

Assignment Sheet for Lab 9: Modeling & Site Suitability Indices

Directions:

- 1) Create a folder on the desktop of your lab computer called "Lab9."
- 2) From Canvas, download the zipped file called "Lab9Data.zip" to your new Lab8 folder.
- 3) After it's downloaded, right-click on the file and "Extract All..." . Make sure it is going into your Lab9 folder!
- 4) Within Canvas, access the textbook (Instant Access – Vital Source) and find **Module 21**.
- 5) Begin ArcGIS Pro and name your project **Lab9**.
- 6) Proceed through the software instructional steps for Module 21.

Question 1. Why did you use multiplication instead of addition to overlay the forested and lowelevation grid? What would have been the results in the attribute table if you had used addition instead of multiplication?

You use multiplication instead of addition because in order to get the locations that fit both variables. So if you multiply one by one (satisfy both requirement with a 1) then you get the locations that fit both variables. Any number multiplied by 0 (that don't satisfy a requirement) is then 0.

Question 2. Why was it necessary to reclassify the "developed" grid so that the "1" values remained the same but the "0" values were assigned to NODATA?

It was necessary to reclassify because you only want to find the distance from those cells with the value 1, not from all cells in the grid. That is because you don't want to find the distance from cells with the value 0 so it will receive an assigned value of NODATA.

Question 3. What do values 2, 3, and 4 represent in the ranking grid? What do values 17, 18, and 19 represent?

The values of 2, 3, and 4 represent that the location is not suitable for an ecological preserve meanwhile the high values of 17, 18, and 19 do. Essentially, the high numbers are the locations that satisfy both away from development zones and close to water areas.

Question 4. As a result of adding together the two grids (slicedlevel and reslicewater), the "ranking" grid could have values from 2 to 20. **Why?** BUT, there are no values of 20 in the "ranking" grid? **Why?**

The values range from 2 to 20 because you are adding the values of the two grids which have a minimum of 1 and a maximum of 10, so the addition of them will be a minimum of 2 and a maximum of 20. There are no values of 20 in the ranking grid because this means that the area is the most suitable and it will either be a small subset of the map or non-existent.

Question 5. What is the **value** assigned to the region of land you will select as the animals' relocation site ("chosensite")? What is its acreage? Why was this one site chosen over other regions that were

ranked higher?

The value assigned to the land is 4124. It's acreage is 211.9. This has rank 8 while the regions at the top were lower in rank, which is why I selected this land.

End of lab. If you need to complete after your lab session, save it as a Geoprocessing Package and upload to your ArcGIS Online space.