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Objectives

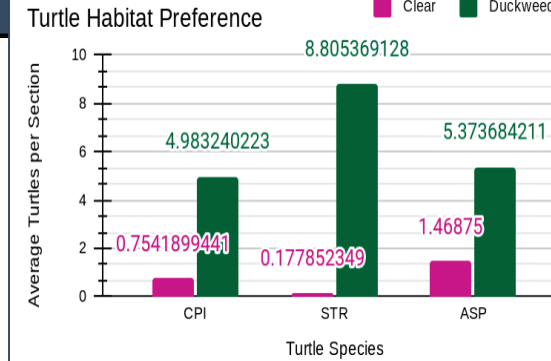
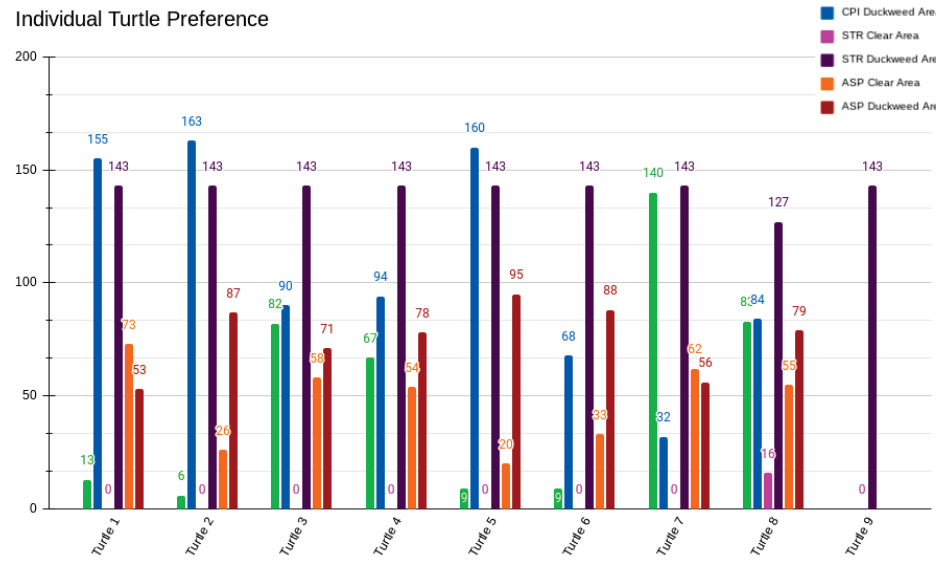
How will hatching turtles of three different, distinct species respond to duckweed cover in their environment? Species observed were:

- *Chrysemys picta* (CPI)- Painted Turtle
- *Staurotypus triporcoratus* (STR)- Mexican Musk Turtle
- *Apalone spinifera* (ASP)- Spiny Softshell Turtle

Methods

- Established an enclosure in the lab that was divided in half (one side covered in duckweed, the other side clear)
- Eight to nine turtles of each species were given a number and exposed to the enclosure for 3 days
- A trail camera captured pictures every 10 minutes from 8:00 am to 11:00 pm
- I reviewed camera photos to assess turtle position

Results



Background & Rationale

Turtles and the Importance of Basking

- Turtles are cold-blooded animals that rely on their environment for heat
- Basking is an important behavior turtles exhibit to regulate body temperatures and synthesize vitamin D
 - Vitamin D = crucial to calcium metabolism
- Turtles who lack adequate vitamin D can suffer from metabolic bone disease

Climate change's Influence on Aquatic Vegetation and, Therefore, Turtles

- Climate change causes algal blooms and floating aquatic vegetation (duckweed & watermeal) to become more abundant
- A significant increase in floating vegetation can make aquatic basking nearly impossible for turtles



Figure 1: *Chrysemys picta* (CPI)- Painted Turtle



Figure 2: *Staurotypus Triporcoratus* (STR)- Mexican Musk Turtle



Figure 3: *Apalone spinifera* (ASP)- Spiny Softshell Turtle

Conclusion

- The painted turtles and softshell turtles had a strong preference for the duckweed-covered side compared to the clear side, and the musk turtles showed a heavy preference for the duckweed-covered side compared to the clear side.
- The smallest painted turtle hatchlings (3, 4, 7, & 8) spent more time on the clear side than the larger painted turtles (1, 2, 5, & 6).
- The only musk turtle that was observed on the clear side was turtle 8.
- Six of the eight softshell turtles (2, 3, 4, 5, 6, & 8) spent more time on the duckweed side than the clear side.

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