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**EFFECTIVENESS OF NEST SITE RESTORATION FOR THE  
ENDANGERED NORTHERN MAP TURTLE**

**REPORT 2: USE OF ARTIFICIAL NESTING SITES AND WILDLIFE  
EXCLUSION FENCE TO ENHANCE NESTING SUCCESS**

**Problem**

The Northern Map Turtle, is a state Endangered Species, found only in the lower Susquehanna River in Maryland. The only area where nests of this species are not heavily impacted by predators is in the town of Port Deposit. However, turtles nesting in Port Deposit must often cross a gravel parking lot with constant vehicular traffic to reach the nesting sites. Turtles may become disoriented by human disturbance and move away from the river, towards Maryland Route 222, the main roadway through the town. In addition, the soil in which the turtles are nesting is heavily compacted and turtles often abandon nest sites after unsuccessful nesting attempts.

**Objective**

How Map Turtles will react to these rehabilitated sites and to restriction to their nesting sites is unknown. Turtles could seek to evade the wildlife fence, ignore the better soil types, or abandon the area entirely. Thus, the objectives of this project were to (a) test how female Map Turtles reacted to a wildlife exclusion fence, (b) whether females would make use of a series of artificial nesting mounds to improve soil conditions, and (c) whether confining females to a limited area resulted in higher levels of human disturbance. These data will be useful in establishing a set of "Best Practices" for future management of areas where human visitation via foot traffic impact threatened or endangered species.

**Results**

Data collected after the rehabilitation of the nesting grounds and the installation of the temporary drift fence in 2015 was compared with data collected from 2013-2014, specifically for (a) timing of nesting, (b) spatial distribution of nests, (c) timing of emergence of hatchlings, and (d) success of nests. Figure 1 below shows the rehabilitated nesting sites and temporary wildlife fence.

A total of 12 females were found attempting to nest during 2015, of which four nested successfully. The total of eight nests at Port Deposit in 2015 was comparable to the numbers seen in 2013 (eight nests) and 2014 (seven nests). Some turtles attempted nesting outside the wildlife fence, especially early in the nesting season. Some females were observed entering the enclosed site and abandoning their attempt after walking along the perimeter of the fence and not being able to move beyond it. Of the five nests constructed within the fence perimeter, three were built on or just adjacent to the nesting mounds that were placed to attract females to nest in better soil conditions, but two nests were built along the fence barrier itself. One of the five nests at the Gas House site

**Figure 1: Site photo showing rehabilitated nesting grounds at the Jacob Tome Gas House, along with the temporary wildlife fence.**



was attacked and destroyed by a dog or a coyote in September 2015. This was the first recorded instance of a predator destroying a nest at Port Deposit. Of the remaining four nests at the Gas House site, two had high hatching success, producing 8 and 11 hatchlings, respectively.

### Conclusions

Although sample sizes for post-rehabilitation nesting are small, certain conclusions can be drawn at this time:

- The nesting period for this population varies only slightly among years, commencing in late May or very early June and ending from mid to late July. A “safe” period when construction or other human activities should be curtailed or eliminated would be May 20th - July 25th.
- The number of nests at Port Deposit also varies only slightly each year, from a low of four to a high of 10 nests per year.
- Female Map Turtles did successfully complete five nests within the perimeter of the temporary wildlife fence, although use of the rehabilitated soil types was limited.
- Despite the limited area available for nesting and considerable foot traffic in the vicinity of the nesting site, the research team found limited examples of human disturbance of nesting females. Additional public education would be valuable.

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