

#6c – Creating a Map Layout

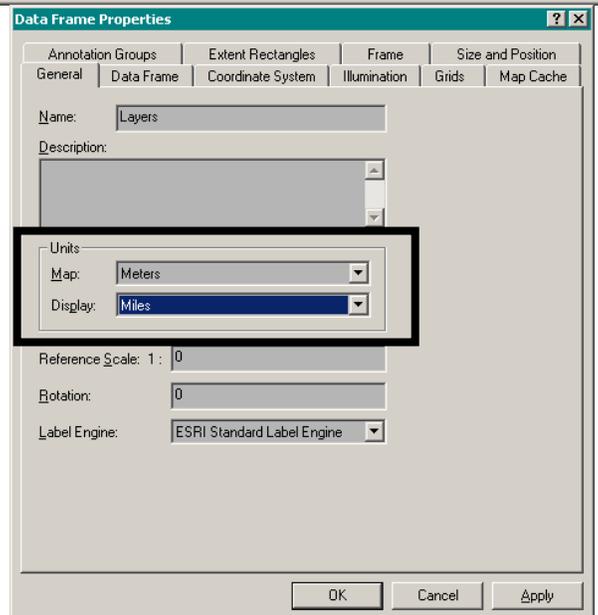
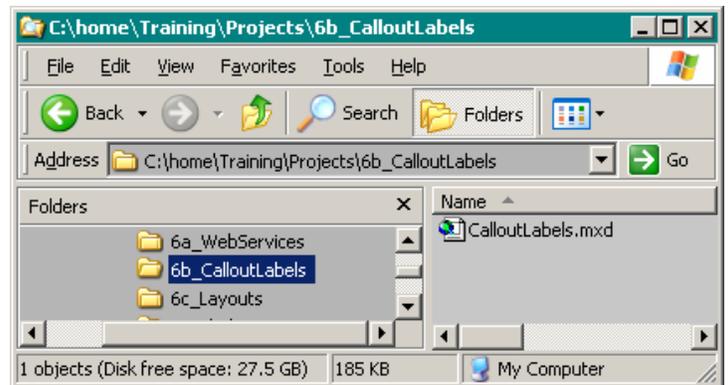
An ArcMap document contains a single layout representation. You can use map documents in ArcMap to accomplish many of the same tasks as having multiple layouts in ArcView GIS 3.x. It may be easiest to think of a map document as a layout.

Tasks you will learn in this Exercise: Create a Map Layout; Layout Toolbar; Insert a legend, logo, north arrow, scale bar, textual information.

NOTE: If both ArcCatalog and ArcMap are open at the same time, some changes made to one may not be reflected in the other. It is always best to only have one open at a time. Also, become familiar with “refresh” methods – click on F5 button, or View – Fresh, or refresh icon at bottom center of ArcMap documents.

Initial Project Setup:

1. Open ArcCatalog.
2. In your **C:\Home\Projects** folder, create a new subfolder called **Layouts**. This is where you’ll work from on this exercise.
3. To Begin and Save your Project:
 - a. While still in ArcCatalog, navigate to and click on the **CalloutLabels.mxd** from your previous exercise (#6b)
at: “c:\home\projects\webservices” folder.
 - b. Click on **File - Save As – Layouts.mxd** *Make sure you navigate and save this project to your C:/Projects/Layouts folder.*
4. In the “Table of Contents”...which is the left pane in ArcMap,
 - a. Right-Click on **Layers** (Also called the Data Frame.)
 - b. Select **Properties – General**
 - c. Set the following Units:
 - i. Map to Meters and
 - ii. Display to Miles
 - iii. Click OK and close.



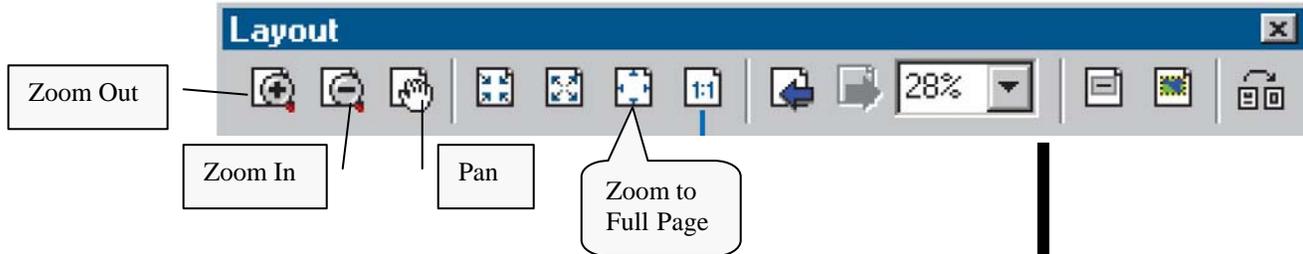
Reminder:

If you had added one of the shapefiles that we’ll be using in this lab to your project before doing Step #3, ArcGIS would have automatically registered that the Map Units were Meters.

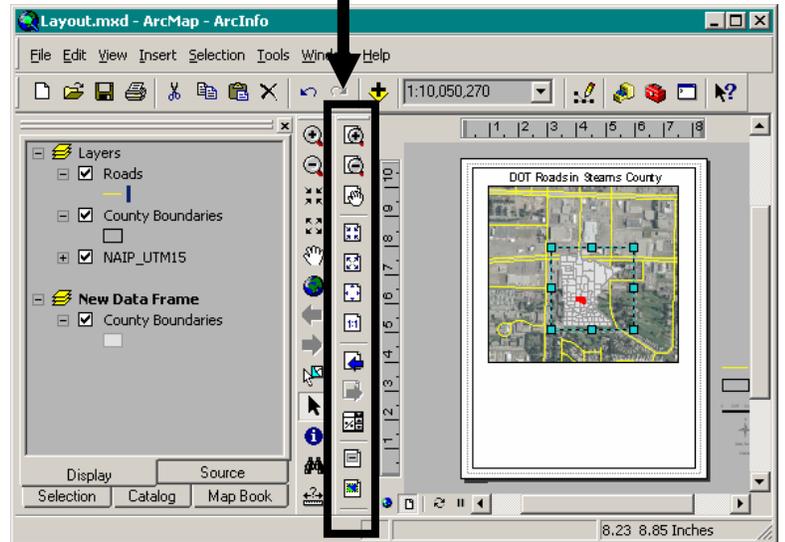
Also recall that the “Display: Miles” is what is used when you add a Scale Bar to your Layout – distance will be measured in miles (vs. feet, meters, etc.).

Begin the Process

The toolbar shown below should ONLY be used when creating your Layout.
DO NOT ever use the regular toolbar when working in your Layout!

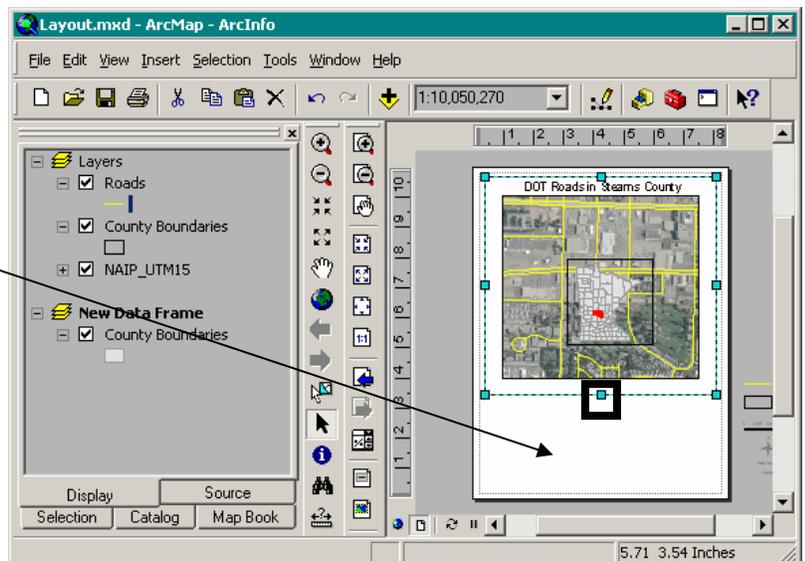


5. Click on **View – Layout View**. You are now in the layout data frame where you can begin to work on your map layout.
 - a. Notice at right that there is a highlighted smaller data frame (Minnesota) within the larger data frame (imagery).
 - b. There are 2 data frames in the layout because we added the additional data frame in the TOC (table of contents – left pane).
6. Also notice the new Layout Toolbars.
 - a. If you do not see these tools, click on **View – Toolbars – Layout**. Toolbars are dockable, so you can move it wherever you'd like.
 - b. Toolbars are “dockable,” meaning you can move them around. Click on the gray bar at the top of each toolbar and you will see you can drag around the screen.



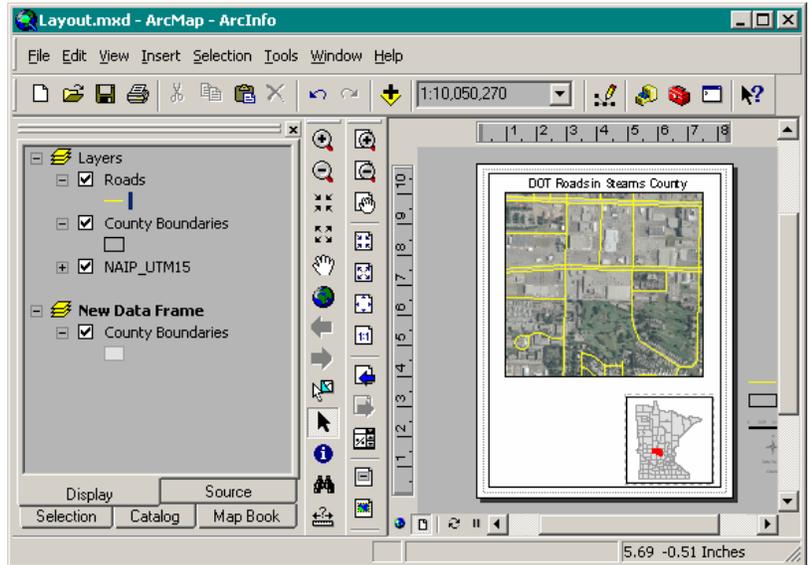
Find a comfortable spot for your Toolbar and leave it there. You'll come to depend on a consistent location.

7. Let's now select the data frame that has the imagery in it. We're going to make this smaller so we can add some information to our map layout.
 - a. As shown at right, click on the little blue box in the center bottom and just drag up until you have a fair amount of white space on the bottom.
 - b. Next, while the box is still highlighted, click the down arrow on your keyboard until you've left a little more space at the top for a title.



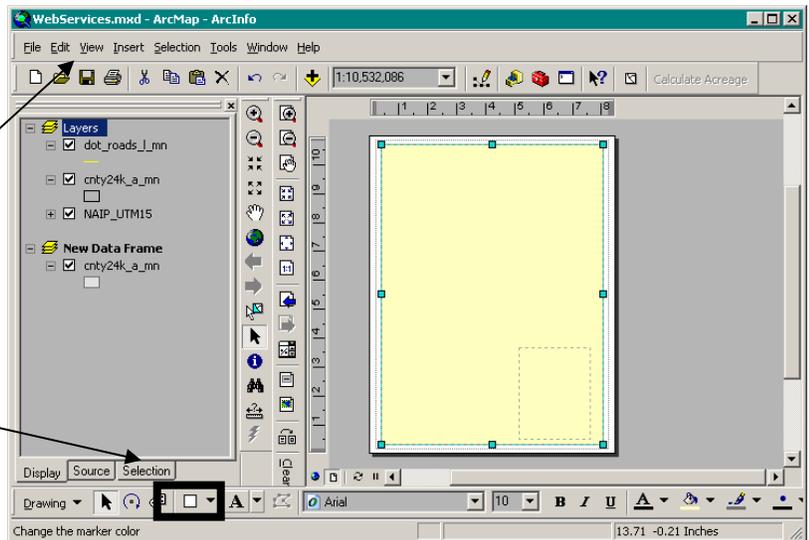
8. Next, click on the Minnesota Counties data frame to highlight.
 - a. Drag it down into the white space below. Try to keep it even with the right border of the larger map.
 - b. You can use the arrows on your keyboard to move any data frame up, down, left, or right.

NOTE: The light gray dashed line around the page is the actual border of your paper. Do not include any part of your map outside the gray dashed line.



So, now we're going to begin adding a number of elements that normally are included in map layouts.

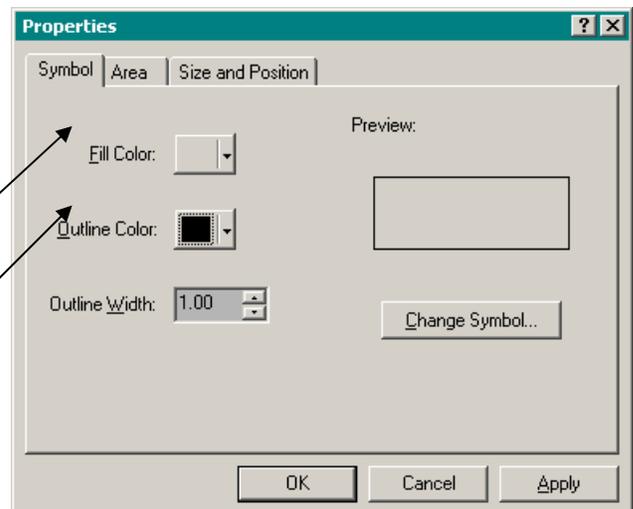
9. First, we should always have a border around the full map. So, in the case of this map, we need to add a border. Notice the "Drawing" toolbar at the bottom of the diagram.



- a. If you don't see it, click on **View – Toolbars – Drawing**; again it's dockable, so move wherever you want. I tend to put it at the bottom to keep it separate from other toolbars.
- b. Click on the icon with the White Square Box. This allows you to draw a box around your full map. Beginning at the upper left corner, click on the map and drag to the lower right corner and click to release.

- NOTE: Keep your border box INSIDE the dashed gray lines.

- c. The default is to fill in the box with a color. Right click INSIDE the new box – click on Properties and the dialog box at right will open.
 - Click on the down arrow next to **Fill Color** and select **NO COLOR**
 - Click on the down arrow next to **Outline Color** and change the Color to Black.



- d. Click **OK**.

Notice, you won't see the outline if it is still highlighted. Click in any white space to show unhighlight and show border.

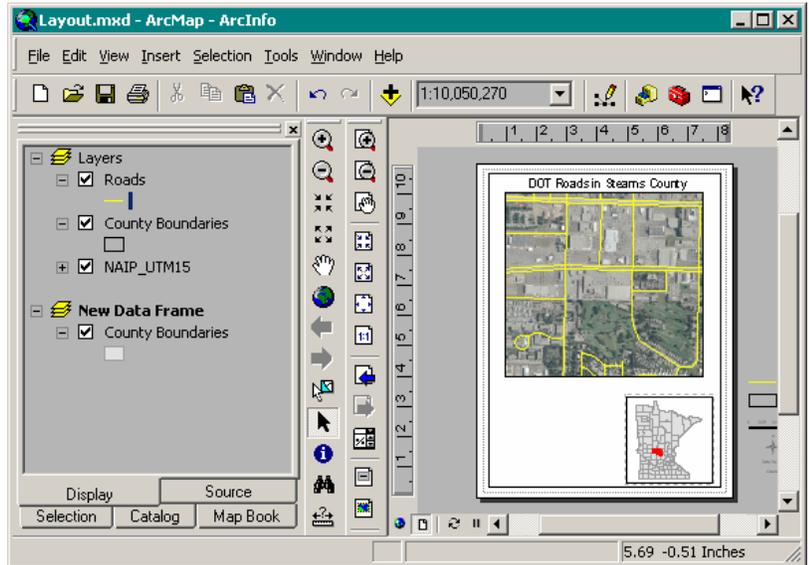
- e. Your end result should resemble the diagram at right.

Next we'll be adding a Title, Legend, North Arrow and Scale Bar, NRCS Logo, and Data Source type information.

PLEASE NOTE:

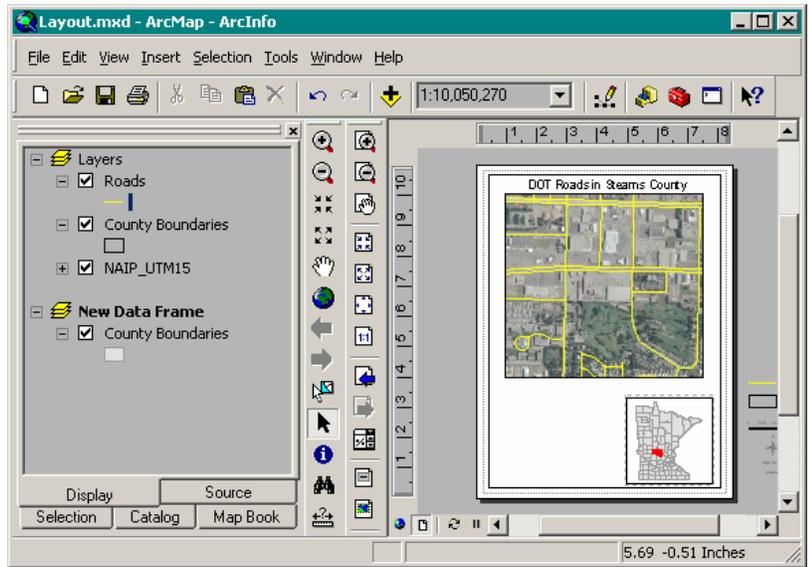
For the most part, as you insert each item listed above, the item gets placed directly in the center of the whole page.

You will need to click on the item to highlight and then just drag it to where you want it to be placed.

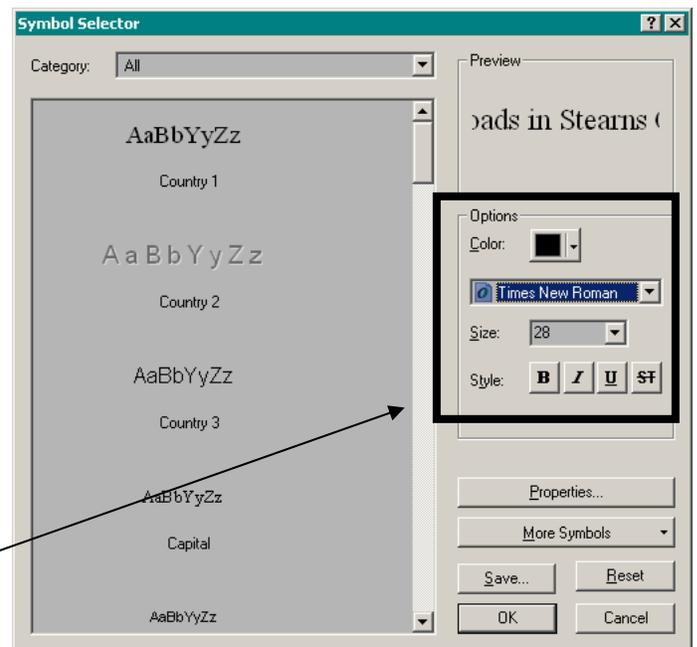
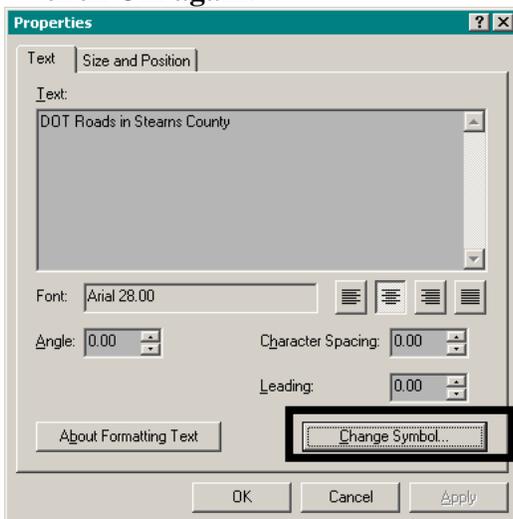


- 10. Title: The title should always be the largest font size in your map layout.

- a. Click on menu **Insert – Title**
- b. Type in **“DOT roads in Sherburne County”** and hit Enter.
- c. Click and drag the title to the white space at the top of the page (but inside border and gray lines).

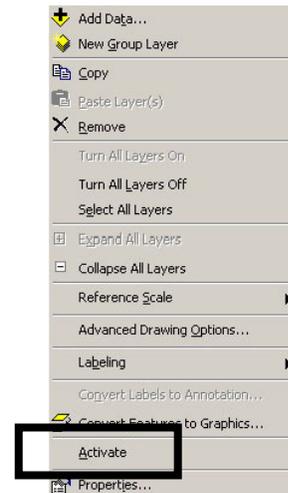


- d. Right-click the title – **Properties – Change Symbol**, and change font to Times New Roman – 28. Click **OK – and click OK again.**



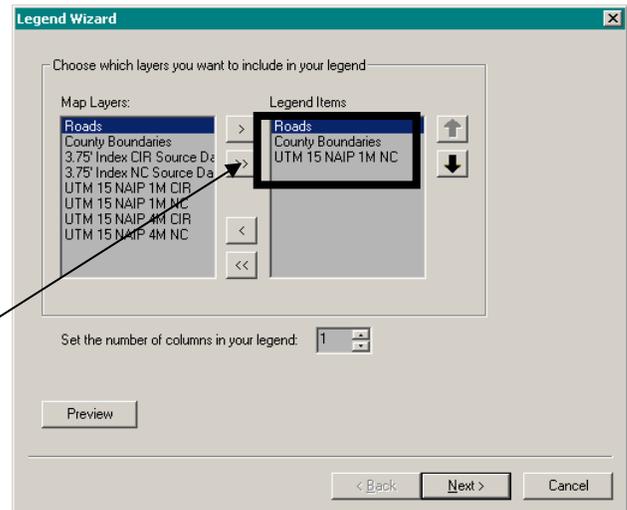
11. Back in the TOC (left pane), you will need to do the following BEFORE inserting your legend:

- Right-Click on the **Layers** data frame.
- Select and click on **Activate** (towards bottom of menu choices.)
- The Legend corresponds to its Data Frame back in the View. So, if you have more than 1 Data Frame, you have the potential for adding more than 1 legend.

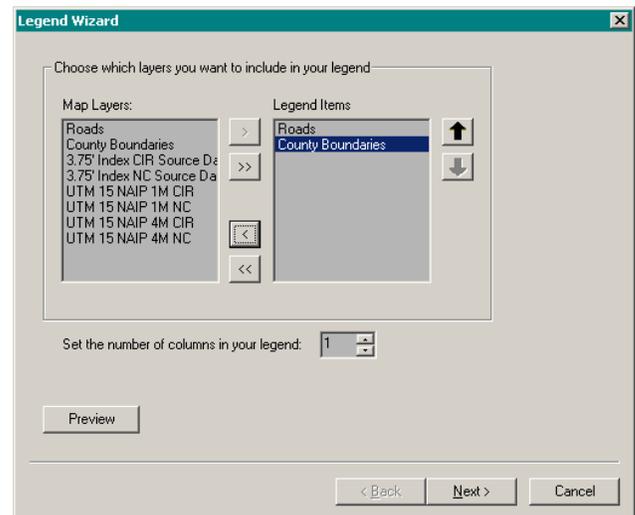


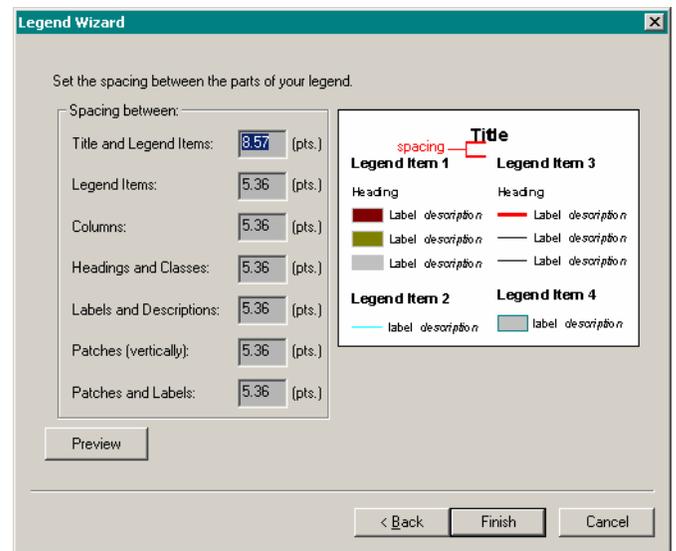
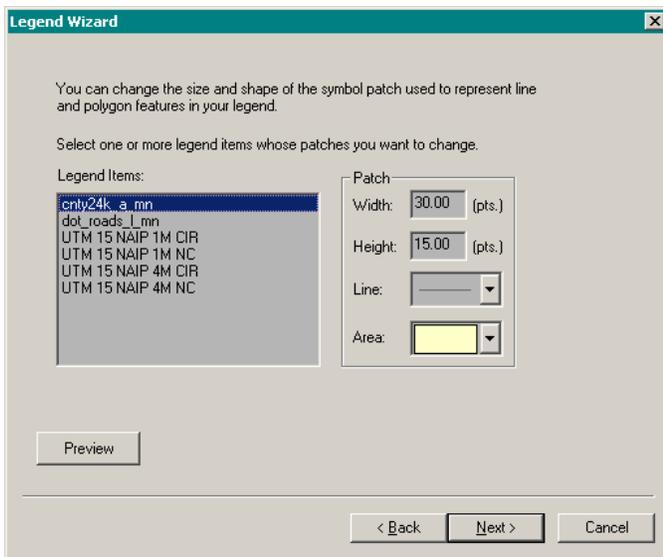
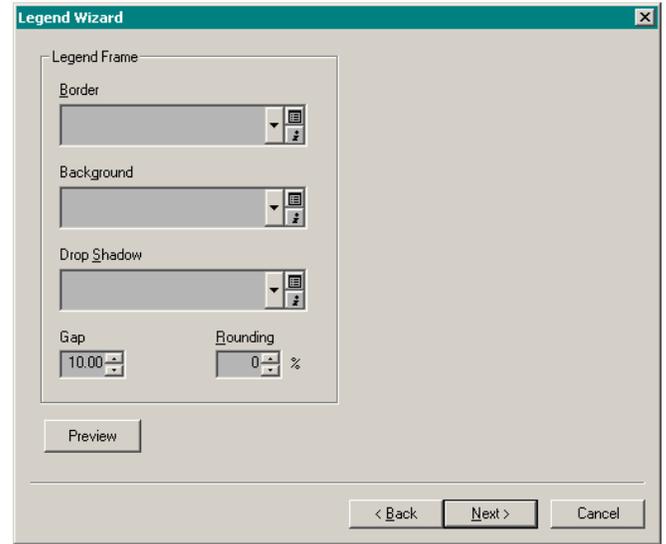
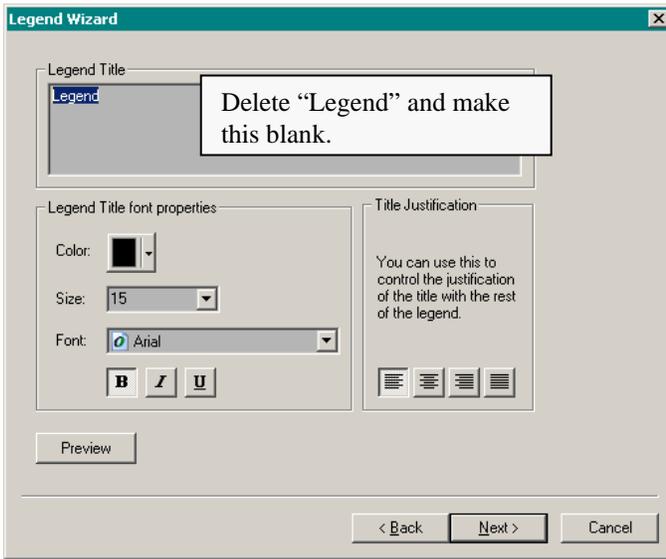
12. Legend: The legend font should always be the 2nd largest font size in your map.

- Click on menu **Insert – Legend**
- Your default may or may not look like what's shown at right. Don't be concerned. You have choices on what map layers you want displayed in your legend. The only items we actually want included in the legend are the first 2 – the Roads and County Boundaries.

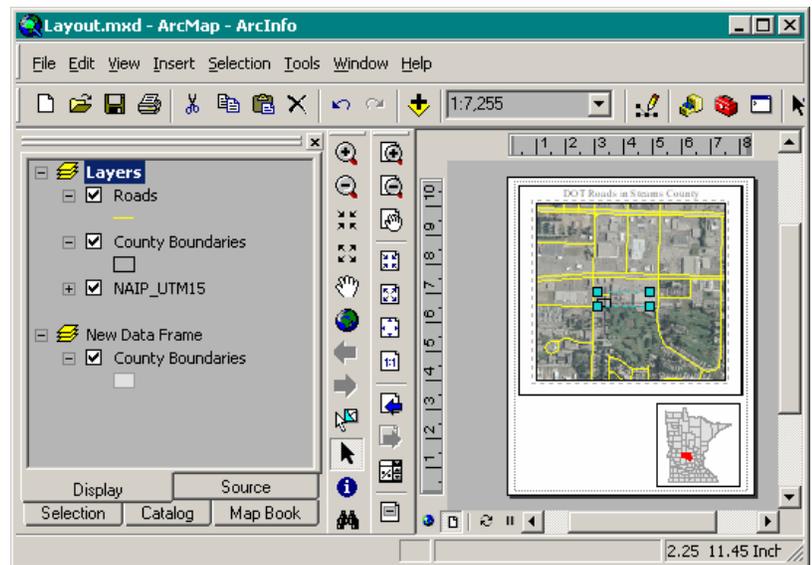


- For our purposes we only want what's shown at right. For extra items that we don't want (all of the NAIP), just select them and click the **left** arrow to move them back to the left side.
- Next, Scroll through the rest of the Legend Wizard as shown below –Accept all defaults unless otherwise noted.

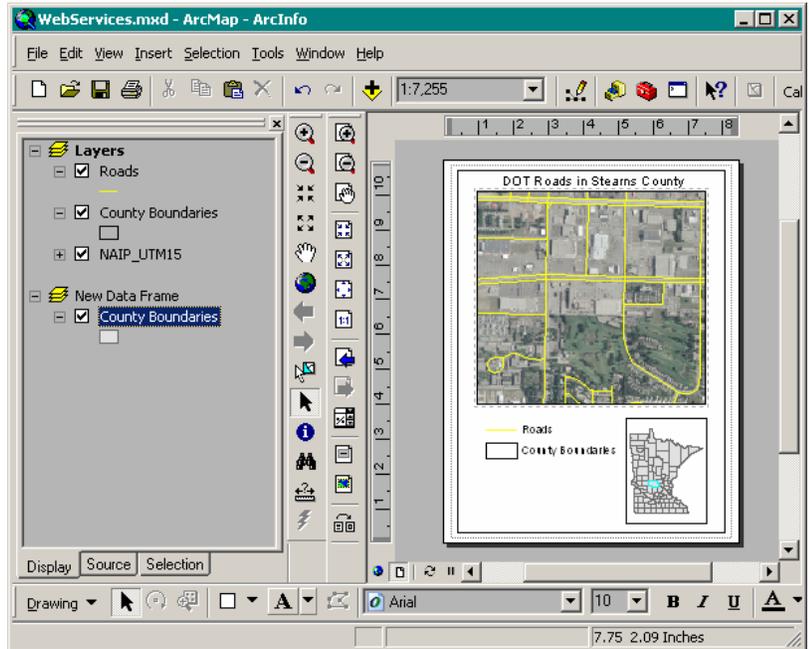




- e. Next, click on the legend (highlighted in center of your page) and drag down to the bottom left.
- f. Click on one of the corners and stretch it out to make it a little bigger. Follow example at right.



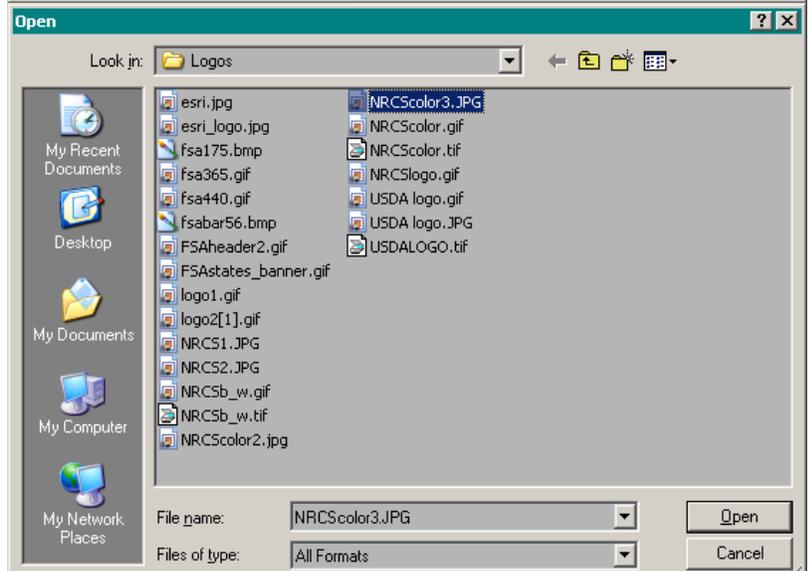
- g. The example at right shows how your legend should look once you've dragged it down into the "white space" and stretched it to make it bigger and more legible.



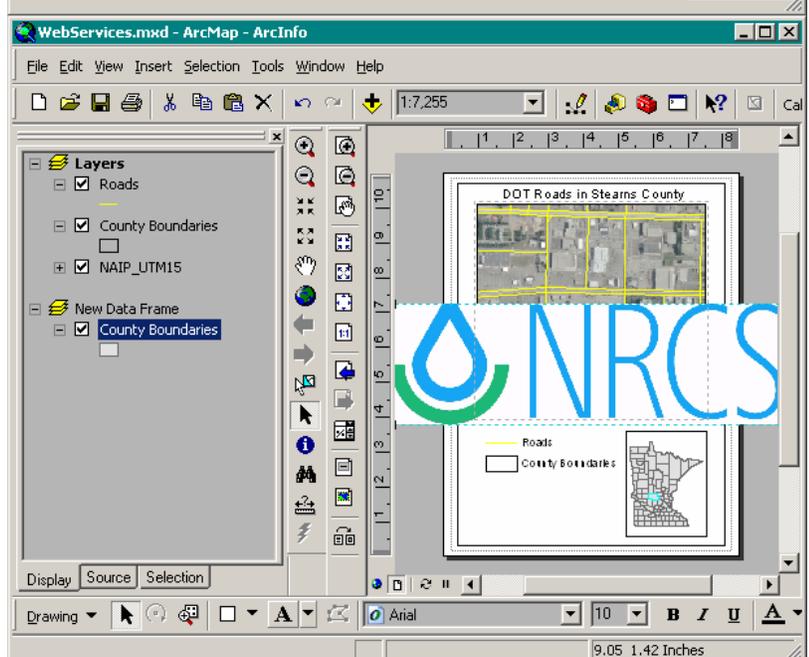
Now to insert the NRCS Logo.

13. Click on menu **Insert – Picture**

- a. I have stored a number of NRCS logos. For our map, navigate to: F:\geomgmt_resources\NRCS\Logos and click on: **NRCScolor3.jpg**
- b. Then click on Open



- c. What happens is a huge picture of the logo will get dropped into your map, such as what's shown at right.



- d. Just click on one of the corners and drag it in to shrink the image. Then move it where you want it to go.

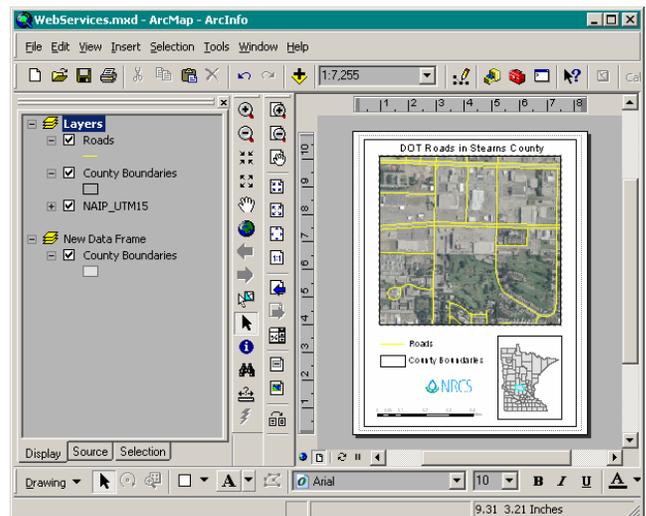
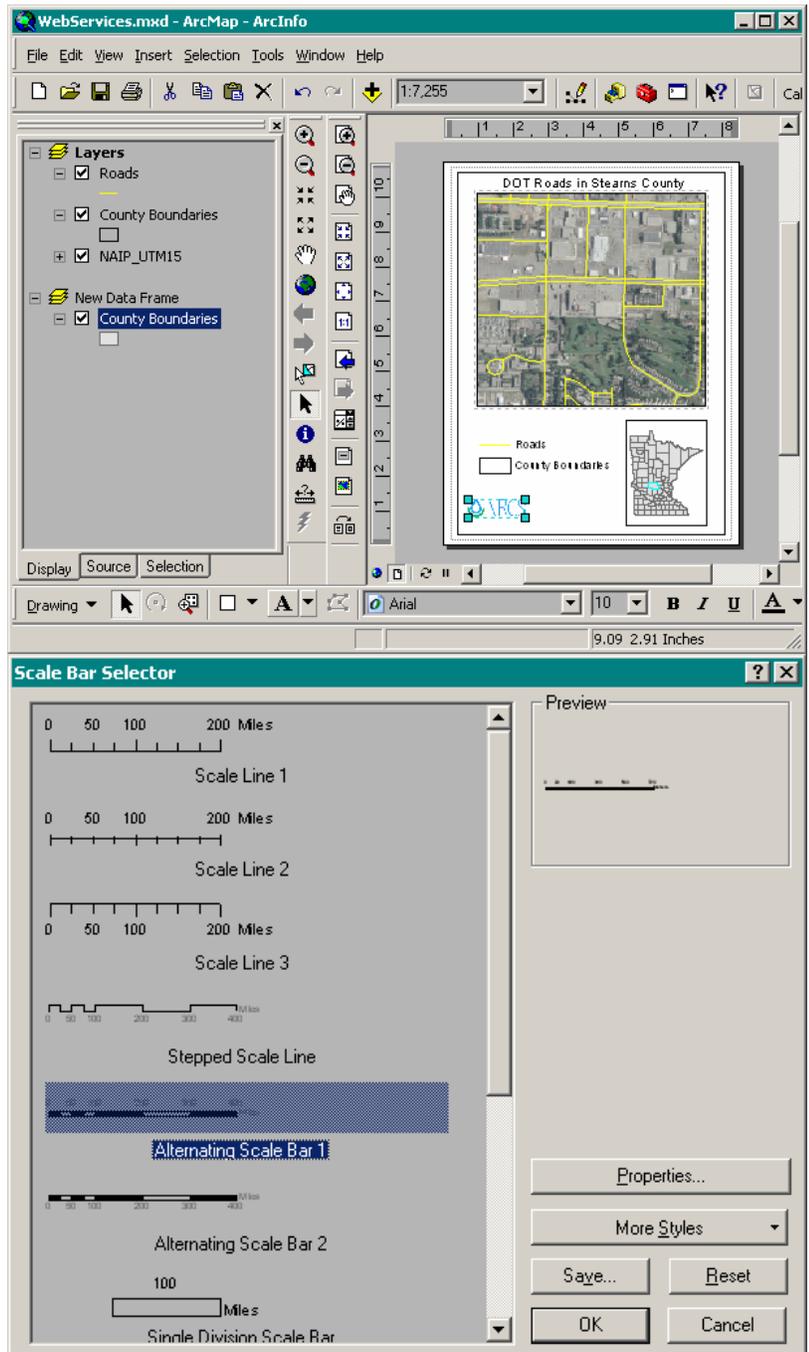
14. Next, add a Scale Bar:

- a. Click on menu **Insert – Scale Bar**
- b. Make a selection; I personally, like the one highlighted below.
- c. Click OK and the new scale bar is placed into the center of your map.

If your numbers seem to fall on top of each other, just select the graphic and stretch it lengthwise and the numbers should fall into place.

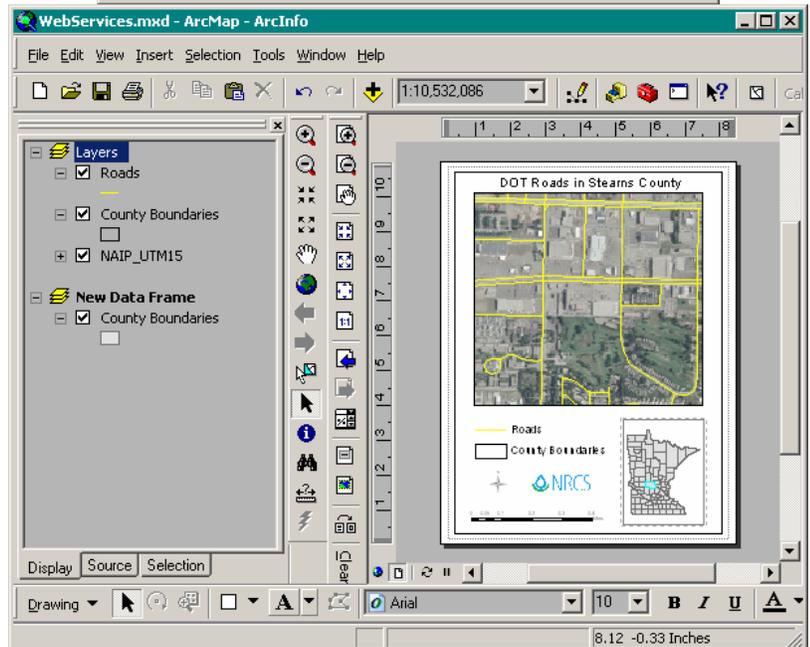
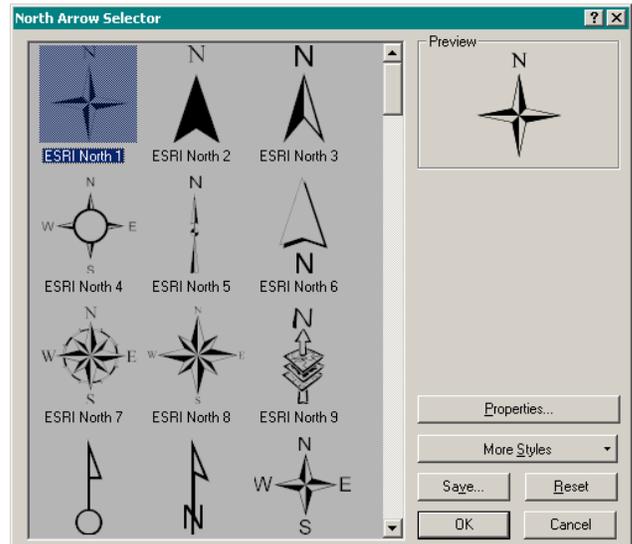
- d. Drag the scale bar where you want it. You might have to begin thinking about rearranging the other elements you've inserted. If the logo is too big, make it smaller and move it around.

Note: If the Scale Bar comes in using the wrong units, delete it. then go back and redo Step #4. Then redo Step #14.



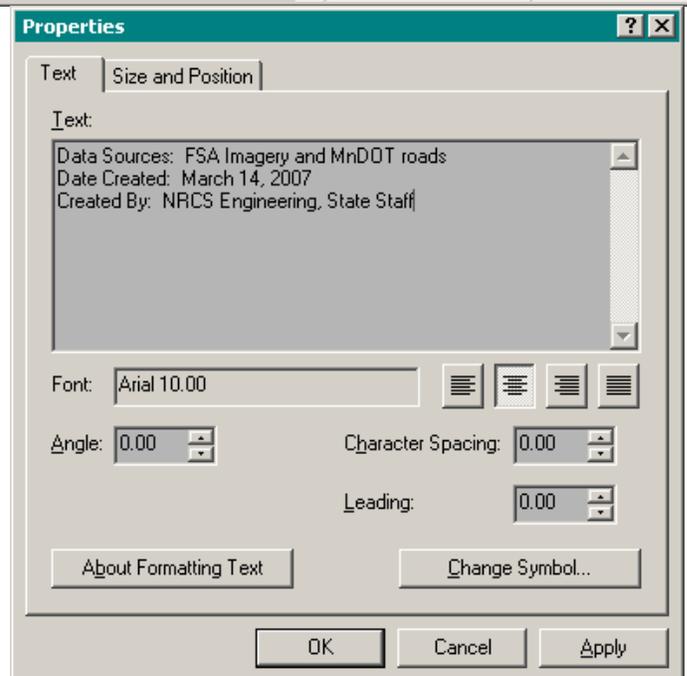
15. Next, insert a North Arrow:

- a. Click on menu **Insert – North Arrow**
- b. Select whichever graphic you want.
- c. Click OK.
- d. The North Arrow is placed in the middle of your map.
- e. Click on it and drag to where you want it to go.
- f. Again, you may have to reposition some of the other elements you've inserted.



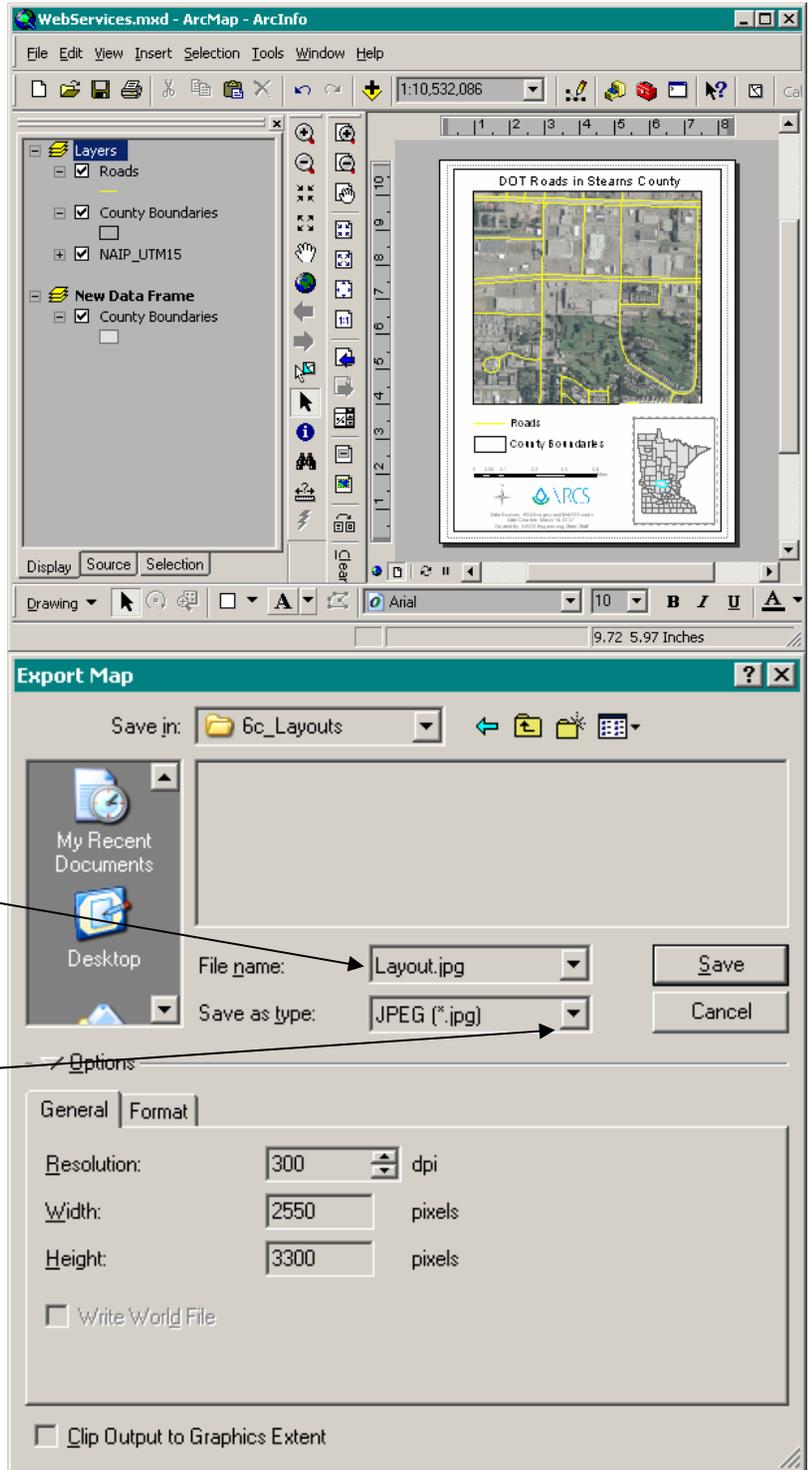
16. Often, it is necessary to insert a block of text. In every map, you should include information about where your data came from, called Data Sources. To insert Text:

- a. Click on menu **Insert – Text**
- b. This inserts a teeny, tiny little text box in the middle of your map – awfully hard to actually see.
- c. Just begin typing something, so you can see it better, and then click on it to move it somewhere so you can see it better.
- d. Then, Double-click on it and a dialog box like that at the right will open, which is easier to see and type your information. Example provided at right.



- e. The font size for this information should be smaller than your Legend font size. Arial 10 pt font is generally a good size, but can vary depending on your map.
- f. Click **Ok** to close.

17. Your finished product is shown at right. You can now print it or export it to a jpeg.



- 18. To do this:
 - a. Click on **File – Export Map**
 - b. Then navigate to where you want to save the file
 - c. Give it a Name
 - d. Click on **Save**.

There are also other types of files you can export to. Just click on the little black down triangle and look at the other options.