Hiking and its drawbacks:

Social Trails and their Repercussions

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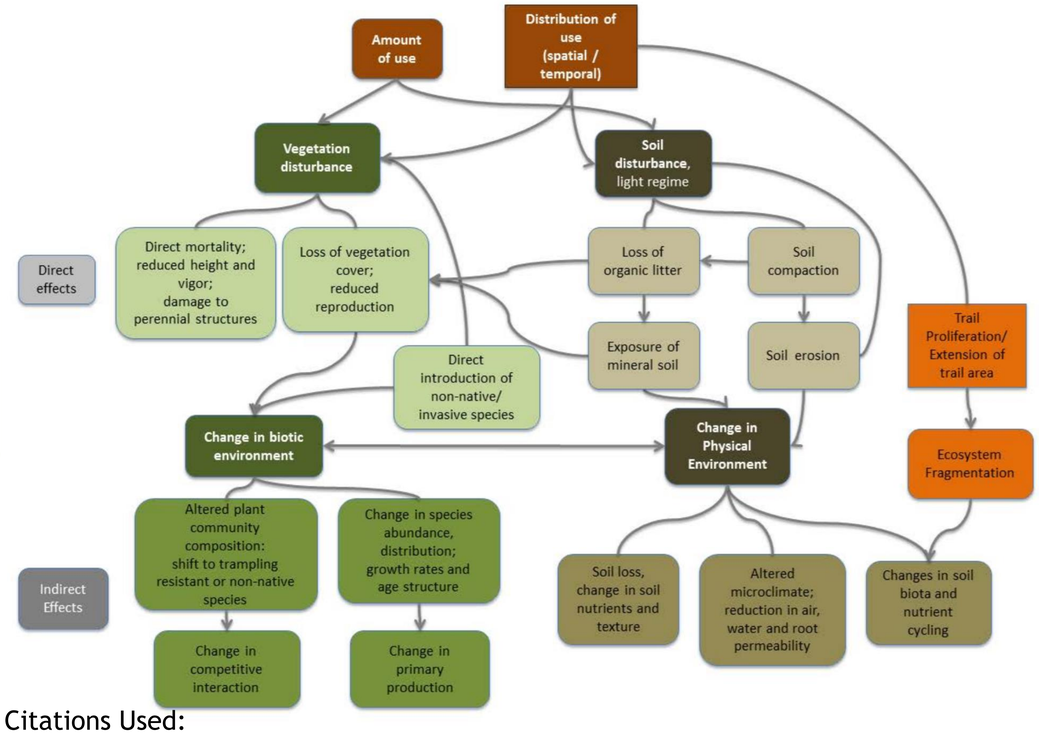
Background

Conservation-minded hikers can often fall victim to the growth of dreaded social trails (Informal trails caused by erosion due to foot traffic from people and animals). Their effect on the surrounding environment is always something to be weary of.

A critical aspect of our forests that's often neglected is leaf-litter. Social trails hold countless disturbances toward the native life that find it crucial for survival. As the graph below (provided by Claudia Voigt from Humboldt State University: Citations Below) Social trails can have a long lasting and butterfly effect on the surrounding ecosystem.

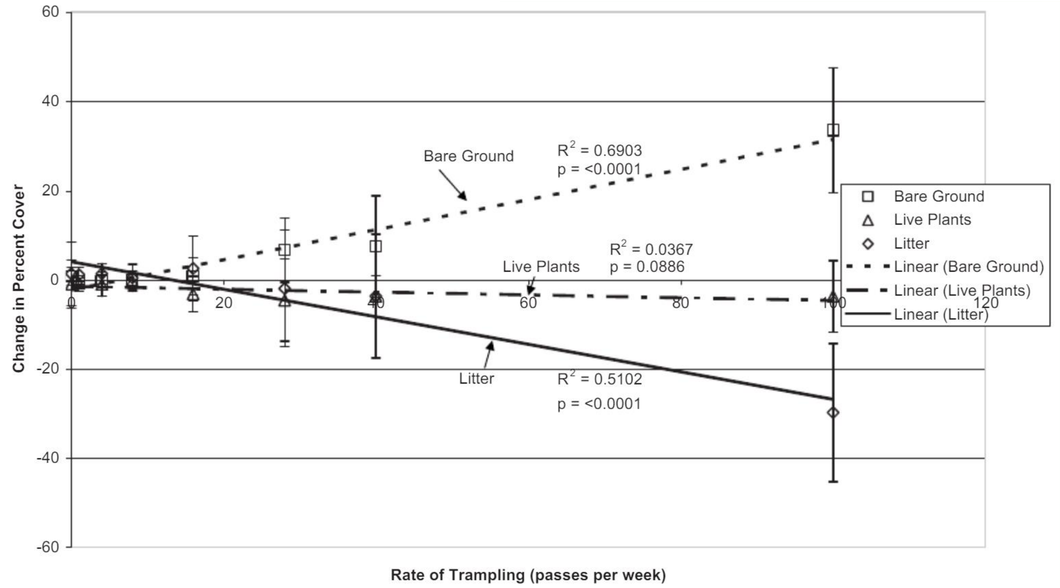
Objectives

I believe that more vegetation along with social trail reversal could lead to an influx of ecological life surrounding it (through human germination of the organisms) and a decreased in social trail expansion.



Citations Used:

1) https://www.researchgate.net/publication/251506533_The_Effects_of_Social_Trails_on_Soil_Compaction_and_Vegetative_Cover_in_Forest_and_Prairie_Ecotypes
2) http://humboldt-dspace.calstate.edu/bitstream/handle/10211.3/175466/voigt_claudia_Sp2016.pdf?sequence=1
3) https://www.fs.fed.us/rm/pubs_other/rmrs_1984_bjugstad_a001.pdf
4) https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_018049.pdf
5) https://www.sdparks.org/content/dam/sdparks/en/pdf/Resource-Management/Preserve%20Trail%20Guidelines%20DPR%202019.pdf
6) https://www.greenway.org/about/impact/our-impact-the-big-picture



Above, we see how detrimental social trails can be on surrounding environment, including live plants, litter, and the already bare ground.

Methods/Approach

•Using the study methods provided by Caroline Farrior of the University of Pennsylvania, several plots can be placed on the surrounding social trails (about .5 x .5 meter plots) linearly with at least 2 meters between each one to ensure even strides. Take note of hikers and animals that happen to trample on social plots and conduct the data collection each week, over an 8-month span to ensure a reasonable amount of time has passed to document frequently used s-trails.

- •As found in Caroline's study, exotypes can drastically be altered with only minimal amounts of trampling (1-8 passes per weeks)
- After area and species effected had been recorded, a method recorded by the US Forest Department known as trickle irrigation will aid in the regrowth efforts (Of course *after* the seeds had been planted). This method is often used after disturbed lands in the West (i.e. Aftermath of Wild Fires and mining effects.)

Expected Benefits

- From the findings recorded on severely scared land in the Rocky Mountain Forest, irrigation had drastically improved species survival, showing an overall 93% Response and growth rate.
- Mitigation of social trails promotes leaf litter, intrinsically leading to healthy soil for the perpetuated growth of trees, nesting material for animals, and other organisms including worms, snails, spiders, and microscopic decomposers like fungi.

Conclusion

Through practices such as social trail monitoring and trickle irrigation used in Western environments and applying them to our vegetation such as budding Balsam Fir (Abies balsamea which provide shelter for white tailed deer during winter seasons, or the disturbance of leaf litter that houses several smaller organisms that contribute to the greater ecological community. Perhaps the contribution and construction of trails that turned hikers away from trails would be a far easier solution than this, however those trails would still continue to exist, running the risk of further damage.