

THE HEAT IS ON

Species feeling the effects of climate change



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Green Sea Turtle

Chelonia mydas

Region:

Oceans

Area affected:

Florida & Texas

Climatic change:

Higher Temperatures

Impact:

Reproductive changes, disease

ABOUT THIS SPECIES

Green sea turtles are the largest hard-shelled sea turtle in the world, measuring up to 4 feet long and weighing 400 pounds. These turtles are called “green” not because of the color of their shell, but of the subdermal fat under the shell. This coloration helps green sea turtles camouflage in coral reefs from predators. These turtles can be found throughout the world in tropical, subtropical, and temperate waters. Unique among sea turtles, they are herbivores, eating mainly sea grass and macroalgae. Due to large population declines from hunting and bycatch, green sea turtles have been protected under the Endangered Species Act since 1978.

DESCRIPTION OF IMPACT

Like other sea turtles, the green sea has temperature-dependent sex determination, meaning that the incubation temperature of the nest determines the sex of each hatchling. Eggs exposed to higher temperatures at the top of the nest or in darker sand produce females; cooler incubation temperatures produce males. Climate warming poses a threat to sea turtles because it can skew sex ratios toward more females and fewer males. Sea level rise also increases erosion of nesting grounds and risk of inundation to hatchlings. Green sea turtles are also prone to fibropapillomatosis, causing cancerous tumors that can impair movement, foraging ability, and their immune system usually leading to death. While there is no consensus on what causes fibropapillomatosis, warming sea temperatures exacerbate the growth rate of the tumors, making the symptoms of fibropapillomatosis more severe and easier to transmit to other turtles. Since 2007, researchers have found an 50% increase in fibropapillomatosis in green sea turtles.

References

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