

Using a Garmin Map 76 with Customer Service Toolkit 2004

Johnny Chism, Resource Conservationist, Harrison AR

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If you have collected Waypoints in the Garmin Map 76 and need to load them as points to create points, lines or polygons in Customer Service Toolkit see page 2.

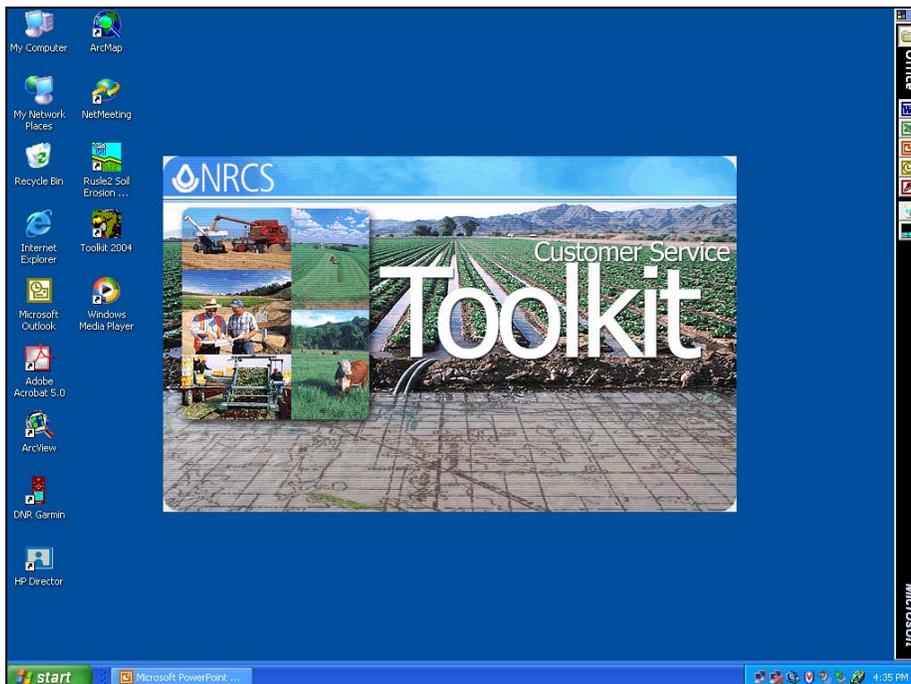
If you have collected Tracks in the Garmin Map 76 and need to load them into Customer Service Toolkit as lines or polygons see page 33.

If you have identified points on the map in Customer Service Toolkit and need to load them into the Garmin Map 76 to locate in the field see page 58.

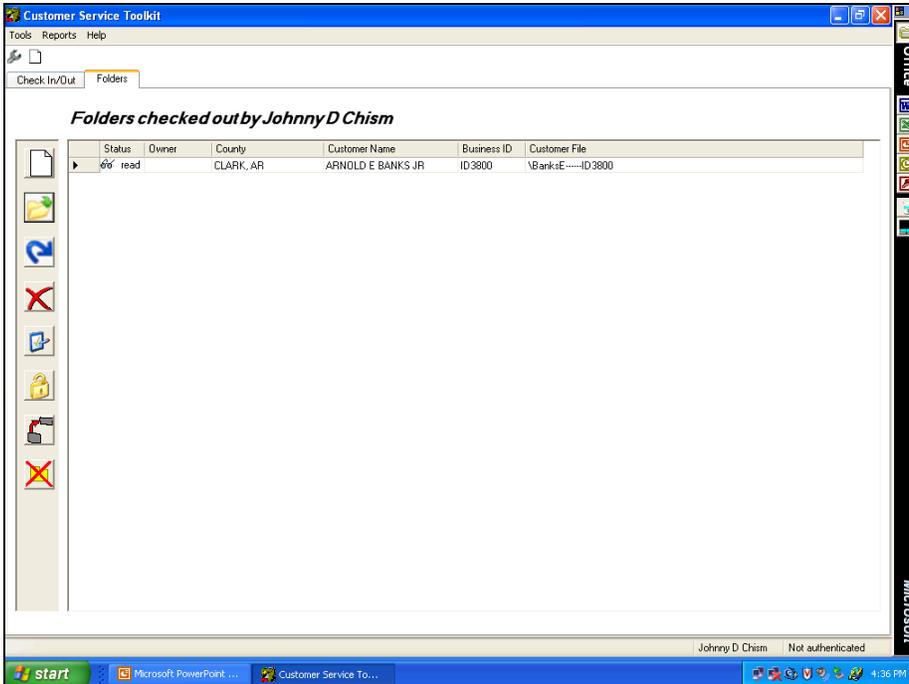
Loading Points from a Garmin Map 76 to Toolkit 2004

Loading Points from a Garmin Map 76 to Toolkit 2004

Using DNR Garmin 4.4.2 and
ArcMap 8.3



The first step in transferring points from the Garmin is to have a place to put them. Start Customer Service toolkit.

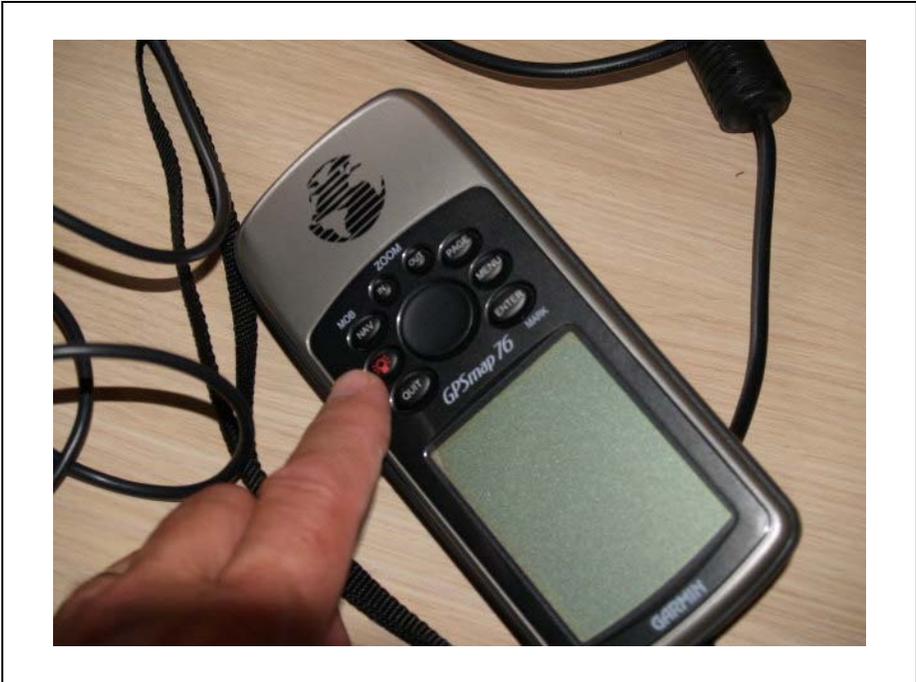


Check out the customer that you need to work with, so the customer folder in which to save the files, will be present on your computer.

After the customer is checked out on your computer, close Toolkit.



Locate the Garmin data cable and connect the round end to the Garmin and the 9 pin end to the serial port on your computer.



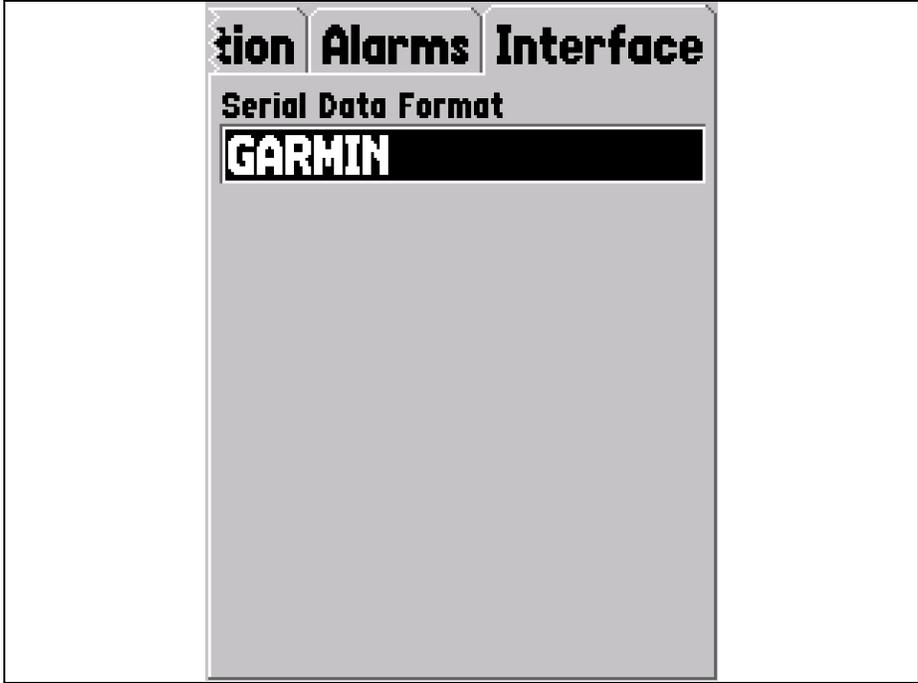
Turn on the Garmin Map 76 and press the page button 3 times.



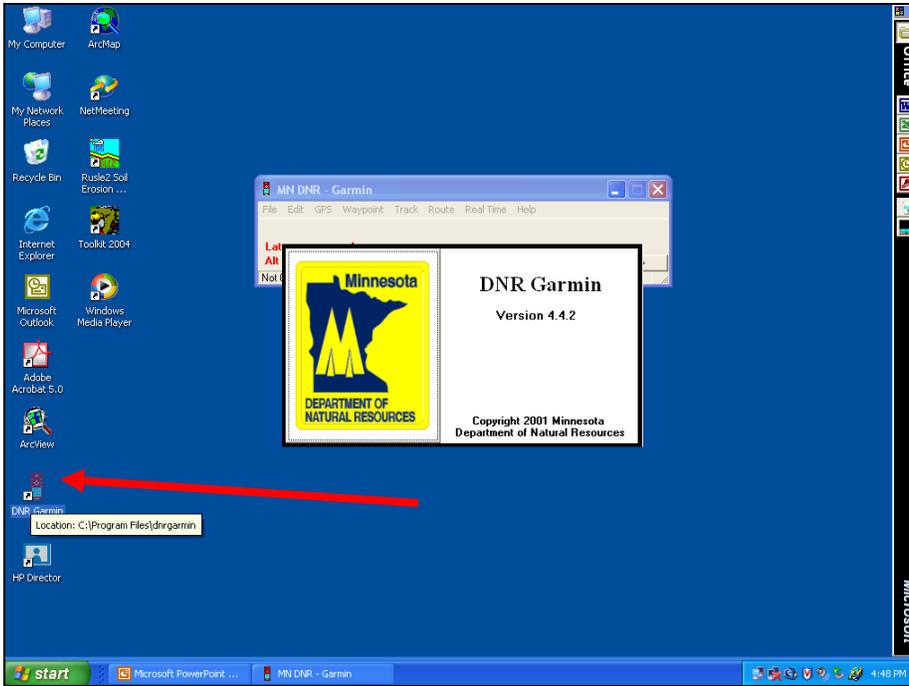
On the satellite page, press the menu key then choose Start Simulator and press the enter key.



To check that the proper interface is set to communicate with the computer, press the menu key twice to access the Main Menu. Scroll down to Setup and press the enter key.



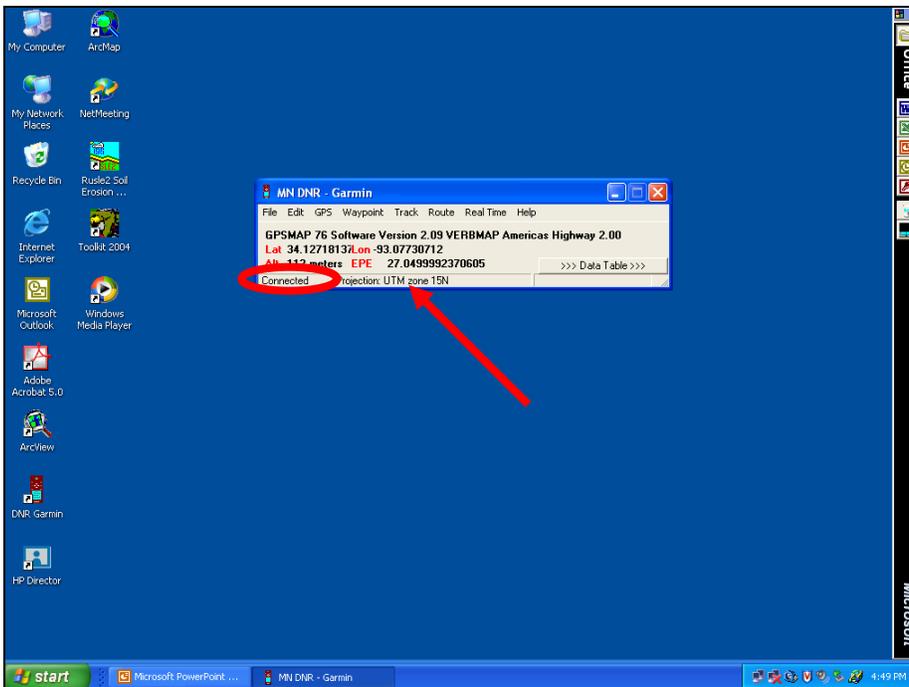
Scroll once to the left (or 5 times to the right) to access the Interface tab. Make sure the Serial Data Format is set to Garmin.



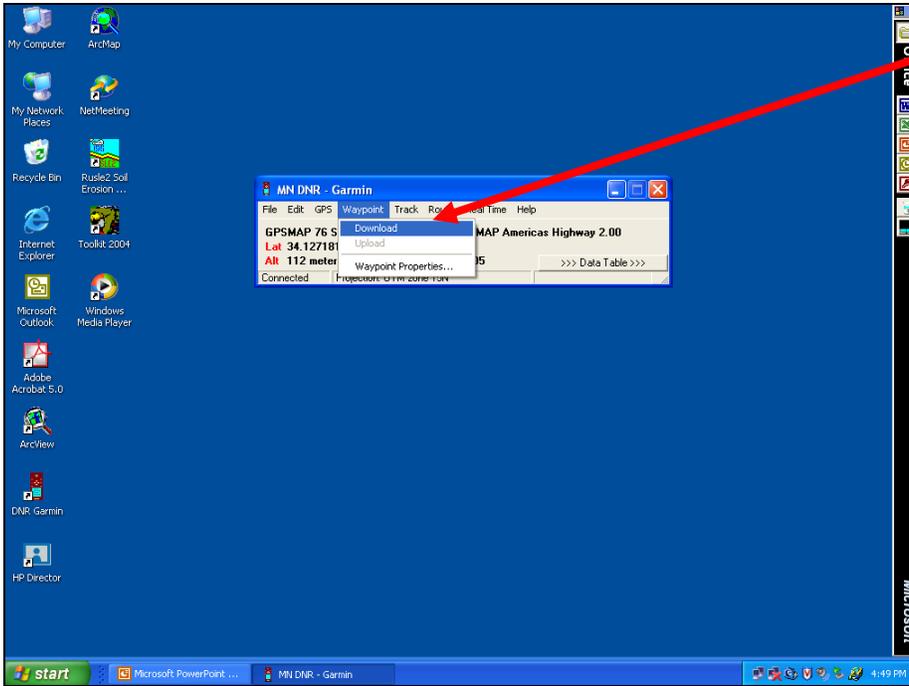
On the computer click the icon for DNR Garmin.

Version 4.4.2 should be installed.

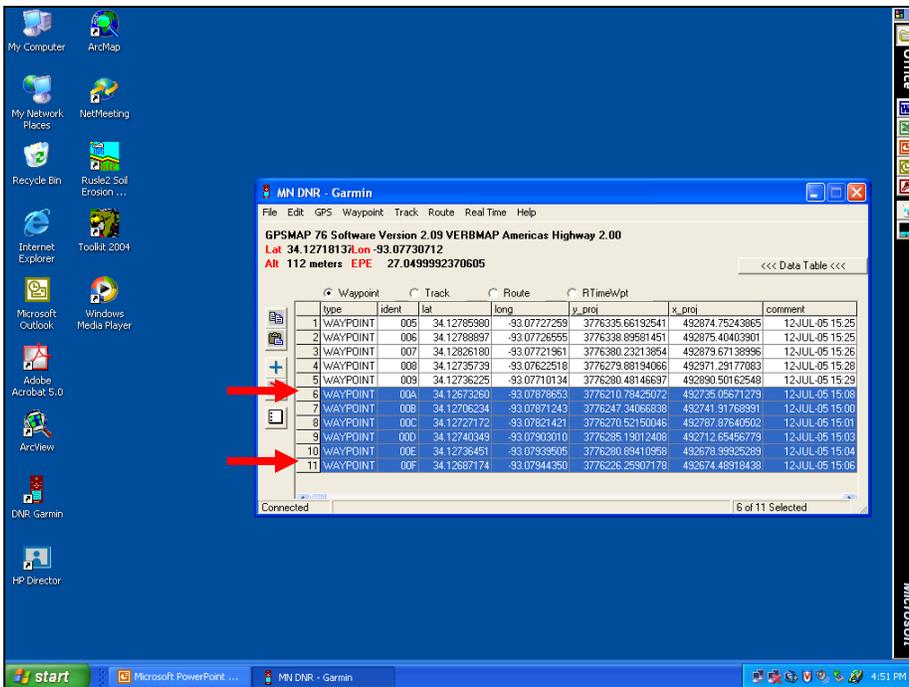
Note: if version 4.4.2 is not installed contact your IT support. Older versions will still function but the instructions in this document may not correspond exactly to what appears on your computer.



If everything is set correctly, the status should show connected after a few seconds. Check the projection, it should be UTM Zone 15N. If it is not click on File, Set Projection and choose UTM Zone 15.

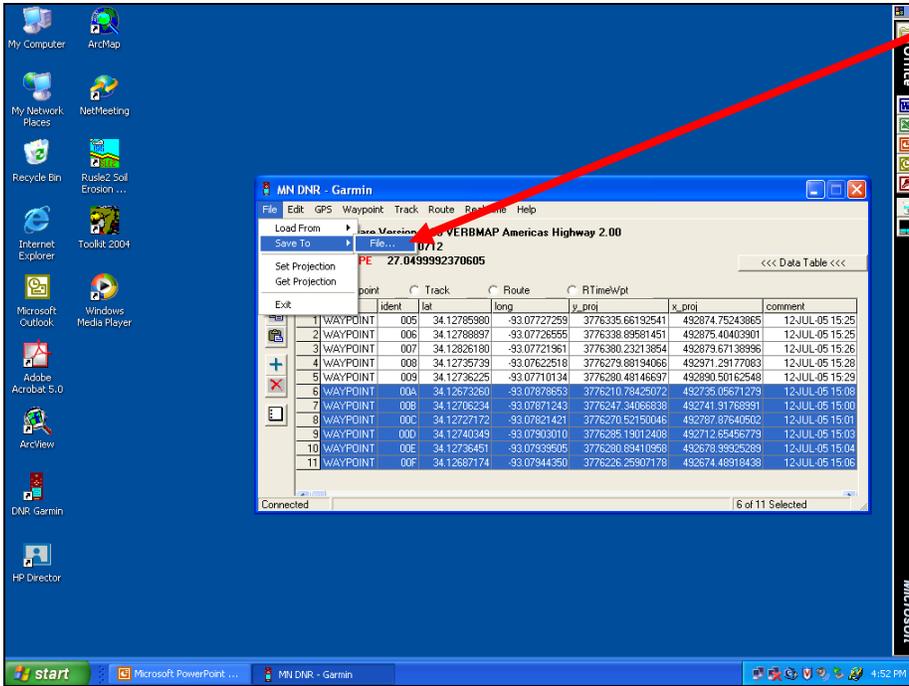


To download points, click Waypoint, then Download on the menu bar.

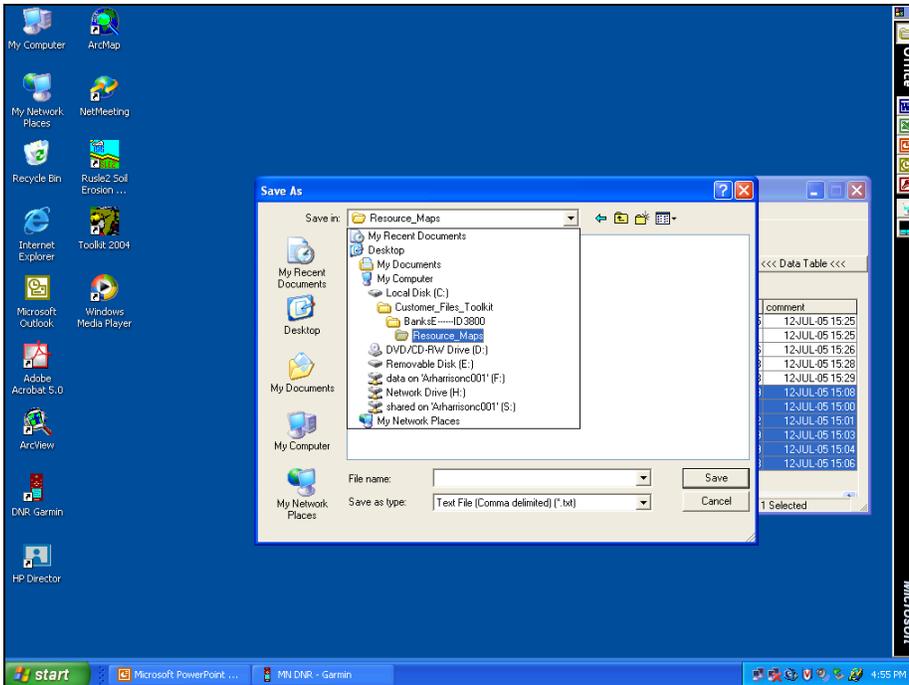


All the points stored in your Garmin should appear. To only load selected points, click on the row number for the first point you wish to load then shift and click on the row number for the last point you wish to load. The selected points will be shaded in Blue.

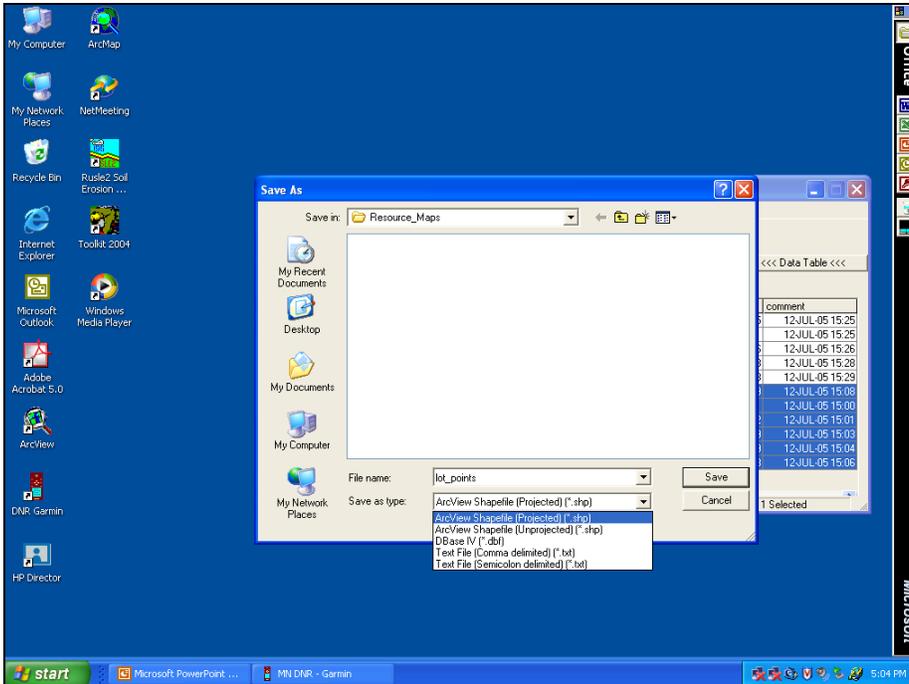
Note: if you want to download all points, do not select any, then all the points will be downloaded.



Click File, then Save To, then File

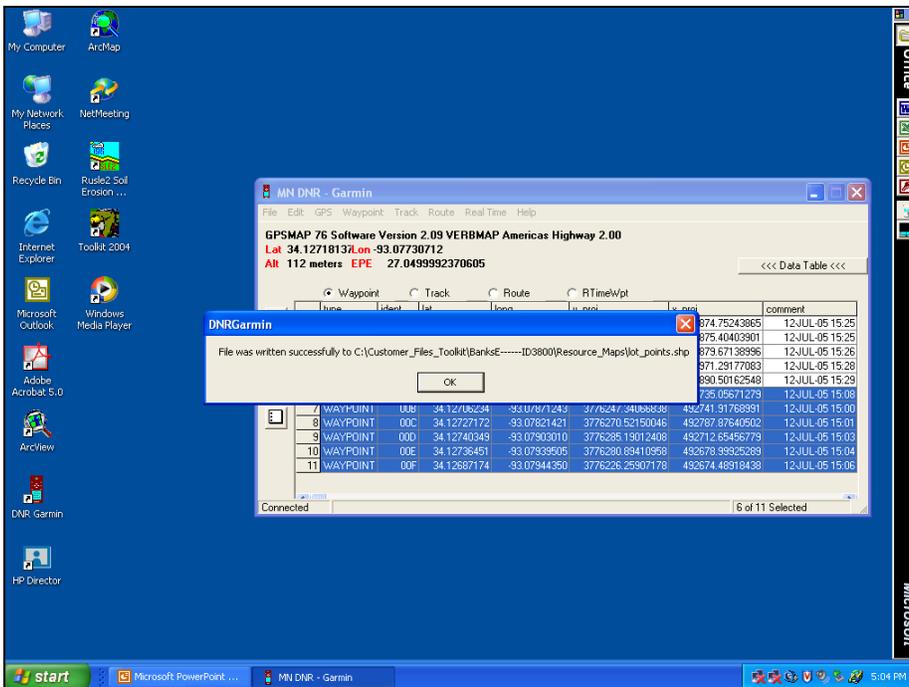


Navigate to the Customers folder in which you need to store the files (C:/Customer_Files_Toolkit). It should be the one you checked out in Toolkit earlier. The Resource Maps folder is a good place to store GPS shapefiles.

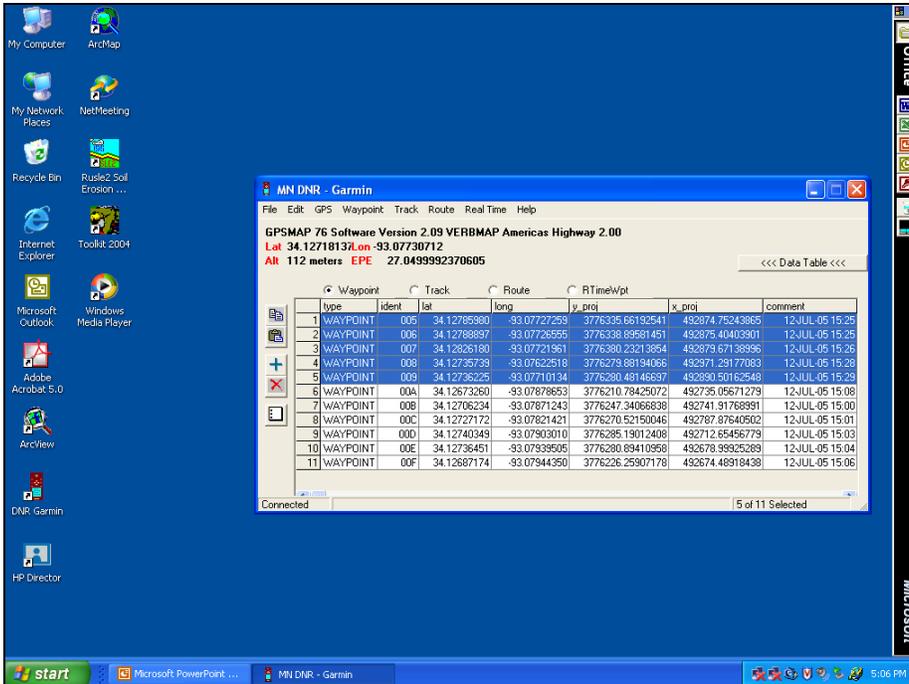


Type in a meaningful filename, such as fence_points. Note: DO NOT USE SPACES IN THE FILENAME!

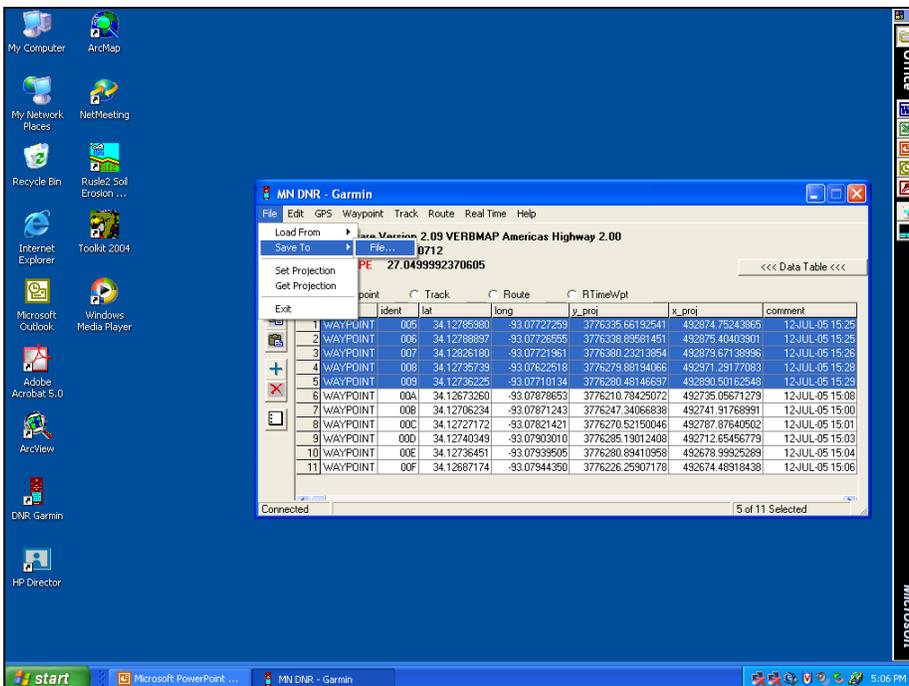
VERY IMPORTANT: Choose ArcView Shapefile (Projected) in the save as type entry field. Click Save.



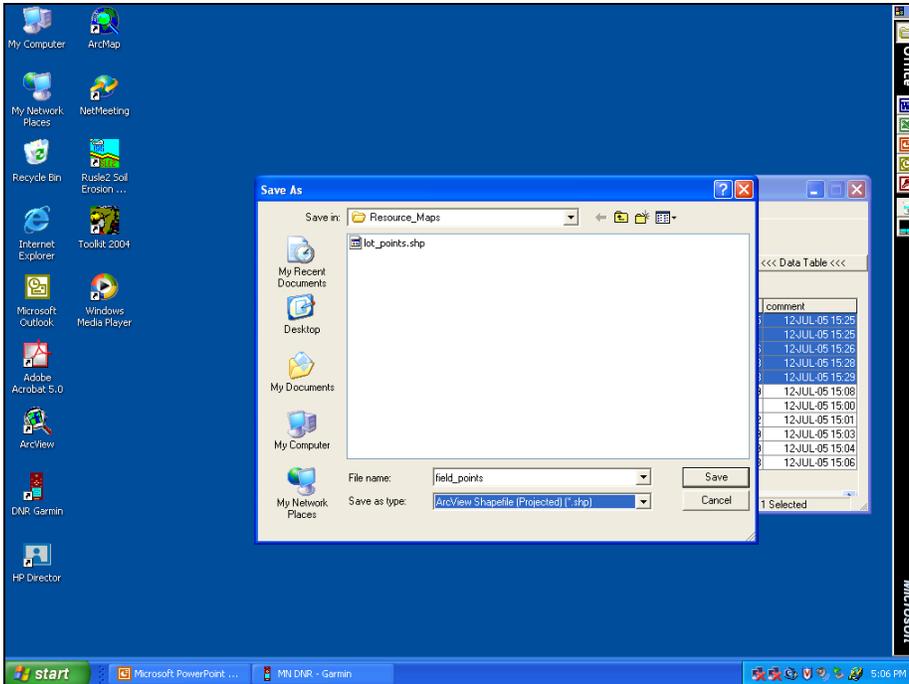
You will get a message that the file was successfully written. Click OK.



Repeat the process to save other points. Click on the row number for the first point you wish to load then shift and click on the row number for the last point you wish to load. The selected points will be shaded in Blue. You could also load all the points into one shapefile. You can do that by selecting all the points or not selecting any points. If none are selected all the points will be put into the shapefile.

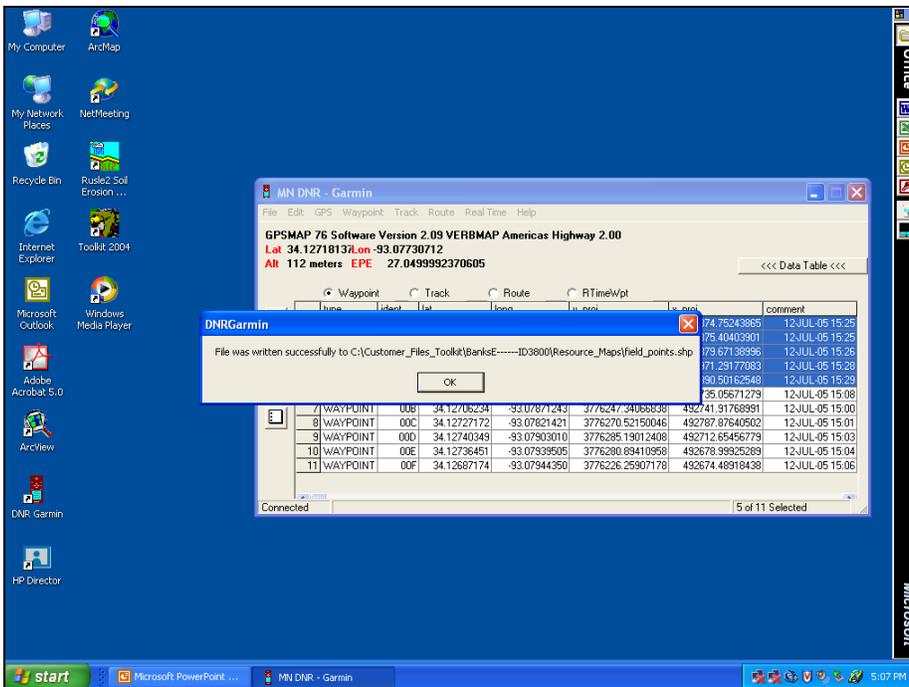


Click File, then Save To, then File

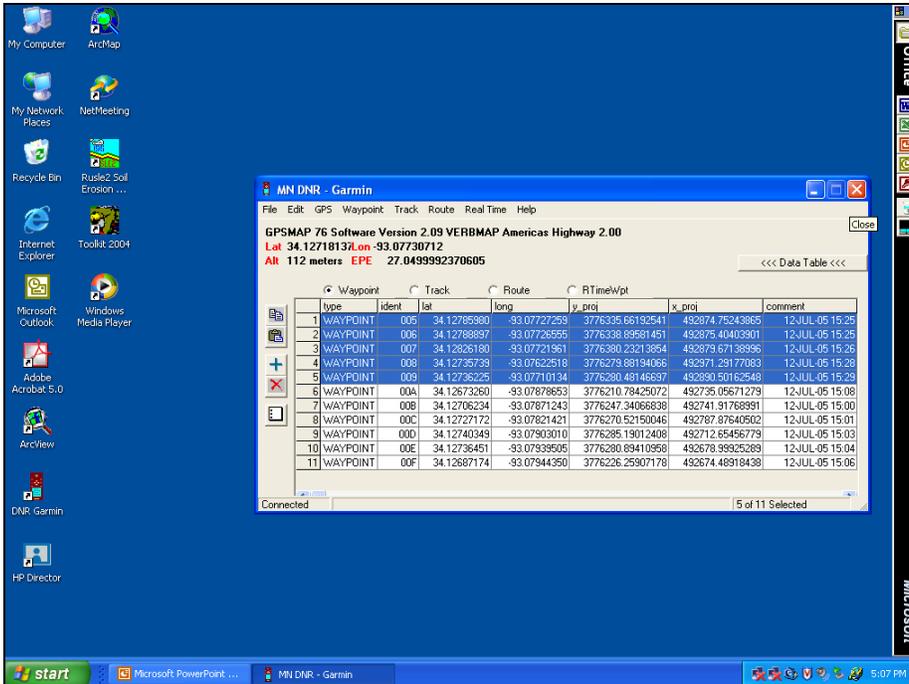


Type in a meaningful filename, such as fence_points. Note: DO NOT USE SPACES IN THE FILENAME!

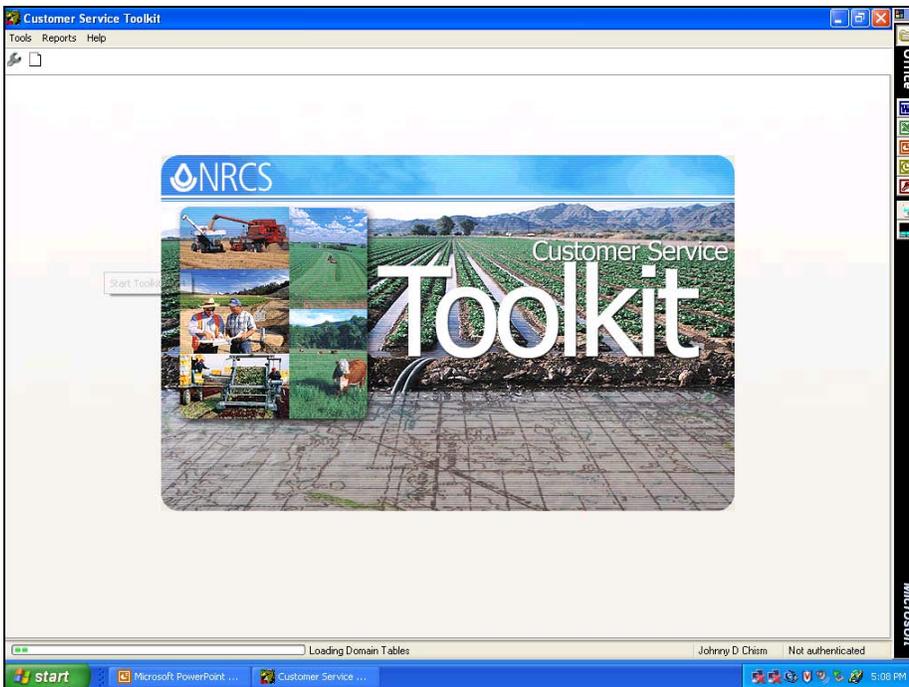
VERY IMPORTANT: Choose ArcView Shapefile (Projected) in the save as type entry field. Click Save.



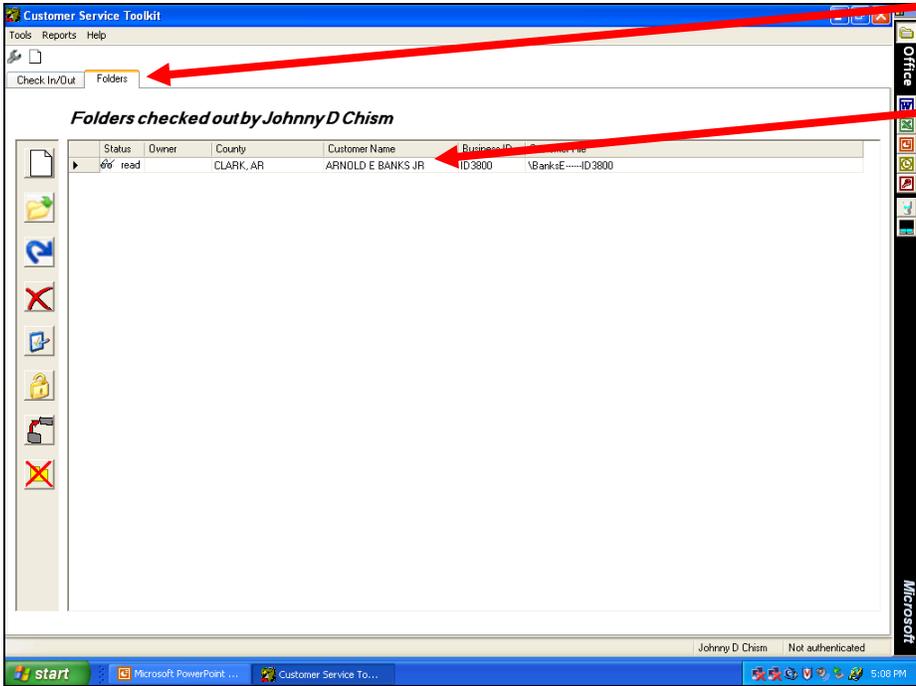
You will get a message that the file was successfully written. Click OK



At this point, you can close or minimize DNR Garmin.

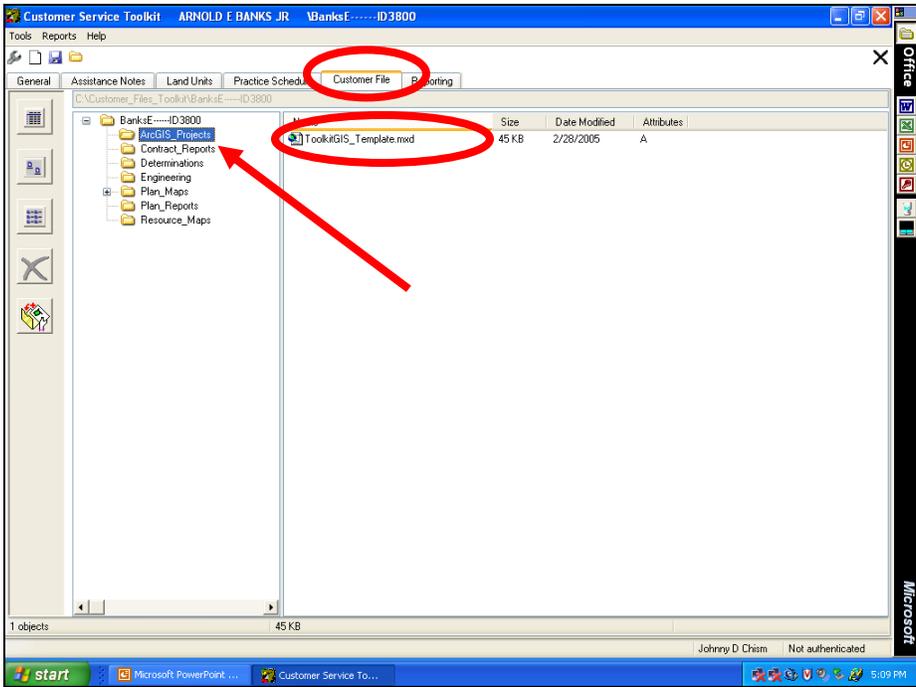


Start Customer Service Toolkit.



Click on the folder tab.

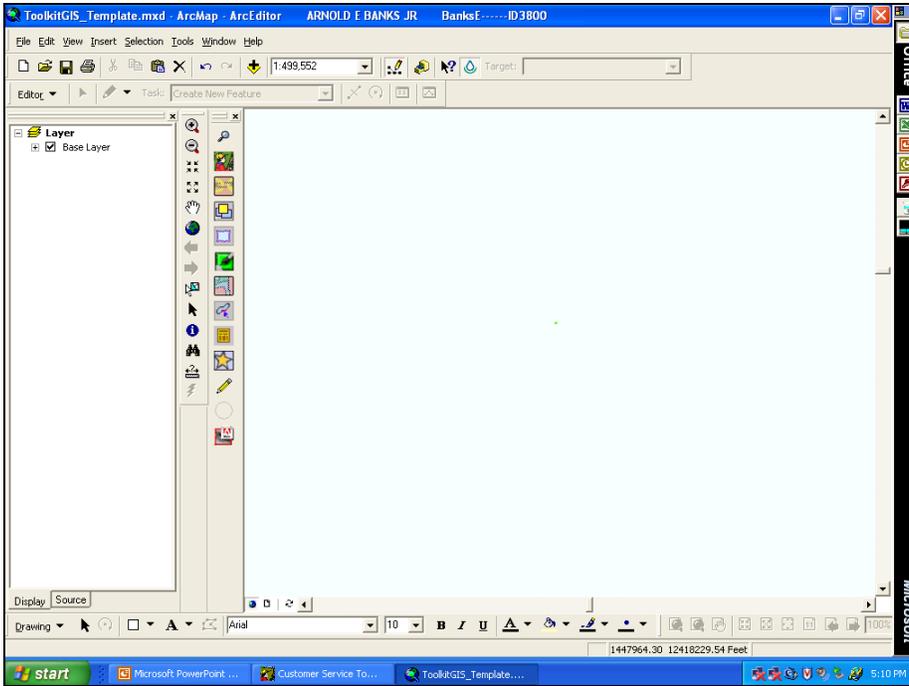
Then double click on the customer's name to open the customer folder.



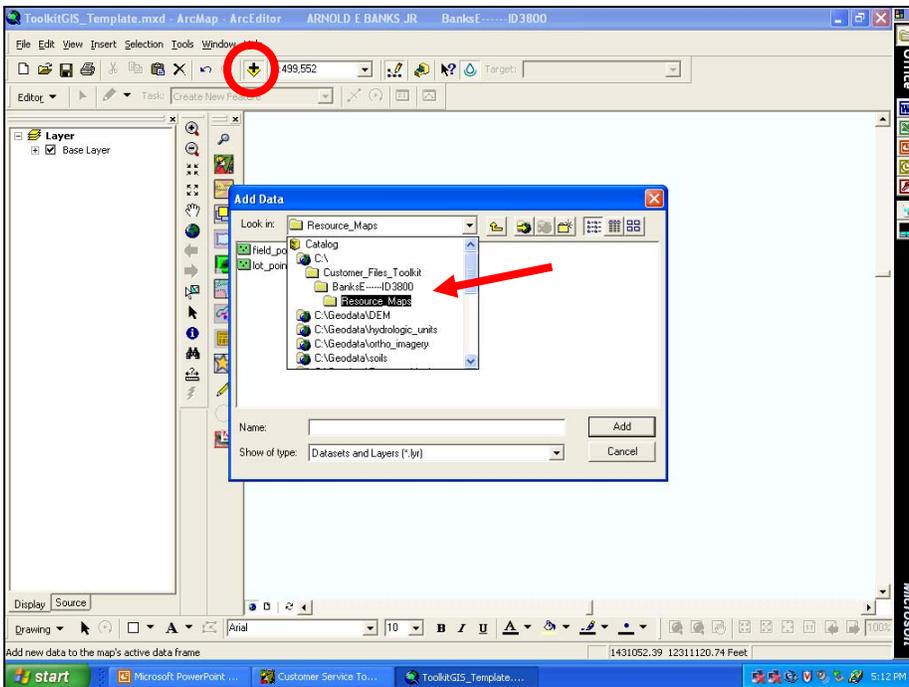
Click on the Customer File tab.

Click on the ArcGIS Projects folder.

Then double click on the ArcMap Document you want to open.

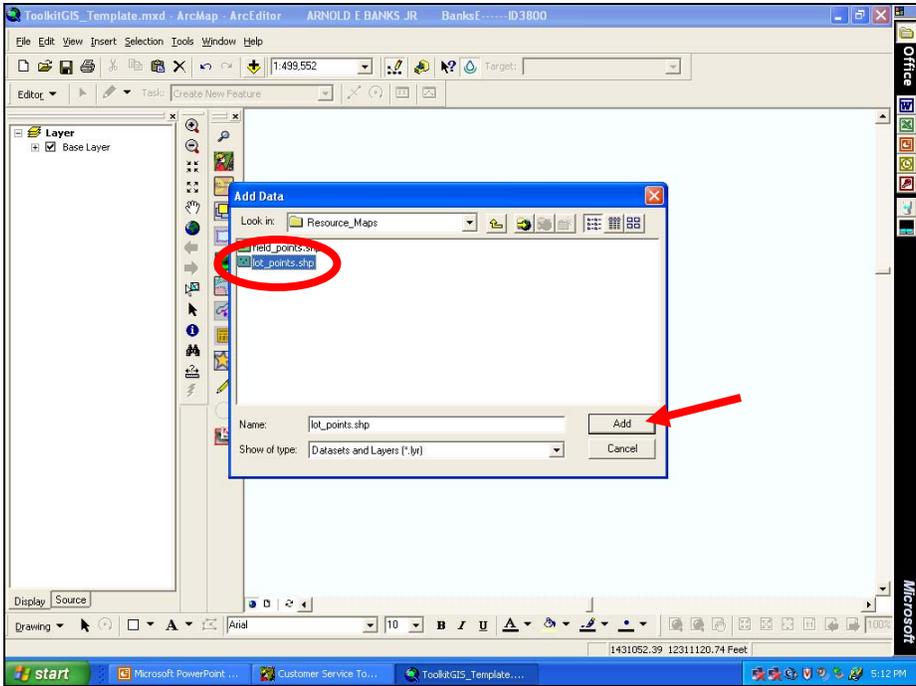


The ArcMap Document opens with no data entered.

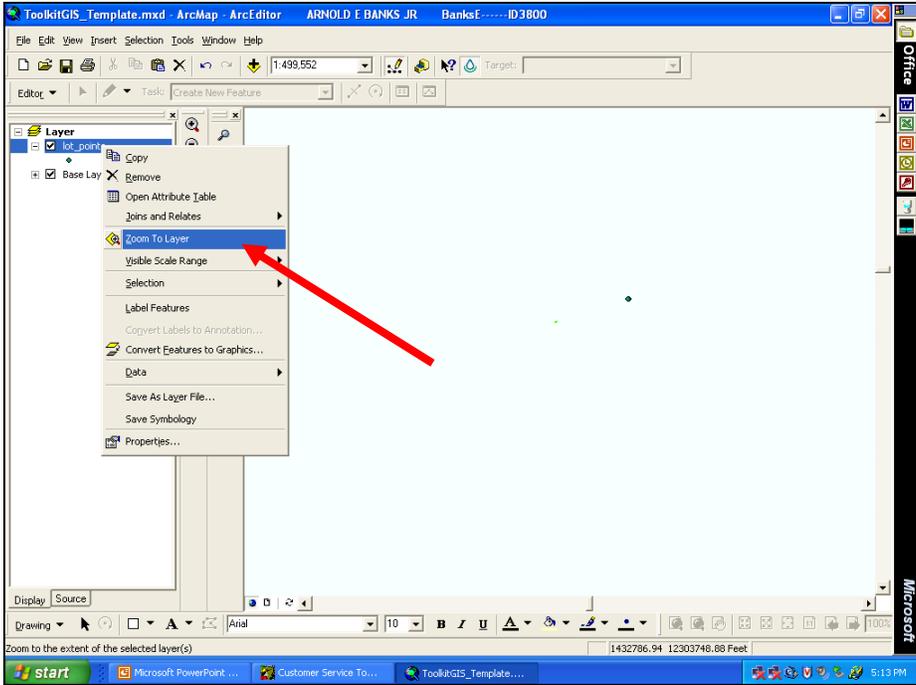


Click the Add Data button.

Navigate to the folder in which you saved the shapefiles.

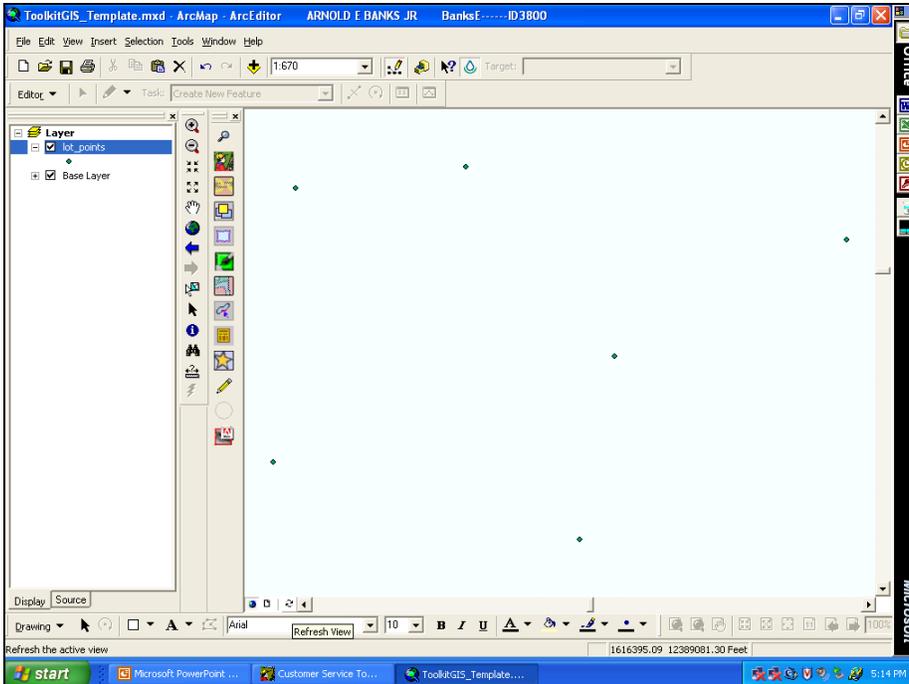


Select the shapefile you wish to add and click Add.



Depending on the Scale, you may not be able to see the points.

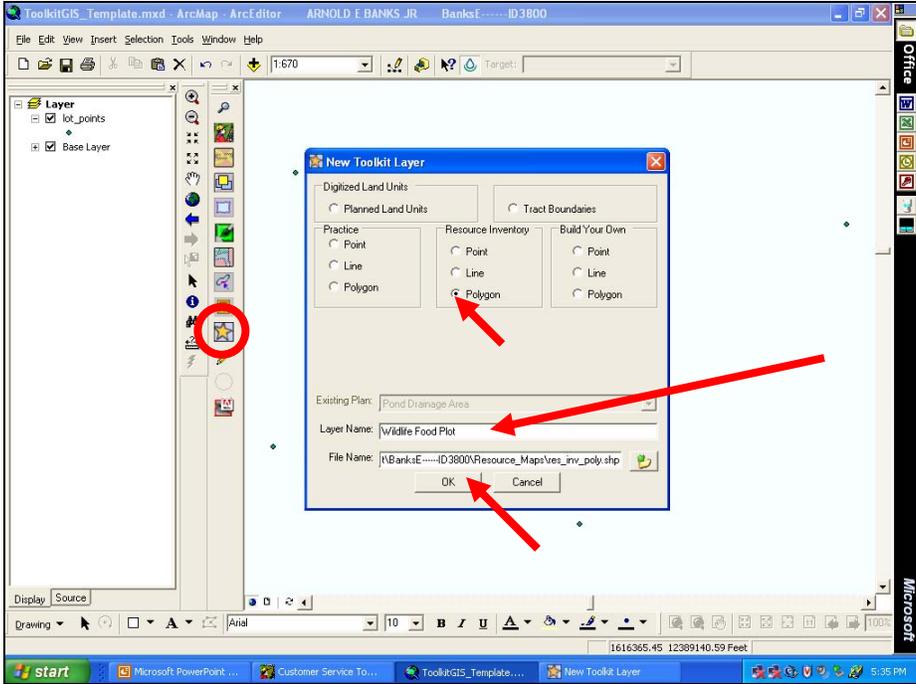
Right click on the layer name you just added and click Zoom to Layer.



All of the points should be visible.

Decision Time

- Do you need to know the area (acres) within the points, such as the area of a Wildlife food plot or critical area planting?
 - If so go to the next page
- Or do you need to know the distance around the points or between points, such as a fence or pipeline?
 - If so go to page 25.



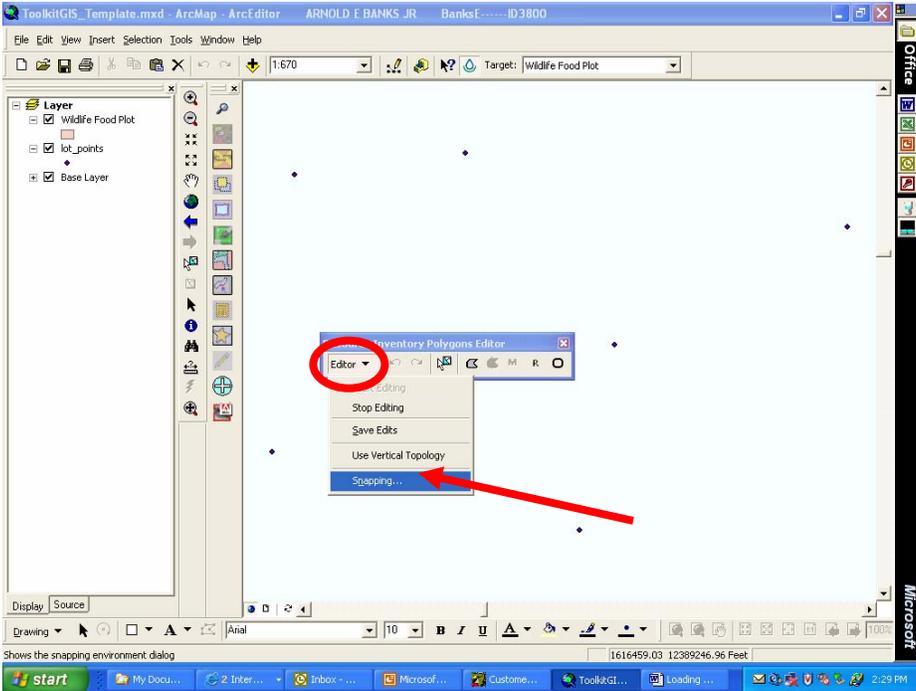
If you need to use the points to calculate an area, you will need to create a polygon.

Click the New Toolkit Layer button.

Select the Resource Inventory Polygon button.

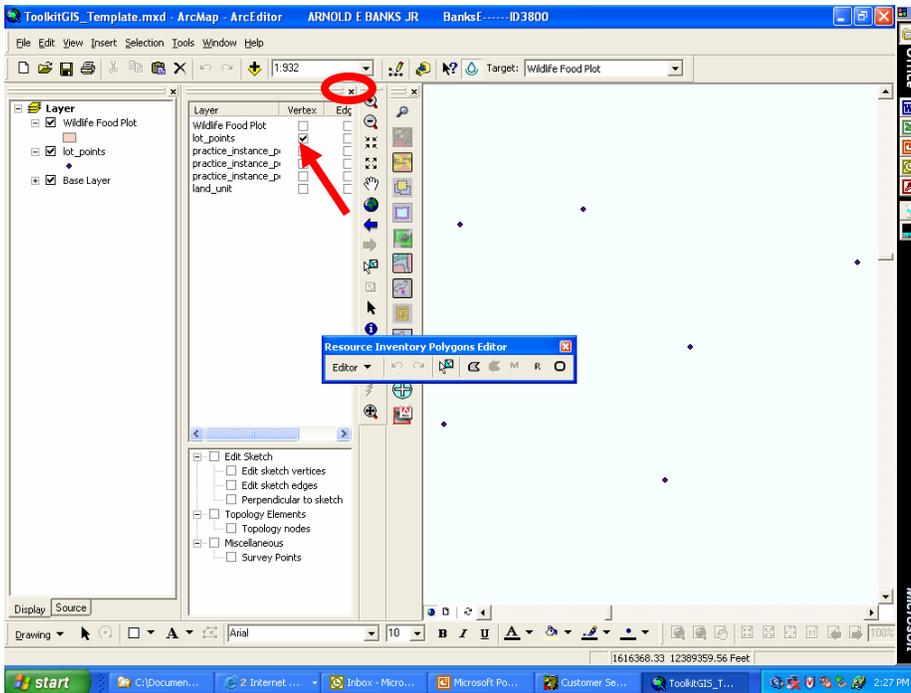
Give the layer a meaningful name.

Click OK.

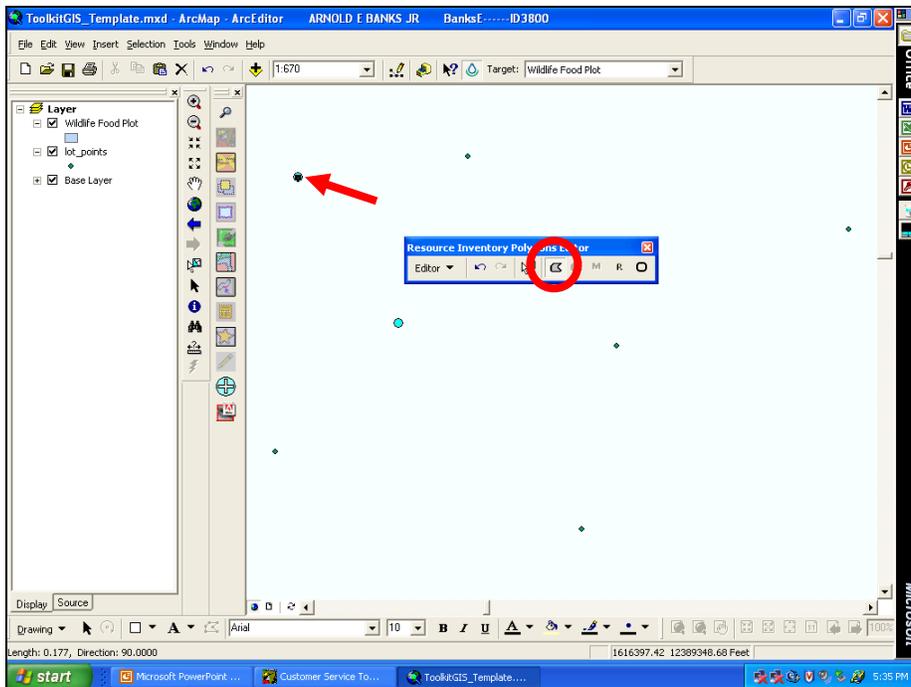


The Resource Inventory Polygon Editor toolbar will appear.

To make it easier and more accurate to click on the exact center of the points, turn on snapping by clicking the editor Drop down button and clicking Snapping.



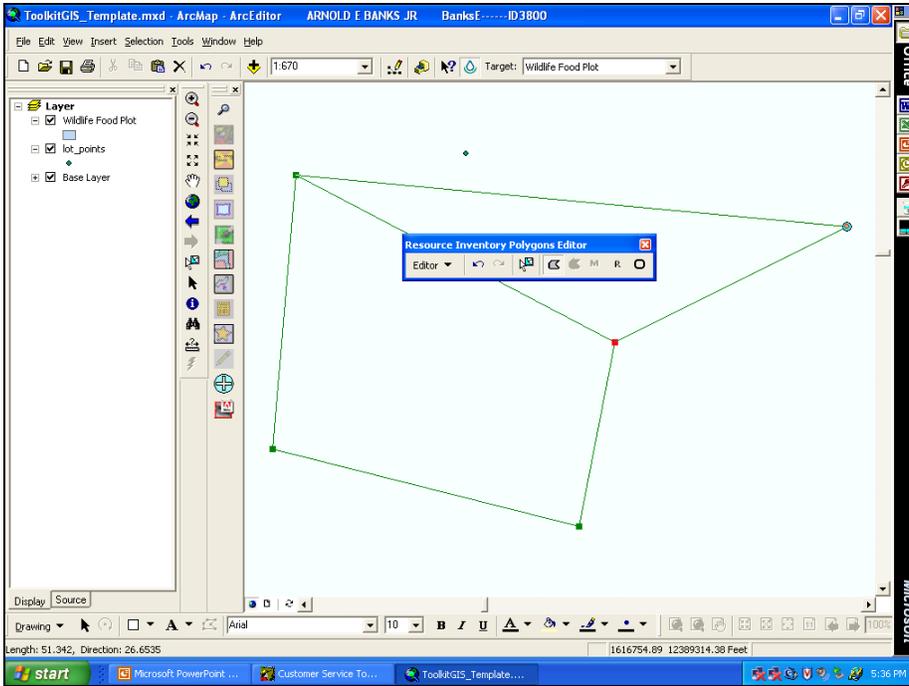
The snapping window appears, click to put a check mark in the box next to the layer that you want the polygon to snap to. In this case the point layer. Close the snapping window by clicking the small X in the upper right hand corner of the window.



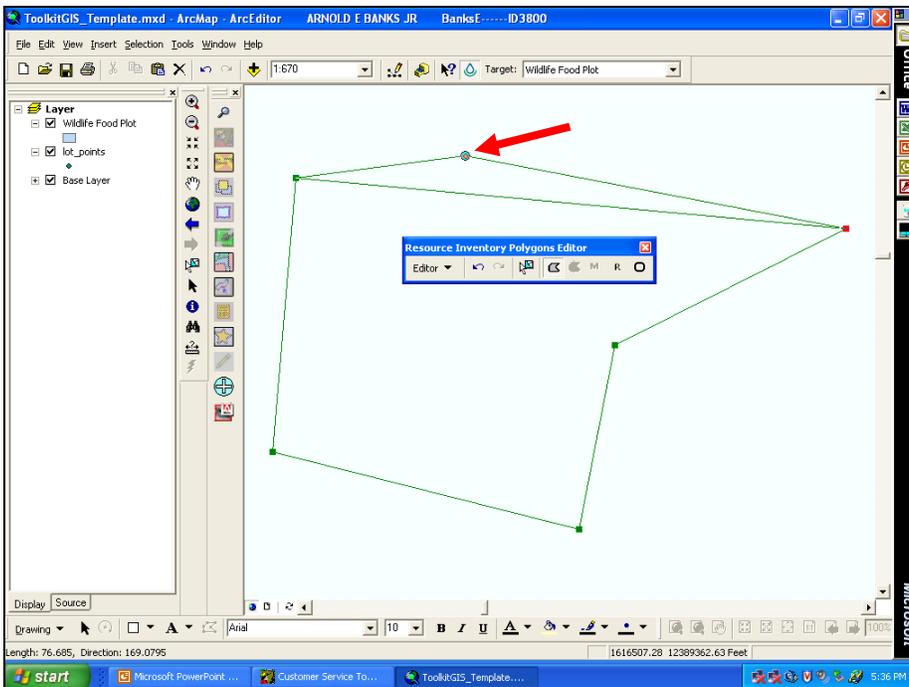
Click the add feature tool.

Click the first point to start the polygon.

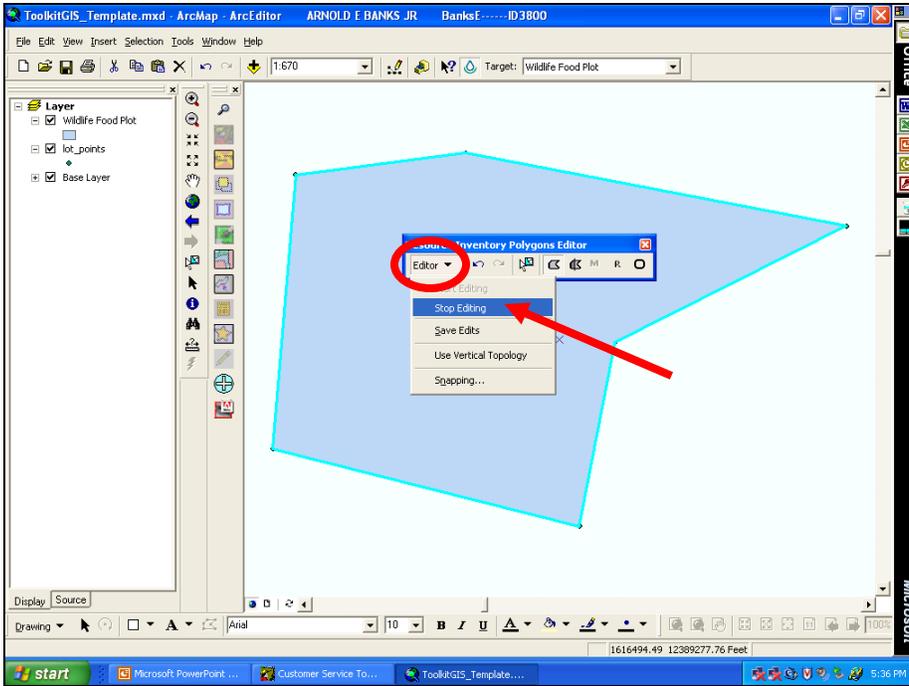
Notice with snapping turned on when you get close to the point it automatically goes to the center of the point.



Continue to click on the points as you go around the polygon.

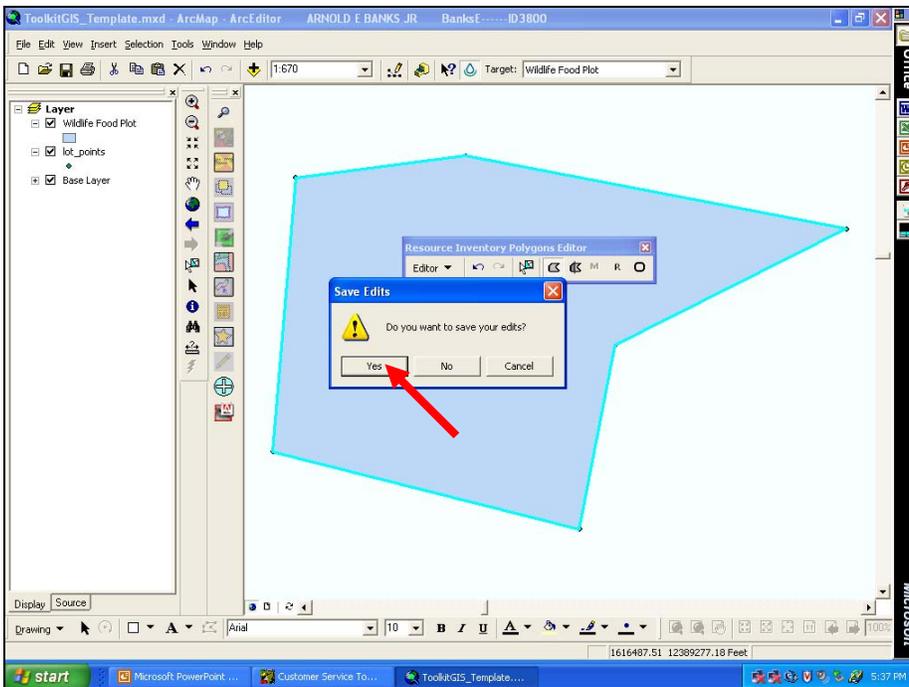


Double click on the last point to create the polygon.
Note: it is not necessary and actually not recommended to click on the point that you started with. ArcMap will close the polygon by connecting the last point with the first one

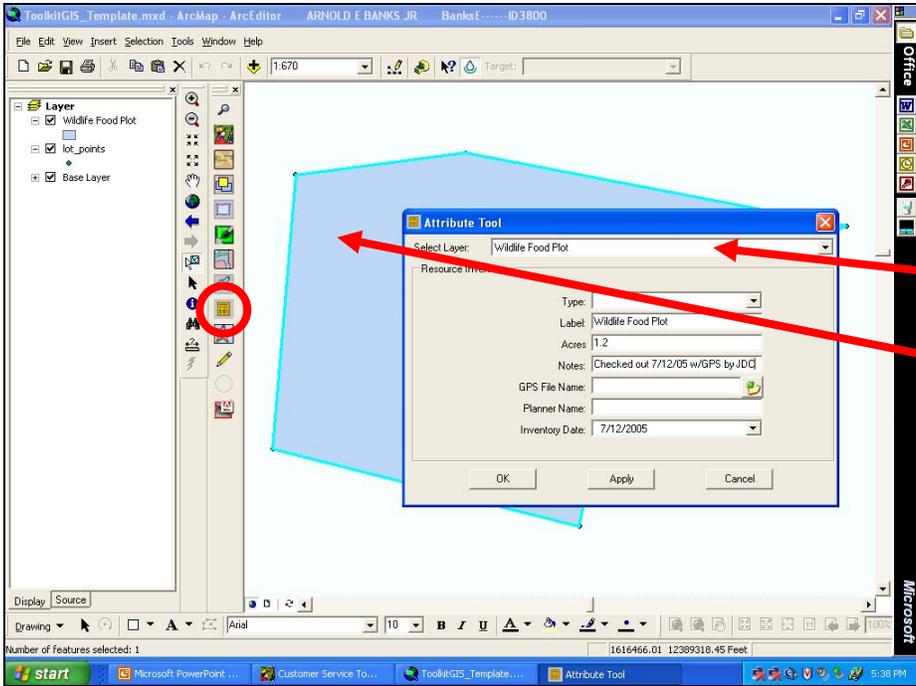


The Polygon will be created.

Click the Editor Drop Down button and click Stop Editing.



Click Yes to save your edits.



Once the polygon is created you can use the attribute tool to enter information about the polygon.

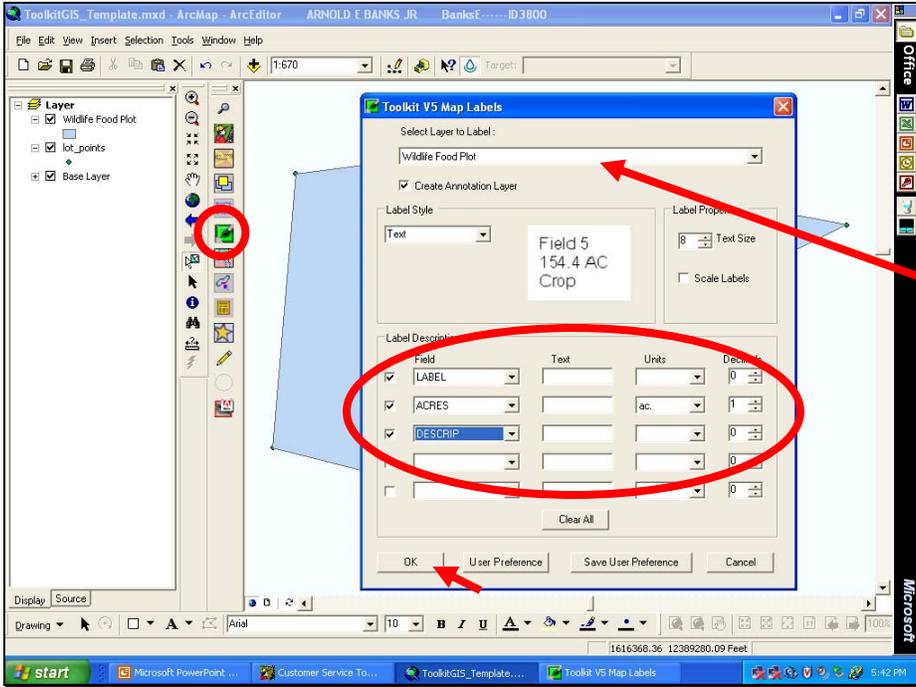
Click the attribute tool on the Toolkit toolbar.

Choose the layer you just created.

Click in the polygon to select it (it will be highlighted with a light blue line).

Enter a Label and Notes. The acres are automatically calculated.

Click OK to save your information.

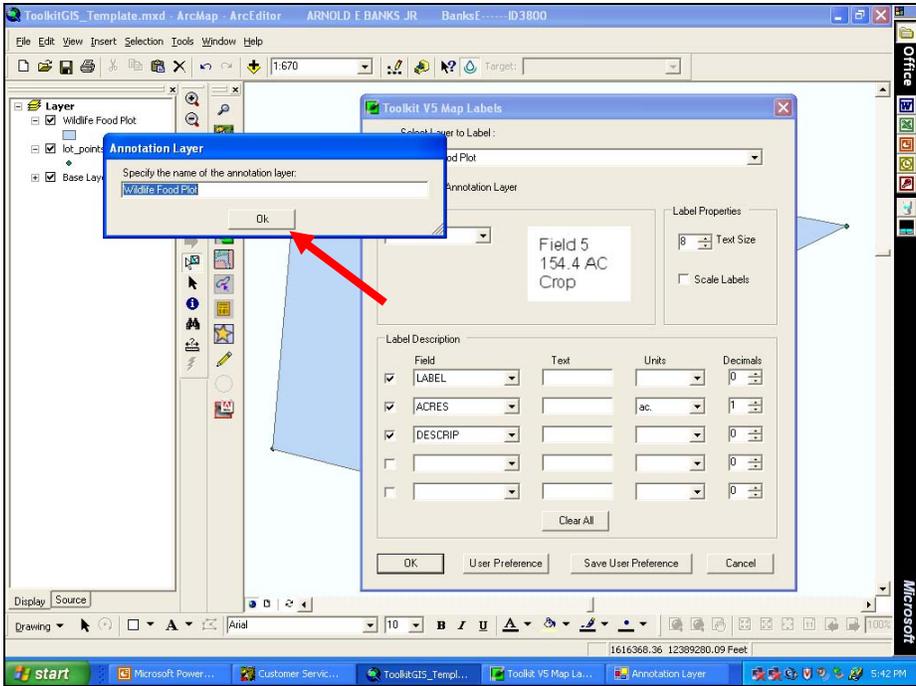


Once the polygon is attributed, you can use the label tool to label the polygon.

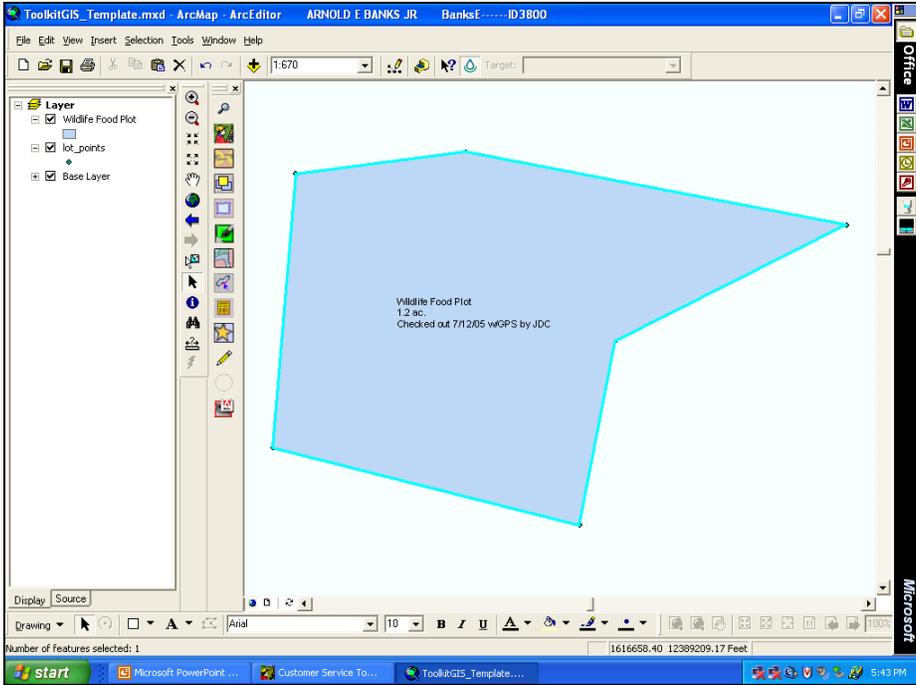
Click the Map Labels tool on the toolkit toolbar.

Select the layer to label.

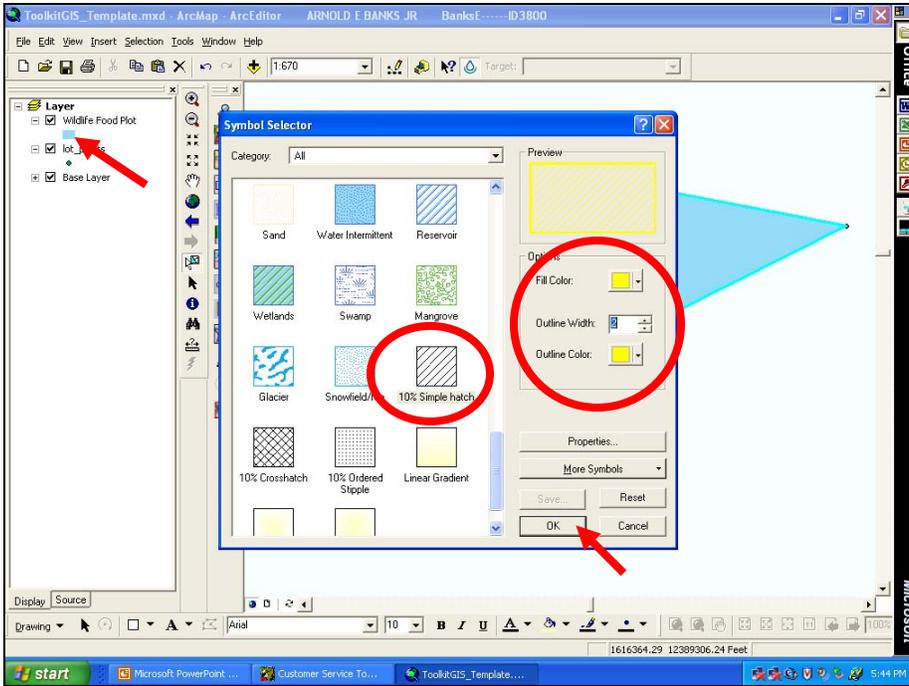
Choose the label information you wish to use. Then click OK.



Accept the default Annotation Layer name by clicking OK.



The polygon will be labeled.

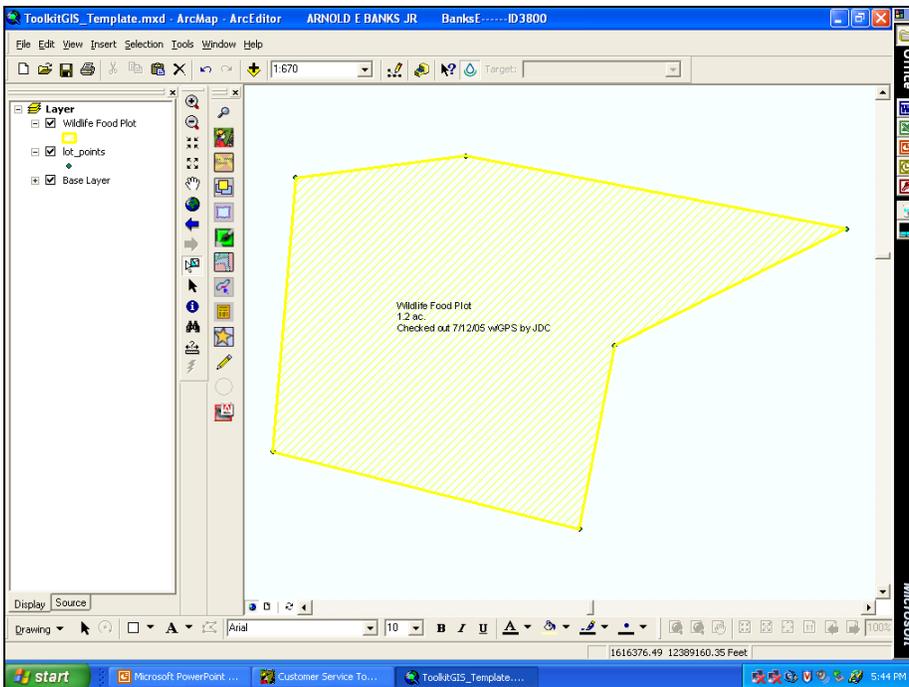


If you would like to change the symbol for the polygon, double click on the symbol in the table of contents.

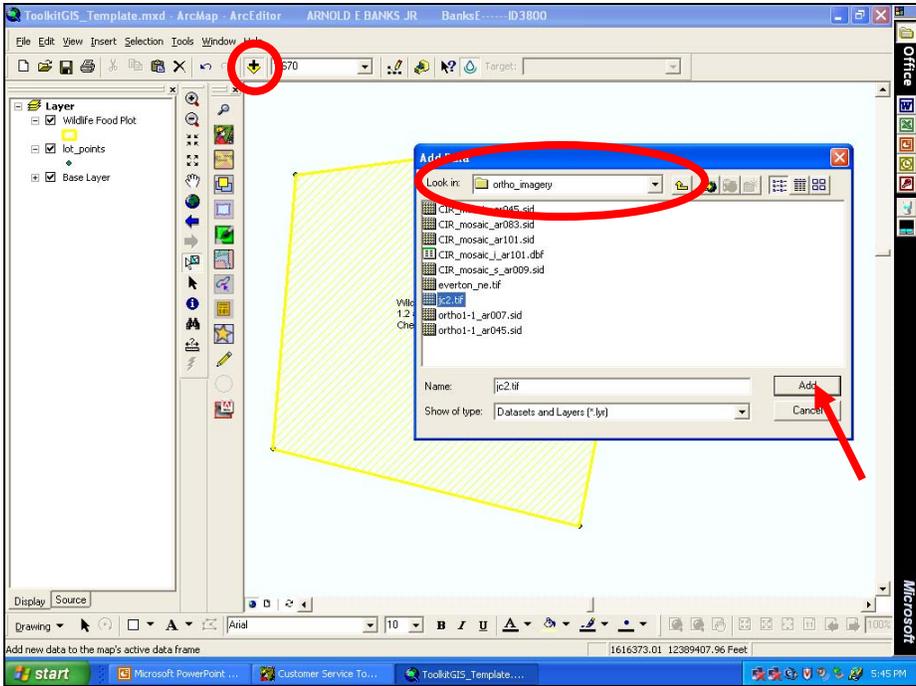
Scroll down and choose the 10% simple hatch pattern.

Change the fill color, outline width and outline color.

Click OK.



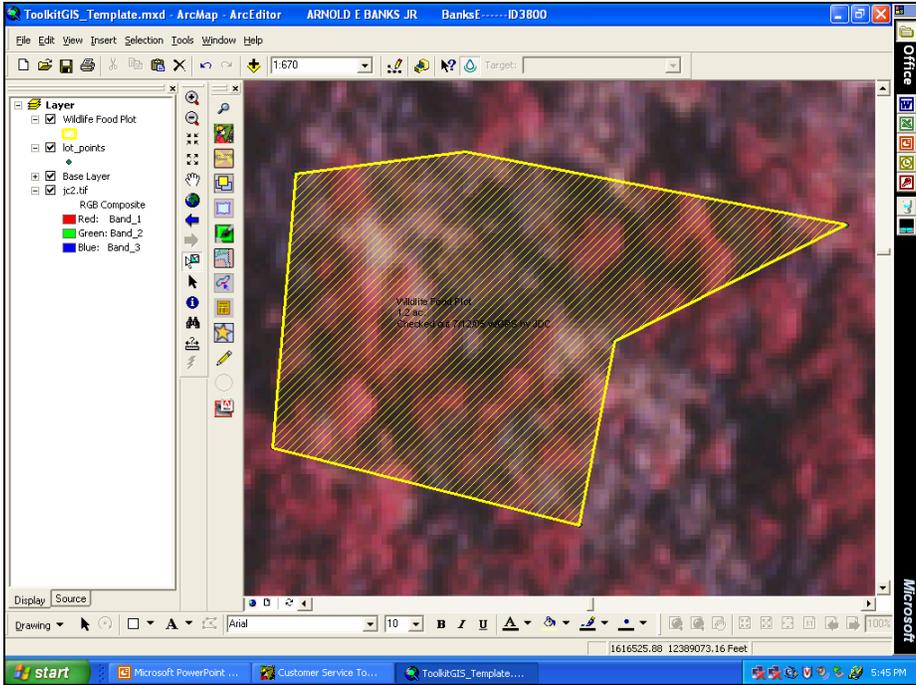
The symbol is changed.



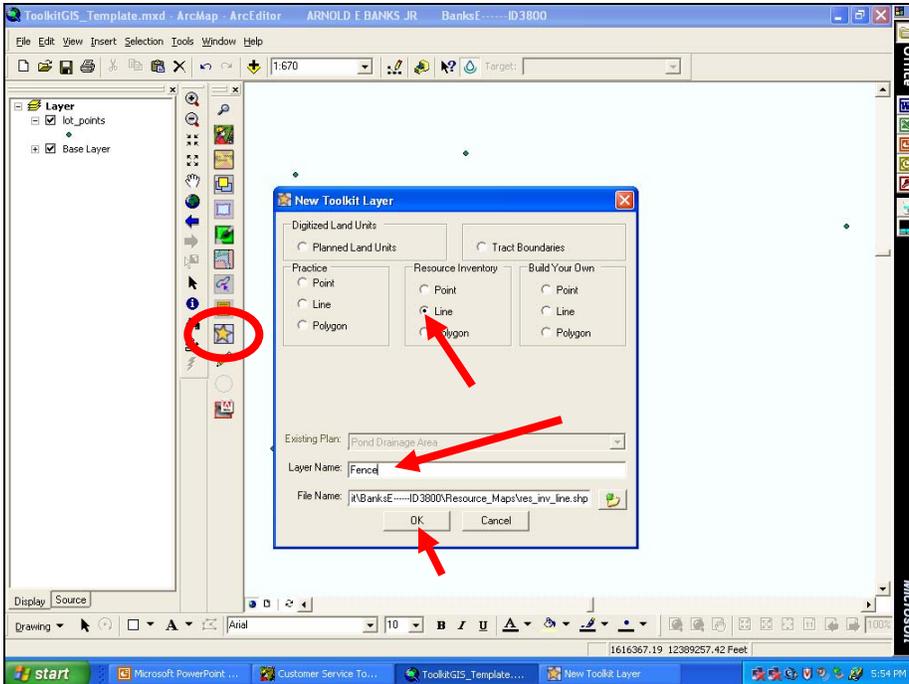
Add an aerial photo by clicking the add data button.

Navigate to the location where your digital ortho photography is stored.

Select the aerial photography and click Add.



The aerial photography is added.



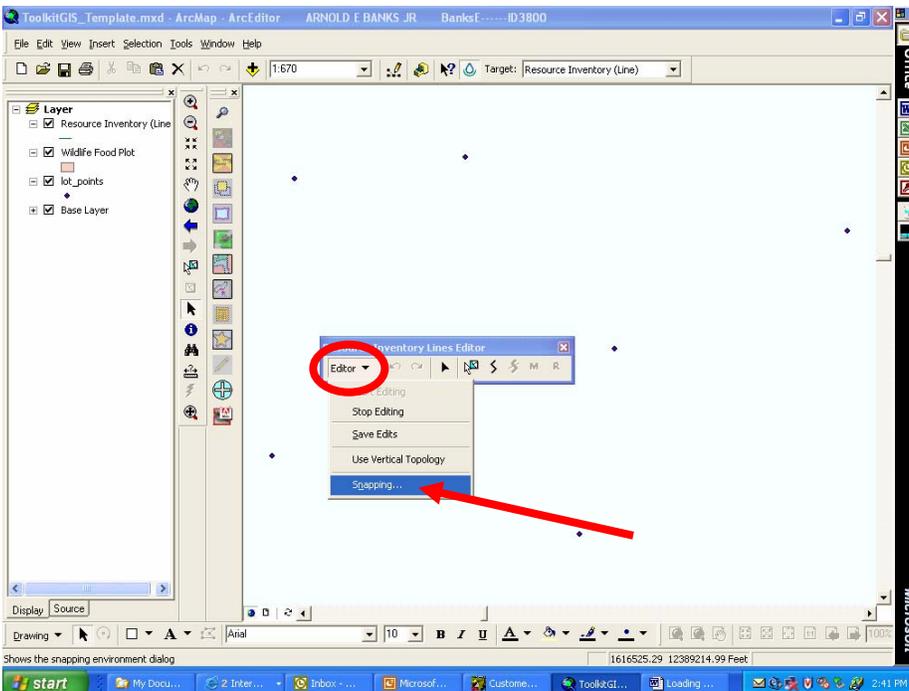
If you need to use the points to calculate a distance, you will need to create a line.

Click the New Toolkit Layer button.

Select the Resource Inventory Line button.

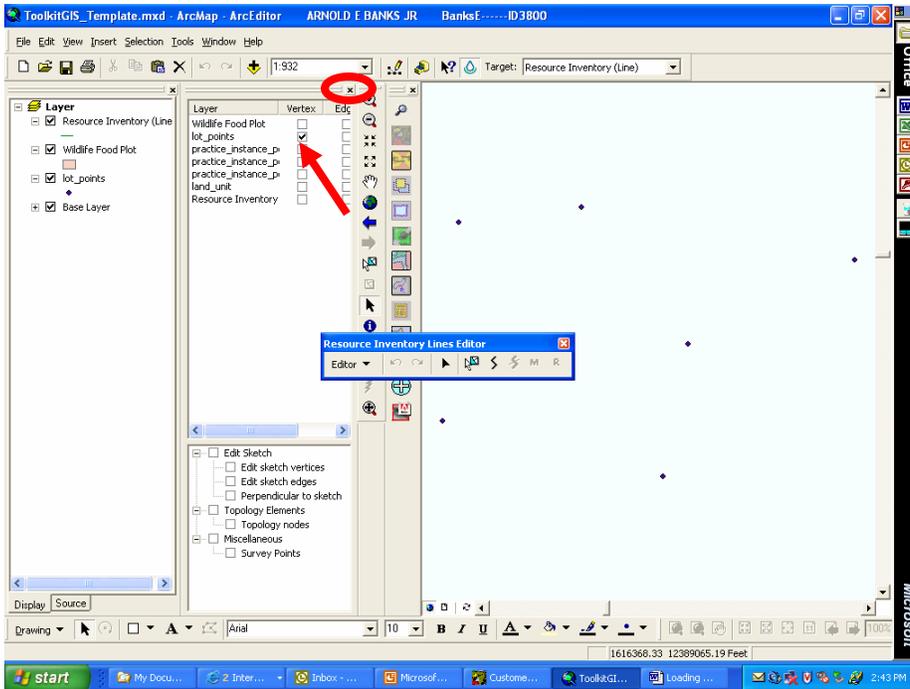
Give the layer a meaningful name.

Click OK.

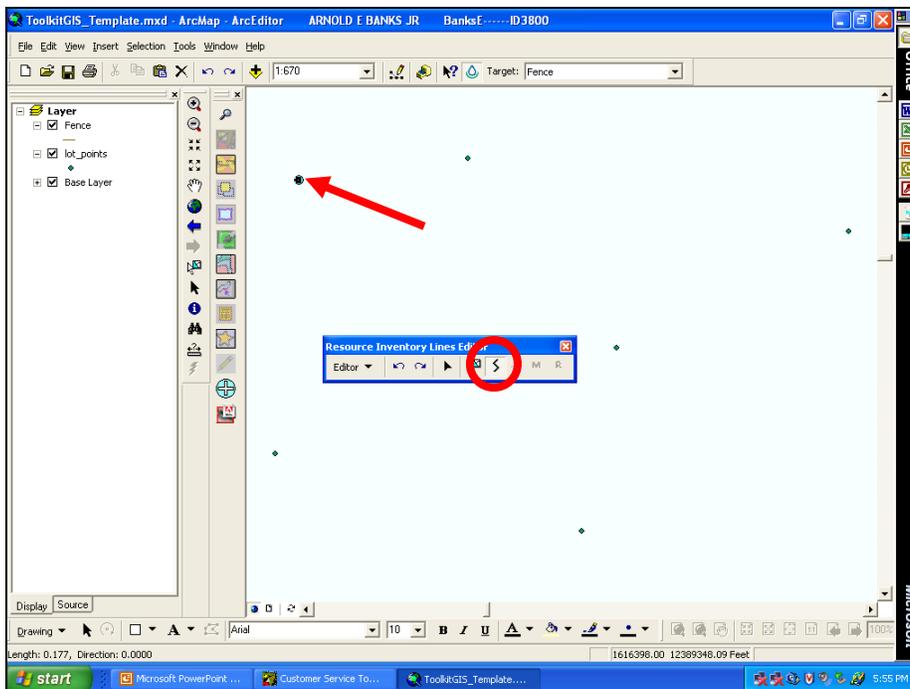


The Resource Inventory Line Editor toolbar will appear.

To make it easier and more accurate to click on the exact center of the points, turn on snapping by clicking the editor Drop down button and clicking Snapping.



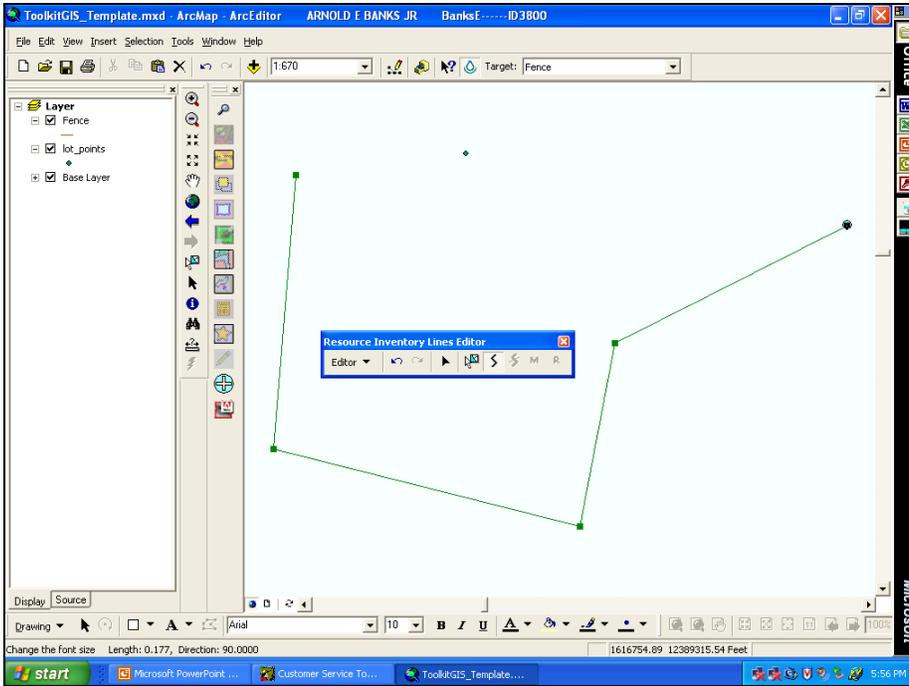
The snapping window appears, click to put a check mark in the box next to the layer that you want the polygon to snap to. In this case the point layer. Close the snapping window by clicking the small X in the upper right hand corner of the window.



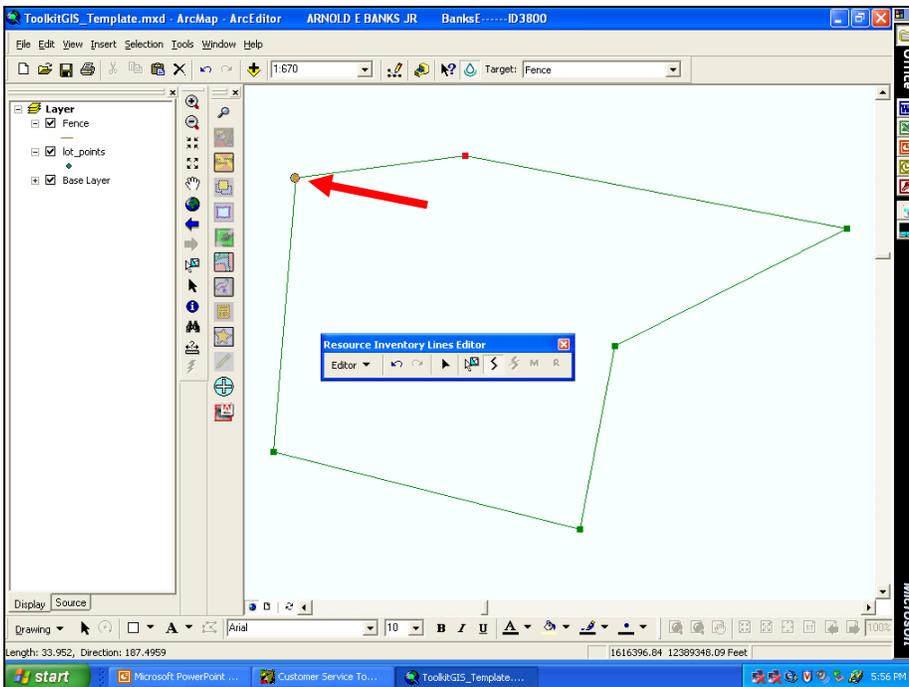
Click the add line tool.

Click the first point to start the line.

Notice with snapping turned on when you get close to the point it automatically goes to the center of the point.

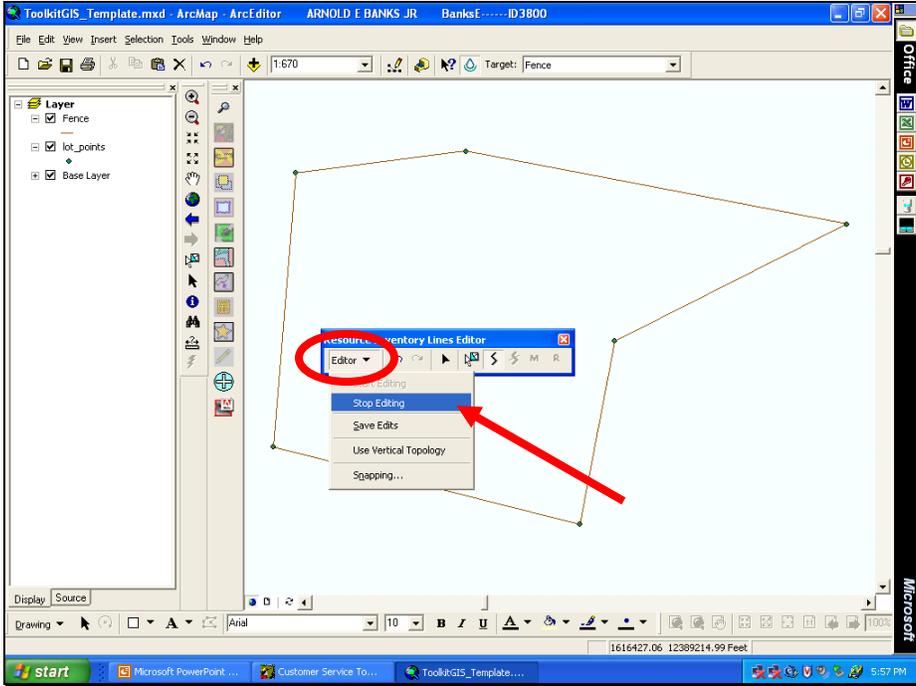


Continue to click on the points as you go around the line.



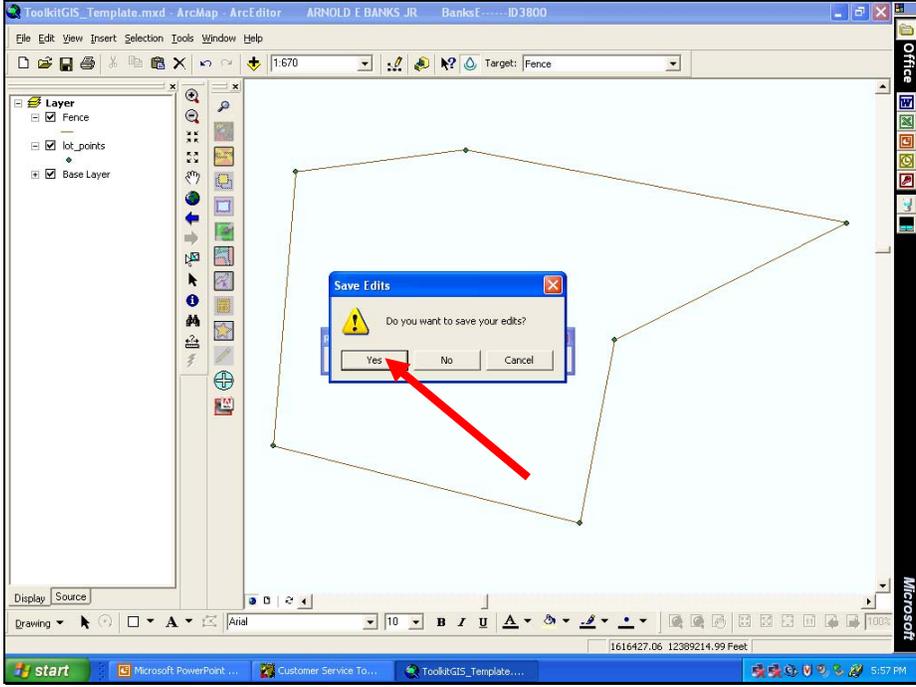
Double click on the beginning point to create the line.

Note: if you are digitizing a line you should double click on the same point that you started with to close the line.

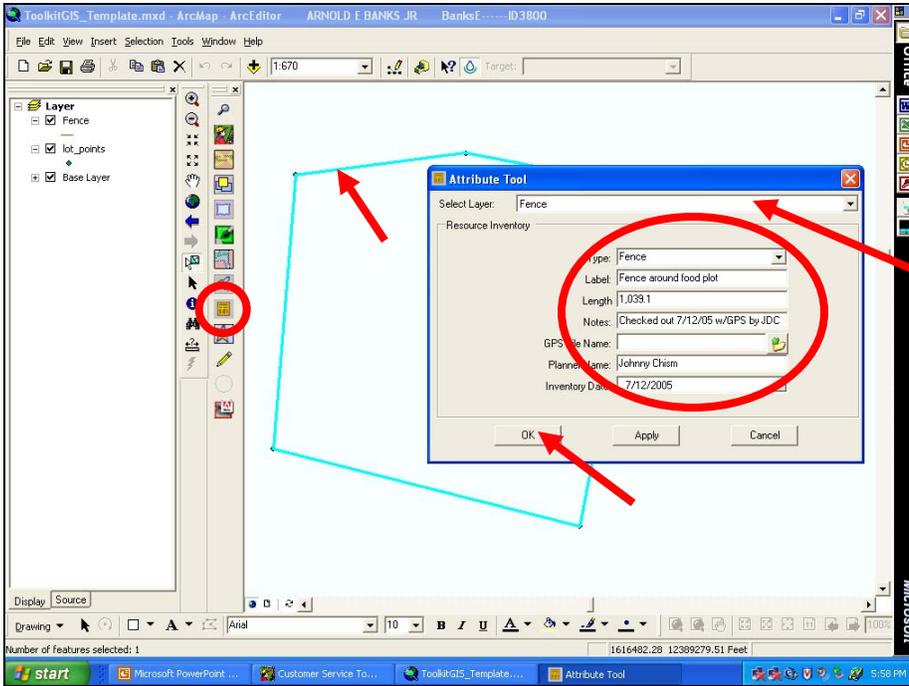


The line will be created.

Click the Editor Drop Down button and click Stop Editing.



Click yes to save edits.



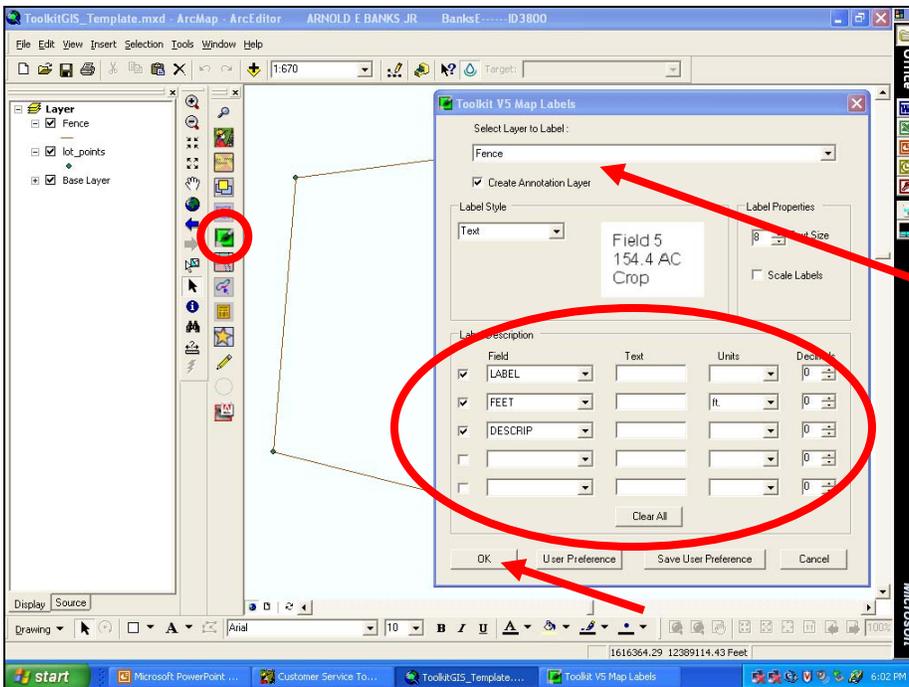
Once the line is created you can use the attribute tool to enter information about the line.

Click the attribute tool on the Toolkit toolbar.

Choose the layer you just created.

Click on the line to select it (it will be highlighted with a light blue line).

Enter a Label and Notes. The length is automatically calculated. Click OK to save your information.

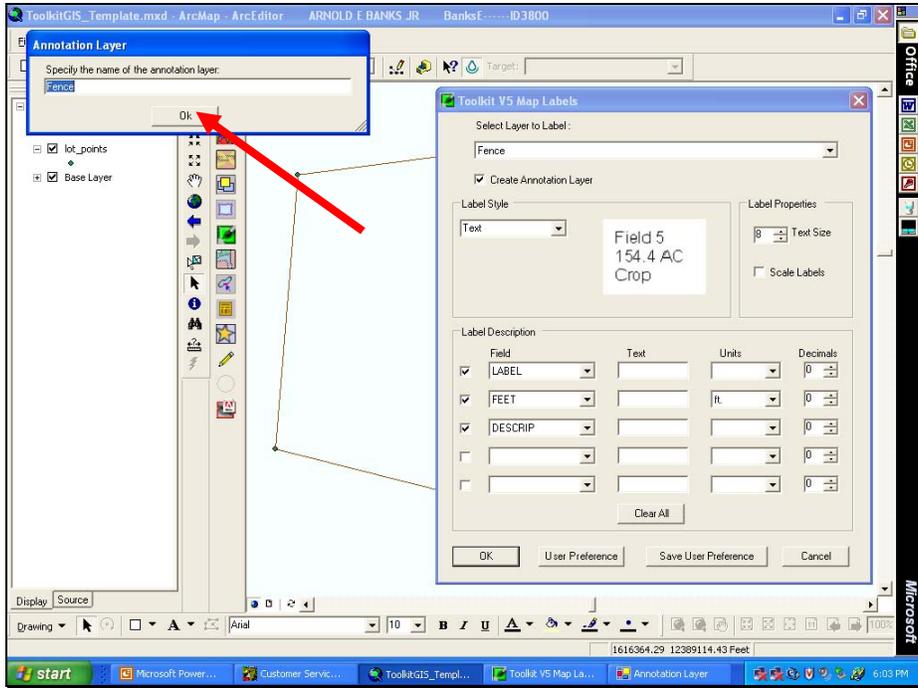


Once the line is attributed, you can use the label tool to label the line.

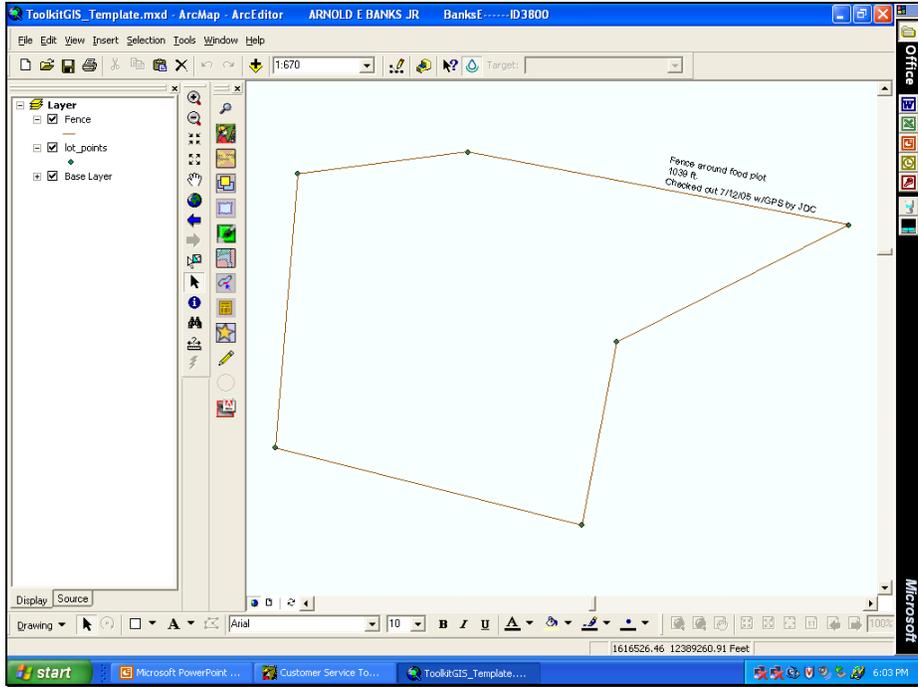
Click the Map Labels tool on the toolkit toolbar.

Select the layer to label.

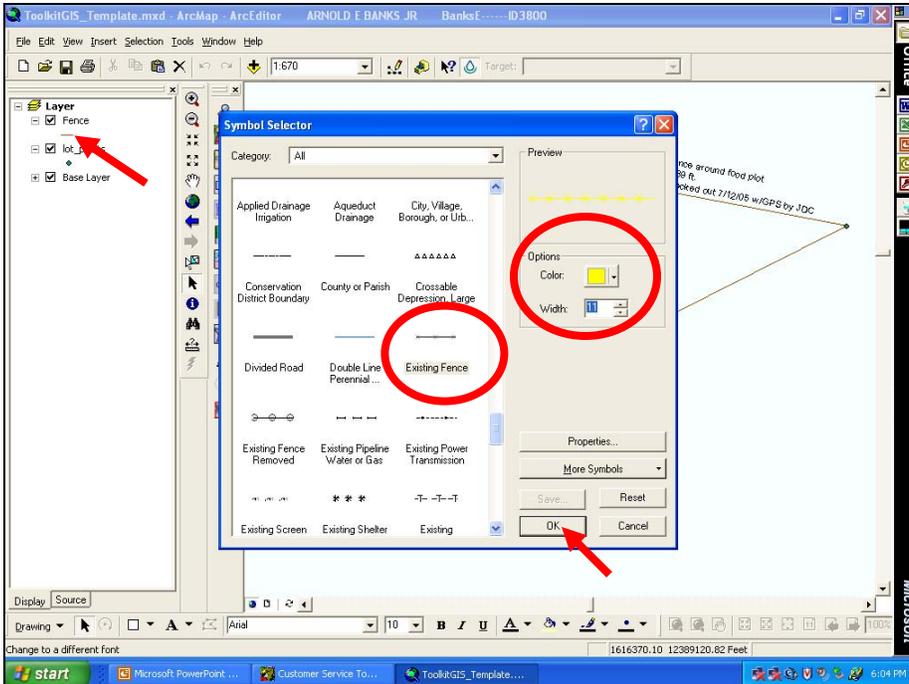
Choose the label information you wish to use. Then click OK.



Accept the default Annotation Layer name by clicking OK.



The line is labeled.

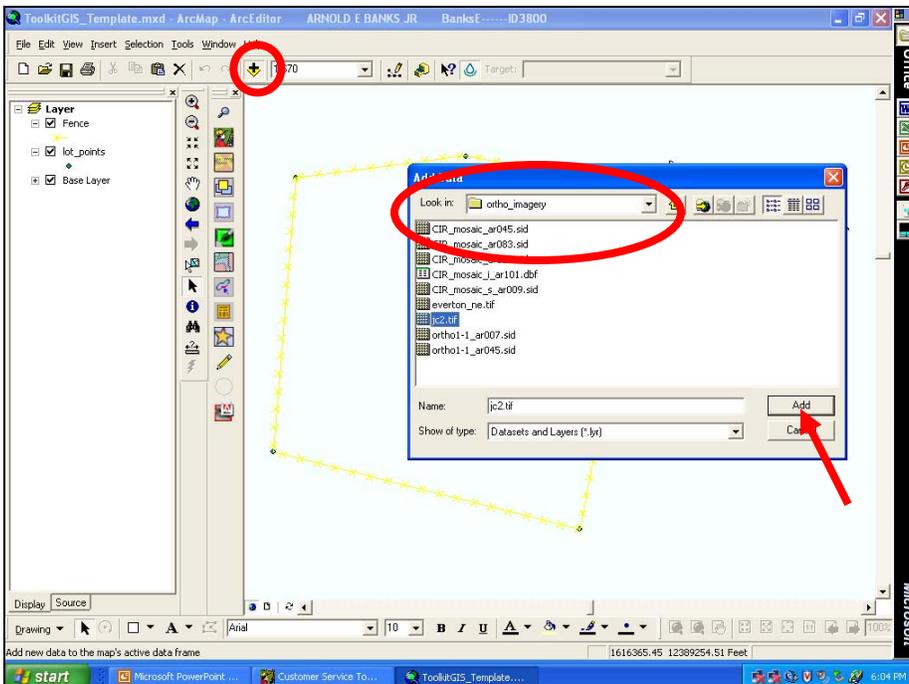


If you would like to change the symbol for the line, double click on the symbol in the table of contents.

Scroll down and choose the existing fence symbol. Note: if the existing fence symbol is not found, click the More Symbols button, and Click NRCS Planning.

Change the color, and width.

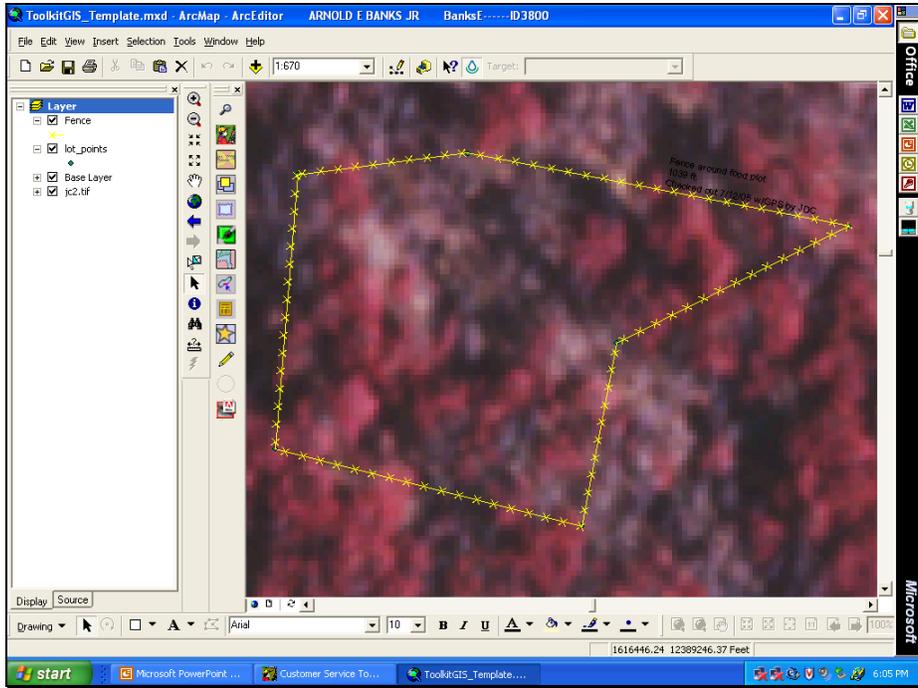
Click OK.



Add an aerial photo by clicking the add data button.

Navigate to the location where your digital ortho photography is stored.

Select the aerial photography and click Add.



The aerial photo is added.

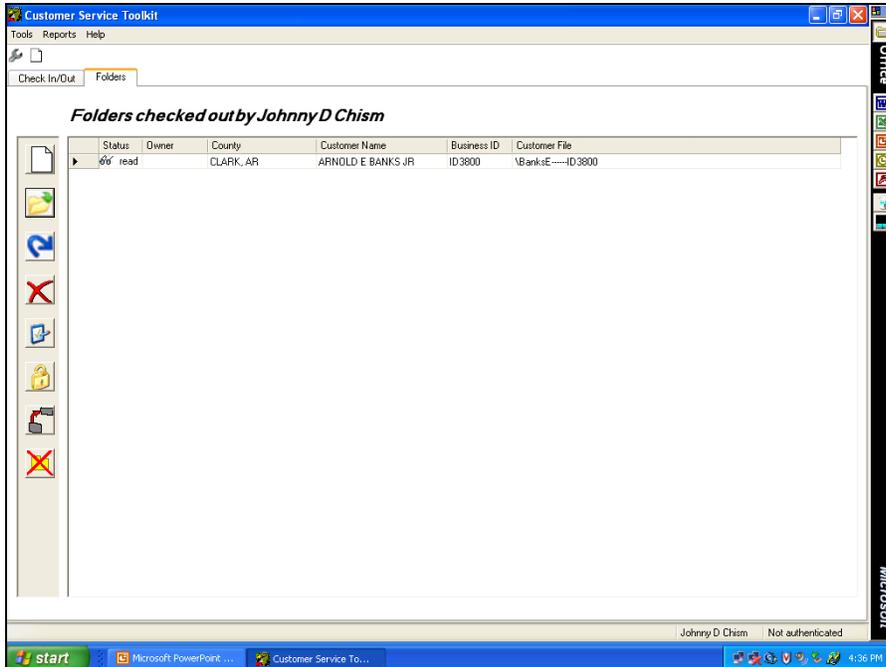
Loading Tracks from a Garmin Map 76 to Toolkit 2004

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Using DNR Garmin 4.4.2 and
ArcMap 8.3



The first step in transferring tracks from the Garmin is to have a place to put them. Start Customer Service toolkit.



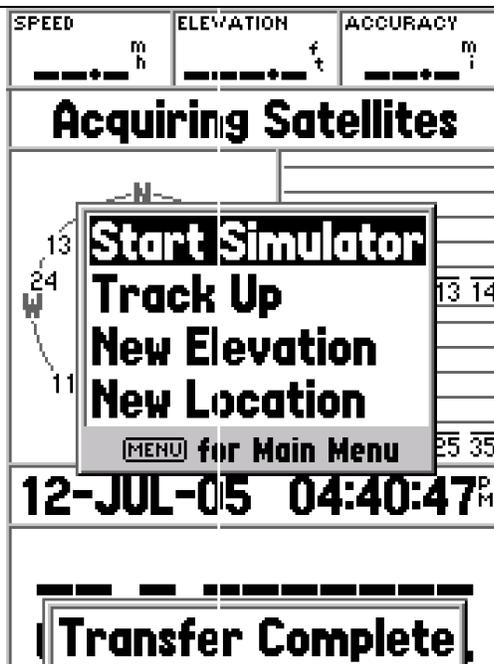
Check out the customer that you need to work with, so the customer folder in which to save the files, will be present on your computer. After the customer is checked out on your computer, close Toolkit.



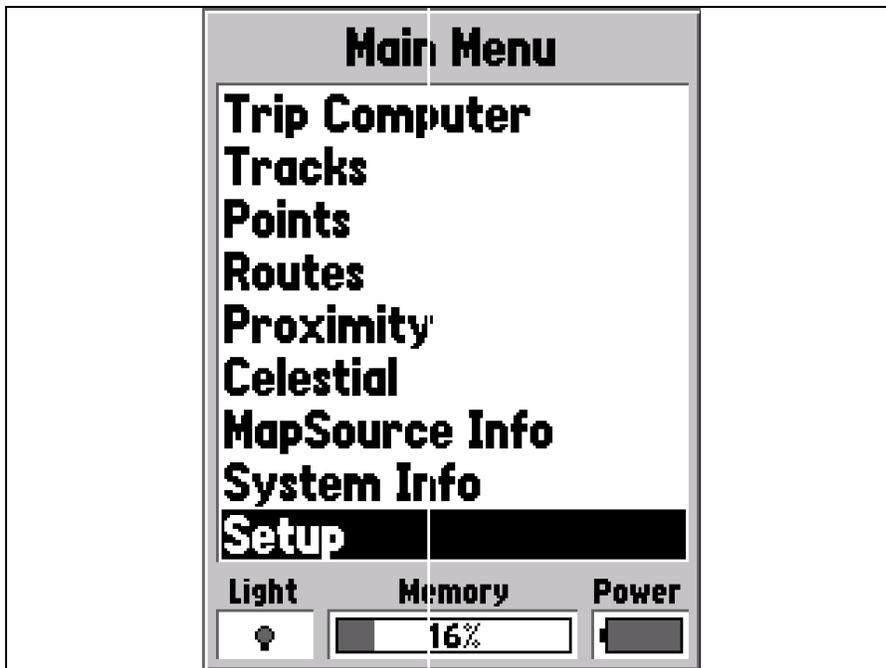
Locate the Garmin data cable and connect the round end to the Garmin and the 9 pin end to the serial port on your computer.



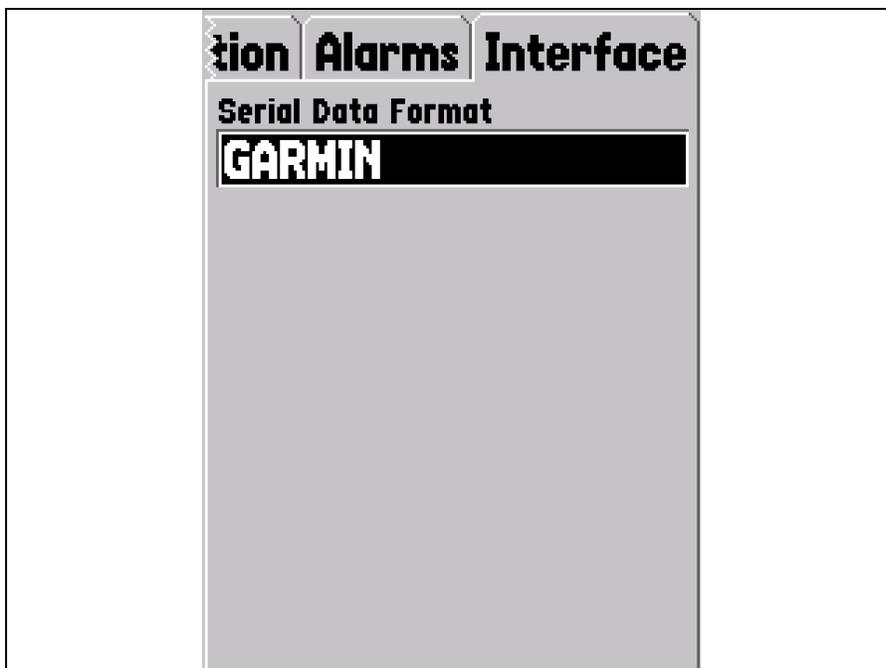
Turn on the Garmin Map 76 and press the page button 3 times.



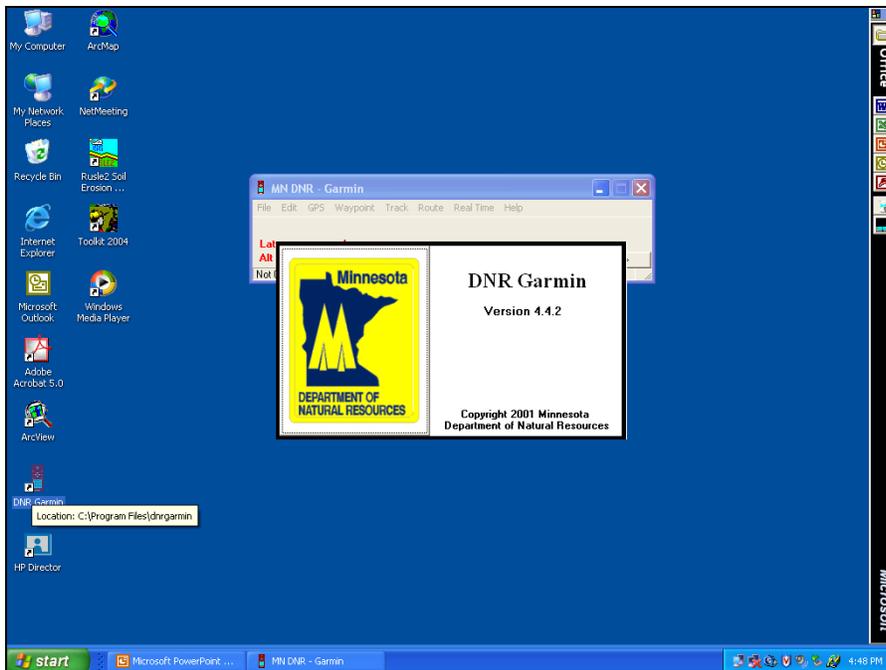
On the satellite page, press the menu key then choose Start Simulator and press the enter key.



To check that the proper interface is set to communicate with the computer, press the menu key twice to access the Main Menu. Scroll down to Setup and press the enter key.

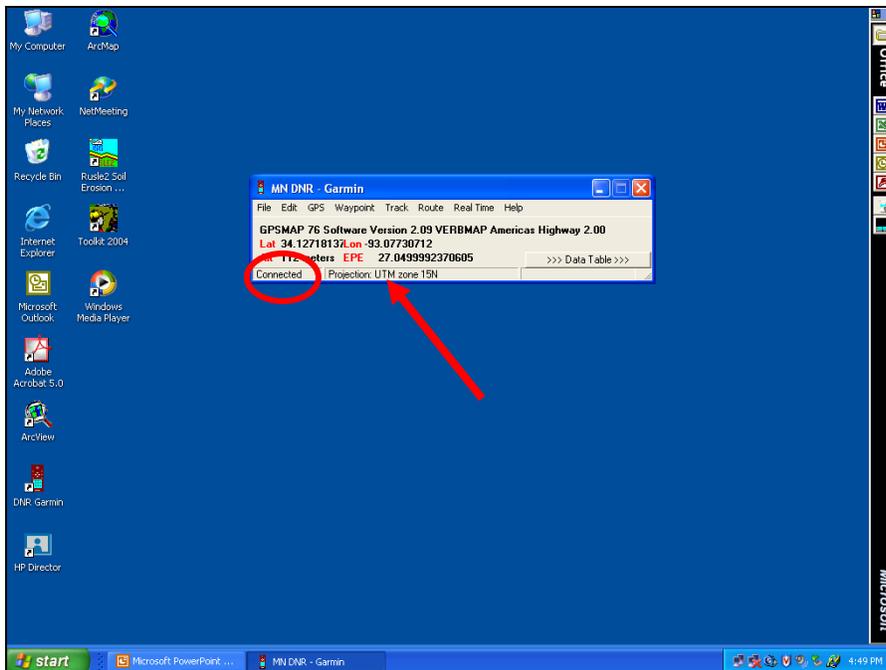


Scroll once to the left (or 5 times to the right) to access the Interface tab. Make sure the Serial Data Format is set to Garmin.



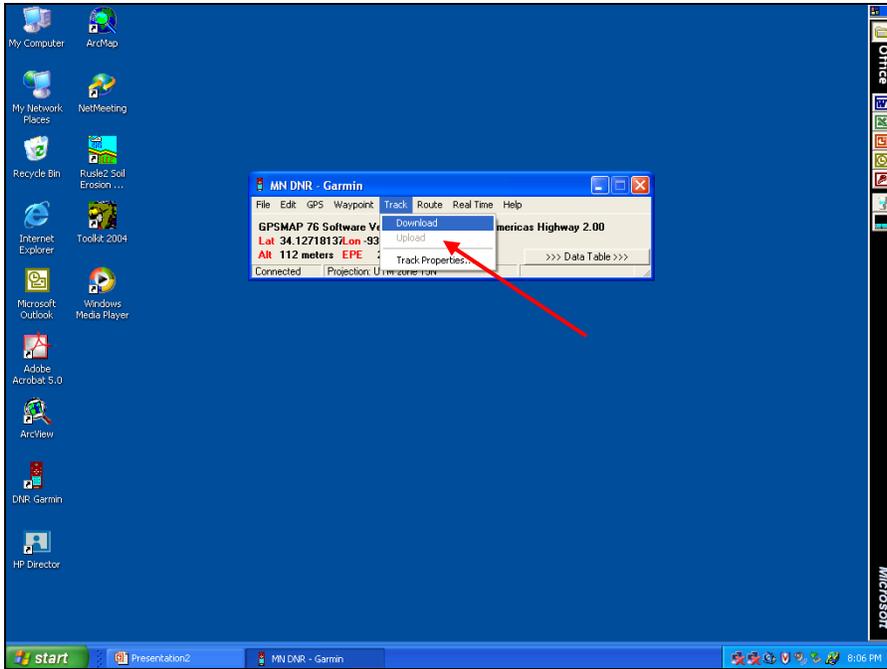
On the computer click the icon for DNR Garmin. Version 4.4.2 should be installed.

Note: if version 4.4.2 is not installed contact your IT support. Older versions will still function but the instructions in this document may not correspond exactly to what appears on your computer.

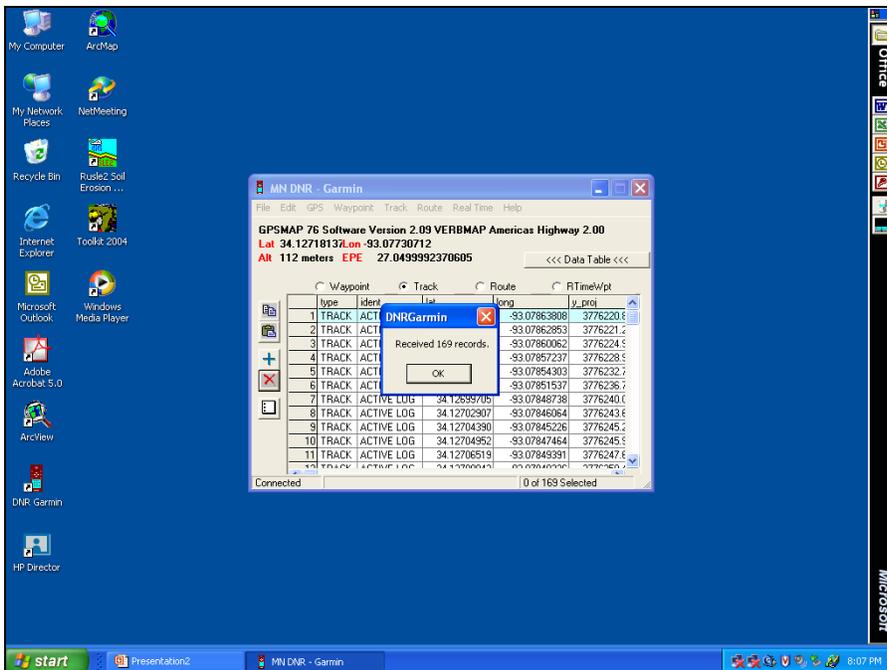


If everything is set correctly, the status should show connected after a few seconds.

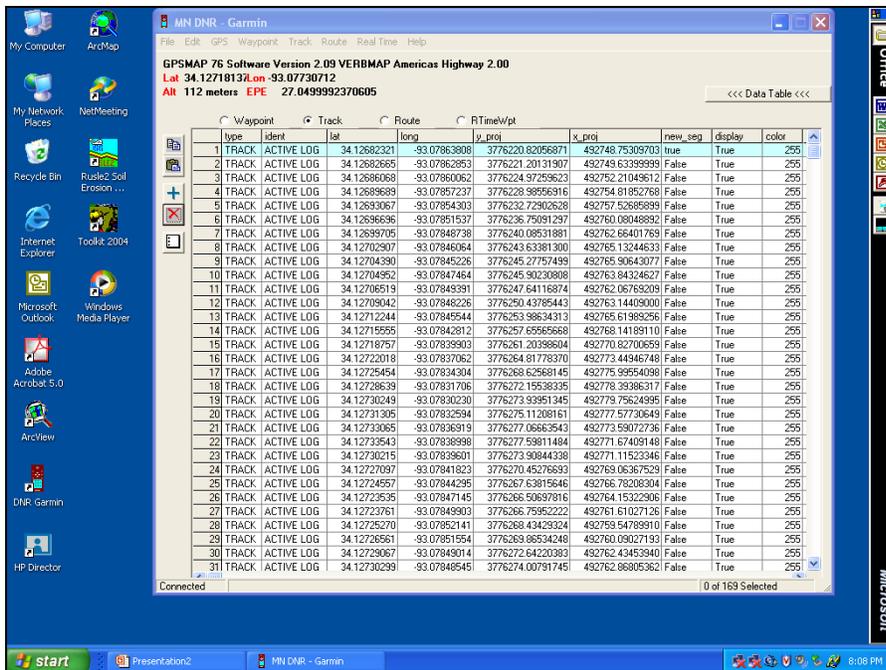
Check the projection, it should be UTM Zone 15N. If it is not click on File, Set Projection and choose UTM Zone 15.



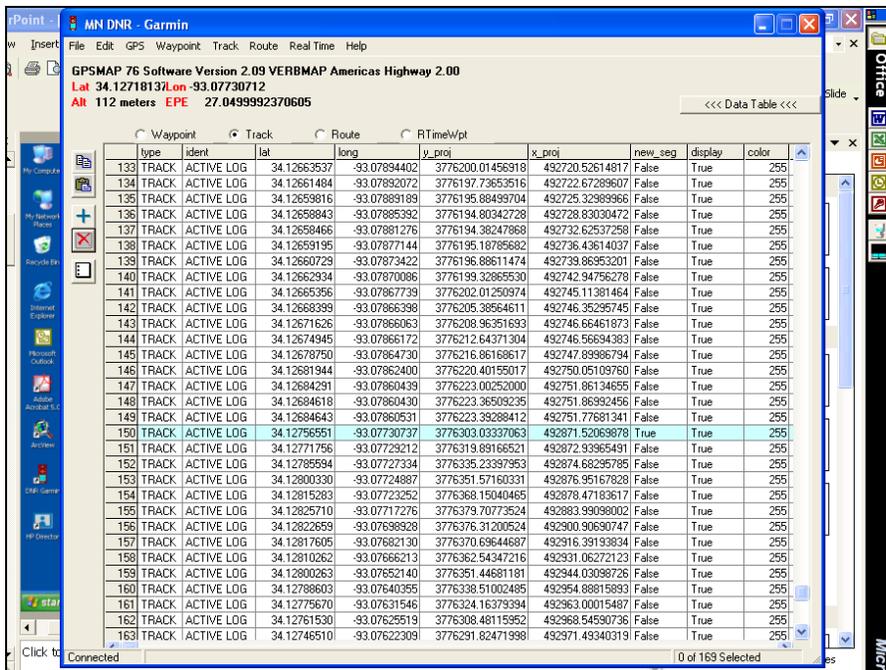
To download tracks, click Track, then Download on the menu bar.



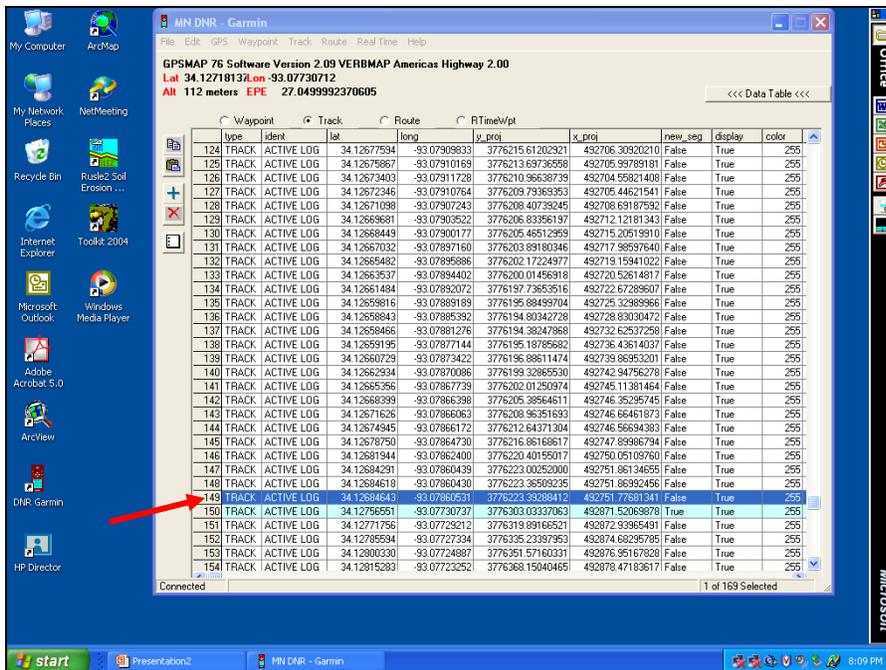
All the points stored in your Garmin should appear.



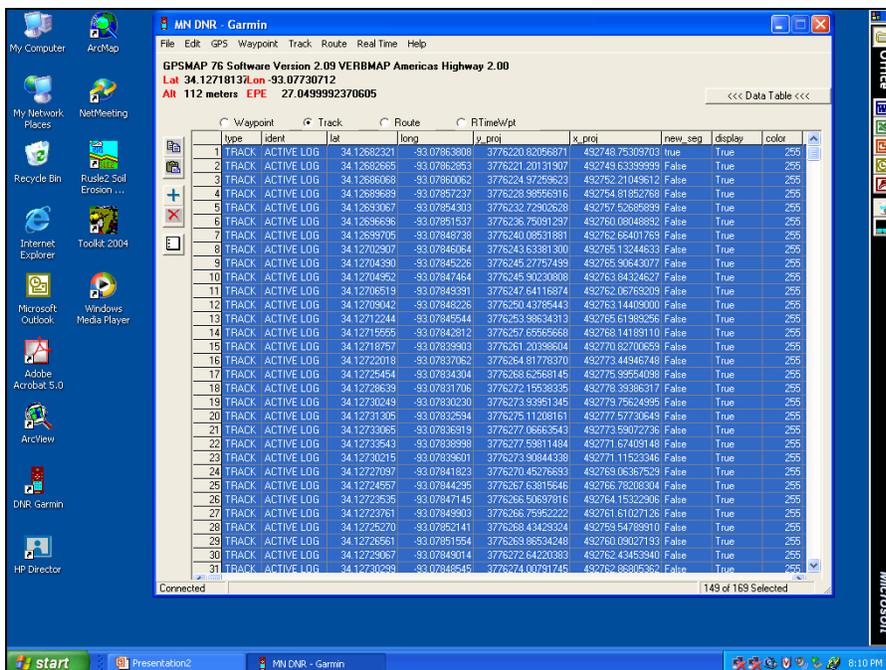
It is helpful to enlarge the window. Note the first point of each track appears highlighted in light blue.



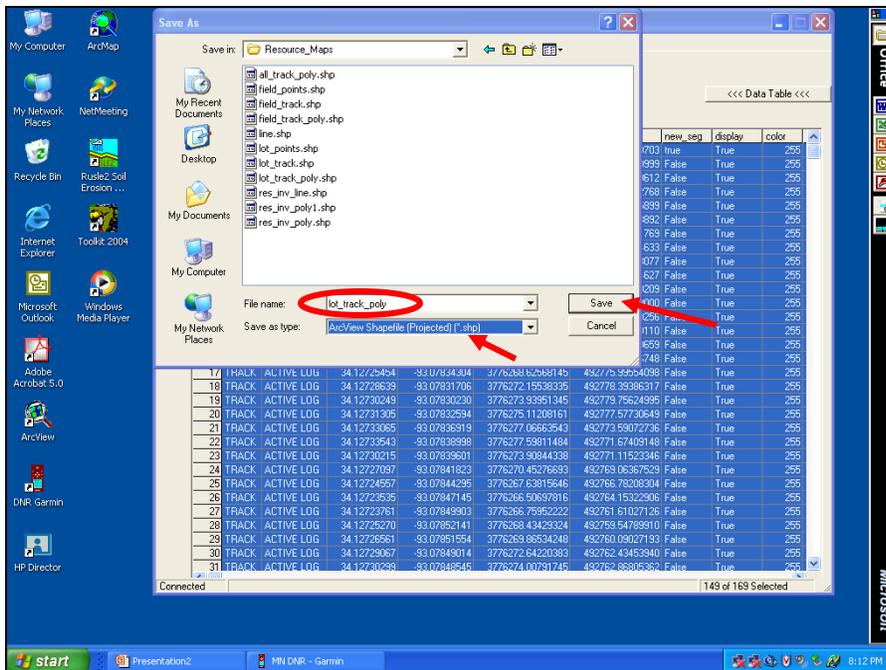
Notice the first point in the second track is highlighted in light blue. This is important if you want to load individual tracks.



Click the row number button for the last point in the first track. The selected row will be highlighted in blue.

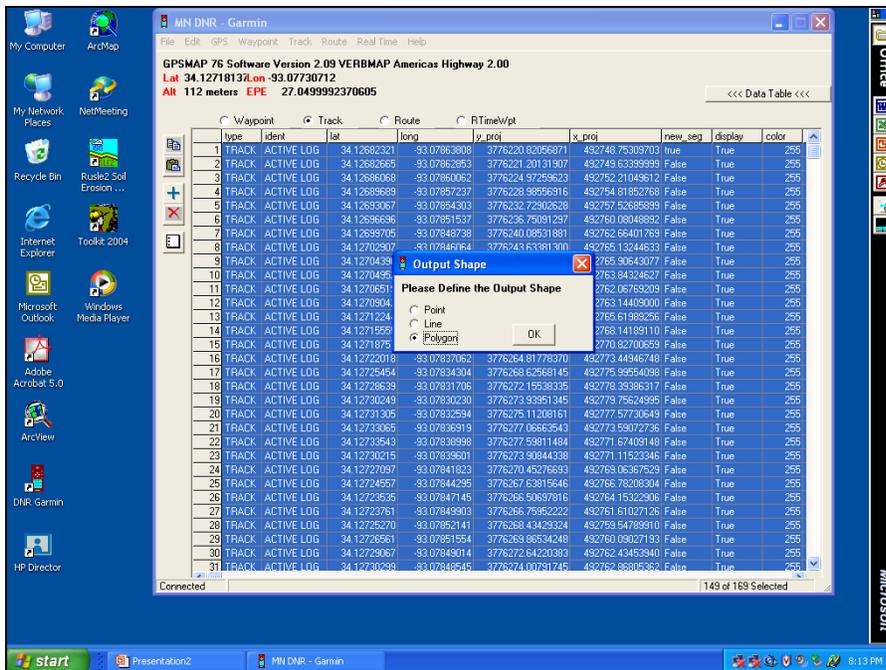


Scroll up and hold down the shift key, click on the first point. Now all points in the first track are selected.

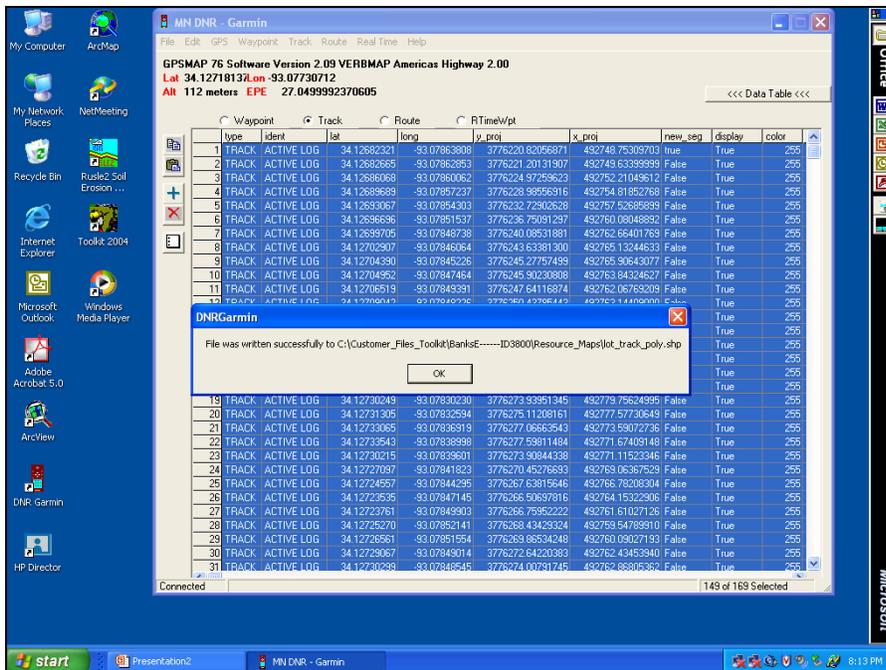


Type in a meaningful filename, such as lot_track_poly. Note: DO NOT USE SPACES IN THE FILENAME!

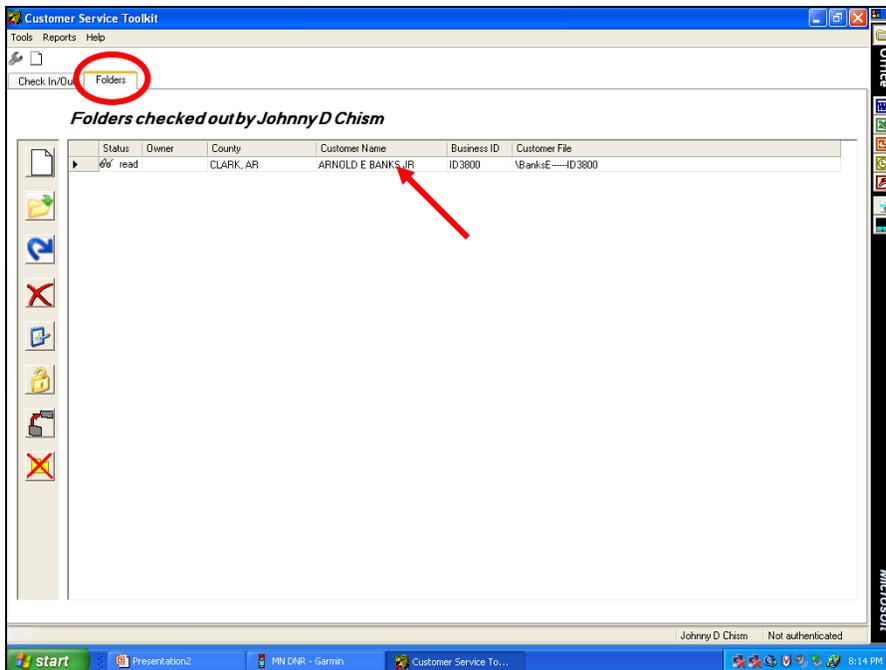
VERY IMPORTANT: Choose ArcView Shapefile (Projected) in the save as type entry field. Click Save.



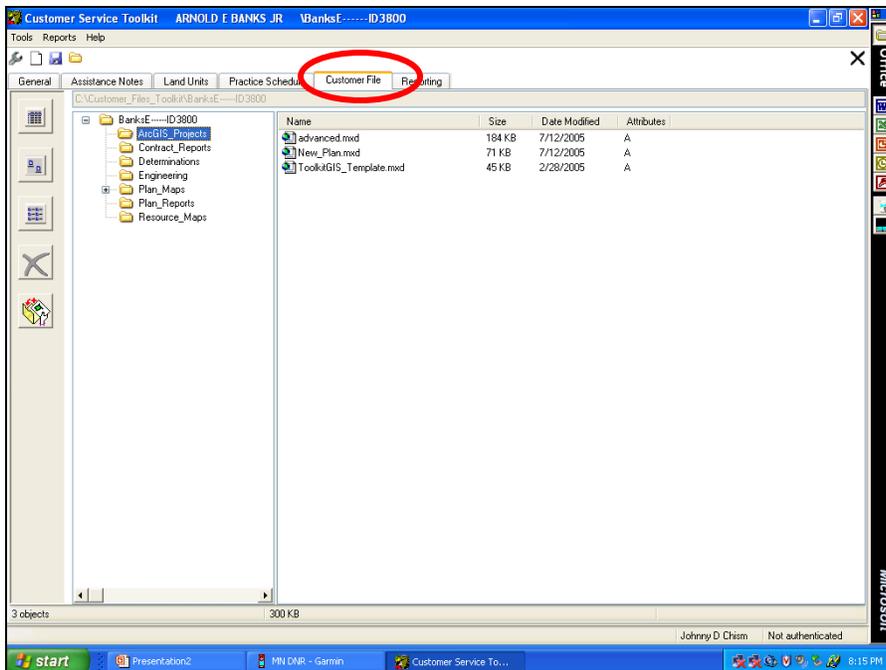
You have the choice on whether to save the track points as points, lines or polygons. For more information on when to use the different ones see the examples at the end of this document. For most tracks you will probably want to use polygons.



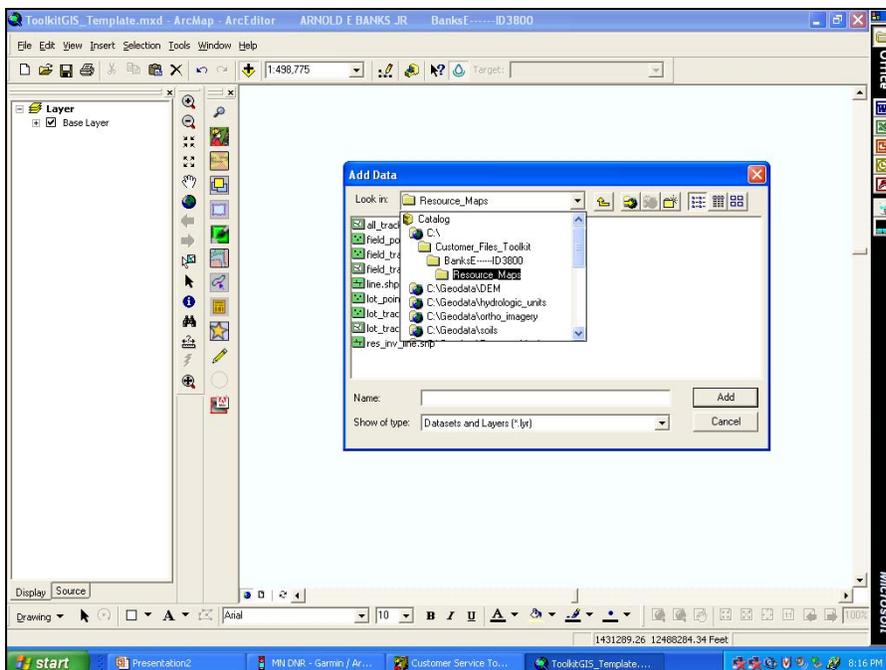
You will get a message that the file was successfully written. Click OK. At this point, you can close or minimize DNR Garmin.



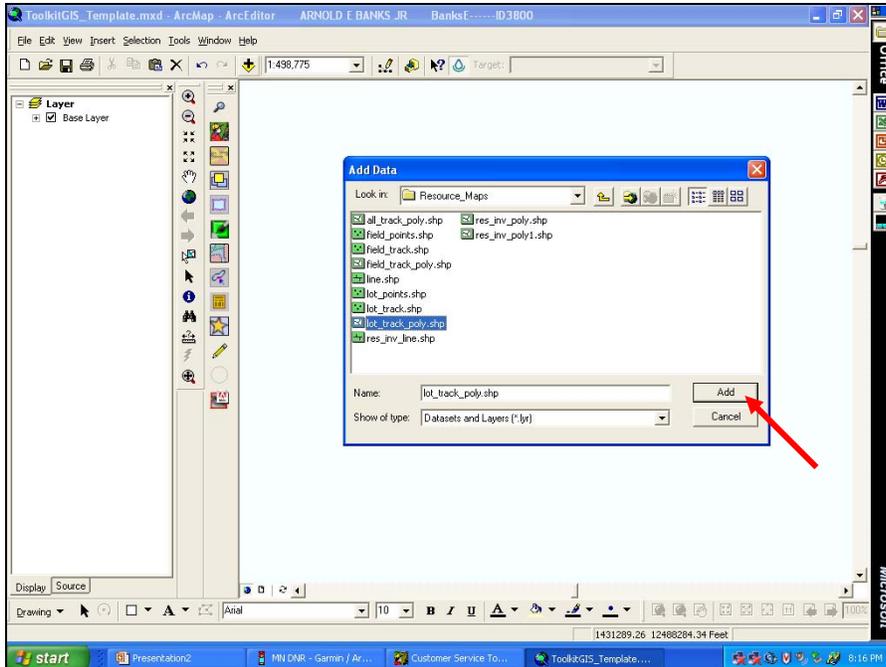
Start Customer Service Toolkit. Click on the folder tab. Then double click on the customer's name to open the customer folder.



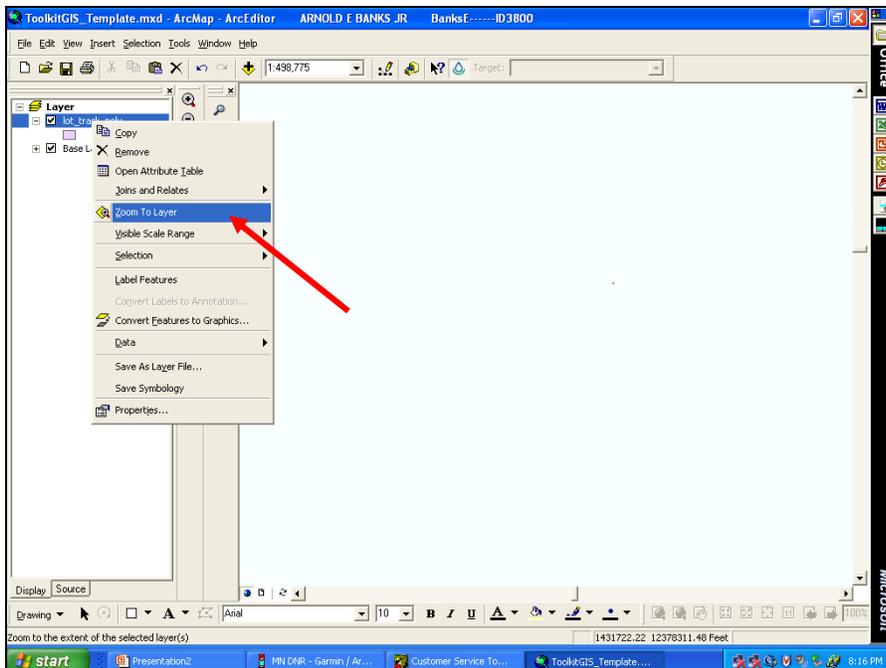
Click on the Customer File tab.
 Click on the ArcGIS Projects folder.
 Then double click on the ArcMap Document you want to open.



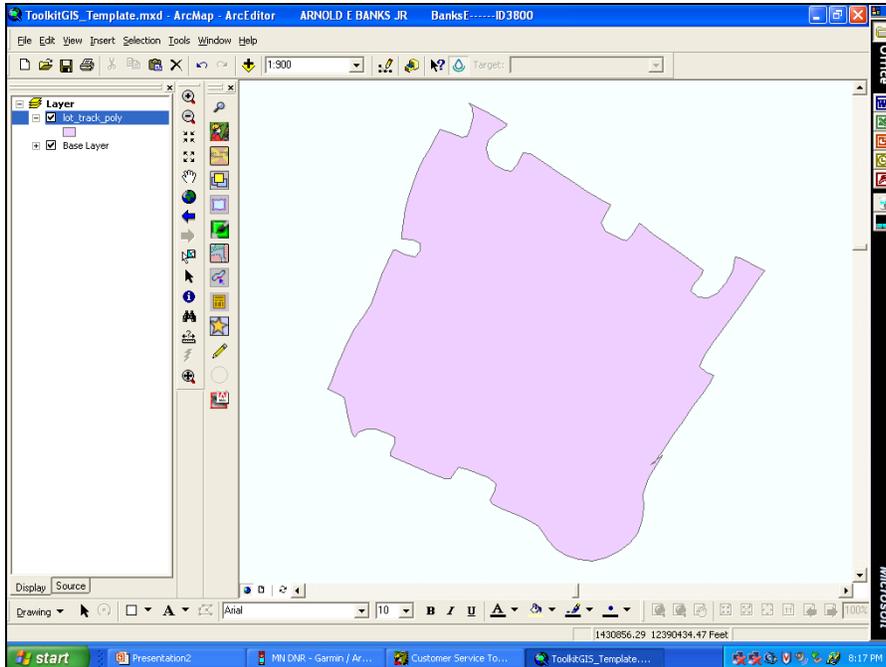
The ArcMap Document opens with no data entered.
 Click the Add Data button.
 Navigate to the folder in which you saved the shapefiles.



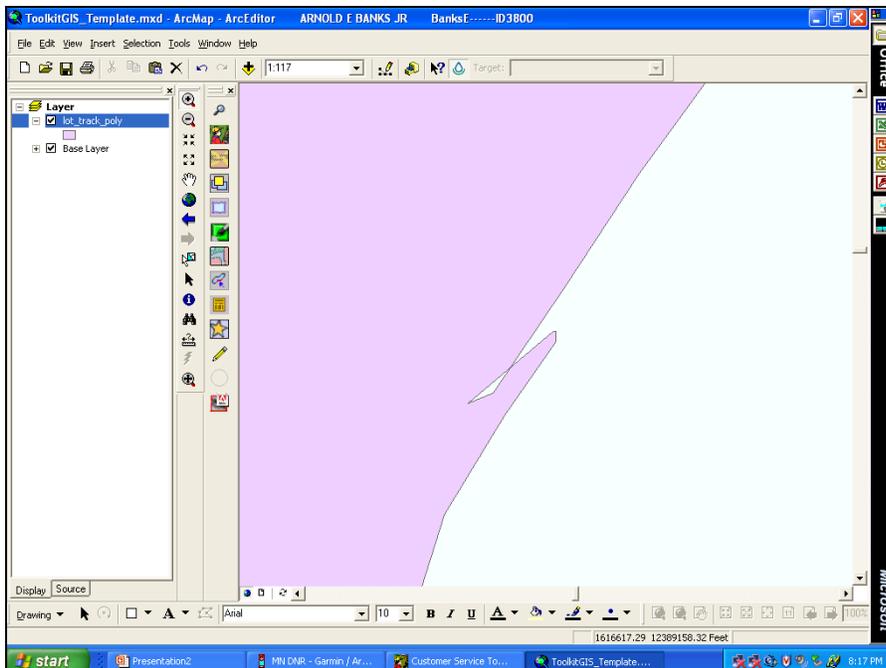
Select the shapefile you wish to add and click Add.



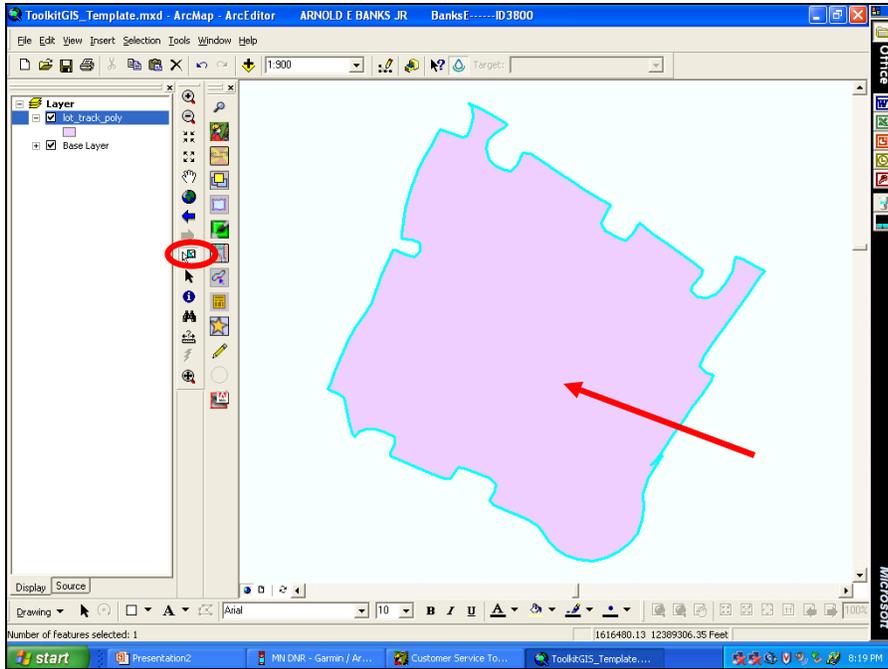
Depending on the Scale, you may not be able to see the points. Right click on the layer name you just added and click Zoom to Layer.



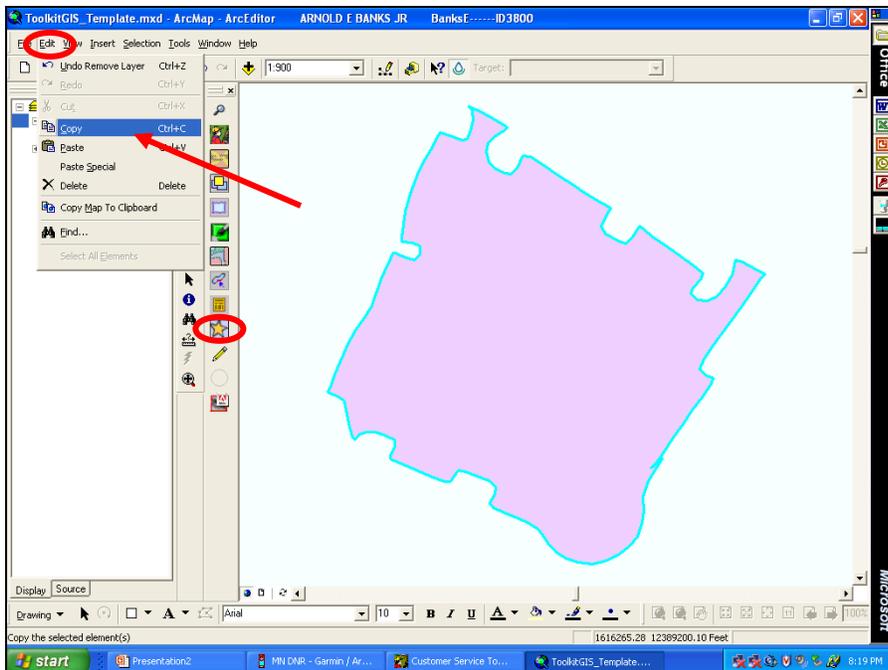
The polygon is added.



Notice the loop in the polygon. This loop occurred because the tract was started and ended near the same point and the points overlapped. For this reason, it is a good idea to end tracts as soon as you get within a straight line of your beginning point. ArcMap will close the polygon with a straight line from the last point to the first point.

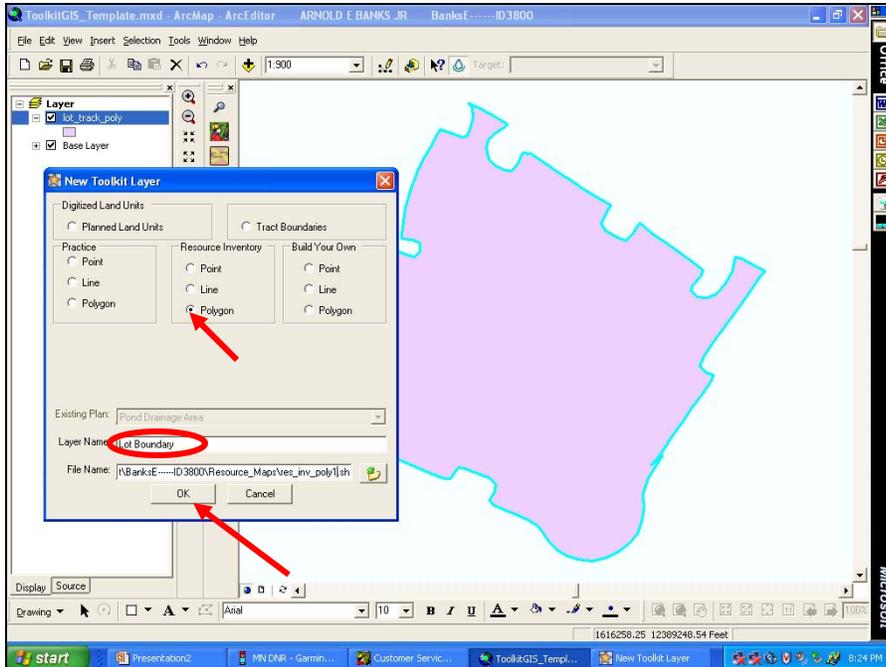


Use the select features tool and click within the polygon to select it.

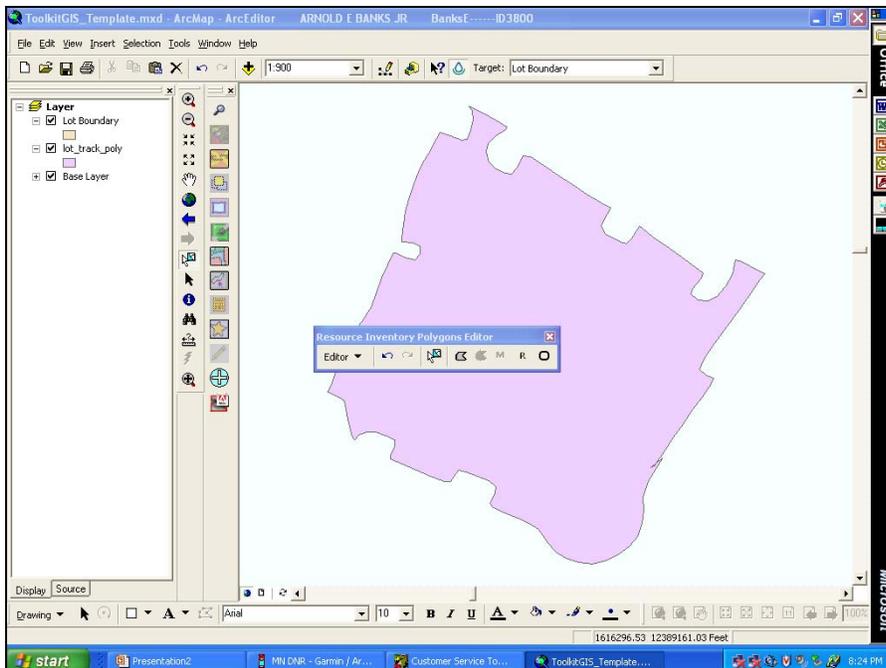


Click on Edit, then copy.

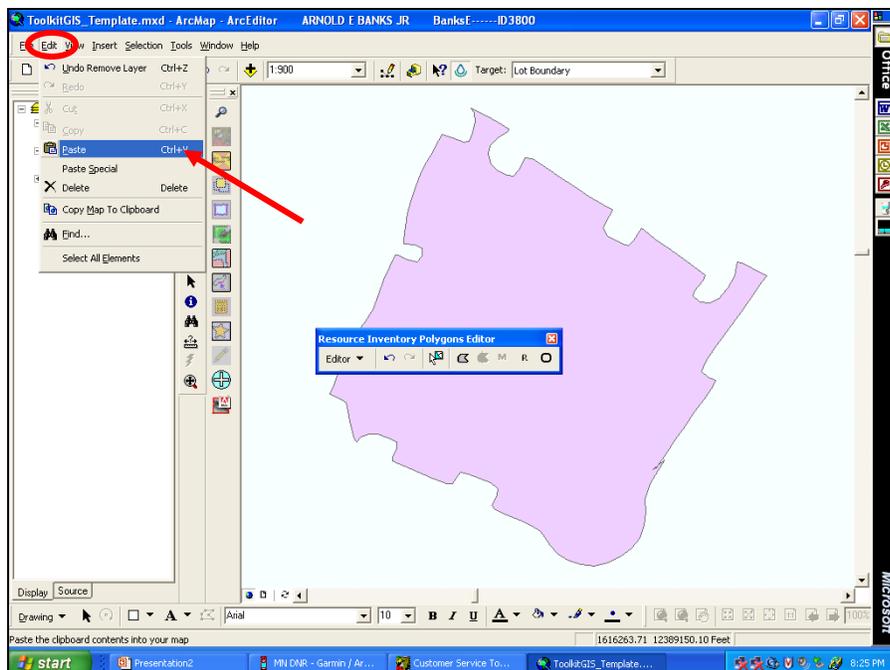
Click the New Toolkit Layer button on the Toolkit Toolbar.



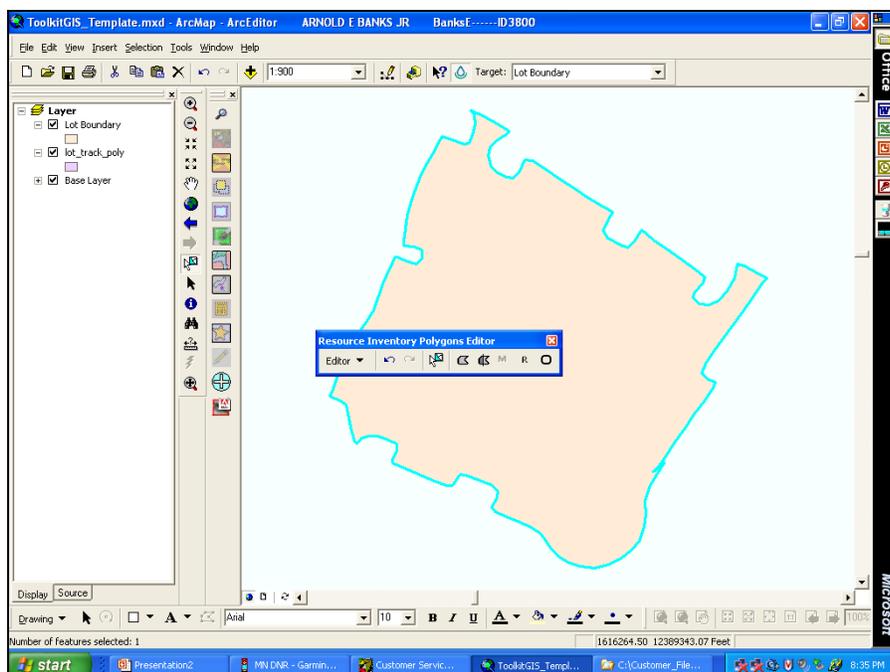
Select the Resource Inventory Polygon button.
Give the layer a meaningful name.
Click OK.



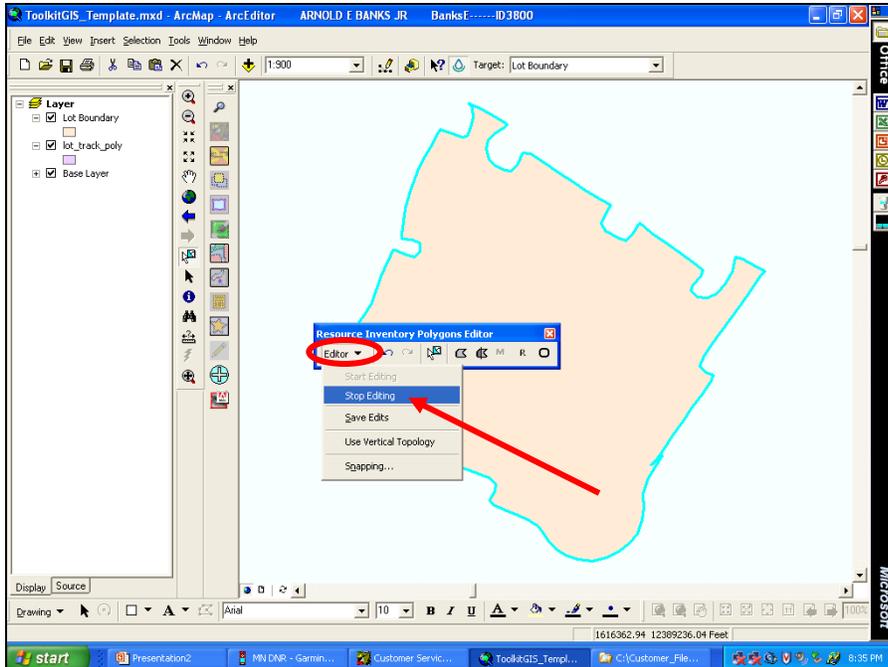
The Resource Inventory Polygon Editor toolbar will appear.



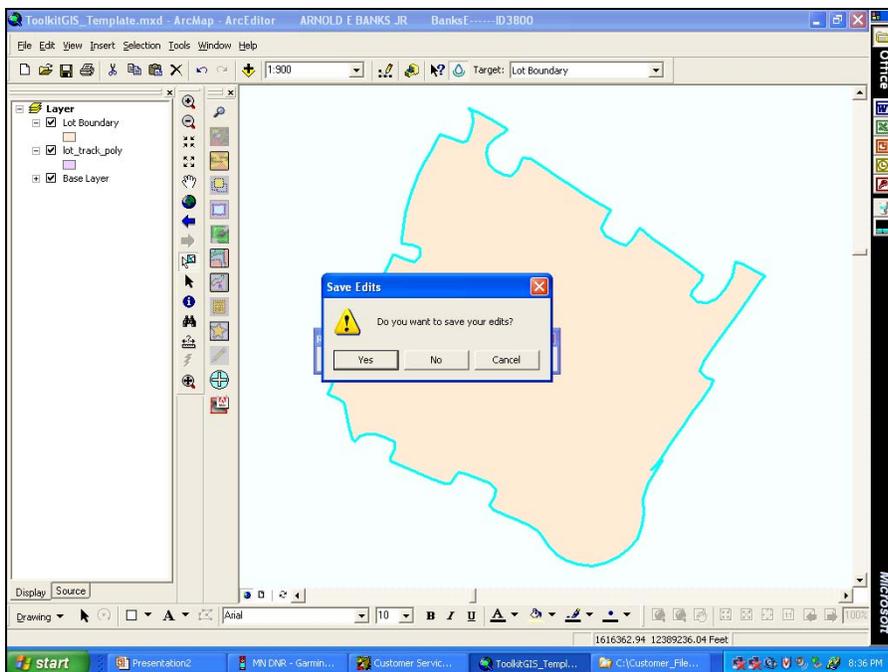
Click Edit, Paste.



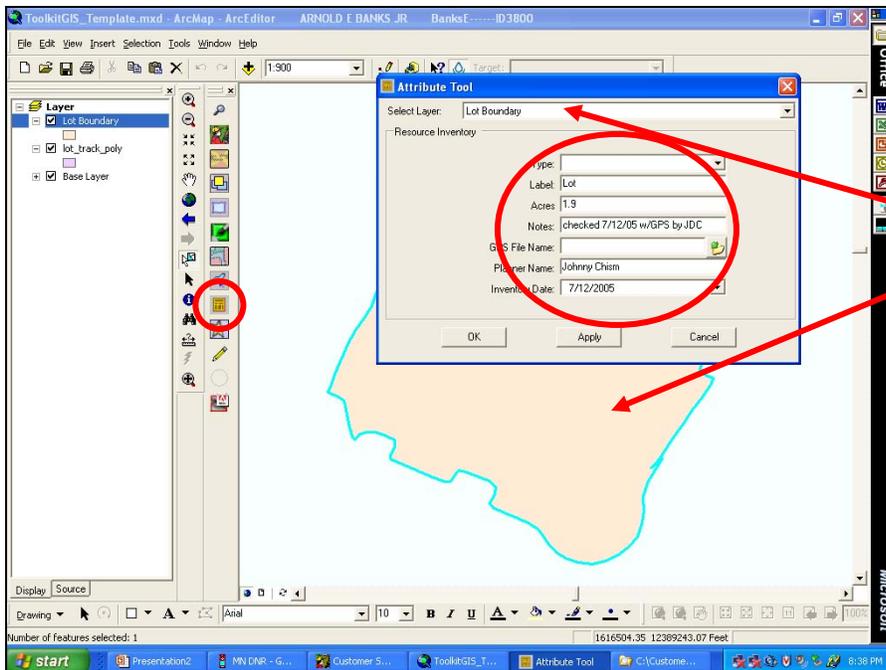
The polygon will be pasted into the Toolkit Layer.



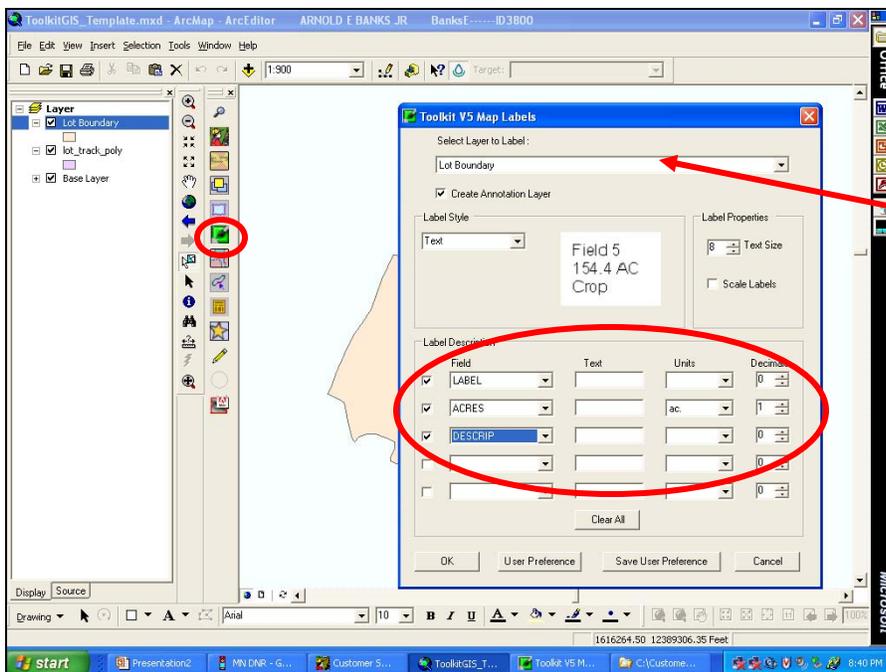
Click the Editor Drop Down button and click Stop Editing.



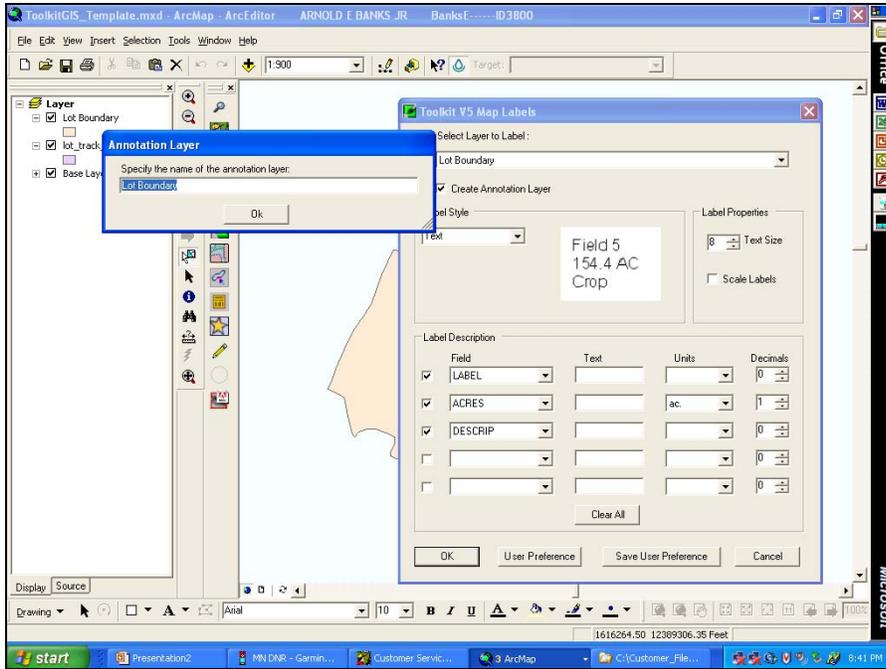
Click Yes to save your edits.



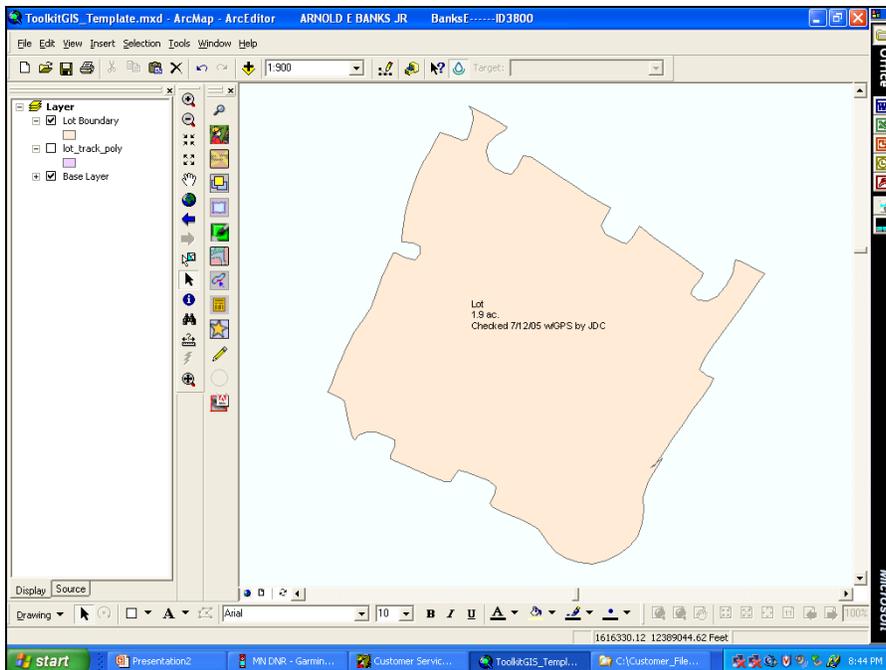
Once the polygon is created you can use the attribute tool to enter information about the polygon. Click the attribute tool on the Toolkit toolbar. Choose the layer you just created. Click in the polygon to select it (it will be highlighted with a light blue line). Enter a Label and Notes. The acres are automatically calculated. Click OK to save your information.



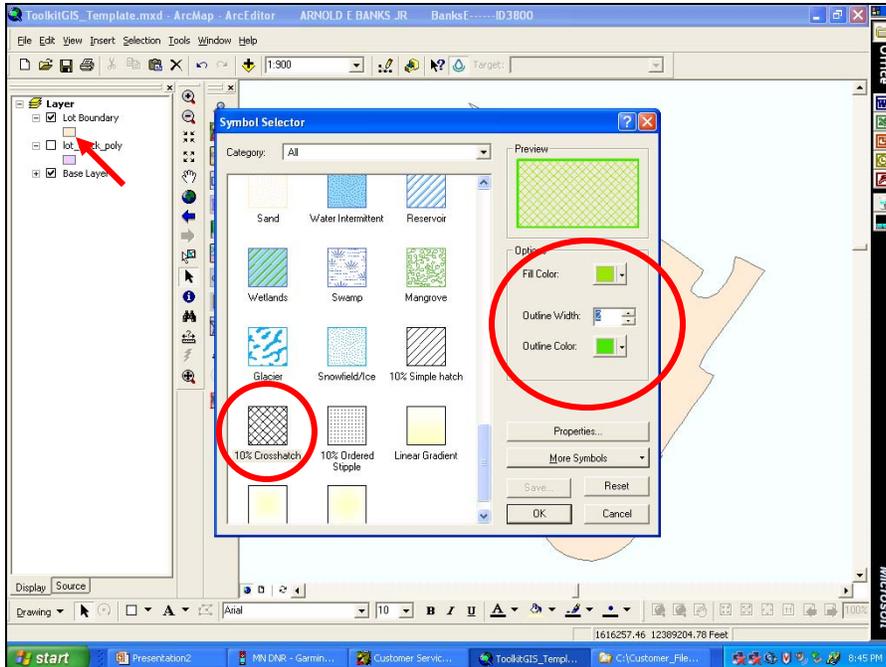
Once the polygon is attributed, you can use the label tool to label the polygon. Click the Map Labels tool on the toolkit toolbar. Select the layer to label. Choose the label information you wish to use. Then click OK.



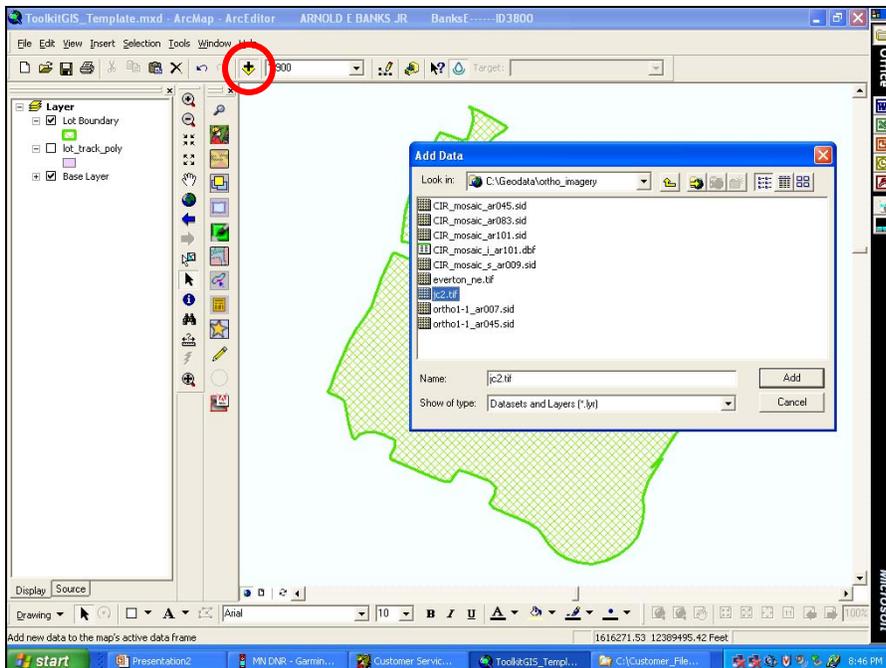
Accept the default Annotation Layer name by clicking OK.



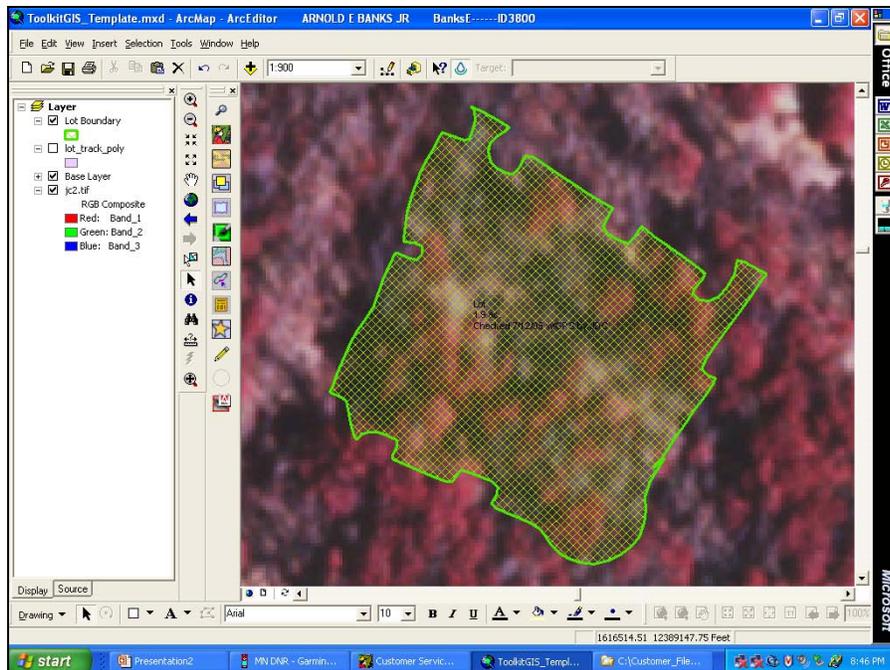
The polygon will be labeled.



If you would like to change the symbol for the polygon, double click on the symbol in the table of contents. Scroll down and choose the 10% crosshatch pattern. Change the fill color, outline width and outline color. Click OK.

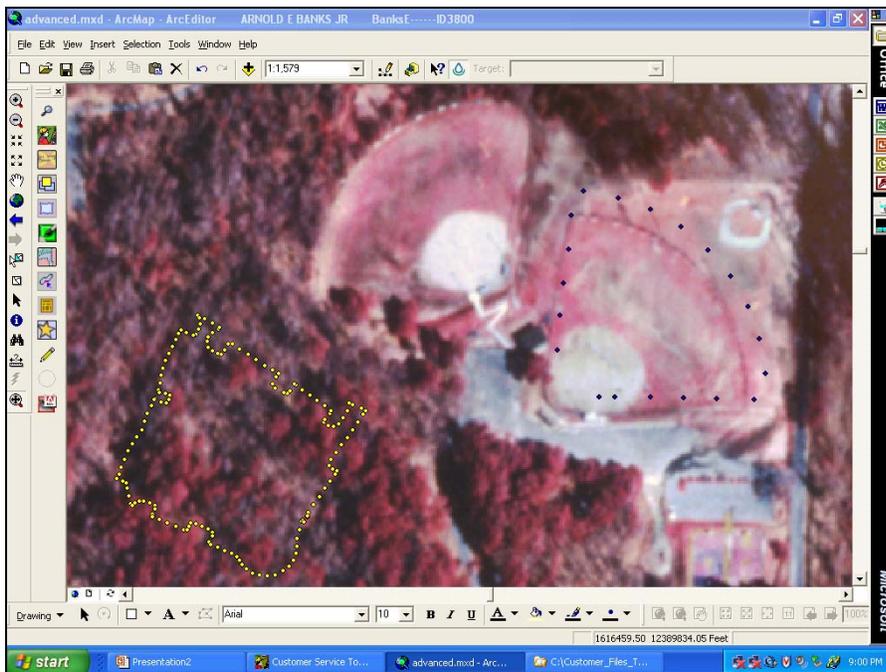


The symbol is changed. Add an aerial photo by clicking the add data button. Navigate to the location where your digital ortho photography is stored. Select the aerial photography and click Add.

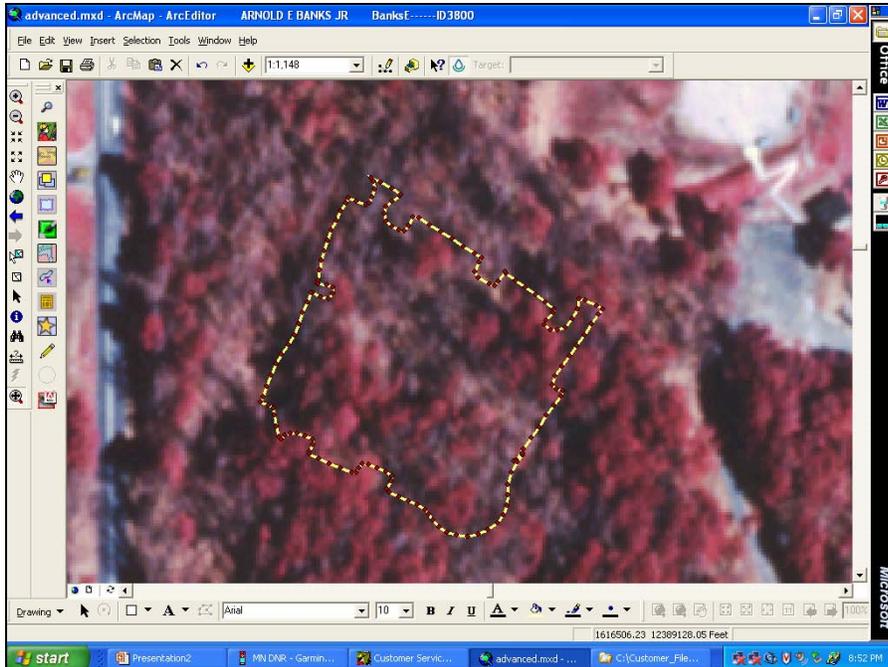


Examples of Tracks

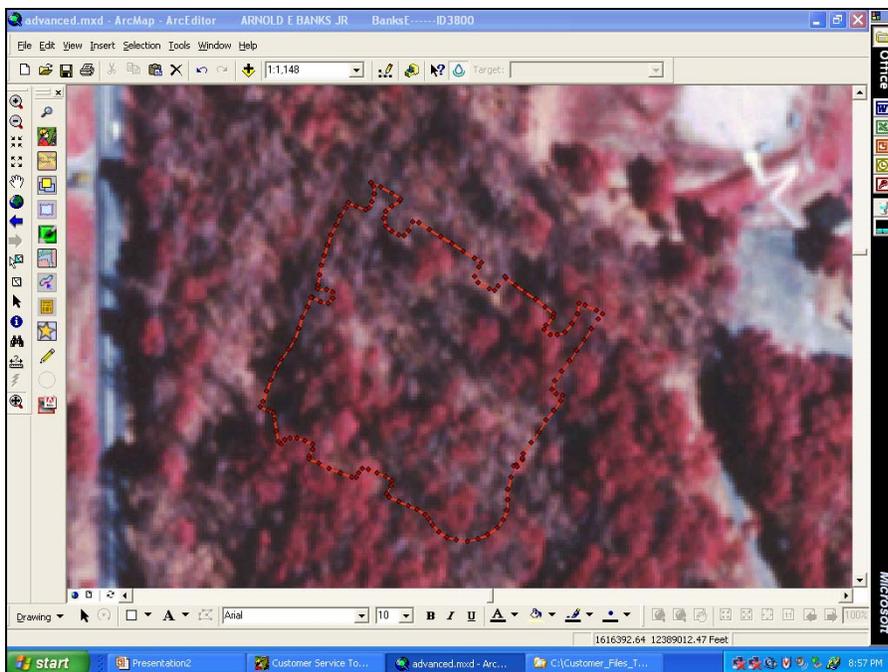
Loaded as Points, Polygons or Lines



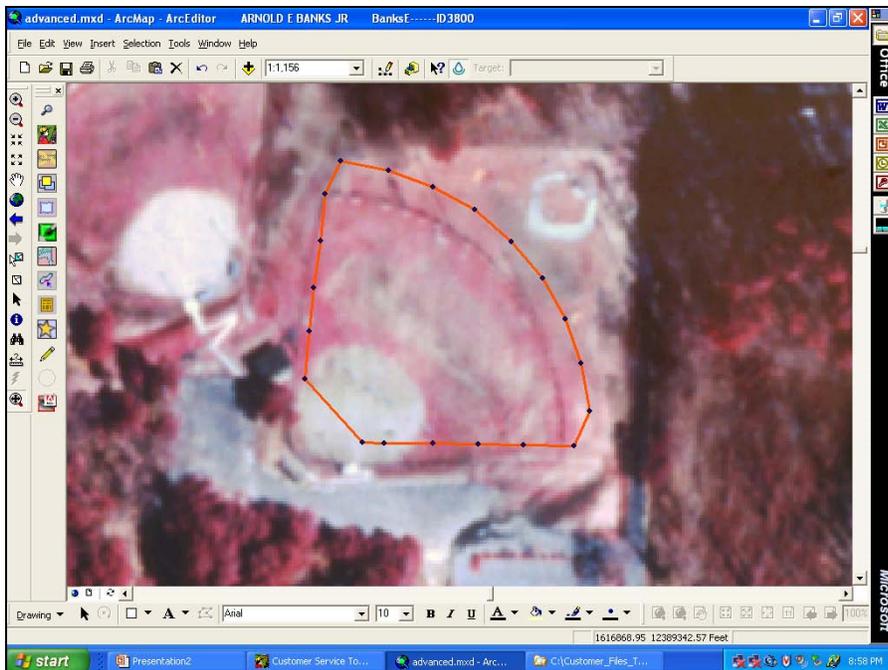
This picture shows an example of two tracks downloaded as points. The track on the left is a 3 second Timed track. The track on the right is a 0.01 mile (52.8 ft.) distance track.



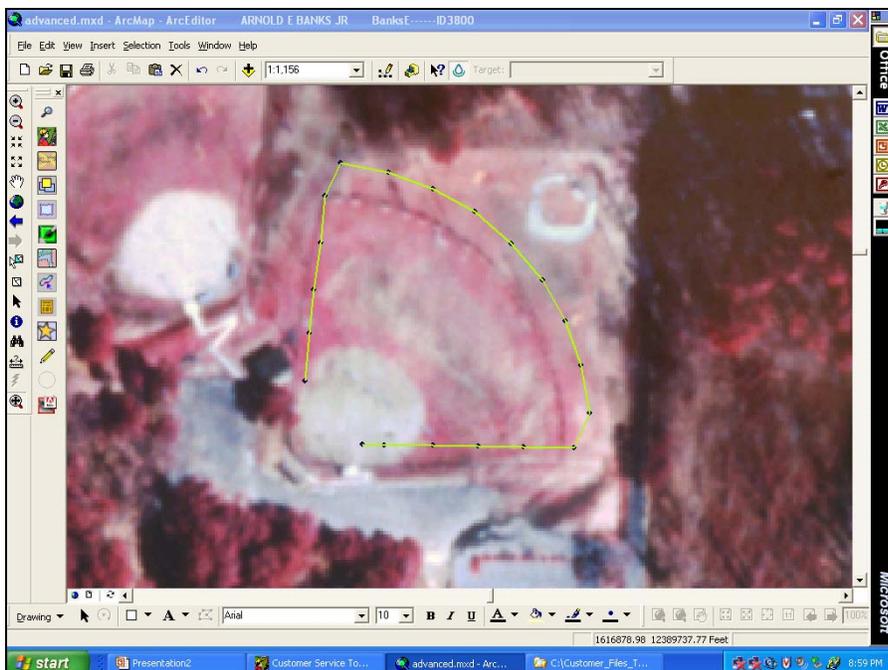
This picture shows a 3 second timed track downloaded as points and a polygon.



This picture shows a 3 second timed track downloaded as points and a line.



This picture shows a 0.01 mi (52.8 ft) distance track downloaded as points and a polygon.

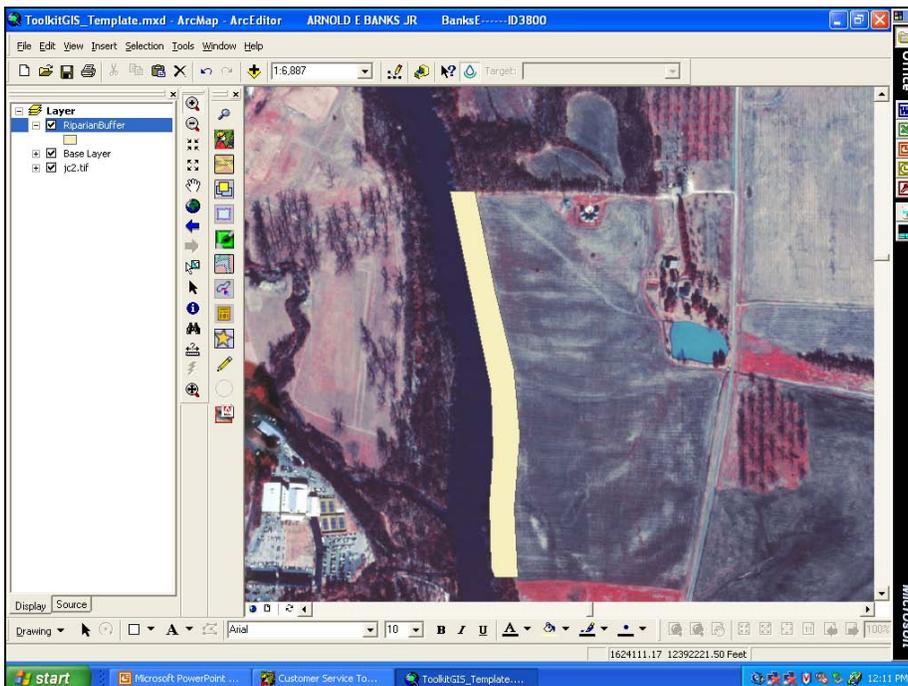


This picture shows a 0.01 mi (52.8 ft) distance track downloaded as points and a line. Notice: the line starts at the first point and ends at the last point and does not connect the two points.

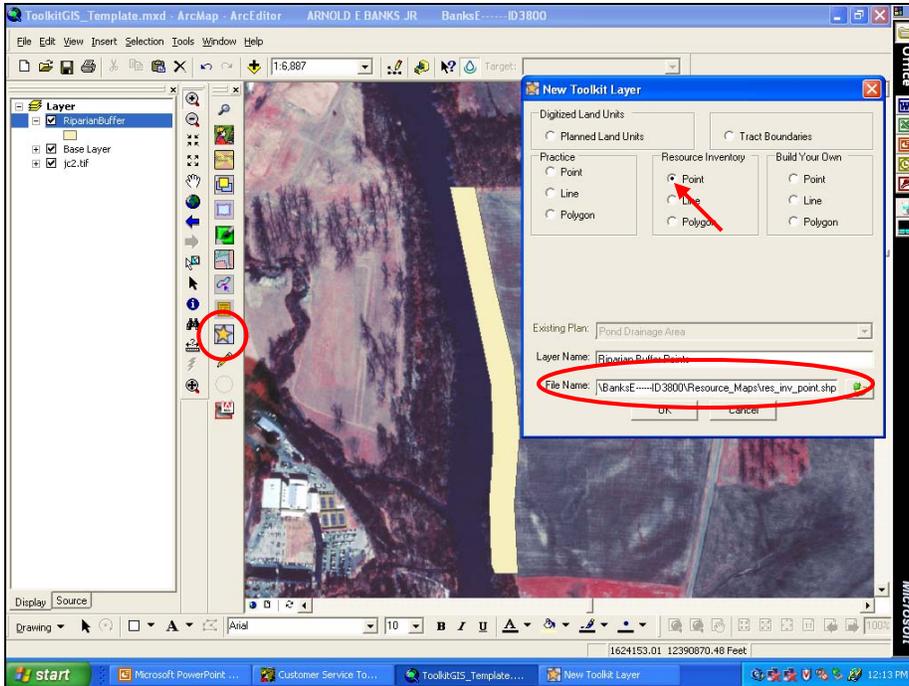
**Downloading Points from
Customer Service Toolkit
2004 to a Garmin Map 76**

**Downloading Points from
Customer Service Toolkit to a
Garmin Map 76**

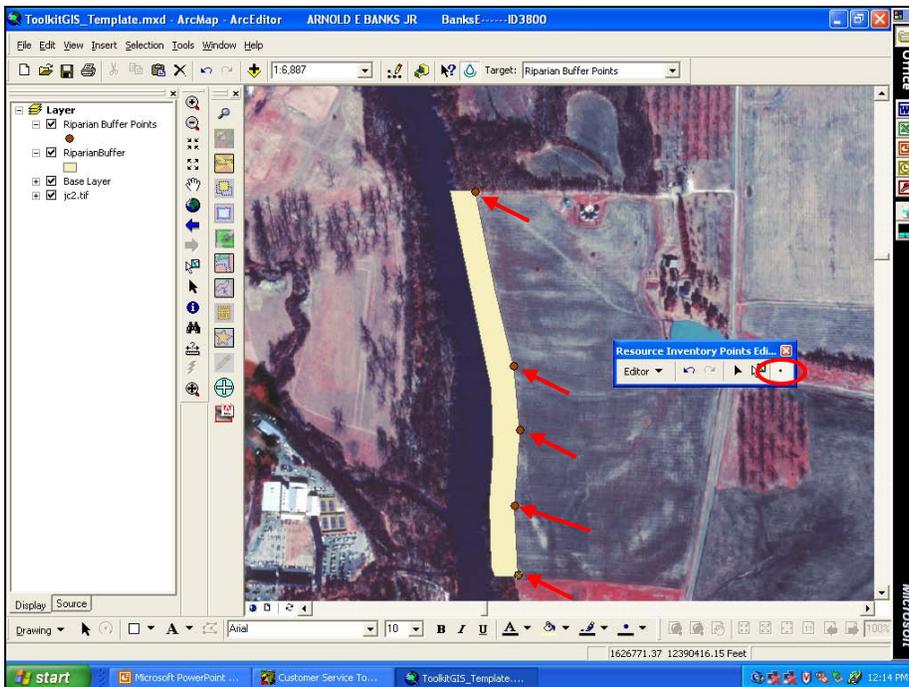
Using DNR Garmin 4.4.2 and
ArcMap 8.3



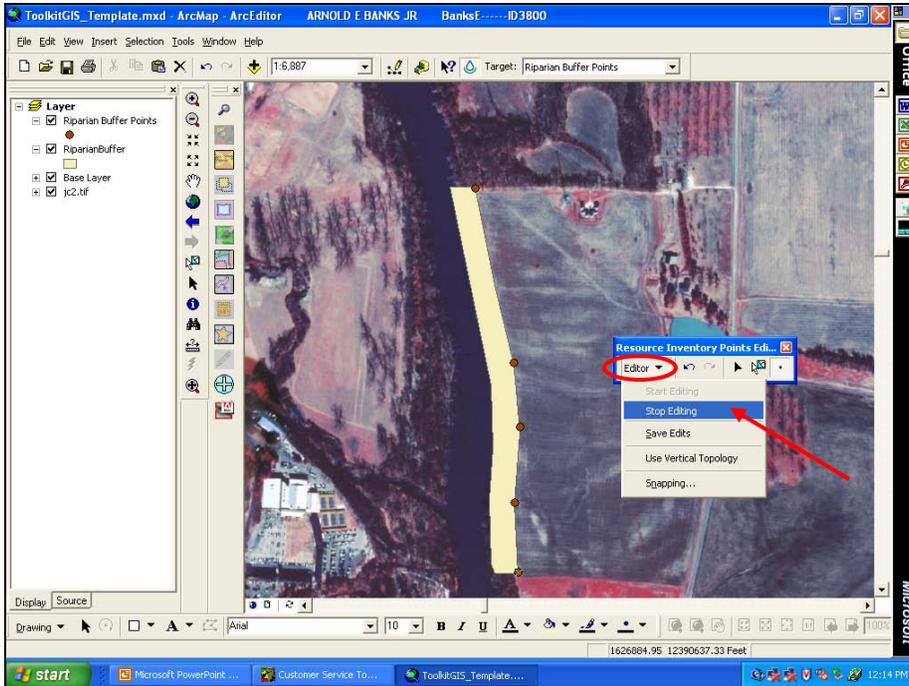
This producer is planning a Riparian Forest Buffer for CRP. He would like some flags set to identify the area. The buffer is shown on the map in toolkit.



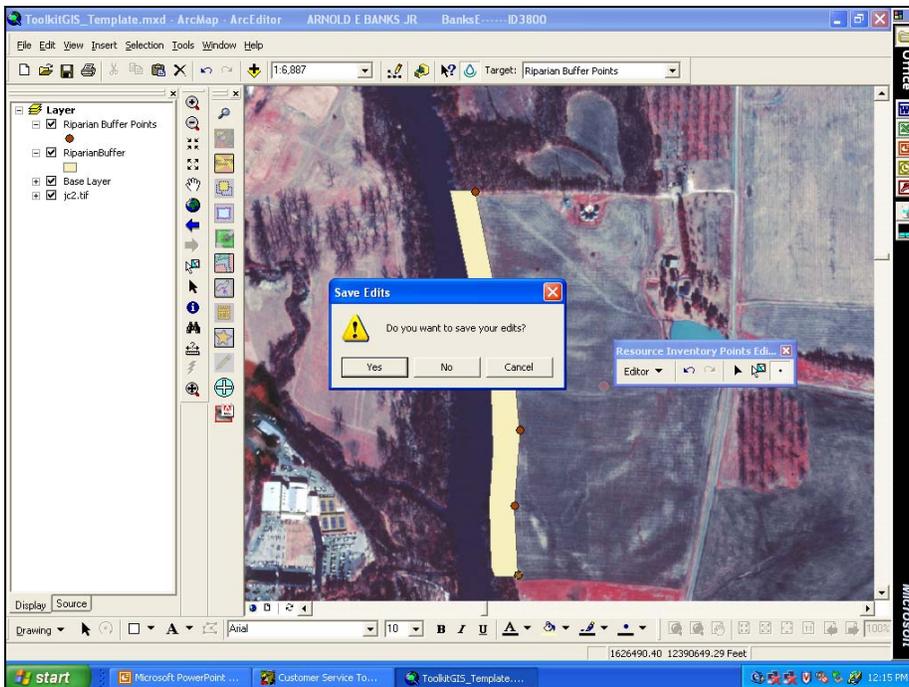
First add a new layer in which to digitize the points. Click the New Toolkit Layer on the Toolkit toolbar. Select the Resource Inventory Polygon button. Give the layer a meaningful name. PAY close attention to the File Name, you will need it when you load the file into DNR Garmin. Click OK.



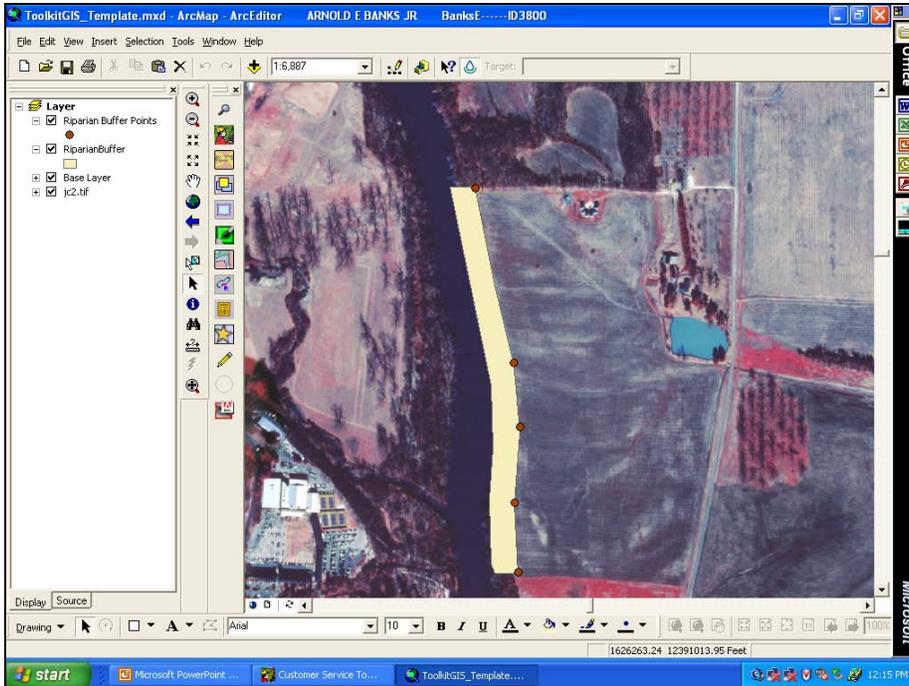
The Resource Inventory Point Editor Bar appears. Choose the point tool and click on the map at each location where you need a point.



Click the Editor Drop Down button and click Stop Editing.



Click Yes to save your edits.



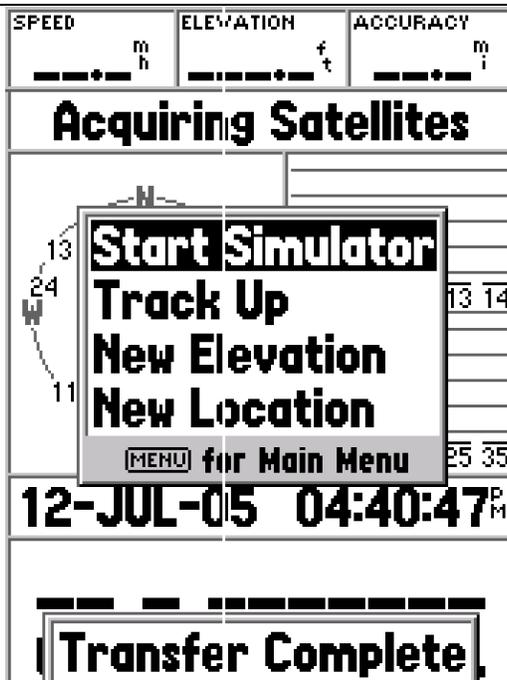
The points are digitized into a shapefile, you can close ArcMap and Toolkit.



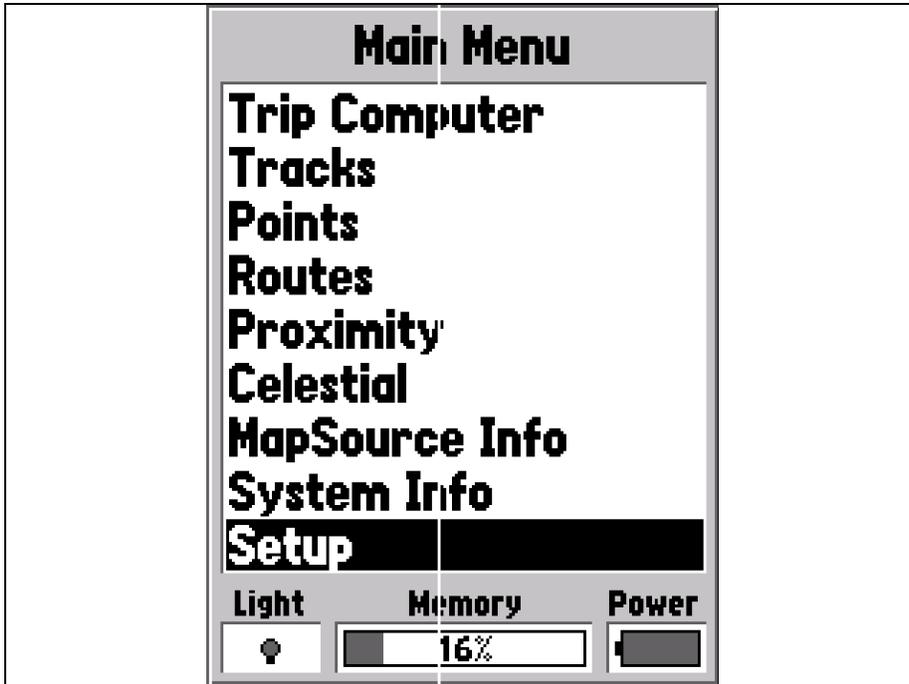
Locate the Garmin data cable and connect the round end to the Garmin and the 9 pin end to the serial port on your computer.



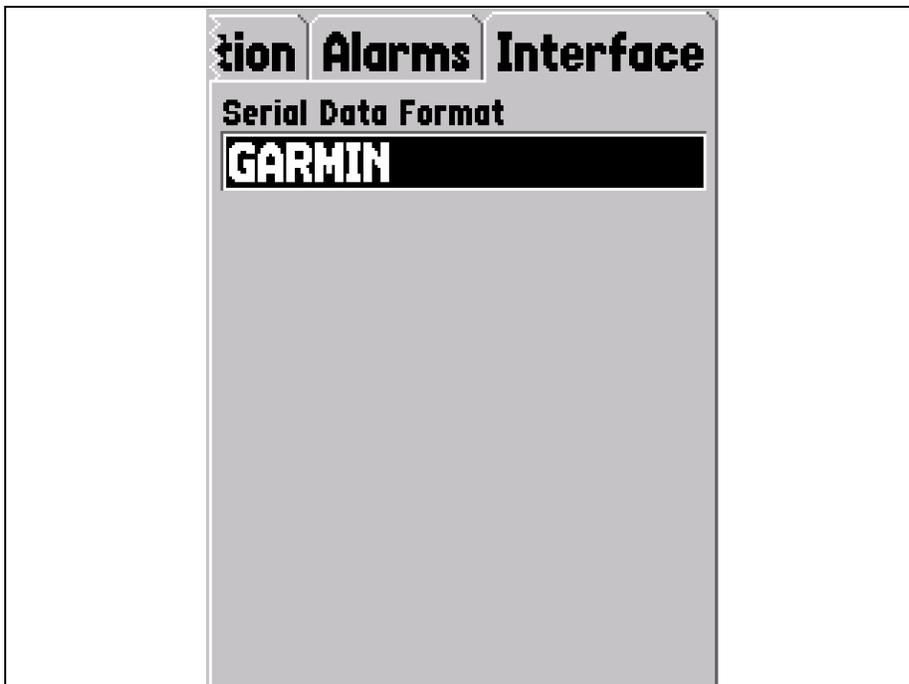
Turn on the Garmin Map 76 and press the page button 3 times.



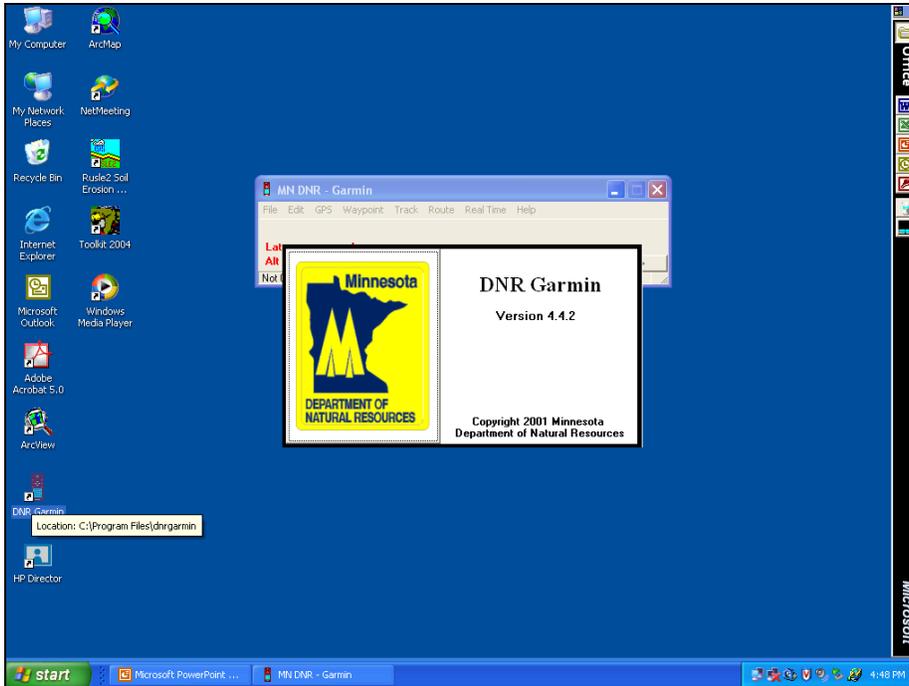
On the satellite page, press the menu key then choose Start Simulator and press the enter key.



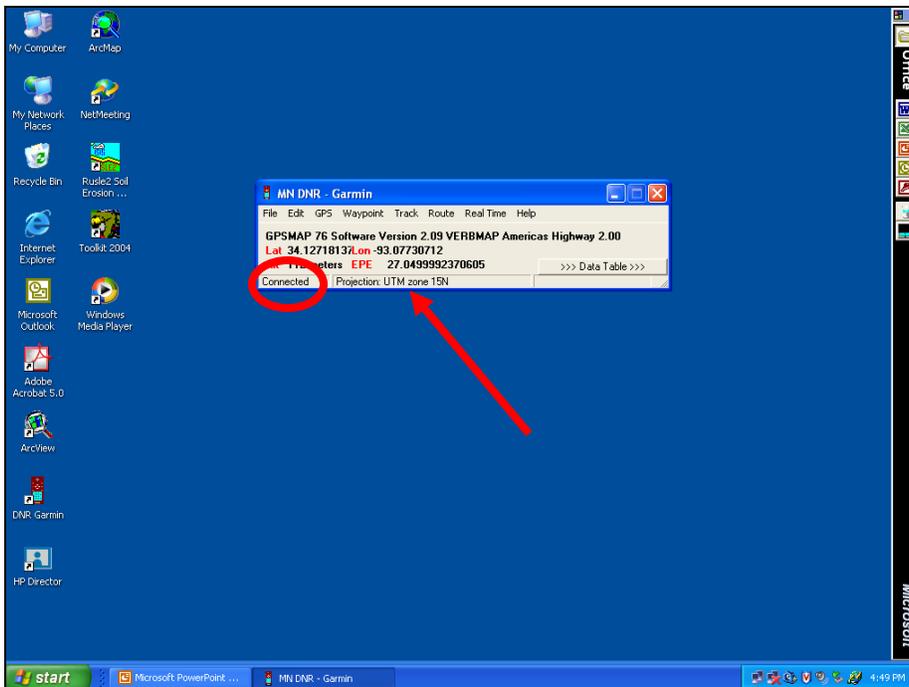
To check that the proper interface is set to communicate with the computer, press the menu key twice to access the Main Menu. Scroll down to Setup and press the enter key.



Scroll once to the left (or 5 times to the right) to access the Interface tab. Make sure the Serial Data Format is set to Garmin.

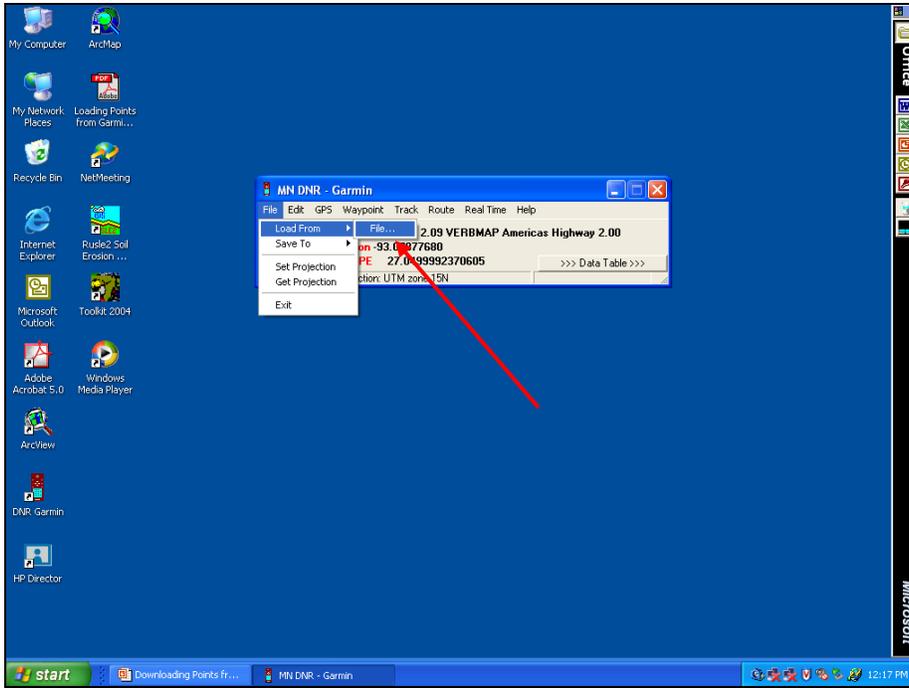


On the computer click the icon for DNR Garmin. Version 4.4.2 should be installed.

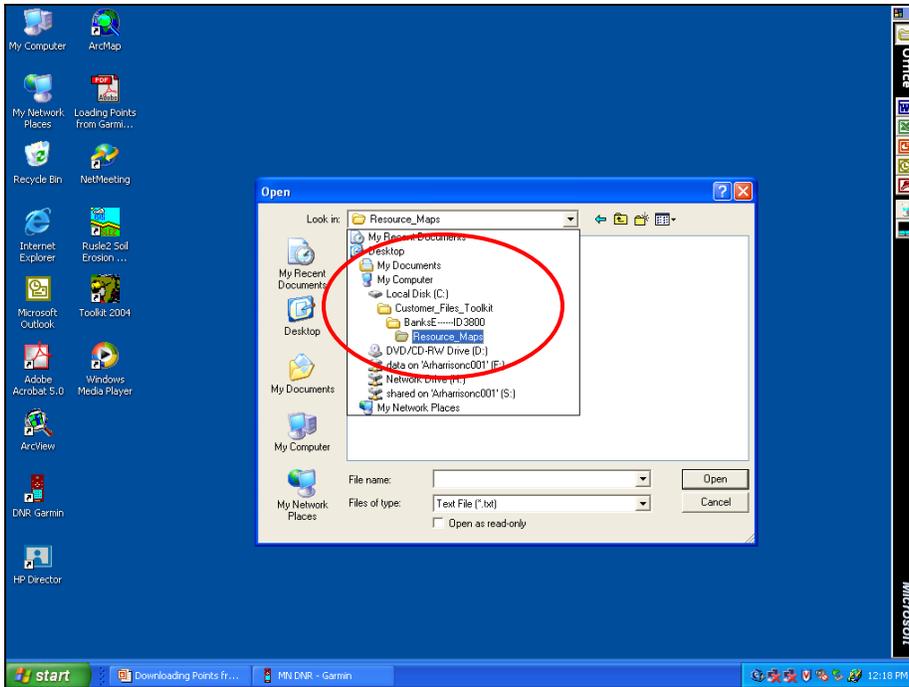


If everything is set correctly, the status should show connected after a few seconds.

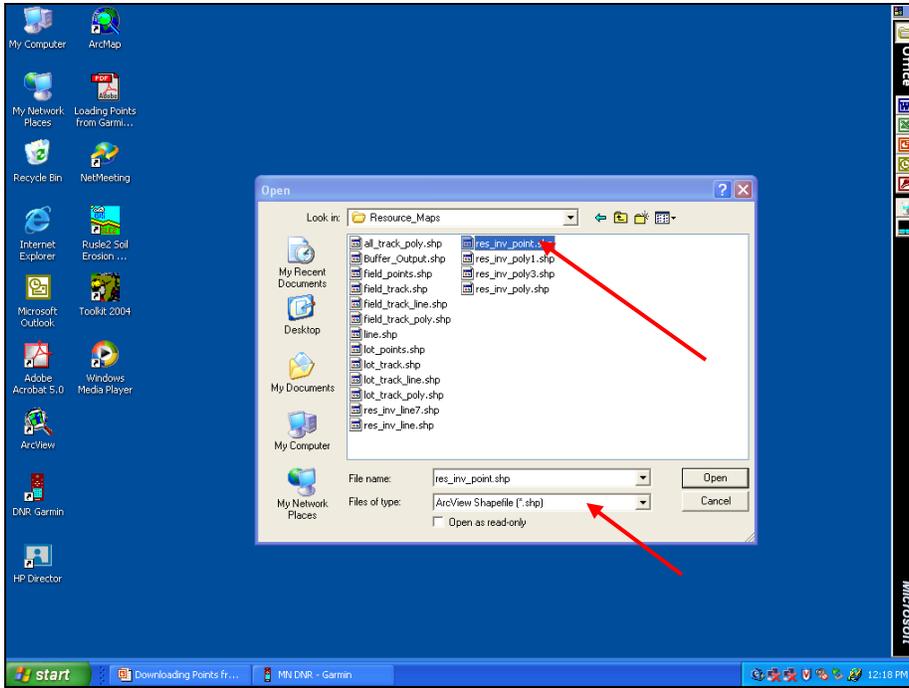
Check the projection, it should be UTM Zone 15N. If it is not click on File, Set Projection and choose UTM Zone 15.



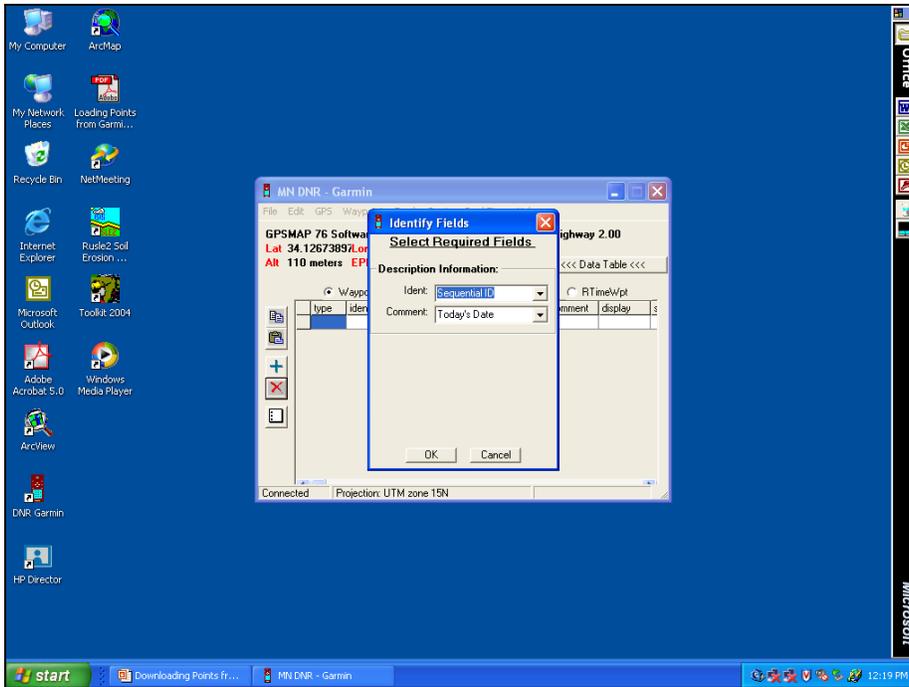
Click File, Load From, File.



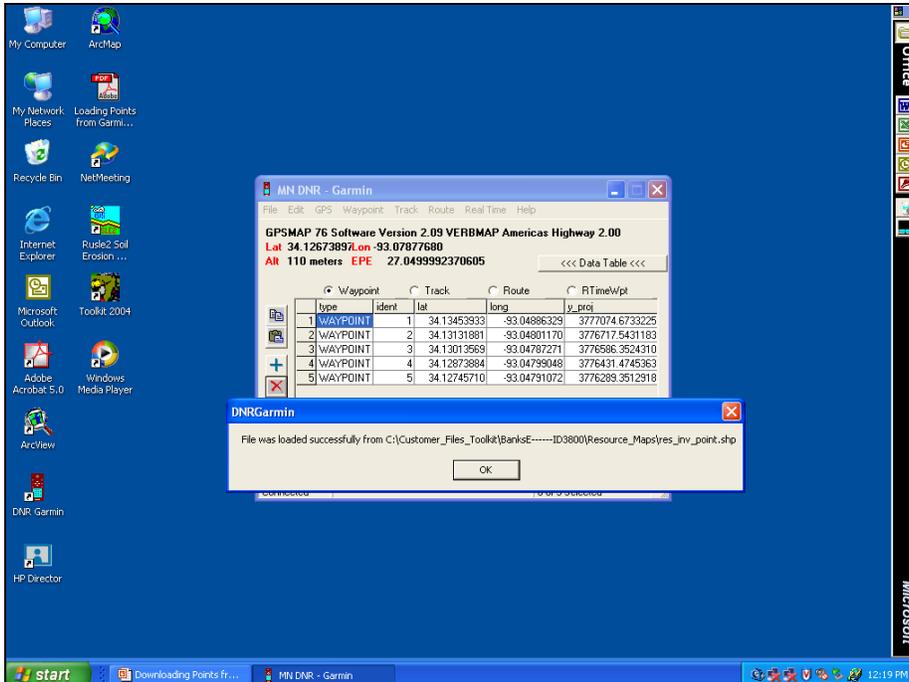
Navigate to the folder where you saved the point shapefile.



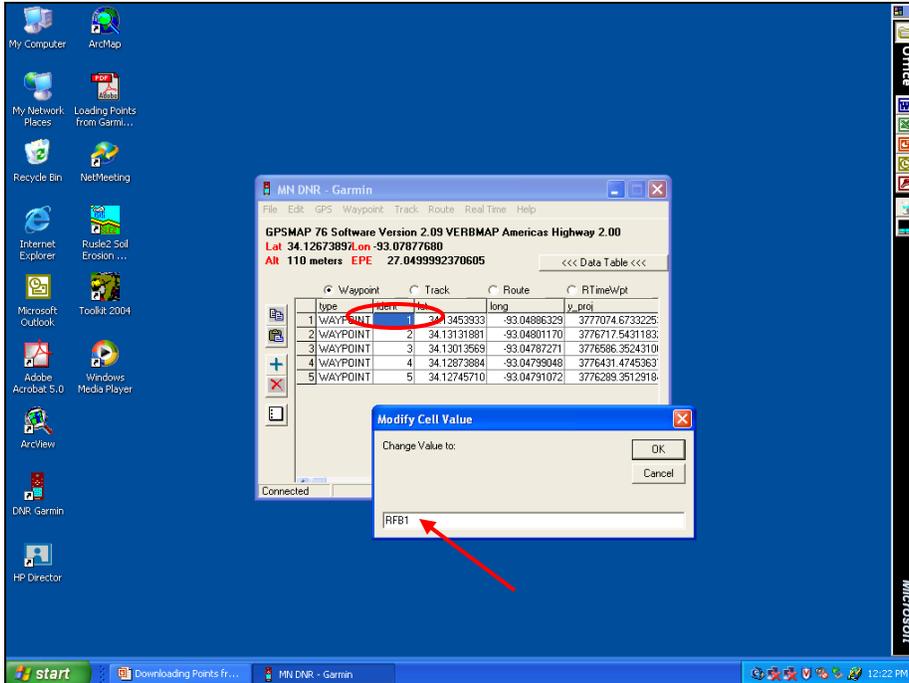
Change the files of type to ArcView Shapefile, and select the file that contains your points.



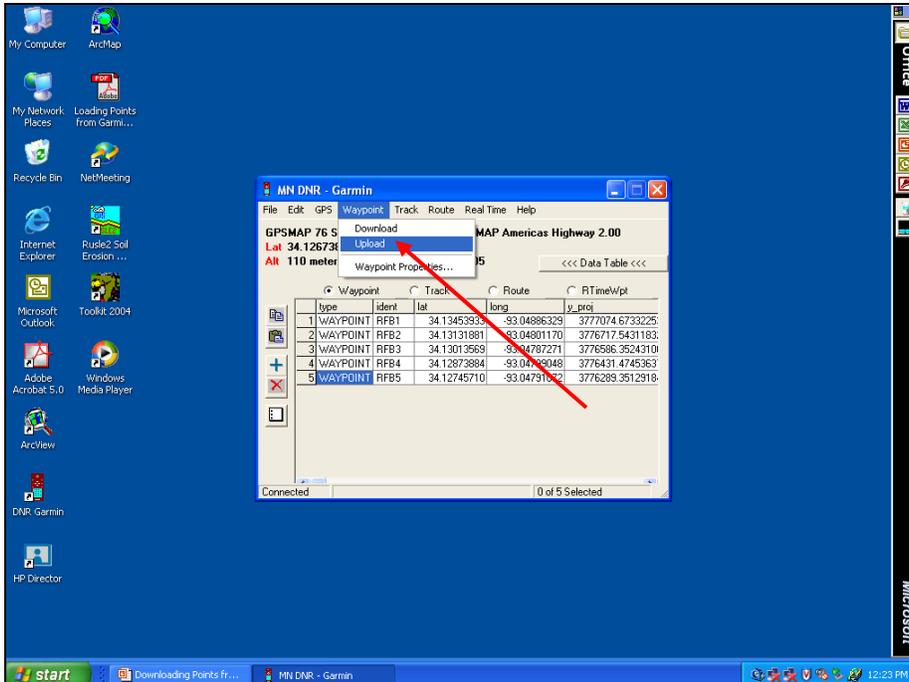
Use Sequential ID for the Ident and Today's Date for the comment. Click OK.



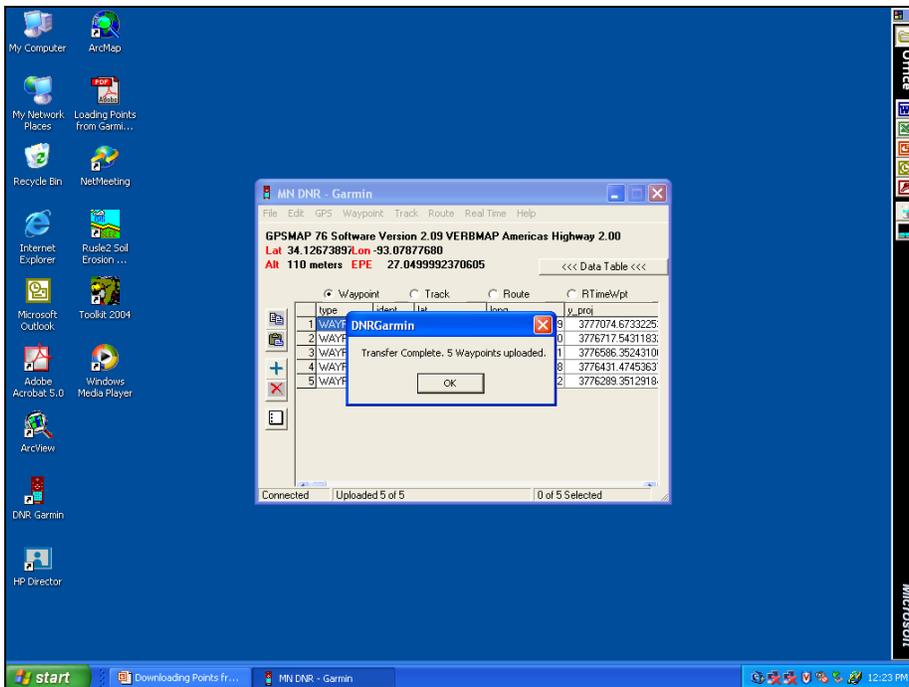
A message appears that tells you the data is loaded. Click OK.



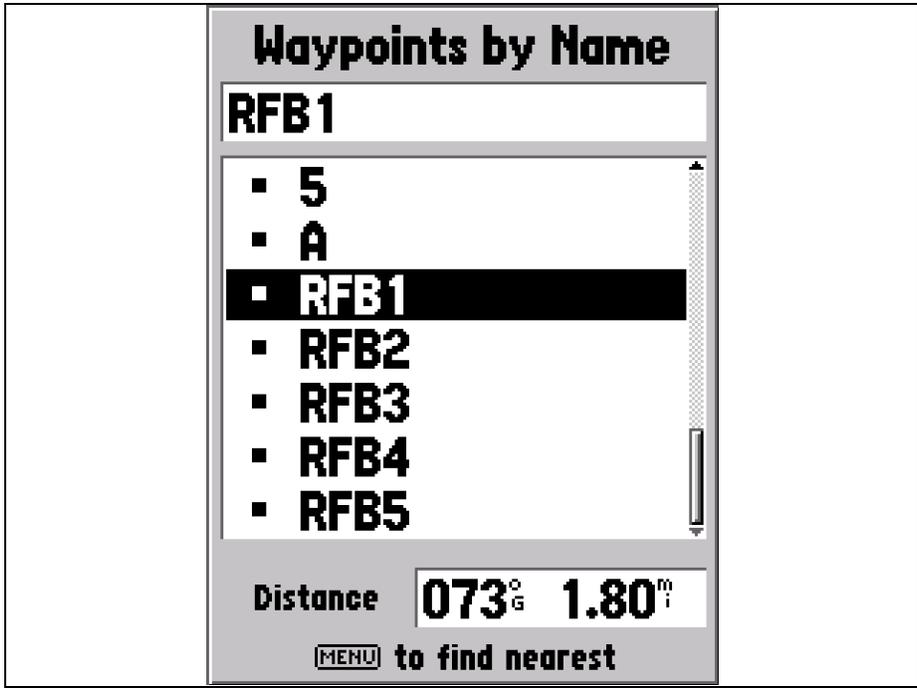
To Change the ident (identifier) double click in the ident field. Then change the ident and click OK.



After all idents are changed, click Waypoint, Upload.



A message appears telling you that the points have been transferred. Close DNR Garmin.



The points are now stored in the Garmin and you are ready to go to the field.