

Terps Make A Comeback

Felicia Saravo

Jamaica Bay of Queens, New York is known to be the most active breeding ground for diamondback terrapins in the northeast region of North America. So, after living near the bay for 17 years, why was I unaware that this unique turtle even existed until now?



The diamondback terrapin was once a well-populated species that thrived in waters along the Atlantic coast, stretching from Cape Cod to the Gulf Coast. It plays a vital role in Jamaica Bay as it helps maintain a healthy ecosystem by consuming snails, fish, and marsh plants, thus controlling the numbers of species below it in the food chain. This reptile, named for the pattern of diamond-shaped rings on its shell, is the only turtle known to live exclusively in brackish water. Males remain in the water for a majority of their lives, while females come to land twice a year during the nesting season. Between June and July, females search for suitable locations to dig nests in sand or soil where they can lay two clutches of eggs, and then return to the water. The absence of the terrapin could have a detrimental effect on the food chains of brackish environments throughout North America, and has proven to do so.



While the terrapin had mostly survived the threats of climate change and habitat destruction for many centuries, the reign of this species hit rock bottom in the last century. The terrapin was overfished throughout the early 20th century as turtle soup became a widely popular delicacy that nearly led the species to extinction. As the species began to recover from this major wipeout, it encountered a new threat in recent years, hindering the growth of its already struggling

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reproduction rate. Urbanization of the area surrounding Jamaica Bay has introduced a new predator to the ecosystem--raccoons. The predator is not native to the area, but is attracted to it as human trash created a new food source. While raccoons have not made adult terrapins a primary target, terrapin nests are often destroyed as the mammal feasts on the eggs. Research has shown predation rates of 95%, nearly guaranteeing that raccoons will get all nests within 24 hours. As a result, terrapins now have far smaller hatchling success rates. Therefore, the shrinking population of the diamondback terrapin explains my lack of exposure to the animal throughout my lifetime as they are now rare to spot without proper training, good timing, and luck.



My personal discovery of the terrapin and its struggle to recover has influenced me to get involved to help the species strengthen and once again prosper. I began to work with the crew of Hofstra University's Terrapin Research Project during the species' nesting period to protect this season's terrapin nests. I am currently spending my summer at the Jamaica Bay Wildlife Refuge, a major land source for Jamaica Bay's terrapins to nest. I have learned how to properly search for terrapins and identify their behaviors, which is a useful skill for finding nests. Upon finding a female terrapin, I observe their actions and hope to catch them in the act of "dancing"--a movement that indicates they are in the process of nesting and laying their eggs. When this occurs, I wait until the nesting process has ended and mark the location of the nest. The female is captured for data collection that helps the researchers of the project gain more information on the understudied species, including a census measured with PIT tags. I then cage



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off the site of the nest to protect it from raccoons preying on the eggs. These cages are made of chicken wire built into cubes, placed over the nest, buried, and staked into the ground to prevent the predator from digging under the enclosure.



Caging in terrapin nests has proven to be an effective method in keeping raccoons from gaining access to the eggs. Throughout the 2015 nesting period, the crew and I have missed 23 nests due to a variety of complications, or simply not finding a nest the day it is made. Returning to uncaged nests the following day has led to devastating results as the eggs of only 2 of the 23 unprotected nests had survived. The rest had been eaten by raccoons within 24 hours. However, a total of 79 cages were properly set up over nests, and raccoons had only managed to get past a couple of the protective barriers. This shows that our caging method does a sufficient job in protecting nests throughout the Wildlife Refuge. Without the effort to protect the nests, very few would survive in comparison to the majority that will have successful hatchlings due to protective circumstances.



Working to protect the diamondback terrapin nests will hopefully help to increase the population size of the species by allowing for more eggs to reach the hatchling stage. My contribution to the conservation of the terrapin has been a very rewarding experience. Not only was I exposed to a creature I had not previously known of, but I had been able to make a difference in its future. Having the opportunity to first hand save the eggs of an injured terrapin who laid her clutch right in my hands, and then see those hatchlings emerge from their adoptive nest was a memorable and sentimental event that will

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forever encourage me to continue to help wildlife. I look forward to finding these same hatchlings, matched by PIT tag, next nesting season and eventually helping their future eggs survive the threat of raccoons. The conservation work with this struggling species that I have contributed to is successfully helping to rebuild and save the diamondback terrapin of Jamaica Bay.



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Citations

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