

## **Painted Turtle Growth in Correlation with the pH of their Environment**

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Painted turtles have been captured and measured sporadically within the five local ponds in Black Rock Forest over the past 10 to 15 years. Previous research noted the abundances of turtles within each pond. A correlation between pond health, indicated by pH, and turtle abundance was found. I decided to research whether or not a correlation existed between growth rate and pond health as well. Using hoop nets, I captured turtles in a pond with a neutral pH and a pond with an acidic pH. I compared the turtles' current mass to data recorded from each turtle's previous captures. Turtles from Aleck Meadow (pond with neutral pH) did have a much faster growth rate than those from Sutherland Pond (pond with low pH). The average growth rate for turtles from Aleck Meadow was 0.151 percent mass change per year while for Sutherland pond growth rate was 0.014 percent mass change per year. In Aleck Meadow females grew at a much faster rate than males, while in Sutherland the opposite was true.

While the data was statistically significant, these results are not necessarily accurate in general because there was a lack of data from Sutherland Pond, both recorded in the past and obtained during my research. Only a total of eight turtles could be used to analyze Sutherland's data, as compared to the 40 turtles used from Aleck Meadow pond. If relatively accurate, the data most likely signifies a bleak future for the painted turtles. As smaller in size and generally less abundant, they may have a difficult time surviving in an ever more acidic environment.