Sea Turtle
Master Vocabulary List

A

Adult (aka: Mature)
A fully developed and mature animal, physically capable of breeding, but not necessarily doing so until social and/or ecological conditions allow.

Anthropogenic
Effects or processes that are derived from human activities, as opposed to natural effects or processes that occur in the environment without human influences.

Archelon
A now extinct gigantic sea turtle species from the late Cretaceous Period (74 million years ago). It was thought to have weighed about 2000 kg when alive and measure more than 4.5m long.

Arribada (aka: Arribazone)
A large aggregation of female sea turtles coming ashore together to nest at the same time and the same place.

B

Backstop
An approximately 45 degree incline made in the sand as sand is pushed back with the rear flippers during excavation of the primary body pit.

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

Bathymetry (aka: Water depth)
The measurement of depths of water in oceans, seas, and lakes. Also, the information derived from such measurements.

Beach
The shore zone, usually sand, from the low water line up to a permanent line of vegetation or where the physical characteristics of the ground change to rock outcroppings or cliffs.

Beach success (aka: Nesting success)
The proportion of nests laid to the total number of crawls on a beach. Mathematically, this is the number of nests laid, divided by the sum of nests laid plus false crawls
[beach success = nests laid / (nests laid + false crawls)].
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
Referring to an animal that lives on or near the bottom of a body of water. Also an aquatic biome consisting of the ocean bottom below the pelagic and coastal zones. Large juvenile sea turtles of different species usually frequent benthic zones.

Biodiversity
In an ecosystem, variability among living organisms from all sources, sometimes measured by the total number of species or other taxonomic groupings, and their relative abundances.

Black turtle (aka: Tortuga prieta, Chelonia mydas agassizii)
Green turtles that occur in the Eastern Pacific that have morphological differences from other green turtles (in the Atlantic, Western Pacific, Indian Ocean). Specifically, they tend to have darker carapaces and smaller body size than other green turtles. There is some debate as to whether they are a separate species from green turtles, although at the current time, data from DNA and morphological studies show that they are not a separate species.

Brumation
A state similar to hibernation in which a reptile dramatically reduces its food intake although it may still drink. Both hibernation and brumation are a response to cold weather but in brumation the animal’s response does not exhibit the extreme torpor of a hibernation.

Bycatch (aka: By-catch)
Organisms taken in a fishery that are not the species intended for harvest. Bycatch can be fish with no commercial value, juveniles of marketable species, sea turtles and birds, marine mammals such as seals, dolphins and whales, and many other forms of ocean life.

C

Convention on International Trade in Endangered Species (aka: CITES)
An international agreement that regulates the trade of threatened species between countries. All sea turtle species are listed in Appendix I of CITES, meaning that they (or their parts) cannot be legally traded internationally without a permit.

Calipash
The dorsal layer of gelatinous fat in the body and that of the flippers, generally greenish in color. Used in making soup.
**Callipee (aka: Calipee, Fat)**
Fatty substance found in green turtles, traditionally used to make turtle soup.

**Carapace (aka: Shell)**
The thick shell or shield which covers the back of the tortoise, or turtle, the crab, and other crustaceous animals.

**Carnivore**
An organism that primarily eats other animals.

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

**Characteristic**
A feature that helps to identify, tell apart or describe a distinguishing mark or trait.

**Cheloniid**
Cheloniids are hard-shelled sea turtle species (the green turtle, loggerhead turtle, hawksbill turtle, Kemps Ridley turtle, Olive Ridley turtle, and flatback turtle) that are members of the Cheloniidae Family. The one species of marine turtle that is not a member of the Cheloniidae is the leatherback: it is the sole living member of the Dermochelyidae Family.

**Chemoreception**
The detection of chemical stimuli in the environment. Smell and taste are two senses that rely on chemoreception. One hypothesis for natal homing in sea turtles is that they use chemoreception in orientation and navigation.

**Circle hook**
A circle hook is a type of fishing hook that looks more circular than a traditional J-hook. Circle hooks are thought to be less likely to accidentally capture marine turtles, although there is some debate about their efficacy as a universal mitigant to incidental capture of sea turtles in commercial fisheries.

**Circumglobal**
Around the entire world.

**Cloaca (aka: Ovipositor)**
The cavity into which both the intestinal and genitourinary tracts empty in reptiles, birds, amphibians and many fishes. In some invertebrates, a similar cavity serves for excretory, respiratory and reproductive ducts. The opening through which sea turtle eggs are laid.

**Clutch (aka: Nest)**
A complete set of eggs produced or incubated at one time. In sea turtles, a clutch is a complete set of eggs produced by one female and incubated at one time.
Cold Stunning
The state that turtles enter when they are suddenly exposed to very cold water (< 10 °C). They become lethargic and begin to float on the surface of the water. In this state, they are susceptible to predators, accidental boat strikes, and even death if water temperatures continue to drop.

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.

Counter current heat exchange
A counterflow mechanism that enables fluids at different temperatures flowing in channels in opposite directions to exchange their heat content without mixing.

Crawl (aka: Tracks)
Tracks and other sign left on a beach by a sea turtle. The pattern if the crawl is distinctive for each species of sea turtle.

Curved carapace length (aka: CCL)
Length of the turtles carapace measured by researchers working on turtle nesting beaches with a flexible tape measure. Can be measured in one of 2 ways: 1. CCL minimum: from the notch at the anterior of the carapace to the notch at the posterior end of the carapace where the last 2 marginal scutes meet. 2. CCL n-t: from the notch at the anterior of the carapace to the tip of the last posterior marginal scute. Usually measured to whichever scute is longer.

Curved carapace width (aka: CCW)
Width of the turtles carapace measured by sea turtle researchers with a flexible tape measure. A variety of start and stop points are used by different research groups, but the maximum widest measurement is usually taken.

D
Deoxyribonucleic acid (aka: DNA)
Is a nucleic acid that contains the genetic "code" for the development and functioning of living organisms. The DNA "code" can be studied to look for patterns across individuals or populations, that indicate relatedness. In sea turtles, DNA is often studied to assess the relatedness of different nesting aggregations (rookeries).

Data Deficient
A taxon is considered to be Data Deficient when there is inadequate information to make an assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification may be appropriate.
Dehydrate
To lose water or body fluids.

Demersal (aka: Bottom-dwelling, benthic)
Occupying the bottom of the ocean, whether in the neritic or oceanic zone.

Density Dependent (aka: Density Dependence)
The phenomenon by which the values of vital rates such as survivorship and fecundity depend on the density of the population.

Depensation
When the decrease in the breeding population (mature individuals) leads to reduced survival and production of eggs or offspring. The cause may be either: (1) predation levels rising per offspring (given the same level of overall predator pressure), or (2) the allee effect, which is the reduced likelihood of finding a mate.

Dermochelyid
Leathery-shelled sea turtle species (the leatherback turtle is the only dermochelyid sea turtle). All other sea turtle species are cheloniids.

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.

Dimorphism
The occurrence of two distinct forms of structure, size, coloring, or other characteristic in a single species. “Sexual dimorphism” occurs where dimorphism exists between the male and female of a species.

Disorientation
The lack of directed movement towards a specific area or goal. 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 (aka: Diel)
Active during daylight hours. The opposite is nocturnal (active during night hours). Crepuscular refers to organisms that are active around the time of dawn and dusk.

Diversity
A measure of the variety of living things in a community, based upon one of several mathematical formulae which account for both numbers of species and numbers of individuals within species. High diversity results from high numbers of species and an even distribution of numbers within species. Stressed environments generally have low diversity.
**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.

**Dorsal**
On the upper or topside or surface.

**Dredging**
The activity of any of various machines equipped with scooping or suction devices and used to deepen harbors and waterways and in underwater mining.

**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.

**E**

**Ecology**
A branch of science concerned with the interrelationship of organisms and their environments. The totality or pattern of relations between organisms and their environment.

**Ecotourism** *(aka: Sustainable tourism)*
Environmentally responsible, enlightening travel and visitation to relatively undisturbed natural areas in order to enjoy and appreciate nature (and any accompanying cultural features both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations.

**Ectotherm** *(aka: Cold-blooded, Poikilotherm)*
An animal whose body temperature varies in accordance with the temperature of its surroundings. All sea turtles are ectotherms, although there is evidence that leatherbacks can have higher internal temperatures than the environment.

**Egg chamber**
The chamber constructed by a nesting turtle in the sand and into which the eggs will be deposited for incubation.

**Embryo**
This stage of development spans the period from the time of first cell division until hatching.

**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 success**
The relative number of eggs in a **clutch** that produce live **hatchlings** that leave the **nest** chamber.

**Endangered**
An **IUCN** category for listing endangered species. A taxon is Endangered when it is considered to be facing a very high risk of **extinction** in the wild.

**Endotherm** (aka: warm-blooded, homeotherm)
An animal that can keep its core body temperature at a nearly constant level regardless of the temperature of the surrounding environment.

**Environmental sex determination** (aka: ESD, ) ESD occurs when the sex of the offspring is determined by the environment. **TSD** (temperature-dependent sex determination) is a special case of ESD.

**Epibiont**
An organism which attaches itself to another organism (host) without either benefit or harm to the host, such as lichens on the bark of trees. Sea turtles often have epibionts on their **shells** and skin.

**Epipelagic**
Occupying the uppermost 200m of the ocean where light can penetrate and photosynthesis can occur. Smaller **juvenile** turtles are thought to inhabit this area of the ocean.

**Epiphytic**
Referring to an organism that lives on the surface of another organism and obtains its nutrients from the surrounding environment. Sea turtles can have epiphytes such as remoras.

**Estuary**
An area where a river flows into the sea.

**Excavate** (aka: Inventory, Excavation)
A method used to evaluate **nest** success on **beaches** where **nests** are monitored. Several days after a turtle **nest** has hatched, monitors conduct an excavation, or inventory, of the nest. They count the number of empty eggshells as an approximation of the number of turtles that hatched. They will also count any unhatched eggs, and live and dead **hatchlings** that may be present in the nest. The **nest** inventory helps to determine the **hatching success** and **emergence** success of the nest.

**Extinct**
No longer existing or living.

**Extinction**
The demise of an entire species.
False Crawl Attempt (aka: False Trail, False Nest, FCA)
A female turtle attempts to lay a clutch of eggs, digging a nest, or part thereof but not actually depositing her eggs.

False Crawl U-turn (aka: FCU, False Trail, False Crawl)
When a female turtle crawls on the beach and makes no digging attempt and then returns to the sea without laying.

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.

Fecundity (aka: Birth Rate, Maternity Rate, Fertility)
The number of offspring produced per unit of time per individual of any given age.

Feeding grounds (aka: foraging area)
An area that animals go to feed or forage.

Feral
A wild animal escaped or descended from captivity or domestication.

Fibropapilloma
A tumor that grows on soft skin and viscera of sea turtles.

Fidelity
Being faithful. Many sea turtles show site fidelity, returning to the same beach to lay their eggs clutch after clutch, year after year.

Fishery
A place where fish or shellfish are caught for commercial purposes.

Flatback turtle (aka: Australian flatback)
Essentially confined to the waters of Australia, the flatback turtle nests mainly on undeveloped and remote nesting beaches on the north coast of Australia. The flatback has a rather squat profile, hence its name.

Flipper
The limbs of sea turtles are referred to as flippers, fore and rear flippers.

Flotilla
A large number of individuals moving together; commonly used term to describe a group of sea turtles.
**Flotsum**
Floating wreckage of a ship or its cargo; floating debris

**Foraging**
Looking for food.

**G**

**Genus or genera (pl)**
A taxonomic level that generally refers to a group of animals similar in structure and descent but are not able to breed amongst themselves. For the seven species of sea turtles, there are 6 different genera: genus *Caretta* = Loggerhead turtle; genus *Chelonia* = Green turtle; genus *Dermochelys* = Leatherback turtle; genus *Eretmochelys* = Hawksbill turtle; genus *Lepidochelys* = Kemp's ridley turtle and olive ridley turtle; genus *Natator* = Flatback turtle.

**Green turtle (aka: *Chelonia mydas*, Green)**
One of the seven species of marine turtle alive today. The latin name for the green turtle is *Chelonia mydas*. It is a herbivore and feeds on seagrasses and algae. Consequently it is the species of marine turtle favoured for its meat and is sometimes known as the edible turtle.

**H**

**Habitat**
The natural characteristics of the area where an organism lives; the particular location where an organism normally lives.

**Hatchery (aka: corral)**
A protected area where eggs or nests are relocated for incubation. Hatcheries can be either open-air (outside) or covered (inside).

**Hatching success**
The relative proportion (percentage) of eggs in a nest that produce live hatchlings.

**Hatchling (aka: baby turtle, neonate)**
The stage of life that includes the first several weeks after the turtle leaves its egg, makes its way to the surface, emerges from the sand and crawls to the sea, and begins to swim out into the ocean.

**Hawksbill turtle (aka: *Eretmochelys imbricata*, Hawksbill)**
One of the seven species of marine turtle alive today. The latin name for the hawksbill turtle is *Eretmochelys imbricata*. It is typically found on and around coral reefs and has a hawk like beak for feeding on sponges and corals. It is critically endangered.

**Head-starting**
The experimental practice of raising hatchling turtles in captivity for the first several weeks or months of life.
**Herbivore**
An animal that eats mainly plants or parts of plants. **Green** sea turtles are primarily herbivores.

**Heterogeneous**
Consisting of dissimilar elements or parts; not homogeneous.

**Home Range**
The area in which an animal normally lives and habitually patrols.

**Hybridization**
The interbreeding of two separate species.

**Hydrodynamic**
The motion of fluids and forces acting on solid bodies moving through fluids.

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

**Imprint**
Impress on or fix in memory a thing, place, or person. In the case of sea turtles, hatchling turtles are thought to imprint on the beach or coastal area from where they hatched, enabling them to return to this site to breed.

**Ingest**
Take into the body by the mouth for digestion or absorption

**International Union for the Conservation of Nature** (aka: IUCN, World Conservation Union)
The largest conservation organization in the world. The IUCN created the Red List of threatened species and founded the Marine Turtle Specialist Group.

**In situ**
Latin term meaning "in place" or "not removed". With sea turtles in situ is often used to refer to nests that are left in place as opposed to nests that are relocated or moved to a hatchery.

**Incidental capture** (aka: Indirect capture, Accidental capture, Incidental take)
The unintended capture of non-target species during fishing activity. For example, sometimes sea turtles are incidentally captured during fishing activities for shrimp or swordfish.

**Inconel Tag**
A metal tag that is attached to the trailing edge of a sea turtle’s flipper to provide a means of unique identification. Inconel is a metal alloy that was designed to be
particularly resistant to degradation in extreme environments, such as the ocean. Inconel tags are pierced through the flipper using a special applicator and generally last a few years. Inconel tags are embossed with a unique identification number that is often 3 letters followed by 3 numbers. Most Inconel tag numbers are registered at a centralized tagging database coordinated by the Archie Carr Center for Sea Turtle Research at the University of Florida, USA.

**Incubation**
Keeping something in the proper conditions for development.

**Internesting** *(aka: Internesting interval, Internesting period)*
The period of time between a successful nest and the next nesting attempt (sea turtles of all species lay several clutches of eggs during a nesting season). For most species, the interval is typically 10-18 days.

**Invertebrate**
An animal lacking a backbone, such as an arthropod, mollusk, annelid, coelenterate, etc. The invertebrates comprise 95 percent of animal species and about 30 different phyla.

J

**J-hook**
A j-hook is the traditional form of fishing hook - it is shaped like the letter "J." This form of fishing hook is thought to be more likely to accidentally hook a sea turtle that tries to take bait from the hook.

**Jetsum**
Unwanted material or goods that have been thrown overboard from a ship.

**Jurassic**
From 135 million to 190 million years ago.

**Juvenile** *(aka: Immature, Subadult)*
A turtle which has begun feeding (is no longer dependent on its yolk sac), but has not yet reached maturity.

K

**Kemp's Ridley turtle** *(aka: Lepidochelys kempii, Kemp's Ridley)*
This is the smallest and most endangered of the sea turtle species. For years it was known as the bastard turtle because its nesting grounds were unknown. This led to the belief that it was a hybrid between two other sea turtle species. Finally, its nesting beaches were discovered at Rancho Nuevo, Mexico, the only known nesting site for this species. The Kemp's Ridley turtle nests in arribadas, coming ashore en masse to nest during the day.
Latitude
The angular distance north or south from the equator of a point on the earth’s surface, measured on the meridian of the point.

**Leatherback turtle** (aka: *Dermochelys coriacea*, Leatherback)
The largest of the seven species of marine turtle. The leatherback is so named because it is the only marine turtle that does that has a softer, leathery shell. It feeds on jellyfish and other gelatinous organisms. It is classified by the IUCN as critically endangered.

**Living tag**
A small piece of tissue taken from the white underside (plastron) of a hatchling turtle, and implanted in one of the darker scutes of the carapace on top. The distinctive white patch grows with the scute. The scute on which the living tag is placed codes for the year that the turtle was tagged.

**Loggerhead turtle** (aka: *Caretta caretta*, Loggerhead)
The loggerhead turtle is one of the seven species of marine turtle. Its latin name is *Caretta caretta*. It has a large head to support its large jaw muscles used for crushing molluscs and crustacea.

Longitude
The distance in degrees east or west of the prime meridian at 0° measured by the angle between the plane of the prime meridian and that of the meridian through the point in question, or by the corresponding time difference.

**Longline**
A fishing method. Longlines are put down (either at the surface with floats or submerged with weights) with baited hooks at regular intervals along the line. In industrial fisheries, these lines can be tens or hundreds of miles long. Loggerhead and leatherback turtles are often caught on these hooks and many die as a result.

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.

**Marine Turtle Specialist Group** (aka: MTSG)
An international group of marine turtle experts that was established by the Species Survival Commission of the World Conservation Union (IUCN) to provide up-to-date and reliable assessments of the ranking of marine turtle species according the IUCN Red List categories.
**Marine protected area** (Variations: MPA, Marine Park)
Any ocean zone or area that is given special protection status for the management of some or all natural or cultural resources that occur within the zone.

**Metabolism**
The chemical process occurring within a living cell or organism that are necessary to maintain life.

**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.

**Misorientation**
The directed movement of an organism towards an innappropriate object or goal. When hatchlings that emerge from a nest are attracted to an artificial light at night on a beach, it is a form of misorientation.

**Nares** (aka: Naris)
The paired openings of the nasal cavity in vertebrates, nostrils.

**Natal homing**
The behavior by which an animal returns to the place where it was born. For sea turtles, adult females return to lay eggs in the general region where they were born.

**Navigation**
The method by which an animal orientates itself and finds a specific location.

**Necropsy** (aka: Postmortem)
Dissection of a dead animal to determine the cause of death.

**Neophyte**
Technically, a neophyte is a sea turtle that is nesting for the first time. However, any female that is found to be nesting at a certain site for the first time is defined as a neophyte. It is possible she is nesting for the first time, she has lost her tags, or switched nesting beaches. In general, it is difficult to distinguish true neophytes without laparoscopy.

**Neritic**
Of, relating to, or inhabiting the shallow water, or nearshore marine zone extending from the low-tide level to a depth of 200 meters. The neritic zone is populated by benthic organisms because of the penetration of sunlight to these shallow depths.

**Nest**
A container or shelter in which birds, reptiles, fish, insects, or other animals deposit eggs or keep their young.
Nesting population (aka: rookery)
A group of adult female turtles that tend to nest in a specific and defined region or beach.

Niche
The ecological niche involves both the place where an organism lives and the roles that an organism plays in its habitat.

Nocturnal
Nocturnal animals are largely active at night, sleeping during the day. Sea turtles are not normally nocturnal, except during the breeding season, when females tend to lay eggs and hatchlings emerge from the nest at night.

Oceanic
The open ocean where depths are greater than 200m.

Olive Ridley turtle (aka: Lepidochelys olivacea)
Although related to the Kemps Ridley, the Olive Ridley is the most numerous sea turtle in the world, nesting on beaches in West Africa, Brazil, Costa Rica, Nicaragua, Mexico, and India. It also nests en masse in arribadas that can take place during the day or night.

Omnivore
An animal that eats both plants and animals. Hawksbill turtles are omnivores, eating algae, sponge and corals.

Orientation
A species ability to be aware of its environment relative to oneself, time, and place. A species cannot navigate unless it is oriented.

Overfishing
The practice of commercial and non-commercial fishing which depletes a fishery by catching so many adult fish that not enough remain to breed and replenish the population.

Oviparous (aka: egg-laying)
Any organism that lays eggs during reproduction, and the offspring emerge from the eggs outside the mother. All sea turtles are oviparous.

Oviposition
The process of depositing eggs.
Papillae
The esophagus of sea turtles is lined with keratinized projections that point inward towards the stomach. These papillae end where the esophagus joins the stomach and are presumed to trap food while excess water is expelled prior to swallowing.

Parasite
An organism that lives in or on another organism (its host) and benefits by deriving nutrients at the host's expense

Passive integrated transponder (aka: PIT tag)
A small inert microprocessor incased in glass which is injected into the shoulder muscle or flipper of sea turtles as a means of indentifying individuals. The PIT tag transmits a unique number to a hand held scanner when activated by the scanner. Although expensive, they are one of the more permanent and successful methods of tagging sea turtles.

Pelagic
Occupying the water column, but not the sea floor, in either the neritic zone or oceanic zone. Leatherbacks are considered to be the most pelagic species of sea turtle.

Philopatry
The drive or tendency of an individual to return to, or stay in, a particular site or area. Sea turtles display philopatry by migrating from a feeding area to a breeding area and then back again. Derived from the Greek "home-loving".

Pivotal Temperature (aka: threshold temperature)
Pivotal temperature is the constant incubation temperature of eggs that will produce equal numbers of males and females. The pivotal temperature is a characteristic of TSD (Temperature-dependent Sex Determination).

Plastron (aka: belly, ventrum)
The ventral shield or shell of tortoises and turtles. The plastron covers the underside of a sea turtle.

Platform terminal transmitter (aka: PTT, Satellite transmitter, Satellite tag)
A Platform Terminal Transmitter (PTT) is a small satellite transmitter attached to a sea turtle in order to monitor its movements and/or behavior.

Poaching
To take fish or game in a protected area.

Pollution
The presence of a substance in the environment that because of its chemical or biological composition or quantity prevents the functioning of natural processes and produces undesirable environmental and health effects.
**Polymorphism**  
The occurrence of different forms, stages, types or behaviors in individual organisms or in organisms of the same species, independent of sexual variations.

**Population**  
A group of animals of the same species that occupies a particular area; usually refers to a group that is somewhat separate from other groups of the same species.

**Predation**  
When one species feeds on another species. The predator species feeds on the prey species.

**Predator**  
Any animal that preys on other organisms, which are usually situated in a lower trophic level, as a source of food. This can include herbivores, carnivores and omnivores.

**Preservation**  
The act of reserving, protecting or safeguarding a portion of the natural environment, a species or a population from unnatural disturbance. It does not imply preserving an area in its present state, for natural events and natural ecological processes are expected to continue.

**Primary body pit**  
The excavation made by the turtle on the beach just before digging the egg chamber.

**Q**

**R**

**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.

**Rathke’s gland**  
Paired exocrine organs embedded along the inframarginal scutes or in the inguinal region on the ventral side of hawksbill, ridley and green turtles. The exact role of the Rathke’s glands remains unknown, although some researchers have suggested that secretions from these glands in ridley turtles are involved in the arribada behavior.

**Red List**  
The Red List is a list of organisms that are classified by the level of threat to ongoing survival. Currently, the majority of listings are done at the global species level. It is a product of the IUCN (World Conservation Union).

**Reef**  
A ridge of rocks or sand, often of coral debris, at or near the surface of the water.
**Relocation** (aka: translocation, relocated)
The removal of an organism from one site and placing it in another. Sea turtle nests that are laid too close to the ocean or in a dangerous section of beach are often relocated to safer areas (either on the beach or into a hatchery).

**Remigrant**
A nesting female turtle that has been recorded nesting at a particular nesting beach before and has returned, or remigrated, to the nesting beach in a different subsequent year to nest again.

**Rototag**
A plastic tag that allows unique identification of individual sea turtles. These are usually brightly coloured and easy to read. The tag is applied by piercing the flipper with a special tool, and snapping the two sides of the plastic tag together. These tags cannot be removed without destroying them, are more prone wear and brittleness than other tags, and become tangled in gill nets. Their use is therefore restricted in some areas. However, they are the only sea turtle tag that can be easily read at distance.

**S**

**Satellite**
A satellite is any object that orbits around another object. Polar Orbiting Environmental Satellites (POES) are artificial satellites which orbit the earth and are designed to receive messages from PTTs and relay them to ground stations. This allows researchers to attach PTTs to turtles and track their movements and behaviors via satellite.

**Scale**
Each of the small overlapping plates protecting the skin of fish and reptiles, including turtles. Cheloniids can be distinguished from one another by the number of prefrontal scales (scales on the top of the snout) - as well as by the number of scutes on the carapace.

**Scientific Name**
The “scientific name” of an animal consists of two levels of its taxonomic classification, the "genus" and "species." Scientific names are in Latin. They are usually printed in italics, with the genus capitalized. The scientific name of the green sea turtle is "Chelonia (genus) mydas (species)." Sometimes a species is further subdivided into subspecies, and the subspecies name is added to the scientific name. Thus, the East Pacific green turtles scientific name is "Chelonia mydas agassizii".

**Scute**
A horny or keritanized plate that is part of the shell of a turtle. The number and particular grouping of carapace scutes can be used to distinguish the different species of sea turtle.
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.

Sex Ratio
This is the ratio of males to females in a population. It can be specified as "Primary sex ratio" that is the sex ratio of the hatchlings, "Secondary sex ratio" that is the sex ratio of adults, or "operational sex ratio" that is the ratio of reproductive males to females.

Secondary body pit
An excavation made by a nesting turtle using the front flippers following the deposition of eggs. The spoil from the secondary body pit covers the primary body pit and the egg chamber with sand.

Shoal
A shallow place in a body of water.

Site Fidelity
Being faithful to a particular location. Many sea turtles show site fidelity, returning to the same beach to lay their eggs clutch after clutch, year after year.

Skeletochronology
The study of bone structure in order to estimate the age of an animal.

Sliding baseline syndrome (aka: shifting baseline syndrome, shifting baselines)
A baseline is a reference point from the past - how things used to be. With “sliding/shifting baselines” we allow our reference points to shift and lose track of the original standards. In biology/ecology, this may eventually result in the acceptance of degraded environments, or reduced animal populations, as being “natural.”

Species
A taxonomic division that generally refers to a group of animals which are similar in structure and descent and are able to inter-breed.

Spongivore
An animal that eats mainly sponges. Hawksbill sea turtles are spongivores, although they also sometimes eat algae and coral.

Stochastic
Random or unpredictable. In research projects, it is often the case that factors or variables that are beyond the control of the researcher(s) are referred to as "stochastic."
**Straight carapace length** (aka: SCL)
Length of the turtles **carapace** measured by researchers with large callipers. This can be measured in 3 ways: 1. SCL minimum: from the notch at the anterior of the **carapace** to the notch at the posterior end of the **carapace** where the last 2 marginal scutes meet. 2. SCL n-t: from the notch at the anterior of the **carapace** to the tip of the last posterior marginal scute. Usually measured to whichever scute is longer. 3. SCL maximum: from the anterior edge of the **carapace** to the tip of the last posterior marginal scute. Usually measured to whichever scute is longer.

**Straight carapace width** (aka: SCW)
Width of the turtles **carapace** measured by researchers with a large callipers. There is no standard point to measure to, but the maximum widest measurement is usually taken.

**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.

**Sustainable Use** (aka: SU)
The use of components of natural resources in a way and at a rate that does not lead to the long-term depletion of those resources, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

**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.

**T**

**Take**
Any activity that might: harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a species.

**Taxonomy**
The science of hierarchically classifying animals by groups (e.g. **genus** and species) which share common features and are thought to have a common descent.

**Telemetry**
Transmitting or retrieving data over long distance communication links, such as **satellite** or telephone.

**Temperate**
Climate characterized by mild temperatures.
Temperature-dependent sex determination (aka: TSD)
This is the condition where the sex of the offspring is influenced by the prevailing temperatures during embryonic development. In sea turtles, warmer temperatures produce more or all females, cool temperatures produce more or all males, and the pivotal temperature is the constant incubation temperature that produces equal numbers of males and females. TSD also occurs in other reptiles (crocodilians, some freshwater and land turtles, some lizards), some types of fish, some types of invertebrates, etc.

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
Any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Time depth recorder (aka: TDR)
An instrument that is attached to marine species (e.g. whales, seals, otters and turtles) to follow the underwater movements and behaviour of animals at study. Sometimes, a TDR can be incorporated into a satellite tag (PTT).

Tomium (aka: Beak, Tomia)
This is the cutting edge of the beak or mandible. In some sea turtles, the tomium of the lower jaw has a sharply serrated rim corresponding to strong ridges on the inner surface of the upper tomium. The serrated jaw or tomium allows for efficient grazing of sea grasses.

Torpor
The dormant, inactive state of a hibernating or estivating animal.

Tracking
Following the spatial movements of an animal. Typical tracking methods employ satellite, radio, sonic or passive (i.e., flipper or PIT tags) telemetry.

Toxic
Poisonous substances

Transplant (aka: relocate, transfer, rebury)
To relocate something to a new site. In the case of marine turtles, clutches of eggs can be relocated or transplanted to a new location where they may have a greater chance of success.

Trawl
Towing a large tapered fishing net along the sea bottom to catch benthic animals (shrimp, flounder, sole, etc.).
Trophic level
Each of several hierarchical levels in an ecosystem, comprising organisms that share the same function in the food chain and the same nutritional relationship to the primary sources of energy.

Tropical
Characteristic of or occurring in the tropics, hot and humid

Turtle Excluder Device (aka: TED)
A gear modification used in shrimp trawls for the purpose of excluding sea turtles caught in the trawl net before they drown.

U

Upwelling
The process of upwelling occurs when water rises up from beneath the surface to replace the water that was pushed away. Upwelling occurs in the open ocean and along coastlines. The reverse process, called “downwelling,” also occurs when wind causes surface water to build up along a coastline and the surface water eventually sinks toward the bottom. Water that rises to the surface as a result of upwelling is typically colder and is rich in nutrients. These nutrients “fertilize” surface waters, meaning that these surface waters often have high biological productivity. Therefore, good fishing grounds typically are found where upwelling is common.

V Ventral
On the lower or bottom side or surface. In several species of sea turtles, the ventral side (plastron) is lighter in color than that dorsal side (carapace).

Vertebrate
An animal (including amphibians, birds, fish, mammals and reptiles) with a backbone.

Vulnerable
A species or population that is considered to be facing a high risk of extinction in the wild.

W

X

Y

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.

**Yolk sac**
The 'yolk sac' is a membranous sac attached to an embryo, providing early nourishment in the form of yolk in bony fishes, sharks, reptiles, birds, and mammals.