



# WIDECAST

*Wider Caribbean Sea Turtle Conservation Network*

## Glossary of Sea Turtle Terms <sup>1</sup>

**ADULT.** A member of the population that has reached sexual maturity. Sea turtles may reach sexual maturity at different sizes rather than after a certain number of years; hence, the age at sexual maturity may be quite variable and dependent on a number of factors, such as amount and quality of food sources.

**ALVEOLAR.** Pertaining to the functional, or biting, part of the jaw.

**APHRODISIAC.** A food, drug or other agent, sometimes made from animal parts, that arouses (or is reputed to arouse) sexual desire or enhances sexual performance.

**AQUACULTURE.** The process of raising aquatic organisms in a controlled environment for commercial purposes. See: farming and ranching.

**ARRIBADA.** The emergence of an aggregation of ridley turtles onto nesting beaches. Copulating pairs congregate in large numbers followed by mass nesting of females, generally over a period of several days. Terms such as arribazons, morrinas, and flotas are synonyms.

**AXILLARY NOTCH.** The notch in the front part of the shell into which the front leg fits.

**BASKING.** A behavior that exposes the body, or a portion of the body, to the warmth of the sun.

**BEACH RENOURISHMENT.** The process of replenishing sand on a beach due to loss from erosion. Since the new sand may have characteristics (compaction, grain size, etc.) different from the natural sand, renourished beaches may not be as attractive to nesting turtles as natural beaches.

**BEAK.** The horny covering of the jaws, in turtles consisting of a single plate over each jaw surface. Also known as rhamphotheca or tomium.

**BEKKO.** The scutes of the hawksbill turtle used in the manufacture of various items, particularly in jewelry. See also: tortoise shell.

**BENTHIC.** Describing an organism that lives in the benthos, a biogeographical region referring to the bottom of an ocean, lake, or river.

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<sup>1</sup> Adapted from:

*Dodd, C. Kenneth. 1983. A Glossary of Terms, pp. 237-248. In: Peter Bacon et al. (Editors), Proceedings of the Western Atlantic Turtle Symposium, 17-22 July 1983. Volume 1. University of Miami Press. Miami, Florida.*

*Gulko, David and Karen Eckert. 2004. Sea Turtles: An Ecological Guide. Mutual Publishing, Honolulu. 123 pp.*

BICUSPID. Having two cusps.

BIFURCATE. Having two branches.

BODY PIT. The depression dug by the female turtle during nesting. Body pits are characteristic of different species and range from shallow (ridleys) to rather deep (green turtles, leatherbacks) and may persist for months under certain conditions. The center of the body pit usually does not indicate the location of the egg chamber.

BREEDING. The process of copulation or the physiological conditions of taking part in or being ready to take part in the process of producing offspring. Breeding often takes place off the nesting beach, although it is also observed along migration routes and in areas far from suitable beaches. The term breeding is sometimes used interchangeably with “nesting” or with “mating” (i.e., copulation).

BRIDGE. The part of the shell of a turtle that connects the carapace and the plastron.

BYCATCH. Organisms caught incidentally, or by accident, during fishing operations for which the organism is not a target. See also: incidental capture.

CALIPASH. The dorsal layer of gelatinous fat in the body and that of the flippers, generally greenish in color. Used in making soup.

CALIPEE. The cartilage from the ventral surface of the body, primarily from the plastron. Also used in soup making. The word “calipee” is often used today to include calipash.

CALLOSITY. A roughened area of skin, sometimes with superficial, sculptured bone exposed or just below the surface.

CARAPACE. A bony shield or shell covering all or part of the dorsal (top) side of an animal. The dorsal shell of a turtle.

CARETTA CARETTA. Loggerhead sea turtle. The generic name *Caretta* was introduced by Rafinesque (1814); the specific name *caretta* was first used by Linnaeus (1758). The name *Caretta* is a latinized version of the French word “caret”, meaning turtle, tortoise, or sea turtle.

CARNIVORE. An animal that preys (feeds) on other animals; a meat-eater.

CARUNCLE. A temporary egg tooth. The horny tubercle on the snout of a baby turtle used to cut through the eggshell.

CAUDAL. Pertaining to the tail.

CHELONIA MYDAS. Green sea turtle. The generic name *Chelonia* was introduced by Brongniart (1800); the specific name *mydas* was first used by Linnaeus (1758).

CITES. An acronym for the Convention on International Trade in Endangered Species of Wild Fauna and Flora. CITES is an international trade agreement to monitor and control trade in species listed on its appendices. All sea turtles are listed on Appendix I, the most restrictive appendix. As such, unless reservations are taken, commercial trade in wild specimens or products is prohibited among member countries.

**CLOACA.** The common cavity into which the intestinal, urinary, and reproductive tracts open in reptiles and other animals; the opening through which sea turtle eggs are laid.

**CLUTCH.** The number of eggs produced by a turtle at one time. The number of eggs deposited in a nest.

**COMMENSAL.** An organism in a symbiotic relationship with another organism in which one member of the association (the commensal) derives an advantage and the other derives neither an advantage nor disadvantage. Barnacles are common commensals on sea turtles.

**CONSERVATION.** A careful preservation and protection of something, especially with regard to planned management of a natural resource to prevent destruction, neglect, or unwise exploitation.

**COSTAL BONES.** The bones of the carapace lying between the neural and the peripheral bones. The lateral (also called pleural or costal) scutes roughly overlie these bones.

**CRAWL.** The tracks of a turtle on the beach. "Track" is used synonymously with crawl. See: false crawl.

**CUSP.** A sharp projection, typically from the edge of the jaw.

**DERMOCHELYS CORIACEA.** Leatherback sea turtle. The generic name *Dermochelys* was introduced by Blainville (1816). The specific name *coriacea* was first used by Vandelli (1761) and adopted by Linneaus (1766).

**DEVELOPMENTAL HABITAT.** The place(s) where immature turtles feed and grow prior to reaching adult size. The developmental habitat of sea turtles may or may not correspond to the adult habitat and thus may require special conservation and management measures.

**DISORIENTATION.** The result of using inappropriate cues for moving in a particular direction. For instance, hatchling sea turtles will move inland toward street lights instead of correctly toward the sea, and are thus said to be disoriented.

**DIURNAL.** Occurring during the day, often in daily cycles.

**DOOMED EGGS.** Eggs in natural nests which are likely to be destroyed during the course of incubation by natural, predictable causes, particularly beach erosion or extended tidal flooding.

**DRIFT LINES.** Elongated masses of seaweed, debris and other floating objects that often form where ocean currents converge (meet one another). Hatchling sea turtles take refuge in drift lines.

**ECTOTHERMIC.** An animal, including most reptiles, whose body temperature is determined largely by ambient (outside) temperature, as opposed to generating heat within its own body. What we used to call "cold blooded". With the arguable exception of the leatherback, sea turtles are ectothermic.

**EFFECTIVE POPULATION SIZE.** The number of reproducing individuals in an ideal (i.e., Mendelian) population. See also: population.

**EGG CHAMBER.** A hole dug by an adult female turtle using her rear flippers, into which she lays her eggs.

**ELECTROPHORESIS.** A technique for separating molecules based on their differential mobility in an electric field. Each type of molecule has a specific electrical charge, a specific attraction to the solution in which it is kept and a specific molecular weight. All of these characteristics “finger print” the compounds in a solution so that they can be separated (here, largely on the basis of electrical charge) from other molecules.

**EMERGENCE.** (a) female. The action of the female turtle leaving the water and coming onto land to nest. (b) hatchling. The emergence of hatchlings on the beach surface above the nest cavity (emergence occurs a variable number of hours or days after hatching from the egg).

**EMERGENCE TIME:** The amount of time it takes the female to leave the water and begin nesting, or the time between hatching and the emergence of the hatchlings from the nest.

**ENDANGERED.** Any taxa likely to become extinct within the foreseeable future if those factors responsible for their status continue operating.

**EPIBIONT.** An organism living upon another organism, such as a barnacle attached to the shell of a sea turtle.

**ENZYME.** A protein complex produced in living cells which, even in very low concentration, speeds up certain chemical reactions but is not used up in the reaction. See also: protein.

**ERETMOCHELYS IMBRICATA.** Hawksbill sea turtle. The generic name *Eretmochelys* means “oar turtle”. The specific name *imbricata* refers to the over-lapping nature of the carapace scutes.

**EVOLUTION.** See “natural selection” first. A cumulative change in the inherited characteristics of groups of organisms which occurs in the course of successive generations related by descent. Evolution, a process, is defined as the result of “natural selection,” and has no predetermined endpoint. As natural selection determines the composition of a population over time, it results in a shift of population characteristics. This shift is usually in the direction favored by the “environment” during each contributing generation. The descendant organism may carry any degree of resemblance to its ancestor depending upon the nature and intensity of natural selection and the span of time (or generations) between them. In its extreme case, the descendant may bear only a very subtle resemblance to the ancestor, or may be very similar.

**EXTINCT.** A species, subspecies, or population that no longer exists.

**EXTINCTION.** The man-induced or natural process whereby a species or subspecies ceases to exist. May be used to describe the same process at the population or other levels.

**FALSE CRAWL.** The track left by a sea turtle that has ascended a beach but returned to the sea without laying eggs.

**FARMING.** The practice of culturing sea turtles in a closed-cycle system for commercial purposes. Farming does not rely on wild populations except initially, and later occasionally, to maintain genetic diversity and avoid problems with inbreeding. In contrast, see ranching.

**FERAL.** Animals (typically pets or livestock) that have reverted to a wild condition after escape or release from captivity. Feral dogs, for example, are important predators of sea turtles in many parts of the Caribbean.

**FERTILIZATION.** The fusion of two gametes of opposite sex to form a zygote.

**FIBROPAPILLOMAS.** Lobulated tumors that grow on the skin, eyes, in the oral cavity, and on the viscera of sea turtles. This disease is life-threatening as these lesions can impair the turtle's ability to swim, eat, see, and even breathe.

**FORAGING.** The process of looking for food. Areas where turtles feed are referred to as foraging habitat or foraging grounds.

**GAMETE.** A mature reproductive cell capable of fusing with another similar cell of the opposite sex to produce a zygote (i.e., a sex cell).

**GENE.** The unit of heredity (or inheritance) located in the chromosome. Interacting with other genes, it controls the development of hereditary characters. The gene is a small segment of the DNA (deoxyribonucleic acid) molecule that bears the information specifying the amino acid sequence for a particular protein or a major peptide chain (molecule made up of amino acid chains).

**GENE POOL.** The sum total of genes in a breeding population. See also: gene and population.

**GROUND TRUTH.** Correlation between aerial surveys and beach surveys on a particular section of beach to obtain an estimate of the numbers of nests and false crawls. The numbers of nests and false crawls from beach surveys (ground truth) are compared with the numbers from aerial surveys to gain an index of the accuracy of aerial surveys on sections of beach where beach surveys are not possible or too time consuming.

**GULAR SCUTE.** The frontmost (paired, occasionally single) scute of the plastron, except in sea turtle species where the paired gular scutes are separated by an intergular scute.

**HABITAT.** The specific place in the natural environment where an animal or plant lives.

**HALF-MOON TRACK.** A semicircular or similar shaped track made by a turtle that emerged from the sea but turned around and returned almost immediately without nesting. A type of false crawl.

**HATCHERY.** A man-made structure or enclosed (e.g., fenced) area constructed for the incubation of eggs.

**HATCHING.** The process of leaving the egg after development is completed. See: emergence, hatchling.

**HATCHLING.** A turtle that has recently emerged from the egg.

**HEAD-STARTING.** The experimental practice of raising hatchling turtles in captivity for the first several weeks or months of life.

**HERBIVORE.** An animal, such as a green sea turtle, that feeds exclusively (or nearly so) on plants.

**HYBRID.** An offspring of a cross between two genetically dissimilar individuals. Such an individual will exhibit a mixture of characteristics of both parents. The resemblance may be stronger to one parent than the other, depending upon the influence of a variety of allelic interactions.

**HYBRID INVIABILITY.** The loss or reduction in vigor/fitness of hybrids.

**HYBRID STERILITY.** The sterility of hybrids.

**HYBRID VIGOR.** The increased behavioral or biological success and fitness of hybrids. A synonym for heterosis.

**IMBRICATE.** Overlapping, as the shingles of a roof or the scutes of the carapace of a hawksbill sea turtle.

**IMMATURE.** An animal that has not reached sexual maturity. See also: juvenile.

**IMPRINTING.** The hypothetical process by which a hatchling turtle receives a lifelong impression of its natal beach, or region, that enables it to recognize appropriate cues and relocate the beach, or region, when it has become an adult.

**INBREEDING.** The mating of closely related individuals.

**INCIDENTAL CATCH.** The unintended capture of a species (such as a sea turtle) while fishing for another species (such as shrimp). See also: bycatch.

**INCUBATION.** The process of development between egg-laying and hatching. In sea turtles, incubation typically lasts 50-75 days depending on the ambient temperature and the species involved.

**INFRAMARGINAL PORES.** Pores located near the rear of the inframarginal scutes. These pores are only found in the ridleys (*Lepidochelys* sp.). The pores conduct secretory products to the surface, but the function of these products is unknown.

**INGUINAL NOTCH.** The notch behind the bridge and in front of the hind limb of a turtle.

**INTERNESTING INTERVAL.** The amount of time between successful nestings within a nesting season. This period is usually 10-17 days for most species, but up to 28 days for ridleys.

**INTERSEX.** Abnormal individual which is intermediate between the two sexes in characteristics, having all its cells of identical genetical composition. This may occur through failure of the sex determining mechanism of genes, or through hormonal or other influences during development.

**ITEROPARITY.** The strategy (successfully used by sea turtles) of reproducing many times during a lifetime.

**JUVENILE.** Not at full size or strength; a sexually immature sea turtle. Inasmuch as wild sea turtles may take up to 50 years to reach sexual maturity, and that different species and even populations within a species have different growth rates, the distinction between a juvenile and subadult is not well defined. This distinction is further complicated in that there is little or no correlation between size and age in sea turtles. See also: immature.

**KARYOTYPE.** The chromosome complement within the nucleus of a cell or organism, characterized by the number, size, and configuration of the chromosomes, usually described during mitotic metaphase of cell division. When these are described in the literature, the author has photographed a cell in mitotic metaphase, cut out and lined up (usually in decreasing size) the outlines of the chromosomes. The number and shape for these is species specific.

**KRAAL.** An enclosure. With regard to sea turtles, a protected enclosure around nests on a beach. See: hatchery. Traditionally, the term kraal means a pen in the water used for holding turtles for a few days to several months before slaughter.

**LEPIDOCHELYS KEMPPII.** The Kemp's ridley sea turtle. Reportedly the turtle was named for Richard M. Kemp, a fisherman interested in natural history who submitted the type specimen from Key West, Florida. The species was allocated to the genus *Lepidochelys* (Fitzinger 1843) by Baur (1890) when it was realized that Kemp's ridley and the Indo-Pacific "olive" ridley, *Lepidochelys olivacea*, were congeneric. *Lepidochelys* comes from a Greek root meaning "scaly".

**LEPIDOCHELYS OLIVACEA.** Olive ridley sea turtle. The generic name *Lepidochelys* was introduced by Fitzinger (1843); the specific name *olivacea* was first used by Eschscholtz (1829). *Lepidochelys* comes from a Greek root meaning "scaly". The common name may derive from the typically olive-green color of the carapace.

**LIVING TAGS.** Grafts of tissue transferred from one part of the body to another. Contrasting pigmented marks are created by the surgical exchange (referred to as autografting) of small pieces of tissue between the (darker) carapace and (paler) plastron. The contrasting marks are retained and increase in size as the animal grows. Living tags have occasionally been used to identify cohorts of hatchlings or yearlings released in a given year

**"LOST YEAR".** The period of time (generally several years) between hatching and attainment of a carapace length of 20-30 cm during which sea turtles are epipelagic and rarely encountered. The "lost year" may encompass more than one year.

**MANAGEMENT.** The science of working with the characteristics and interactions of habitats, wild animal populations, and humans to achieve specific goals.

**MARGINALS.** The scutes lying around the margins of the carapace. These more or less overlie the peripheral bones.

**MENDELIAN POPULATION.** An interbreeding group of organisms sharing a common gene pool. See also: population and gene pool.

**MIGRATION.** The directed movement of animals from one place to another. Sea turtle migrations usually involve feeding and nesting activities and are particularly striking in the green and leatherback sea turtles. The cues of orientation are still largely a mystery.

**NATURAL SELECTION.** The natural process by which organisms leave differentially more/less offspring than other individuals because they possess certain inherited advantages/disadvantages. Individuals of a species which possess certain inherited advantages which allow them to survive, reproduce and produce more offspring (i.e., are more "fit") than individuals without these advantages. On the other hand, individuals which have inherited disadvantages die too early to leave offspring or they are sterile or their offspring are less likely to survive than offspring of individuals with such disadvantages. That which is an advantage during one time, may at a later time become a disadvantage, because of changes in habitat, climate or other critical parameters. Species which have developed as a result of natural selection and have later become extinct, in the natural course of events, are examples of organisms whose advantages had transient value, being at first favored and then disfavored by natural selection.

**NEONATE.** A recently hatched individual.

**NESTING.** The process of depositing eggs in a nest cavity on a beach. This is often used interchangeably with breeding.

**NICHE.** The ecological role of a species in its environment (defined by what it eats, who eats it, etc.).

**NOCTURNAL.** Occurring at night, such as with nesting by most species of sea turtle.

**OLFACTION.** Pertaining to the sense of smell. Olfaction may be involved in nest site selection, imprinting, and/or migration.

**OMNIVORE.** An animal that feeds on both plant and animal matter.

**ORIENTATION CIRCLE.** A circular pattern in the track made by a sea turtle, especially the leatherback, when the adult female is crawling up the beach to nest or moving down the beach towards the sea, or by hatchlings as they crawl to the sea. Thought to be related to direction-finding behavior.

**OVIPAROUS.** Offspring develop from fertilized eggs that hatch outside the mother.

**OVIPOSITION.** The process of depositing eggs.

**PELAGIC.** An organism, such as a young sea turtle, living in the open ocean.

**PERIPHERAL BONES.** The bones around the edge of a turtle's carapace that lie beneath the marginal scutes.

**PHALANGES.** The elongate finger or toe bones in the flippers.

**PHENOTYPE.** The visible properties of an individual that are produced by the interaction of the genotype and the environment. If a sea turtle carries characteristics in its genotype for several variations of shell color pattern, the phenotype of the turtle is only the specific color pattern which the turtle expresses. Contrasts with genotype.

**PHYLOGENY.** The evolutionary history or genealogy of a group of organisms.

**PIPPING.** The process by which a hatchling breaks free from the egg shell.

**PIVOTAL TEMPERATURE.** The narrow range of temperature during the incubation of eggs at which there is an abrupt change in sex ratio of hatchlings from nearly all males to all females. The sex ratio at a particular temperature is a property of both the position and abruptness of the pivotal temperature. Synonymous with "threshold temperature" of some authors.

**PLASTRON.** The ventral shell covering the underside of a turtle.

**POPULATION.** A group of organisms belonging to the same species that occupy a fairly well defined locality and exhibit reproductive continuity from generation to generation. Genetic and ecological interactions are generally more common between members of a population than between members of different populations of the same species. See also: species.

**PREDATOR.** An animal that hunts and eats other animals. Sea turtles are important predators in the ocean food web.



**PREFRONTAL SCALES.** Thin, flattened, plate-like structures between the eyes that can be used to help distinguish sea turtle species.

**PROTEIN.** A molecule composed of a chain of amino acids which possesses a characteristic three-dimensional shape imposed by the sequence of its component amino acids.

**RAFTING.** Refers to passive drifting, usually on another object. This term is sometimes employed in relation to green turtle hatchlings drifting in floating sargassum seaweed.

**RANCHING.** The process of raising sea turtles from eggs or hatchlings to some set market size for commercial purposes. This is not a closed-cycle system and it continuously relies on wild populations as a source for either eggs or hatchlings. In contrast, see farming.

**RARE.** Taxa with small world populations that, while neither endangered nor threatened, are at risk.

**RELICT.** A persistent remnant of an otherwise extinct flora or fauna or kind of organism.

**REMIGRATION.** The return of adult sea turtles to a particular breeding area in succeeding years. Depending on the species involved, remigration usually occurs on a one (ridley), two, three, or four (most other species) year cycle.

**ROOKERY.** The nesting location of populations of sea turtles. Rookery may refer to one species (for example, the green turtle rookery at Tortuguero, Costa Rica) or to a general area of sea turtle nesting (for example, the Guianas).

**SCALE.** Thin, flattened, plate-like structures that form the covering of certain animals, including turtles and other reptiles.

**SCUTES.** The horny scales covering the bony carapace and plastron, except in the leatherback sea turtle. The shape of the scutes does not mirror the shape of the underlying bones and they are named differently from the bones. Both are of taxonomic importance.

**SEA-FINDING BEHAVIOR.** The procedure whereby hatchling sea turtles correctly orient towards the sea upon emergence from the nest. The cues involved in this behavior are not well understood, although light is clearly important.

**SERRATED.** Having a saw-toothed edge.

**SEX RATIO.** The number of males divided by the number of females (sometimes expressed in percent).

**SPECIATION.** The process of species formation. See also: species.

**SPECIES.** A taxonomic term to describe a type of plant or animal which can interbreed successfully with members of the same type; these are reproductively isolated from members of all other types (or species). They may mate with similar organisms which are in the same genus and bear considerable resemblance to them but either cannot produce offspring as a result, or the offspring are sterile, or the offspring have distinct survival disadvantages. In some cases, they simply cannot mate because of morphological, behavioral, or physiological differences. See also: taxon and taxonomy.

**SPONGIVORE.** An organism, such as the hawksbill sea turtle, that specializes in feeding on sponges.

**STOCK.** A management term which refers to a harvestable portion of a species living within a certain geographical area. A stock may include a portion of a biological population or several populations.

**SUBADULT.** A turtle approaching sexual maturity. See juvenile.

**SUBSISTENCE CAPTURE.** Capture of sea turtles by peoples living in close contact with the sea when such capture is customary, traditional, and necessary for the sustenance of such individuals and their families or immediate kin groups. Such taking is not considered a part of external market-oriented commerce.

**SUBSPECIES.** A named geographic race or a set of populations of a species that share one or more distinctive features and occupy a different geographic area from other subspecies. While breeding is possible and in many cases occurs between members of different subspecies of the same species, it is not as frequent as among members of a single subspecies. This is because of incomplete reproductive isolation. The edges of subspecies ranges frequently overlap and show gradual shifting from one subspecies to the other. The mixing which does not occur is prevented by their occupying different geographic locations and slightly different niches. Some subspecies are at an early stage of speciation. See also: species and population.

**SURVIVAL RATE.** The percentage of individuals surviving from one developmental stage, year class, or life stage to the next stage, or succeeding period.

**SWIMMING FRENZY.** The period of heightened activity or rapid swimming of hatchlings out to sea following the emergence from the nest. The swimming frenzy lasts up to several days depending on species or population involved and may aid the hatchlings in clearing the surf and reaching developmental habitat.

**SYMPATRIC.** Describing two or more populations of the same or different species that overlap in geographic distribution. See also: population.

**SYSTEMATICS.** The study of evolutionary, including historic and genetic and phenotypic, relationships among organisms.

**TAG.** A physical means of identifying sea turtles including by uniquely painted or colored marks, tattoos, holes drilled in the carapace margin, flipper tags, coded wire tags, living tags, and PIT (Passive Integrated Transponder) tags. Returns of tags by fishermen and others provide clues to the movements of sea turtles.

**TAGGING.** The act of placing a tag on (or in) a turtle to aid in recognition when finding the animal on a subsequent occasion.

**TAKE.** Means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a particular species or animal, or to attempt to engage in such activity.

**TAXON** (pl. taxa). A unit of classification; namely, kingdom, phylum, class, order, family, genus, or species--includes subcategories of these, as well.

**TAXONOMY.** The science of classification, of describing, naming and assigning organisms to taxa. Ideally, the classification is based upon systematic relationships, i.e., of inherited characteristics of behavior, morphology, physiology, or tissue and blood chemistry. Usually a combination of measurements and/or characteristics are used.

**TED.** An acronym for Turtle Excluder Device. A structure fitted into a trawl specifically designed to reduce incidental catch, specifically of sea turtles, and other non-target objects while maintaining normal levels of shrimp catch. With few exceptions shrimp trawls are legally required to be fit with TEDs while operating in US waters, a condition imposed in many other countries of the world as well.

**TELEMETRY.** The use of electronic equipment to monitor the movements of animals. With regard to sea turtles, sonar, radio telemetry and satellite telemetry are most often used. Typically, an electronic device which emits a signal at a characteristic frequency is attached to the turtle's carapace..

**TEMPERATURE PROFILE.** Refers to the various temperatures encountered on a beach at different times of the day. Temperature profiles of the sand may be considered in both horizontal and vertical dimensions. The temperature profile may influence nest site selection and surely affects sex ratios and duration of incubation of eggs.

**THREATENED.** Taxa likely to become endangered within the foreseeable future. See also: endangered.

**TORTOISE SHELL.** The scutes of the hawksbill turtle used in the manufacture of various items, particularly in jewelry. Green turtle scutes are sometimes also used but are harder to work, thin and generally do not have the same beauty of genuine tortoise shell. See also: bekko.

**TUBERCLE.** A small lump or knotlike projection.

**VERTEBRALS.** The scutes of the carapace which overlie the backbone of the turtle (absent in the leatherback). May also be called central or neural scutes.

**YEAR CLASS.** All the animals in a population that hatched during a particular nesting season. The sizes of a particular year class can vary substantially after a few years depending on quantity and quality of food sources.

**YEARLING.** A turtle that has survived one year from the time of hatching. Depending on amount and quality of food, and the species involved, yearlings may vary in size.

**ZYGOTE.** The diploid cell formed by the union of egg and sperm cells; also known as a fertilized egg.