

2023 Annual Terrapin Survey Report

Terrapin Surveys were conducted in the Maryland Coastal Bays watershed from May 30, 2023, to June 10, 2023. This was the third year the surveys were conducted over an extended period of twelve days, compared to only a period of five days in previous years. Additionally, this year assigned routes were given to surveyors to help standardize the survey. Boat and land-based methods were used to survey for terrapin presence.

Unfortunately, the weather was not cooperative, which resulted in a very low turnout of participants and surveys.

Boat-based Surveys

Boat-based surveys consisted of traveling slowly along the shoreline and counting the number of terrapins observed. Motorboats and kayaks were used.

A total of 5 boat-based surveys were conducted from May 30th – June 10th by 10 surveyors. Unfortunately, one of the boats never provided data to be added to the survey.

The four teams that provided data surveyed 5 locations for a total of 10.7 hours. 163 terrapins were observed over the 10.7-hour period, for an average of 15.23 terrapins/hour (Figures 1,2). This was a decrease of 32 individuals from the terrapins sighted in the 2022 survey period with a slight decrease of .60 terrapins/hour in 2023. The average number of terrapins sighted/hour decreased from 15.83 in 2022 to 15.23 in 2023. There was a decrease of total surveyor hours expended from 32.2 hours in 2022 to 18.92 hours in 2023. This explains the decrease in total number of terrapins sighted. Surveys were conducted in only three of the five Maryland Coastal Bays.

Observed water temperatures ranged from 60.8 – 73.4 °F. Temperatures last year ranged 59.9 – 84.2 °F.

Land-based Surveys

Land-based survey protocol called for counting the number of terrapins found within three 5-minute time periods at a static location.

A total of 5 observers surveyed 19 locations for a total of 6.72 hours. 85 terrapins were observed over the 6.72-hour period, for an average of 12.65 terrapins/hour (Figure 3,4). This was a decrease from 19.13 terrapins/hour in 2022. There was a decrease in time spent on land surveys, with 8 hours in 2022 and 6.72 hours in 2023. Due to differences in yearly survey locations and times, and lack of protocol execution by volunteer observers, land-based surveys should only be used for presence/absence data.

Observed water temperatures ranged from 68 – 77 °C.

Volunteer Participation

Volunteer participation was at 9 total. This is the same amount as 2022; however, years prior the volunteer force was significantly higher. Total survey hours only decreased by 2.9 hours, with 17.42 hours in 2023 and compared to 20.23 hours in 2022. Effort hours for volunteers was 18.92, 2022 effort hours were 28.17. The average number of effort hours per volunteer was 2.10. In 2022 the average number of effort hours per volunteer was 3.13 hours, becoming the highest since 2014 (Figure 5).

Stormy weather during the survey period could cause a decrease in total survey time, effort hours for volunteers, and sightings of terrapins. Typically, terrapins will surface less frequently or stay on land if waters are choppy. Chop can also affect a surveyor's ability to spot a surfacing terrapin in between the waves. Weather was a factor for the low numbers of volunteers and results.

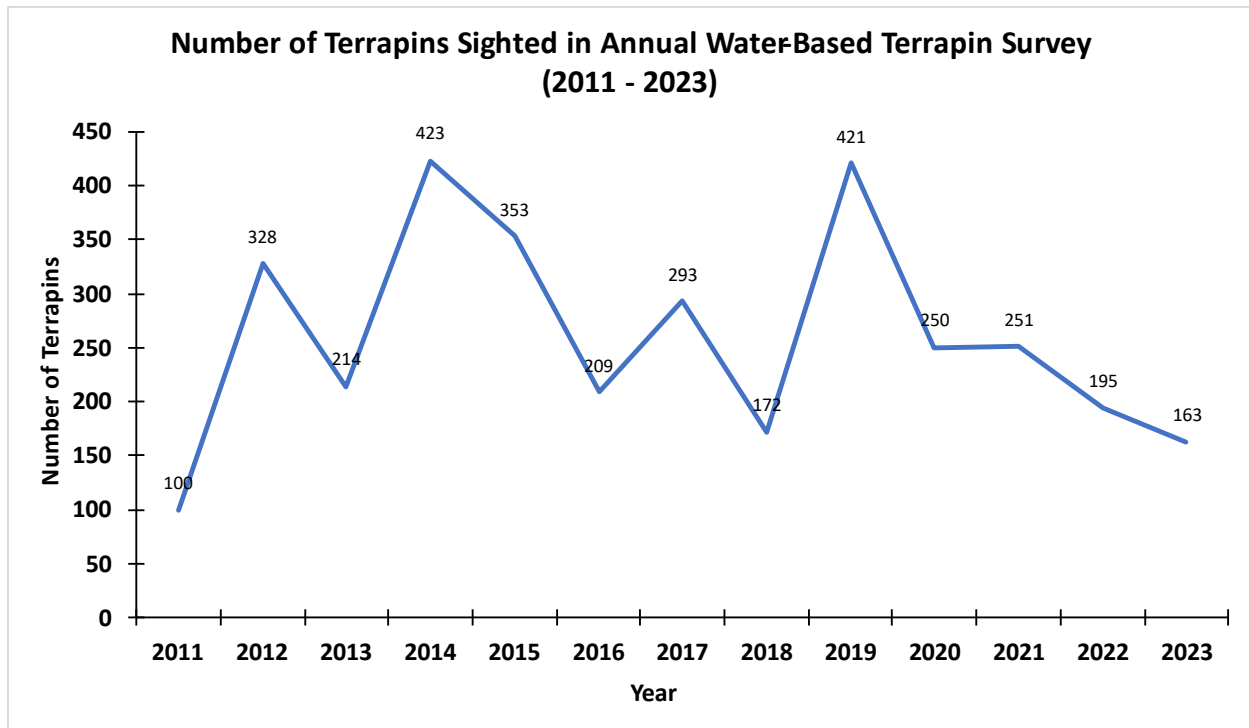


Figure 1. Number of terrapins sighter per year, 2011 – 2023, during boat-based surveys.

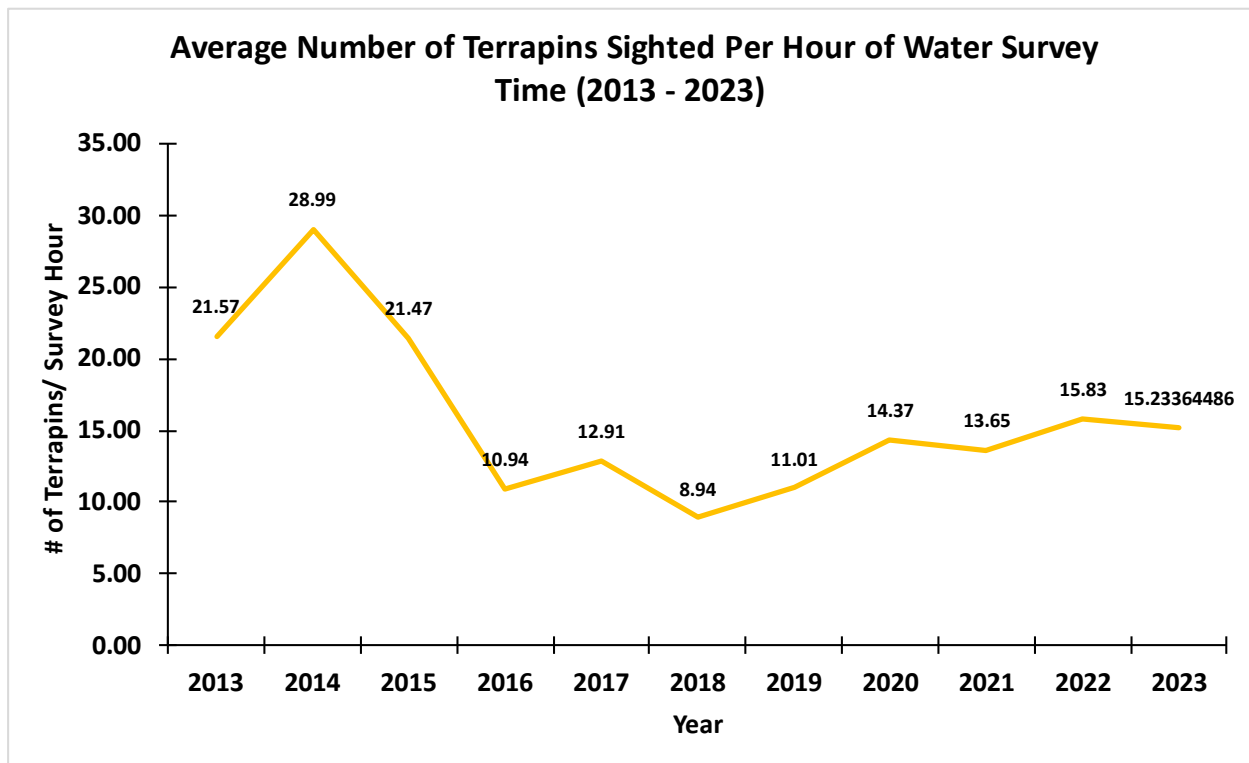


Figure 2. Average number of terrapins sighted per hour of survey time, 2013 – 2023, during boat-based surveys.

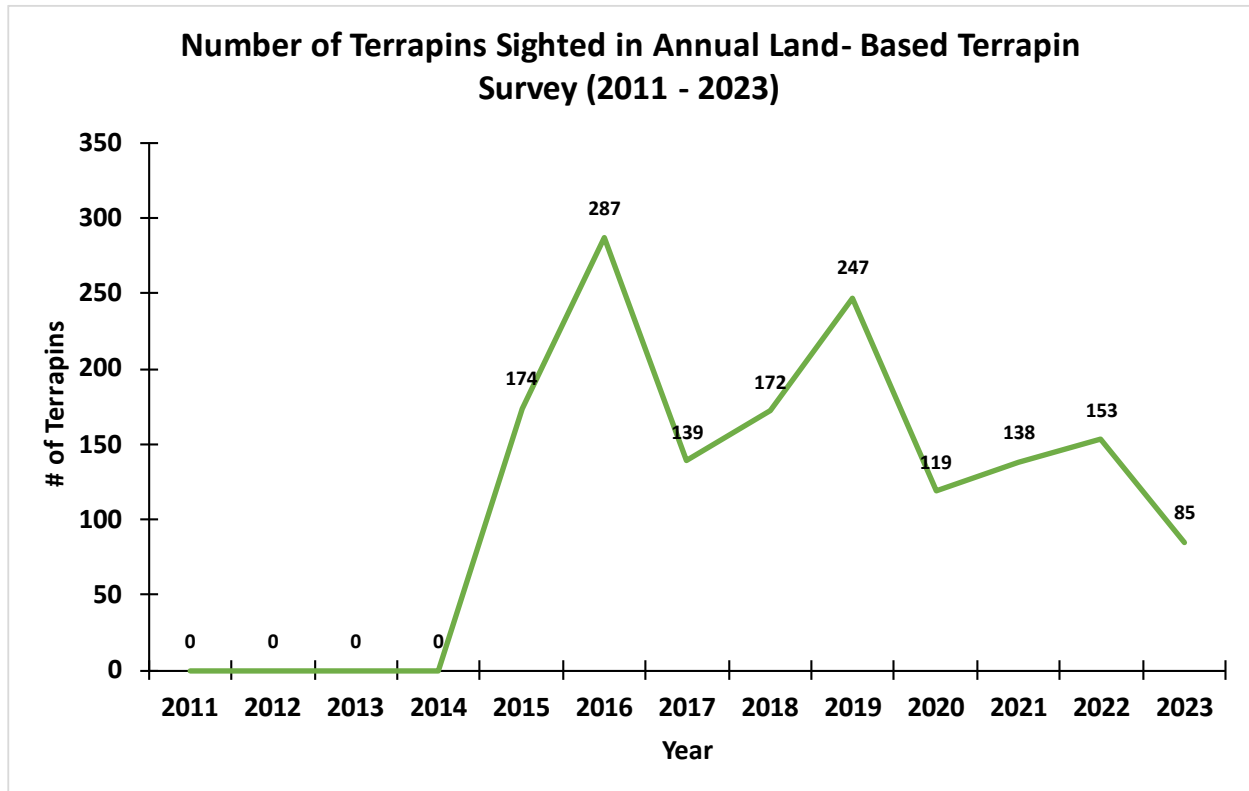


Figure 3. Number of terrapins sighted per year, 2015 – 2023, during land-based surveys.

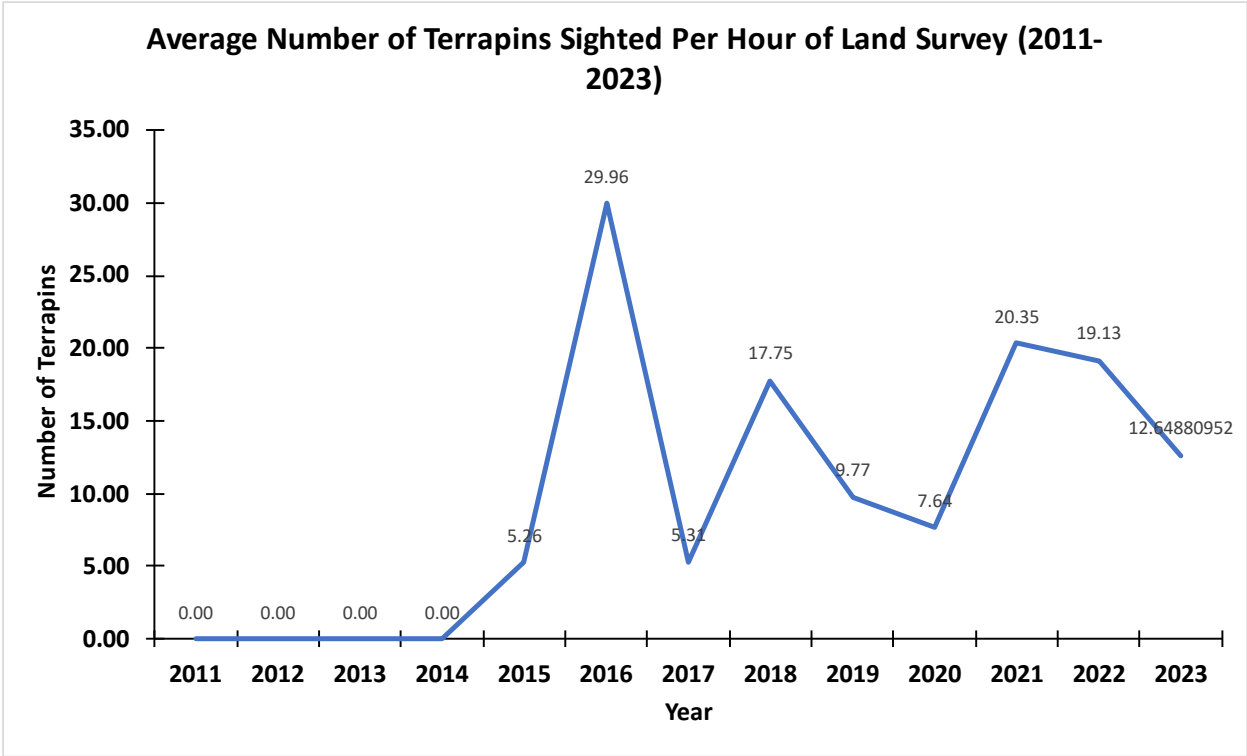


Figure 4. Average number of terrapins sighted, 2015 – 2023, during land-based surveys.

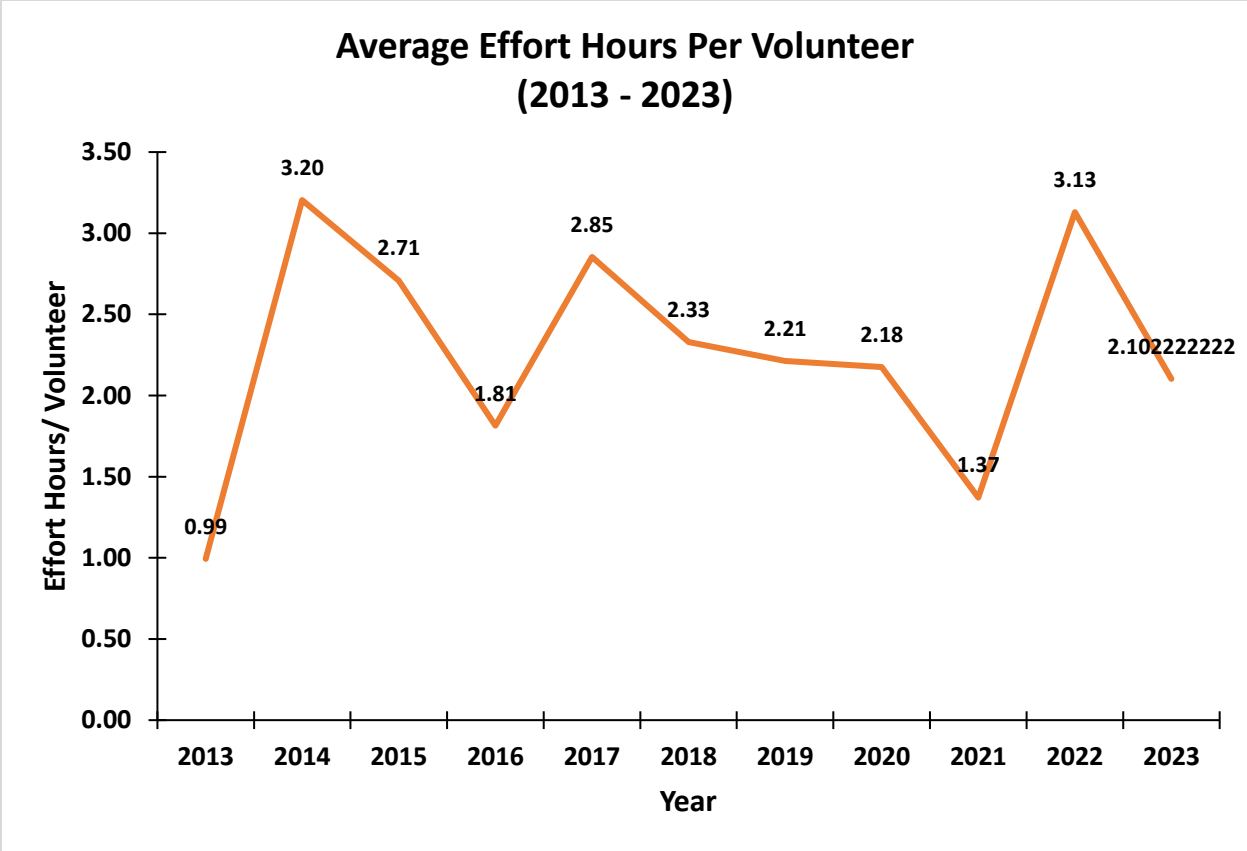


Figure 5. Average number of hours of effort extended per volunteer, 2013 – 2023.

Effort Hours for All Surveyors (2011 - 2023)

