

Preservation Of Endangered Sea Turtles

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## **Preservation of Endangered Sea Turtles**

Sea turtles, majestic creatures of the ocean, face numerous threats that endanger their survival. They are now confronted by a range of human-induced challenges that imperil their existence. The preservation of sea turtles is vital not only for their own survival but also for the health and balance of marine ecosystems worldwide.

When I encountered the optional prompt for this contest, I felt an immediate connection to the topic of sea turtles and their preservation. Growing up as a beach enthusiast, I have always had a profound fascination with marine life. As a child, I spent countless hours exploring sandy shores, collecting seashells, and admiring the wonders of the ocean. My passion for sea life was further nurtured by frequent visits to aquariums, where I marveled at the graceful movements of sea turtles gliding through underwater exhibits.

These experiences cultivated a deep appreciation for the ecological significance of sea turtles and their vital role in maintaining marine ecosystems. Over the years, I've become increasingly aware of the challenges facing these majestic creatures due to human-induced threats and environmental changes. This inspired me to delve into the importance of sea turtle conservation and explore effective strategies to alleviate the risks they encounter.

## **Importance In Ecosystems**

Sea turtles play a vital role in marine ecosystems due to their ecological significance and unique behaviors. Firstly, sea turtles are keystone species, meaning they have a disproportionately large impact on their environment relative to their abundance. For instance, leatherback turtles, with their specialized diet of jellyfish, help regulate jellyfish populations, preventing them from becoming overly abundant and disrupting marine food webs (NOAA,

2020). By controlling the numbers of these gelatinous organisms, sea turtles contribute to the overall stability and health of ocean ecosystems.

Secondly, sea turtles are significant contributors to nutrient cycling in marine habitats. When sea turtles nest on beaches, they deposit nutrient-rich eggs and contribute organic matter to coastal ecosystems (Santidrián Tomillo et al., 2015). This input of nutrients from turtle nests supports beach vegetation and benefits other wildlife that rely on coastal habitats. Sea turtles also facilitate nutrient transfer between different marine environments. For example, green sea turtles graze on seagrass beds, trimming the vegetation and promoting healthier seagrass growth (Fonseca et al., 2008). The grazing behavior of sea turtles helps maintain the productivity and biodiversity of seagrass habitats, which are essential for various marine species.

Furthermore, as turtles migrate across vast oceanic distances, they transport nutrients between different marine ecosystems (Luschi et al., 2003). Also, sea turtles feed on sponges and other organisms that filter nutrients from the water, redistributing these nutrients through their feces and contributing to nutrient recycling in marine environments (Bjorndal et al., 1995).

### **Dangers Sea Turtles Face**

Sea turtles face numerous threats that jeopardize their survival and population numbers. These threats are primarily caused by human activities and environmental changes. Firstly, one of the major dangers sea turtles encounter is habitat loss and degradation. Coastal development, including beachfront construction and urbanization, leads to the destruction of nesting sites and disrupts crucial habitats like nesting beaches and seagrass beds (Fisheries and Oceans Canada, 2022). As a result, sea turtles struggle to find suitable places to lay their eggs, impacting their reproductive success and overall population growth.

Secondly, marine pollution poses a significant threat to sea turtles. Plastic debris, such as bags and fishing gear, poses a grave risk to turtles through ingestion or entanglement. Ingested plastics can cause internal injuries and blockages, leading to malnutrition and death (Fisheries and Oceans Canada, 2022). Additionally, chemical pollutants like oil spills and agricultural runoff can contaminate marine environments, affecting sea turtle health and behavior.

Furthermore, rising sea temperatures affect the sex ratio of turtle hatchlings, potentially skewing populations towards a single-sex. Changes in ocean currents and sea levels can alter nesting sites and disrupt migration patterns, further impacting sea turtle populations (Fisheries and Oceans Canada, 2022).

Also, overexploitation of sea turtles and their eggs for commercial purposes poses a significant threat to their survival. Although protective measures are in place today, illegal poaching and harvesting continue to threaten sea turtle populations globally (Fisheries and Oceans Canada, 2022).

### **Effects Of Population Declines**

Sea turtles play a crucial role in maintaining the health of seagrass beds and coral reefs by grazing on seagrass and controlling sponge populations. With fewer sea turtles, there is an increase in the abundance of certain species like sponges, which can outcompete corals for space. This can lead to the deterioration of coral reefs and the decline of associated fish populations that rely on these habitats (World Wildlife Fund, n.d.).

Also, the absence of sea turtles can lead to changes in seagrass dynamics. Sea turtles help maintain healthy seagrass beds by grazing on them, which stimulates new growth and prevents overgrowth (National Oceanic and Atmospheric Administration, 2022). Without sea turtles,

seagrass beds may become overgrown and less suitable for other marine organisms, leading to shifts in species composition and biodiversity.

### **Potential Solutions**

To address the threats facing sea turtles and promote their conservation, various methods and initiatives are being implemented globally. One effective conservation method is the establishment of protected areas and nesting sites. Many countries have designated marine protected areas and nesting beaches where sea turtles are afforded legal protection from disturbances and habitat destruction (National Park Service, n.d.).

Another crucial conservation strategy is implementing fishing gear regulations and practices to reduce bycatch. The unintentional capture of sea turtles in fishing gear poses a significant threat to their survival (World Wildlife Fund, n.d.). Conservation organizations work with fisheries to develop and implement turtle-friendly fishing practices, such as using turtle excluder devices in trawl nets to allow sea turtles to escape.

Furthermore, community-based conservation initiatives play a vital role in sea turtle conservation. Local communities living near sea turtle nesting beaches are engaged in conservation efforts through education, outreach, and sustainable livelihood programs. These initiatives empower communities to become stewards of their natural resources and actively participate in the protection of sea turtle habitats (Conservation International, n.d.).

Also, research and monitoring programs are essential for understanding sea turtle populations and identifying conservation priorities. Monitoring programs track sea turtle populations, nesting activity, and threats to assess the effectiveness of conservation measures (National Oceanic and Atmospheric Administration, 2022).

### **My Impact**

Throughout my journey in advocating for sea turtle conservation, I have undertaken various impactful initiatives aimed at protecting these magnificent creatures and their habitats. One of my primary efforts has been to actively participate in beach clean-up activities organized by local conservation groups. By removing marine debris and litter from nesting beaches, I contribute to creating safe environments for sea turtles to lay their eggs.

In addition, I am involved in educational outreach programs to raise awareness about the importance of sea turtle conservation and even lead an educational event of my own as the Educational Manager of Secaucus Cares. By sharing information about sea turtle biology, threats, and conservation efforts, I inspire others to join the cause and become stewards of our oceans.

Furthermore, I actively support local conservation organizations that work tirelessly to protect sea turtles and their habitats. I volunteer my time and resources to assist in fundraising events, educational workshops, and habitat restoration projects aimed at preserving sea turtle nesting sites. Also, I engage in advocacy efforts to promote policy changes that benefit sea turtle populations. By collaborating with lawmakers and government agencies, I advocate for the implementation of regulations to reduce marine pollution, mitigate bycatch, and establish marine protected areas. I'm committed to expanding my impact by continuing to collaborate with conservation organizations and communities dedicated to sea turtle conservation, and contributing to research expanding our understanding of sea turtle populations.

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