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NAHANT MARSH
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Blanding's Turtle Telemetry

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Summary

I tracked nine Blanding's turtles—eight via telemetry and one via solar GPS tracker—across Nahant Marsh during the summer of 2025. My goal was to identify any differences in movement between male and female Blanding's turtles throughout the marsh's various wetlands.

Introduction & Focus

Blanding's turtles are a threatened species in Iowa and endangered in other midwestern states like Illinois. Blanding's turtles do not reach sexual maturity until the age of 20 and they typically travel further distances to nest compared to other turtle species. Because of these factors, they encounter more risks from roads and railways, and higher depredation. They are also adversely affected by habitat loss and destruction.

Nahant Marsh tracks Blanding's turtles' movements using telemetry and a solar GPS. This allows us to follow their movements around wetlands and monitor their reproductive habits, including checking if females are gravid (are carrying eggs).

Methodology

Turtle Capture

Prior to putting on a transmitter, we catch the turtles in traps or by hand catching. At time of capture, we examine the placement of the cloaca to determine if the turtle is a male (the cloaca extends past the carapace) or female (the cloaca does not extend past the carapace).

Telemetry

A transmitter was secured to the rear scute of the Blanding's turtle shell using a fast-acting epoxy glue. Following release, the Wildlife Materials Inc. TRX-48S receiver along with a directional antenna attachment were employed to track and monitor the movements of the Blanding's turtle. Scans were conducted in a 360° radius at various wetlands sites within the Marsh, including Nahant Marsh (MM), Conservation Reserve Program 1 and 2 (CRP1 & CRP2), Beaver Complex. These scans were used to identify the turtles' general location or pinpoint their exact location for a hand capture.

GPS

An ATS L20 GPS logger was used to track turtle 2400. This tracker allowed us to see the coordinates of the Blanding's turtles and its travel patterns. I was able to check online to see the most current data points, and the tracker was able to recharge in the sun, allowing us to leave it on the turtle for longer periods.



This is Blanding's turtle 300, we hand caught her this summer!

Discussion

Since Blanding's turtles are threatened and endangered, it is important to keep track of abundance at the marsh, their reproductive activity, and the growth and health of Blanding's turtles we are already tracking. The long-term goal of tracking them is to aid in their conservation and population growth at the marsh.

My hypothesis was that males would travel more frequently and further distances than females. However, due to a small sample size of six males and three females, it is difficult to adequately compare the movements between sexes. My data shows that two females and two males traveled between multiple wetlands with similar distances, but this cannot support or refute my hypothesis on its own. This is something that can continued to be examined in future studies. Additionally, new methods of capture, due to the lack of trap success and finding a more suitable GPS tracker, should also be considered.

Blanding's Turtle Telemetry Survey

Turtle ID	300 F			*								
	2700 F											
	3000 F									*		
	800 M						#					
	900 M							*				
	1300 M			*								
	2100 M											
	2200 M								*			
		5/16/25	6/6/25	6/13/25	6/16/25	6/23/25	6/25/25	6/27/25	6/30/25	7/7/25	7/11/25	7/14/25
		Main Marsh	CRP1	CRP2	Beaver Complex							

Figure 1. Blanding's turtles (n=8) were tracked using radio telemetry. F=Female ; M=Male. Colors correspond to various wetlands. An asterisk (*) represents a date that an individual was hand captured. An octothorpe (#) represents an individual that was caught by live trapping. Blank cells represent gaps in the data when a turtle was not tracked. Gray cells indicated a turtle that had not yet been outfitted with a transmitter.

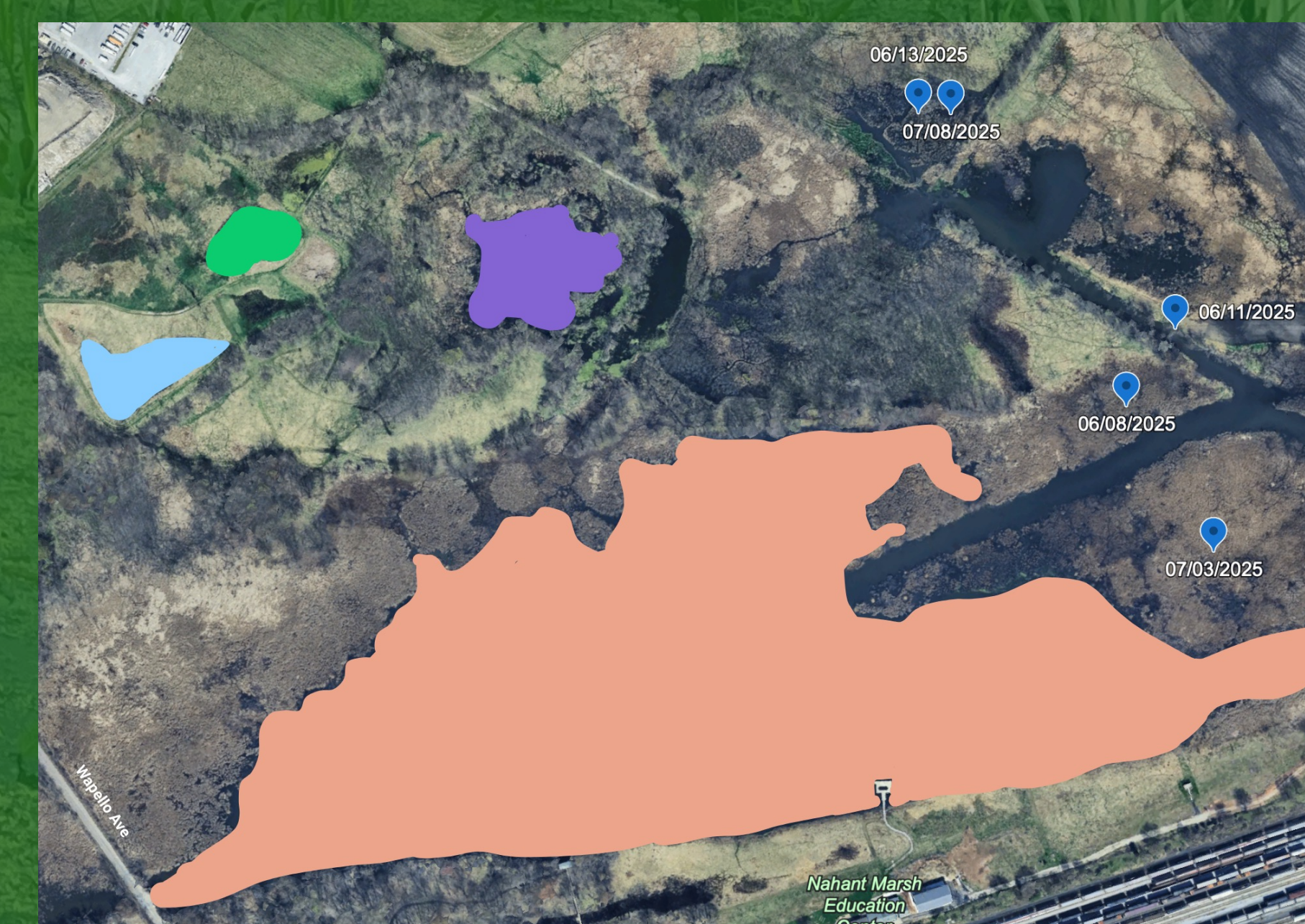


Figure 2. The map shows some of the data points we have collected to show the patterns of turtle 2400's movements as well as, the other marshes that our Blanding's have been tracked to.

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