# Investigation of the Movements of Western Painted Turtles Into Brumation

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The Chrysemys picta, also known as the Western Painted turtle, is a very common breed of amphibian living in the Sandhills of Nebraska. This project investigated the change in location over time of five Western Painted turtles at a remote pond near Keystone, Nebraska. Radio telemetry was used for a period of seven months to track the locations of the turtles during their summer activity through brumation and into hibernation. Air temperature data was collected for the time period. The telemetry data indicated distinct stages where in the most active phase, the turtle's change in overall location was an average of 56 feet, compared to 45 feet in phase 2, 25 feet in phase 3, and 8 feet in phase 4. These four distinct phases of movement were confirmed to be statistically significant with unpaired, two-tailed P-values of 0.0165, 0.0001, and 0.0001. The individual range of the turtle's location during the active period never went above a distance of 100 feet except for two turtles that traveled 183 and 130 feet (SD=54.9). The variance among the subjects decreased as they got closer to hibernation (SD=1.4). A comparison of air temperature and change of overall location showed that as temperature decreased, distance decreased with an R2 value of 0.78. It was concluded that brumation may occur in two separate phases and as air temperature decreases, change in location also decreases.

**Awards Won:**