GEOG 3231/5231 Intro GIS

Project 3: Vector Analysis

*Select Aspen Stands for Harvest*

50 pts

Due: Sept 20

For this project, you will build on the analysis and datasets from the in-class vector analysis exercise.

Your task is to locate aspen stands within Beltrami County that meet particular criteria so that foresters can visit the stands and determine their potential for harvest.

Specifically you are looking for:

1. Aspen forest stands
2. Located on Fine-loamy soil types
3. Within 1 mile of a road
4. At least 300 feet from any water feature

**Your assignment for this project is to identify and map all sites that meet the specifics listed above.**

You will use the same data you downloaded for the in-class vector analysis assignment. For extra practice, download a second copy of the prjct3\_vector data and start from scratch with the join.

To complete this exercise, you will need to:

* Start a new map and set your **Geoprocessing Environments** (as with the in-class project)
* **Clip** the soils dataset to bc\_south.shp extent
  + *If your Geoprocessing Environments are set correctly, the resulting layer will be in the State Plane coordinate system – double check in layer properties*
* **Select & export** Fine-loamy soils.
  + *Use the TEXT\_1 attribute for selection query*
* **Select & export aspen** stands.
  + *Refer to DNR Forestry CSA Guide for the CTYPE code*
* **Buffer roads** and **lakes** the required distances
  + *Remember – Dissolve Type = All*
* **Overlay** the appropriate layers to identify **aspen** stands on **fine-loamy** soils within **1 mile of a road** that are at least **300 feet away** **from water**.
  + *Use the help menu sidebars for the Intersect & Erase tools to clarify!*

**The final product of this exercise will be a single ArcMap layout with:**

1. A map showing the **selected aspen stands** in southern Beltrami County with appropriate symbology & supporting layers (e.g. **lakes**, **roads**, **air photo** background) for reference.
2. A **textbox** that describes:
   * The main **steps you took** in the analysis process
   * The total **number of aspen stands selected** for potential harvest
   * *\*Note- These two items are worth nearly half the points for this assignment!!!*
3. Inset **reference map** showing the study area within MN
4. An **image or graph** that supports the overall cartographic message of your map
5. All of the standard cartographic elements & formatting previously discussed
   * *Refer to the* ***Map Essentials*** *document on D2L*.

Your project will be graded on how well you perform the spatial analysis (did your analysis select the correct number of aspen stands), as well as how effectively you communicate your findings (the cartography of your finished map). Export your map, and upload the **pdf** to D2L.