



Creating Annotation

Objective: To create geodatabase annotation and use the Annotation toolbar to place each text element with best practice techniques.

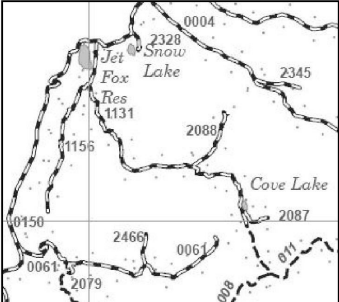
18-1



Overview of Annotation

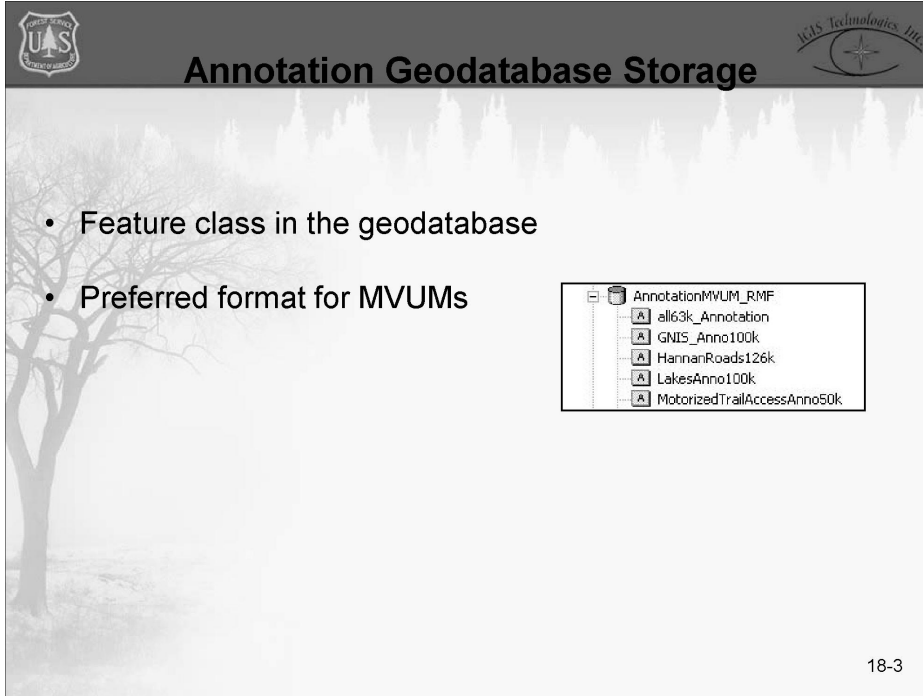
Annotation

- Creation
- Editing
- Feature-linked annotation



18-2

In this chapter we'll take a look at editing annotation and what you can do to change its appearance. Three main components of annotation are creation, editing, and making feature-linked annotation. Creation covers how annotation will be stored in a geodatabase. Editing will use various tools on the annotation toolbar. And finally, we will look at the option for feature-linked annotation to tie the annotation to geographic features.



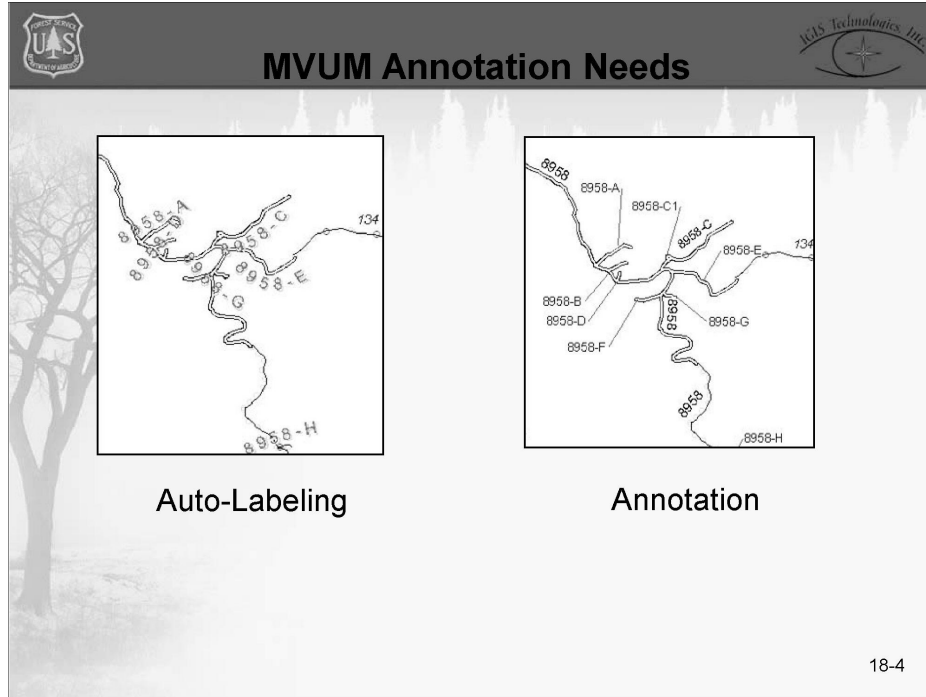
- Feature class in the geodatabase
- Preferred format for MVUMs

AnnotationMVUM_RMF

- all63k_Annotation
- GNIS_Anno100k
- HannanRoads126k
- LakesAnno100k
- MotorizedTrailAccessAnno50k


18-3

Annotation can be stored as a layer inside a geodatabase called an annotation feature class. This format allows it to be used in multiple map documents at the same time. Annotation stored as a layer in a geodatabase also allows it to be dynamically linked to the feature it describes. This dynamic linkage allows the annotation to reflect updates made to the features position or attributes.




Annotation allows the author a host of options for manipulation and placement on the map. While the auto label tool places the labels in the best location it can, these are determined by the general rules established by the labeling engine. This is always needed as a starting point. Where annotation goes further, is it allows the user to modify the text placement to create a proper fit for each map.

Creating Annotation



Creating Annotation



- Convert labels to annotation
 - Reference scale is current scale
 - Storage options
 - Map document
 - Geodatabase
- Results in a Geodatabase annotation class
- ArcMap or ArcToolbox tools
 - Coverage to GDB

Convert Labels to Annotation

Show Annotation:
☒ In a database ☐ In the map Reference Scale: 1:126,720

Choose Annotation For:
☒ All features ☐ Features in current extent ☐ Selected features

| Feature Layer | Feature Linked | Append | Annotation Feature Class |
|---------------|-------------------------------------|--------------------------|--------------------------|
| Roads | <input checked="" type="checkbox"/> | <input type="checkbox"/> | RoadsAnnc2 |

Destination: Roads\Annc2.mxd\RoadsAnnc2

☒ Convert unplaced labels to unplaced annotation

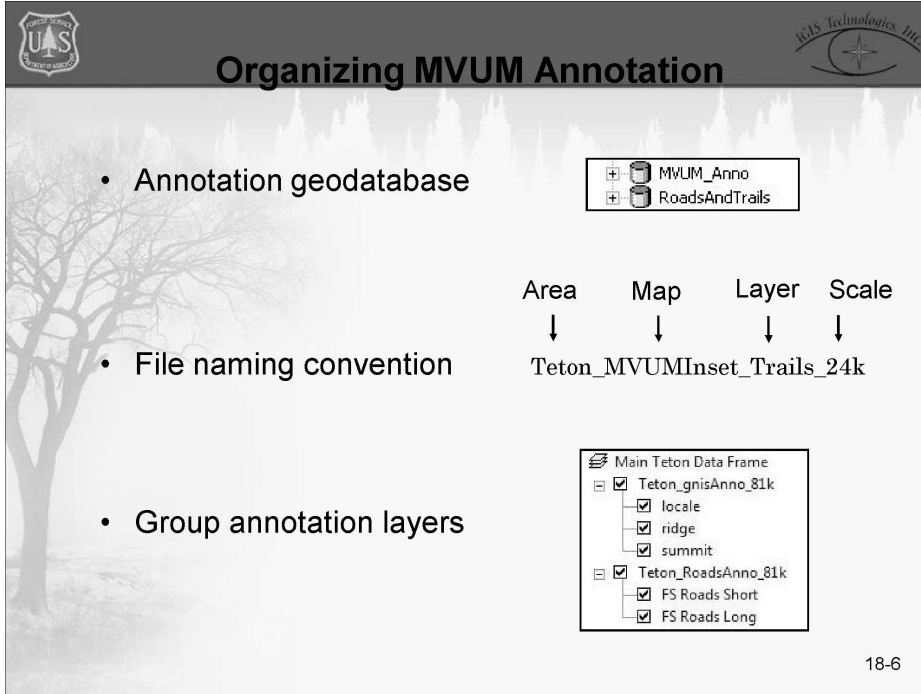
18-5

There are different ways to create annotation. You can convert labels to annotation, or you can import CAD or coverage annotation to geodatabase annotation. You could also create an annotation class and add the annotation interactively by adding information using the annotation tool bar.

When converting labels to a geodatabase annotation class, the current scale is used as the reference scale. In order for your annotation to be created so that text appears at the appropriate size, you must set a reference scale for the labels before the conversion. Unlike labels, annotation is static so that it does not reposition when you zoom in and out. In addition annotation text elements can be edited individually as needed.

Annotation can be stored as part of the map file, which is fine if the annotation is only used with one particular map.

Annotation can also be stored in a geodatabase, which allows feature-linked annotation. Feature-linked annotation is linked to features, so that as features move while editing, the annotation moves as well.



The diagram, titled "Organizing MVUM Annotation", illustrates a structured approach to managing map data. It features a background image of a forest. On the left, three bullet points list key organizational principles: "Annotation geodatabase", "File naming convention", and "Group annotation layers". In the center, a flow diagram shows the relationship between "Area", "Map", "Layer", and "Scale", with arrows pointing down to a specific example: "Teton_MVUMInset_Trails_24k". To the right of this, two screenshots of GIS software are shown. The top screenshot displays a project window with "MWUM_Anno" and "RoadsAndTrails" datasets. The bottom screenshot shows a "Main Teton Data Frame" with a tree view of layers, including "Teton_gnisAnno_81k" (with sub-layers "locale", "ridge", and "summit") and "Teton_RoadsAnno_81k" (with sub-layers "FS Roads Short" and "FS Roads Long"). The number "18-6" is located in the bottom right corner of the diagram area.

- Annotation geodatabase
- File naming convention
- Group annotation layers

Area Map Layer Scale
↓ ↓ ↓ ↓
Teton_MVUMInset_Trails_24k

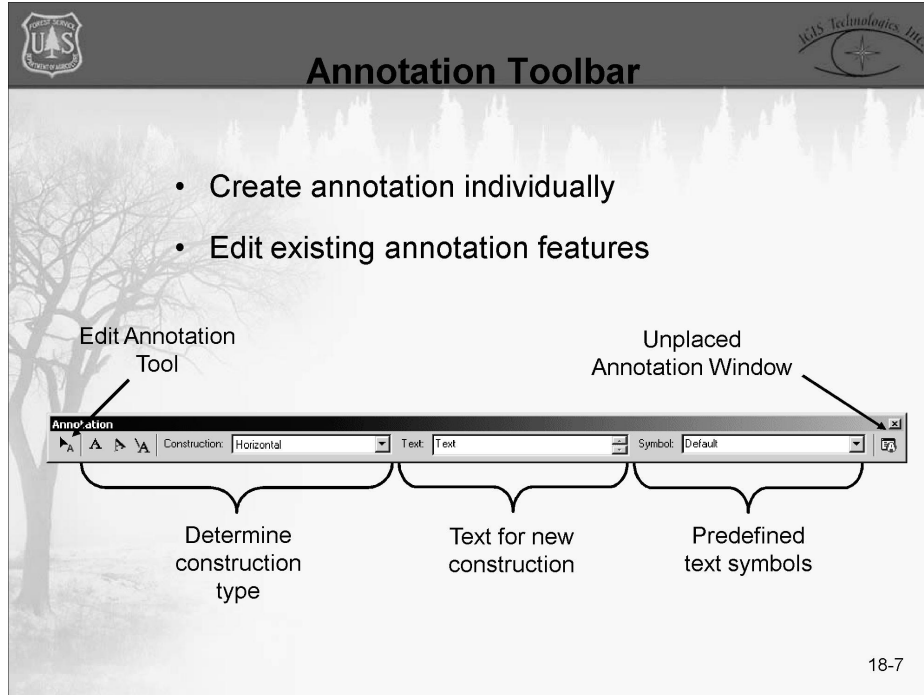
Main Teton Data Frame

- ☒ Teton_gnisAnno_81k
 - ☒ locale
 - ☒ ridge
 - ☒ summit
- ☒ Teton_RoadsAnno_81k
 - ☒ FS Roads Short
 - ☒ FS Roads Long



18-6

The MVUM map generally contains numerous layers at multiple scales. As such, the management of annotation can become unwieldy. It will help to keep the annotation organized. One option is to put all annotation layers in a separate geodatabase. Once they are there, adhere to a strict naming convention which includes scale in the name as this reminds the user which dataframe or map it should be used. Another helpful item is to group annotation in the table of contents. This reduces scrolling through multiple layers and allows you to quickly turn on and off groups of annotation.

Creating Annotation




The Annotation toolbar provides tools for editing and placing annotation. It is used to edit geodatabase annotation, whereas the Draw Toolbar edits graphic annotation embedded into the map document. The tools on the Annotation toolbar work in conjunction with the Editor Toolbar. For instance, the Editor Toolbar determines the current target layer where new annotation will be placed.



Common MVUM Annotation Edits

- Enter new anno
- Copy/paste anno
- Rotate anno
- Set leaders
- Place unplaced anno

Text: Annotation





Unplaced Annotation

Show: <Visible Annotation Layers> Search Now




| Text | Class | FID Linked |
|--------|----------------|------------|
| 8992 | Teton_MVUML... | 227 |
| 8992-A | Teton_MVUML... | 727 |
| 9182-B | Teton_MVUML... | 772 |
| 8981 | Teton_MVUML... | 236 |
| 9182-A | Teton_MVUML... | 803 |

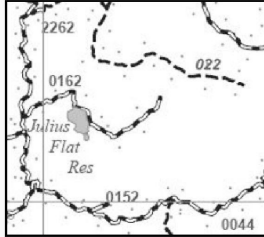
18-8

Annotation can be further edited by repositioning, adding a leader, or changing the angle. This customization allows you to place annotation that is clear and unobtrusive. This individual editing capability of annotation is one reason why cartographers often use it as opposed to labels. Each individual annotation feature can be affixed to a specific setting (color, size, orientation, etc.). That, in turn, translates to having no problems with the group formatting that you would have with labels.



Annotation Fonts and Highway Shields



- Road numbers – Arial
- *Trail numbers – Arial Italic*
- *Lakes – Century Schoolbook Italic*
- Cities, Towns – Century Schoolbook
- **Recreation Sites – Arial Bold**
- Township and Ranges, Section numbers – Arial 50% Black
- State highway shield 
- US route shield 
- Interstate shield 



18-9

Here are the suggested annotation fonts for specific features. While the MVUM production guide suggests the fonts shown, the size must be determined by the map author during production. It is also stated in the production guide that a size no smaller than 7 pt be use for road and trail annotation. To edit new annotation, simply select the annotation, and double click on it to prompt the Properties window. On the Properties window, click on Change Symbol. In the Symbol Selector window change the font to the desired font, color, and size. The MVUM.style file contains all the road shield marker symbols. The .lyr files come with the correct font type set for their labels.

Creating Annotation

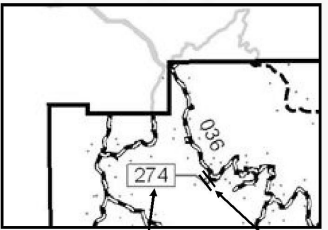


Short Route Annotation

If a road or trail is too short to interpret it's symbol, a short route identifier should be used.

Approximate guide
For each scale

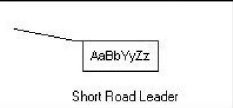
1:7,920 = 132 ft
1:24,000 = 400ft
1:63,360 = 1056 ft
1: 126,720 = 2112 ft



< .2"

Short Route Identifier

| Roads Too Short to Be Seen Clearly on the Map | | |
|---|---|----------------|
| Road Number | Route Designation | Length in Feet |
| 108 | Roads Open to Highway Legal Vehicles Only | 265 |
| 511A | Road Open to All Vehicles | 40 |
| 655 | Roads Open to Highway Legal Vehicles Only | 20 |





Short Road Leader

- Table manually created
- Front or back of map

18-10

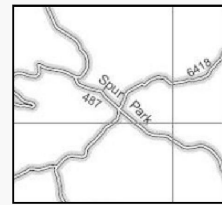
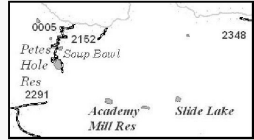
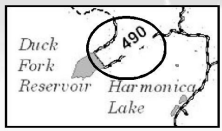
Short routes have their own specific leader box identifier. A guideline to consider when deciding to use a short road identifier is whether the road is 0.2 inches or shorter in length.

The scales shown here give a guide of approximately the maximum length in feet a road or trail feature may be at that scale to be symbolized with a short route identifier. Ultimately, if a road or trail is so short that it's symbol cannot be determined regardless of it's length a short route identifier should be used and the route be included in the short route table.



Discouraged Annotation Practices

- Haloing
- Confusing placement
- Curved (spline) text
- Breaking apart a label





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Using the halo on MVUMs is strongly discouraged. A halo can often inadvertently block out features on a map. The reason annotation is stored in a geodatabase is so it can possibly be used in multiple map documents. Using annotation with halos within different map documents can cause unforeseen errors like accidentally blocking out important map features.

Curved text is also discouraged in MVUM production. Often when using the curved text option, the spaced and angling of the characters in the text string are inconsistent. Many times the last letter in annotation that has been curved will be at a different angle than the rest. Rather than curving text, it is encouraged to fit it in as straight text and stack it if necessary.

Annotation should not be divided or interrupted by a feature. While it is a good practice to add annotation along multiple route segments, good judgment is needed to place needed text in a logical and clear manner.





Feature-linked Annotation

- Non-feature linked annotation
 - Does not move or delete with feature
 - Must be updated manually when attributes change
- Feature-linked annotation
 - Moves / deletes with feature
 - Updates when feature attributes change

18-12

Geodatabase annotation can be feature-linked. If it is feature linked, then the annotation moves automatically. In other words, if the feature is adjusted, such as a road being re-positioned, then the annotation would adjust accordingly. Similarly, feature-linked annotation will be updated automatically if there is an attribute change that is used for the annotation. Suppose that a database entry under CAMPGROUND_NAME is changed from WOLT CREEK to WOLF CREEK. In that case, a feature-linked annotation displaying CAMPGROUND_NAME will be updated automatically to display the correct campground name.



Retrieve Annotation From Overflow Table

- Display annotation not placed
- Locate features missing annotation

Unplaced Annotation

Shows: <Visible Annotation Layers>

Search Now ☒ Visible Extent ☐ Draw

| Text | Class | FID | Linked |
|------|------------------|------|--------|
| 1076 | RoadsAnno : F... | 1216 | |
| 279 | RoadsAnno : F... | 508 | |
| 273 | RoadsAnno : F... | 112 | |
| 1218 | RoadsAnno : F... | 221 | |
| 1072 | RoadsAnno : F... | 570 | |
| 1080 | RoadsAnno : F... | 1217 | |
| 1168 | RoadsAnno : F... | 1215 | |
| 274 | RoadsAnno : F... | 1012 | |
| 1077 | RoadsAnno : F... | 718 | |
| 1079 | RoadsAnno : F... | 1314 | |

Place Annotation

Space

Pan to Annotation P

Zoom to Annotation Z

Pan to Feature

Zoom to Feature

Delete Del



Unplaced Annotation Window

Symbol

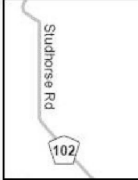
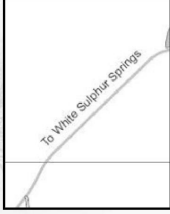
Default

18-13

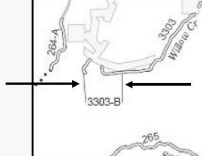
Due to labeling rules and conflicts, some labels may not be placed as annotation after the “convert labels to annotation” process. These unplaced labels are stored in the Unplaced Annotation table which can be viewed by using the button on the far right side of the Annotation toolbar. Because the annotation is feature-linked, the user can drag what is needed out of the table and it will place itself next to its associated feature. Final positioning will have to be adjusted by the map author.



Good Annotation Practices





Additional text and labels when appropriate



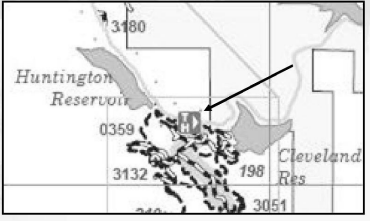
Two leaders from one label

18-14

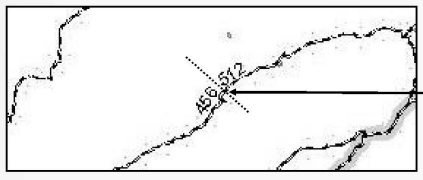
Here we see two leaders associated to one string of annotation. This helps keep the map clutter-free and easier to read. Additional annotation such as “To a town”, or adding a state route’s local name is allowed if it aids in orienting the user and does not clutter the map. Additional annotation such as these are totally up to the map author and their local knowledge of significant points of interest.



Good Annotation Practices



Only use the trail head symbol that points to the right





Route number changes

Place annotation at the point a road or trail changes

18-15

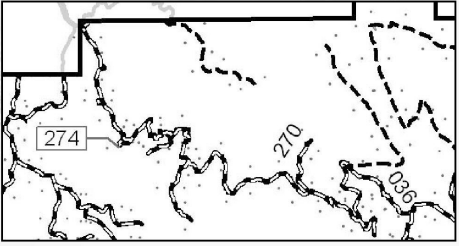
The trailhead symbol is a widely recognized symbol. Only use the symbol whose arrow points to the right. Do not rotate or modify it in any way. However, offsetting this symbol is allowed. Offsetting is placing the symbol slightly away from its correct coordinates to make the map less cluttered and not obstruct other features.

In rare occasions you will run into a road or trail that changes its ID number in mid-route. Place the annotation at the changing point to properly identify the trail or road.

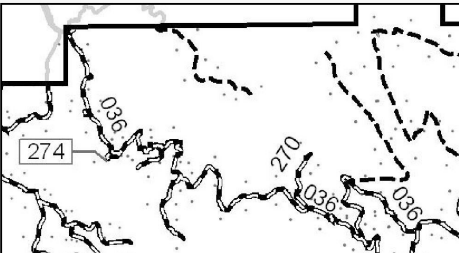


Good Annotation Practices

Add annotation when needed





Road 036 needs more annotation



Sufficient annotation

18-16

Remember that your forest may not be familiar to the public using your MVUM. You may need to add annotation to aid in its readability, which may improve its compliance and its enforceability.



Summary

- Annotation is edited individually and requires scrutiny.
- Annotation stored in a geodatabase will be reusable for future map documents.
- Using the preferred annotation practices will ensure a quality annotation layer.

18-17

In this chapter we discussed creating annotation, as well as converting labels to annotation. We discussed the advantages of storing annotation in a geodatabase for consistency in future maps, and we saw examples of preferred annotation techniques.

Exercise 18: Creating annotation



Exercise goal: To understand how to generate and edit annotation stored in a geodatabase.

Annotation is an excellent tool for storing text to place on your maps. Annotation in the geodatabase is stored in annotation feature classes, and all features in an annotation feature class have a geographic location and attributes. Each text annotation feature has symbology including font, size, and color. Annotation is typically text, but it can also include graphic shapes such as highway signs.


Upon completion of the exercise, you will be able to ...

- ✓ Convert labels to an annotation feature class
- ✓ Edit, manipulate, and reposition annotation
- ✓ Incorporate annotation out of the overflow dialog
- ✓ Copy and paste annotation
- ✓ Create short road and supplemental annotation

| STEP | DESCRIPTION | PAGE |
|-------------|--|-------------|
| 1 | Convert labels to annotation | 18 – 20 |
| 2 | Manipulate existing annotation | 18 – 22 |
| 3 | Pull annotation from the overflow dialog | 18 – 24 |
| 4 | Copy and paste annotation | 18 – 25 |
| 5 | Generate new text as short road annotation | 18 – 26 |
| 6 | Add annotation to nearby towns | 18 – 31 |
| 7 | Create an inset map | 18 – 34 |

Step 1: Convert labels to annotation

In this step you will go through the steps of converting labels to annotation.

- a. Start an **ArcMap** session. 
- b. Navigate to and open Ex18.mxd.
C:/Training/Ex18/Exercise18.mxd
- c. While in the data view, from the main menu select **View → Bookmarks → Bookmark C**

In the data layer properties make sure the reference scale is set to 1:126,720. **Layers → Properties → Data Frame**

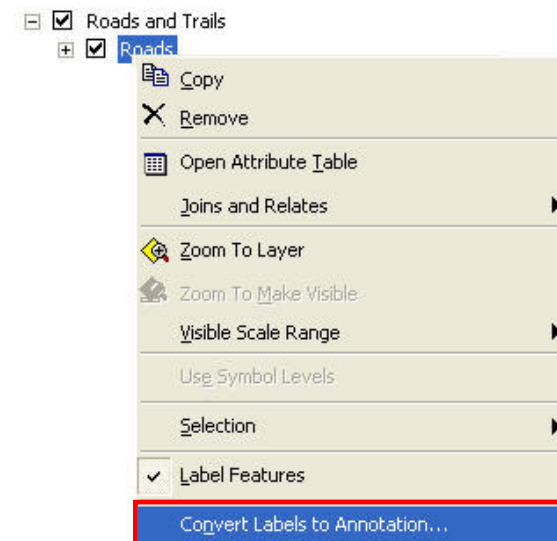
- d. Turn on the labels for the Roads group of the Roads and Trails layer. Click on the **View Unplaced Label** button on the label tool bar to see the missing labels.



You will now be converting the label to an annotation class in the Roads and Trails geodatabase. The scale of the annotation will be set to the same scale the map will be produced at 1:126,720.

- e. **Right-click** on **Roads** group of the Roads and Trails layer and select **convert labels to annotation** on the drop-down menu.

The fields in the Convert Labels to Annotation window should be populated as shown in the graphic below.



Creating Annotation

Here you are creating an annotation feature class named Manti_MVUMmap_Rds_126k. This feature class will be stored in the RoadsAndTrails.mdb and is feature linked. This annotation feature class is set to be displayed at a scale of 1:126,720. Labels that are not being displayed are being converted to unplaced annotation which can be retrieved through the Unplaced Annotation window.

The annotation class will reside in the same geodatabase as the roads feature class.

f. Click **Convert**.

The new annotation feature class automatically appears in the table of contents. All label classes will be included in the annotation feature class.

Convert Labels to Annotation

Store Annotation
☒ In a database ☐ In the map

Reference Scale
1:126,720

Create Annotation For
☒ All features ☐ Features in current extent ☐ Selected features

| Feature Layer | Feature Linked | Append | Annotation Feature Class |
|---------------|-------------------------------------|--------------------------|--------------------------|
| Roads | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Manti_MVUMmap_Rds_126k |

Destination: RoadsAndTrails.mdb\Manti_MVUMmap_Rds_126k

☒ Convert unplaced labels to unplaced annotation

Convert Cancel

Question:

1. What are the three subcategories of the RoadsAnno feature class?

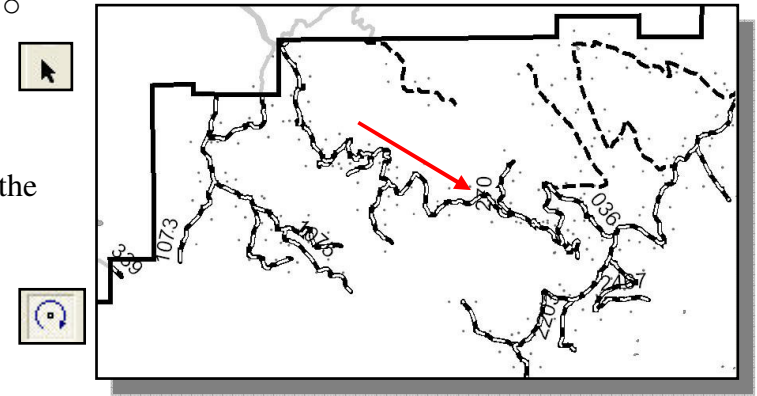
Step 2: Manipulating existing annotation

In this step you will manipulate the placement of annotation.

- From the main menu select **View → Bookmarks → Bookmark A**
- In the Editor toolbar start an edit session with Manti_MVUMmap_Rds_126k: FS Roads as the target.
- In the **Tools** toolbar use the **Select Elements** tool to select the annotation for the Forest Service road annotation “270”. Drag the annotation up to a better position.

Once the annotation is selected, the arrow key on the keyboard can be used to move the annotation.

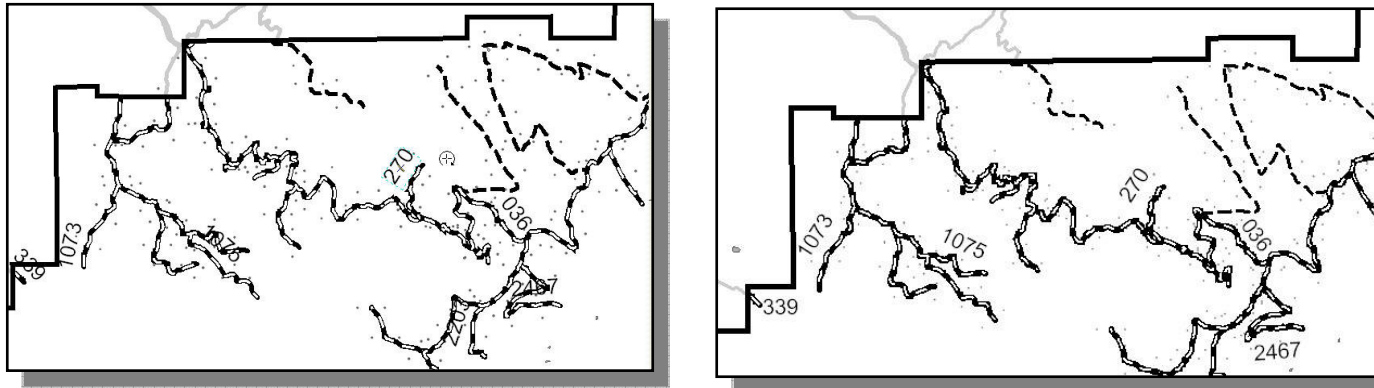
- With the annotation still selected, use the **Rotate** tool in the **Editor** toolbar to align the text more parallel with the road.



Notice on the lower graphic to the right how “270” can clearly be read and the feature it represents is apparent.

Creating Annotation


e. Manipulate the remaining labels in the extent so they display properly. You can use the arrow keys to move a selected piece of annotation.



f. **Save** edits and continue on to step 3.

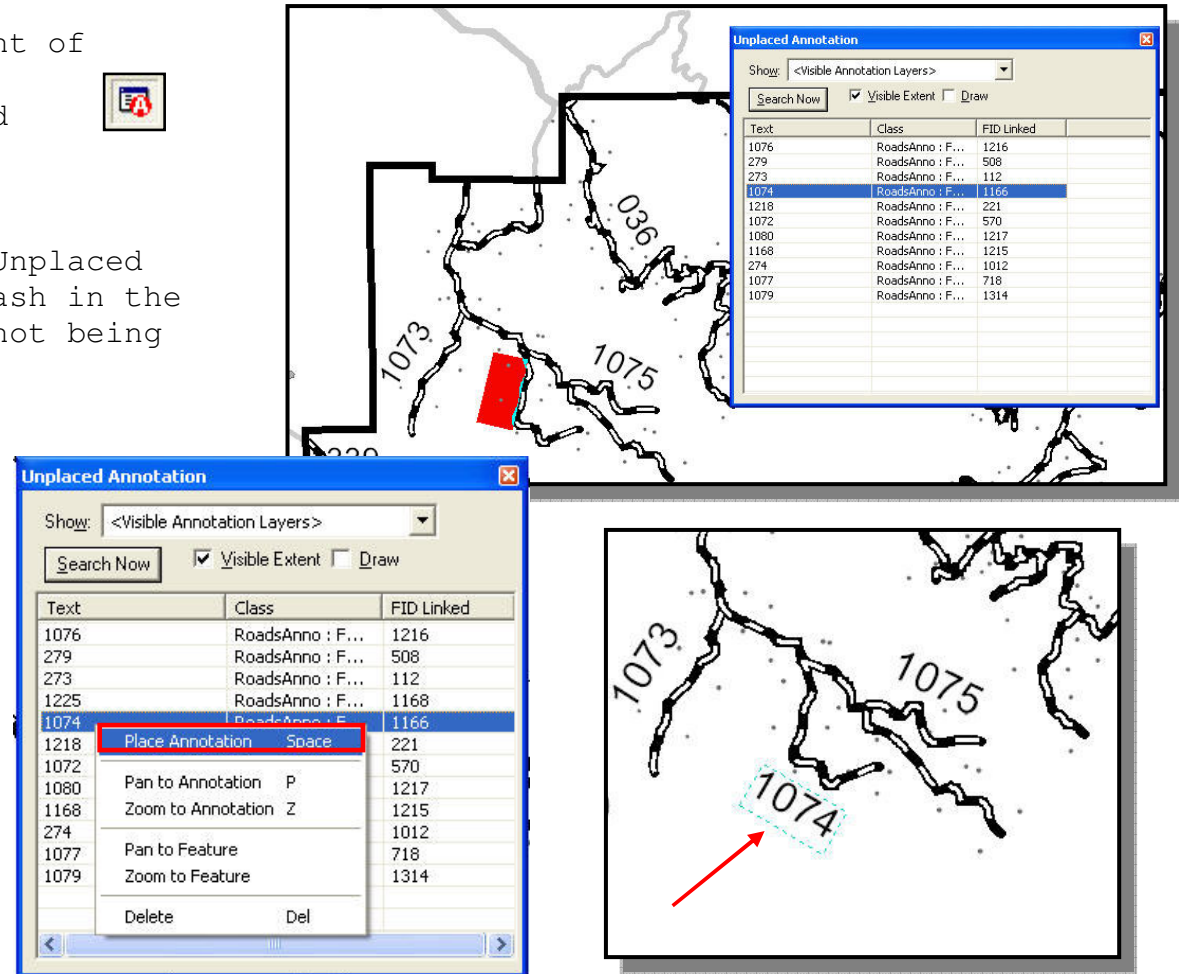
Step 3: Pulling annotation from the overflow dialog

During the auto labeling process many labels are not plotted in the layout due to space issues or conflicts with other labels. Once the labels are converted into annotation, the unplaced annotation can be viewed in the Unplaced Annotation window in the annotation toolbar. In this step you will pull annotation out of the unplaced window and place it as short road annotation. You should still be in an edit session with Manti_MVUMmap_Rds_126k: FS Roads selected as the target.

- While still zoomed to the extent of Bookmark C open the Annotation toolbar. Click on the Unplaced Annotation button.  Click **Search Now**.
- Click on the text 1074 in the Unplaced Annotation window. The red flash in the map represents the annotation not being displayed
- In the Unplaced Annotation, right-click on 1074 and select **Place Annotation**.

If 1074 is already placed, select another label to place.

- Using the **Select Elements** and **Rotate** tools, select the 1074 annotation and maneuver it to a more suitable placement.
- Save** edits and continue to step 4.



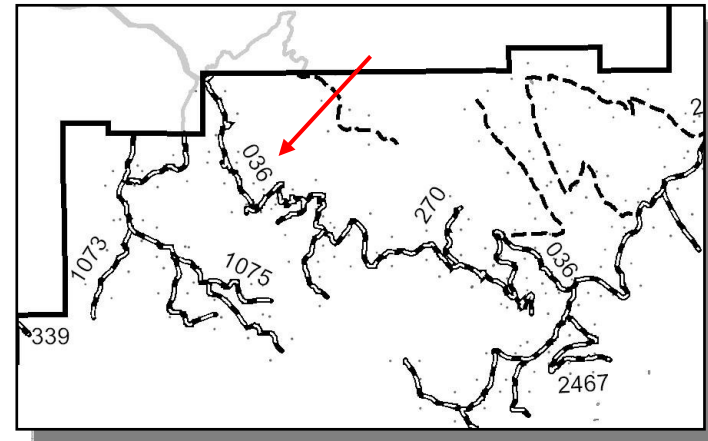
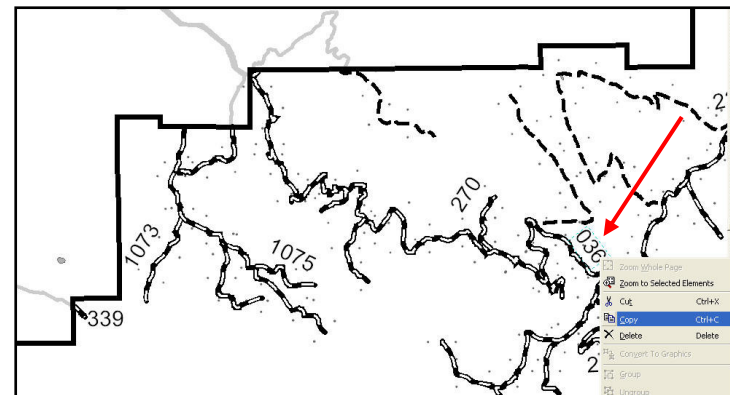
Question:

2. Other than Place Annotation, what other options were given when you right-click on annotation in the Unplaced Annotation window?

Step 4: Copy and paste annotation

Working with annotation allows for fast reproduction, editing and manipulation. In this step you will copy and paste an annotation label to more completely identify the feature it is associated with.

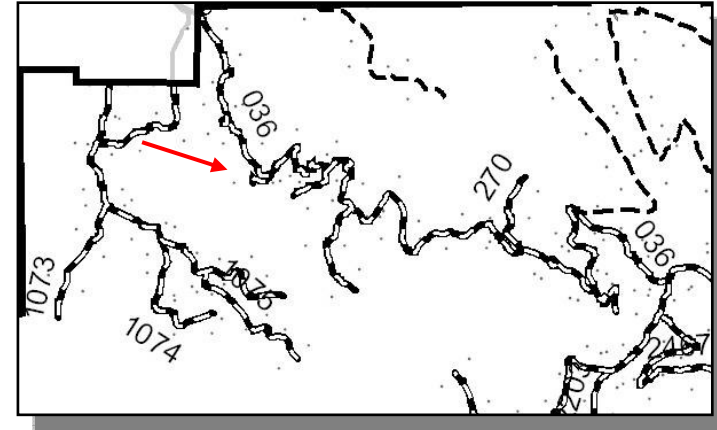
- Continuing on from step 3, select the "036" annotation text on the layout.
- With the "036" annotation selected, right-click and select **Copy**.
- Left-click off the "036" annotation and right-click on white space and select **Paste**.
- Using the **Select Elements** tool, select the annotation that was just pasted and drag it to the left and rotate it to better represent road 036.
- Save** edits.



Step 5: Generate new text as short road annotation

In this step you will create an annotation label for a short road. Roads too short to be visible on the map will receive leadered annotation in a box.

- a. If not continuing from step 4 open Exercisel8.mxd and from the main menu select **View → Bookmarks → Bookmark A**
- b. Use the **Identify** tool and click on the road with the **ID** number of **50274**.
This is the very short road extending south off of road 036.

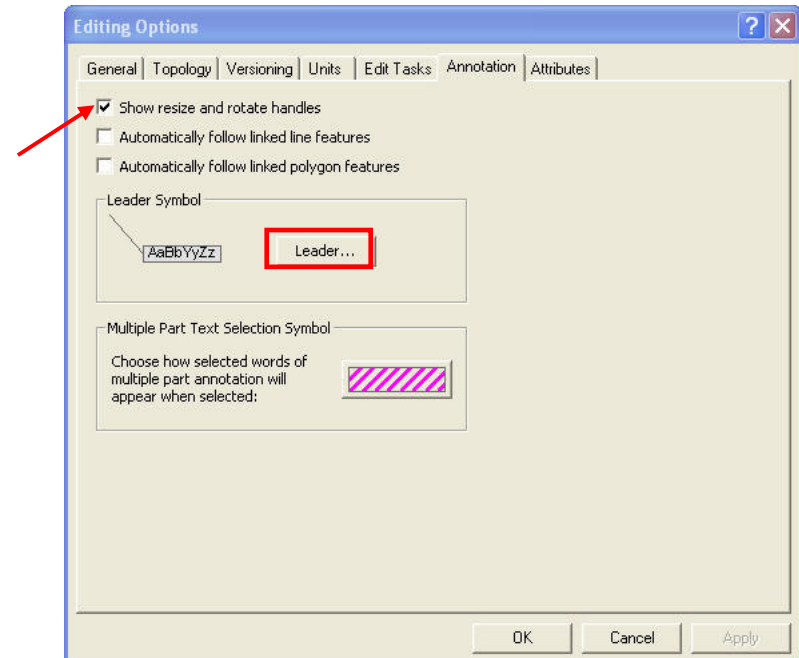


You will place short road annotation for this road.

- c. If not already in an edit session, start an edit session with RoadsAnno: FS Roads as the target.

In the next portion of this step you will create the short road annotation symbol. Short road annotation created in this step will be identical to its symbol in the legend.

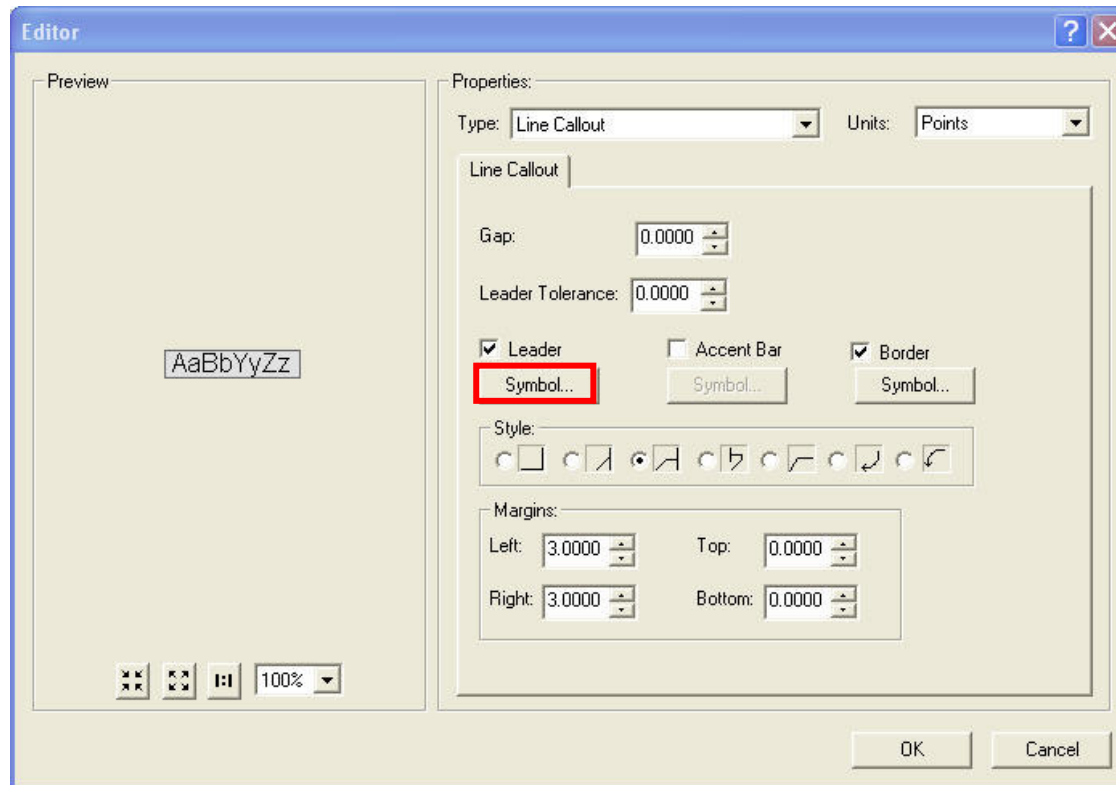
- d. In the Editor toolbar, select **Editor → Options** and click on the **Annotation** tab. Check the **Show resize and rotate handles** and click the **Leader** button.



- e. In the Editor window change the **Gap**, **Leader**

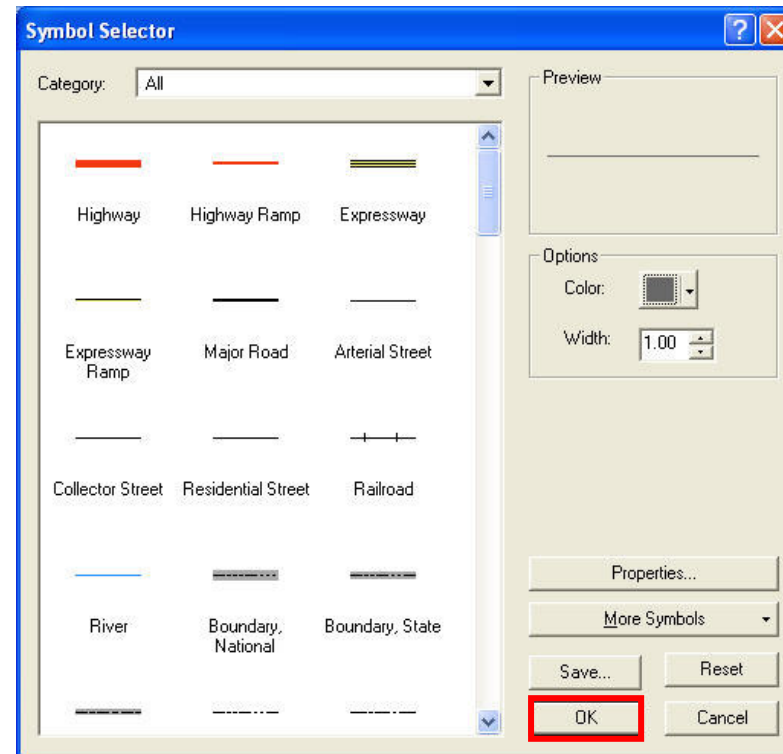
Creating Annotation

Tolerance, **Top** and **Bottom margins** to **0**, and the Left and Right margins to 3. Make sure the Accent Bar is unchecked. Click the Style option that is third from the left. When the form looks like the graphic below click the **Symbol** button under the Leader check box.

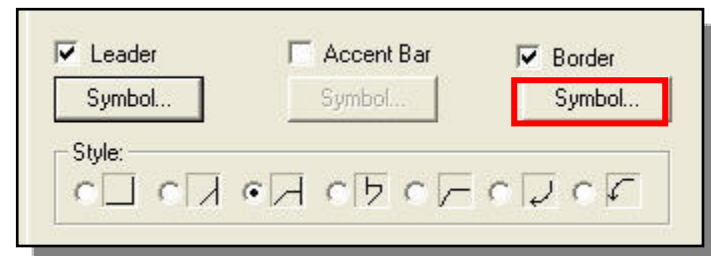


Creating Annotation

- f. In the Symbol Selector window change the line symbol color to **60% Gray** and set the width to **1.0** as shown on the graphic below and then click **Ok**.

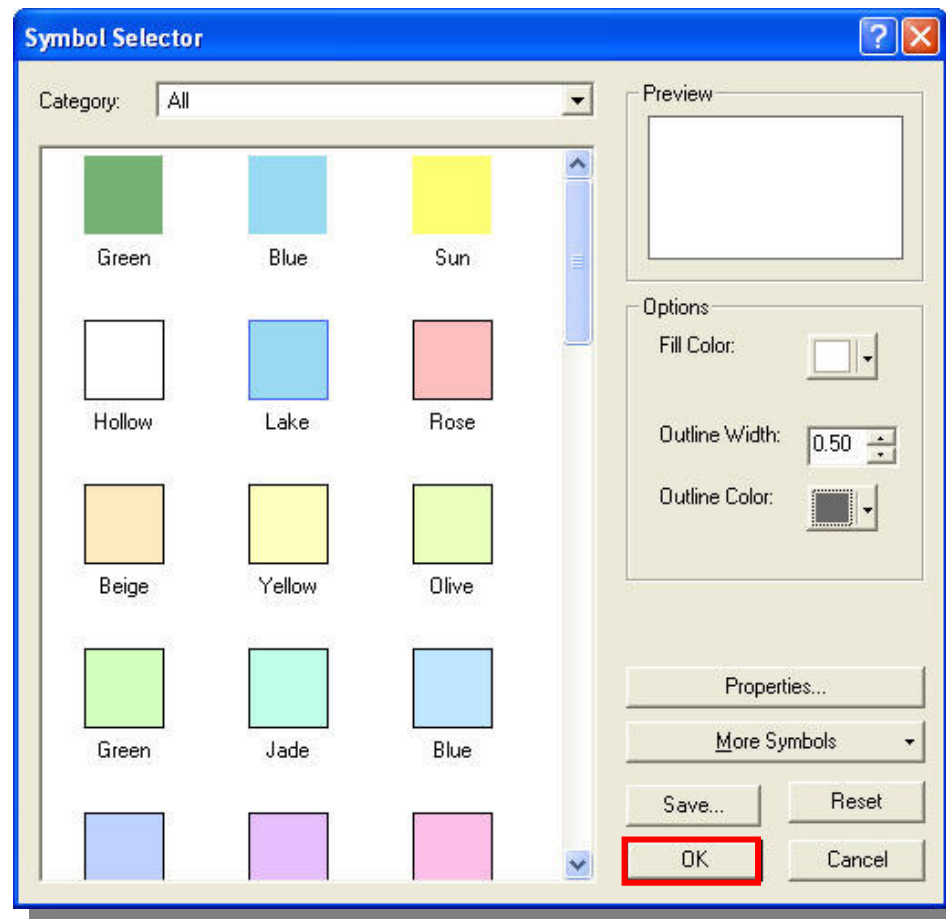


- g. Back in the Editor window click on the **Symbol** button located below the Border check box as seen in the graphic to the right.



Creating Annotation

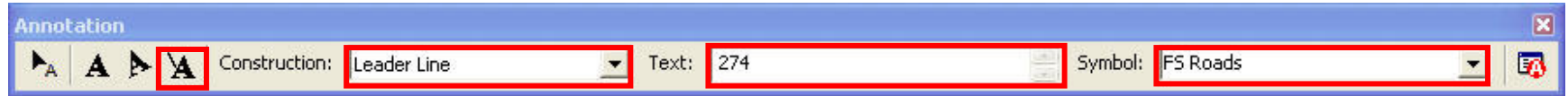
- h. Set the **Fill Color** to white, the **Outline Width** to **.50** and the **Outline Color** to 60% gray and click **OK** three times to close all open windows




Now you will create the actual short road annotation for Forest Service road 50274.

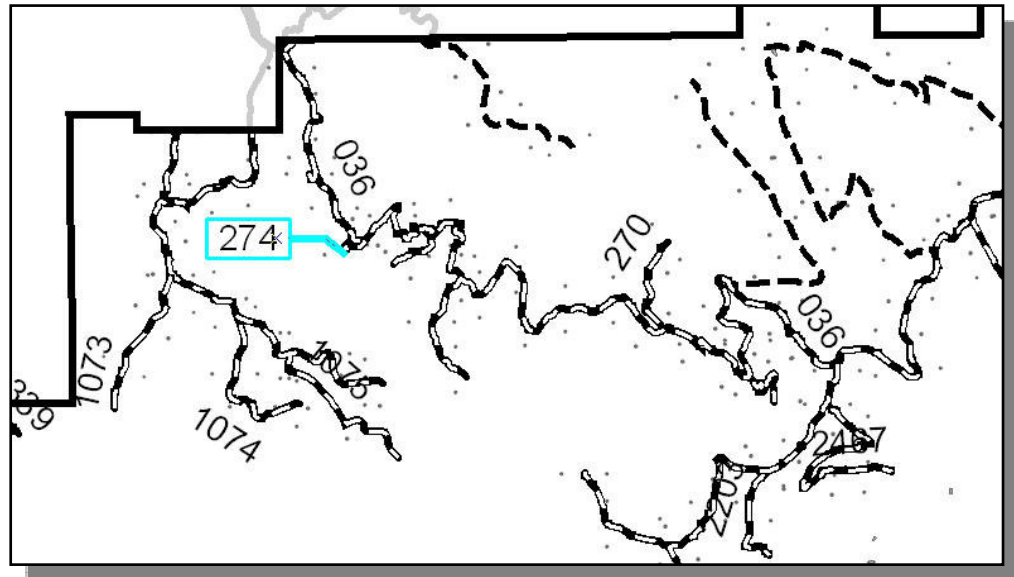
Creating Annotation

- i. In the Annotation toolbar select **Leader Line** in the Construction drop down menu, enter **274** for the Text field, and **FS Roads** for Symbol field.



- j. On the Annotation toolbar select **Construct Annotation With A Leader Line**. 
- k. Left click at the point you want the leader to start adjacent to Forest Service road 50274. Left click again at the location where you want the annotation text to be anchored.
- l. Save edits and continue on to Step 6

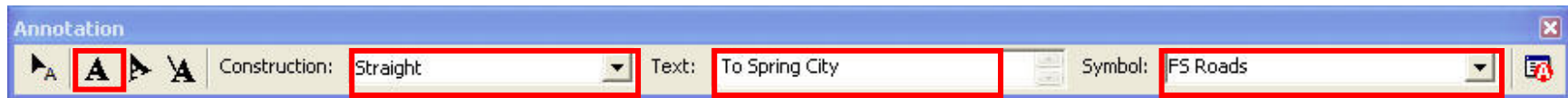
After your first left click you will see the leader line following the cursor and the annotation. If your first attempt at placing the annotation is in a bad location use the control z keystroke to undo the annotation placement and try again.



Step 6: Add annotation for nearby towns

In this step you will create new annotation for Spring City just outside of the Forest Service boundary along the road labeled 036. You will use the annotation toolbar along with the rotate tool in the editor toolbar to properly position the new annotation.

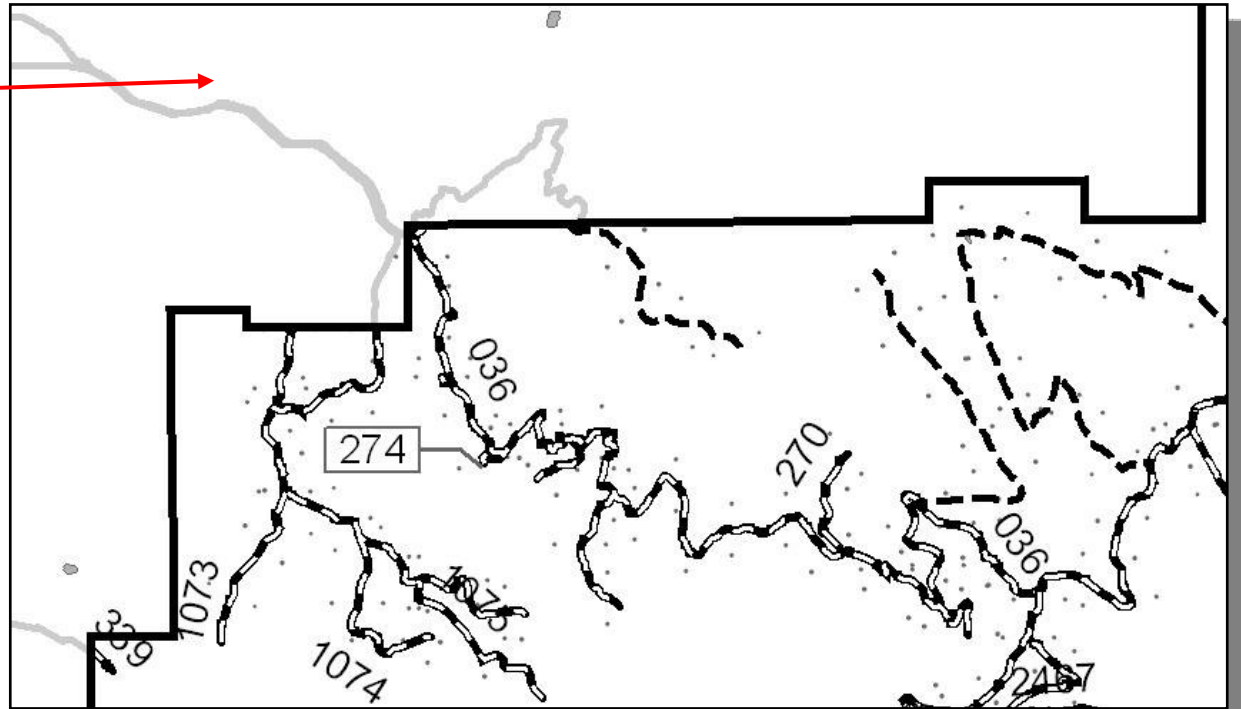
- a. From the main menu select **View → Bookmarks → Bookmark A**. If not already in an edit session, start one with RoadsAnno: FS Roads as the target.
- b. In the Annotation toolbar for Construction select Horizontal, in the Text field type **"To Spring City,"** and select FS Roads for the Symbol field.



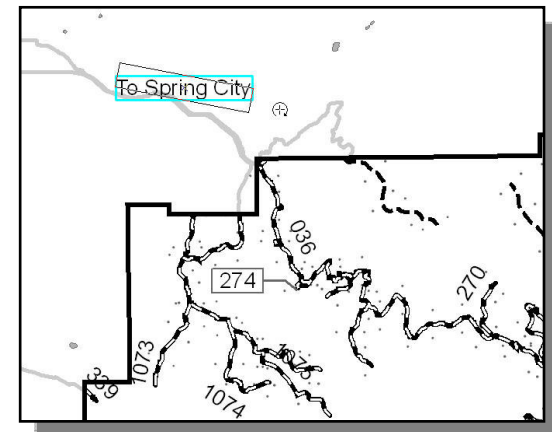
- c. In the Annotation toolbar select the **Construct Horizontal Annotation** button and then left-click along the road labeled 036 outside of the Forest Service boundary.



Click to place
text here.

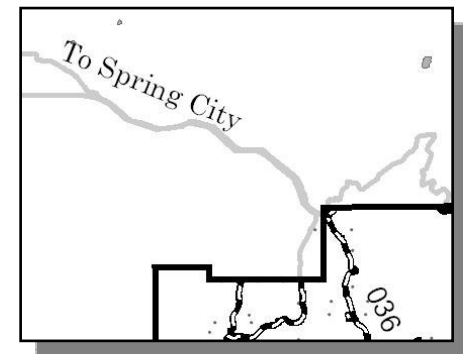
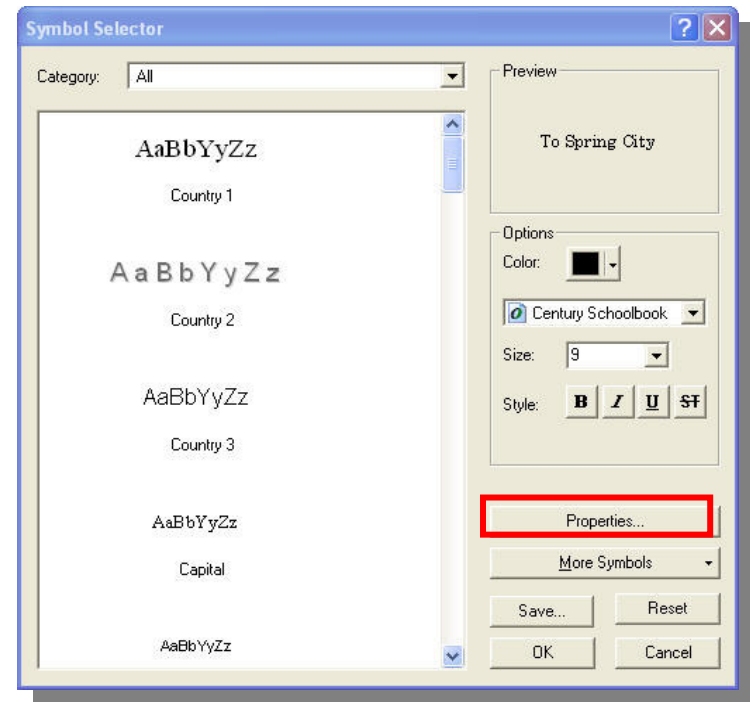
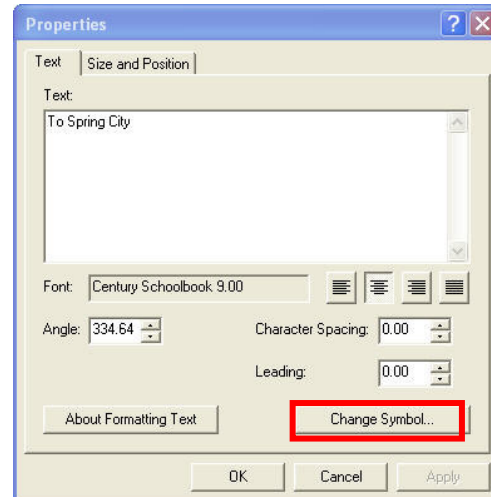


- d. After left-clicking once, the annotation will appear. While the annotation is still selected, click the **Rotate** tool in the Editor toolbar and rotate the annotation to make it more parallel with the road.



Creating Annotation

- e. With the annotation selected, double click on it to prompt the **Properties** window. On the Properties window, click on **Change Symbol**.
- f. In the Symbol Selector window change the font to **Century Schoolbook**.
- g. **Save** all edits and map document then close the program.



Step 7: Creating an inset map

In this step you will create a data frame to use as an inset map. Inset maps are required when an area with a high density of features must be displayed at a larger scale than the rest of the map in order for the features to be legible.

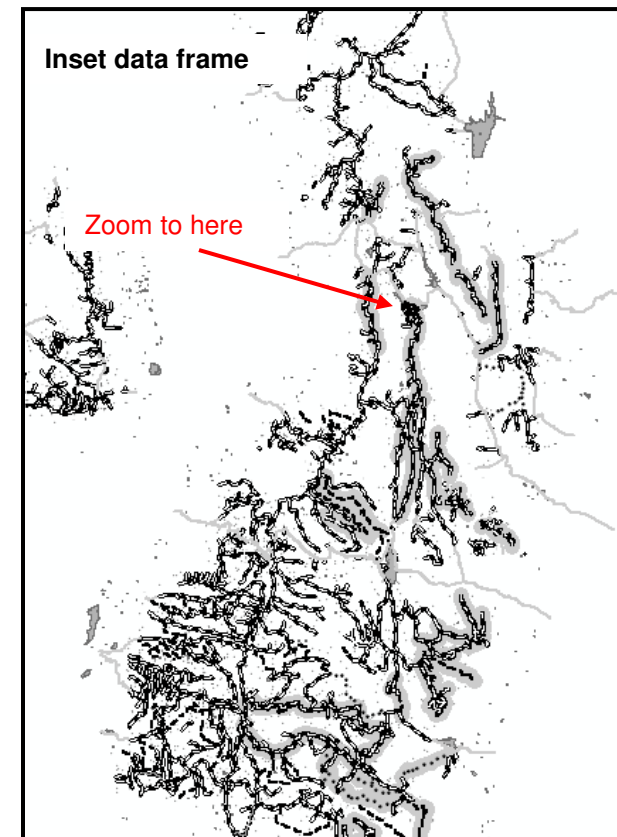
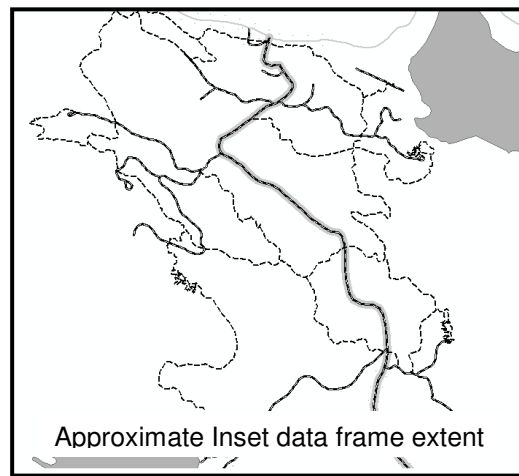
- a. From the main menu select **View → Bookmarks → Inset**. The area zoomed to by this bookmark shows an area with density of roads that should be displayed using an inset map.
- b. In the main menu click **Insert → Data Frame**. Right-click on the new data frame, select **Properties** and enter **Inset** for the Name field.

The data frame that is in bold text is active. Next you will copy data layers from the Layers data frame to the Inset data frame.

- c. Right-click on the **Roads And Trails** group layer and select **Copy**. Right-click on the Inset data frame and select **Paste**. Copy and paste the MLNF_waterbodies layer from the Layers to the Inset data frame.

Next you will zoom to the extent of the Inset bookmark.

- d. In the Inset data frame, use the Zoom in tool, zoom to the extent of the Inset bookmark. The location is shown on the image to the right. Once zoomed to this location make the



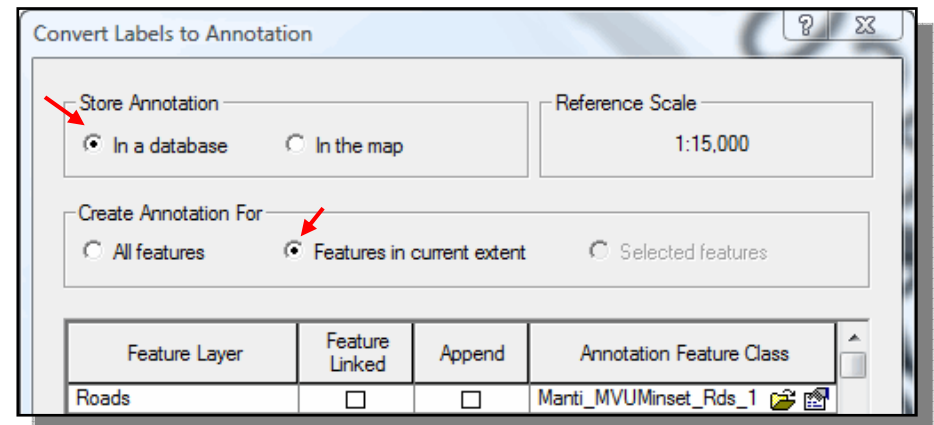
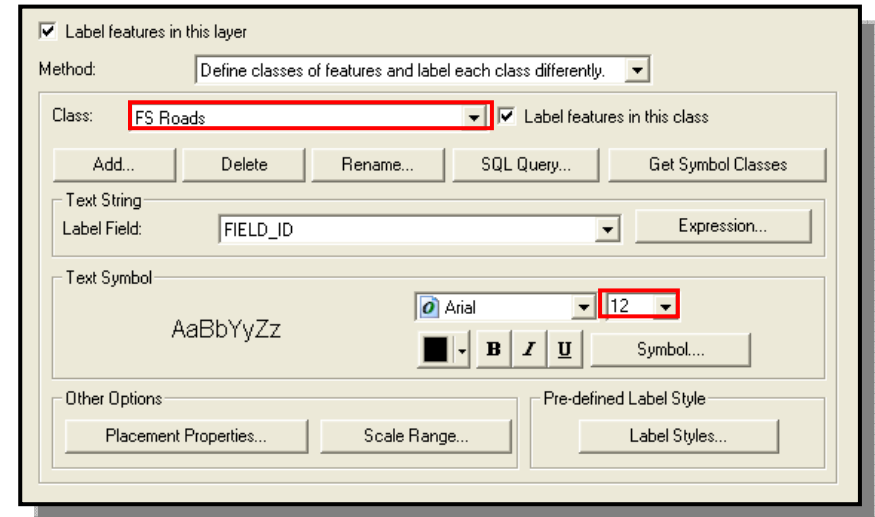
Creating Annotation

scale of your Inset data frame **15,000**.

- e. From the main menu bar create a bookmark at this extent by selecting **View → Bookmark → Create**.
- f. In the Inset data frame right-click **Roads → Properties** and select the **labels** tab. Select **FS Roads** in the Class drop down and set the font size to **12**. Click **OK**.
- g. In the Inset data frame right-click **Trails → Properties** and select the **label** tab. Make the font size **12**. Click **OK**.
- h. In the Inset data frame right-click **Roads → Convert Labels to Annotation**. Select **In a database, Features in current extent** and name the annotation feature class **Manti_MVUMinset_Rds_15k**. Next click **Convert**.
- i. Repeat step h for the trials layer naming the annotation layer **Manti_MVUMinset_Trails_15k**.


Now the annotation is ready to be positioned into the most readable positions.

- j. Start an edit session and manipulate the roads and trails annotation making them more readable. Rotate, move, and add or delete annotation as you see fit.



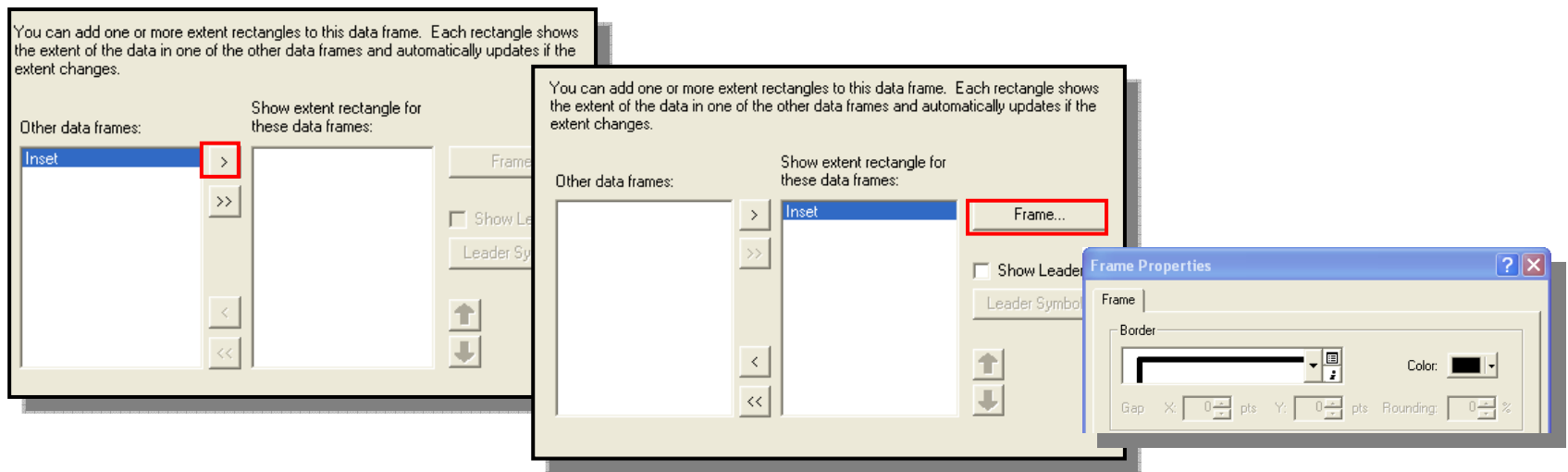
Creating Annotation

All other annotation and symbols must be added before the Inset data frame is complete.

k. Click on the **Layout icon** to go into the layout view. 

l. In the table of contents right-click **Layers**→ **Activate**. In the standard toolbar change the display scale to 126,720.

m. Right-click **Layers**→ **Properties** and select the **Extent Rectangles** tab. Click on Inset and then the arrow button to move it over to Show extent rectangle for these data frames. Click the **Frame** button and change the color to black. Click **OK** twice to close all open windows.

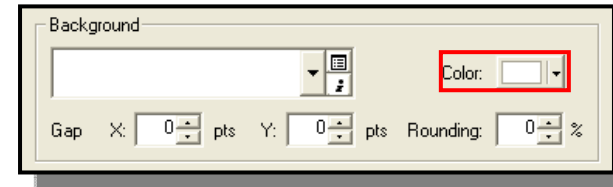


The previous step displays the extent of the Inset data frame on the Layers data frame. This enables the map user to see the location and extend of the inset map.

n. In the table of contents right-click the inset data frame and choose **Activate**. In the standard toolbar set the scale of the Inset data frame to **15,000**.


Creating Annotation

- o. Right-click **Inset** → **Properties** and select the **Frame** tab. Set the Background color to **white**.



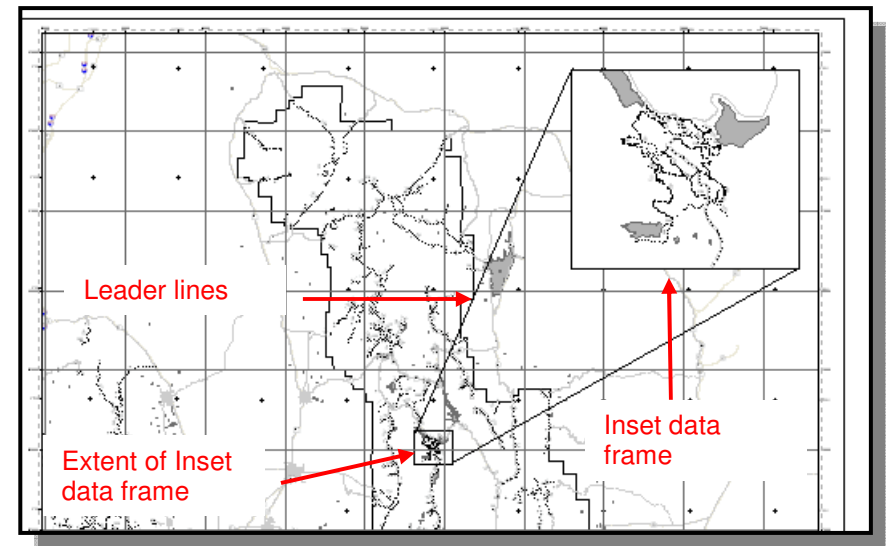
- p. Use the Select Elements tool to select the Inset data frame reposition it to the upper right corner of the Layers data frame so it is not overlapping the Forest. Resize the Inset data frame to fit the available space for it.



 **NOTE:** On this graphic we manually drew the inset connecting lines using the draw toolbar. But you could also connect a leader line to the extent rectangles in the data frame properties options.

The previous steps show you how to set up an inset map. Now that the inset map is in place, annotation and labels can now be added to it. Leader lines or descriptive annotation should be incorporated on the main map to associate the inset map to its delineated extent on the main map. All Inset maps require their own scale bar.

Throughout this exercise you created, manipulated and edited annotation. The tools shown in this exercise will greatly assist in creating well placed customized annotation for MVUMs. While this exercise only touched on the flexibility of annotation it is recommended you experiment with all the options annotation feature classes have to offer.



End Exercise.