

INTERNAL ASSESSMENT ESS

Research Question:

Does the influence of human beings, have an impact on the environmental gradient of species' diversity found within Pruhonsky Haj?

Hypothesis:

Due to modernization and urbanization being two common factors that humans ultimately bring along with their presence in a certain area, my prediction is set to believe that the gradient of diversity within Pruhonsky Haj, was negatively affected from the influence of humans.

Null Hypothesis:

Human presence in an area does not share a relationship with the environmental diversity, therefore it does not affect it.

Variables:

Independent: Human impact (certainty)

-This variable is changed as each observation changes, and when done so will affect the diversity. This variable is a factor of observation as explained in the Research Question. Steps 2-6.

Dependent: Diversity (certainty)

-This variable is dependent on the human impact. A change in level of human impact will affect this variable, and since we are differentiating between the ranges of various diversity according to the human impact, it will ultimately affect the data. Steps 2-8.

Controlled: Location (Pruhonsky Haj), Measuring Device (Quad -rat)

-This variable must stay the same throughout the experiment. A change in the location would introduce alternate factors that could affect the dependent variable, like various different conditions such as weather and population factors, that might not have been present in the current location. Our samples are also extracted from the location, and therefore a change in the controlled variable will cause alternate and different samples.

-The measuring device must also remain identical due to different values being derived, if it were to be changed. The default quad -rat that we use gives us a specific measurement, whereas a different device could potentially make the results different. Steps 1-8.

Background:

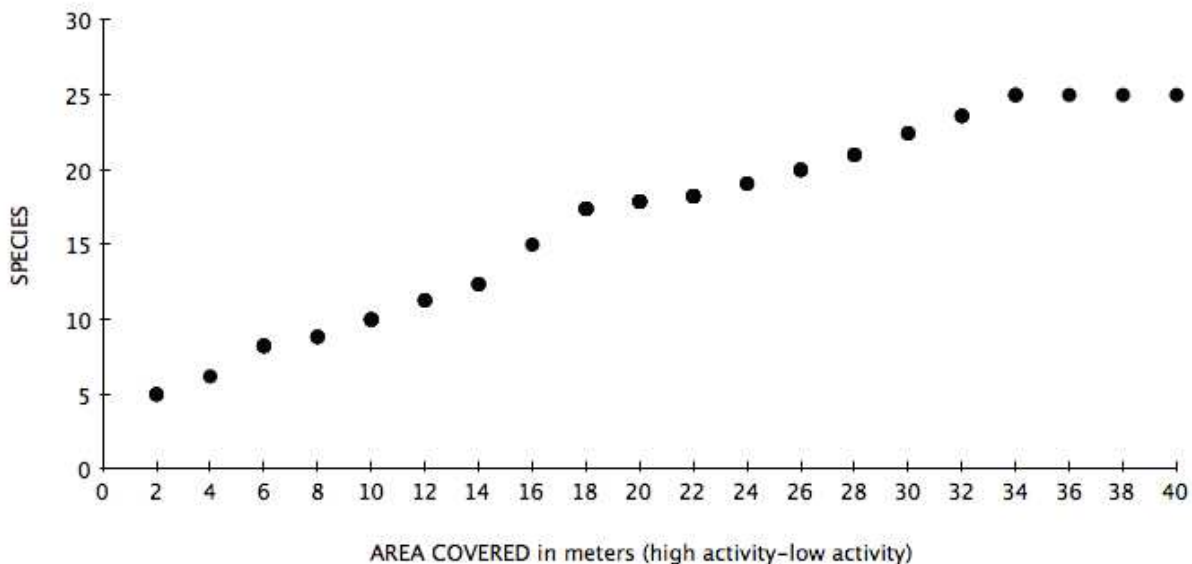
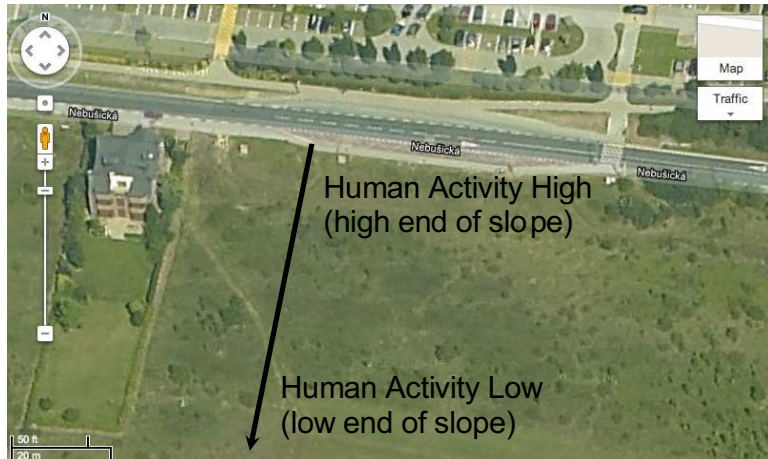
Climate is a crucial aspect when it comes to the diversity found within a certain area. The Czech Republic is a country with temperate weather - cool summers, cold, humid winters- The climate affects the diversity through aspects like precipitation, temperature, soil quality, and sunlight. When juxtaposed to other areas, Czech Republic should weigh in into medium zone in terms of quality of wildlife and ultimate diversity. The Czech Republic has a population total of 10,177,000 people spread across its lands, with 1/10th of them living inside the capital, Prague. 74% of the overall land has been urbanized by the people exploiting the territories, and modernizing towards societies definition of civilization. (CIA FACTBOOK 2012)

Materials:

- Paper
- Writing Utensil x 1
- Clipboard x 1
- Quad-rat (25 squares) x 1
- Sticks x 2
- String

Method:

1. Go to your location- Pruhonsky Haj.
2. Start on the higher end of the “human activity slope” and plant a stick into your desired location.
3. Venture 40 meters straight into the lower end of the Human activity slope.
4. When you arrive at your new destination plant your other stick.
5. Attach both of your planted sticks together using your string. You now have a defined line to measure by.
6. Make a species discovery graph. The X Axis should be your area covered from one end of the human activity slope to the other. The Y Axis should number of different species.
7. You will be using the transect belt method, so every 2 meters plant your quad -rat along the line and analyze the diversity you see before you.
 - i. To measure using a quad-rat, plant your squared device on the ground.
 - ii. Plot down how many different species you found in your quad -rat according to where you are on the human activity slope. In the end your graph should look something like this *(results are for exemplary purposes only)*:



7. Now that you have your final results, compare each of your sections together (you should have 20).

8. Compare the change in diversity from your measurements as they go from one side of the slope to the other by seeing how the number of different species change as the slope changes.

Sources cited:

Factbook, CIA World. "Czech Republic." *CIA World Factbook*. US GOV, 20 Mar. 2012.

Web. 26 Mar. 2012. <<https://www.cia.gov/library/publications/the-world-factbook/geos/cz.html>>.