

Snake and Salamander Study

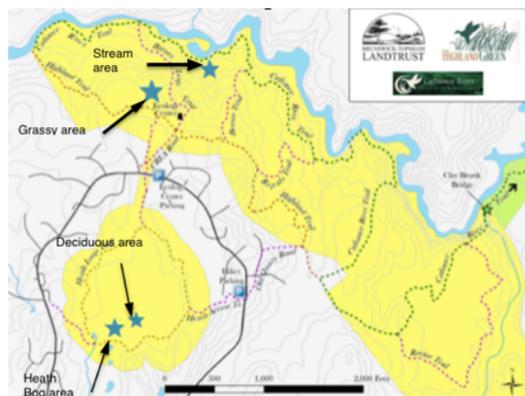
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Purpose: To observe the different amounts and species of snakes and salamanders in a dry deciduous area compared to a grassy area, a still-water area (an area with a non-moving body of water), being the heath bog, and also a moving-water area (an area with moving water), being the stream. And comparing abiotic factors to the salamander and snake species and amounts found in each area.

Hypothesis: If three 9"x7½"x3" transects are set up in four different areas; an area with still-water (heath bog), an area with moving-water (stream) a dry deciduous, forested area, and also a grassy area, then more snakes will be found in the grassy area where there is more sunlight and the soil is drier. More salamanders will be found near the stream where the soil is more moist and there is little sunlight.

Procedure:

1. Set up four 6 meter long transects with three 9"x7½"x3" coverboards, 3 meters apart, in each area (grassy, stream, heath bog, and deciduous forest) See map below –



2. Check the transects in each area weekly for snakes and salamanders.
 3. Test abiotic factors (sunlight, soil moisture, air temperature, and soil pH) in each area weekly.
 4. Record data.



Two Dusky Salamanders



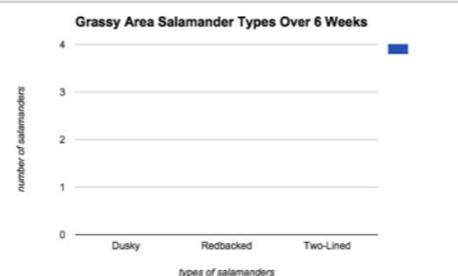
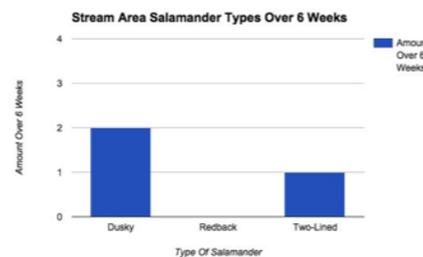
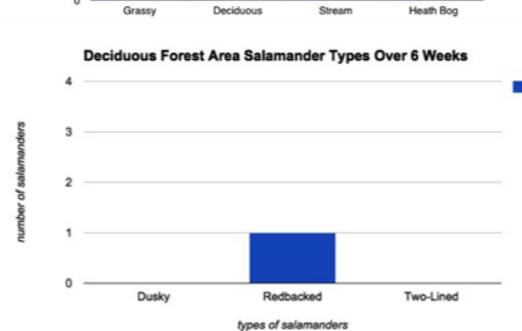
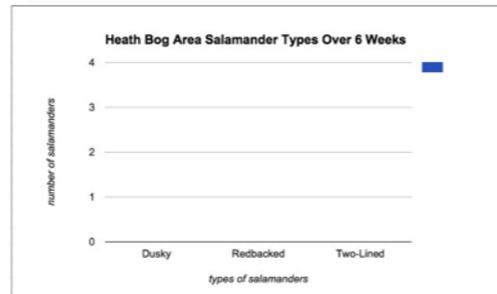
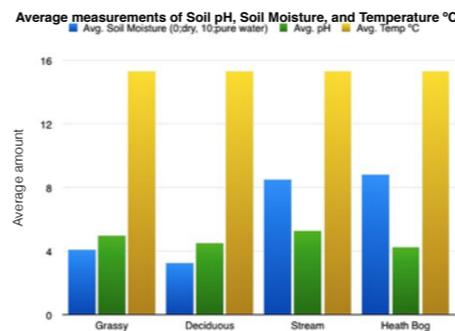
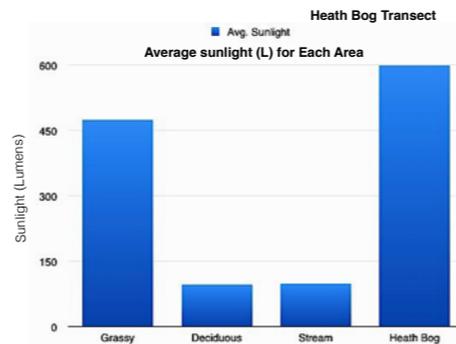
Lifting a Cover board



Heath Bog Transect



pH Test Kit



Conclusions:

- The hypothesis was partially correct. No snakes were found throughout the study which could mean that they had already gone into hibernation for the winter. The stream area had the greater diversity and number of salamanders. Salamanders were found where the weather was cooler at about 15° to 17° Celsius; where the soil was wet, about 8 to 9 on a 0-10 scale; where the sunlight was about 100L; and where soil pH was about a 4 or 5, slightly acidic.
- Some sources of error could be the sun wasn't yet warm and snakes weren't yet active; the cover boards were new so they hadn't acclimated into the soil yet; the cover boards at the deciduous area had been stacked; at the heath bog the cover boards were floating after a rain storm; and one of the cover boards at the stream had washed away after the same storm.
- A more accurate pH test is needed to improve the study. The distilled water used isn't a perfect pH of 7 because the moment it touches the air it begins to absorb CO2.
- Soil temperature measurements should be added to abiotic factors if the experiment was to be redone.
- The study would be more fruitful, and give a better comparison of snakes and salamanders, if it were done at a warmer time of year, such as June through August rather than September through October.

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