

## 2017 Diamondback Terrapin Head Count Survey Methods Maryland Coastal Bays: May 30 – June 3

**One-Way Survey** methodology where the survey crew samples a long unbroken stretch of shoreline in just one direction with no constraints on time, counting all terrapins encountered. No terrapins should be counted in areas you have already boated through.

Record all terrapins as undetermined (rather than male or female) unless a very large size difference is obvious for large females.

All participants should note if/when “surveyor fatigue” begins to set and curtail survey efforts at that point in time. The quality of data and enjoyment quotient dissipate rapidly when this fatigue point has been reached, and we want this to be fun while also providing us with quality data.

### Survey Methods

**Any Tide:** Record the tidal stage on the datasheet so we know what tide data was collected on.

**Clear Skies & Warm Temperatures (70° F +):** Warmer temperatures mean more surface basking behavior. Record all weather observations on the data sheet. **Significantly more terrapins are observed with water temperatures of >70° F. Calm days with little wind and low cloud cover (lots of sun) are best for spotting terrapins.**

**Calm Water:** There should be little wind or chop on the water. This is variable depending on where you are; please do not go in hazardous conditions or if high winds are forecasted. Areas in the lee of the land may still be possible to be surveyed in windy conditions. Estimate wind speed (mph) and direction on the data sheet.

### Recording Location Information

Any app may be used as long as coordinates are reported in decimal degrees.

Examples of free GPS apps for smartphones:

- iOS Devices: <https://itunes.apple.com/us/app/coordinates-calculateconvert/id494286614?mt=8>
- Android Devices: <https://play.google.com/store/apps/details?id=com.woozilli.gpscoordinates>
- Google Maps GPS Coordinates website: <http://www.gps-coordinates.net> (Can be used by someone who doesn't want to install an app but still has GPS enabled. Be sure to allow location services the first time you visit the website if it asks.)
- Windows Phones: <http://www.windowsphone.com/en-us/store/app/gps-calculator/4e06928ade12-e011-9264-00237de2db9e>

**Surveys will be done by creek or river**, with lat-longs (**NAD 83m Decimal Degrees**) taken for surveyed sections. Remember to get lat-longs for **start** and **stop points** as well as some **waypoints**. Please label these as “Waypoint”, “Start”, or “Stop” under the # Terps column or in the comments field on the data sheet. Waypoints are very important so we can map your boat routes; this is especially important for determining areas where terrapins are **NOT** seen. We can begin to better understand what is influencing where these aggregations occur if we also know where you have surveyed and not observed terrapins. If you move to another creek please start with a new datasheet.

**Waypoints:** Please take waypoints every 10 minutes if no terrapins are sighted. This is to help track your travel if there are no datapoints for terrapins - remember the absence of terrapins is just as important as presence!

**Boat Driver Plus 1 Or More Observers, And 1 Scribe:** Please note on datasheet who is acting in each capacity; it is OK if all on board act as observers but please note that on datasheet. It is best if there are a minimum of 3 people on a team. If kayaking, try to have a team of 3 one-person kayaks, etc. if possible.

**Boat Type:** Note the type of boat used and check the box on the data sheet.

**Speed:** Travel at 0-6 knots; if you come upon any terrapin aggregations, it would be appropriate to stop the boat and count them, rather than flush them all underwater.

**Record number of terrapins on surface and on creek banks on all sides of boat including behind:** Binoculars and digital cameras could be used as tools to verify you are counting terrapins and not other objects (sticks, feathers, etc.). Take a lat-long (**NAD 83m Decimal Degrees**) of each terrapin aggregation and single turtles. If you can also get a photograph of terrapins and your survey team that would be great! Remember to count terrapins by category on the datasheet: **Adult Females** (larger and broader heads), **Adult Males/Juveniles** (smaller heads), and **Undetermined** (if you're not sure). Also remember to tally the total number of terrapins observed by run in the appropriate box.

**Record all shoreline habitats** present opposite where terrapin aggregations (or singles) are observed. Check the appropriate box(s) on the datasheet. If needed add comments in that field.

**Legend: MA=marsh, BE=beach, FO=forest, AG=agricultural lands, DE=developed.** In comments please note if the shoreline is rip-rapped, bulk-headed, living-shoreline, etc.

**Record any other reptile or amphibian species observed** the same as you would for terrapins (please record lat-long and #) – put this in the comments field. If you can also photograph them that would be great!

Please note any other comments either in the section on “Overall Comments” or in the lower margin of the datasheet. Please send your datasheets to [kphillips@mdcoastalbays.org](mailto:kphillips@mdcoastalbays.org) or mail to Maryland Coastal Bays Program, Attn: Katherine Phillips, 8219 Stephen Decatur Highway, Berlin, MD 21811. You may also drop off the datasheets at the office; please be sure to call 410-213-2297 to arrange a time for drop off.

Lastly, **please write legibly on the datasheets and PLEASE record your lat longs in NAD 83m DD (all GPS and i-phone apps can do this!)**.

Please contact Maryland Coastal Bays Program Manager Katherine Phillips at [kphillips@mdcoastalbays.org](mailto:kphillips@mdcoastalbays.org) (preferred) or 410-213-2297 x 109 with any questions.

Thank you to Scott Smith with DNR for this material and thank YOU for volunteering in this valuable citizen science survey!