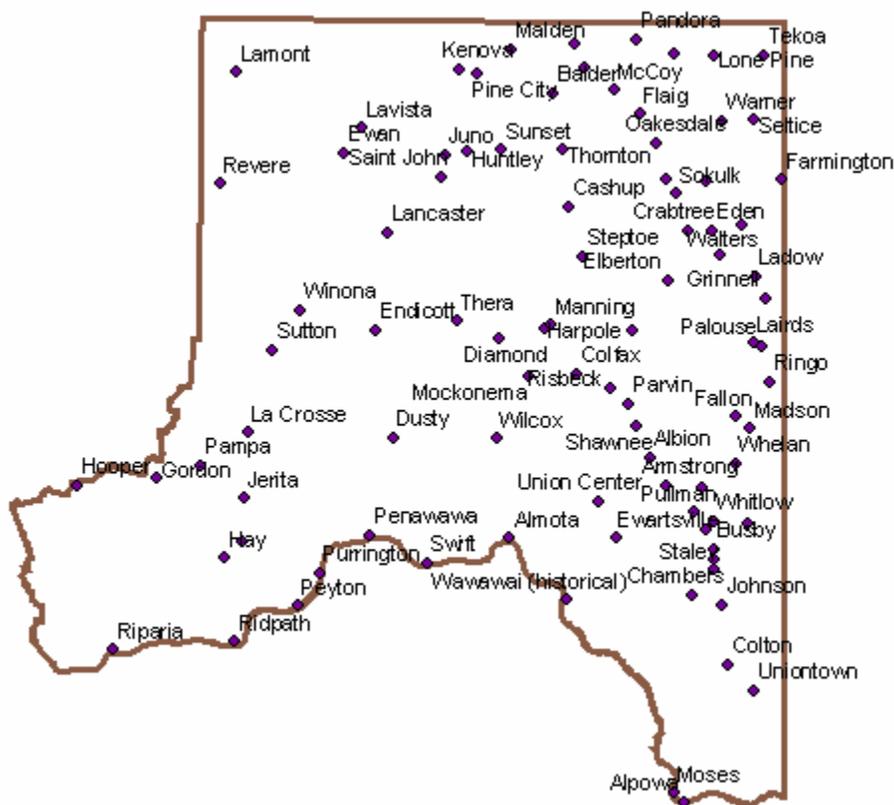


Helpful Hint—Geographic Names

Applies to Version:	Toolkit 5.2, SP-2
Written by:	June Johnson Washington NRCS Toolkit Coordinator
Helpful Hint Date:	10-9-2006

Background:

There is new geodata that has been acquired for use here in Washington. There are two point layers found in O:\geodata\geographic_names that are called **gnispop_p_wa<fips>.shp** and **gnisnonpop_p_wa<fips>.shp**. (GNIS stands for Geographical Names Information System. It was developed by the US Geologic Survey.) There are many points in these layers. If a user turns on all of them, the map may become too populated with them. This hint will describe how to select only those features the user wants to display and put them on the map.



Whitman County, gnispop_p_wa075.shp

Description of Layers:

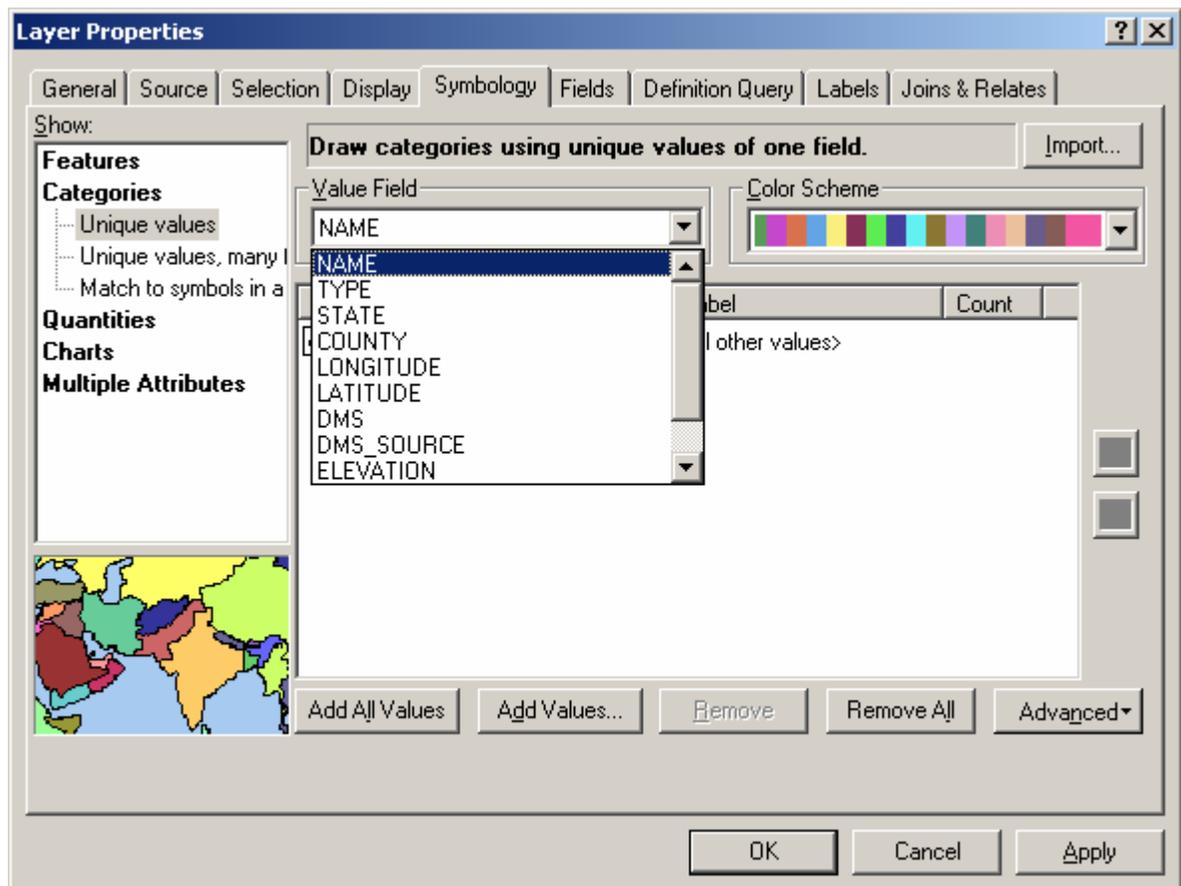
gnispop_p_wa<fips>.shp This point layer shows the **Populated Places** in a county. Populated places range from large cities down to towns to grain elevators (where there once were towns) to ghost towns. The attribute table has several columns: Name, Type, State, County, Latitude, Longitude, DMS (degrees, minutes, seconds), Elevation, Topo Map, and Fips Code.

gnisnonpop_p_wa<fips>.shp This layer displays **Non-populated Features** ranging from airports to valleys and may include some populated places, too. The attribute table contains: State, Name, Type, County, Elevation, Topo Map (not populated in the county I'm using for this example), Latitude, Longitude, and Fips Code.

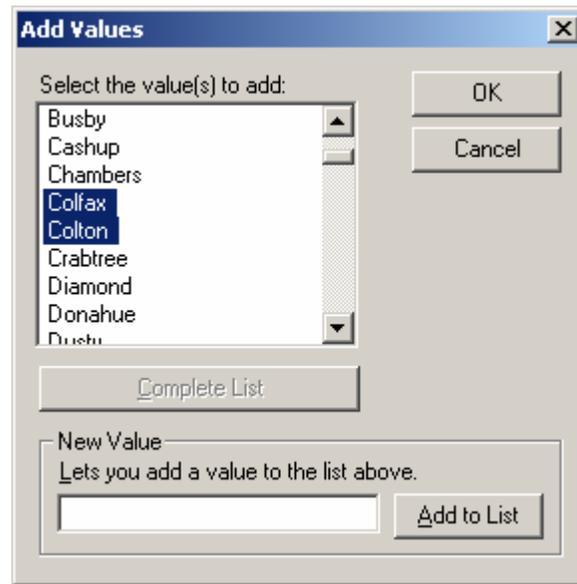
Since these layers are for a county in the state of Washington, the State, County, and FIPs code columns all have the same entries, so they will not be used to differentiate between points.

Instructions for Populated Places

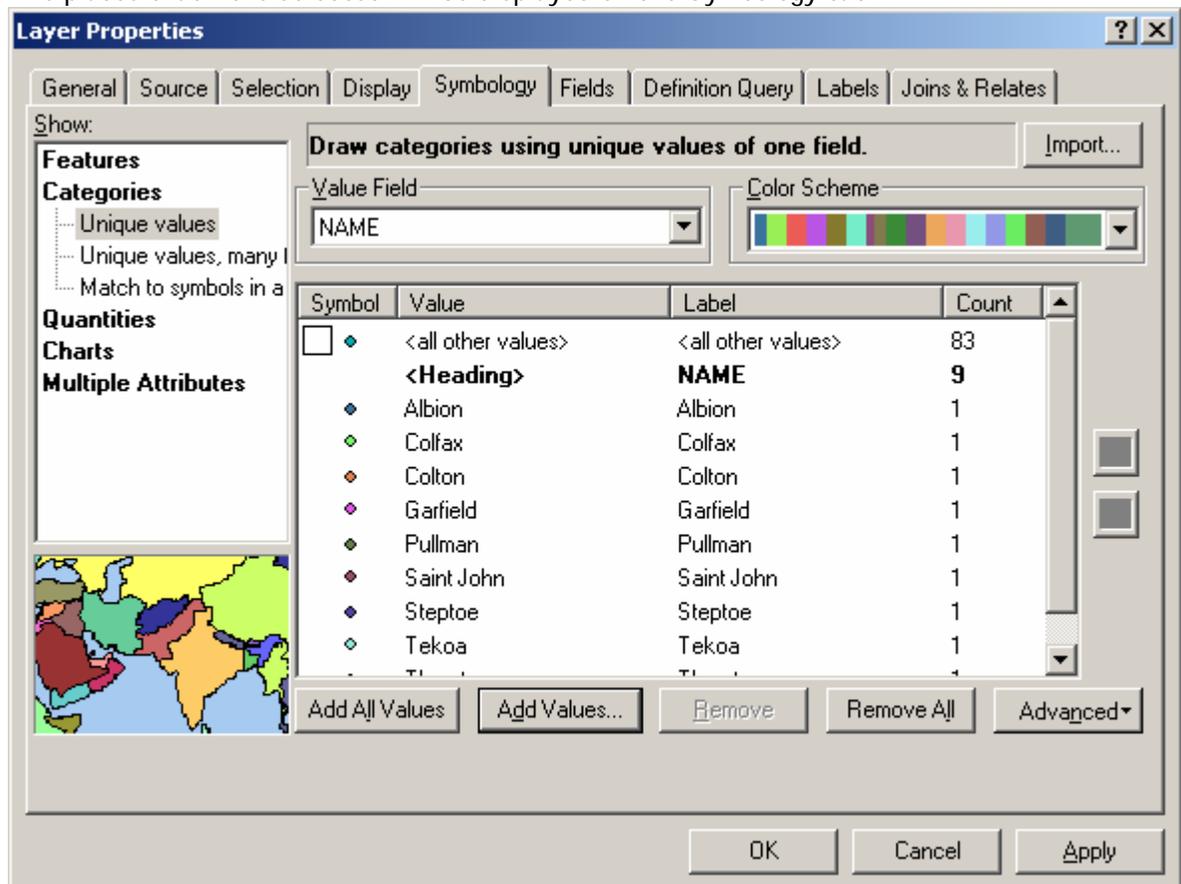
1. Add, or turn on, the **Populated Places**, **gnispop_p_wa<fips>**, layer in the ArcMap project.
2. Right mouse click on the layer name in the table of contents and select Properties.
3. Open the **Symbology** tab from the Layer Properties window.
4. Select **Categories**, **Unique Values**
5. From the **Value Field** select **Name**. Note: the items shown in Value Field are the column headings in the layer's Attribute Table.



- Click on the **Add Values** button to bring up a pop-up window. Click on the Complete List button to load all of the names if it is active. (In this example, all of the names are listed.) Click on the places to add them. Hold down the control key to select more than one at a time and click **OK**.

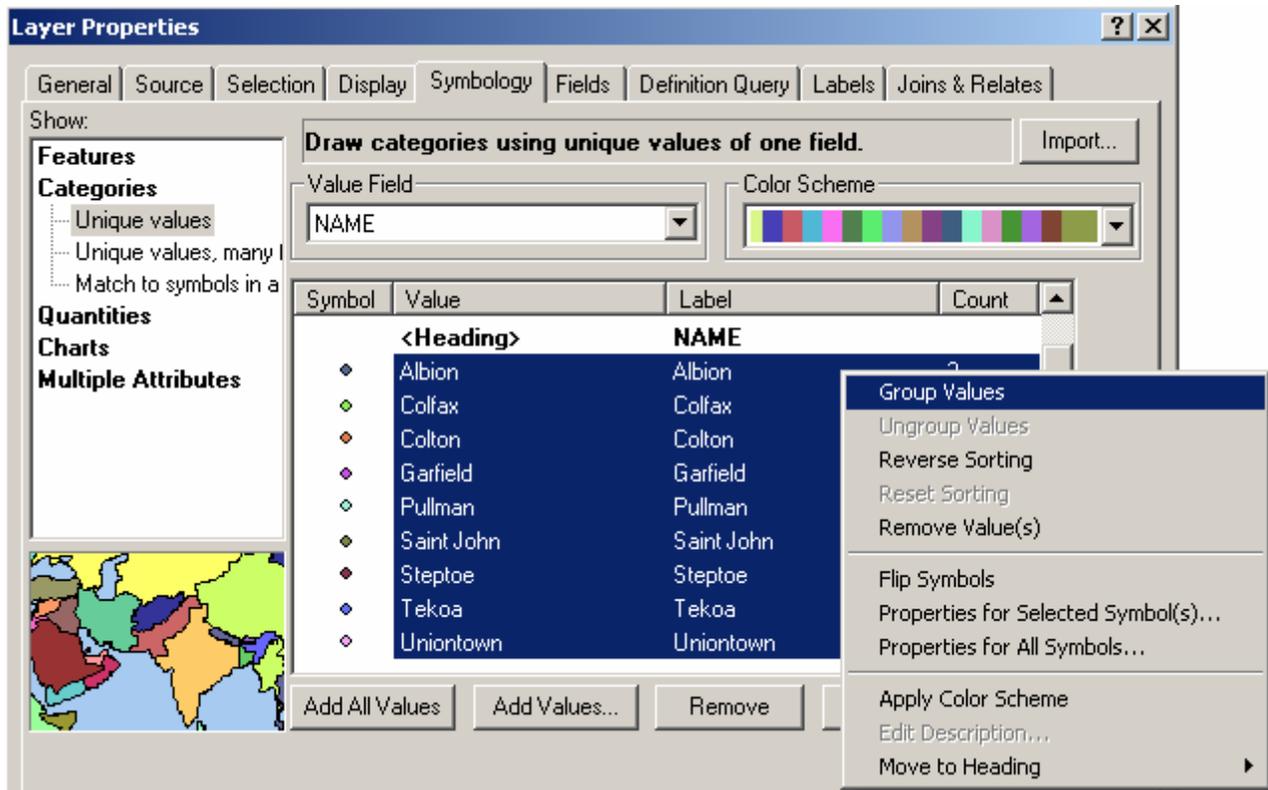


- The places that were selected will be displayed on the Symbology tab.



- Uncheck **<all other values>**.

9. Select all of the Cities in the list and right mouse click. On the pop-up menu, select Group Values.

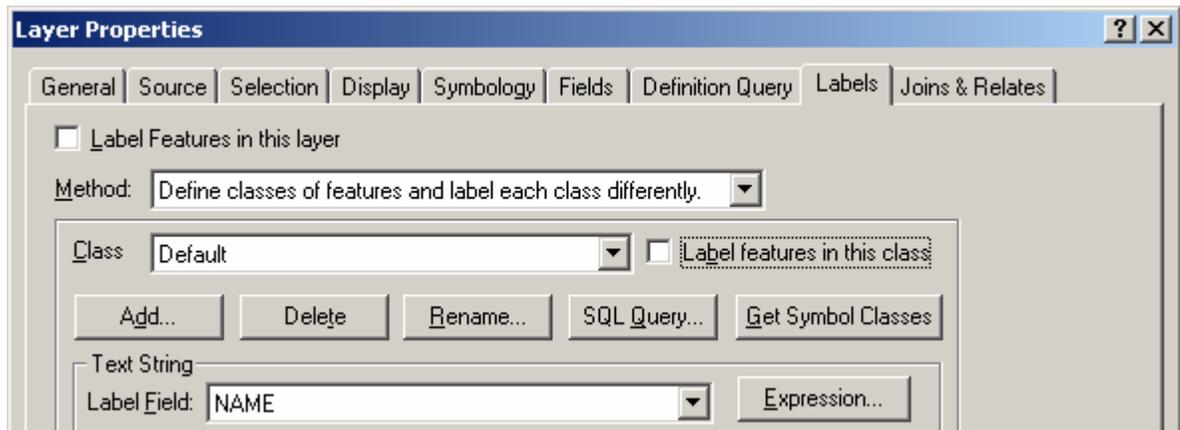


10. Click on the block under **NAME**, and change the string of city names to **Cities**. Under Label, delete the heading **NAME**.

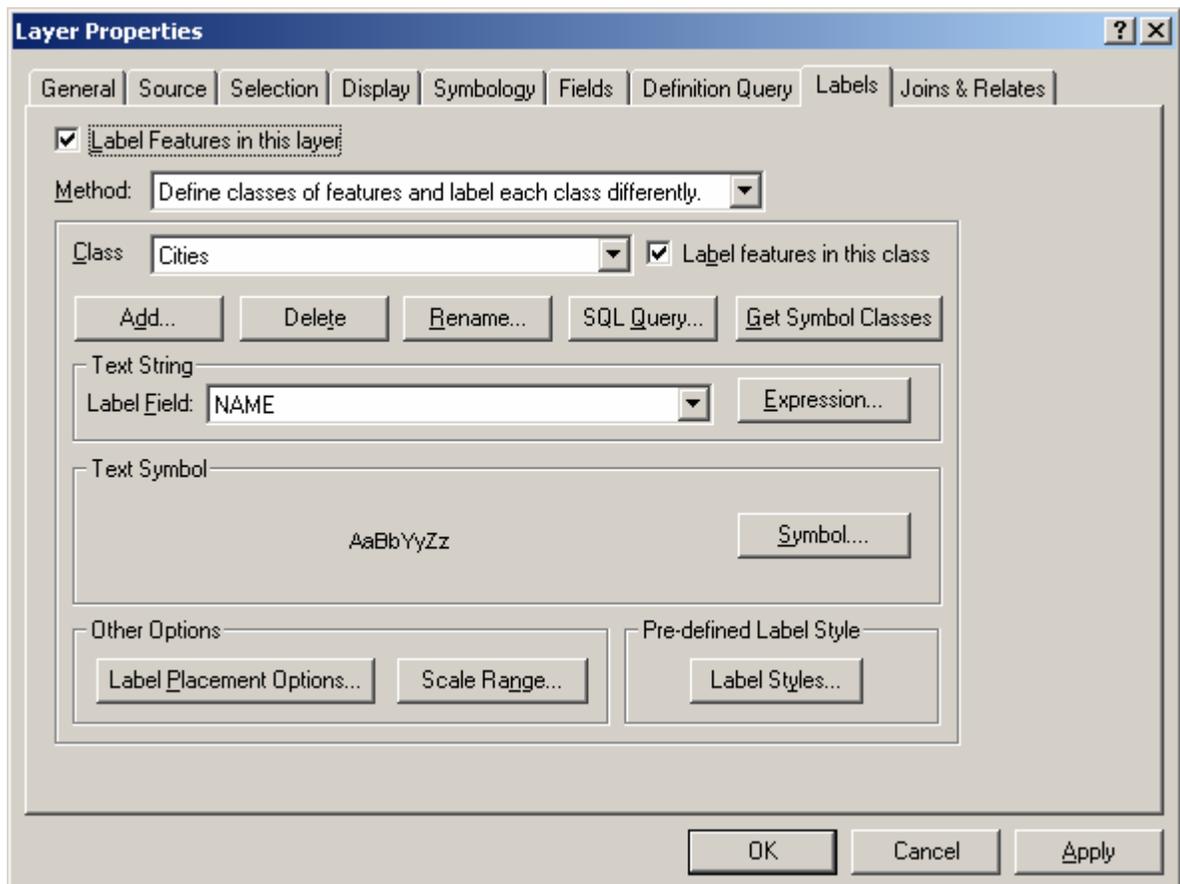
Symbol	Value	Label	Count
<input checked="" type="checkbox"/>	<all other values>	<all other values>	82
	<Heading>		10
	Albion; Colfax; Colton; Garfie	Cities	10

11. At the bottom of the **Layer Properties** screen, click **Apply**.

- Go to the **Labels** tab. Change the **Method** to “Define classes of features and label each class differently”. Under **Text String**, **Label Field**, make sure that **NAME** has been selected. **Uncheck** the box next to **Default** that says **Label features in this class**.



- Click on **Get Symbol Classes**. It will list **Cities** (or whatever the grouped values were called in step 10) listed under **Class**. Verify that there is a check mark beside **Label features in this class**.



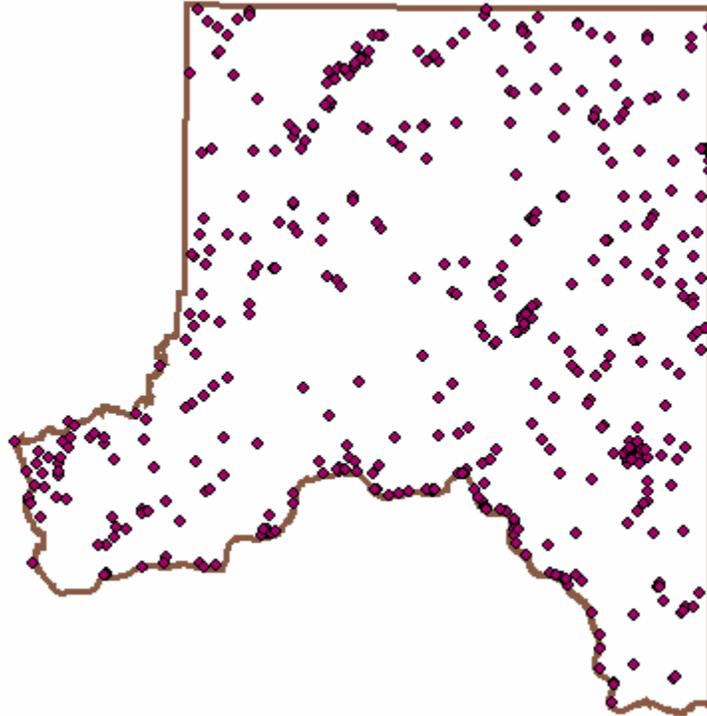
- Put a check mark beside **Label Features in this layer** and click **OK**.



Whitman County gnispop_p_wa075.shp showing selected cities

Instructions for Non-Populated Places

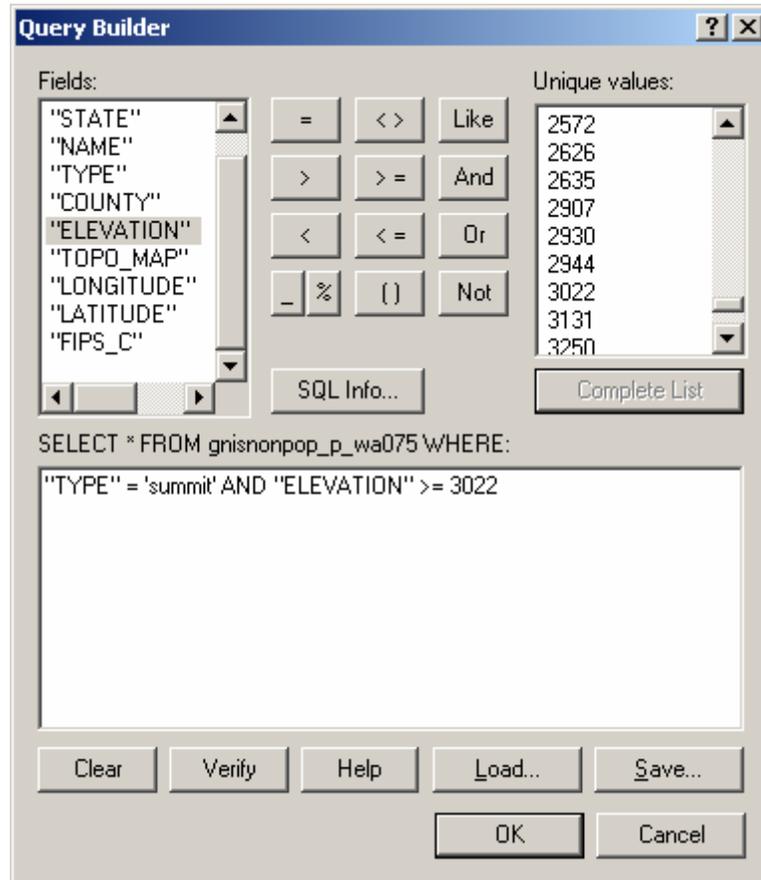
1. Decide what features you want to display. This is all of the points in the gnisnonpop_p_wa075 layer:



2. Right mouse click on gnisnonpop_p_wa075 in the table of contents and **Open the Attribute Table**. It shows all of the attributes of the points in this layer.

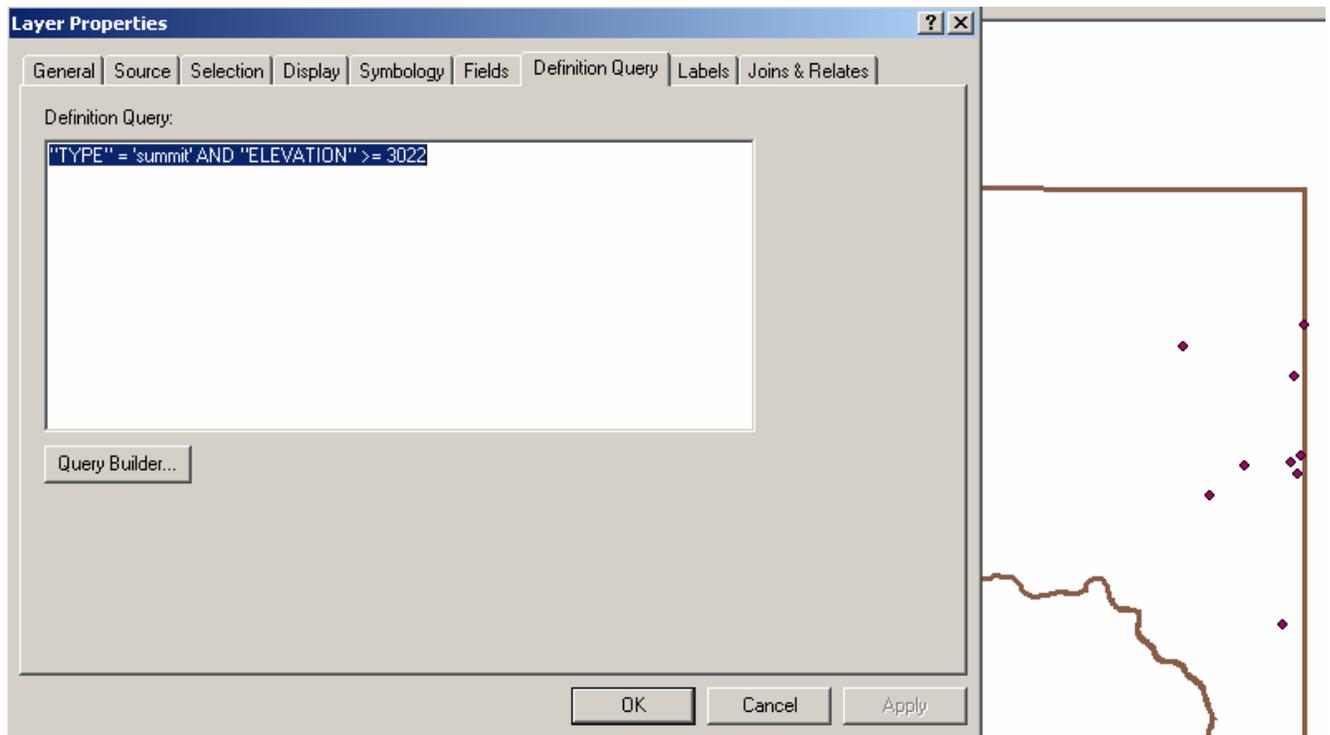
NAME	TYPE	COUNTY	ELEVATIO	TO
Albion	ppl	Whitman	2240	
Alkali Lake	lake	Whitman	0	
Angel Butte	summit	Whitman	3131	
Brush Creek	stream	Whitman	0	
Central Ferry School	school	Whitman	0	
Cherry Cove Lake	lake	Whitman	1505	
Coyote Spring	spring	Columbia	790	
Davis Bar	bar	Whitman	0	
Devils Lake	lake	Whitman	1993	
Dry Creek	stream	Whitman	0	
Evans Spring	spring	Whitman	705	
Farmington	ppl	Whitman	2626	
Fincher Grade	slope	Whitman	1083	
Flaig	ppl	Whitman	0	
Gildersleeve Spring	spring	Whitman	1197	
Green Lake	lake	Whitman	1181	
Hole-In-The-Ground	valley	Whitman	0	
Holland	locale	Whitman	2450	
Hungate Grade	slope	Whitman	1280	
Johns Camp Lake	lake	Whitman	1128	
Johnsons Beach	beach	Whitman	0	

- In this example, to display all of the summits that exceed 3000 feet in elevation, right mouse click on gnisnonpop_p_wa075 in the table of contents and select Properties.
- Click on the **Definition Query** tab and click on the **Query Builder** button. Double click on **"TYPE"**; single click on **Equals**; double click on **"SUMMIT"**; single click on **And**; double click on **ELEVATION**; single click on the **>=** symbol; single click on **Complete List**; scroll down the list to find the first one that is greater than 3000 and double click on it (3022 in this example); click on the **Verify** button to make sure the query was written properly.

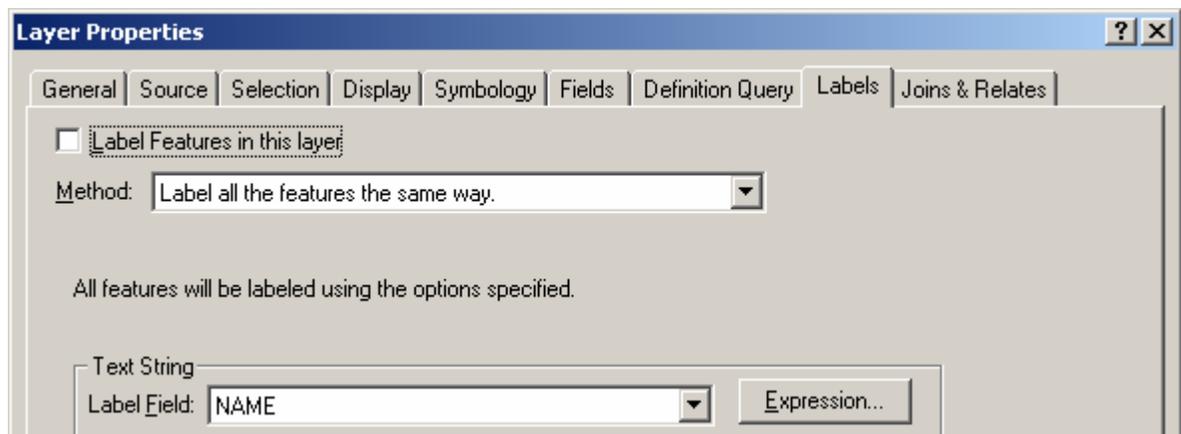


- If "The expression was executed successfully" message is received, click **OK**, **OK**.

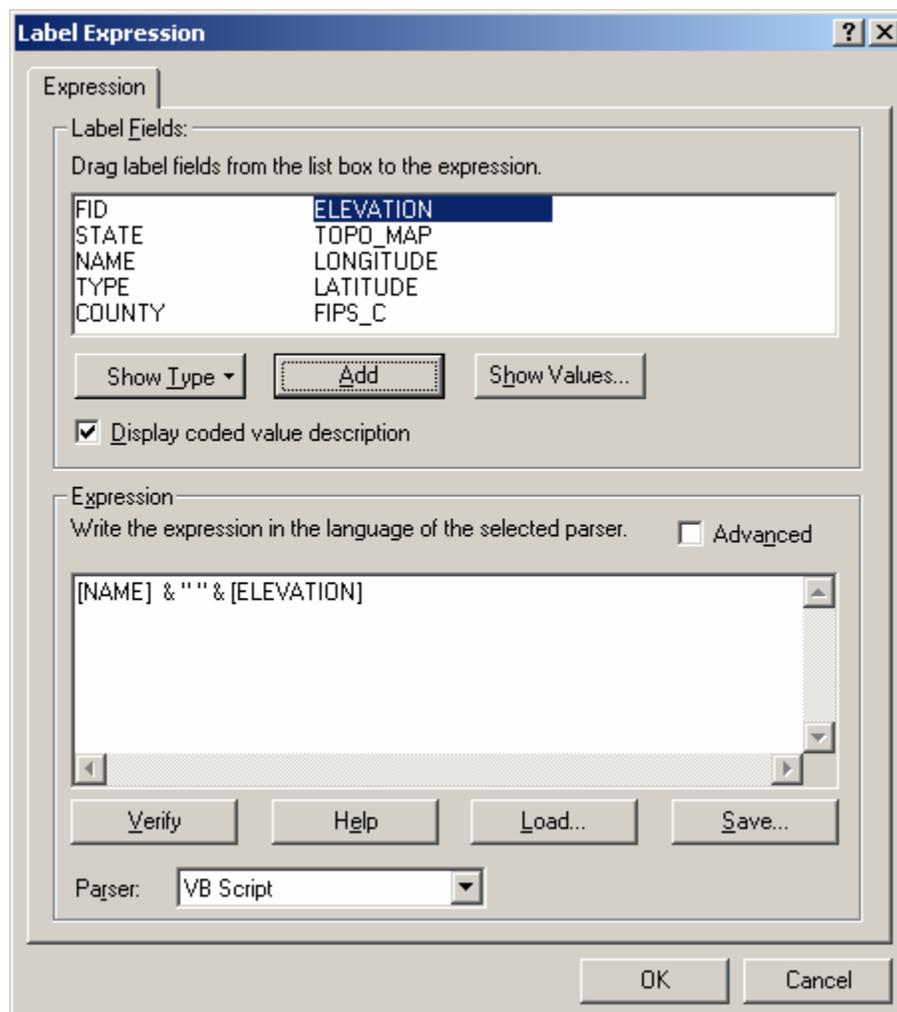
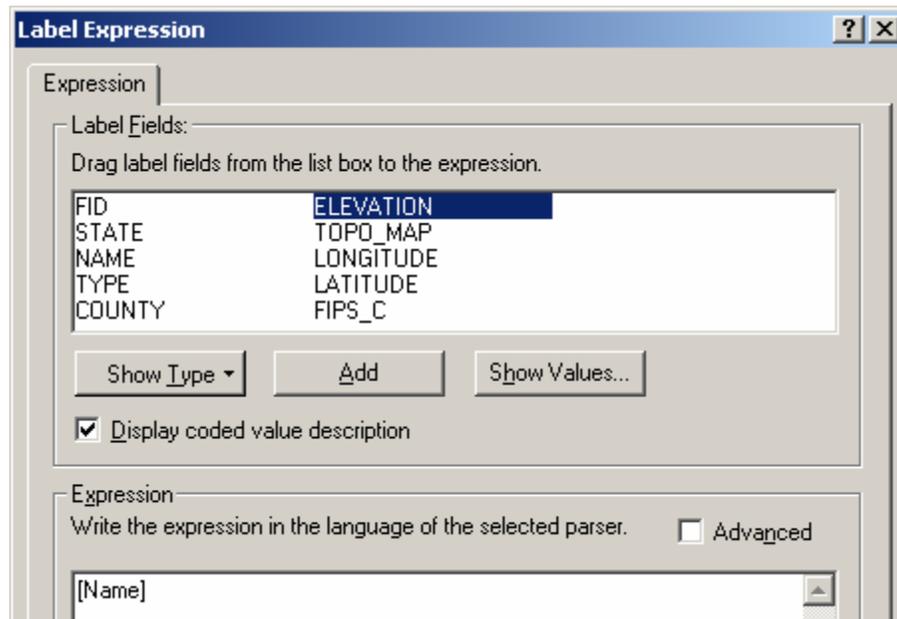
6. Click the Apply button and move the Layer Properties screen, if needed, to verify that it worked:



7. Go to the Labels tab. Make sure that **Name** is displayed in the Label Field; click on **Expression**.



8. Select **Elevation** and push the **Add** button:

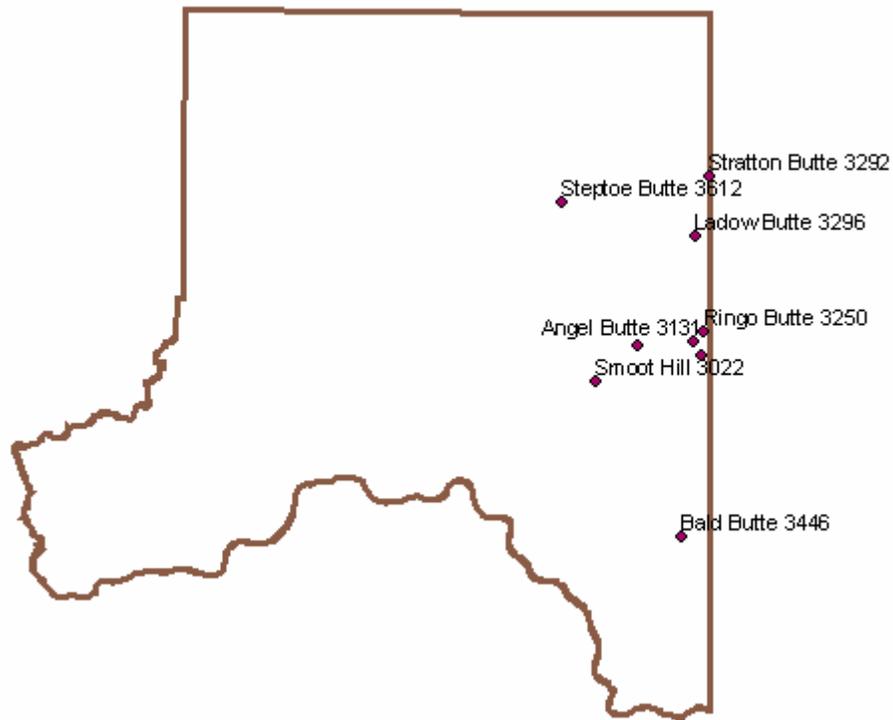


9. Click on **Verify** to make sure that the expression was entered correctly. A sample label will be generated:



Click OK, OK.

10. Make sure that "Label Features in this Layer" is checked on the Labels tab and click OK.



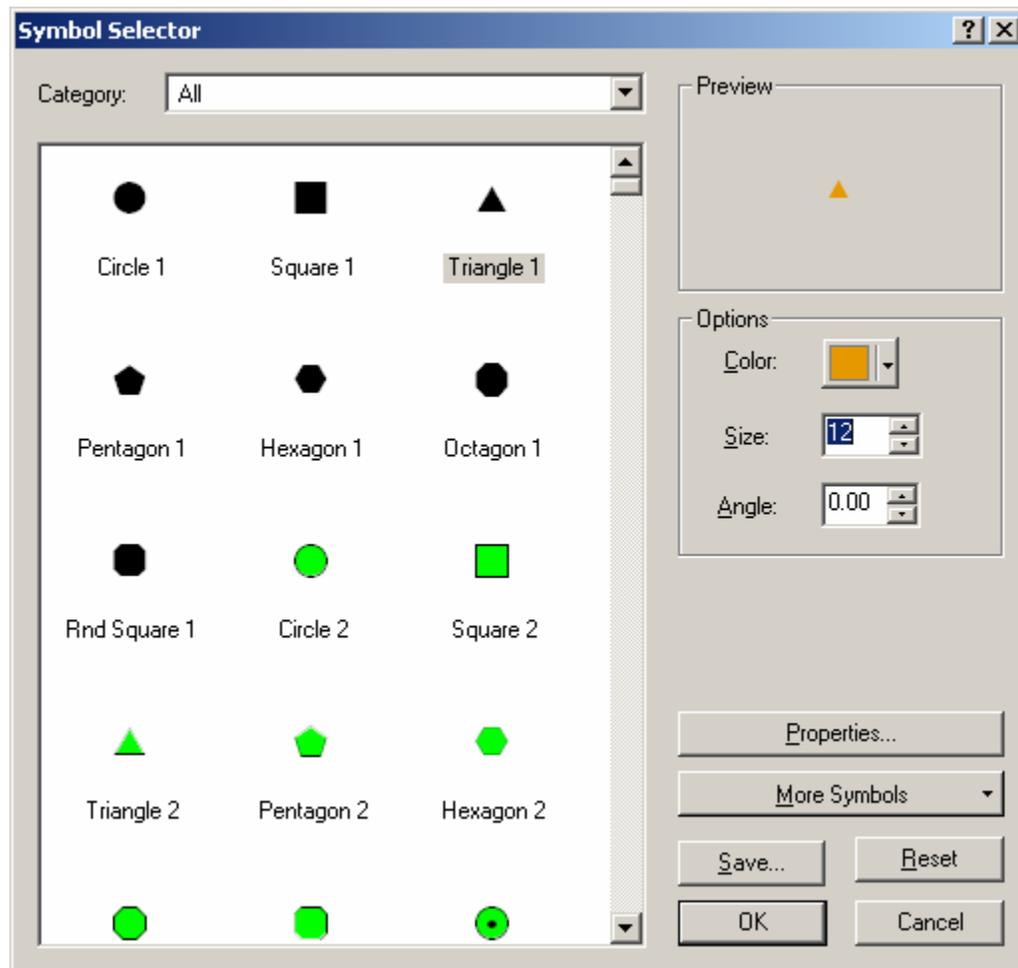
gnisnonpop_p_wa075.shp Summits exceeding 3000 ft elevation

Symbology and Label Appearance

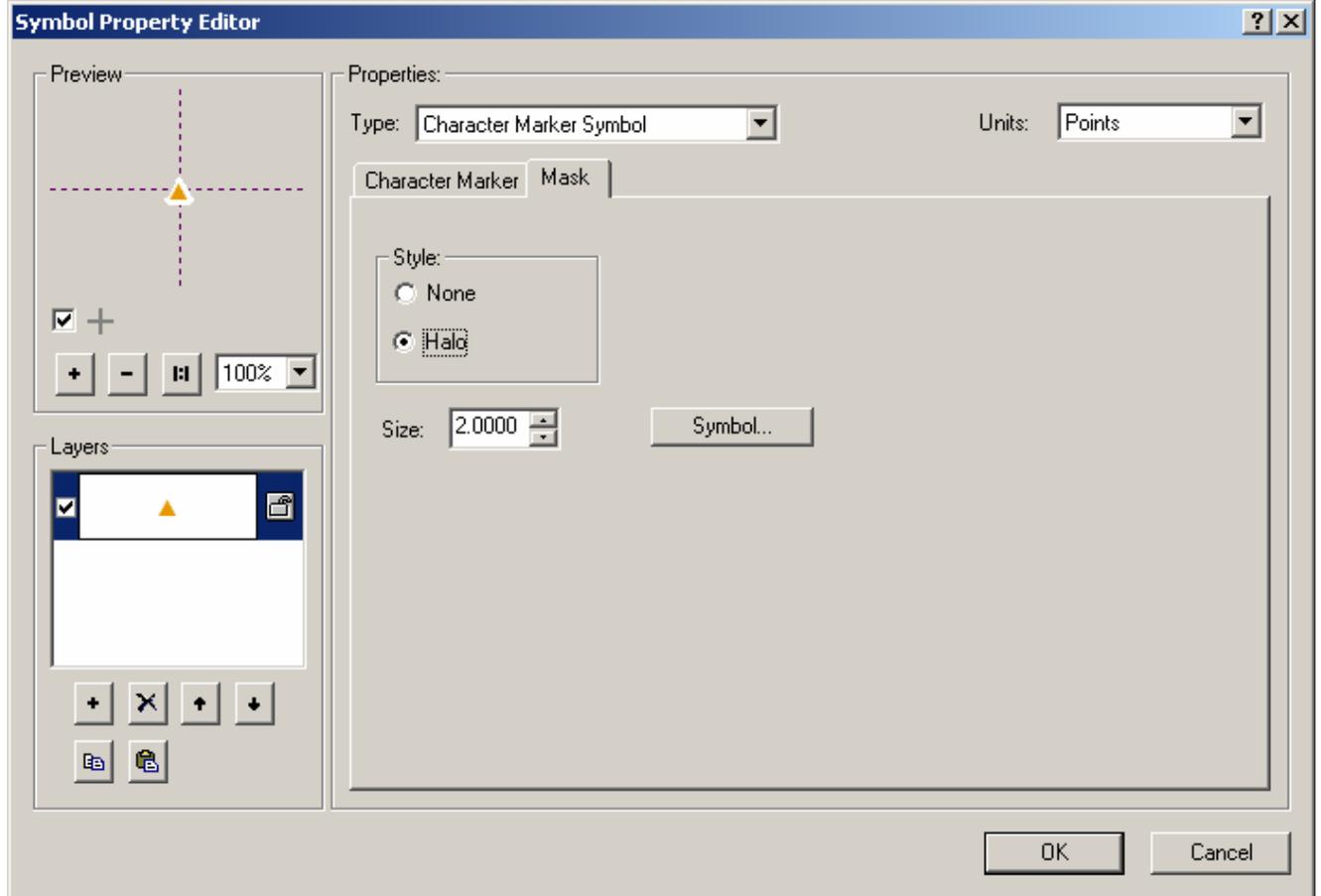
The labels created for the summits greater than 3000 ft. in the previous example are not really formatted for a professional presentation. Try these steps for improving them:

Change Symbol

1. Click on the symbol shown in the table of contents to open the **Symbol Selector**. Scroll down the list to locate one to use, e.g. a triangle for Summits. Select a color and size.

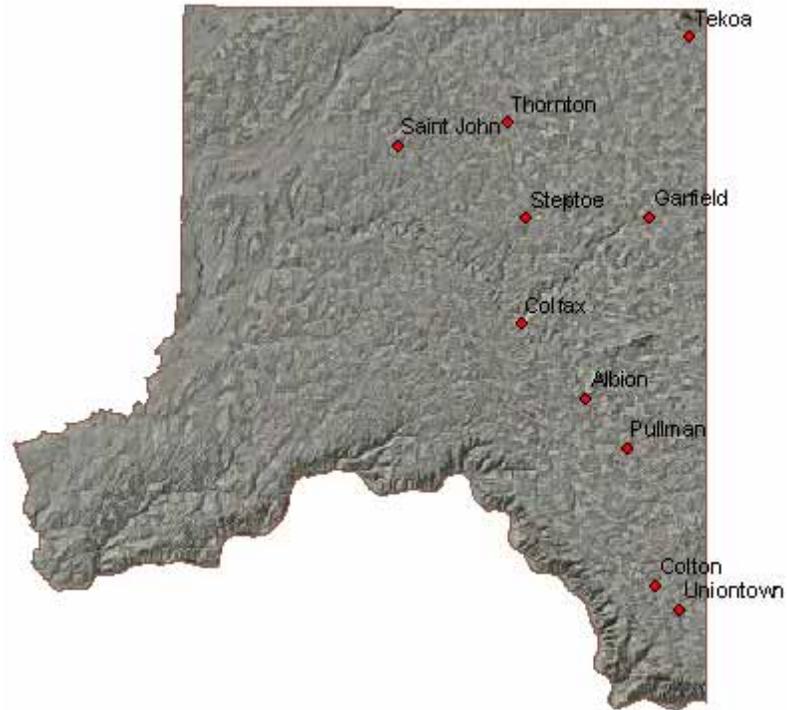


2. If desired, click on the Properties button from the Symbol Selector window; go to the Mask Tab and select Halo. The size of the Halo can be changed. Click on the Symbol button to change the color of the halo, if desired. Click OK.

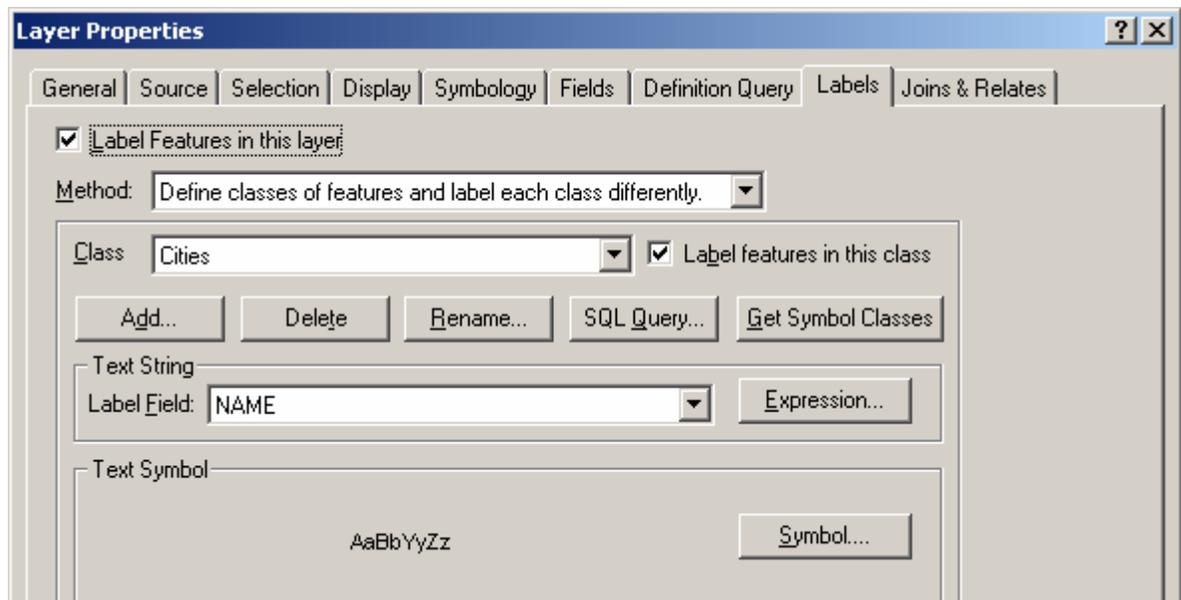


Change Text

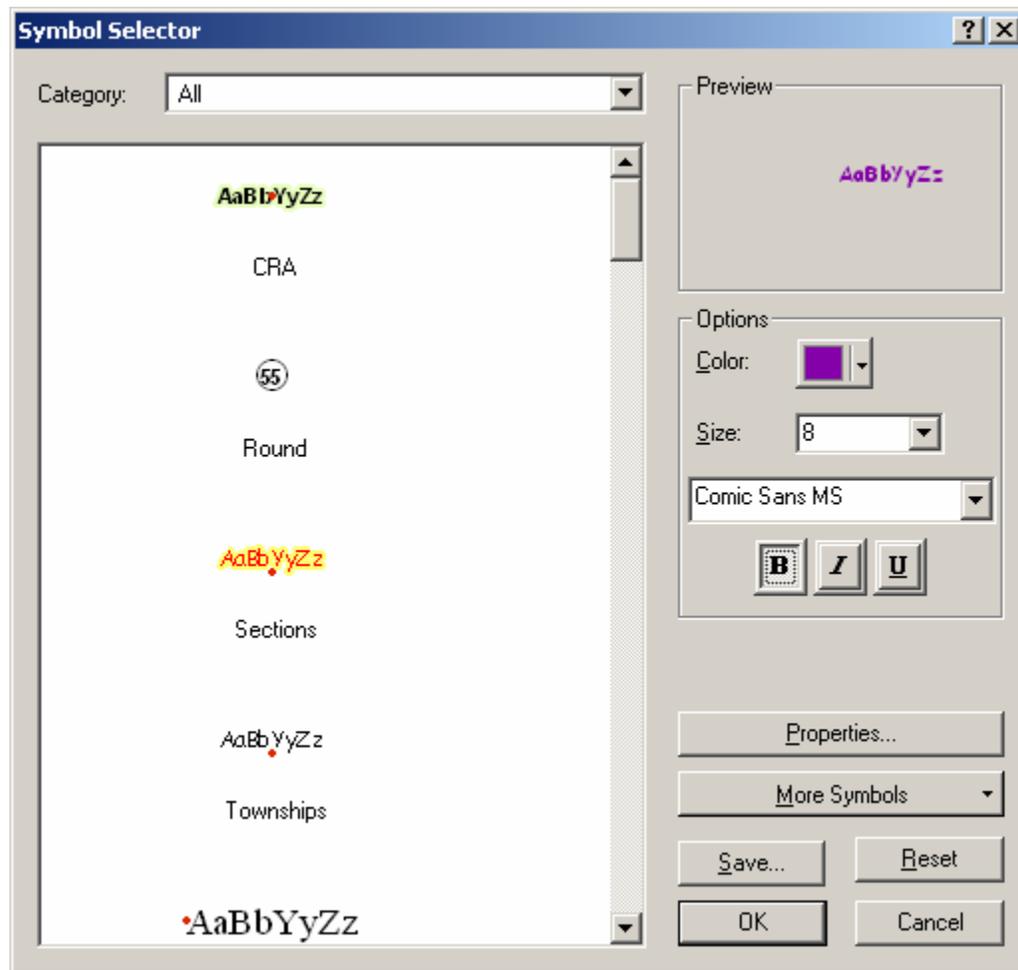
There are several different ways to change the appearance of the text:



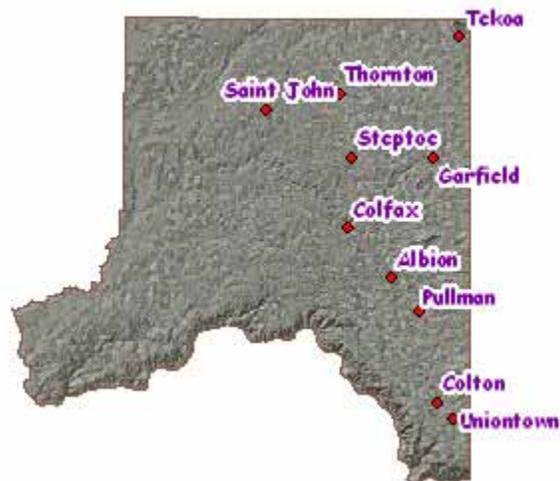
1. For layers where the label is just one row, e.g. Cities, go to Layer Properties, Labels tab; Push on the Symbol button to open the Symbol Selector.



2. Choose a style, or on the right hand side select the font, font color and font format, e.g. Bold, if desired.



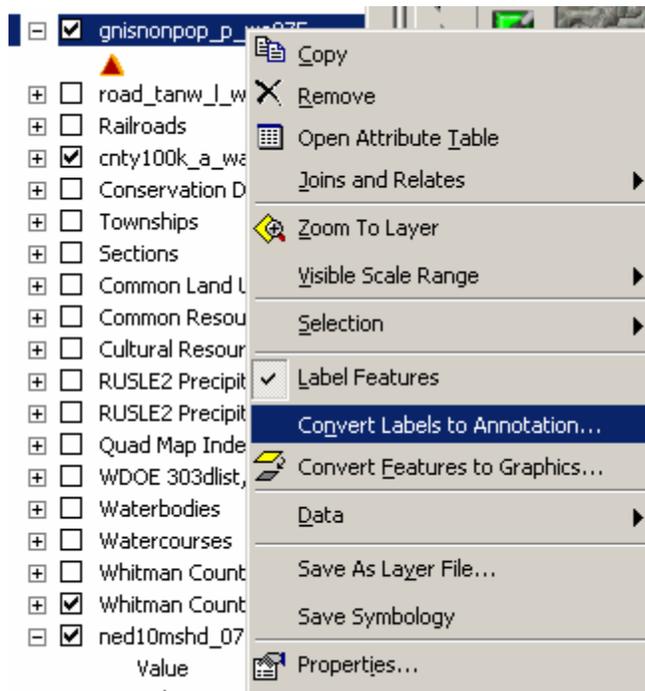
3. To set a mask around the text, click on the Properties button on the Symbol Selector window; in the Editor Window, select the mask tab; set the width for the mask; if desired, click on Symbol to change the color of the mask; click OK, OK, OK.



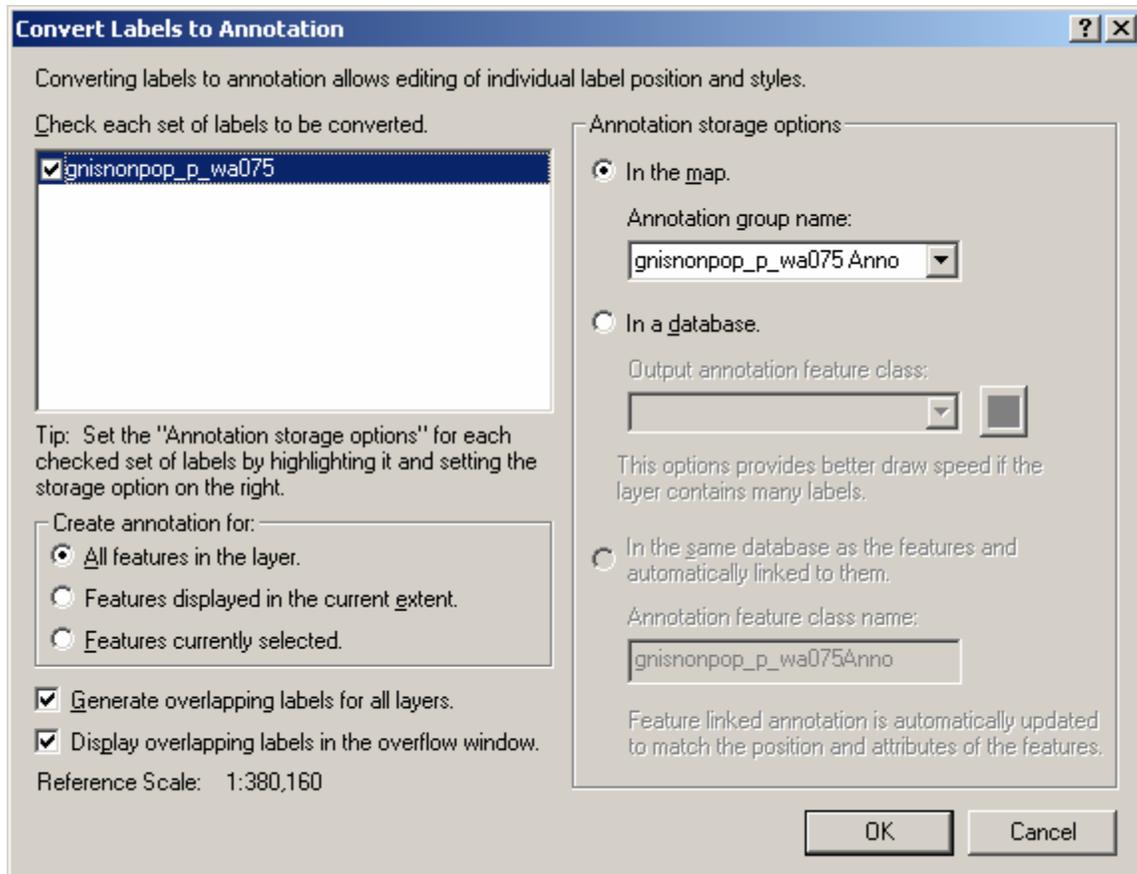
Convert Labels to Annotation Layer

For labels that should be in two rows, e.g. the Summits, or where they need to be moved, follow these instructions to create an annotation layer.

1. Decide the scale at which the map will be printed. (For larger counties, like Whitman, I use a scale of 6 miles equals one inch, or 1:380160. The whole county can be printed on 11x17 inch paper.) Set the data frame to that scale.
2. Right mouse click on the layer name in the Table of Contents and select **Convert Labels to Annotation**.



3. Accept the defaults and click OK



4. From the Edit menu at the top of the screen, pick **Select All Elements**. You may change the text color, font, format, and size from the Drawing toolbar.
5. If you want a mask behind the text, with the pointer tool, right mouse click over one of the selected labels, go to Properties. On the Common Properties for Selected Elements screen, click on change symbol; go to the mask tab; select Halo; set the width and color; click OK, OK, OK.
6. In my example, some of the labels overlap and they are still in one row. To fix this, start by selecting one label with the pointer tool; either double click, or right mouse click and select Properties. On the Text tab, edit the text to make it in two rows with the foot symbol following the number. Click OK. Continue for all symbols



7. As needed, move the labels so that they no longer overlap with each other or the Cities layer.

