

Activity 7

Putting It All Together

Scenario

You have been asked to perform a timber sale assessment of land at the WMREC facility in Keedysville. The timber sale is located within a 40 acre wooded area near the entrance to WMREC. The address is:

**18330 Keedysville Road
Keedysville, MD 21756.**

Your job is to map this area and produce a map showing the timber sale boundaries, several plot centers for inventory information, and a road location.

Find the Site

It is sometimes easier to find a starting location by looking at an aerial photograph rather than a topographic map. Many deeds reference specific locations or some property boundaries are very obvious from an aerial photo. In this activity, you will find a corner of the site using an aerial photograph in USAPhotoMaps, transfer it to the GPS, then to Terrain Navigator.

Open USAPhotoMaps. GoTo the address of the site. View the topographic map (press T). If the screen is gray, press F to download the map or photos.

The timber sale is located within the 40-acre patch of woods at the northeast corner of Keedysville Road and the entrance to the Fort Ritchie Sharpsburg Site (WMREC). There is a blue-line stream running diagonally through the land. This is the site you will be working. Switch back to the black and white aerial photo view (press P).



In USAPhotoMaps, use Page Up to zoom out and Page Down to zoom in. Press F to download aerial photos to fill in any gray boxes.

Mark a waypoint at the northwest corner of the woods and name the point NW. Send this waypoint to the GPS unit. This will be your starting corner.



You have been provided with the following bearings and distances for the boundaries of the timber sale:

NW to NE: 584' at S 79° E	101°
NE to SE: 607' at S 6° W	186°
SE to SW: 635' at N 79° W	_____ (convert to azimuth)
SW to NW: 584' at N 11° E	_____ (convert to azimuth)

Open Terrain Navigator and transfer the NW waypoint from the GPS unit. Create a route based on the provided distances and bearings, using NW as your starting waypoint. Remember to first convert bearings to azimuth. Save this route in Terrain Navigator and on the GPS unit. (You could also create the route on the GPS unit by following directions provided in Activity 3.)

Instead of entering the final leg (SW to NW) bearing and distance information, you can just select NW as the last waypoint. This will ensure that your route is a closed loop. Sometimes when using distances and bearings, they numbers are not exact, so the final leg may not end exactly at the starting point.

Plot Centers

Create additional waypoints to be used as plot centers within the site for inventory purposes. Envision an imaginary grid with blocks of about 25 square chains (5 X 5), or one plot per every 2.5 acres. Name these P1, P2, and so on. *Hint: You can use the measuring tool to create a rough grid pattern and then switch to the waypoint tool and create plot centers.*

Saving GPS Data

After you create the route and plot centers, save your data in Terrain Navigator and EasyGPS under folders named Fort Ritchey Site1. Transfer the data to the GPS unit.

Printing

Print a map from Terrain Navigator using a scale that will clearly show the area of interest. Be sure to include the route and waypoints. Print out an aerial photo of the site from USAPhotoMaps. These can be used as field maps.

Note: to ensure a good printed image from USAPhotoMaps you should press the print screen key on your keyboard, paste the image in a Word document, then print the Word document.

Site Verification

Go to the site to verify your waypoints. Use your GPS unit to navigate the route. Each corner is marked with flagging. Stand at each corner and create new, more accurate waypoints using the average function. Name these new waypoints NWA, NEa, and so on.

Re-Entering Averaged Waypoints

Download the new waypoints you created into Terrain Navigator. Notice the differences between your original points and those taken in the field.

Erase the waypoints you created in Terrain Navigator and replace them with the averaged points from the GPS unit. Save these in Terrain Navigator and EasyGPS as a new file (for example, Fort Richie Site2).

Print a new map from Terrain Navigator that shows the boundaries of the tract, the plot locations, and any other field points you may have taken. You should now have the information you would need to create a map for potential timber buyers or field crews.