

#2 – Labels and Annotation

DESCRIPTION: **Annotation** is one option in ArcGIS for storing text (labels) to place on your maps. With **annotation**, each piece of text stores its own position, text string, and display properties. If the exact position of each piece of text is important, then you should store your text as **annotation**. ArcGIS also supports the display and conversion of other **annotation** types including ArcInfo coverage and computer-aided design (CAD). Labels are the main alternative to **annotation**. A label's text and position are generated dynamically according to a set of placement rules. You cannot move or change their properties.

GOAL: The goal of this lab is to create a set of labels, convert them to annotation and see the differences between the two types of labels. Also included is how to create “Callout” labels that can be used to emphasize a certain feature on the map.

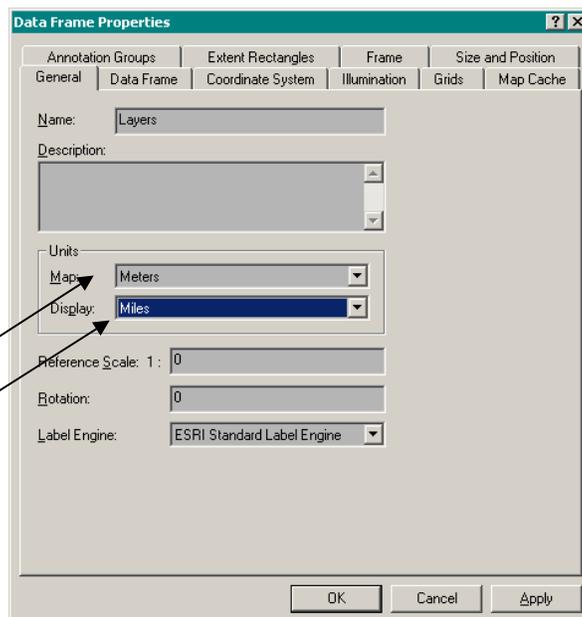
Initial Project Setup:

1. Open ArcCatalog.
2. In your **C:\ Home \ Projects** folder, create a new subfolder called **Labels**. This is where you'll work from on this exercise.

3. To Begin and Save your Project:

- Open ArcMap
- Click on **File - Save As – Labels.mxd**. *Make sure you navigate and save this project to your C:/Projects/Labels folder.*

4. In the “Table of Contents”...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 already 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.

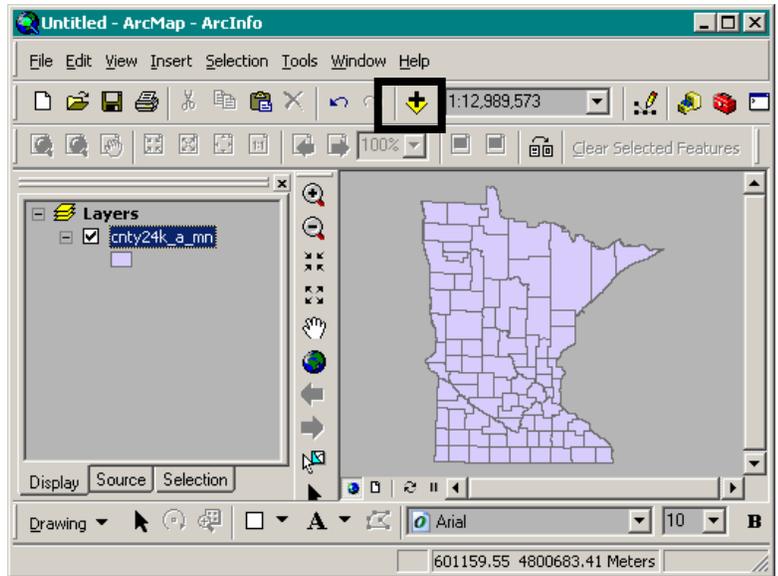
Also recall that the “Display: Miles” is what is used when you add a Scale Bar to your Layout – distance will be measured in miles (vs. feet, meters, etc.).

Begin the Process

1. In ArcMap, add the following dataset to your project: (click on icon shown at right)

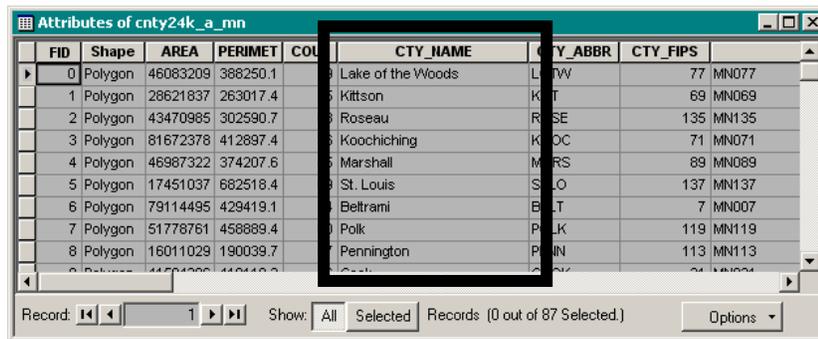
f:\geodata\government_units\cty24k_a_mn

Your colors may vary from what's shown at right.



2. Right-click on the **cty24k_a_mn** dataset and click on **“Open Attribute Table.”**

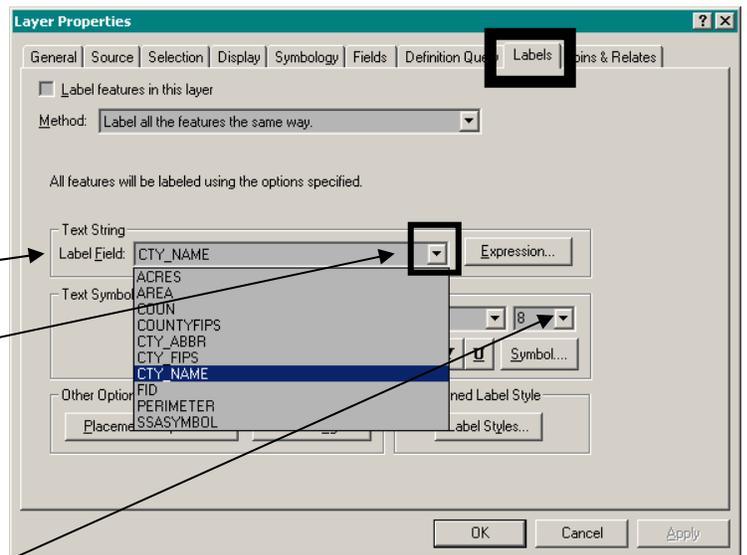
I've reduced the width of some of my columns to better show you the field you'll need to use for labeling. It's called **“CTY_NAME.”** This field contains all of the county names.



| FID | Shape | AREA | PERIMET | CTY_NAME | CTY_ABBR | CTY_FIPS |
|-----|---------|----------|----------|-------------------|----------|-----------|
| 0 | Polygon | 46083209 | 388250.1 | Lake of the Woods | LNTW | 77 MN077 |
| 1 | Polygon | 28621837 | 263017.4 | Kittson | KIT | 69 MN069 |
| 2 | Polygon | 43470985 | 302590.7 | Roseau | ROSE | 135 MN135 |
| 3 | Polygon | 81672378 | 412897.4 | Koochiching | KOOC | 71 MN071 |
| 4 | Polygon | 46987322 | 374207.6 | Marshall | MARS | 89 MN089 |
| 5 | Polygon | 17451037 | 682518.4 | St. Louis | SLO | 137 MN137 |
| 6 | Polygon | 79114495 | 429419.1 | Beltrami | BELT | 7 MN007 |
| 7 | Polygon | 51778761 | 458889.4 | Polk | POLK | 119 MN119 |
| 8 | Polygon | 16011029 | 190039.7 | Pennington | PENIN | 113 MN113 |

Close the Attribute Table.

3. Again, Right-click on the **cty24k_a_mn** dataset – click on **Properties**.
4. When the Layer Properties dialog box opens, click on the **“Labels”** tab, as shown at right.
5. Notice in the middle of the dialog box, a gray box that says **“Label Field:”**
6. Click on the down arrow and select the **“CTY_NAME.”** Recall from Step 2 above, that we know this is the field that holds the county names.
7. Change the font size **FROM 8 TO 6** by clicking on the down arrow next to the 8.



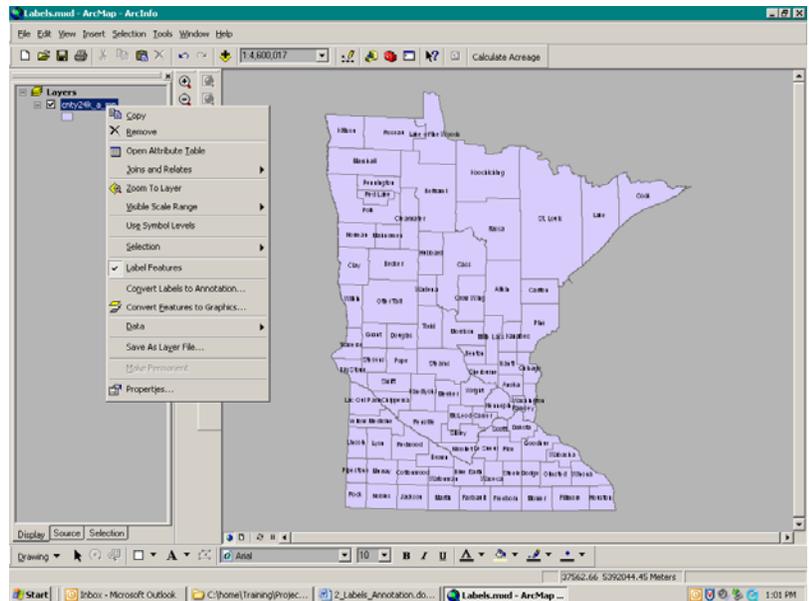
At this point, you could also change the font symbol, whether you want your label bolded, italicized or underlined, etc. Select whichever ones you'd like to use and then Click **OK** to proceed to the next step.

8. Next, right-click on “cty24k_a_mn” again, and click “Labels.”

- If you right-click again on the dataset you will notice that there is now a check mark displayed next to the “Label” in the Context Menu.
- This is, basically, a toggle on – toggle off, to see or not see your labels.

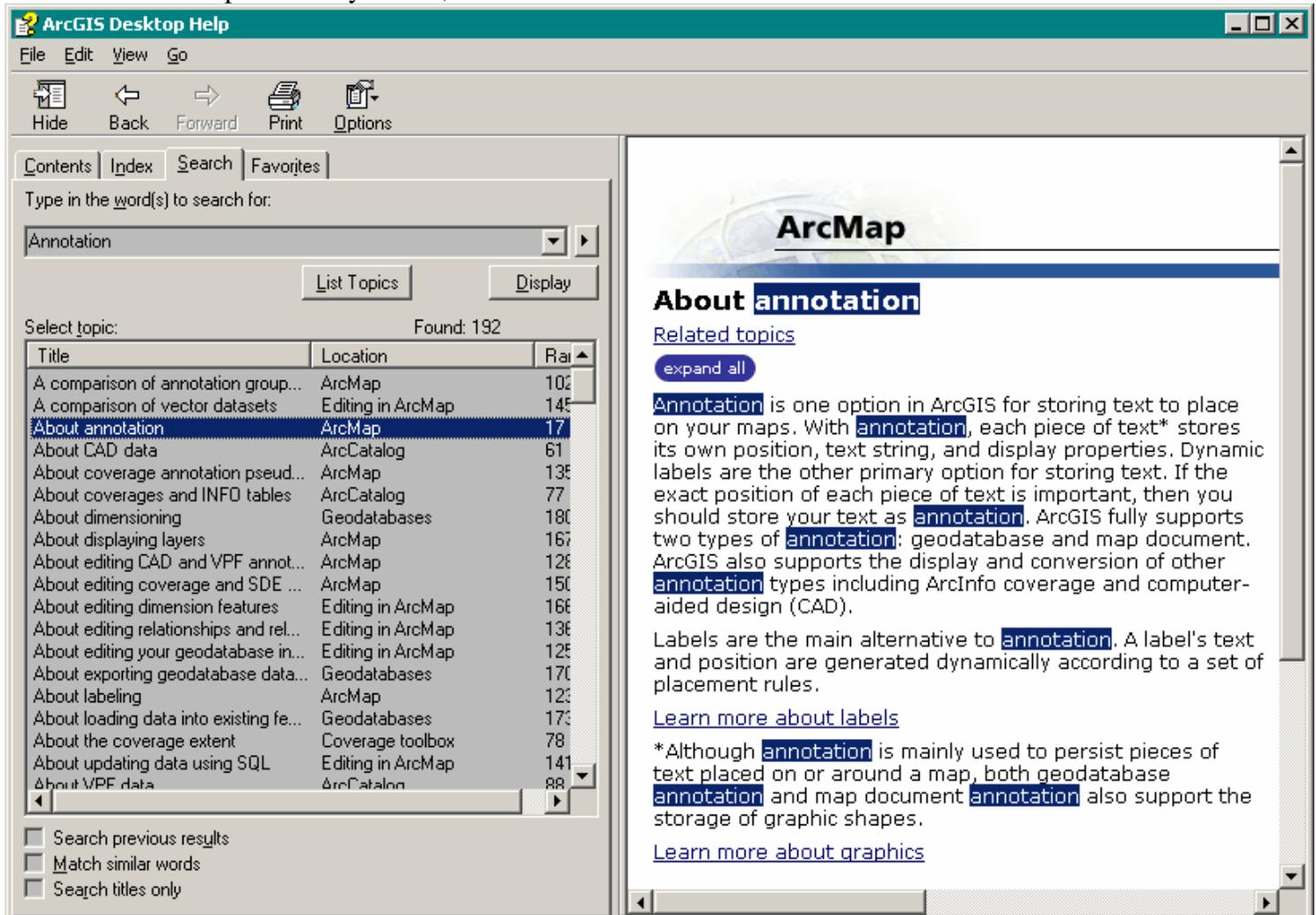
Now look at your labels. They are kind of smushed together (notice Roseau and Lake of the Woods at the top, center).

We need to be able to move the labels around, but if you try to select a label, you’ll notice that you cannot. Remember, labeling only allows us to toggle off or toggle on – that’s it.



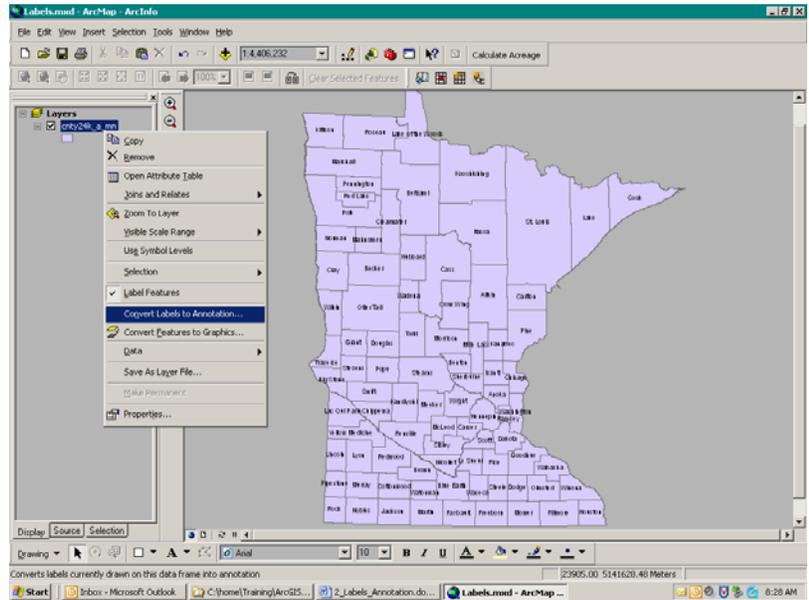
This is why we need to convert the labels to annotation.

Click on Help – ArcGIS Desktop Help – Search - and type in Annotation to learn more about Annotation. (Click on “Title” to sort alphabetically. Then, look for “About annotation” as shown below.

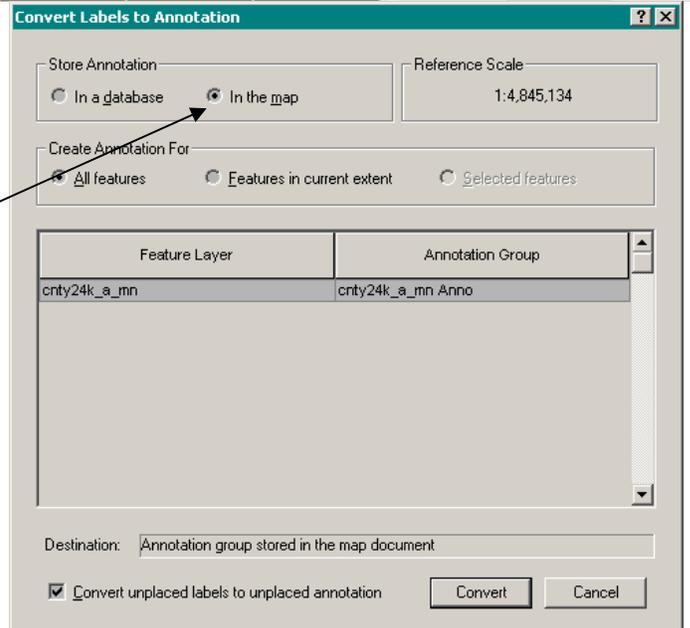


- To convert to annotation, right-click on “**cty24k_a_mn**” and this time select “Convert to Annotation” in the Context Menu.

Recall that this will allow you to individually select any label and move it around, or do any other adjustments you want (size change, color change, etc.)



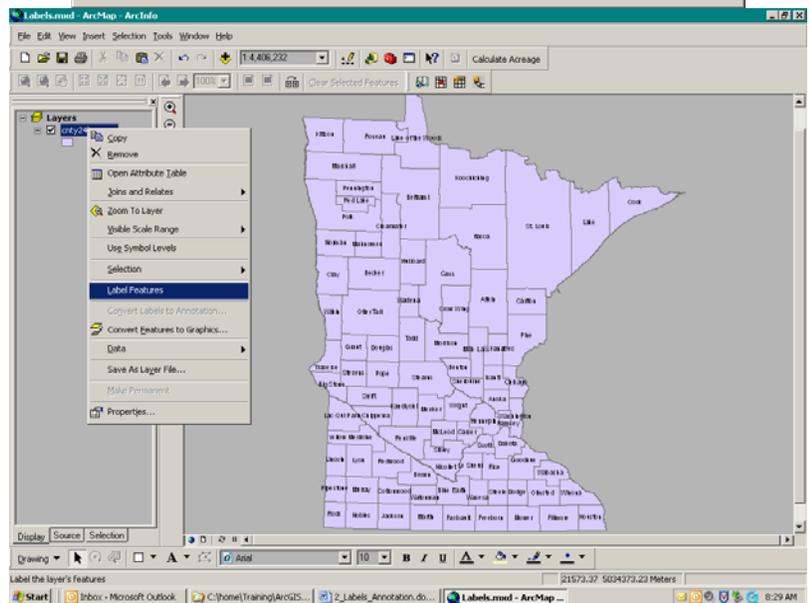
- When the dialog box opens, it will look a little different from what’s at right (You should see “In a database” radio button as the one that is the default).



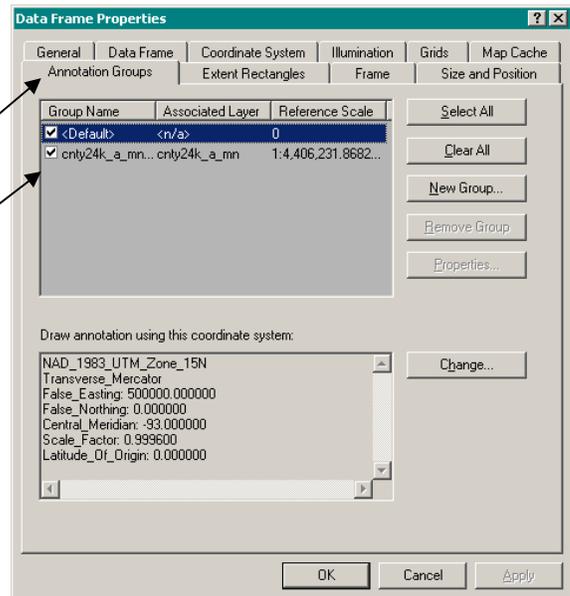
- What you need to do is just click on “**In the Map**” and you will see the dialog box change to what’s at the right.
- This will store the labels as part of the map project (rather than in a separate database).
- Click **Convert**.

- Now if you right-click the cty24k dataset, you will notice that the “Label Features” no longer has a check mark next to it – and yet, the labels still appear on the map.

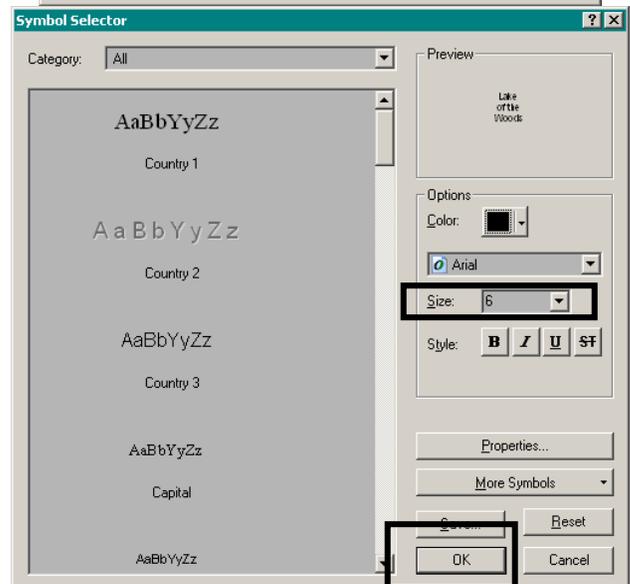
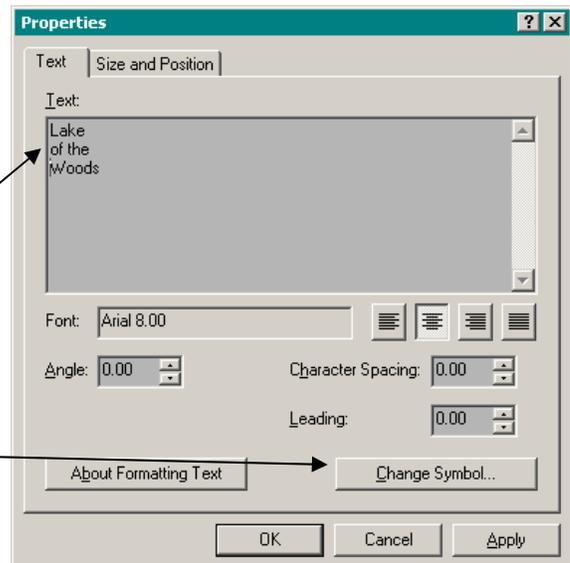
This is because the labels have been stored as part of the project AND you can now turn them on and off using a different method which is shown in the next step.



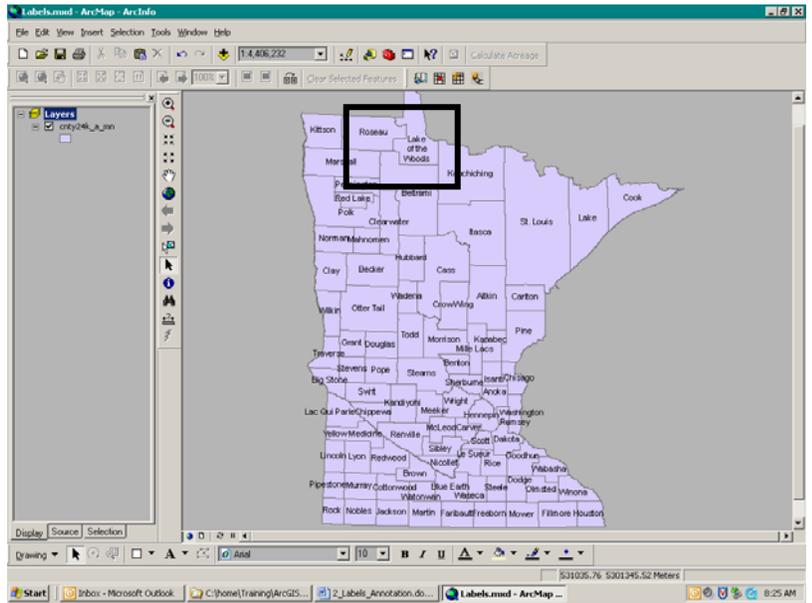
12. This time, right-click on the data frame called “**Layers.**”
 - a. The dialog box at right will open
 - b. in the Tab “**Annotation Groups**”
 - c. you will find a new group called the same as the shapefile, **cty24k_a_mn**. You can turn off/on these labels from this Properties box.
 - d. This is now how you will either show or not show your labels in the map.



13. So, now that we have annotation and know how to turn them on and off, what do we do with them in the View?? In your View Display
 - a. Double-click on the label “**Lake of the Woods**”
 - b. The dialog box at right opens up, but the text will be all on one line. Change the text so it looks like what I have at right.
 - c. Click on **Change Symbol**
 - d. Make sure the font size is set to **6**.
 - e. Click **OK**.



14. Now look at the map and notice the difference in the placement of the “Lake of the Woods” label. You are now able to select the text, reformat it, and move it so that it fits better inside the polygon (as shown at right).



15. Continue to make the various changes to the labels so they fit better inside the county polygons.

Your results should resemble the picture at right. (See how the labels here are different from those in #14 above.)

That’s it! You now have labels that you can turn on/off, move around, resize, etc.

