History, 2/83; 20 - 26.

Plastic bags found in stomachs of leatherbacks from French Guiana, hawksbills from Caribbean coast of Costa Rica, greens in Central American waters; evidence of loggerheads from high concentrations of plasticisers in liver samples. Thought turtles mistake bags for jellyfish, the major food of leatherbacks and subsidiary item for other species. Mass mortality of greens off Costa Rica attributed to banana bags.

WEISS, B.

1977. Economia del tortuguero: en cada venta una perdida, pages 161 - 182 in Nietschmann, B. (Editor), Memorias de Arrecife Tortuga, Serie Geogr. Naturelleza, 2., Geog. Dept. Univ. Michigan; 258 pages.

Discusses the move towards sale of traditional subsistence products with advent of turtle processing company. During 1972 - 1973, 913 turtles obtained by Little Sandy Bay Miskito Indians, but only 170 consumed in the village i.e. 80% sold.

WERLER, J.E.

1951. Miscellaneous notes on the eggs and young of Texan and Mexican reptiles.

Zoologica, 36 (3); 37 - 48.

Note on nesting of L. kemp on Padre Island, Texas, March 1950. Approximately 100 eggs, incubation time 62 days. 18 eggs hatched artificially, sizes given of some hatchlings after 120 days.

WIBBELS, T.R.

1981. Orientation of yearling Kemp's ridley sea turtles in the Gulf of Mexico. Amer.Zool., 21; 73.

10 yearling L. kempi tagged with radio transmitters, released in the Gulf of Mexico, monitored from an aircraft over 28 days. Directional movements of individuals were random relative to wind, current, and geographical direction. Data suggest importance of currents to movements of young turtles.

WIBBELS, T.R.

1982. The movements of immature Kemp's ridley sea turtles in a lagoon orientation arena. Amer. Zool., 22 (4); Abstract 80, page 864. Study showed that an orientation arena at the Galveston Laboratory was an effective means of studying movements of sea turtles. Turtles' directions of movement and of swimming were analysed relative to current, compass direction and brightest direction. Results suggest immature turtles orient into the current.

WIBBELS, T.

1983a. A transatlantic movement of a head-started Kemp's ridley. Marine Turtle Newsletter, 24; 15 - 16.

A L. kempi headstarted for 11 months at the Galveston Laboratory, National Marine Fisheries Service, released on June 5th, 1980, near Homosassa, Florida. 569 days later found alive on a beach in France on December 25th, 1981. Grown from 990 g to 2,030 g, a slow growth of 1.8 g day^{-1} .

- WIBBELS, T. 1983b. Recapture of a "living-tagged" Kemp's ridley. Marine Turtle Newsletter, 24; 16 - 17. A specimen of L. kempi headstarted at Galveston, released June 1981, near Padre Island, Texas, captured 289 days later in March, 1982, at 23 km N.E. of release site. A living tag placed by grafting at 7 weeks old had enlarged and darkened but was readily visible.
- WIEWANDT, T.A. 1973. Mona amphibians, reptiles, and mammals. Apendice L. Mona and Monito Islands an Assessment of their natural and historical resources. Vol. II. Junta de Calidad Ambiental, p.L.8. Reports hawksbill nesting and greens caught in Mona's waters.
- WILLIAMS, J.A. & McRAE, W.A. 1917-18. Third Biennial Report of the Florida Shell Fish Commission. Appleyard, Printers. pages 49 - 52 record that green turtles once were a flourishing industry, now no known areas of nesting, found at less than 5 lbs weight. Loggerheads up to 800 lbs caught in nets and on the beaches. "Bastard turtles" netted also. A cannery operates on Key West for local and West Indian green turtles.
- WILLIAMS-WALLS, N., O'HARA, J., GALLAGHER, R.M., WORTH, D.F., PERRY, B.D. & WILCOX, J.R. 1983. Spatial and temporal trends of sea turtle nesting on Hutchinson Island, Florida 1971 - 1979. Bull. Mar. Sci. Gulf & Caribb., 33 (1); 55 - 66. Approximately 4,500 nests are deposited annually in a density gradient that increases towards the south end of Hutchinson Island. Factors that influence this are discussed. Suggests disturbance of the beach has resulted in increased numbers of non-nesting crawls.

- WINGATE, D.B. 1975. A nesting beach for the Devil's Hole turtles. Monthly Bull. Bermuda Dept. Agric. Fish., 45 (6); 47 - 48.
A sink hole with tidal connection inhabited by loggerhead, green and hawksbill turtles (possibly captive since the 19th Century). Describes provision of an artificial beach and nesting access ramp.
- WINGATE, D.B. 1976. Success at Devil's Hole. Monthly Bull. Bermuda Dept. Agric. Fish., 46 (10); 82 - 84.
Reports successful nesting on an artificial beach during 1975 and 1976. It is of interest that these old female turtles are probably a remnant of the original Bermuda population.
- WINGATE, D.B. 1977. Results of the Devil's Hole green turtle nestings. Monthly Bull. Bermuda Dept. Agric. Fish., 47 (1); 12 - 13.
1976 laying of three clutches in August and September of 80, 86 and 86 eggs. These were exhumed and transplanted and 5%, 72% and 88% were fertile.
- WINGATE, D.B. 1980. Captive turtles nest on artificial beach in a cave. Marine Turtle Newsletter, 14; 2 - 5.
Artificial beach at Devil's Hole used by captive turtles in 1976, 1977 and 1979. Eggs removed to hatchery. 6 nestings by loggerheads, 3 by greens. Demonstrates that turtles will nest away from natural beaches.
- WITHAM, R. 1971. Breeding of a pair of pen-reared green turtles. Quart. J. Fla. Acad. Sci., 33 (4); 288 - 290.
Turtles mated summer 1968, laying in June, July and August 1969. No eggs hatched.

- WITHAM, R. 1974. Neonate sea turtles from the stomach of a pelagic fish. Copeia 1974; 548.
A dolphin, Coryphaena hippurus, caught near a patch of sargassum at Stuart, Florida, contained one green turtle and 8 Caretta hatchlings.
- WITHAM, R. 1976. Evidence for ocean-current mediated dispersal in young green turtles, Chelonia mydas (Linnaeus). MS Thesis, Univ. Oklahoma; 48 pages.
Not seen
- WITHAM, R. 1977. Dermochelys coriacea in captivity. Marine Turtle Newsletter, 3; 6.
Reports on unsuccessful attempts to rear hatchling leatherbacks on a variety of diets, including fish and jellyfish. Deaths attributed to septicemia, unsuitable food. Weights given up to 642 days.
- WITHAM, R. 1978a. Does a problem exist relative to small sea turtles and oil spills. Conf. Assess. Ecol. Impacts Oil Spills, 14 - 17 June, 1978, Keystone, Colorado.
Concerned that some hatchling turtles die through ingesting tar balls in Gulf and south Florida waters.
- WITHAM, R. 1978b. Methods and facilities for tank-rearing the green sea turtle, Chelonia mydas, page 19 in Henderson, G.E. (Editor), Proc. Florida & Inter-Regional Conf. Sea Turtles, 24 - 25 July, 1976, Jensen Beach, Florida, Fla. Mar. Res. Publ. No. 33; 66 pages.
Young sea turtle maintenance requires abundant, low cost food, large volumes of fresh sea water, prevention of predation and of diseases associated

with crowded conditions. Diet given includes blue crab offal or fish wastes, Sesuvium supplement or garden vegetables. Describes size and type of holding tanks and methods of incubation. Systematic, prophylactic treatment for lesions with potassium permanganate was successful.

WITHAM, R.

1980. The "lost year" question in young sea turtles. Amer. Zool., 20; 525 - 530. The term "lost year" has been used to emphasize the gap in understanding early life history of hatchlings. Tag returns from pen-reared yearlings indicate ocean current dispersal. Evidence suggests hatchlings would be dispersed similarly. Feeding studies with tank-held animals suggest food resources are available in ocean currents for long-term survival. Green turtle growth appears to be slow in nature.

WITHAM, R.

1982. Disruption of sea turtle habitat with emphasis on human influence, pages 519 -522 in Bjorndal, K.A. (Editor), Biology and Conservation of Sea Turtles, Smithsonian Institution, Washington, 583 pages. Disruptions caused by residential, business and recreational use of beach fronts include impacts from artificial lights, physical barriers such as jetties, groins and sea walls, plus vehicular traffic on beaches; also negative effects of petroleum production and pollution. Management techniques for mitigating these impacts are suggested.

WITHAM, R. & CARR, A. 1969. Returns of tagged pen-reared green turtles. Quart. J. Fla. Acad. Sci., 31 (1); 49 - 50.

98 green turtles originally from Tortuguero, released from captivity in Florida. Released at Indian River; 1 caught 7 miles away after 64 days, 1 after 30 months 65 miles away in Sandy Cay, Grand Bahama Island having gained 12 lbs weight. Evidence suggests pen-reared turtles may be able to adapt to the normal ecological regime of their species.

WITHAM, R. & FUTCH, C.R. 1977. Early growth and oceanic survival of pen-reared sea turtles. Herpetologica, 33; 404 - 409.

Recapture of C. mydas originally raised in pens for about a year shows they can survive in the ocean for a few years. After 1 year mean carapace length of 25 Caretta was 18.4 cm, mean total weight 1.278 kg. Leatherbacks fed on Cassiopeia xamachana; greens and loggerheads grew well also on this scyphozoan diet. No difference in growth of green turtles fed either fish only or an omnivorous diet.

WITHAM, R., GALLAGHER, R.M. & HOLLINGER, M.L. 1973. Tracking green turtles with fluorescent dye. Prog. Fish. Cult., 35 (4); 239 - 240.

A tracking device with fluorescent dye attached by nylon bridle to green turtle carapace, with dye released while turtle in motion, allowed tracking for 1.5 hrs before dye expended. This appears a useful tool for short-term observations on turtles large enough to tow the device.

- WOLKE, R.E. & GEORGE, A. 1981. Sea turtle necropsy manual.
NOAA Tech. Memo. NMFS-SEFC-24, U.S. Dept.,
Commerce; 20 pages.
A guide to sea turtle necropsy, particularly
for field biologists with descriptions based
on the anatomy of C. caretta.
- WOOD, F.E., CRITCHLEY, K.H. & WOOD, J.R. 1982. Anesthesia in the
green sea turtle, Chelonia mydas. Amer. J. Vet.
Res., 43 (10); 1882 - 1883.
Surgical anesthesia for green turtles between
6 - 195 kg was achieved with injectable
anesthetics sodium pentobarbital, ketamine
hydrochloride and sodium thiopental. Induction
of, and duration of, and recovery from these
anesthetics could vary among individual turtles.
- WOOD, F., PLATZ, C., CRITCHLEY, K. & WOOD, J. 1982. Semen collection
by electroejaculation of the green turtle,
Chelonia mydas. Brit. J. Herpetol., 6; 200-202.
Electroejaculation used to obtain motile sperm
from farm-reared C. mydas. Motility and volume
was variable depending on time and frequency
of ejaculation. Total sperm count is given.
Technique employed with males 9 - 14 years old.
Semen collection is part of a programme to
develop a technique of artificial insemination.
- WOOD, F.E. & WOOD, J.R. 1977. Quantitative requirement of the
hatchling green sea turtle, Chelonia mydas,
for valine, leucine, isoleucine and phenylalanine
J. Nutr., 107 (8); 1502 - 1506.
Hatchling C. mydas required 1.3% valine, 1.6%
leucine, 1.0% isoleucine and 1.0% phenylalanine.
No apparent interrelationship between the
quantitative requirements of these various
amino-acids.

- WOOD, F.E. & WOOD, J.R. 1982. Sex ratios in captive reared green turtles, Chelonia mydas. Copeia 1982; 482 - 485. Sex ratios of hatchling C. mydas at Cayman Turtle Farm showed considerable variation from a 1:1 ratio for unstressed populations. Variations were attributed to environmental factors, mainly temperature. Suggests an extended breeding season should act to equalize sex ratios in nature. Factors influencing incubation, gaseous exchange and moisture are mentioned.
- WOOD, F.G. 1953. Mating behavior of captive loggerhead turtles, Caretta caretta caretta. Copeia 1953; 184 - 186.
Detailed account of mating and mating behaviour of the loggerhead based on observations on two turtles kept in the laboratory.
- WOOD, J.R. 1974. Amino-acids essential for the growth of young green sea turtles (Chelonia mydas). Proc. 5th. Ann. Meet. World Maricult. Soc.; 233 - 248.
The development of a completely defined amino-acid test diet for hatchling C. mydas is discussed. Of the 18 amino-acids of nutritional significance, 9 are clearly essential, 8 are non-essential, 1 is possibly semi-essential. Possible relationships of the reported results to the protein and amino-acid requirements of turtle age classes other than hatchlings are mentioned. Implications for the development of commercial turtle feeds are suggested.
- WOOD, J.R. 1982a. Release of captive-bred green sea turtles by Cayman Turtle Farm Ltd. Marine Turtle Newsletter 20; 6 - 7.
Visitors to the farm make a small donation and release a farm-bred turtle into local waters. In 1980 -1981 1,971 tagged turtles released.

- WOOD, J.R. 1982b. Captive rearing of Atlantic ridleys at Cayman Turtle Farm Ltd. Marine Turtle Newsletter, 20; 7 - 9.
July 1980, 100 yearling L. kemp from Galveston sent to Cayman Turtle Farm to be raised in order to establish a captive breeding herd of this highly endangered species. Details of holding tank construction, water flow, temperature, feeds, control of disease and mortality are given. Sex ratios of dead specimens reported.
- WOOD, J.R. & WOOD, F.E. 1977a. Captive breeding of the green sea turtle, Chelonia mydas. Proc. 8th. Meet. World Maricult. Soc.; 533 - 541.
Captive turtle mating and nesting has occurred in an artificial environment for the past 4 years at Cayman Turtle Farm. Detailed results are given.
- WOOD, J.R. & WOOD, F.E. 1977b. Quantitative requirements of the hatchling green sea turtle for lysine, tryptophan and methionine. J. Nutr., 107 (2); 171 - 175.
Hatchling green turtles fed synthetic diets of purified substances containing varying amounts of lysine, tryptophan or methionine. Lysine requirement was 4.8% of crude protein or 1.7% of dry weight; tryptophan was 0.63% or 0.22% respectively. Methionine in the presence of adequate cystine was 1.5% of crude protein or 0.49% of the dry diet.
- WOOD, J.R. & WOOD, F.E. 1979. Artificial incubation of green sea turtle eggs (Chelonia mydas). Proc. World Maricult. Soc., 10; 215 - 221.
Describes artificial incubation in styrofoam boxes giving hatching success of 60 - 80%. Detailed instructions given on correct levels of oxygen and humidity, and temperature factors.

WOOD, J.R. & WOOD, F.E. 1980. Reproductive biology of captive green sea turtles, Chelonia mydas. Amer. Zool., 20; 499 - 505.

Captive colony of green turtles maintained and observed at a commercial farm on Grand Cayman since 1973. Mating and nesting behaviour is similar to that observed in wild populations. Evidence indicates that mating observed prior to a female's nesting in a given season determines the hatchability of that season's egg production. Annual per-female egg production of the captive colony appears to be 2 - 5 times greater than that reported for wild colonies. Observations on the reproductive biology of green turtles hatched and raised under farm conditions suggests minimum age of sexual maturity is 8 - 9 years. Number of eggs per nest, number of nests per season per female and hatch rate tend to increase with successive seasons nesting.

WOOD, J.R. & WOOD, F.E. 1981. Growth and digestibility for the green turtle (Chelonia mydas) fed diets containing varying protein levels. Aquaculture, 25; 269 -274.

Not seen

WOODY, J.B.

1981. Head-starting of Kemp's ridley.

Marine Turtle Newsletter, 19; 5 - 6.

Galveston Laboratory, National Marine Fisheries Service, headstarts 1,500 - 2,000 L. kemp each year for release in an attempt to establish a new nesting population on Padre Island. Much useful experience gained in captive culture. Recommends headstarting should be done only by a few well equipped facilities.

- WOOLFORD, W.H. 1979. Mineral exploitation and the environment with special reference to the Shell Beach Project on the north west sea coast of Guyana, pages 136 - 152 in Environmental Aspects of Development, MAB and Guyana Nat. Sci. Res. Council.
Describes a project to provide lime from shell deposits for local construction. This is likely to affect nesting areas for turtles and impact assessment requirements are discussed. C. mydas is most affected.
- WORTH, D.F. & SMITH, J.B. 1976. Marine turtle nesting on Hutchinson Island, Florida, in 1973. Fla. Mar. Res. Publ. No. 18; 17 pages.
Describes this major Florida rookery, and gives nesting data for C. caretta and C. mydas. Nesting of Caretta declined 1971 to 1973, with potential loss of 77,880 eggs. Expanding urban development has reduced nesting activity.
- YERGER, R.W. 1965. The leatherback turtle on the Gulf coast of Florida. Copeia 1965; 365 - 366.
Records sighting in 1961 and 1963 of leatherback turtles; captures in 1961, 1962 and 1963, one of the females with large number of remoras. One nest record near Phillips Inlet September, 1962; in early July hatchlings collected also. Measurements and weights of captured animals ranged from 30.75 - 89.75 cm and 800 - 900 lbs.
- YNTEMA, C.L. & MROSOVSKY, N. 1979. Incubation temperature and sex ratio in hatchling loggerhead turtles: a preliminary report. Marine Turtle Newsletter, 11; 9 - 10.
Demonstrates temperature dependent sexual differentiation in C. caretta. At 30°C both male and female hatchlings emerge, at 32°C only females and at 26 - 28°C only males.

- YNTEMA, C.L. & MROSOVSKY, N. 1980. Sexual differentiation in hatchling loggerheads (Caretta caretta) incubated at different controlled temperatures. Herpetologica, 36 (1); 33 - 36.
Hatching of eggs of C. caretta occurred at 26 - 34°C. At 30°C both males and females developed. Above 30°C only females resulted, below 30°C only males emerged.
- YNTEMA, C.L. & MROSOVSKY, N. 1982. Critical periods and pivotal temperatures for sexual differentiation in loggerhead sea turtles. Can. J. Zool., 60 (5); 1012 - 1016.
Eggs of C. caretta incubated at constant temperature from 24 - 34°C. At 32°C or above only females resulted. At 28°C and below only males resulted. 30°C was therefore the pivotal temperature for thermal effects on sexual differentiation in this population of turtles. Sexual differentiation occurred somewhere between stages 12 and 22 of embryonic development.
- ZIMMER, G.K. 1964. Saving the Atlantic green turtle: a biological experiment. Nat. Parks, Dec.; 11 - 13.
An account of the "seeding" programme of the Caribbean Conservation Corporation, translocating eggs from Tortuguero's green turtle colony to other parts of the Caribbean.
- ZULOAGA, G. 1955. The Isla Aves story. Geogr. Rev., 45 (2); 172 - 180.
Aves Island is an important nesting ground for C. mydas coming from feeding grounds in various parts of the Caribbean. Nesting is concentrated largely in the second half of the year. There is evidence from hydrographic charts that the island was more extensive in the 1840's.

- ZWINENBERG, A.J. 1974. The leatherback, Dermodochelys coriacea. One of the largest living reptiles. Bull. Md. Herpetol. Soc., 10 (2); 42 - 49.
General review - Giving biology on a global basis, data on colour, size, weight, food, distribution, nesting beaches, reproduction, natural enemies.
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General review - Describes biology. Special attention given to tagging methods and data retrieval, and to decline of the species. Gives taxonomy, distribution, food, scalation, size, weight, nesting beaches, nesting periods, nesting behaviour, clutch size, incubation and hatchlings.

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General review - Describes biology, giving special attention to tagging results and tag-loss problem. Decline of the species and its possible extinction discussed. Data given on taxonomy, distribution, food, scalation, size, weight, nesting beaches, nesting periods, nesting behaviour, clutch size, incubation and hatchlings. Further data on status of L. olivacea.

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I N D E X

ANTIGUA

- General Bacon, 1971c,1981; Rebel, 1974.
- Dermochelys Bacon, 1971c.

BAHAMAS

- General Bacon, 1975, 1981; Bjorndal, 1980a; Carr et al, 1980; Carr, Meylan et al, 1982; Garman, 1888; Higgs, 1983; Mack et al, 1982; Meylan et al, 1983; Rebel, 1974; Solomon & Baird, 1979; Witham & Carr, 1969.
- Caretta Meylan et al, 1983.
- Chelonia Bjorndal, 1980a.
- Exploitation Mack et al, 1982; Rebel, 1974.
- Foraging areas Bjorndal, 1980a.

BARBADOS

- General Bacon, 1975, 1981; Caldwell & Rathjen, 1969; Pritchard, 1976a; Rebel, 1974.
- Dermochelys Caldwell & Rathjen, 1969.
- L. olivacea Pritchard, 1976a.
- Nesting areas Caldwell & Rathjen, 1969.

BARBUDA

- General Bacon, 1981.

BEHAVIOUR

- Miscellaneous Mrosovsky, 1972a; Ogren et al, 1977.
- Basking Boyer, 1965; Carr, 1982.
- Feeding Bjorndal, 1979a, 1980a, 1982b; Grassman & Owens, 1982; Layne, 1952; Mendonca & Ehrhart, 1978,1982; Meylan, 1978; Mortimer, 1981, 1982b; Parrish, 1958; Ogden et al, 1983.

- Hatchling emergence Carr & Hirth, 1961; Carr & Ogren, 1960; Kraemer & Richardson, 1979; Mann, 1977, 1978; Mrosovsky, 1968; Towle, 1978.
- Hibernation Carr, Ogren & McVea, 1981; Ehrhart, 1977; Ogren & McVea, 1982.
- Imprinting Grassman & Owens, 1981a, 1981b; Koch et al, 1969; Owens, Grassman et al, 1982.
- Migratory Anon, 1969a; Carr, 1962, 1963a, 1963b, 1964a, 1964b, 1965, 1967a, 1967b, 1972a, 1972b, 1982; Carr et al, 1980; Carr & Giovannoli, 1951; Fletemeyer & Parnell, 1979; Frick, 1976, Hirth, 1978; Ireland, 1979a, 1979b, 1979c; Ireland et al, 1978; Koch et al, 1969; Meylan, 1982a, 1982b; Meylan et al, 1983; Pinner, 1967; Stoneburner 1982; Stoneburner & Ehrhart, 1981; Stoneburner, Richardson et al, 1982; Wibbels, 1981, 1982, 1983a, 1983b.
- Nesting Andre & West, 1981; Anon, 1973; Audubon, 1926; Bacon, 1973a; Caldwell, 1959a, 1960a, 1962a; Caldwell, Berry et al, 1959; Carr, 1967b, 1982; Carr et al, 1980; Carr & Carr, 1972; Carr & Giovannoli, 1951; Carr & Hirth, 1962; Carr, Hirth & Ogren, 1966; Casas-Andreu, 1978; Ehrenfeld, 1979; Frazer, 1981, 1983a; Fretey, 1981; Hendrickson, 1980, 1982; Hildebrand, 1963; Hirth, 1980; Kaufmann, 1968, 1971a, 1973; Lebuff, 1974; Lenarz, Frazer et al, 1981; Lenarz & Stoneburner, 1980; Lindblad, 1969; Mast, 1911; Mortimer, 1982a; Mrosovsky, 1983a; Mrosovsky & Shettleworth, 1975; Owens, Gern & Ralph, 1978b; Pritchard, 1969e; Rainey, 1975b; Schulz, 1971a, 1975; Stoneburner & Richardson, 1981; Talbert et al, 1980; Tangley, 1980; Zwinenberg, 1974, 1975b, 1976b, 1977.

- Reproductive Anon, 1973; Brownell et al, 1973; Carr, 1963b, 1982; Casas-Andreu, 1978; Ehrhart, 1979a, 1979d; Harless & Morlock, 1979; Murphy & Collins, 1980; Owens, Grassman et al, 1982; Simon et al, 1975b; Ulrich & Owens, 1974; Ulrich & Parkes, 1978.
- Sea finding Carr, 1967b, 1967c, 1969d, 1982; Carr & Ogren, 1959; Daniel & Smith, 1946, 1947a, 1947b; Ehrenfeld, 1968; Ehrenfeld & Carr, 1967; Fletemeyer, 1979; Kingsmill & Mrosovsky, 1982; Mrosovsky, 1967, 1970, 1972b, 1977; Mrosovsky & Carr, 1967; Mrosovsky & Shettleworth 1968, 1975; Philibosian 1976; Van Rhijn, 1979.

BELIZE

- General Bacon, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Craig, 1966; Fiedler et al, 1943d; Neill & Allen, 1959; Rebel, 1974; Thompson, 1946,
- Caretta Craig, 1966; Neill & Allen, 1959.
- Chelonia Craig, 1966; Neill & Allen, 1959; Thompson, 1946.
- Dermochelys Neill & Allen, 1959.
- Eretmochelys Craig, 1966; Neill & Allen, 1959; Thompson, 1946.
- Exploitation Craig, 1966; Fiedler et al, 1943d; Neill & Allen, 1959; Rebel, 1974; Thompson, 1946.

BERMUDA

- General Babcock, 1937; Bacon, 1981; Burnett-Herkes, 1968, 1974; Garman, 1884; Goode, 1877; Ireland, 1979a, 1979b, 1979c; Ireland et al, 1978; Mowbray & Caldwell, 1958; Rebel, 1974; Wingate, 1975, 1976, 1977, 1980.

- Caretta Babcock, 1937; Burnett-Herkes, 1968; Mowbray & Caldwell, 1958; Wingate, 1975, 1980.
- Chelonia Babcock, 1937; Burnett-Herkes, 1968, 1974; Garman, 1884; Ireland, 1979a, 1979b, 1979c; Ireland et al, 1978; Mowbray & Caldwell, 1958; Wingate, 1975, 1977, 1980.
- Conservation Garman, 1884.
- Dermochelys Babcock, 1937; Goode, 1877; Mowbray & Caldwell, 1958.
- Eretmochelys Babcock, 1937; Mowbray & Caldwell, 1958; Wingate, 1975.
- Exploitation Babcock, 1937; Garman, 1884; Rebel, 1974.
- Foraging areas Babcock, 1937.
- L. kempfi Babcock, 1937; Mowbray & Caldwell, 1958.
- Nesting areas Burnett-Herkes, 1968; Mowbray & Caldwell, 1958.

BONAIRE

- General Bacon, 1975, 1981; Brongersma, 1969, 1970; Goodrian, 1946; Hermans, 1961; Van't Hof & Newton, 1980.
- Conservation Goodrian, 1946; Hermans, 1961; Van't Hof & Newton, 1980.
- Dermochelys Brongersma, 1969, 1970.

BRAZIL

- General Anon 1969a; Bacon, 1975, 1981; Barth, 1962a, 1962b; Carr, 1964a, 1965, 1972a, 1972b, 1975; Carr & Coleman, 1978; Cunha, 1975; DaCosta, 1969; Donoso-Barros, 1965; Feazel, 1980; Ferreira, 1968, 1972; Goeldi, 1902; Hart-Davis, 1969; Hill, 1980;

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- Koch et al, 1969; Luederwaldt, 1926; Oliviera, 1951; Pritchard, 1969d, 1973, 1976a; Rainey & Pritchard, 1972; Schulz, 1971a, 1975, 1982.
- Caretta Ferreira, 1972; Goeldi, 1902; Luederwaldt, 1926; Oliviera, 1951.
 - Chelonia Anon, 1969a; Barth, 1962a, 1962b; Carr, 1964a, 1965, 1975; Carr & Coleman, 1978; DaCosta, 1969; Feazel, 1980; Ferreira, 1968, 1972; Goeldi, 1902; Hart-Davis, 1969; Hill, 1980; Koch et al, 1969; Luederwaldt, 1926; Pritchard, 1973; Schulz, 1971a, 1975.
 - Dermochelys Cunha, 1975; Ferreira, 1972; Goeldi, 1902; Luederwaldt, 1926; Pritchard, 1973, 1976a.
 - Eretmochelys Ferreira, 1972; Goeldi, 1902; Luederwaldt, 1926.
 - Exploitation Da Costa, 1969.
 - Foraging areas Carr, 1964a, 1965, 1975; Ferreira, 1968; Pritchard, 1973; Schulz, 1971a.
 - L. olivacea Ferreira, 1972; Pritchard, 1969d, 1973, 1976a.
 - Nesting areas Barth, 1962a, 1962b.

CARETTA CARETTA

- General Abascal, 1977; Ackerman, 1981; Ackman, Hooper & Frair, 1971; Ahrenfeldt, 1954; Anderson, 1981; Andre & West, 1981; Anon, 1966, 1970, 1975b, 1977a, 1977c, 1979b; Audubon, 1926; Babcock, 1930a; Bacon, 1975, 1981; Bell & Richardson, 1978; Bennett & Richardson, 1977; Bentley & Dunbar-Cooper, 1980; Bentley & Lutz, 1979; Bjorndal, Meylan & Turner, 1983; Blanck & Sawyer, 1979, 1981; Bullis & Drummond, 1978; Burnett-Herkes, 1968; Caine, 1982; Caldwell, 1959a, 1960, 1961, 1962a,

1962b, 1968; Caldwell, Berry et al, 1959;
Caldwell & Carr, 1957; Caldwell, Carr & Hellier,
1955b; Caldwell, Carr & Ogren, 1959; Cardona &
de la Rua, 1972; Carr, 1942; Carr et al, 1980;
Carr & Goin, 1955; Carr, Iverson & Jackson, 1979;
Carr, Meylan et al, 1982; Carr, Ogren & McVea,
1981; Carr, D. & Carr, 1977; Carr, T., 1977, 1978;
Clark & Krynitsky, 1980; Coker, 1906; Cooper &
Bacon, 1981; Craig, 1966; Cunningham & Hurwitz,
1936; Daniel, 1980; Daniel & Smith, 1946, 1947a,
1947b; Davis & Whiting, 1977; Dean & Steinbach,
1981; De Sola & Abrams, 1933; Dimond, 1965;
Donoso-Barros, 1965; Duke, 1967; Dunn, 1918b;
Eagleson et al, 1978; Ehrhart, 1976, 1977, 1979a,
1979b, 1979c, 1979d; Ehrhart & Yoder, 1976, 1977,
1978; Fahy, 1954; Ferreira, 1972; Fiedler et al,
1934; Fletemeyer, 1977a, 1977b, 1978a, 1979, 1982;
Flores, 1969; Fowler, 1914; Frair, 1979; Frazer,
1981, 1982a, 1982b, 1983a, 1983b; Frazer & Ehrhart,
1983; Fritts & Hoffman, 1982; Fuentes, 1967;
Fuller, 1978; Furbec, 1979; Gallagher et al, 1972;
Geijskes, 1945; Giral, 1955; Goin, 1968; Gonzales,
1982; Grassman & Owens, 1981a, 1981b, 1982;
Gundlach, 1867, 1881; Gunter, 1981; Haley, 1977;
Hardy, 1959; Harlan, 1827; Hay, 1908; Hillestad
et al, 1974; Hirth, 1980, 1982; Hoffman & Fritts,
1982; Holden, 1964, 1965; Hooker, 1908a, 1908b,
1909; Hopkins & Murphy, 1981; Hopkins, Murphy
et al, 1978; Hopkins & Richardson, (undated);
Hosier, Kochhar & Thayer, 1981; IUCN (undated);
Joyce, 1982; Kaufmann, 1966, 1967, 1968, 1971b,
1972, 1973, 1975a, 1975b; Kingsmill & Mrosovsky,
1982; Klukas, 1967; Koschmann, 1965; Kraemer &
Bell, 1978, 1980; Kraemer & Bennett, 1981;

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Kraemer & Richardson, 1979; Layne, 1952; Lebuff, 1969, 1970, 1974; Lebuff & Beatty, 1971; Lebuff & Hagen, 1978; Lenarz, Frazer et al, 1981; Lenarz & Stoneburner, 1980; Leong, 1979; Lewis, 1940; Lightburn, 1978; Linton, 1910; Lipske, 1977b, 1979, 1980; Litwin, 1978; Loennberg, 1894; Luederwaldt, 1926; Luhman, 1935; Lund, 1978; Mann, 1977, 1978; Marquez, 1978a, 1978b; Mast, 1911; McAtee, 1934; McFarlane, 1963; McGehee, 1978; McMurtray, 1983; Medem, 1962a, 1962b, 1965b; Mendonca, 1979, 1981; Mendonca & Ehrhart, 1978, 1982; Meylan et al, 1983; Milsom, 1975; Morris & Owens, 1982; Mortimer, 1982b; Mowbray & Caldwell, 1958; Neill, 1958; Neill & Allen, 1959; NMFS, 1978b; Ogren, 1977; Ogren et al, 1977; Oliviera, 1951; Owens, 1980a, 1981; Padilla, 1974; Parker, 1926, 1929; Parsons, 1956; Percharde, 1974; Philibosian & Yntema, 1977; Pritchard, 1971b; Rabalais & Rabalais, 1980; Ragotzkie, 1959; Rainey, 1976, 1981; Rainey & Pritchard, 1972; Ramirez, 1975; Rebel, 1974; Richardson, 1978; Richardson & Hillestad, 1978; Richardson & Richardson, 1982; Richardson, Richardson & Dix, 1978; Richardson et al, 1978; Rivero, 1978; Roosevelt, 1917; Ross, 1982; Routa, 1967; Roze, 1955; Ruckdeschel & Zug, 1982; Schmidt, J., 1916; Schmidt & Witham, 1961; Schulz, 1971b, 1982; Seyfert, 1977; Shabica & Stoneburner, 1978; Shoop & Ruckdeschel, 1982; Smith, 1954; Smith et al, 1978; Smith, W.G., 1968; Solis, 1966; Somberg-Honig, 1967; Stancyk et al, 1979; Sternberg, 1981; Stickney & White, 1972; Stickney et al, 1973; Stoneburner, 1980, 1982; Stoneburner & Ehrhart, 1981; Stoneburner et al, 1980; Stoneburner &

Richardson, 1981; Stoneburner, Richardson et al, 1982; Talbert et al, 1980; Timko & Kolz, 1982; Ulrich, 1978; Underwood, 1962; US.Dept.Commerce, 1976, 1978; Viosca, 1961; Vollbrecht, 1947; Williams & McRae, 1917-18; Williams-Walls et al, 1983; Wingate, 1975, 1980; Witham, 1974; Witham & Futch, 1977; Wolke & George, 1981; Wood F.G., 1953; Worth & Smith, 1976; Yntema & Mrosovsky, 1979, 1980, 1982.

- Behaviour

Caldwell, 1959a, 1962a; Caldwell, Berry et al, 1959; Carr, Ogren & McVea, 1981; Coker, 1906; Daniel & Smith, 1946, 1947; Ehrhart, 1979a, 1979b; Fletemeyer, 1977b; Frazer, 1981, 1983a; Fritts & Hoffman, 1982; Goeldi, 1902; Grassman & Owens, 1981a, 1981b, 1982; Hirth, 1980; Hopkins & Murphy, 1981; Kaufmann, 1968, 1973, 1975b; Kingsmill & Mrosovsky, 1982; Layne, 1952; Lebuff, 1974; Lebuff & Beatty, 1971; Lenarz, Frazer et al, 1981; Lenarz & Stoneburner, 1980; Mann, 1977, 1978; Mast, 1911; Mendonca & Ehrhart, 1978, 1982; Meylan et al, 1983; Milsom, 1975; Mortimer, 1982b; Ogren et al, 1977; Roosevelt, 1917; Smith, W.G., 1968; Stoneburner, 1982; Stoneburner & Richardson, 1981; Talbert et al, 1980; Wood, F.G., 1953.

- Clutch size

Anderson, 1981; Andre & West, 1981; Audubon, 1926; Blanck & Sawyer, 1979, 1981; Caldwell, Berry et al, 1959; Coker, 1906; Davis & Whiting, 1977; Ehrhart, 1979a, 1979b; Fletemeyer, 1982; Kaufmann, 1968, 1975b; Routa, 1967.

- Conservation

Andre & West, 1981; Anon, 1975b; Caldwell, 1960; Caldwell & Carr, 1957; Cardona & de la Rua, 1972; Carr, Iverson & Jackson, 1979; Dean & Steinbach, 1981; Ehrhart, 1979b, 1979d; Fletemeyer, 1982; Fuentes, 1967; Lebuff, 1969, 1970; Lipske, 1979;

- Litwin, 1978; Marquez, 1978a; NMFS, 1978b; Owens, 1981; Padilla, 1974; Smith et al, 1978.
- Culture Caldwell, 1962b; Cardona & de la Rua, 1972; Grassman & Owens, 1982; Kaufmann, 1975a; Layne, 1952; Leong, 1979; Milsom, 1975; Stickney & White, 1972; Stickney et al, 1973; Witham & Futch, 1977.
 - Demography Davis & Whiting, 1977; Ehrhart, 1979a, 1979d; Frazer, 1982b, 1983b; Kaufmann, 1968, 1971b; Lebuff & Hagan, 1978; Richardson & Richardson & Dix, 1978; Smith et al, 1978; Stoneburner et al, 1980; Talbert et al, 1980; Williams-Walls et al, 1983; Worth & Smith, 1976.
 - Developmental habitat Ehrhart, 1979b; Ehrhart & Yoder, 1976; Fletemeyer, 1977b, 1978a; Mendonca 1979, 1981; Mendonca & Ehrhart, 1978, 1982; Smith W.G., 1968.
 - Diet Audubon, 1926; Fowler, 1914; Fuller, 1978; Grassman & Owens, 1982; Milsom, 1975; Mortimer, 1982b; Neill, 1958; Percharde, 1974; Stickney et al, 1973; Witham & Futch, 1977.
 - Eggs Ackerman, 1977, 1981; Blanck & Sawyer, 1979, 1981; Cunningham & Hurwitz, 1936; Ehrhart, 1979a; Hirth, 1980; Kaufmann, 1968; Kraemer & Bell, 1978, 1980; Kraemer & Bennett, 1981; Kraemer & Richardson, 1979; McGehee, 1978; McMurtray, 1983; Ragotzkie, 1959.
 - Exploitation Audubon, 1926; Bullis & Drummond, 1978; Caldwell & Carr, 1957; Cardona & de la Rua, 1972; Cato et al, 1978; Cooper & Bacon, 1981; Craig, 1966; Duke, 1967; Fiedler et al, 1934; Fletemeyer, 1982; Fuller, 1978; Geijskes, 1945; Gonzales, 1982;

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- Gundlach, 1867; Haley, 1977; Kaufmann, 1966, 1971b; Marquez, 1978b; Medem, 1962a; Mowbray & Caldwell, 1958; Neill & Allen, 1959; Ross, 1982; Williams & McRae, 1917-18.
- Foraging areas Craig, 1966; Fuller, 1978; IUCN (undated); Mortimer, 1982b.
 - Growth Bjorndal, Meylan & Turner, 1983; Caldwell, 1962b; Ehrhart, 1976; Frazer, 1982a; Frazer & Ehrhart, 1983; Hirth, 1982; Kaufmann, 1967, 1972, 1975a; Mendonca, 1979, 1981; Owens, 1980a; Parker, 1926, 1929; Stickney et al, 1973.
 - Hatchlings Caldwell, 1959a; Daniel & Smith, 1946, 1947; De Sola & Abrams, 1933; Fletemeyer, 1977b, 1978a; Frazer, 1982b; Grassman & Owens, 1981a, 1981b; Hosier, Kochhar & Thayer, 1981; Kingsmill & Mrosovsky, 1982; Kraemer & Bennett, 1981; Leong, 1979; Mann, 1977, 1978; McFarlane, 1963; Milsom, 1975; Owens, 1980a; Smith W.G., 1968; Stoneburner, Richardson et al, 1982.
 - Incubation Caldwell, 1959a; Cunningham & Hurwitz, 1936; Dimond, 1965; Fletemeyer, 1982; Hooker, 1908a; McGehee, 1978; Richardson, 1978; Yntema & Mrosovsky, 1979, 1980, 1982.
 - Juveniles Caldwell, 1968; Caldwell, Carr & Hellier, 1955b; Ehrhart, 1979b; Ehrhart & Yoder, 1976; Mendonca, 1979, 1981; Mendonca & Ehrhart, 1978, 1982.
 - Migration Bjorndal, Meylan & Turner, 1983; Ehrhart, 1979a; Hardy, 1959; Hoffman & Fritts, 1982; Meylan et al, 1983; Stoneburner, 1982; Stoneburner & Ehrhart, 1981; Stoneburner, Richardson et al, 1982; Timko & Kolz, 1982.

- Mortality

Anderson, 1981; Anon, 1979b, 1975b; Caldwell, 1959a; Carr, Iverson & Jackson, 1979; Davis & Whiting, 1977; Ehrhart, 1977, 1979c; Fletemeyer, 1979, 1982; Frazer, 1982b; Fuller, 1978; Gallagher et al, 1972; Hopkins & Murphy, 1981; Hopkins, Murphy et al, 1978; Klukas, 1967; Kraemer & Bell, 1978, 1980; McAtee, 1934; McFarlane, 1963; McMurtray, 1983; Rabalais & Rabalais, 1980; Ragotzkie, 1959; Richardson, 1978; Roosevelt, 1917; Ruckdeschel & Zug, 1982; Seyfert, 1977; Shabica & Stoneburner, 1978; Shoop & Ruckdeschel, 1982; Witham, 1974.

- Nesting areas

Anderson, 1981; Andre & West, 1981; Anon, 1966, 1970, 1975b, 1977c; Bell & Richardson, 1978; Bennett & Richardson, 1977; Bjorndal, Meylan & Turner, 1983; Blanck & Sawyer, 1979, 1981; Burnett-Herkes, 1968; Caldwell, 1959a, 1960, 1961; Caldwell, Berry et al, 1959; Caldwell, Carr & Hellier, 1955b, Caldwell, Carr & Ogren, 1959; Carr, D., & Carr, 1977; Carr, T., 1977, 1978; Coker, 1906; Davis & Whiting, 1977; De Sola & Abrams, 1933; Ehrhart, 1979a, 1979b; Ehrhart & Yoder, 1976, 1977, 1978; Fletemeyer, 1977a, 1979, 1982; Flores, 1969; Fritts & Hoffman, 1982; Fuentes, 1967; Fuller, 1978; Gallagher et al, 1972; Geijskes, 1945; Haley, 1977; Holden, 1964, 1965; IUCN (undated); Kaufmann, 1966, 1968, 1971b, 1973, 1975b; Klukas, 1967; Lebuff, 1969; Lebuff & Beatty, 1971; Lewis, 1940; Litwin, 1978; Mann, 1977, 1978; Marquez, 1978a; Medem, 1962a, 1962b, 1965b; Neill, 1958; Ogren, 1977; Oliviera, 1951; Padilla, 1974; Parsons, 1956; Philibosian & Yntema, 1977; Pritchard, 1971b;

Ragotzkie, 1959; Rainey & Pritchard, 1972; Ramirez, 1975; Richardson, 1978; Richardson, Richardson & Dix, 1978; Richardson et al, 1978; Routa, 1967; Schulz, 1971b, 1982; Solis, 1966; Somberg-Honig, 1967; Stancyk et al, 1979; Sternberg, 1981; Stoneburner & Richardson, 1981; Talbert et al, 1980; Viosca, 1961; Vollbrecht, 1947; Wingate, 1975, 1980; Williams-Walls et al, 1983; Worth & Smith, 1976.

- Physiology

Ackerman, 1981; Ackman, Hooper & Frair, 1971; Anon, 1977a; Bentley & Dunbar-Cooper, 1980; Bentley & Lutz, 1979; Kraemer & Bennett, 1981; Layne, 1952; Milsom, 1975; Morris & Owens, 1982; Owens, 1980; Yntema & Mrosovsky, 1979, 1980, 1982; Stoneburner & Richardson, 1981.

- Renesting

Bell & Richardson, 1978; Bennett & Richardson, 1977; Bjorndal, Meylan & Turner, 1983; Davis & Whiting, 1977; Ehrhart, 1979a, 1979b; Gallagher et al, 1972; Geijskes, 1945; Kaufmann, 1975b; Lenarz, Frazer et al, 1981; Lenarz & Stoneburner, 1980; Richardson et al, 1978; Williams-Walls et al, 1983.

- Status of stocks Bacon, 1973b, 1975, 1981; Davis & Whiting, 1977.

- Taxonomy &
description

Babcock, 1930a; Brongersma, 1961, 1968a; Carr, 1942; Carr & Goin, 1955; Frair, 1979; Hay, 1908; Marquez, 1978b; Rainey, 1981; Smith, 1954.

CAYMAN ISLANDS

- General Anon, 1973; Bacon, 1975, 1981; Bean, 1983; Catesby, 1731; Considine & Winberry, 1978; Fisher, 1971; Garman, 1888; Heffington, 1970; Johnson, 1980; Lewis, 1940; Long, 1774; Mack, 1983; Mack et al, 1982; Mariculture, 1973; Owens, 1977; Rainey & Pritchard, 1972; Rebel, 1974; Reiger, 1975; Simon, 1975; Simon et al, 1975; Smith, 1954; Solomon & Baird, 1979; Thompson, 1947; Townson, 1980; Wood, F.E. & Wood, 1977, 1982; Wood, J.R., 1974, 1982a, 1982b; Wood, J.R. & Wood, 1977a, 1977b, 1979, 1980.
- Caretta Lewis, 1940.
- Chelonia Anon, 1973; Bean, 1983; Considine & Winberry, 1978; Heffington, 1970; Lewis, 1940; Thompson, 1947; Townson, 1980.
- Exploitation Lewis, 1940; Mack, 1983; Mack et al, 1982; Rebel, 1974; Thompson, 1947.
- Farming Anon, 1973, 1974a; Bean, 1983; Considine & Winberry, 1978; Fisher, 1971; Heffington, 1970; Johnson, 1980; Mariculture, 1973; Reiger, 1975; Simon et al, 1975; Townson, 1980; Wood, F.E. & Wood, 1977, 1982; Wood, J.R., 1974, 1982a, 1982b; Wood, J.R. & Wood, 1977a, 1977b, 1979, 1980.
- Dermochelys Lewis, 1940.
- Eretmochelys Lewis, 1940.

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- General

Ackerman, 1981; Ahrenfeldt, 1954; Anon, 1966, 1969a, 1969b, 1974a, 1975b, 1977c, 1979b; Audubon, 1926; Bacon, 1969a, 1975, 1981; Barth, 1962a, 1962b; Bean, 1983; Bjorndal, 1979a, 1979b, 1979c, 1980a, 1980b, 1982a, 1982b, 1982c; Bjorndal, Meylan & Turner, 1983; Boeke, 1907; Bowen, 1960; Brown, 1942; Brownell et al, 1973; Brugiére, 1971; Brundage, 1982; Budker, 1933; Bullis & Drummond, 1978; Burnett-Herkes, 1968, 1974; Caballero & Caballero, 1962; Caldwell, 1960, 1961, 1962b, 1963; Caldwell & Carr, 1957; Cardona & de la Rua, 1972; Carr, 1942, 1954a, 1954b, 1962, 1963a, 1964a, 1965, 1967b, 1967c, 1967d, 1969b, 1969c, 1971, 1972a, 1972b, 1975, 1979, 1980; Carr et al, 1980; Carr & Caldwell, 1956a, 1956b; Carr & Carr, 1970a, 1970b, 1972; Carr, Carr & Meylan, 1978; Carr & Coleman, 1978; Carr & Giovannoli, 1951; Carr & Goin, 1955; Carr & Goodman, 1970; Carr & Hirth, 1961, 1962; Carr & Ingle, 1959; Carr, Iverson & Jackson, 1979; Carr & Meylan, 1980a; Carr, Meylan et al, 1982; Carr & Ogren, 1960; Carr & Schroeder, 1967; Carr & Sweat, 1969; Carr, T, 1977, 1978; Colli, 1976; Considine & Winberry, 1978; Cooper & Bacon, 1981; Craig, 1966; Cromie, 1966, 1968; Da Costa, 1969; Dalton, 1979a, 1979b; Dean & Steinbach, 1981; De Sola & Abrams, 1933; Dimond, 1965; Dodd, 1981, 1982b; Donoso-Barros, 1965; Duerden, 1901; Duke, 1967; Duncan, 1943; Dunn, 1918b; Dutton & Whitmore, 1983; Ehrenfeld, 1968, 1974; Ehrenfeld & Carr, 1967; Ehrenfeld

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& Ehrenfeld, 1973; Ehrenfeld & Koch, 1967;
Ehrhart, 1975, 1977, 1979b; Ehrhart & Yoder, -
1978; Evermann, 1900; Feazel, 1980; Fenchel et al,
1979; Ferreira, 1968, 1972; Fiedler et al, 1943d,
1934; Fisher, 1971; Fletemeyer, 1977c, 1982;
Flores, 1969; Flores & Hoit, 1965; Fowler, 1978,
1979; Frair, 1979; Fretey, 1979b; Fretey &
Renault-Lescure, 1978; Frick, 1976 ,
Fritts & Hoffman, 1982; Fuentes, 1967; Fuller,
1978; Garman, 1884; Geijskes, 1945; Giral, 1955;
Goeldi, 1902; Goin, 1968; Gonzales, 1982; Goodwin,
1971; Gundlach, 1867, 1881; Gunter, 1981; Haines,
1974, 1978; Haines & Kleese, 1977; Harlan, 1827;
Harless & Morlock, 1979; Hart-Davis, 1969; Hawk,
1978; Heffington, 1970; Hendrickson, 1974;
Hendrickson et al, 1977; Hildebrand, 1982; Hill,
1980; Hirth, 1962, 1971, 1978, 1980, 1982; Hirth
& Schaffer, 1974; IUCN (undated); Janssen, 1972;
Joyce, 1982; Kalber & Beaumariage, 1977; Kappler,
1881; Kaufmann, 1966, 1967, 1971b, 1972, 1975a;
King, 1982; Kleerekoper & Bennett, 1982; Koch
et al, 1969; Koschmann, 1965; Lance et al, 1979;
Laycock, 1969; Leibovitz et al, 1978; Lewis, 1940;
Licht et al, 1979; Lightburn, 1978; Lipske, 1977b;
Litwin, 1981; Loennberg, 1894; Luederwaldt, 1926;
Lund, 1978; Lusty, 1971; Mackey, 1980; Mann,
1977, 1978; Mariculture, 1973; Marquez, 1966,
1968, 1978a, 1978b; Masters, 1970; Medem, 1962b;
Mendonca, 1979, 1981; Mendonca & Ehrhart, 1978,
1982; Meylan, 1978, 1982a, 1982b; Mittermeyer,
1971a; Monroe, 1898; Mortimer, 1976, 1981, 1982b;
Mowbray & Caldwell, 1958; Mrosovsky, 1968, 1970,
1982; Mrosovsky & Carr, 1967; Mrosovsky &
Pritchard, 1971; Neck, 1978; Neill, 1958;

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Neill & Allen, 1959; Nietschmann, 1971b, 1974, 1979a, 1979b; NMFS, 1978b; Ogden et al, 1983; Ogren & McVea, 1982; Owens, 1974, 1976, 1980a, 1980b, 1981; Owens, Gern & Ralph, 1978b, 1980; Owens & Hendrickson, 1978; Owens, Hendrickson et al, 1976, 1978, 1979; Padilla, 1974; Parsons, 1962; Philibosian & Yntema, 1977; Pinner, 1967; Pritchard, 1964, 1966, 1969b, 1969e, 1971b, 1973; Pritchard, Greenhood et al, 1967; Rabalais & Rabalais, 1980; Rainey, 1975a, 1975b, 1976, 1981; Rainey & Pritchard, 1972; Ramirez, 1975; Randall, 1965; Randall & Schroeder, 1962; Rebel, 1974; Rebell et al, 1975, 1974; Reichart, 1978, 1982; Reiger, 1975; Rivero, 1978; Roze, 1955; Ruiz, 1969; Sand, 1972; Schmidt, J, 1916; Schmidt & Whitam, 1961; Schroeder, 1966; Schulz, 1969b, 1970, 1971b, 1975, 1982; Seaman & Randall, 1962; Sefton, 1974; Simon, 1975; Simon et al, 1975; Smith, 1950, 1954; Smith et al, 1978; Solis, 1966; Solomon & Baird, 1976, 1977, 1979; Spoczynska, 1971; Spotila & Foley, 1979; Spotila et al, 1981; Standora et al, 1979; Stedman, 1796; Sternberg, 1981, 1982a; Stickney & White, 1972; Stickney et al, 1973; Thayer et al, 1982; Thompson, 1946, 1947; Thurston, 1976; Tighe, 1981; Towle, 1978; Townson, 1980; Ulrich & Owens, 1974; Ulrich & Parkes, 1978; US.Dept. Commerce, 1976, 1978; US.Dept. Interior, 1980; Van Rhijn, 1979; Viosca, 1961; Wiewandt, 1973; Williams & McRae, 1917-18; Wingate, 1975, 1977, 1980; Witham, 1971, 1974, 1976; Witham & Carr, 1969; Witham & Futch, 1977;

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Witham et al, 1973; Wood, Critchley et al, 1982; Wood, F.E. & Wood, 1977, 1982; Wood, J.R., 1974; Wood, J.R. & Wood, 1977a, 1977b, 1979, 1980, 1981; Woolford, 1979; Worth & Smith, 1976; Zuloaga, 1955; Zwinenberg, 1975b.

- Behaviour

Anon, 1969a, 1973; Bjorndal, 1979a, 1980a, 1982b; Brownell et al, 1973; Carr, 1954b, 1962, 1963a, 1964a, 1964b, 1965, 1967b, 1972a, 1972b; Carr & Carr, 1972; Carr & Giovannoli, 1951; Carr & Hirth, 1962; Dalton, 1979a, 1979b; Ehrenfeld, 1968; Ehrenfeld & Koch, 1967; Ehrhart, 1977, 1979b; Frick, 1976, ; Fritts & Hoffman, 1982; Hirth, 1978, 1980; Koch et al, 1969; Litwin, 1978; Mann, 1977, 1978; Mendonca & Ehrhart, 1978, 1982; Meylan, 1978, 1982a, 1982b; Mortimer, 1981, 1982b; Mrosovsky, 1968, 1970; Mrosovsky & Carr, 1967; Ogden et al, 1983; Ogren & McVea, 1982; Owens, Gern & Ralph, 1978b; Owens, Hendrickson & Owens, 1977; Pinner, 1967; Pritchard, 1969e; Schulz, 1975; Van Rhijn, 1979; Zwinenberg, 1975b.

- Clutch size

Audubon, 1926; Fowler, 1978, 1979; Pritchard, 1969e; Schulz, 1975.

- Conservation

Bean, 1983; Bowen, 1960; Burnett-Herkes, 1968; Caldwell & Carr, 1957; Cardona & de la Rua, 1972; Carr, 1969b, 1969c, 1971; Carr, Iverson & Jackson, 1979; Carr & Schroeder, 1967; Carr & Sweat, 1969; Considine & Winberry, 1978; Cromie, 1966; Dean & Steinbach, 1981; Dodd, 1981; Dutton & Whitmore, 1983; Ehrenfeld, 1974; Fletemeyer, 1982; Fuentes, 1967; Hill, 1980; Hirth, 1971; Kalber & Beaumariage, 1977; King, 1982; Laycock, 1969; Lusty, 1978; Marquez, 1978a; Owens, 1976, 1981; Pritchard, 1969e; Pritchard, Greenwood et al, 1967; Randall & Schroeder, 1962; Reichart, 1978, 1982; Ruiz, 1969; Sand, 1972; Schulz, 1969b, 1975; Smith et al, 1978; US.Dept. Interior, 1980.

- Culture

Anon, 1969b, 1974a; Boeke, 1907; Caldwell, 1962b; Carr & Sweat, 1969; Considine & Winberry, 1978; Ehrenfeld, 1974; Fisher, 1971; Haines, 1974, 1978; Haines & Kleese, 1977; Hart-Davis, 1969; Heffington, 1970; Kalber & Beaumariage, 1977; Kaufmann, 1975a; Leibovitz et al, 1978; Marquez, 1966; Owens, 1976; Rebell et al, 1975, 1974; Reichart, 1978, 1982; Sand, 1972; Schroeder, 1966; Schulz, 1975; Sefton, 1974; Smith, 1950; Spoczynska, 1971; Stickney & White, 1972; Stickney et al, 1973; Townson, 1980; Ulrich & Owens, 1974; Ulrich & Parkes, 1978; Witham, 1971; Witham & Carr, 1969; Witham & Futch, 1977; Wood, F.E. & Wood, 1977, 1982; Wood, J.R., 1974; Wood, J.R. & Wood, 1977a, 1977b, 1979, 1980, 1981; Zwinenberg, 1975b.
- Demography

Bjorndal, 1980b; Carr, 1980; Carr & Caldwell, 1956a; Carr & Carr, 1970; Carr, Carr & Meylan, 1978; Craig, 1966; Dodd, 1981; Harless & Morlock, 1979; Hirth, 1971; Hirth & Schaffer, 1974; King, 1982; Schulz, 1975, 1982; Smith et al, 1978; Worth & Smith, 1976.
- Developmental habitat

Ehrhart, 1979b; Mendonca, 1979, 1981; Mendonca & Ehrhart, 1978, 1982; Meylan, 1978; Monroe, 1898.
- Diet & feeding

Audubon, 1926; Bjorndal, 1979a, 1979c, 1980a, 1982b; Fenchel et al, 1979; Ferreira, 1968; Fuller, 1978; Gundlach, 1867; Hawk, 1978; Hirth, 1971; Mortimer, 1981, 1982b; Neill, 1958; Ogden et al, 1983; Randall, 1965; Sand, 1972; Schroeder, 1966; Sefton, 1974; Spoczynska, 1971; Stickney et al, 1973; Thayer et al, 1982; Tighe, 1981; Wood, F.E. & Wood, 1977; Wood, J.R., 1974; Wood, J.R. & Wood, 1977b, 1981; Zwinenberg, 1975b.

- Eggs Ackerman, 1981; Carr, 1967c; Hill & Green, 1971; Mrosovsky & Pritchard, 1971; Pritchard, 1969e; Schulz, 1975; Solomon & Baird, 1976, 1977; Zwinenberg, 1975b.

- Exploitation Brown, 1942; Budker, 1933; Bullis & Drummond, 1978; Caldwell & Carr, 1957; Cardona & de la Rúa, 1972; Carr, 1954, 1969b, 1971, 1979; Carr & Caldwell, 1956a, 1956b; Carr, Carr & Meylan, 1978; Cato et al, 1978; Considine & Winberry, 1978; Craig, 1966; Da Costa, 1969; De Sola & Abrams, 1933; Duerden, 1901; Duke, 1967; Duncan, 1943; Evermann, 1900; Fiedler et al, 1943d, 1934; Fretey & Renault-Lescure, 1978; Fuller, 1978; Garman, 1884; Geijskes, 1945; Gonzales, 1982; Goodwin, 1971; Hildebrand, 1982; Hirth, 1971; Kaufmann, 1966; King, 1982; Lewis, 1940; Lusty, 1971; Mackey, 1980; Marquez, 1978b; Mittermeyer, 1971a; Neill, 1958; Neill & Allen, 1959; Nietschmann, 1971b, 1979a, 1979b; Parsons, 1962; Rainey & Pritchard, 1972; Reiger, 1975; Schulz, 1975; Smith, 1950, 1954; Stedman, 1796; Sternberg, 1982a; Thompson, 1946, 1947; Williams & McRae, 1917-18; Zwinenberg, 1975b.

- Foraging areas Bjorndal, 1979a, 1980a, 1982b; Carr, 1964a, 1971, 1975; Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr, T., 1978; Craig, 1966; Ferreira, 1968; Fuller, 1978; Hirth, 1971; IUCN, (undated); Lewis, 1940; Meylan, 1982b; Monroe, 1898; Mortimer, 1981, 1982b; Pritchard, 1973; Randall, 1965; Schroeder, 1966.

- Growth Bjorndal, Meylan & Turner, 1983; Caldwell, 1962b; Carr & Goodman, 1970; Hawk, 1978; Hirth, 1971, 1982; Kaufmann, 1967, 1972, 1975a; Mendonca, 1979, 1981; Owens, 1980a; Stickney et al, 1973; Witham & Carr, 1969; Zwinenberg, 1975b.

- Hatchlings Carr, 1963a, 1967c, 1980; Carr & Hirth, 1961; Carr & Meylan, 1980a; Carr & Ogren, 1960; Dalton, 1979a, 1979b; Ehrenfeld & Carr, 1967; Frick, 1976 , Ireland, 1979b; Ireland et al, 1978; Mann, 1977, 1978; Mrosovsky, 1968, 1970; Mrosovsky & Carr, 1967; Owens, 1980a; Schulz, 1975; Towle, 1978; Van Rhijn, 1979; Witham, 1976; Wood, F.E. & Wood, 1977; Wood, J.R. & Wood, 1977b.

- Incubation Dimond, 1965; Fowler, 1978, 1979; Kalber & Beaumariage, 1977; Marquez, 1966; Monroe, 1898; Mrosovsky, 1982; Sand, 1972; Schulz, 1975; Sefton, 1974; Spotila et al, 1981.

- Injuries Barth, 1962a.

- Migration Anon, 1969a; Carr, 1954b, 1962, 1963a, 1964a, 1965, 1967b, 1971, 1972a, 1972b, 1979, 1980; Carr & Carr, 1970, 1972; Carr, Carr & Meylan, 1978; Carr & Coleman, 1978; Carr & Giovannoli, 1951; Carr & Meylan, 1980a; Carr & Ogren, 1960; Duerden, 1901; Ehrenfeld & Koch, 1967; Feazel, 1980; Frick, 1976a, 1976b; Hart-Davis, 1969; Hill, 1980; Hirth, 1978; Kalber & Beaumariage, 1977; Koch et al, 1969; Meylan, 1982a, 1982b; Pinner, 1967; Pritchard, 1973; Rainey, 1975a; Schmidt, J., 1916; Schulz, 1975; Witham, 1976; Witham & Carr, 1969; Zwinenberg, 1975b.

- Mortality Carr, Iverson & Jackson, 1979; Dutton & Whitmore, 1983; Ehrhart, 1977; Fowler, 1978, 1979; Hill & Green, 1971; Hirth, 1971; King, 1982; Rabalais & Rabalais, 1980; Schmidt & Witham, 1961; Schulz, 1975; Seaman & Randall, 1962; Witham, 1974; Zwinenberg, 1975b.
- Nesting areas Anon, 1966, 1975b; Bacon, 1969a, 1971c; Bjorndal, 1980b; Bjorndal, Meylan & Turner, 1983; Brown, 1942; Brugiére, 1971; Caldwell, 1960, 1961; Carr, 1954b, 1965, 1969b, 1971, 1972a, 1972b, 1980; Carr & Carr, 1970a, 1970b, 1972; Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr & Ingle, 1959; Carr & Ogren, 1960; Carr, T., 1977, 1978; Dodd, 1981; Ehrhart, 1975, 1979b; Ehrhart & Yoder, 1978; Fletemeyer, 1982; Flores, 1969; Flores & Hoit, 1965; Fowler, 1978, 1979; Fretey, 1979b; Fritts & Hoffman, 1982; Fuentes, 1967; Fuller, 1978; Geijskes, 1945; Hill, 1980; Hirth, 1971; IUCN, (undated); Janssen, 1972; Kappler, 1881; Kaufmann, 1966, 1971b; Mann, 1977, 1978; Marquez, 1968, 1978a; Medem, 1962b; Monroe, 1898; Mowbray & Caldwell, 1958; Neck, 1978; Neill, 1958; Padilla, 1974; Parsons, 1962; Philibosian & Yntema, 1977; Pritchard, 1964, 1966, 1969b, 1969e, 1971b, 1973; Pritchard, Greenhood et al, 1967; Rainey, 1975a, 1975b, 1976; Rainey & Pritchard, 1972; Ramirez, 1975; Randall & Schroeder, 1962; Schmidt & Witham, 1961; Schulz, 1969b, 1971b, 1975, 1982; Solis, 1966; Solomon & Baird, 1979; Sternberg, 1981; Thurston, 1976; Towle, 1978; Viosca, 1961; Wingate, 1975, 1977, 1980; Woolford, 1979; Worth & Smith, 1976; Zuloaga, 1955; Zwinenberg, 1975b.

- Physiology

Ackerman, 1981; Bjorndal, 1979a, 1979b, 1979c, 1980a, 1982b; Carr, 1965, 1971; Ehrenfeld & Ehrenfeld, 1973; Fenchel et al, 1979; Hawk, 1978; Hendrickson et al, 1977; Hirth, 1962; Lance et al, 1979; Licht et al, 1979; Mrosovsky & Pritchard, 1971; Owens, 1974, 1976, 1980a, 1980b; Owens, Gern & Ralph, 1980; Owens & Hendrickson, 1978; Owens, Hendrickson et al, 1976, 1978, 1979; Owens, Hendrickson & Owens, 1977; Spotila & Foley, 1979; Spotila et al, 1981; Standora et al, 1979; Wood, Critchley et al, 1982; Wood, Platz et al, 1982; Wood, F.E. & Wood, 1977, 1982; Wood, J.R. & Wood, 1977b.

- Renesting

Bjorndal, 1982c; Bjorndal, Meylan & Turner, 1983; Carr, 1971, 1980; Carr & Carr, 1970a, 1970b, 1972; Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr & Ogren, 1960; Ireland, 1979a; Pritchard, 1969e; Schulz, 1975; Worth & Smith, 1976.

- Status of stocks

Bacon, 1973b, 1975, 1981; Carr, Carr & Meylan, 1978.

- Taxonomy & description

Agassiz, 1857, 1871; Ahrenfeldt, 1954; Brongersma, 1961, 1968a; Carr, 1942; Carr & Goin, 1955; Frair, 1979; Hirth, 1971; Marquez, 1978b; Rainey, 1981; Smith, 1954.

COLOMBIA

- General

Bacon, 1975, 1981; Bentuvia & Rios, 1970; Carr et al, 1980; Carr, Carr & Meylan, 1978; Carr, Meylan et al, 1982; Chavez & Kaufmann, 1974; Donoso-Barros, 1965; Dunn, 1918b; Kaufmann, 1966, 1967, 1968, 1971a, 1971b, 1972, 1973, 1975a, 1975b; Medem, 1958, 1962a, 1962b, 1965a,

- 1965b; Niceforo, 1953; Parsons, 1956; Rainey & Pritchard, 1972; Ramirez, 1975; Rebel, 1974; Tufts, 1972.
- Caretta Kaufmann, 1966, 1967, 1968, 1971b, 1973, 1975b; Medem, 1962a, 1962b, 1965b; Parsons, 1956; Ramirez, 1975.
 - Chelonia Carr, Carr & Meylan, 1978; Dunn, 1918b; Kaufmann, 1966, 1967, 1971b; Medem, 1962b; Ramirez, 1975.
 - Dermochelys Kaufmann, 1966, 1971a, 1971b, 1973; Medem, 1962a, 1962b; Ramirez, 1975.
 - Eretmochelys Bentuvia & Rios, 1970; Dunn, 1918b; Kaufmann, 1966, 1967, 1971b; Medem, 1962b; Parsons, 1956; Ramirez, 1975.
 - Exploitation Bentuvia & Rios, 1970; Carr, Carr & Meylan, 1978; Kaufmann, 1966, 1971b; Medem, 1962a; Parsons, 1956; Rebel, 1974.
 - L. kemp Chavez & Kaufmann, 1974; Niceforo, 1953; Ramirez, 1975.
 - L. olivacea Kaufmann, 1971b.
 - Nesting areas Bentuvia & Rios, 1970; Chavez & Kaufmann, 1974; Dunn, 1918b; Kaufmann, 1966, 1968, 1971a, 1971b, 1973, 1975b; Medem, 1962b, 1965b; Parsons, 1956; Ramirez, 1975.
 - Reserves Tufts, 1972.

COMMENSALS

Bacon, 1970b; Budker, 1933; Caine, 1982; Caldwell, 1968; Ernst & Barbour, 1972; Fretey, 1978c, 1979a; Pritchard, 1971a; Pritchard & Marquez, 1973.

CONSERVATION

Aberson, 1947; Andre & West, 1981; Anon, 1970, 1975b, 1977b, 1977c, 1978a, 1980, 1981; Bacon, 1975, 1981; Barbour, 1976; Bean, 1983; Blancaneaux, 1973; Braddon et al, 1982; Brundage, 1982; Burchfield, 1982; Burchfield & Foley, 1982; Caldwell, 1960, 1966; Carr, 1967a, 1968, 1969a, 1970, 1971, 1972a; Carr & Dodd, 1983; Carr & King, 1975; Carr & Sweat, 1969; Casas-Andreu, 1970; Dean & Steinbach, 1981; Dodd, 1978, 1982a; Dutton & Whitmore, 1983; Ehrenfeld, 1974, 1982; Ehrhart, 1979d; Fisher, 1971; Francis, 1978; Fretey & Lescure, 1979, 1982; Gomez, 1982; Goodwin, 1981; Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Gorman, 1981; Groombridge, 1982; Hanif, 1972; Harless & Morlock, 1979; Hendrickson, 1980, 1982; Hendrickson et al, 1977; Hermans, 1961; Hill, 1979; Hillaby, 1963, 1968; IUCN, 1973, 1975, 1979, undated; Laycock, 1969; Lebuff, 1976; Lipske, 1977a, 1977b, 1979; Lund, 1976, 1978; Lusty, 1971; Mack et al, 1982; Mackey, 1980; Mariculture, 1973; Meylan & Mack (in press); Morreale et al, 1982; Mrosovsky, 1982, 1983a, 1983b; Mrosovsky & Yntema, 1980; Navid, 1982; NMFS, 1978a, 1978b, 1978c; Owens, 1976, 1981; Padilla, 1974; Philibosian, 1976; Pickett & Townson, 1980a, 1980b; Pritchard, 1968, 1969a, 1969e, 1976b, 1979b, 1980, 1981b, 1982b; Pritchard et al, 1982; Pritchard, Greenwood et al, 1967; Putney, 1979; Radcliffe, 1972; Rainey & Pritchard, 1972; Richardson, 1981; Reidman & Witham, 1974; Ross, 1978; Ruiz, 1969; Ruiz et al, 1981; Sahrhage, 1971; Sand, 1972; Schmidt, C. & Witham, 1961; Schulz, 1969b, 1970, 1971a, 1975, 1982; Seater, 1972; Shabica, 1982; Shelfer, 1978;

Smith, 1950; Smith et al, 1978; Spotila et al, 1983; Sternberg, 1982a, 1982b; Tangley, 1980; Towle, 1978; UNEP, 1979; US.Dept. Commerce, 1976, 1978, 1979; US.Dept. Interior, 1977, 1978, 1980, 1981a, 1981b; Wauer, 1978; Witham, 1980, 1982; Wood, J.R., 1982a, 1982b; Zimmer, 1964; Zwinenberg, 1977.

COSTA RICA

- General

Ackerman, 1981; Babcock, 1931; Bacon, 1975, 1981; Bjorndal, 1979a, 1980b, 1982b, 1982c; Bowen, 1960; Brundage, 1982; Burnett-Herkes, 1968; Carr, 1954b, 1965, 1967b, 1969a, 1969b, 1969c, 1970, 1971, 1972a, 1972b, 1979, 1980; Carr et al, 1980; Carr & Carr, 1970a, 1970b, 1972; Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr & Goodman, 1970; Carr & Hirth, 1961; Carr, Hirth & Ogren, 1966; Carr & Meylan, 1980a; Carr, Meylan et al, 1982; Carr & Ogren, 1959, 1960; Carr & Schroeder, 1967; Carr & Stancyk, 1975; Cromie, 1966; Ehrenfeld, 1968; Ehrenfeld & Carr, 1967; Fiedler et al, 1943c; Fitter, 1961; Fowler, 1978, 1979; Hirth, 1962; IUCN, 1975; Marquez, 1966; Meylan, 1978; Mrosovsky, 1972b; Mrosovsky & Carr, 1967; Owens, 1981; Pritchard, 1969a; Rainey & Pritchard, 1972; Rebel, 1974; Ruiz, 1969; Sand, 1972; Simon, 1975; Solomon & Baird, 1979; Spotila & Foley, 1979; Spotila et al, 1979; Tressler & Lemon, 1951; Underwood, 1962; Witham & Carr, 1969; Zimmer, 1964.

- Chelonia Bjorndal, 1979a, 1980b, 1982b, 1982c; Bowen, 1960; Burnett-Herkes, 1968; Carr, 1954b, 1965, 1967b, 1969a, 1969b, 1969c, 1970, 1971, 1972a, 1972b, 1979, 1980; Carr & Carr, 1970a, 1970b, 1972; Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr & Goodman, 1970; Carr & Hirth, 1961; Carr & Meylan, 1980a; Carr & Ogren, 1960; Carr & Schroeder, 1967; Cromie, 1966; Ehrenfeld, 1968; Ehrenfeld & Carr, 1967; Fowler, 1978, 1979; IUCN, 1975; Marquez, 1966; Meylan, 1978; Ruiz, 1969; Sand, 1972; Spotila & Foley, 1979; Spotila et al, 1979; Zimmer, 1964.
- Conservation Bowen, 1960; Burnett-Herkes, 1968; Carr, 1969a, 1969b, 1969c, 1970, 1971; Cromie, 1966; IUCN, 1975; Owens, 1981; Pritchard, 1969a; Ruiz, 1969; Sand, 1972; Zimmer, 1964.
- Demography Bjorndal, 1980b; Carr, 1970; Carr & Carr, 1970a; Carr, Carr & Meylan, 1978.
- Dermochelys Babcock, 1931; Carr, 1954b; Carr & Ogren, 1959; Fitter, 1961; Underwood, 1962.
- Eretmochelys Carr, 1954b; Carr, Hirth & Ogren, 1966; Carr & Stancyk, 1975; IUCN, 1975.
- Exploitation Bowen, 1960; Carr, 1969a, 1969b, 1970, 1971; Carr, Carr & Meylan, 1978; Fiedler et al, 1943c; Rebel, 1974; Tressler & Lemon, 1951.
- Foraging areas Bjorndal, 1979a, 1982b.
- Nesting areas Bjorndal, 1980b, 1982c; Carr, 1954b, 1965, 1967b, 1971, 1972a; Carr & Carr, 1970a, 1970b, 1972; Carr & Giovannoli, 1951; Carr & Ogren, 1959, 1960; Fitter, 1961; Fowler, 1978, 1979; Underwood, 1962.
- Reserves IUCN, 1975.

CUBA

- General Aguayo, 1953; Bacon, 1975, 1981; Caldwell, Carr & Hellier, 1955b; Cardona & de la Rua, 1972; Gonzales, 1982; Gundlach, 1867, 1875; Mack, 1983; Mack et al, 1982; Martinez, 1948; Meylan et al, 1983; Rainey & Pritchard, 1972; Rebel, 1974; Ubeda, 1973; Underwood, 1960, 1962; US.Dept. Interior, 1958-59; Varona, 1974.
- Caretta Abascal, 1971; Caldwell, Carr & Hellier, 1955b; Cardona & de la Rua, 1972; Gonzales, 1982; Gundlach, 1867; Meylan et al, 1983.
- Chelonia Cardona & de la Rua, 1972; Gonzales, 1982; Gundlach, 1867.
- Dermochelys Cardona & de la Rua, 1972; Gundlach, 1867.
- Eretmochelys Cardona & de la Rua, 1972; Gonzales, 1982; Gundlach, 1867; Ubeda, 1973.
- Exploitation Abascal, 1971; Cardona & de la Rua, 1972; Gonzales, 1982; Gundlach, 1867; Mack, 1983; Mack et al, 1982; Martinez, 1948; Rebel, 1974; Ubeda, 1973; US.Dept. Interior, 1958-59; Varona, 1974.
- L. kempi Aguayo, 1953.
- L. olivacea Underwood, 1960, 1962; Varona, 1974.
- Nesting areas Abascal, 1971; Caldwell, Carr & Hellier, 1955b; Gundlach, 1867.

CULTURE (care in captivity)

Anon, 1969b, 1974a; Boeke, 1907; Carr & Ogren, 1959; Considine & Winberry, 1978; Dodd, 1982a; Ehrenfeld, 1974, 1980; Ernst & Barbour, 1972; Foster & Chapman, 1975; Frair, 1970; Goodrian, 1946; Haines, 1974, 1978; Haines & Kleese, 1977;

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Harless & Morlock, 1979; Leibovitz et al, 1978; Milsom, 1975; Murphy & Collins, 1980; Parrish, 1958; Phillips, 1978; Pritchard et al, 1982; Rebel, 1974; Rebell et al, 1975, 1974; Reichart, 1978; Solomon & Baird, 1979; Thompson, 1945; Witham, 1978b; Wood, J.R., 1982b; Wood, J.R. & Wood, 1979, 1980.

CURACAO

- General Bacon, 1975, 1981; Boeke, 1907; Hermans, 1961; Rebel, 1974.
- Chelonia Boeke, 1907.
- Exploitation Boeke, 1907.

DERMOCHELYS

- General Ackman & Burgher, 1965; Allen & Neill, 1957; Anon, 1961, 1975, 1977c, 1979d; Audubon, 1926; Babcock, 1931; Bacon, 1967, 1969a, 1969b, 1970a, 1970b, 1971a, 1971b, 1971c, 1973a, 1973b, 1973c, 1973d, 1975, 1981; Bacon & Maliphant, 1971; Bainbridge & Pritchard, 1974; Baughman, 1967; Brongersma, 1969, 1970; Brugiere, 1971; Bullis & Drummon, 1978; Burne, 1905; Caldwell, 1959b, 1960, 1961; Caldwell & Caldwell, 1969a; Caldwell, Carr & Hellier, 1955a; Caldwell & Rathjen, 1969; Cardona & de la Rua, 1972; Carr, 1954b, 1979; Carr et al, 1980; Carr & Goin, 1955; Carr, Iverson & Jackson, 1979; Carr, Meylan et al, 1982; Carr & Ogren, 1959; Carr, T., 1974, 1977, 1978; Coker, 1906; Cooper & Bacon, 1981; Cunha, 1975; Dean & Steinbach, 1981; De Sola & Abrams, 1933; Donoso-Barros, 1965; Duke, 1967; Dunlap, 1955; Dunn, 1918b; Dutton & Whitmore, 1983; Eckert & Eckert,

1983; Eckert et al, 1982; Ferreira, 1972; Fitter, 1961; Fletemeyer, 1980, 1982; Flores, 1969; Ford, 1879; Foster & Chapman, 1975; Frair, 1970, 1972, 1979; Frair, Ackman & Mrosovsky, 1972; Frair & Prol, 1978; Fretey, 1976, 1977a, 1978a, 1978b, 1978c, 1979a, 1979b, 1980, 1981, 1982; Fretey & Bour, 1980; Fretey & Frenay, 1980; Fretey & Lescure, 1976, 1979, 1981, 1982; Fretey & Renault-Lescure, 1978; Fuller, 1978; Gadow, 1909; Geijskes, 1945; Goeldi, 1902; Goin, 1968; Goode, 1877; Gosse, 1851; Greer et al, 1973; Gundlach, 1867, 1881; Gunter, 1981; Harlan, 1827; Hermans, 1961; Hildebrand, 1982; Hirth, 1980, 1982; Hoffman & Fritts, 1982; IMA, 1981; IUCN (undated); Janssen, 1972; Kappler, 1881; Kaufmann, 1966, 1971a, 1971b, 1973; Leary, 1957; Lebuff, 1976; Lewis, 1940, 1955; Lindblad, 1969; Luederwaldt, 1926; Lund, 1978; MacBride, 1946; Marquez, 1978b; Medem, 1962a, 1962b; Mortimer, 1982b; Moulton, 1963; Mount, 1975; Mowbray & Caldwell, 1958; Mrosovsky, 1971, 1972a, 1977, 1981, 1983a; Mrosovsky & Pritchard, 1971; Mrosovsky & Shettleworth, 1968, 1975; Neill, 1958; Neill & Allen, 1959; NMFS, 1978a; Owens, 1981; Padilla, 1974; Philibosian & Yntema, 1977; Phillips, 1978; Pritchard, 1964, 1966, 1969b, 1969e, 1971a, 1971b, 1973, 1976a, 1982a; Pritchard, Greenwood et al, 1967; Rabalais & Rabalais, 1980; Rainey, 1976, 1981; Rainey & Pritchard, 1972; Ramirez, 1975; Rebel, 1974; Rivero, 1978; Ross, 1981, 1982; Roze, 1955; Ruckdeschel et al, 1982; Schmidt, J., 1916; Schmidt & Witham, 1961; Schulz, 1969b, 1971b, 1975, 1982; Schwartz, A., 1954; Smith, 1954; Spoczynska, 1970; Sternberg, 1981; Stubbs,

- 1972; Towle, 1978; Underwood, 1962; US.Dept. Interior, 1978, 1980, 1981a, 1981b; Viosca, 1961; Wehle & Coleman, 1983; Witham, 1977; Witham & Futch, 1977; Yerger, 1965; Zwinenberg, 1974, 1975a.
- Behaviour Bacon, 1970b, 1973a; Carr & Ogren, 1959; Frair, 1970, 1972; Hirth, 1980; Kaufmann, 1971a, 1973; Leary, 1957; Lindblad, 1969; Mrosovsky, 1972a, 1977, 1983a; Mrosovsky & Shettleworth, 1968, 1975; Pritchard, 1969e, 1971a; Ruckdeschel et al, 1982.
 - Clutch size Audubon, 1926; Bacon, 1969a, 1970b; Caldwell, 1959b; Eckert & Eckert, 1983; Fretey, 1980; IMA, 1981; Pritchard, 1969e, 1971a.
 - Conservation Anon, 1979d; Blancaneaux, 1973; Carr, Iverson & Jackson, 1979; Dean & Steinbach, 1981; Dutton & Whitmore, 1983; Eckert & Eckert, 1983; Fretey, 1978a; Fretey & Lescure, 1979, 1982; NMFS, 1978a; Owens, 1981; Pritchard, 1971a, 1971b; Pritchard, Greehhood et al, 1967; US.Dept. Interior, 1978, 1980, 1981a, 1981b.
 - Culture Carr & Ogren, 1959; Foster & Chapman, 1975; Frair, 1970; Phillips, 1978; Schmidt & Witham, 1961; Spoczynska, 1970; Witham, 1977; Witham & Futch, 1977.
 - Demography Bacon, 1971b; Bacon & Maliphant, 1971; Fitter, 1961; IMA, 1981; Pritchard, 1971a, 1971b, 1982a; Schulz, 1982; Zwinenberg, 1974.
 - Diet Audubon, 1926; Bacon, 1970b; Brongersma, 1969; Fletemeyer, 1980; Frair, 1970; Fuller, 1978; IMA, 1981; Lewis, 1955; Macbride, 1946; Mortimer, 1982b; Neill, 1958; Pritchard, 1971a; Witham, 1977; Witham & Futch, 1977; Zwinenberg, 1974.

- Eggs Bacon, 1969a, 1970b; Carr & Ogren, 1959; Fretey, 1980; Gosse, 1851; IMA, 1981; Mrosovsky & Pritchard, 1971; Pritchard, 1971a.
- Exploitation Anon, 1975a; Bacon, 1967, 1969a, 1970b, 1971b, 1973b; Bullis & Drummond, 1978; Cardona & de la Rua, 1972; Cato et al, 1978; Duke, 1967; Fretey & Renault-Lescure, 1978; Fuller, 1978; Geijskes, 1945; Kaufmann, 1966; Medem, 1962a; Pritchard, 1971b; Rainey, 1976; Ross, 1982.
- Foraging areas Anon, 1979d; Bacon, 1970b; Brongersma, 1969; Fuller, 1978; Leary, 1957; Pritchard, 1971a.
- Growth Hirth, 1982; Witham, 1977; Zwinenber, 1974.
- Hatchlings Allen & Neill, 1957; Brongersma, 1969; Carr & Ogren, 1959; Fletemeyer, 1980; Foster & Chapman, 1975; IMA, 1981; Mrosovsky, 1971, 1977; Mrosovsky & Shettleworth, 1968, 1975; Phillips, 1978; Pritchard, 1971a; Spoczynska, 1970.
- Injuries Bacon, 1970b; Fretey, 1982; Pritchard, 1971a.
- Migration Babcock, 1931; Fletemeyer, 1980; Frair, 1972; Frair, Ackman & Mrosovsky, 1972; Hoffman & Fritts, 1982; Moulton, 1963; Pritchard, 1971a, 1973, 1976a.
- Mortality Anon, 1975a; Bacon, 1970b; Caldwell & Caldwell, 1969a; Dutton & Whitmore, 1983; Eckert & Eckert, 1983; Fretey, 1976, 1977a, 1978a, 1982; Fretey & Frenay, 1980; Fretey & Lescure, 1976, 1981, 1982; Mrosovsky, 1971; Pritchard, 1971a; Rabalais & Rabalais, 1980; Stubbs, 1972; Zwinenber, 1974.

- Nesting areas Allen & Neill, 1957; Anon, 1979d; Bacon, 1967, 1969a, 1970b, 1971b, 1971c; Bacon & Maliphant, 1971; Bainbridge & Pritchard, 1974; Brugiere, 1971; Caldwell, 1959b, 1960, 1961; Caldwell, Carr & Hellier, 1955a; Caldwell & Rathjen, 1969; Carr, 1954b; Carr & Ogren, 1959; Carr, T., 1974, 1977, 1978; Coker, 1906; Eckert & Eckert, 1983; Eckert et al, 1982; Fitter, 1961; Fletemeyer, 1982; Flores, 1969; Frair, 1970; Fretey, 1976, 1979b; Fuller, 1978; Geijskes, 1945; Gosse, 1851; Gundlach, 1867; Hermans, 1961; IMA, 1981; IUCN, (undated); Janssen, 1972; Kappler, 1881; Kaufmann, 1966, 1971a, 1971b, 1973; Lebuff, 1976; Lindblad, 1969; Medem, 1962a, 1962b; Mrosovsky, 1971, 1983a; Neill, 1958; Padilla, 1974; Philibosian & Yntema, 1977; Pritchard, 1964, 1966, 1969b, 1969e, 1971a, 1971b, 1973; Pritchard, Greenhood et al, 1967; Rainey, 1976; Rainey & Pritchard, 1972; Ramirez, 1975; Ross, 1981; Ruckdeschel et al, 1982; Schmidt, J., 1916; Schulz, 1969b, 1971b, 1975, 1982; Sternberg, 1981; Stubbs, 1972; Towle, 1978; Underwood, 1962; US.Dept. Interior, 1981a, 1981b; Viosca, 1961; Yerger, 1965; Zwinenberg, 1974.
- Physiology Ackman, Hooper & Frair, 1971; Frair, Ackman & Mrosovsky, 1972; Greer et al, 1973; Mrosovsky & Pritchard, 1971.
- Renesting Bacon & Maliphant, 1971; Eckert & Eckert, 1983; Kaufmann, 1971a; Pritchard, 1969e, 1971a, 1971b.
- Status of stocks Anon, 1961; Bacon, 1973b, 1975, 1981; Pritchard, 1971a, 1971b, 1982a.
- Taxonomy & description Babcock, 1931; Brongersma, 1970; Carr & Goin, 1955; Frair, 1979; Frair & Prol, 1978; Fretey & Bour, 1980; Marquez, 1978b; Pritchard, 1971a; Smith, 1954.

DEVELOPMENT EFFECTS Anon, 1979d; Caldwell, 1962a; Clark & Krynitsky, 1980; Delikat, 1980; Fletemeyer, 1977a, 1979, 1982; Frazier, 1980; Hillestad et al, 1974; Hosier, Kochhar & Thayer, 1981; Joyce, 1982; Keller & Adams, 1983; Kleerekoper & Bennett, 1982; Mann, 1977, 1978; McFarlane, 1963; Mrosovsky, 1981; Philibosian, 1976; Rutzler & Sterrer, 1970; Smith, 1954; Stoneburner et al, 1980; US. Dept. Interior, 1981b; Wehle & Coleman, 1983; Witham, 1978a, 1982; Woolford, 1979; Worth & Smith, 1976.

DISEASES Haines, 1974, 1978; Haines & Kleese, 1977; Leibovitz et al, 1978; Leong, 1979; Murphy & Collins, 1980; Rebell et al, 1975, 1974; Witham, 1978b; Wolke & George, 1981; Wood, J.R., 1982b.

DOMINICA

- General Bacon, 1971c, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982.
- Chelonia Bacon, 1971c.
- Dermochelys Bacon, 1971c.
- Eretmochelys Bacon, 1971c.
- Nesting areas Bacon, 1971c; Carr et al, 1980.

DOMINICAN REPUBLIC

- General Bacon, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Meylan et al, 1983; Ross, 1981.
- Caretta Meylan et al, 1983.
- Dermochelys Ross, 1981.

EGGS

Ackerman, 1977, 1980, 1981; Ackerman & Prange, 1972; Bacon, 1969a, 1970b; Blanck & Sawyer, 1979, 1981; Cunningham & Hurwitz, 1936; Ehrhart, 1979d; Fretey, 1980; Gosse, 1851; Hill, 1971b; Hirth, 1980; Kaufmann, 1968; Fraemer & Bennett, 1981; McMurtray, 1983; Mrosovsky & Pritchard, 1971; Solomon & Baird, 1976, 1977; Spotila et al, 1983; Stancyk, 1982.

ERETMOCHELYS IMBRICATA

- General

Ahrenfeldt, 1954; Anon, 1974c, 1977c, 1981; Audubon, 1926; Bacon, 1969a, 1975, 1981; Bentuvia & Rios, 1970; Brown, 1942; Budker, 1933; Buitrago, 1980; Bullis, 1978; Bullis & Drummond, 1978; Caldwell, 1960, 1961, 1962b; Caldwell & Rathjen, 1969; Cardona & de la Rua, 1972; Carr, 1954b, 1979; Carr et al, 1980; Carr & Goin, 1955; Carr, Hirth & Ogren, 1966; Carr, Iverson & Jackson, 1979; Carr & Meylan, 1980b; Carr, Meylan et al, 1982; Carr & Stancyk, 1975; Carr, T., 1977, 1978; Cooper & Bacon, 1981; Cope, 1887; Dean & Steinbach, 1981; De Sola & Abrams, 1933; Donoso-Barros, 1965; Duke, 1967; Dunn, 1918b; Evermann, 1900; Ferreira, 1972; Flores, 1969; Frair, 1979; Gadow, 1909; Geijskes, 1945; Goeldi, 1902; Goin, 1968; Gonzales, 1982; Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Goodwin & Reid, (undated); Goodwin, 1971; Gundlach, 1867; Gunter, 1981; Hendrickson et al, 1977; Hirth, 1962, 1982; IUCN, 1973, 1975, (undated); Janssen, 1972; Juhl et al, (undated); Kappler, 1881; Kaufmann, 1966, 1967, 1971b, 1972, 1975a; King, 1982; Lewis, 1940; Loennberg, 1894;

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Leuderwalddt, 1926; Lund, 1978; Mack, 1983; Mack et al, 1982; Mackey, 1980; Marquez, 1978a, 1978b; Medem, 1962b; Mittermeyer, 1971b; Mortimer, 1982b; Mowbray & Caldwell, 1958; Mrosovsky, 1970; Neill, 1958; Neill & Allen, 1959; Nietschmann, 1971a, 1971b, 1974, 1975a, 1977, 1979a; Padilla, 1974; Parsons, 1956, 1972; Philibosian, 1976; Philibosian & Yntema, 1977; Pritchard, 1964, 1966, 1969b, 1969e, 1971b; Pritchard, Greenhood et al, 1967; Rabalais & Rabalais, 1980; Rainey, 1976; Rainey & Pritchard, 1972; Ramirez, 1975; Randall & Schroeder, 1962; Rebel, 1974; Rivero, 1978; Robles, 1976; Roze, 1955; Schmidt, 1916; Schmidt & Witham, 1961; Schulz, 1969b, 1971b, 1982; Seaman & Randall, 1962; Small, 1982a, 1982b; Smith, 1950, 1954; Sternberg, 1981, 1982a; Stevenson, 1979; Thompson, 1946, 1947; Thurston, 1973, 1976; Thurston & Wiewant, 1976; Towle, 1978; Townsend, 1906; Tressler & Lemon, 1951; Ubeda, 1973; US.Dept. Interior, 1980; Wiewanddt, 1973; Wingate, 1975.

- Behaviour Carr, Hirth & Ogren, 1966; Goodwin & Reid (undated); Mrosovsky, 1970; Philibosian, 1976; Pritchard, 1969e.
- Clutch size Audubon, 1926; Carr, Hirth & Ogren, 1966; Pritchard, 1969e; Small, 1982b.
- Conservation Anon, 1981; Buitrago, 1980; Bullis, 1978; Carr, Iverson & Jackson, 1979; Carr & Meylan, 1980b; Dean & Steinbach, 1981; Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Goodwin & Reid, (undated); IUCN, 1973; King, 1982; Marquez, 1978a; Nietschmann, 1979a; Pritchard, Greenhood et al, 1967; Randall & Schroeder, 1962; Stevenson, 1979; Thurston & Wiewanddt, 1976; US.Dept. Interior, 1980.

- Culture Anon, 1981; Buitrago, 1980; Caldwell, 1962b;
Goodwin & Putnam, 1982; Kaufmann, 1975a;
Townsend, 1906.
- Demography Bullis, 1978.
- Diet Audubon, 1926; Carr, Hirth & Ogren, 1966; Carr
& Stancyk, 1975; Goodwin & Reid, (undated);
IUCN, 1975; Mortimer, 1982b; Neill, 1958;
Townsend, 1906.
- Eggs Carr, Hirth & Ogren, 1966; Small, 1982b.
- Exploitation Bentuvia & Rios, 1970; Budker, 1933; Buitrago,
1980; Bullis, 1978; Bullis & Drummond, 1978;
Cardona & de la Rua, 1972; Carr, 1979; Cato et
al, 1978; Duke, 1967; Evermann, 1900; Geijskes,
1945; Gonzales, 1982; Goodwin, 1971; Gundlach,
1867; Kaufmann, 1966; King, 1982; Mack, 1983;
Mack et al, 1982; Mackey, 1980; Marquez, 1978b;
Mittermeyer, 1971b; Neill, 1958; Neill & Allen,
1959; Nietschmann, 1971a, 1971b, 1977, 1979a;
Parsons, 1956, 1972; Rainey & Pritchard, 1972;
Roze, 1955; Schmidt, J., 1916; Smith, 1950;
Sternberg, 1982a; Thompson, 1946, 1947; Tressler
& Lemon, 1951; Ubeda, 1973.
- Foraging areas Carr, T., 1977, 1978; Goodwin & Reid, (undated);
IUCN, (undated); Lewis, 1940.
- Growth Caldwell, 1962b; Carr, Hirth & Ogren, 1966;
Goodwin & Reid, (undated); Hirth, 1982; Kaufmann,
1967, 1972, 1975a.
- Hatchlings Carr, Hirth & Ogren, 1966; Mrosovsky, 1970;
Philibosian, 1976.
- Incubation Buitrago, 1980; Carr, Hirth & Ogren, 1966.

- Migration Carr, Hirth & Ogren, 1966; Carr & Stancyk, 1975.
- Mortality Bullis, 1978; Rabalais & Rabalais, 1980; Small, 1982b; Thurston & Wiewandt, 1976.
- Nesting areas Anon, 1974c; Bacon, 1969a, 1971c, 1975, 1981; Bentuvia & Rios, 1970; Brown, 1942; Buitrago, 1980; Caldwell, 1960, 1961; Caldwell & Rathjen, 1969; Carr, 1954b; Carr, Hirth & Ogren, 1966; Carr & Stancyk, 1975; Carr, T., 1977, 1978; Flores, 1969; Goodwin & Reid, (undated); IUCN, 1973, (undated); Janssen, 1972; Kappler, 1881; Kaufmann, 1966, 1971b; Marquez, 1978a; Medem, 1962b; Neill, 1958; Padilla, 1974; Parsons, 1956; Philibosian & Yntema, 1977; Pritchard, 1964, 1966, 1969b, 1969e, 1971b; Pritchard, Greenhood et al, 1967; Rainey, 1976; Rainey & Pritchard, 1972; Ramirez, 1975; Schulz, 1969b, 1971b, 1982; Seaman & Randall, 1962; Small, 1982a, 1982b; Sternberg, 1981; Thurston, 1973, 1976; Towle, 1978; Wiewandt, 1973.
- Physiology Hendrickson et al, 1977; Hirth, 1962.
- Renesting Carr, Hirth & Ogren, 1966.
- Status of stocks Bacon, 1973b; 1975, 1981; Buitrago, 1980.
- Taxonomy & description Carr & Goin, 1955; Frair, 1979; Marquez, 1978b; Smith, 1954.

FARMING

Anon, 1973; Bean, 1983; Carr, 1970; Carr & Dodd, 1983; Clayton, 1975; Considine & Winberry, 1978; Dodd, 1982a; Ehrenfeld, 1974, 1980; Fisher, 1971; Haines, 1974, 1978; Haines & Kleese, 1977; Hart-Davis, 1969; Heffington, 1970; Hendrickson, 1974; Johnson, 1980; Leibovitz et al, 1978; Mackey, 1980; Mariculture, 1973; Pickett & Townson, 1980a; Rebell et al, 1975, 1974; Reichart, 1982; Reiger, 1975;

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Schroeder, 1966; Schulz, 1971a; Sefton, 1974; Simon, 1975; Simon et al, 1975; Smith, 1950; Solomon & Baird, 1979; Townson, 1980; Ulrich & Owens, 1974; Ulrich & Parkes, 1978; Wood, Platz et al, 1982; Wood, F.E. & Wood, 1977, 1982; Wood, J.R., 1974, 1982a, 1982b; Wood, J.R. & Wood, 1977a, 1977b, 1979, 1980, 1981; Zwinenberg, 1975b.

FISHERIES DATA

Alexander, 1902a, 1902b; Cato et al, 1978; Cooper & Bacon, 1981; Earll, 1887; Evermann, 1900; Fiedler, 1928a, 1928b, 1938, 1941; Fiedler et al, 1943a, 1943b, 1943c, 1943d, 1932, 1934; Klima, 1977; Rebel, 1974.

FRENCH GUIANA

- General

Bacon, 1975, 1981; Bainbridge & Pritchard, 1974; Blancaneaux, 1973; Brugiere, 1971; Fretey, 1976, 1977a, 1977b, 1978a, 1978b, 1978c, 1979a, 1979b, 1980, 1981, 1982; Fretey & Frenay, 1980; Fretey & Lescure, 1976, 1979, 1981, 1982; Fretey & Renault-Lescure, 1978; Mrosovsky, 1971; Pritchard, 1969a, 1969b, 1969e, 1971a, 1971b; Rainey & Pritchard, 1972; Rebel, 1974; Schulz, 1971b, 1975, 1982; Stubbs, 1972.

- Chelonia

Blancaneaux, 1973; Brugiere, 1971; Fretey, 1979b; Fretey & Renault-Lescure, 1978; Pritchard, 1969b, 1969e, 1971b; Schulz, 1971b.

- Conservation

Blancaneaux, 1973; Fretey, 1978a; Fretey & Lescure, 1979, 1982; Pritchard, 1969a, 1971b.

- Dermochelys Bainbridge & Pritchard, 1974; Blancaneaux, 1973; Brugiére, 1971; Fretey, 1976, 1977a, 1978a, 1978b, 1978c, 1979a, 1979b, 1980, 1982; Fretey & Frenay, 1980; Fretey & Lescure, 1976, 1979, 1981, 1982; Fretey & Renault-Lescure, 1978; Mrosovsky, 1971; Pritchard, 1969b, 1969e, 1971b; Schulz, 1971b, 1982; Stubbs, 1972.
- Eretmochelys Blancaneaux, 1973; Pritchard, 1969b, 1969e, 1971b; Schulz, 1971b.
- Exploitation Fretey & Renault-Lescure, 1978; Pritchard, 1971b.
- L. olivacea Fretey, 1979b; Fretey & Renault-Lescure, 1978; Pritchard, 1971b; Schulz, 1971b.
- Nesting areas Bainbridge & Pritchard, 1974; Blancaneaux, 1973; Brugiére, 1971; Fretey, 1976, 1977b, 1979b; Pritchard, 1969b, 1971b; Schulz, 1971b, 1982; Stubbs, 1972.
- Reserves Fretey & Lescure, 1979.

GRENADA

- General Anon, 1981; Bacon, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Duerden, 1901; Finlay, 1983; Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Goodwin & Reid, (undated); Rainey, 1975a; Rebel, 1974; Stevenson, 1979.
- Chelonia Rainey, 1975a.
- Conservation Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Stevenson, 1979.
- Eretmochelys Anon, 1981; Duerden, 1901; Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Goodwin & Reid, (undated).

GUADELOUPE

- General Bacon, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Kermarrec, 1976.

GUATEMALA

- General Bacon, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Stuart, 1963.

GUYANA

- General Bacon, 1975, 1981; Pritchard, 1964, 1966, 1969a, 1969b, 1969d, 1969e; Pritchard, Greenhood et al, 1967; Rainey & Pritchard, 1972; Rebel, 1974; Schulz, 1982; Simon, 1975; Woolford, 1979.
- Chelonia Pritchard, 1964, 1966, 1969b, 1969e; Woolford, 1979.
- Conservation Pritchard, 1969a, 1969e; Pritchard, Greenhood et al, 1967.
- Dermochelys Pritchard, 1964, 1966, 1969b, 1969e.
- Eretmochelys Pritchard, 1964, 1966, 1969b, 1969e.
- L. olivacea Pritchard, 1964, 1966, 1969b, 1969d, 1969e.
- Nesting areas Pritchard, 1964, 1966, 1969b, 1969d, 1969e; Pritchard, Greenhood et al, 1967; Woolford, 197.
- Reserves Pritchard, Greenhood et al, 1967.

HAITI

- General Bacon, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Mack, 1983; Mack et al, 1982; Rebel, 1974.
- Exploitation Mack, 1983; Mack et al, 1982; Rebel, 1974.

HATCHERY OPERATIONS Adams, 1966; Andre & West, 1981; Anon, 1981; Blanck & Sawyer, 1979, 1981; Buitrago, 1980; Cardona & de la Rua, 1972; Carr, 1969c; Chavez et al, 1967; Dutton & Whitmore, 1983; Ehrenfeld, 1982; Fretey & Lescure, 1982; Goodwin & Putnam, 1980, 1981a, 1981b, 1982; Kalber & Beaumariage, 1977; Kaufmann, 1967; Lipske, 1979; Marquez, 1966, 1976c; Mrosovsky & Yntema, 1980; Pritchard, 1980; Pritchard et al, 1982; Richardson, 1978; Ruiz, 1969; Ruiz et al, 1981; Sand, 1972; Schmidt & Witham, 1961; Simon et al, 1975; Spotila et al, 1983; Ulrich & Owens, 1974; US Dept. Commerce, 1979; Werler, 1951; Witham, 1978b; Wood, F.E. & Wood, 1982; Wood, J.R. & Wood, 1979, 1980; Yntema & Mrosovsky, 1979, 1980, 1982.

HATCHLINGS

Allen & Neill, 1957; Carr, 1963a, 1967c, 1982; Carr & Hirth, 1961; Carr & Meylan, 1980a; Carr & Ogren, 1959, 1960; Casas-Andreu, 1971; Chavez, 1967, 1968; Dalton, 1979a, 1979b; Daniel & Smith, 1946, 1947a, 1947b; Ehrenfeld & Carr, 1967; Fletemeyer, 1980; Foster & Chapman, 1975; Frazer, 1982b; Fretey, 1981; Frick, 1976, Fugler & Webb, 1957; Grassman & Owens, 1981a, 1981b; Hastings et al, 1976; Hirth, 1980; Kaufmann, 1967; Kraemer & Bennett, 1981; Mann, 1977, 1978; Mrosovsky, 1968, 1970, 1971, 1972b, 1977, 1982; Mrosovsky & Carr, 1967; Mrosovsky & Shettleworth, 1968, 1975; Owens, 1980a; Owens, Grassman et al, 1982; Philibosian, 1976; Pritchard & Marquez, 1973; Stancyk, 1982; Tufts, 1972; Werler, 1951; Witham, 1980; Wood & Wood, 1977; Zwinenberg, 1975b, 1976b, 1977.

HEADSTARTING

Anon, 1978c; Buitrago, 1980; Cardona & de la Rua, 1972; Carr & Sweat, 1969; Cherfas, 1978; Dodd, 1981; Ehrenfeld, 1982; Fletemeyer, 1982; Furbec, 1979; Goodwin, 1981; Grassman & Owens, 1982; Hill, 1980; Klima & McVey, 1982; Leong, 1979; Morris & Owens, 1981; Morris, Owens & McVea, 1981; Pritchard, 1979b, 1980, 1981a; Pritchard et al, 1982; Reichart, 1978, 1982; Timko & DeBlanc, 1981; Wauer, 1978; Wibbels, 1983a, 1983b; Witham & Futch, 1977; Woody, 1981.

HIBERNATION

Carr, 1982; Carr, Ogren & McVea, 1981; Ehrhart, 1977.

HISTORIC RECORDS

Agassiz, 1888; Carr, 1954a; Hildebrand, 1982; Lewis, 1940; Nietschmann, 1982; Parsons, 1962, 1972; Reiger, 1975; Ross, 1982; Solomon & Baird, 1979.

HONDURAS

- General

Bacon, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Lewis, 1940; Thompson, 1947.

INCIDENTAL CATCH

Anon, 1976, 1979b, 1979c; Baughman, 1967; Bell & Richardson, 1978; Bullis & Drummond, 1978; Carr, 1977a; Chavez, 1968, 1969; Cox & Mauermann, 1976; Easeley, 1982; Fuller, 1978; Hill, 1979; Gunter, 1981; Hillestad, (undated); Hillestad et al, 1982, 1978; IUCN, 1979; Liner, 1954; Lipske, 1979, 1980; Navid, 1982; Ogren et al, 1977; Richardson, 1981; Seidel & McVea, 1982; Seyfert, 1977; Shoop & Ruckdeschel, 1982; Ulrich, 1978; US.Dept.Commerce, 1981.

INCUBATION

Ackerman, 1977, 1980; Anon, 1966, 1978c; Blanck & Sawyer, 1979, 1981; Caldwell, 1959a; Carr & Ogren, 1960; Casas-Andreu, 1971; Chavez et al, 1967; Dimond, 1965; Fowler, 1978, 1979; IMA, 1981; Simon, 1975; Simon et al, 1975; Spotila et al, 1981; Werler, 1951; Wood, J.R. & Wood, 1979.

JAMAICA

- General Ahrenfeldt, 1954; Bacon, 1975, 1981; Caldwell, 1961; Carr et al, 1980; Carr, Meylan et al, 1982; Catesby, 1731; Duerden, 1901; Dunn, 1918a; Fairbairn & Haynes, 1981; Gosse, 1851; Lewis, 1940, 1955; Long, 1774; Macbride, 1946; Rebel, 1974; Thompson, 1945; Underwood, 1962.
- Caretta Ahrenfeldt, 1954; Caldwell, 1961.
- Chelonia Ahrenfeldt, 1954; Caldwell, 1961; Duerden, 1901; Lewis, 1940.
- Dermochelys Caldwell, 1961; Gosse, 1851; Lewis, 1955; Macbride, 1946; Underwood, 1962.
- Eretmochelys Ahrenfeldt, 1954; Caldwell, 1961.
- Exploitation Duerden, 1901; Rebel, 1974; Thompson, 1945.
- L. kempi Dunn, 1918a.
- Nesting areas Caldwell, 1961.

LEGISLATION

Anon, 1980; Bacon, 1971b, 1973b, 1973d, 1975, 1981; Bavin, 1982; Braddon et al, 1982; Brown, 1946; Cooper & Bacon, 1981; Fretey, 1978a; Gomez, 1982; Hermans, 1961; IUCN, 1979; Lipske, 1977b, 1980; Mack et al, 1982; Navid, 1982; Nietschmann, 1982; Pritchard, 1971b; Puerto Rico, 1944; Richardson, 1981; Schulz, 1969b; Shelfer, 1978; Smith, 1950; US.Dept. Commerce, 1976, 1978; US.Dept. Interior, 1981b.

LEPIDOCHELYS KEMPI

- General

Ackman, Hooper & Frair, 1971; Adams, 1966; Aguayo, 1953; Anon, 1974b, 1977b, 1977c, 1978a, 1978c, 1979a; Babcock, 1930b; Bacon, 1975, 1981; Balazs, 1979; Bravo, 1970; Brongersma, 1961, 1968b; Brundage, 1982; Burchfield, 1981; Burchfield & Foley, 1982; Byles, 1982; Caldwell, 1960, 1962b, 1966; Caldwell & Carr, 1957; Carr, 1954b, 1955, 1957, 1961b, 1963b, 1977a, 1977b, 1979, 1980; Carr et al, 1980; Carr & Caldwell, 1956a, 1958; Carr & Goin, 1955; Carr, Iverson & Jackson, 1979; Carr, Meylan et al, 1982; Casas-Andreu, 1971, 1978; Chavez, 1967, 1968, 1969; Chavez et al, 1967, 1968; Chavez & Kaufmann, 1974; Cherfas, 1978; Coker, 1906; Dean & Steinbach, 1981; Delikat, 1980; De Sola & Abrams, 1933; Dobie et al, 1961; Donoso-Barros, 1964a; Dunn, 1918a; Flores, 1966, 1969; Francis, 1978; Fugler & Webb, 1957; Fuller, 1978; Goin, 1968; Gunter, 1981; Hay, 1908; Hildebrand, 1963, 1982; Hill, 1971a; Hillaby, 1963, 1968; Hirth, 1980, 1982; IUCN, (undated); Jacobi, 1977; Joyce, 1982; Klima & McVey, 1982; Leong, 1979; Liner, 1954; Lund, 1976, 1978; Marquez, 1972, 1978a, 1978b, 1978c, 1982a, 1982b; Marquez & Contreras, 1967; Marquez et al, 1982; Montoya, 1966, 1969; Montoya & Vargas, 1968; Morris & Owens, 1981; Morris, Owens & McVea, 1981; Mortimer, 1982b; Mowbray & Caldwell, 1958; Neill, 1958; Niceforo, 1953; Ogren & McVea, 1982; Owens, 1981; Pritchard, 1967a, 1969d, 1976b, 1981b; Pritchard & Marquez, 1973; Rabalais & Rabalais, 1980; Ramirez, 1975; Rebel, 1974; Smith, 1954; Smith & List, 1950; Sternberg, 1981; Sweat, 1968; Tangley, 1980;

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Underwood, 1962; US.Dept. Interior, 1980; Vargas-Molinar, 1973; Viosca, 1961; Wauer, 1978; Werler, 1951; Wibbels, 1981, 1982, 1983a, 1983b; Williams & McRae, 1917-18; Wood, J.R., 1982b; Woody, 1981; Zwinenberg, 1977.

- Behaviour Carr, 1961b, 1963b; Casas-Andreu, 1978; Chavez et al, 1967, 1968; Hildebrand, 1963; Ogren & McVea, 1982; Tangley, 1980; Wibbels, 1981, 1982, 1983a, 1983b; Zwinenberg, 1977.
- Clutch size Casas-Andreu, 1978; Pritchard & Marquez, 1973; Zwinenberg, 1977.
- Conservation Anon, 1974b, 1977b, 1978a, 1978c, 1979a; Balazs, 1979; Bravo, 1970; Burchfield, 1981; Burchfield & Foley, 1982; Caldwell, 1966; Caldwell & Carr, 1957, 1977a, 1977b; Carr, Iverson & Jackson, 1979; Casas-Andreu, 1971; Chavez, 1967; Chavez et al, 1968; Dean & Steinbach, 1981; Francis, 1978; Hillaby, 1963, 1968; Klima & McVey, 1982; Lund, 1976, 1978; Marquez, 1978a, 1978c, 1982a, 1982b; Marquez & Contreras, 1967; Morris, Owens & McVea, 1981; Owens, 1981; Pritchard, 1969d, 1976b, 1981b; Tangley, 1980; US.Dept. Interior, 1980; Wauer, 1978; Wood, J.R., 1982b; Zwinenberg, 1977.
- Culture Anon, 1978c; Caldwell, 1962b; Klima & McVey, 1982; Leong, 1979; Morris, Owens & McVea, 1981; Wood, J.R., 1982b; Woody, 1981.
- ✓ - Demography Carr, 1977a; Carr & Caldwell, 1956a; Hildebrand, 1963; Marquez et al, 1982; Pritchard & Marquez, 1973; Zwinenberg, 1977.
- Diet Dobie et al, 1961; Liner, 1954; Mortimer, 1982b; Neill, 1958; Pritchard & Marquez, 1973; Smith & List, 1950; Wood, J.R., 1982b; Zwinenberg, 1977.

- Eggs Chavez et al, 1967; Pritchard & Marquez, 1973; Werler, 1951; Zwinenberg, 1977.
- Exploitation Caldwell & Carr, 1957; Carr, 1977a; Cato et al, 1978; Hildebrand, 1963; Marquez, 1978b; Mowbray & Caldwell, 1958; Zwinenberg, 1977.
- ✓ - Foraging areas Chavez, 1969; Fuller, 1978; Hildebrand, 1982; IUCN, (undated).
- Growth Caldwell, 1962b; Chavez, 1968; Chavez et al, 1967; Hirth, 1982; Marquez, 1972; Zwinenberg, 1977.
- Hatchlings Carr, 1980; Carr & Caldwell, 1958; Chavez, 1967, 1968; Marquez, 1982b; Pritchard & Marquez, 1973; Werler, 1951; Zwinenberg, 1977.
- Injuries Pritchard & Marquez, 1973.
- ✓ - Migration Byles, 1982; Carr, 1957, 1963b, 1980; Chavez, 1969; Chavez & Kaufmann, 1974; Montoya, 1969; Pritchard & Marquez, 1973; Sweat, 1968.
- ✓ - Mortality Chavez et al, 1968; Hildebrand, 1963; Marquez, 1982a; Pritchard & Marquez, 1973; Rabalais & Rabalais, 1980.
- Nesting areas Aguayo, 1953; Anon, 1975a, 1978c; Caldwell, 1960, 1966; Carr, 1954b, 1963b, 1977a; Carr & Caldwell, 1958; Casas-Andreu, 1971, 1978; Chavez, 1967, 1968, 1969; Chavez et al, 1967, 1968; Chavez & Kaufmann, 1974; De Sola & Abrams, 1933; Donoso-Barros, 1964a; Flores, 1966, 1969; Fuller, 1978; Hildebrand, 1963, 1982; IUCN, (undated); Marquez, 1978a, 1978c, 1982a, 1982b; Marquez & Contreras, 1967; Montoya, 1969; Montoya & Vargas, 1968; Neill, 1958; Pritchard, 1976b, 1981b; Pritchard & Marquez, 1973; Ramirez, 1975; Sternberg, 1981; Underwood, 1962; Zwinenberg, 1977.

- Physiology Ackman, Hooper & Frair, 1971; Morris & Owens, 1981.
- Renesting Chavez, 1968; Chavez et al, 1967; Marquez, 1982b; Marquez & Contreras, 1967; Montoya & Vargas, 1968; Pritchard & Marquez, 1973.
- ✓ - Status of stocks Pritchard, 1969d; Pritchard & Marquez, 1973; Zwinenberg, 1977.
- Taxonomy & description Babcock, 1930b; Brongersma, 1961, 1968a; Carr, 1955; Carr & Goin, 1955; Hay, 1908; Hill, 1971a; Marquez, 1978b; Pritchard & Marquez, 1973; Smith, 1954; Zwinenberg, 1977.

LEPIDOCHELYS OLIVACEA

- General Anon, 1967; Bacon, 1973c, 1975, 1981; Caldwell & Erdman, 1969; Caldwell, Rathjen & Hsu, 1969; Carr, 1963b; Carr et al, 1980; Carr, Meylan et al, 1982; Cooper & Bacon, 1981; Donoso-Barros, 1965; Duke, 1967; Erdman, 1969; Ferreira, 1972; Fretey, 1979b; Fretey & Renault-Lescure, 1978; Fuller, 1978; Giral, 1955; Hardy, 1959; Hirth, 1980, 1982; IUCN, (undated); Janssen, 1972; Kappler, 1881; Kaufmann, 1971b; Licht et al, 1982; Marquez, 1978b; Marquez et al, 1976; Mortimer, 1982b; Mrosovsky & Pritchard, 1971; Neill, 1958; NMFS, 1978b; Owens, 1980b; Philibosian & Yntema, 1977; Pritchard, 1964, 1966, 1968, 1969b, 1969c, 1969d, 1969e, 1971b, 1973, 1976a; Rainey, 1976, 1981; Rainey & Pritchard, 1972; Rebel, 1974; Rivero, 1978; Ross, 1982; Schulz, 1969b, 1975, 1982; Sternberg, 1981; Underwood, 1960, 1962; US.Dept. Commerce, 1976, 1978; Varona, 1974; Zwinenberg, 1976b, 1977.

- Physiology Licht et al, 1982; Mrosovsky & Pritchard, 1971; Owens, 1980b.
 - Status of stocks Bacon, 1973b, 1975, 1981; Pritchard, 1969d; Zwinenberg, 1977.
 - Taxonomy & description Brongersma, 1961, 1968a; Marquez, 1978b; Marquez et al, 1976; Pritchard, 1969c; Zwinenberg, 1976b.
- LOST YEAR Carr, 1967b, 1967c, 1980, 1982; Fletemeyer, 1977b; Smith, W.G., 1968; Witham, 1980.
- MARTINIQUE
- General Bacon, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Goodwin, 1971; Rainey, 1975a.
 - Chelonia Rainey, 1975a.
- MEXICO
- General Adams, 1966; Anon, 1966, 1974b, 1977b, 1978a, 1978b, 1978c, 1979a; Bacon, 1975, 1981; Bravo, 1970; Brongersma, 1968b; Brundage, 1982; Burchfield, 1981; Burchfield & Foley, 1982; Caballero & Caballero, 1962; Caldwell, 1966; Carr, 1963b, 1977a; Carr et al, 1980; Carr & Caldwell, 1958; Carr, Carr & Meylan, 1978; Carr, Meylan et al, 1982; Carranza, 1967; Casas-Andreu, 1970, 1978; Chavez, 1966, 1967, 1968, 1969; Chavez et al, 1967, 1968; Cherfas, 1978; Cope, 1887; Francis, 1978; Fuentes, 1967; Fugler & Webb, 1957; Hildebrand, 1963, 1982; Hillaby, 1963, 1968; Hillestad et al, 1982; IUCN, 1979; Klima & McVey, 1982; Lindner, 1948; Mack, 1983; Mack et al, 1982; Marquez, 1965, 1968, 1972, 1976a, 1976b, 1976c, 1978a, 1978c, 1982a, 1982b; Marquez & Contreras, 1967;

- Marquez et al, 1973; Mendoza, 1966; Mittermeyer, 1971b; Montoya, 1966, 1969; Montoya & Vargas, 1968; Moya, 1979; Owens, 1981; Padilla, 1974; Pritchard, 1969a, 1969d, 1976a, 1976b, 1981b; Rainey & Pritchard, 1972; Ramos, 1974; Rebel, 1974; Smith & Smith, 1979; Smith & Taylor, 1950; Solis, 1966; Sweat, 1968; Tangley, 1980; Underwood, 1962; US.Dept. Commerce, 1979; Vargas-Molinar, 1973; Wauer, 1978; Zwinenberg, 1977.
- Campeche Chavez, 1969; Hildebrand, 1982.
 - Caretta Anon, 1966; Fuentes, 1967; Marquez, 1978a; Padilla, 1974; Solis, 1966.
 - Chelonia Anon, 1966, 1978b; Carr, Carr & Meylan, 1978; Carranza, 1967; Fuentes, 1967; Marquez, 1968, 1978a; Padilla, 1974; Solis, 1966.
 - Conservation Anon, 1977b, 1978a, 1978b, 1978c, 1979a; Bravo, 1970; Burchfield, 1981; Burchfield & Foley, 1982; Caldwell, 1966; Carr, 1977a; Casas-Andreu, 1970; Chavez, 1967; Chavez et al, 1968; Francis, 1978; Fuentes, 1967; Hillaby, 1963, 1968; IUCN, 1979; Klima & McVey, 1982; Marquez, 1976b, 1976c, 1978a, 1978c, 1982a, 1982b; Marquez & Contreras, 1967; Moya, 1979; Padilla, 1974; Pritchard, 1969a, 1976b, 1981b; Tangley, 1980; US.Dept. Commerce, 1979; Wauer, 1978.
 - Dermochelys Padilla, 1974; Pritchard, 1976a, 1982a.
 - Eretmochelys Padilla, 1974.
 - Exploitation Carr, Carr & Meylan, 1978; Carranza, 1967; Hildebrand, 1963; IUCN, 1979; Lindner, 1948; Mack, 1983; Mack et al, 1982; Marquez, 1965, 1976a; Mittermeyer, 1971b; Moya, 1979; Padilla, 1974; Ramos, 1974; Rebel, 1974.

- L. kempi Anon, 1974b, 1977b, 1978a, 1978c, 1979a; Bravo, 1970; Brongersma, 1968b; Brundage, 1982; Burchfield, 1981; Burchfield & Foley, 1982; Caldwell, 1966; Carr, 1963b, 1977a; Carr & Caldwell, 1958; Casas-Andreu, 1971, 1978; Chavez, 1967, 1968, 1969; Chavez et al, 1967, 1968; Cherfas, 1978; Francis, 1978; Fugler & Webb, 1957; Hildebrand, 1963, 1982; Hillaby, 1963, 1968; Klima & McVey, 1982; Marquez, 1972, 1978a, 1978c, 1982a, 1982b; Marquez & Contreras, 1967; Montoya, 1966, 1969; Montoya & Vargas, 1968; Pritchard, 1969d, 1976b, 1981b; Sweat, 1968; Tangley, 1980; Underwood, 1962; Vargas-Molinar, 1973; Wauer, 1978; Zwinenberg, 1977.

- L. olivacea Anon, 1978b; Marquez et al, 1976.
- Nesting areas Anon, 1966, 1974b, 1978b; Burchfield, 1981; Burchfield & Foley, 1982; Carr, 1963b, 1977a; Casas-Andreu, 1971, 1978; Chavez, 1967, 1968, 1969; Chavez et al, 1967, 1968; Fuentes, 1967; Hildebrand, 1963; Marquez, 1968, 1978a, 1978c, 1982a; Montoya, 1969; Montoya & Vargas, 1968; Padilla, 1974; Pritchard, 1969d; Solis, 1966.
- Quintana Roo Anon, 1966; Fuentes, 1967; Marquez, 1968, 1976b, 1978a; Padilla, 1974; Rainey & Pritchard, 1972; Ramos, 1974; Smith & Taylor, 1950; Solis, 1966.
- Reserves Marquez, 1976b, 1978a.
- Tamaulipas Adams, 1966; Anon, 1974b, 1978c; Burchfield, 1981; Burchfield & Foley, 1982; Caldwell, 1966; Carr, 1963b, 1977a; Casas-Andreu, 1971, 1978; Chavez, 1967, 1968, 1969; Chavez et al, 1967, 1968; Cherfas, 1978; Francis, 1978; Hildebrand,

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1963; Hillaby, 1963, 1968; Klima & McVey, 1982; Marquez, 1976b, 1978a, 1978c, 1982a; Montoya, 1966, 1969; Montoya & Vargas, 1968; Owens, 1981; Pritchard, 1969d, 1976b; Sweat, 1968; Tangley, 1980; Vargas- Molinar, 1973.

- Veracruz

Fugler & Webb, 1957; Underwood, 1962.

- Yucatan

Carranza, 1967; Fuentes, 1967; Hildebrand, 1982; Rainey & Pritchard, 1972.

MIGRATION

Anon, 1969a; Bjorndal, Meylan & Turner, 1983; Brongersma, 1968c, 1972; Carr, 1957, 1962, 1963a, 1963b, 1964a, 1965, 1967a, 1967b, 1971, 1972a, 1972b, 1980, 1982; Carr & Meylan, 1980a; Carr & Ogren, 1960; Chavez, 1969; Duerden, 1901; Ehrenfeld, 1967; Ehrenfeld & Koch, 1967; Feazel, 1980; Fletemeyer & Parnell, 1979; Frair, 1972; Frair, Ackman & Mrosovsky, 1972; Frick, 1976 , Hardy, 1959; Hart-Davis, 1969; Hirth, 1978; Hoffman & Fritts, 1982; Kalber & Beaumariage, 1977; Klima & McVey, 1982; Lazell, 1979; Meylan, 1982a, 1982b; Meylan et al, 1983; Montoya, 1969; Pinner, 1967; Pritchard, 1973, 1976a; Rainey, 1975a; Rebel, 1974; Schmidt, J., 1916; Schulz, 1975; Stoneburner, Richardson et al, 1982; Timko & Kolz, 1982.

MONTSERRAT

- General

Bacon, 1971c; Rebel, 1974.

MORTALITY FACTORS

Anderson, 1981; Andre & West, 1981; Anon, 1975a, 1975b, 1976, 1979b; Bacon, 1970b; Bell & Nichols, 1921; Bjorndal, 1980b; Caldwell & Caldwell, 1969a; Davis & Whiting, 1977; Eckert & Eckert, 1983; Fletemeyer, 1979, 1982; Fowler, 1978, 1979; Frazer, 1982b; Fretey, 1976, 1977a, 1982; Fretey & Frenay, 1980; Fretey & Lescure, 1976, 1981, 1982; Gallagher et al, 1972; Gilbert & Kelso, 1971; Gudger, 1948; Hastings et al, 1976; Hill & Green, 1971; Hopkins & Murphy, 1981; Hopkins, Murphy et al, 1978; King, 1982; Klukas, 1967; Kraemer & Bell, 1978, 1980; Marquez, 1982a; McAtee, 1934; McMurtray, 1983; Mortimer, 1982a; Mrosovsky, 1971; Nellis & Small, 1982; Phillips, 1972; Pritchard, 1966, 1971b; Pritchard & Marquez, 1973; Rabalais & Rabalais, 1980; Ragotzkie, 1959; Richardson, 1978; Roosevelt, 1917; Ruckdeschel & Zug, 1982; Schulz, 1975; Seaman & Randall, 1962; Seyfert, 1977; Shabica & Stoneburner, 1978; Small, 1982b; Stancyk, 1982; Stubbs, 1972; Thurston & Wiewandt, 1976; Witham, 1974, 1982.

NAVIGATION

Carr, 1962, 1963b, 1964a, 1965, 1967b, 1972a, 1972b; Ehrenfeld & Koch, 1967; Owens, Grassman et al, 1982; Pinner, 1967.

NETHERLANDS ANTILLES

Brongersma, 1970.

NEVIS

Bacon, 1975, 1981; Caldwell & Rathjen, 1969.

NICARAGUA

- General Bacon, 1975, 1981; Bjorndal, 1979b; Carr, 1969b; Carr et al, 1980; Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr, Meylan et al, 1982; Carr & Stancyk, 1975; Fiedler et al, 1943b; Lewis, 1940; Lightburn, 1983; Mack et al, 1982; Mortimer, 1981; Nietschmann, 1971a, 1971b, 1973, 1974, 1975a, 1975b, 1975c, 1977, 1979a, 1979b, 1982; Rainey & Pritchard, 1972; Rebel, 1974; Smith, 1954; Thompson, 1947; Tressler & Lemon, 1951; Weiss, 1977.
- Chelonia Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Mortimer, 1981; Nietschmann, 1971b, 1974, 1979a, 1979b; Thompson, 1947,
- Conservation Nietschmann, 1975b, 1975c, 1979a, 1982.
- Eretmochelys Carr & Stancyk, 1975; Nietschmann, 1971a, 1971b, 1974, 1975a, 1977, 1979a.
- Exploitation Carr, Carr & Meylan, 1978; Fiedler et al, 1943b; Lightburn, 1983; Mack et al, 1982; Nietschmann, 1971a, 1971b, 1977, 1979a, 1979b; Rebel, 1974; Thompson, 1947; Tressler & Lemon, 1951; Weiss, 1977.
- Foraging areas Carr, Carr & Meylan, 1978; Carr & Giovannoli, 1951; Carr & Stancyk, 1975.

PANAMA

- General Bacon, 1975, 1981; Carr et al, 1980; Carr & Giovannoli, 1951; Carr & Meylan, 1980a; Carr, Meylan et al, 1982; Duke, 1967; Mack, 1983; Mack et al, 1982; Mittermeyer, 1971a; Rainey & Pritchard, 1972; Rebel, 1974; Schmidt, K., 1946; Tovar, 1971.

- Chelonia Carr & Giovannoli, 1951; Carr & Meylan, 1980a; Mittermeyer, 1971a.
- Exploitation Duke, 1967; Mack, 1983; Mack et al, 1982; Mittermeyer, 1971a; Rebel, 1974.

PARASITES

Caballero & Caballero, 1962; Ernst & Barbour, 1972; Lightburn, 1978; Linton, 1910; Luhman, 1935; Pritchard, 1971a; Pritchard & Marquez, 1973; Schwartz, F., 1977a.

PHYSIOLOGY

- Fatty acids Ackman, Hooper & Frair, 1971; Bjorndal, 1979c.
- Gas exchange Ackerman, 1980, 1981.
- Growth Owens, 1980a.
- Incubation Ackerman, 1977, 1980; Ackerman & Prange, 1972; Cunningham & Hurwitz, 1936; Yntema & Mrosovsky, 1979, 1980, 1982.
- Nutritional Bjorndal, 1979a, 1979b, 1979c, 1980a, 1982b; Fenchel et al, 1979; Hawk, 1979; Thayer et al, 1982; Wood, F.E. & Wood, 1977; Wood, J.R. & Wood, 1977b, 1981.
- Reproductive Bjorndal, 1982c; Carr, 1965, 1967b, 1971; Kraemer & Bennett, 1981; Lance et al, 1979; Licht et al, 1980, 1979; Moll, 1979; Morreale et al, 1982; Morris & Owens, 1981; Morris, Owens & MvVey, 1981; Mrosovsky, 1980, 1982; Owens, 1974, 1976, 1980b, 1982; Owens & Gern, 1982; Owens, Gern & Ralph, 1978a, 1978b, 1980; Owens, Grassman et al, 1982; Owens & Hendrickson, 1978; Owens, Hendrickson et al, 1976, 1978, 1979; Owens, Hendrickson & Owens, 1977; Wood, Platz et al, 1982; Yntema & Mrosovsky, 1979, 1980, 1982.

- Serology Frair, 1969, 1977a, 1979.
- Temperature
 regulation &
 effects Greer et al, 1973; Hirth, 1962; Morris & Owens,
 1982; Mrosovsky & Pritchard, 1971; Ralph et al,
 1979; Spotila & Foley, 1979; Standora et al,
 1979; Stoneburner & Richardson, 1981; Wood &
 Wood, 1982.

PRODUCTS

- Miscellaneous Cooper & Bacon, 1981; Fiedler et al, 1943c,
 1934; Lindner, 1948; Mack, 1983; Mack et al,
 1982; Mackey, 1980; Mariculture, 1973; Marquez,
 1976a, 1978b; Pritchard, 1980; Rebel, 1974;
 Sefton, 1974; Tressler, 1923; Tressler & Lemon,
 1951; Weber et al, 1983.
- Calipee & soup Diemont, 1941; Lusty, 1971.
- Oil Ackman & Burgher, 1965; Carr, 1970; Cato et al,
 1978; Giral, 1955; Rainey, 1976; US.Dept.
 Interior, 1981a.
- Shell Bentuvia & Rios, 1970; Carr, 1970; Cato et al,
 1978; Duerden, 1901; Gadow, 1909; Gundlach, 1867;
 Hendrickson, 1980; Hendrickson et al, 1977; King,
 1982; Mack, 1983; Mack et al, 1982; Parsons, 1972;
 Roze, 1955; Schmidt, J., 1916; Thompson, 1946;
 Tressler & Lemon, 1951; Ubeda, 1973.
- Skin Carr, 1970; Cato et al, 1978; Gonzales, 1982;
 King, 1982; Mack, 1983; Mack et al, 1982.

PUERTO RICO

- General Anon, 1974c; Bacon, 1975, 1981; Caldwell & Erdman, 1969; Carr et al, 1980; Carr, Meylan et al, 1982; Carr, D. & Carr, 1977; Carr, T., 1974, 1977, 1978; Dodd, 1978; Erdman, 1969; Evermann, 1900; Goodwin, 1971; Gundlach, 1881; IUCN, 1973; Jarvis, 1932; Philibosian & Yntema, 1977; Puerto Rico, 1944; Rainey, 1975a; Rainey & Pritchard, 1972; Rebel, 1974; Rivero, 1978; Thurston, 1973, 1976; Thurston & Wiewandt, 1976; Wiewandt, 1973.
- Caretta Carr, D. & Carr, 1977; Carr, T., 1977, 1978; Philibosian & Yntema, 1977; Rivero, 1978.
- Chelonia Evermann, 1900; Gundlach, 1881; Philibosian & Yntema, 1977; Rainey, 1975a; Rivero, 1978; Thurston, 1976; Wiewandt, 1973.
- Conservation Dodd, 1978; IUCN, 1973; Puerto Rico, 1944; Thurston & Wiewandt, 1976.
- Dermodochelys Carr, T., 1974, 1977, 1978; Gundlach, 1881; Philibosian & Yntema, 1977; Rivero, 1978.
- Eretmodochelys Anon, 1974c; Carr, T., 1977, 1978; Evermann, 1900; Goodwin, 1971; Gundlach, 1881; IUCN, 1973; Philibosian & Yntema, 1977; Rivero, 1978; Thurston, 1973, 1976; Thurston & Wiewandt, 1976; Wiewandt, 1973.
- Exploitation Evermann, 1900; Goodwin, 1971; Rebel, 1974; Rivero, 1978.
- Nesting areas- Anon, 1974c; Carr, D. & Carr, 1977; Carr, T., 1974, 1977, 1978; IUCN, 1973; Philibosian & Yntema, 1977; Thurston, 1973, 1976; Wiewandt, 1973. Rivero, 1978.

- L. olivacea

Caldwell & Erdman, 1969; Carr, T., 1978; Erdman, 1969; Philibosian & Yntema, 1977; Rivero, 1978.

RENESTING INTERVAL

Bacon, 1970b; Bacon & Maliphant, 1971; Bell & Richardson, 1978; Bennett & Richardson, 1977; Bjorndal, Meylan & Turner, 1983; Carr, 1971; Carr & Ogren, 1960; Chavez, 1968; Chavez et al, 1967; Eckert & eckert, 1983; Ehrhart, 1979a, 1979d; Gallagher et al, 1972; Hughes, 1982; Kaufmann, 1971a, 1975b; Lebuff, 1974; Mrosovsky & Shettleworth, 1982; Pritchard, 1969e, 1971b; Pritchard & Marquez, 1973; Schulz, 1975; Williams-Walls et al, 1983.

RESERVES

Anon, 1977c, 1978c; Bacon, 1975, 1981; Blancaneaux, 1973; Carr, 1971; Fretey & Lescure, 1979; Holden, 1964, 1965; IUCN, 1975; Marquez, 1976b; Pritchard, Greenhood et al, 1967; Putney, 1979; Randall & Schroeder, 1962; Ray & Sprunt, 1971; Schulz, 1970, Shabica, 1982; Small, 1982b; Tufts, 1972; US.Dept. Interior, 1977; Van't Hof & Newton, 1980.

SOCIOECONOMICS

Craig, 1966; Duke, 1967; Fretey & Renault-Lescure, 1978; Gomez, 1982; Nietschmann, 1971b, 1973, 1974, 1975c, 1977, 1979a, 1979b, 1982; Pritchard, 1971b; Schulz, 1975; Weiss, 1977.

ST.KITTS

Bacon, 1975, 1981; Caldwell & Rathjen, 1969; Rebel, 1974.

ST. LUCIA

Bacon, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Duerden, 1901; Goodwin, 1971; Rainey, 1975a; Rebel, 1974.

ST.MAARTEN/ST. MARTIN Bacon, 1975, 1981; Hermans, 1961.

ST. VINCENT Bacon, 1971c, 1975, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Rebel, 1974.

STOCKS ASSESSMENT Bacon, 1973b, 1975, 1981; Carranza, 1967; Hill, 1979; Hillestad, (undated); Lund, 1976; Pritchard, 1971a, 1982a; Pritchard & Marquez, 1973; Ross, 1978; Thompson, 1945; Zwinenberg, 1977.

SURINAME

- General Anon, 1967; Bacon, 1975, 1981; Bainbridge & Pritchard, 1974; Bjorndal, 1982b; Brongersma, 1968a; Caldwell, Rathjen & Hsu, 1969; Diemont, 1941; Dutton & Whitmore, 1983; Geijskes, 1945; Geus, 1967; Hill, 1971a, 1971b; Hill & Green, 1971; Hillestad et al, 1982; Janssen, 1972; Kalber & Beaumariage, 1977; Kappler, 1881; Kloos, 1967; Knappert, 1926; Mrosovsky, 1968, 1977, 1982; Mrosovsky & Shettleworth, 1968, 1975; Pritchard, 1968, 1969a, 1969d, 1969e, 1973; Rainey & Pritchard, 1972; Rebel, 1974; Reichart, 1978, 1982; Schulz, 1964, 1967, 1969a, 1969b, 1970, 1971a, 1975, 1982; Simon, 1975; Solomon & Baird, 1979; Somberg-Honig, 1967; Stedman, 1796; Zwinenberg, 1976a.
- Caretta Brongersma, 1968a; Geijskes, 1945; Stedman, 1796.
- Chelonia Bjorndal, 1982b; Brongersma, 1968a; Dutton & Whitmore, 1983; Geijskes, 1945; Hill & Green, 1971; Janssen, 1972; Kalber & Beaumariage, 1977; Kappler, 1881; Pritchard, 1969e, 1973; Reichart, 1978, 1982; Schulz, 1969b, 1971a, 1975, 1982; Stedman, 1796.

- Conservation Dutton & Whitmore, 1983; Hill, 1971b; Pritchard, 1968, 1969a, 1969e; Reichart, 1978, 1982; Schulz, 1969b, 1970, 1971a, 1975; Zwinenberg, 1976a.
- Dermochelys Bainbridge & Pritchard, 1974; Dutton & Whitmore, 1983; Geijskes, 1945; Janssen, 1972; Kappler, 1881; Mrosovsky & Shettleworth, 1968, 1975; Pritchard, 1969e, 1973; Schulz, 1969b, 1975, 1982.
- Eretmochelys Geijskes, 1945; Janssen, 1972; Kappler, 1881; Pritchard, 1969e; Schulz, 1969b, 1975, 1982.
- Exploitation Diemont, 1941; Geijskes, 1945; Rebel, 1974; Schulz, 1971a, 1975; Stedman, 1796; Zwinenberg, 1976a.
- Foraging areas Bjorndal, 1982a; Caldwell, Rathjen & Hsu, 1969.
- L. olivacea Anon, 1967; Caldwell, Rathjen & Hsu, 1969; Hill, 1971a; Janssen, 1972; Kappler, 1881; Pritchard, 1968, 1969d, 1969e, 1973; Schulz, 1969b, 1975, 1982.
- Nesting areas Bainbridge & Pritchard, 1974; Geijskes, 1945; Janssen, 1972; Kappler, 1881; Kloor, 1967; Knappert, 1926; Pritchard, 1968, 1969d, 1969e, 1973; Schulz, 1969b, 1971a, 1975, 1982; Somberg-Honig, 1967.
- Reserves Schulz, 1970, 1982.

TAXONOMY & DESCRIPTION Agassiz, 1857; Agassiz & Cope, 1871; Aguayo, 1953; Ahrenfeldt, 1954; Babcock, 1930a, 1930b; Carr, 1942; 1955, 1961a; Carr & Goin, 1955; Ditmars, 1910, 1036; Fischer, 1978; Frair, 1979; Frair & Prol, 1978; Fretey & Bour, 1980; Hill, 1971a; Marquez, 1978b; Pritchard, 1967b, 1969c, 1971a; Pritchard & Marquez, 1973; Rebel, 1974; Stejneger & Barbour, 1943.

TECHNIQUES

- Blood sampling Bentley & Dunbar-Cooper, 1980; Owens & Ruiz, 1980.
- Fishing Anon, 1979c; Budker, 1933; Carr, 1979; Easeley, 1982; Fiedler et al, 1943a; Nietschmann, 1979a; Rebel, 1974; Thompson, 1947; US.Dept. Commerce, 1981.
- Hatchery Adams, 1966; Blanck & Sawyer, 1979, 1981; Cardona & de la Rua, 1972; Carr, 1969c; Harless & Morlock, 1979; Marquez, 1966, 1976c; Marquez et al, 1973; McGehee, 1978; Mrosovsky & Yntema, 1980; Pritchard, 1980; Pritchard et al, 1982; Reichart, 1978; Spoczynska, 1971; Wood, J.R. & Wood, 1979, 1980.
- Morphometry Frazer, 1982a; Frazer & Ehrhart, 1983; Pritchard et al, 1982.
- Necropsy Wolke & George, 1981.
- Population estimation Hillestad, (undated); Hughes, 1982; Lebuff & Hagan, 1978; Meylan, 1982c; Richardson & Richardson, 1982; Stancyk, 1979.
- Sex determination Morreale et al, 1982; Morris & Owens, 1981; Morris, Owens & McVea, 1981; Mrosovsky, 1980; Mrosovsky & Yntema, 1980; Owens, 1982; Owens & Hendrickson, 1978; Owens, Hendrickson et al, 1976, 1978; Spotila et al, 1983.
- Tagging Bacon, 1973c; Bell & Richardson, 1978; Hendrickson & Hendrickson, 1980, 1981; Hughes, 1982; Mrosovsky & Shettleworth, 1982; Owens, 1977; Pritchard et al, 1982; Rainey, 1977; Richardson, 1981; Shoop, 1978; Wibbels, 1983b; Zwinenberg, 1976b, 1977.

- Tracking Byles, 1982; Carr, 1963a; Daniel, 1980; Eagleson et al, 1978; Fletemeyer, 1977b, 1978a; Fletemeyer & Parnell, 1979; Goodwin & Reid, (undated); Hopkins & Murphy, 1981; Ireland, 1979a, 1979c; Mendonca & Ehrhart, 1978; Spotila & Foley, 1979; Stoneburner, 1982; Timko & Deblanc, 1981; Timko and Kolz, 1982; Witham et al, 1973.
- Translocation Burnett-Herkes, 1968; Carr & Dodd, 1983; Cromie, 1966; Ehrenfeld, 1982; Francis, 1978; Pritchard, 1980.
- Transplanting Adams, 1966; Dutton & Whitmore, 1983; Ehrenfeld, 1982; Pritchard et al, 1982.
- Turning turtle Bjorndal, 1982c; Pritchard et al, 1982.
- Turtle products identification Braddon et al, 1982; Hendrickson, 1980; Hendrickson et al, 1977.

TRINIDAD & TOBAGO

- General Anon, 1975a; Bacon, 1967, 1969a, 1969b, 1970a, 1970b, 1971a, 1971b, 1973a, 1973b, 1973c, 1975, 1981; Bacon & Maliphant, 1971; Brown, 1942; Carr, 1954b, 1979; Carr et al, 1980; Carr, Meylan et al, 1982; Cooper & Bacon, 1981; IMA, 1981; Kearney, 1972; Lindblad, 1969; Percharde, 1974; Pritchard, 1976a; Rainey & Pritchard, 1972; Rebel, 1974; Solomon & Baird, 1979; Underwood, 1962.
- Caretta Bacon & Maliphant, 1971; Percharde, 1974.
- Chelonia Bacon, 1969a, 1971b; Brown, 1942; Carr, 1954b.
- Conservation Bacon, 1969b, 1970a.
- Dermochelys Anon, 1975a; Bacon, 1967, 1969a, 1969b, 1970a, 1970b, 1971a, 1971b, 1973a, 1973b, 1973c, 1973d; Bacon & Maliphant, 1971; Carr, 1954b; IMA, 1981; Lindblad, 1969; Underwood, 1962.

- Eretmochelys Bacon, 1969a, 1971b; Brown, 1942; Carr, 1954b.
- Exploitation Anon, 1975a; Bacon, 1967, 1969a; Brown, 1942; Cooper & Bacon, 1981; Rebel, 1974.
- L. olivacea Bacon, 1969a, 1971b; Pritchard, 1976a.
- Nesting areas Bacon, 1967, 1969a, 1971b; Bacon & Maliphant, 1971; Carr, 1954b; Lindblad, 1969.

TURKS & CAICOS

- General Bacon, 1981; Carr et al, 1980; Carr, Meylan et al, 1982; Ray & Sprunt, 1971; Rebel, 1974.
- Nesting areas Ray & Sprunt, 1971.
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