

## The world is your fishbowl: A game about the life of sea turtles

### Information on sea turtles:

There are currently seven known different types of sea turtles: Leatherback sea turtles, Green sea turtles, Hawksbill sea turtles, Loggerhead sea turtles, Olive Ridley sea turtles, Kemp's Ridley sea turtles, and Flatback sea turtles.

### Natural environmental factors:

Being a sea turtle has lots of setbacks. There are natural environmental factors that will obscure their life. Like every species, sea turtles are susceptible to fungal diseases and can harm the eggs further endangering their own species. Based on the recent reports on hatch failures of the seven known types of sea turtles, two pathogenic species of fungi from the *Fusarium solani* species complex have been identified. These species cause sea turtle egg fusariosis which kills the embryos. (Gleason, Frank H et al. "Newly emerging diseases of marine turtles")

### Man Made environmental factors: vehicles

Another factor to consider is the man made environmental factor. For instance since female sea turtles build a nest and lay their eggs. When cars drive onto the sand and mess with the nest, creating a bigger ditch than what baby sea turtles can handle, the babies will be stuck and end up dying when they hatch.

### Man Made environmental factors: tourism and development:

Due to the rapid development of cities, many animals lose their habitats. The coast is a sea turtle's habitat and because of tourism, hotels, restaurants and other infrastructures are constructed which obstructs the livelihood of the sea turtles. One obstruction is the synthetic light that is created by these infrastructures. Baby sea turtles use the light from the horizon as a guide to the ocean. However, the lights created by humans obstruct their sense of direction.

### Man Made environmental factors: pollution:

Tons of waste (like plastic) gets dumped into the ocean every year. Part of a sea turtle's diet includes jellyfish and sea turtles often confuse the two. So they eat the plastic thinking it's a jellyfish. However, plastic can't be digested and so when the plastic accumulates and blocks the digestive system, it kills the sea turtles.

### Natural predators:

After getting past the environmental factors, there's also human influences and natural predators to look out for. Even before they're born, they risk getting eaten by other animals. Unlike other animals, they don't have parental/guardian figures to protect them. Once they make it to the

ocean, they become prey for sharks, orcas, and other large sea creatures that are capable of hunting them.

#### Human influences: exploitation

Despite being one of the most ancient animals that is still alive, aside from natural predators, human influences play a huge role in the endangerment of sea turtles as a species. Sea turtles are allegedly known to have health and beauty benefits and are treated as a delicacy around the world and are therefore hunted illegally by poachers. They cost quite a lot as well from their eggs to their meat and even their shells for jewelry.

#### Human influences: tourism and development:

Apart from the environmental factors, there are also other human influences that can cause the death of baby sea turtles. Another obstacle are the chairs or parasols that humans bring with them to the beach. They might unknowingly put their parasols where the nests are or the chairs left on the beach can obstruct the baby sea turtle from making it to the ocean. Since vibration is one of the factors that causes the eggs to hatch, the vibration from people walking on the sand may cause the eggs to hatch early when the sun is up as opposed to their normal hatching time, at night to prevent dehydration which can cause death.

#### Human influences: fishing industry and boats:

The fishing industries affect everyone in the biome whether it's positive or negative. For sea turtles, they're affected negatively. The fishing baits and nets usually trap them and it ends with the sea turtles drowning due to not being able to come back up for air. Another threat to sea turtles are motor or speed boats. Like other marine animals, they often get caught up in the propellers and get injured. Injured animals in the wild tend to die quicker.

In order to bring awareness to how dire the situation is for sea turtles apart from the plastic pollution in our ocean, I would like to propose a game to shed light on the dangers as a sea turtle. Since there are currently seven known species of turtles, the game would include at least seven different points of view of the turtles and how they live in their local habitat. In reality, there are several factors that prevent an egg from hatching or for the babies to reach adulthood and live its life. Therefore, the game would start as a roll the dice and chance game. If they roll a "1" for example, they will be able to hatch safely with a little blurb of the hardships that it survived. If they roll a "2", maybe they were unfortunately hatched prematurely in the daytime and died of dehydration and would therefore need to roll again. As the game proceeds, there would be more games like spotting games to spot danger. If they fail and die they would have to start again like a shoot and ladder board game. This would be an interactive and educational game. After

reaching a certain point since there are a total of 7 types of sea turtles, they would be able to get more turtles and collect them. The end goal is to live up to the full life expectancy of sea turtles.

For more information:

[https://wildaid.org/programs/sea-turtles/?gclid=Cj0KCQiAu62QBhC7ARIsALXijXRE2vPT82ioqCDxE5jQxXUaN1NaqZccmMPjs6yPbbRYVfq-6OU3tXAaAo3aEALw\\_wcB](https://wildaid.org/programs/sea-turtles/?gclid=Cj0KCQiAu62QBhC7ARIsALXijXRE2vPT82ioqCDxE5jQxXUaN1NaqZccmMPjs6yPbbRYVfq-6OU3tXAaAo3aEALw_wcB)

[https://www.turtle-foundation.org/en/sea-turtles/?gclid=Cj0KCQiAu62QBhC7ARIsALXijXTGU iPdojCJQDBC27DDJUTEETbNgptoT6KEYSM1VVhet3SZdA6K8joaAoP1EALw\\_wcB](https://www.turtle-foundation.org/en/sea-turtles/?gclid=Cj0KCQiAu62QBhC7ARIsALXijXTGU iPdojCJQDBC27DDJUTEETbNgptoT6KEYSM1VVhet3SZdA6K8joaAoP1EALw_wcB)

Gleason, Frank H et al. "Newly emerging diseases of marine turtles, especially sea turtle egg fusariosis (SEFT), caused by species in the *Fusarium solani* complex (FSSC)."

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7534349/> Mycology vol. 11,3 184-194. 7 Jan. 2020, doi:10.1080/21501203.2019.1710303