

Activity 3: Waypoints, Routes, and Tracks

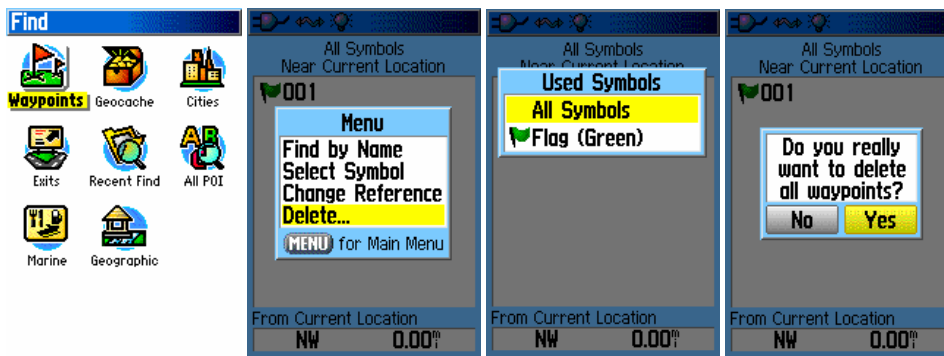
PROJECT A: Waypoints

Waypoints are pinpointed locations that are stored in a GPS unit. They are used to mark places or in creating routes. You can create waypoints on your GPS unit or on a computer and transfer them.

Deleting Waypoints

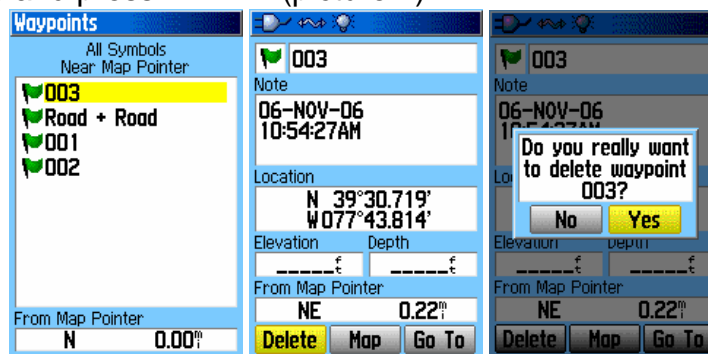
Before starting this activity, you may want to clear previous waypoints that have been saved on your GPS unit.

- Press FIND. Select **Waypoints** and press ENTER (picture 1).
- If there are waypoints listed and you want to delete them all, press MENU and select **Delete...** (picture 2).
- On the screen that appears, select **All Symbols** and press ENTER (picture 3).
- A box will now come up asking if you really want to delete all waypoints. Select **Yes** and press ENTER (picture 4).



Picture 1 Picture 2 Picture 3 Picture 4

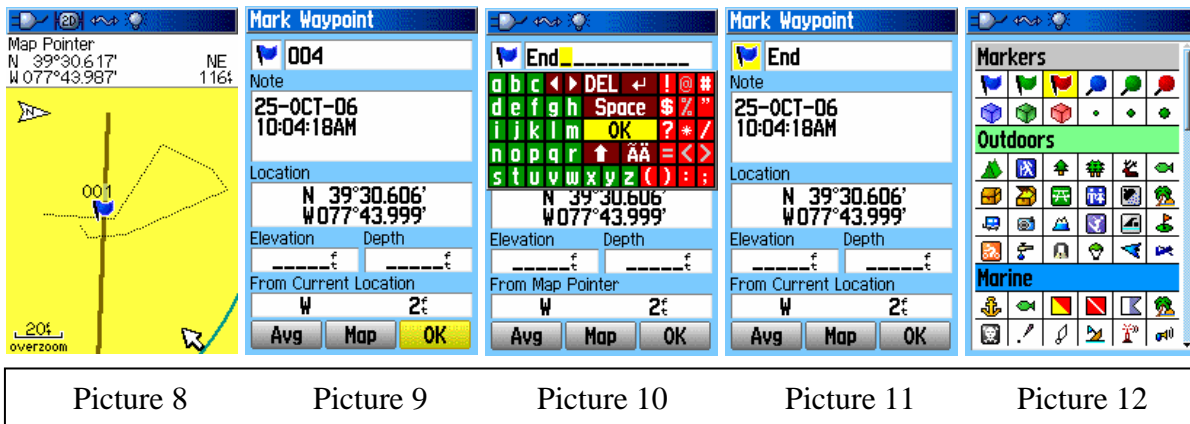
- If you only want to delete one waypoint, press FIND. Select **Waypoints** and press ENTER (picture 1).
- Highlight the waypoint you want to delete and press ENTER (picture 5).
- Highlight **Delete** and press ENTER (picture 6).
- A box will now come up asking if you really want to delete the waypoint. Select **Yes** and press ENTER (picture 7).



Picture 5 Picture 6 Picture 7

Creating New Waypoints

- Go to the Map screen. Zoom in all the way by pressing the IN button several times. Walk around. In the upper left corner of the screen, a compass arrow will point north (picture 8).
- Stop somewhere and create a waypoint by pressing and holding ENTER until the screen changes to show the “Mark Waypoint” screen (picture 9). This screen allows you to change the name of the waypoint and shows information about it such as when it was created and the location.
- Change the name of this waypoint by highlighting the **name box** at the top of the screen and pressing ENTER. Using the rocker and enter button, name this waypoint End. When you are finished, highlight **OK** on the letter/number screen and press ENTER (picture 10).
- You can change the symbol for any waypoint by first highlighting the flag at the top of the screen (picture 11). Press ENTER and choose the red flag symbol from the Markers screen (picture 12).
- Once you have chosen the symbol, highlight **OK** at the bottom of the screen and press ENTER. The new symbol will appear on the map where you created the waypoint.
- Walk about 30 yards away and create another waypoint named Start. Give this waypoint a green flag symbol. Stay at this second waypoint and begin Project B.

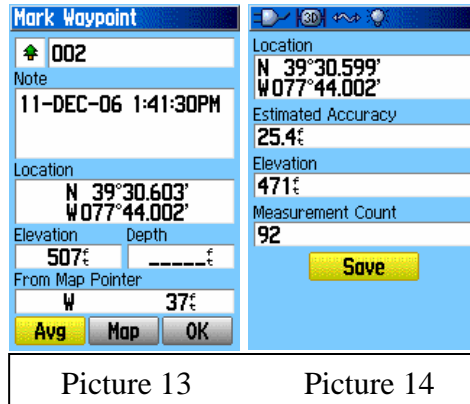


Averaging a Waypoint

To obtain a more accurate location for your waypoint, you can have the GPS receiver take several measurements at the same location. It will then average these measurements to provide a better estimate for the coordinates for your specific location.

- Create a waypoint for your current location by holding ENTER.
- Highlight **Avg** (picture 13) and press ENTER.
- A new screen will appear showing the waypoint information. At the bottom of this screen, you will see the Measurement Count number increasing about every second (picture 14). The Estimated Accuracy number should decrease as more measurements are taken.

- When you are satisfied with the estimated accuracy, highlight **Save** and press ENTER. This will save the averaged waypoint just like any other waypoint.
- NOTE: Remain still as the GPS unit is taking measurements. You will have better accuracy if you are away from large objects like buildings or large trees, and if there is little or no overhead cover.



Picture 13

Picture 14

Application – You can use the waypoint function to mark and name roads, property boundaries, stream crossings, buffer areas, logging deck location, access points, tree locations (specimen trees), and high quality timber. Use the Average Waypoint function when you need a more accurate location and can remain at a marking location for a few seconds.

PROJECT B: Routes

Use the Routes feature to obtain directions between waypoints you created.

- Press MENU twice to return to the main menu page. Use the rocker button to highlight **Routes** and press ENTER. Highlight **NEW** on the bottom of the screen and press ENTER (picture 15). Press ENTER to “Select Next Point” (picture 16).
- On the next screen, highlight the **Waypoints** icon and press ENTER (picture 17). Using the rocker, highlight the waypoint marking your starting position (Start waypoint) and press ENTER (picture 18). On the Waypoint page that popped up, highlight **Use** and press ENTER (picture 19).



Picture 15

Picture 16

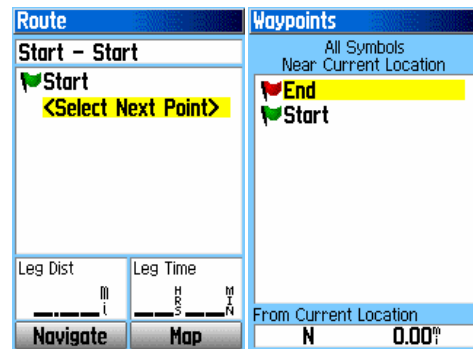
Picture 17

Picture 18

Picture 19

Now your starting waypoint should be listed on the Route screen.

- Again, highlight **Select Next Point** and press ENTER (picture 20). Highlight the **Waypoints** icon and press ENTER.
- Now highlight the End waypoint, and press ENTER (picture 21). Highlight **Use** in the lower right hand corner of the screen and press ENTER.

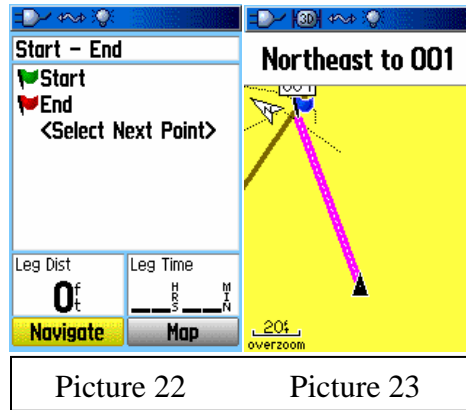


Picture 20

Picture 21

Now your two waypoints should be listed in the Routes page.

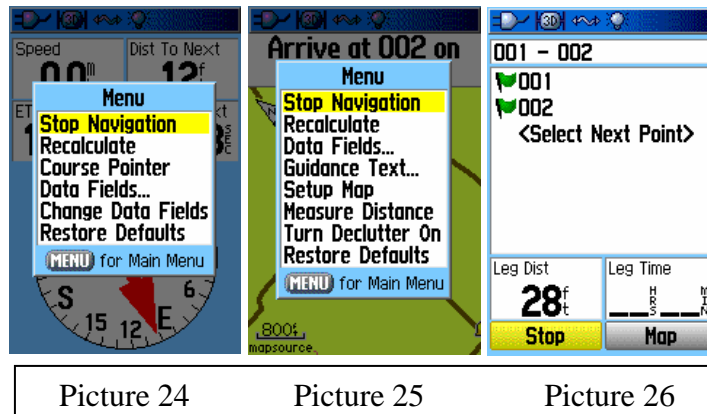
- Highlight **Navigate** and press ENTER (picture 22). The map screen will appear, showing your current location marked by a black arrow (picture 23). The top of the screen will instruct you which direction to travel. Refer to the North cardinal arrow to help orient yourself.



- Follow the on-screen instructions, moving toward your destination. When you get within about 30 feet of the End waypoint, the unit will beep and read “Arriving at End.”

When you are finished navigating, be sure to *turn off navigation*. If navigation is left on, you may have trouble using other functions of the GPS unit. Turning navigation off can be done several ways.

- From the compass screen, press MENU. Select **Stop Navigation** and press ENTER (picture 24).
- From the map screen, press MENU. Select **Stop Navigation** and press ENTER (picture 25).
- From the routes screen, highlight **Stop** and press ENTER (picture 26).

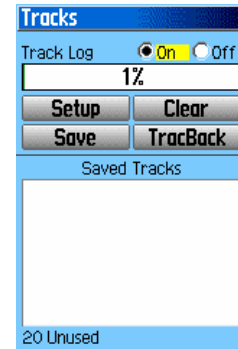


Application – You can enter waypoints in a GPS unit and give it to coworkers, buyers, etc. to find their way to an access point or a corner of a timber sale. The waypoints for property corners or timber sale boundaries can be entered into a route so people can navigate around the perimeter.

Project C: Finding Distance of a Perimeter and its Area Using the Tracks Option

Use this function if you are walking/driving along the boundaries of location and want to find its area.

- Go to the Main Menu page by pressing MENU twice. Highlight the **Tracks** icon and press ENTER.
- Make sure Track Log is on by highlighting **On** and pressing ENTER (picture 27).
- To clear any past tracks, highlight **Clear** and press ENTER. On the popup screen asking if you really want to clear the track, highlight **Yes** and press ENTER.



Picture 27

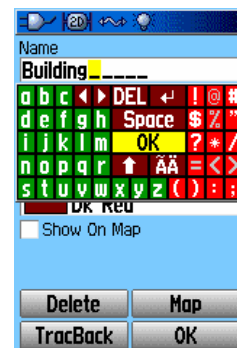
- Now walk around the perimeter of the building. When you come back to your starting place, highlight **Save** and press ENTER. On the popup screen asking if you want to save the entire track, highlight **Yes** and press ENTER.

Now the Saved Track screen will come up. It shows information about the track like the distance and area inside the track.

- Highlight the **Name** and press ENTER to bring up the alphabet screen. Rename your track "Building." Highlight **OK** and press ENTER (picture 28).

What is the distance you traveled around the building? _____

What is the area of the space you walked around?

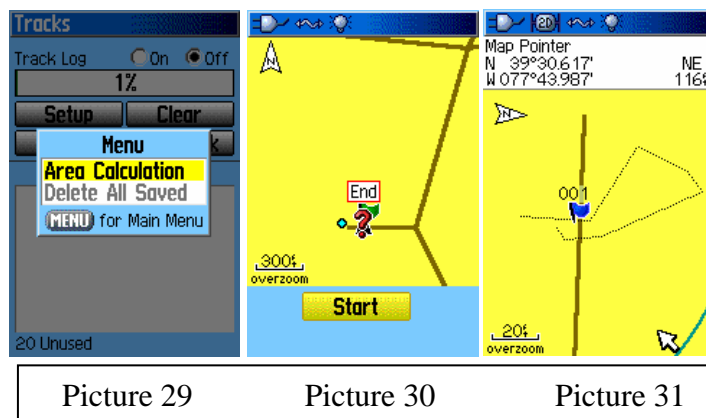


Picture 28

There is another way to calculate the area of a property:

- While on the Tracks page, press MENU. Highlight **Area Calculation** and press ENTER (picture 29). A map screen will appear with **START** highlighted at the bottom of the screen (picture 30). Press ENTER to begin tracking your movement.
- Walk around, making a large circle or rectangle (about 100 or more paces), and when you get back to your starting point, highlight **STOP** on the tracking page and press ENTER.

You should be able to see the shape you made as outlined by the tracks (dots on the map) (picture 31).



At the bottom of your screen, you will see the area of the space you outlined. You can change the units by highlighting the units and pressing ENTER (picture 32). The options are square feet, (ft²), square yards (yd²), square meter (m²), acre (ac), hectare (ha), square kilometer (km²), square mile (mi²), and square nautical mile (nm²).

What is the area of the space you walked in square yards? _____



Application – Quickly find the area of a timber sale by walking or driving along the boundary while using the area calculation function.