

LAB X: Pine Point Park Mapping

Purpose: To obtain practice digitizing and updating attributes.
Create a County Park Ski Trail Map.

To Turn In: A map of the Pine Point Park with Boundaries, Roads, Trails, Buildings, Lakes and Driveways and Parking. The map should also include a useful legend identifying the difficulty and direction of the ski trails.

Data: All data are in c:\data\fr3131-5131\LabX_extra_credit. All layers are in UTM NAD 83 and distance units are meters.

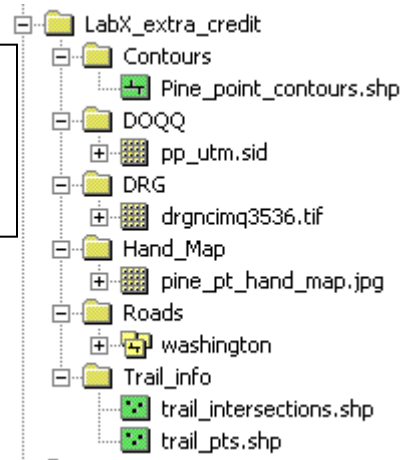
READ ENTIRE INSTRUCTIONS BEFORE STARTING YOUR PROJECT!

The Washington County’s Pine Point Park has both ski trails and horse trails. It also has the Minnesota Gateway Trail, a multi-use paved asphalt trail, which transects the Park, east/west. Your job is to create a useful “Ski Trail” map for the Park.

This assignment is designed to be similar to a “typical” GIS request from the County Park Division.

The data layers you are given are shown to the right.
Use pp_utm.sid as your base to create the Park Ski Map.

For background help
see Lab 4: Digitizing



You will interpret trail location from this image. Trails are clearly visible in parts of the image, and quite obscure in others. The point data layers (trail_intersections & trail_pts) and the hand-drawn trail map will help you determine the trail location on the image.

You will create eight (8) new layers: Park Boundaries, Driveways, Lakes, Buildings, Parking Lots, the Gateway Trail, the Horse Trail, Ski trails. (use ArcCatalog to create the shapefiles)

You may also use the DRG (the 7.5 Quad USGS topo), which is named drgncim.tif as a reference.

ALWAYS create (digitize) features from what you see on the pp_utm.sid. This is your base.

WHERE TO START

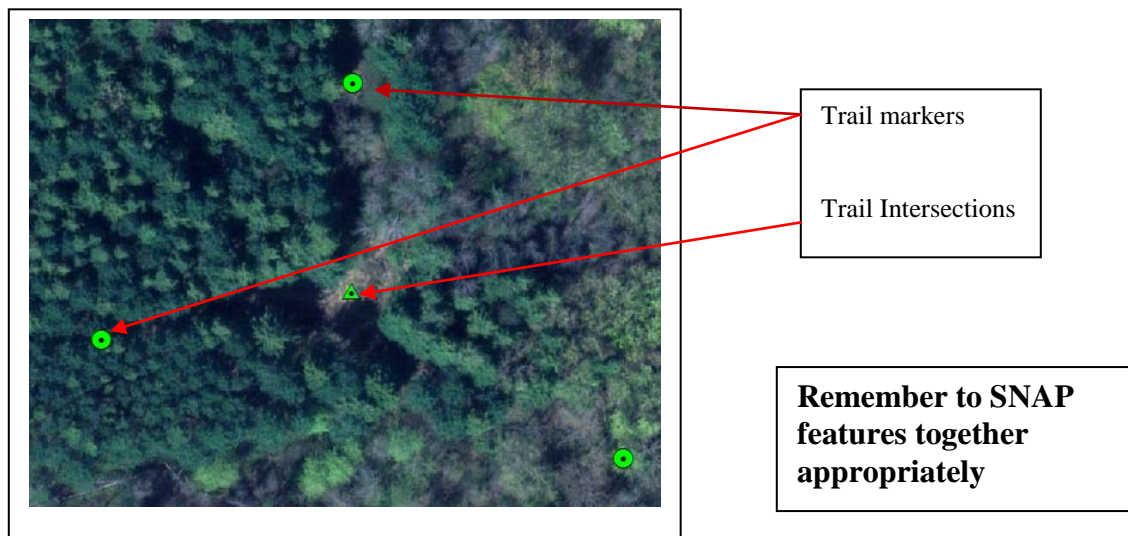
First, create the Park Boundaries. Use the hand-drawn map to decide where to digitize the boundaries. The boundary should be a polygon layer.

Next create and digitize the Driveways, snapping to existing roads. Then create and digitize the Parking Lots. Notice that there are two Parking Lots, one on the east and the other by the Outing Lodge on the west side. Driveways are poly-lines, Parking lots are polygons.

Next create and digitize the Lakes and Buildings. The Lakes and the Building layers should be a polygons.

Finally create 3 new layers for Trails as poly-lines. The layers are the Gateway Trail, the Horse Trail, the Ski Trail. In each layer add an attribute field to store a letter representing the Trail Section and another code for trail difficulty (use Easy, Intermediate or Difficult).

As you create (digitized the trails) use the GPS point layers to help you see where the trails are located on the photo. The GPS point layers are named Trail Intersections (trail_intersections) and Trail Points (trail_pts). The intersection layer is where two or more trails meet; compare this to the hand-drawn map to see which trails intersect. The Trail Points are reference points to make sure you know where the trail is located; they are not intersections. When you digitize, zoom in as far as you can see; try and digitize at 1:1,500 scale or larger.

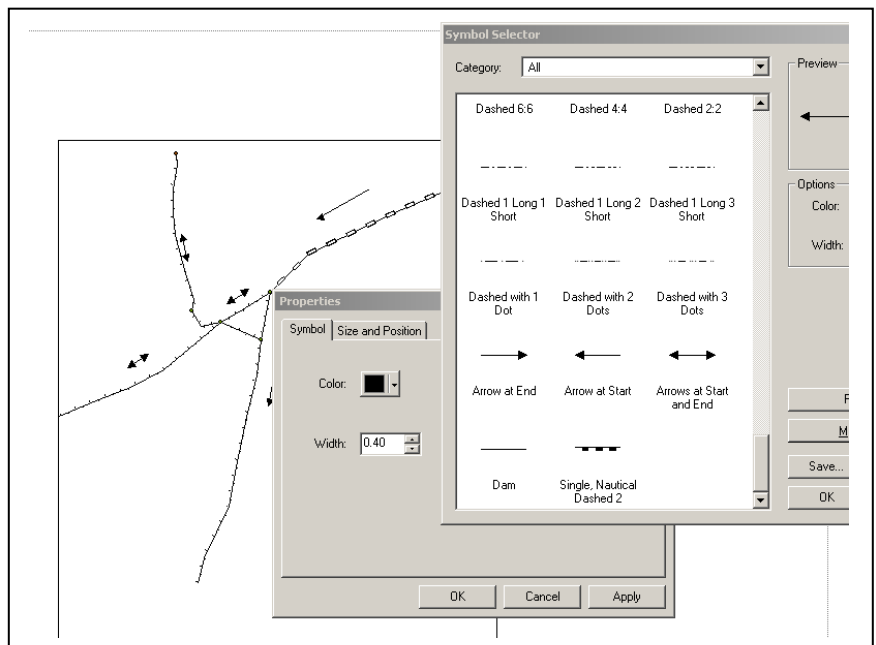


First, digitize the Gateway Trail and the Horse Trail into their own layers.

Identify a section of a ski trail on the photo using the GPS points and the Hand-Drawn Map. Next, look at the 2 meter contour layer to decide if the trail should be classified as Easy, Intermediate or Difficult. The contour layer is named pine_point_contours.shp. (*Steep trails should be coded Difficult, fairly flat trails should be Easy and the rest are Intermediate. There should just a few difficult sections. Of the remaining trails, about a 1/3 should be Easy and the others are Intermediate; you decide how each section should be classified.*)

You can create separate layers for the different ski trail difficulty ratings or add one attribute to a common ski trail layer, then use the attribute (text) to assign a difficulty rating to the ski trail segment (*Easy, Intermediate, Difficult*).

Here are the **REQUIRED** symbols and markers



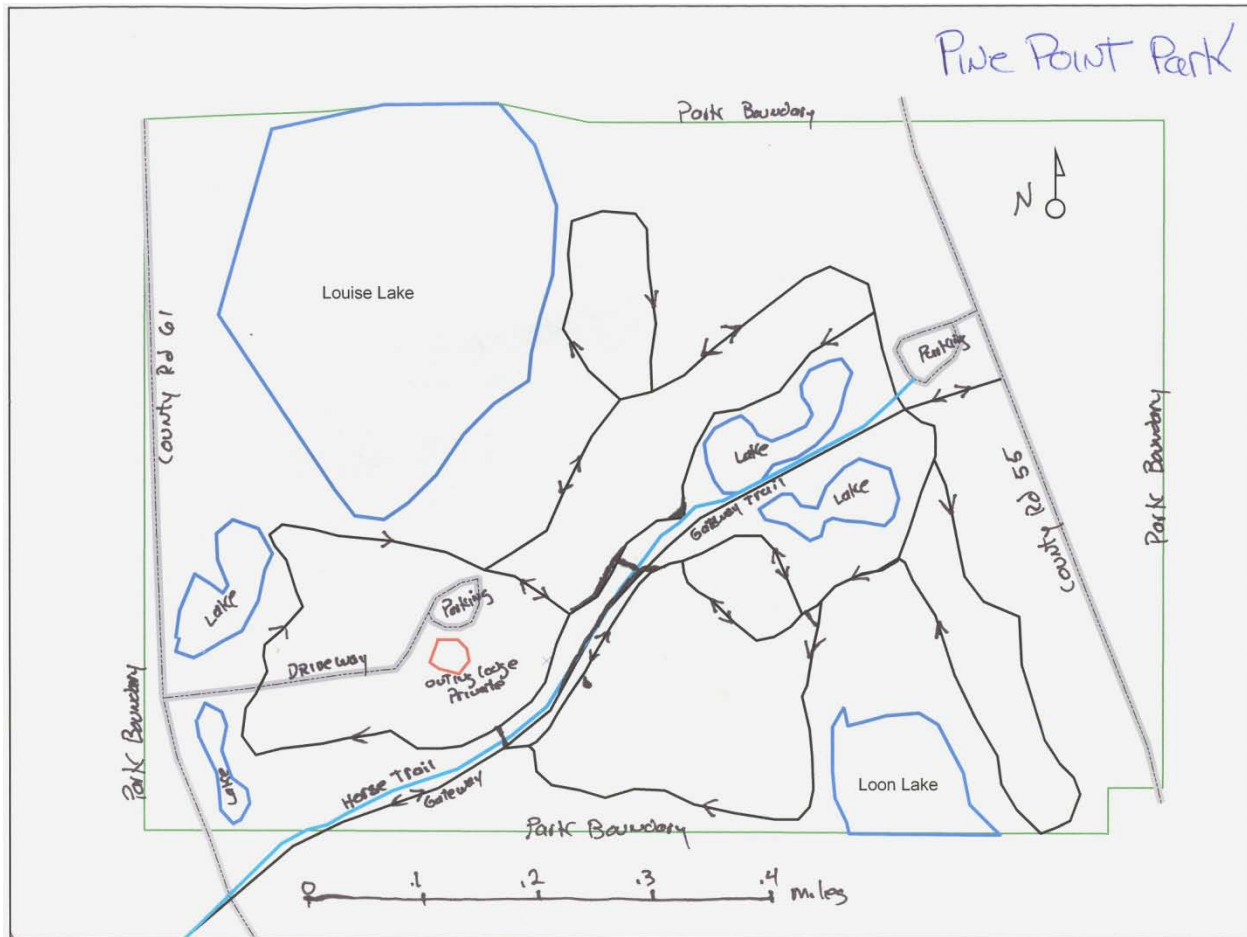
Hint:

Draw the directional arrows on to the final layout as a graphic line with appropriate arrows; as shown above. Draw the line in, select the Properties, and then change the symbol. Remember add the lines and arrows at THE VERY END, just before you are ready to print.

The Final Map must show the Park Boundaries, Roads, Lakes, Driveways, Parking Lots and Buildings as well as the trails layers. **DO NOT DISPLAY** the photo behind the layers. This map is to be designed as a “Trail Map”; a map to help skiers find their way.

Make sure you have a clear and helpful legend, scale bar, north arrow, and title. You will be graded on content and style (how the map looks). Cryptic file names, titles, legends and sloppy maps will not be well received.

Hand drawn map of Pine Point Park **THIS MAP IS FOR REFERENCE ONLY**
(a larger copy is on c:\data\fr3131-5131\labx\handmap in the Skok 35 or Green 210A lab.)



Suggestions for Improvement: Lab X

Please help me improve this lab. As incentive, any improvements incorporated (or major errors removed) will gain you a point on your final grade total.

What didn't work in this lab, and how would you fix it?

What was the best part of this lab exercise?