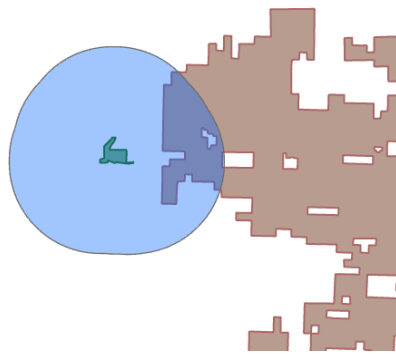


Vector Analysis Lab

Set up the Scratch Workspace setting in the application level Environment Settings which can be accessed in the Analysis Tab of the Ribbon.

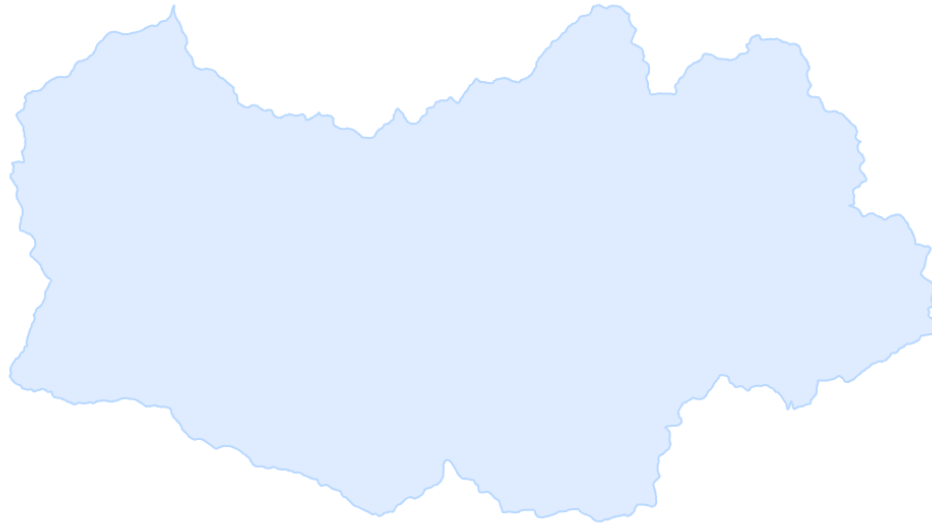
- 1) Identify the area within three miles around the state park – the area hikers are likely to cover (hint: proximity).
 - a. Buffer Tool to buffer State Park by 3 miles. Dissolve Type= None. Output=Statepark_Buffer



- 2) Create the study area boundary from the three subwatersheds (hint: subset, data aggregation).
 - a. Manually select the three Sub-watersheds from the Sub-watershed layer with Select tool.



- b. Dissolve boundaries between selected sub watersheds by running Dissolve tool with default settings and Sub-watershed layer as input. Output is your Study_Area.

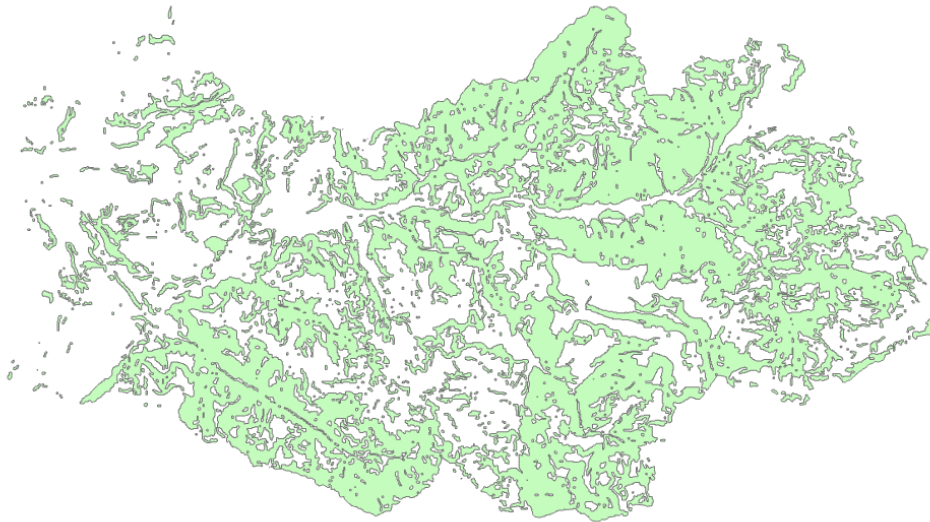


3) Create the criteria layers:

- a. Areas of steep slopes (hint: subset)
 - i. Select by Attribute from Slope layer, where: SLOPE_CODE is equal to Steep

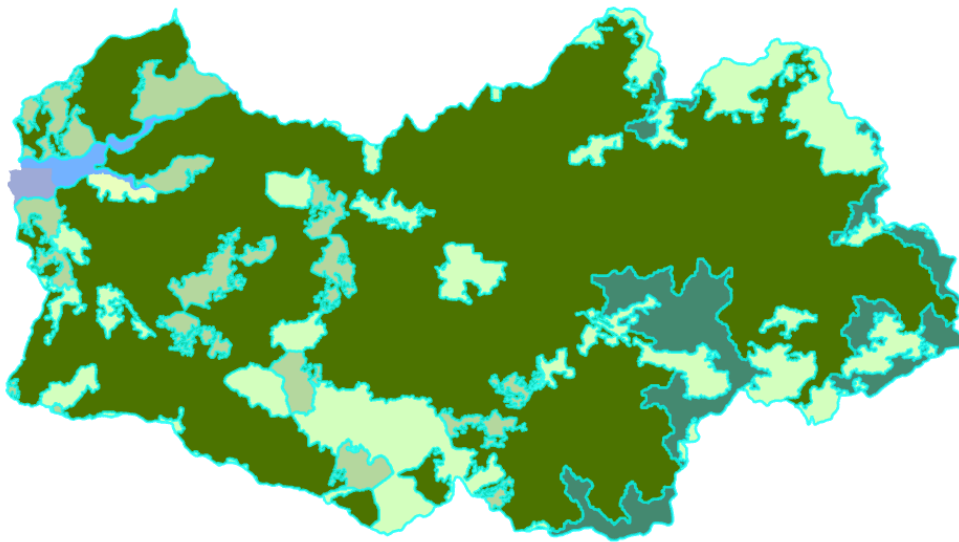


- ii. Right-click Slope and select Data > Export Features to export selected features to a new layer: Steep_Slopes



- b. Areas of suitable vegetation (hint: subset)

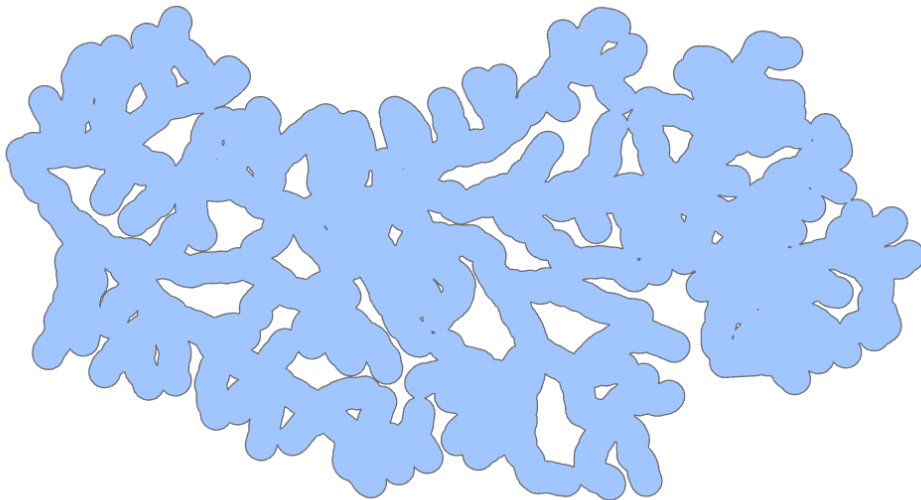
- i. Select by Attribute from Vegetation layer, where: VEG_CODE includes the values 34, 49, 67, 121.



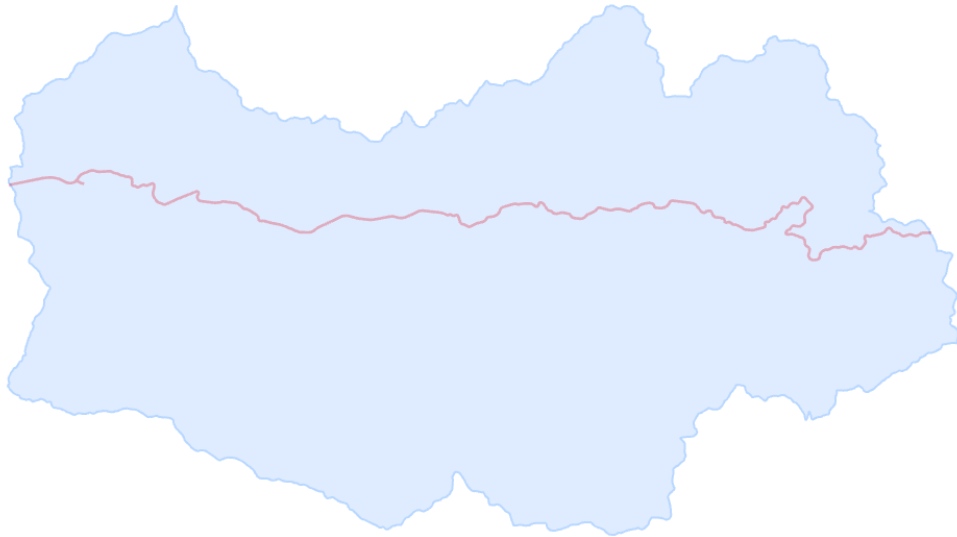
- ii. Right-click Vegetation and select Data > Export Features to export selected features to a new layer: Forested_Land



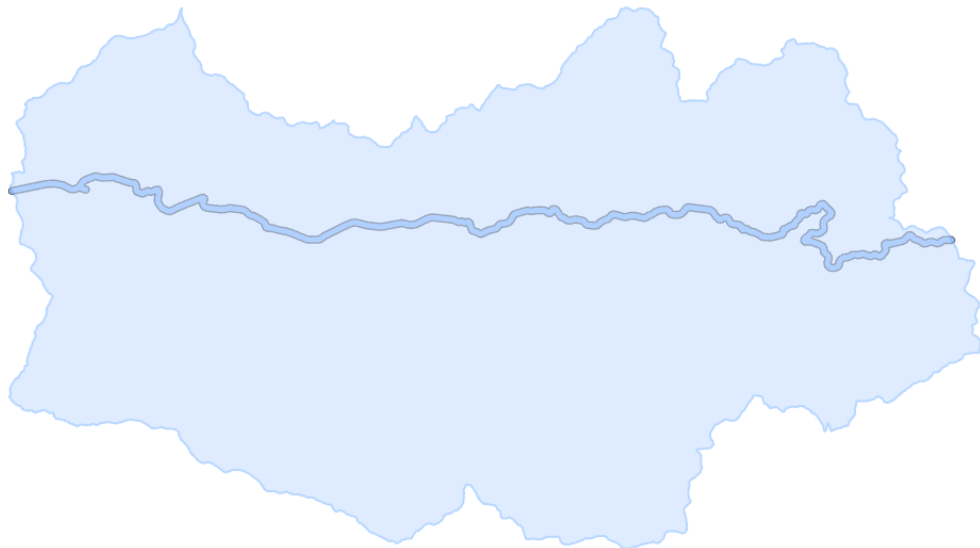
- c. Areas near streams (hint: proximity; make sure to use the tool's "Dissolve Type" setting.)
 - i. Buffer Tool to buffer Stream layer by 2500 feet. Dissolve Type: Dissolve all output features into a single feature. Output = Stream_Buffer



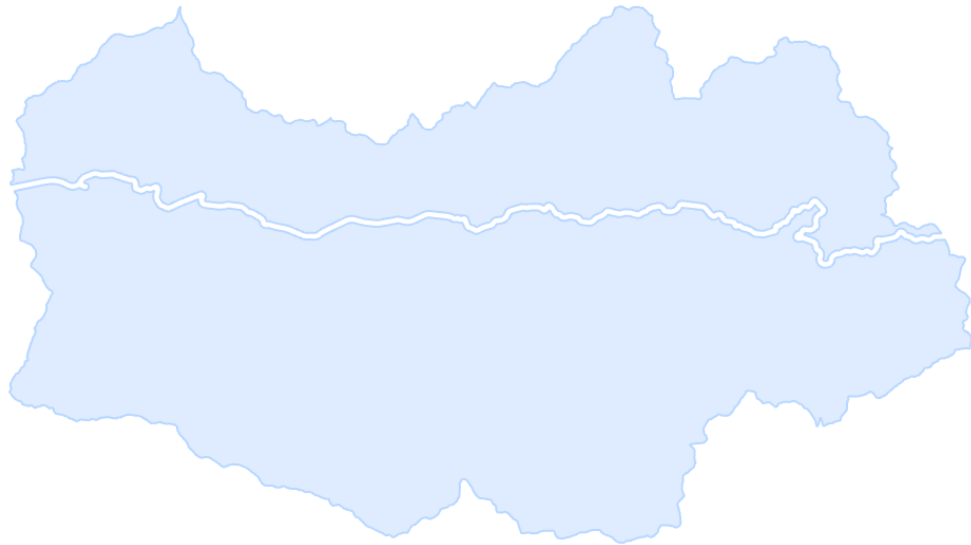
- d. Areas far from roads. Start by creating a layer of highway features within the study area (hint: subset). Then, to get areas far from roads, you need to use two tools to first identify areas near roads and then exclude those areas from the study area (hint: use the only tool we did not discuss in class.).
- Use Clip tool to subset the State highway layer to the Study_Area boundary. Output=Statehighway_Clip



- Use Buffer tool to create a 500 foot buffer around Statehighway_Clip, Dissolve Type: Dissolve all output features into a single feature. Output=Statehighway_Clip_Buffer



- iii. Use Erase tool to erase the Statehighway_Clip_Buffer from Study_Area.
Output= FarFromRoads



- 4) Use one of the Overlay tools discussed in class to identify suitable cougar habitat under the DFW scenario.
 - a. Use Intersect tool with the following inputs from the previous steps:
 - i. Steep_Slopes
 - ii. Forested_Land
 - iii. Stream_Buffer
 - iv. FarFromRoads
- Output=SuitableCougarHabitat (red fill, no outline. With outline it will look a little different.)

