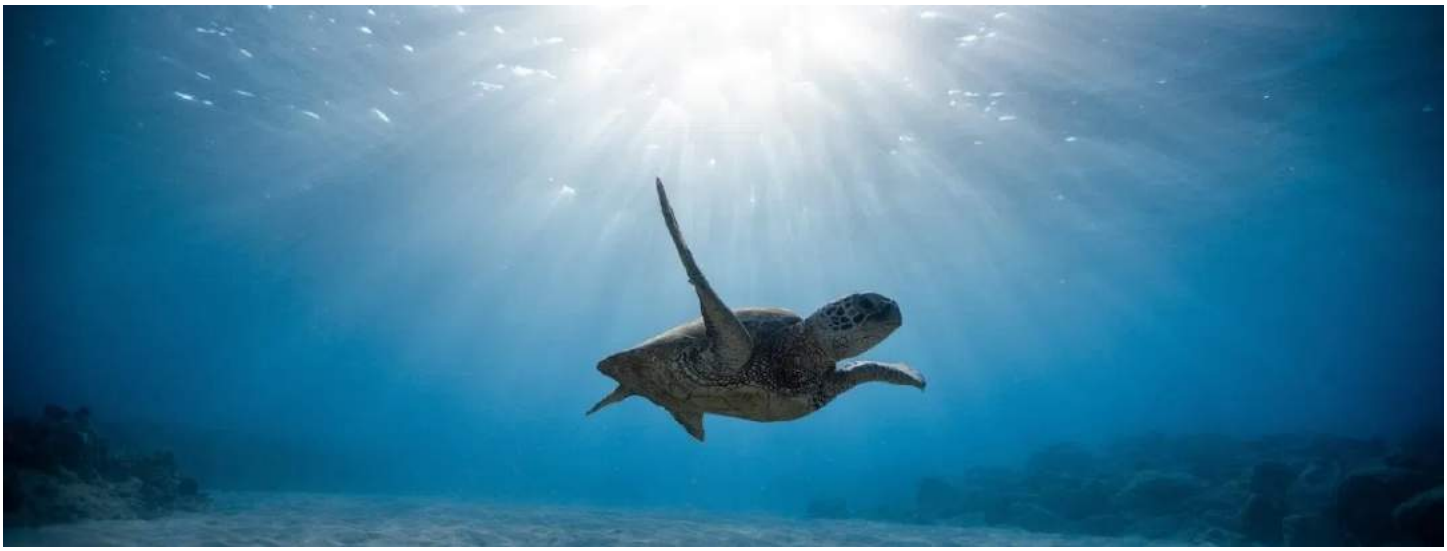


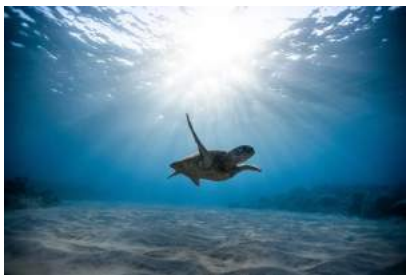
Into the Sea! The Plight of Our World's Sea Turtles

OCEAN LITERACY, STORIES FROM THE SEA

This article is written by **Stephanie Swanson**

Sea turtles are air-breathing aquatic turtles that are well adapted to live their life in the ocean, only leaving their aquatic homes to nest. One of the most ancient creatures on earth, sea turtles have been around since the time of the dinosaurs. This means that the seven species of sea turtles that can be found today have lived on earth for about 110 million years, long before humans. Each species is very distinct in appearance and size; the smallest species weighing in at less than 100 pounds and the largest weighing in at up to 1,300 pounds. Unlike other turtles, sea turtles are unable to retract their head and legs into their shell for protection. Sea turtles in the wild are considered endangered and face many threats.

There are seven species of sea turtles, all of which are protected under the Endangered Species Act of 1973. The seven species of sea turtles are the green, the Loggerhead, the Leatherback, the Hawksbill, the Kemps's Ridley, the Olive Ridley, and the Flatback. Of the seven species, six species can be found in the tropical and subtropical ocean waters of the United States (all except the Australian Flatback sea turtle). Sea turtle bodies, no matter what species, are adapted and streamlined for life at sea. They have eardrums that are covered by skin, an excellent sense of smell, and their vision is



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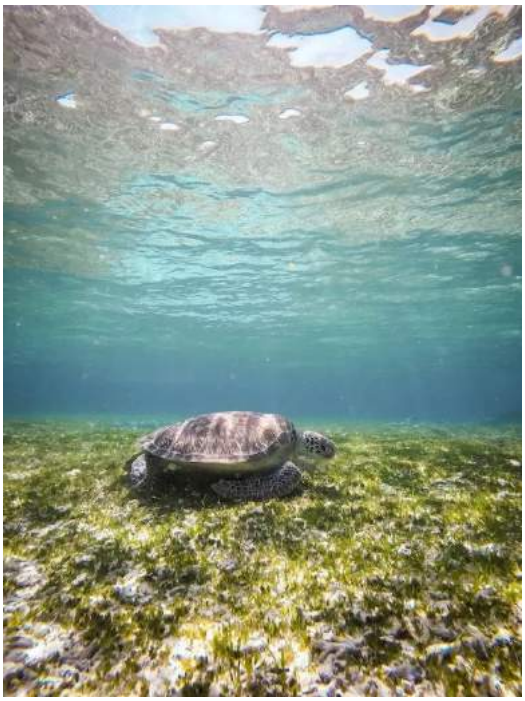
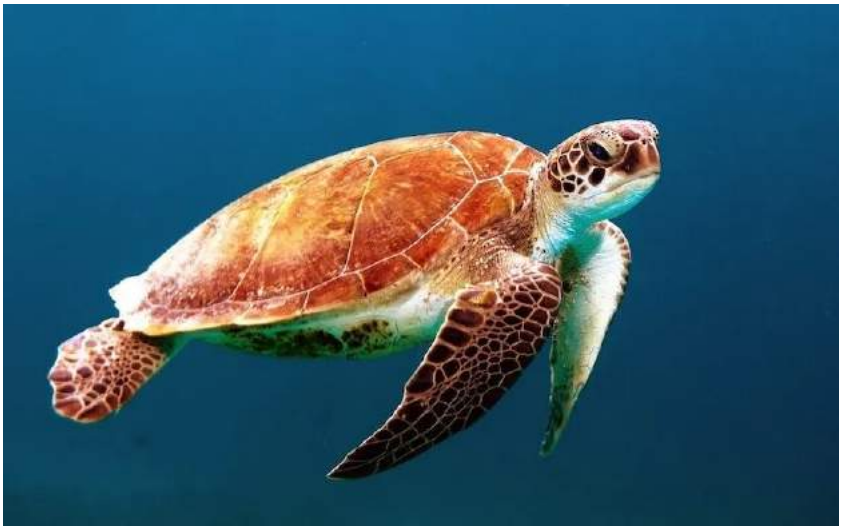
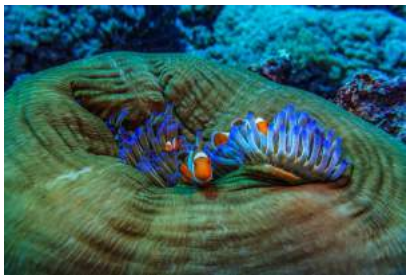


remarkable underwater. Although sea turtles spend most of their lives in the ocean, females must return to beaches to lay their eggs, often having to migrate long distances to nest. Their male counterparts; however, seldom, if ever, return to land. Every year, thousands of hatchlings emerge from their nests in the sand and make the long trip to the ocean. When they hatch, all species of sea turtles range from one to three inches in length and weigh between .8 and 2 ounces. Little is known on how hatchlings spend their time once they reach the ocean; however, when they grow to the size of roughly a dinner-plate, they reappear in known feeding grounds.



Sea turtles face many threats, both natural and human-caused. The only natural threat sea turtles face is predation. As eggs and hatchlings, sea turtles are very venerable. Many animals will raid the nests of sea turtles, eating the nutrient rich eggs. Once they emerge from the nest, predation from raccoons, crabs, birds, and insects pose a threat to their survival. If they make it to the ocean they are still threatened by sea birds and fish. As adults, sea turtles face only one natural threat, and that is due to predation by sharks and killer whales. More cause for concern are the human related threats.

A major threat to sea turtles today is the loss and destruction of nesting beaches. With the development of many of our



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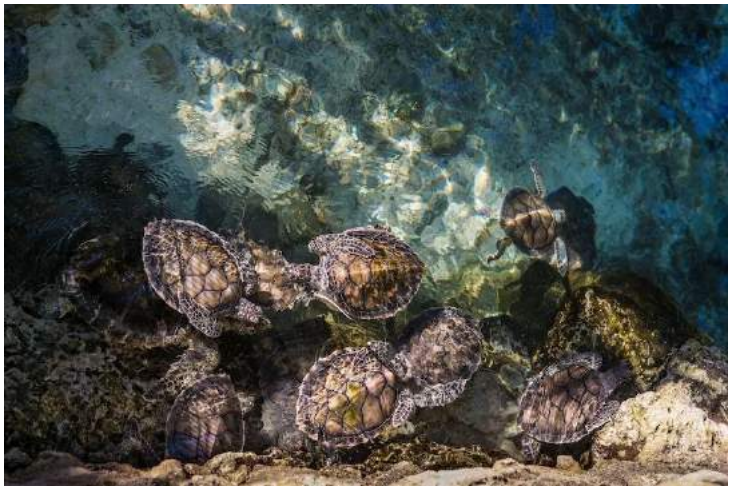
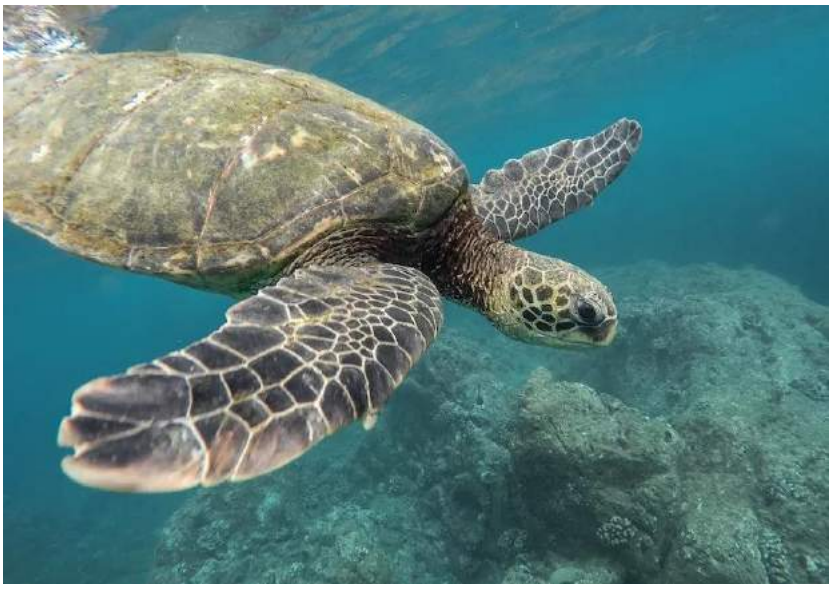
beaches, the sand and vegetation quality is declining, making beaches less suitable for nesting habitats. Erosion due to vegetation loss and human use leads to a less-stable nest and fewer hatchlings surviving. Additionally, the construction of beach armors to protect buildings and homes on the coastline (such as seawalls, bulkheads, retaining walls, rock revetments, sandbags, etc.), also prevent sea turtles from reaching the upper section of the beach that provide the best placement for nests. Lastly, human presence on the beach cause a threat by nest destruction from pets, vehicles, and humans themselves.



Another human made threat to sea turtles today is the use of artificial lighting along the coastlines at night. Sea turtles need dark and quite beaches in order to nest successfully. With the human population developing coastlines, nesting beaches are now packed with tourists, homes, and businesses. These homes and businesses make use of artificial lighting at night; this artificial lighting discourages female sea turtles from nesting on these now busy beaches. Additionally, if a sea turtle does choose to nest on one of these beaches, interaction with humans or the increase in artificial lighting will interrupt the nesting process, causing the female turtle to abandon the nest and return to the ocean. Also affected by the lights are hatchlings. Newly hatched sea turtles are attracted to the brightest thing on the beach, normally this is the horizon over the ocean. With the addition of artificial lighting, hatchlings are becoming disoriented and moving towards parking lots, businesses, and homes instead of the ocean. This can cause dehydration, exhaustions, increased risk of predation, risk of being crushed by cars or people, and death.

Commercial fishing and fishery gear is another major threat to the sea turtle population. Ingesting, entanglement, and entrapment in fishing gear can lead to injury and death. Sea turtles can become entangled in micro-multifilament lines, trap pot lines, and nets causing flipper amputation, shell damage, internal injuries, and death. The main commercial fishing threat is bycatch, or the incidental capture in fishing nets. Bycatch usually leads to the death of the unfortunate sea turtle trapped within the fishing gear.



Oil spills not only affect sea turtles, but the food they eat. According to the Sea Turtle Conservancy (2015), oil spills cause diseases, such as fibropapillomas, that are causing the death of the affected turtle. When contaminations, such as oil, enter the waters of the shoreline, it attaches itself to plants and animals alike. When a sea turtle swims through waters contaminated by oil, the sticky oil clings to their bodies; harming their eyes, skin and shells. When a sea turtle ingests contaminated prey it causes damage to the digestive tract and organs. Additionally, when surfacing to breathe, they breathe in the vapors and residues; this causes major damage to the lungs and leads to respiratory issues.

As with everything else on the planet, sea turtles are also affected by climate change. With sea turtles needing both land and aquatic habitats, climate change will affect them twofold. With the melting of our polar ice caps and changes in sea levels, the few suitable beaches left are disappearing. Additionally, increasing temperatures can affect incubation, leading to more female sea turtles then male, and food resources, as bleaching kills reefs and aquatic plants.

According to the Sea Turtle Conservancy, over 100 million marine animals die each year due to ocean pollution. One of the main pollutions is plastics. Plastics, and other trash, that makes its way into our oceans and waterways causes great threats to marine life, such as sea turtles. Sea turtles can become entangled in packing straps or six-pack rings. They can ingest plastic bags or food wrappers after mistaking them for natural food items. Sea turtles cannot regurgitate, causing the non-food item to be trapped within their stomachs. This causes permanent damage by trapped gases, causing the sea turtle to float. This will lead to eventual starvation and death. You do not have to live near the ocean in order for your trash to pollute the ocean. Ocean debris and pollution travels from inland. A plastic bag dropped on a street in the Midwest can travel to the ocean as it flows through storm drains, into streams and rivers, and finally traveling out into the ocean.

Balloons, bottles, packing materials, food wrappings, toys, and other human trash can all travel to our waterways and into our oceans and lakes no matter where in the United States it originated. In fact, according to the Sea Turtle Conservancy, 80% of plastic ocean debris comes from inland sources.

Another threat to the sea turtle is illegal hunting, whether for consumption or the shell trade. For many generations, sea turtles have been a source of food for the coastal people of Asia and Central America. They will hunt nesting mothers, collecting both the animal and her eggs as a source of food. However, like many historical tribes and communities, they will use every part of the turtle. Even though it is illegal to hunt or collect sea turtle eggs, the enforcement in some countries is relaxed and poaching is widespread. However, sea turtles are also hunted for their shells. Sea turtles, such as the Hawksbill, are hunted for their beautiful shells. These shells are made into jewelry, sun glasses, hair pieces, bowls, and many other luxury items. These items are sold on the black market nationwide, even though it is strictly prohibited in many countries around the world. The Sea Turtle Conservancy has reported that there has been a 90% decline in the Hawksbill population over the past 100 years, mostly due to the illegal poaching of these animals for the use of their shells.

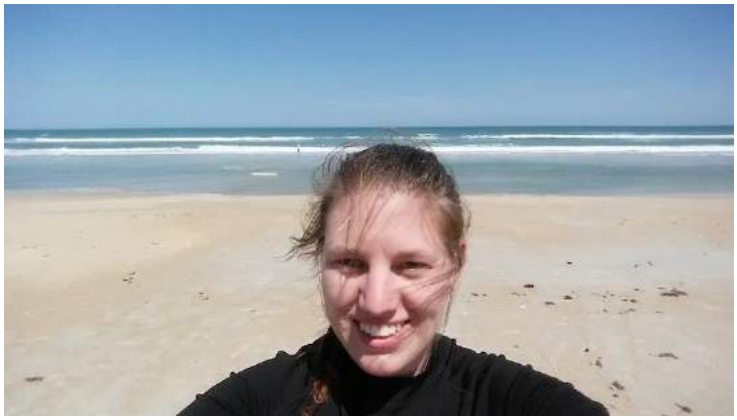
Although there are many threats against the survival of sea turtles, scientists and conservationists are stepping up to help. Researchers are using satellite tracking to get detailed information on the location, migration, behavior, and physiology of sea turtles in order to help with the conservation efforts and strategies to combat any threats sea turtles face. The information provided by these devices will help scientists learn of any major threats, food sustainability, environmental conditions, and human interference. Once scientists learn of and understand the problems that sea turtles face, they can then work on resolving these problems.Once it was understood that turtles were getting stuck in fishing nets at an advance rate, nets with turtle excluder devices were invented to counteract this threat. A net equipped with a turtle excluder device will guide the turtle to an opening and releasing it from

the net. The creation of this device has helped reduce the number of sea turtles killed each year due to bycatch.After understanding the repercussions of the loss of nesting beaches, it is important to protect what few nesting beaches are left. Laws are being put into place, such as the Marine Turtle Protection Act, to protect nesting beaches. Regulations to control the use of artificial lighting near the beach are being enacted to help protect nesting females and hatchlings. Additionally, known nesting sites are being protected and nests are being roped off to protect them from being disturbed by humans, pets, and vehicles. The rescue, rehabilitation, and release of sick and injured sea turtles is a large part of the conservation of these animals. Non-profit corporations, such as The Turtle Hospital in Florida, become a safe haven for sick and injured sea turtles. These agencies will provide the sick and injured turtles with medical care, food, and a place to recover, before releasing them back into the wild. Most of these corporations will also work with conservationists in the protection, collection, and transfer of sea turtle nests. Additionally, rescues and rehabilitation facilities usually help in the research of sea turtles, thus providing needed information to help in the protection of these animals in the wild. As with all other conservation efforts, the most important step in the conservation of sea turtles is public awareness. It is important that the public knows and understands the threats sea turtles face, but more so, it is important that the public comes to know and love the sea turtle. If you are passionate about sea turtles, you will want to take action to help with their survival.

Take Action

As a traveler, there are several actions one can take to insure the safety of sea turtles and still enjoy the warm waters of the tropics. As a fisherman, make sure all your fishing nets include working turtle excluder devices, don't discard monofilament line, hooks, or any other gear into the water;

keep track of your tack the best you can. As a beach goer, look out for marked nesting sites and make sure to keeps all children, pets, and vehicles away from these locations. If you live near the beach, turn off your lights at night; especially during nesting season. One of the best ways that you can help insure the safety of sea turtles, no matter where you live, is by limiting your use of plastics. This will help keep plastics out of our oceans and away from the animals that mistake these items for food. If you notice a dead, sick, or injured sea turtle, do not approach or touch them, alert the FWC Wildlife Alert by calling 1-888-404-3922. With your help, we can save these amazing animals from the threat of extinction.



Stephanie Swanson is a conservationist and recent graduate of Miami University's Project Dragonfly program; where she obtained a Masters in Conservation Biology. The focus of her studies is marine mammal awareness and conservation.

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This piece was prepared online by Panuruji Kenta, Publisher, SEVENSEAS Media