2016 MGIS Geog564 – Lab 2 Value Trees to Representation

Assigned date: 1/7/16

Due date: 1/19/16

Concepts: Geodesign – 2nd iteration, decision models, overlay, attribute operations

Introduction – The criteria for the values you identified in the Values Tables in L1 need to be connected with the spatial information that will support them in the Geodesign study. Your job is to identify at least six attributes from Geog564 Course geodatabases and articulate this as an extension to the table (new field) or separate narrative with justification. Be warned that some of the criteria you will have identified in your Value Table may have no appropriate data in the Course GDB. You are also welcome (encouraged) to include data layers that would match the values identified, and extend your values table by adding values that would be supported by some data in the Course GDB. In addition you will create maps for three of the identified data attributes to show their distribution across the project study area.

The fields you attach to the parcel entitied in this lab will form the criteria inputs for the Evaluation model in Lab 4.

Topic – It will be helpful to have a more immediate encounter with a description of the project landscape and the nature of river restoration and floodplain management activities. The following documents will be explored to help describe and visualize the practice habitat restoration on the Duwamish/Green.

- http://your.kingcounty.gov/dnrp/library/water-and-land/science/seminar-2014/09-OSTERGAARD-DUWAMISH-BLUEPRINT.pdf
    - This webpage is a PowerPoint presentation summary of the formal report just below.
    - Take home points are
        - The parts of WRIA 9 that are under consideration
        - Bare necessities of salmon needs
        - The discrepancy between resources and needs
        - Agencies involved
        - Action targets
        - Types of habitat restoration
        - The characteristics that define a promising action site.
- http://www.govlink.org/watersheds/9/plan-implementation/duwblueprint/duwblueprint-nov6-2014-final.pdf
    - Description of the LDW
    - Salmon needs on page 1
    - Brief history of development in the LDW – page 3
    - Diversity of stakeholders – page 7
    - Habitat project design – page 13
- http://www.tukwilawa.gov/dcd/shoreline/Pentec%20Tukwila%20Inventory_r.pdf

- o Nice historical review on pages 1-3
- o Methods: EMU and AU
- o Lots of pretty pictures
  - ▪ What's being communicated here
  - ▪ What data are being used to discretize and characterize the landscape?
- http://duwamishcleanup.org/wp-content/uploads/2012/02/Duwamish-Valley-Vision-Report-2009.pdf
  - o Who are these people?

Techniques and tools – Geog 564 Course Geodatabases available at https://drive.google.com/folderview?id=0B607aXoCIcYxR041UW9QZTFIQk0. They are broken up by general theme and are separate to facilitate transfer and updates. Additional data will be added to this repository as needed.

Database tour

1. Sources
   a. http://www.kingcounty.gov/operations/GIS.aspx
   b. http://www.ecy.wa.gov/services/gis/data/data.htm
   c. http://www.wsdot.wa.gov/mapsdata/geodatacatalog/
2. Course Geodatabases on Google Drive
   a. parcels
   b. surfaces
   c. hydro
   d. transportation

Note that the evaluation model lab assignments rely on parcel data as the unit for description and analysis of the landscape and raises the classic difficulty weaknesses of choropleth data. Spatial data can be characterized in terms of entities or fields and use of the parcel data is clearly of the entity type. There are several ways of working with the opportunities and constraints of working in a parcel based entity world.

- Use entity attributes already in the attribute table using values already in the table or generate new ones using multiple fields (calculate value).
- By proximity using distance or overlay operations. Some of the distance tools are buffer, near and spatial join.
- Vector overlay tools can be used to extend parcel attribute tables with attributes from other layers such as soils and land cover.
- Polygon overlay with raster data is also possible. Raster data can also be assessed using summarize zones (Raster tools) and is suitable for evaluating raster landcover, topography and other field data represented as rasters. This approach can be quite valuable if you are careful to preprocess the raster data to obtain the attribute values you seek to represent.

Questions and deliverables – You need to establish a defensible connection between the stakeholder values and six landscape variables that support their interests. You may indicate these through an additional field in your values table from L1 or as a narrative description explaining your choices. In

addition you will prepare maps for three of the variables as parcel attributes. You want to show how the landscape measurement varies across the study area so inclusion of a legend and a text box explaining the information is required.

Expectations and grading – Keeping with the levels of attainment described in the lab syllabus points will be earned in deliverables with the following content:

Performance	Credit	Description
No deliverable	0 points (0%)	No deliverable
Minimal engagement	15 points (60%)	Less than six variables described or Less than three maps presented
Incomplete	20 points (80%)	Deliverable that lacks some expected content or demonstrates incomplete understanding of core concepts.
Complete	25 points (100%)	Assignment/description of six variables supporting the values table and three of them mapped for effect across the study landscape.
Beyond complete	25 points (100%) with up to five future points	Providing a complete deliverable is delivered the following may count toward up to five future points. Using data from other sources than the course geodatabases along with metadata and/or Adding additional landscape characteristics to your values table And/or Mapping more than three landscape characteristics.