

South Jersey Transportation Authority READI

**Northern Diamondback Terrapin Analysis/Assessment for
Summer 2024**

Methods/Survey Area

Northern Diamondback Terrapin surveying in 2024 occurred from 6.20-8.6. Ideally, surveying should start mid-May when their activity starts. The nesting season typically occurs from June through mid-August. Surveying was conducted eastbound of the expressway, between MP 1.5-0.6. This section of the expressway holds a concrete median that terrapins are unable to cross over. Accessibility to the marsh/water was limited in this area, and we intend on expanding our surveying area in 2025. Growing vegetation further limited our accessibility in late July, in addition to steep slopes and little land left over at high tide. Due to lack of accessibility on our end, it is likely this area is not accessible for nesting or movement for the terrapins as well. Additionally, most areas that may have flatter and clearer land have suffered from soil erosion and is likely not adequate soil for nesting. Surveying in 2025 will be more effective if we are able to obtain volunteers to aid, especially if we increase the surveying area.

Results

Between June and July, a total of 20 observations were recorded by the interns and east maintenance. A total of 6 terrapins were recorded dead and 14 alive, with 30% and 70% respectively. The same individual may have been recorded on separate instances. Deaths on EB were recorded at MP 1-0.9 (3) and 4.4 EB (1). Deaths on WB were recorded at 3.2 and 3.9. These deaths were recorded by east maintenance on 6.20 and 6.28 respectively, there is a chance the same individual was recorded. Terrapins found dead on the road may have been attempting to travel toward the west bound side of the expressway, so we intend on surveying west bound as well.

Every individual recorded was an adult, no hatchlings/juveniles or nests were found during the survey. Sex was difficult to determine, since every live terrapin observed was in the water, and was not seen breaching land. Only one terrapin's sex was able to be determined: a dead terrapin at 0.9 EB, moving to WB, was male.

Discussion

One terrapin not included in the dataset was recorded on 7.2 on Route 87 1.5 SB, close to the Brigantine Connector/Bridge. It was not recorded whether found alive or dead. We have been told of terrapin activity near the connector but have not surveyed in that area due to time restraint. Included is an image of a location that may be ideal to begin surveying in 2025, if accessible. Due to higher water activity along 1.2-0.8 EB, we may continue conducting water watches at these areas, but continuous land surveys will not be efficient. For May 2025, we will need to determine a flatter area with healthier, sandier soil that will be adequate for terrapin movement and nesting, to increase chances of finding viable populations. Additionally, we will need to further consider the amount of viable nesting areas in regard to high tide and vegetation changes.



Conclusion

While we have yet to determine the actual home ranges of the diamondback terrapins along the expressway, surveying has allowed us to confirm that populations are at least close to our survey areas. From mortalities and water watches, we suggest that terrapin activity may be higher west bound and on the other side of the expressway, toward Atlantic City. Surveying locations for 2025 will likely be closer to the city, around the Brigantine Connector/Bridge. Prior to starting surveying in 2025, we will further evaluate high tides, vegetation growth, and soil quality to ensure we do not begin surveying areas that are inadequate for terrapin nesting.

It would be beneficial to enlist volunteers to aid interns in surveying for 2025, especially if we can verify a nesting area. While two people were adequate to begin the surveying to determine ideal locations, there is always a chance we have missed nests in the surveyed areas. If we do expand the total areas we are going to survey, it will become more difficult to find the nests as intended. If possible, we would attempt to find about 5 student volunteers from Stockton's environmental program to aid in surveying about once a month. Between larger surveying sessions, READI's interns will continue surveying themselves in the same areas. Lane/shoulder closures would be beneficial to ensure safety, and volunteers would of course be provided with safety equipment like high-visibility vests and attenuators.