

Conserving Gulf Coast Diamondback Terrapins

Tom Mohrman



Credit: Christina Mohrman

The diamondback terrapin is probably the most charismatic turtle you haven't heard about. They are shy aquatic inhabitants of the Gulf and Atlantic coasts. A medium-sized turtle, they live in the brackish waters, estuaries, bays and bayous, that are neither too salty nor too fresh. They are hard to spot in their native salt marsh and mangrove habitats, but sometimes they can be seen basking in the sunshine. Or, if you are lucky enough, you might see a small turtle head poking above the water line while it is on the hunt for food.

Diamondback terrapins get their name for the diamond shaped "scutes" on the back of their shells. There is a lot of variation among these turtles, with many subtle differences in shell color that includes natural tones of orange, yellow, and brown. They can have contrasting skin patterns that can include stripes, spots, or speckles in different combinations. Some terrapins have pale yellow or blue tones to their faces, and others even have a dark pigmented skin stripe or "mustache" that runs above their beak.

Once terrapins get to an adult size, they are among the top predators in the estuary. These opportunistic feeders target a variety of invertebrates such as crabs, snails, and bivalves, as well as fish (dead or alive), and anything else edible they can get a hold of. Of particular note, terrapins feed on marsh grazing snails, helping to control those populations of herbivores.

Terrapins are only distantly related to sea turtles and are more closely kin to river turtles and map turtles. They are aquatic, spending the majority of their lives in the water, and have webbed toes instead of flippers. They tend to stay close to their estuarine home, and typically do not venture into the open waters of the Gulf. Female terrapins are roughly the size of a cantaloupe cut in half. Females are about twice as large as males as they need the extra size to develop eggs.

During nesting season, terrapins need to leave the water for high ground. Pregnant females leave the marsh searching for suitable nesting sites above the high tide line. Terrapins eggs do not survive being flooded by water for long, so nest

site selection is very important. Historically, terrapins would seek out pocket sand beaches, oyster hash islands, or other “dry” embankments that are adjacent to wetland habitat. As development has occurred, terrapins have incorporated nesting on road causeways, permeable driveways, or front yards if they are accessible by water. Access to land from water is important as terrapins typically cannot overcome bulkheads or other man-made obstructions. The number of eggs a terrapin lays can vary based on several factors such as geography, climate, and the individual variation of the turtle, but in general terrapins lay between 6 and 12 eggs. In a typical year a female may lay more than one “clutch” or group of eggs a year.

Over the last century or so, terrapins have been in decline. A craze for terrapin stew in the 1920s saw thousands of terrapins shipped out of the Gulf to satisfy the fad. Little historic data exist from that period other than fisheries landing records, so it is difficult to know if the species ever fully recovered.

Terrapins are a long-lived species once they get to be an adult sized turtle, living 30 years or more, but their eggs and hatchlings are an easy meal for many predators. In order to be sustainable, the species needs to have at least one or two offspring survive to reproductive maturity, which isn’t necessarily an easy task with so many other animals trying to gobble them up. Today, potential concerns include the loss of wetland and nesting habitat, predation of turtle nests, interactions with abandoned or lost fishing gear, and the illegal collection for export. In most Gulf states they are classified as a “species of conservation concern” and considered to be in decline.

To address concerns related to diamondback terrapins, The Nature Conservancy is leading a collaborative effort to create a conservation action plan to outline strategies to support the turtle or abate its threats. Working with stakeholders from all five Gulf states, development of this plan draws on the expertise of resource managers, academics, conservationists, educators, and outreach specialists to develop actions that are reasonable and achievable to implement. Strategies can take the form of prioritizing research topics, protection of key habitats, education and outreach efforts, volunteer efforts, or management actions such as supporting derelict fishing gear roundups. The process is designed to be a collaborative approach that connects different stakeholder groups to one another.



Credit: Tom Mohrman

Working together and building teams makes implementation of recommended actions reasonable to achieve. Hopefully, this level of collaboration will have a real and measurable impact on the species that would help support a reversal of its status as a species considered to be in decline.

At the time of this article, the project has completed three webinars with several more planned. With the impact of the COVID-19 outbreak, what would traditionally be in-person workshops have been adapted to a series of webinars and eventually conference call style conversations. At this point, over 100 individuals have participated or contributed in some way to the project. We anticipate having a specific chapter and set of strategies to guide each state as well as overall strategies that apply Gulf wide.

This project is being funded by the Gulf of Mexico Alliance Gulf Star program. Gulf Star is a public-private partnership with flexibility to collaborate with others in the Gulf region. The goal of the Gulf Star program is to facilitate partnerships between the Gulf of Mexico Alliance and outside funders who wish to use their investments strategically to achieve measurable results around priority issues that are common to all five states of the Gulf of Mexico region: sustainable seafood, loss of critical habitats, coastal resilience, water quality and quantity, living marine resources, and data and monitoring. The project was recommended by the GOMA Wildlife and Fisheries team and supports actions recommended in the Governors’ Action Plan III.¹ 🐢

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Endnotes

1. GOMA, *Governors’ Action Plan III for Healthy and Resilient Coasts* (2016-2021).