

Exercise 1 – Getting Started with ArcGIS Pro

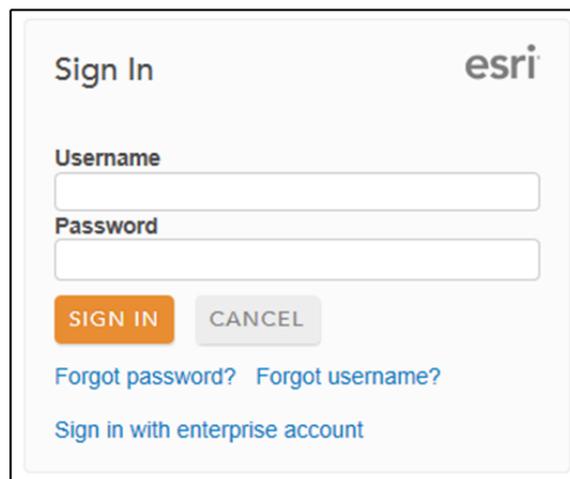
In this exercise, you will explore some of the basic properties and methods for using ArcGIS Pro to produce a map suitable to publish to ArcGIS Online. This exercise is only designed to give the student an introduction to ArcGIS Pro and some of the basic operations and process available in the application. The materials and maps used in this exercise are only for demonstration purposes and are not intended to represent any real or existing workflows, standards or practices for your agency.

Starting ArcGIS Pro

From your desktop icon or from the Windows start menu, activate the ArcGIS Pro application. When the ArcGIS pro application opens, you will be presented with a list of recent projects, as well as the ability to create a new project based on the type of map you will be using including Blank, Global Scenes, Local Scenes and Maps.

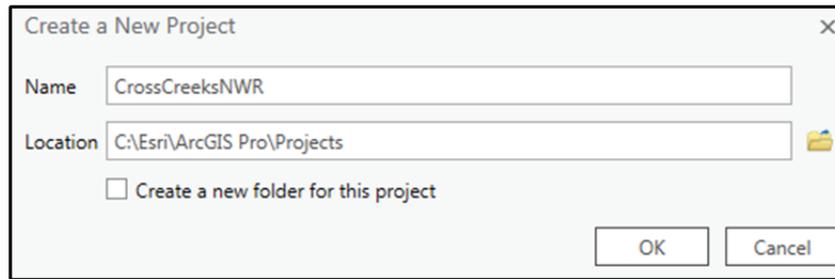
Create a New Project

1. Start ArcGIS Pro application.
2. In the Upper right corner, click **Sign In** to sign into an ArcGIS Online Account.



The image shows a 'Sign In' dialog box from Esri. It features the Esri logo in the top right corner. Below the title, there are two input fields: 'Username' and 'Password'. At the bottom, there are two buttons: 'SIGN IN' (highlighted in orange) and 'CANCEL'. Below the buttons, there are two links: 'Forgot password?' and 'Forgot username?'. At the very bottom, there is a link that says 'Sign in with enterprise account'.

3. Enter your username/password and click **Sign in** with your Organizational Account. If you do not have one, the Instructor can provide a temporary account.
4. On the Right hand side of the ArcGIS Pro application window, click on Blank to start a new project.
5. Name the Project **CrossCreeksNWR**
6. Use the File folder icon to browse to the Location **C:\Esri\ArcGIS Pro\Projects** as shown in the graphic below.
7. Check **OFF** the option to create a new Folder for this project.
8. Click **OK** to create the project



Explore ArcGIS Pro application interface

The ArcGIS Pro application was created to provide users with many enhancements that were not possible in the ArcGIS Desktop environment. These enhancements include things like 64x architecture, multi-threaded processing, and many improvements to the User interface. In this section, you will explore some of the basic properties of ArcGIS Pro.

Just like many other modern applications, ArcGIS Pro is controlled through a ribbon interface that has multiple tabs representing grouped functionality. In most instances, ArcGIS Pro tools, buttons and wizards are context based and available depending on the active window or selected object in your project.

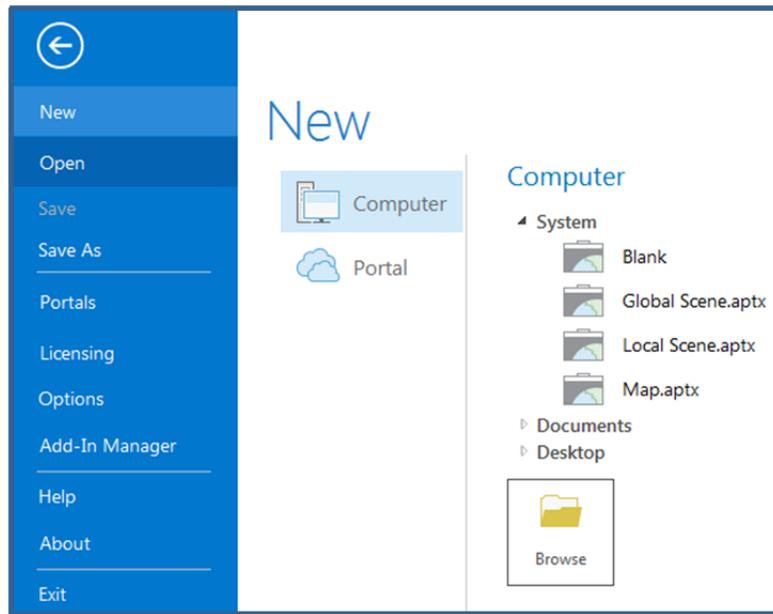
Take a few moments to explore the various tabs in the application:

Project

The Project tab is used to manage your project as well as to control the options and Licensing of the ArcGIS Pro application.

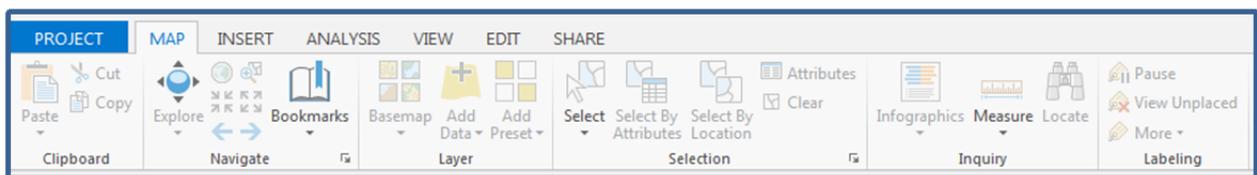
1. Use the Back arrow to return to the ArcGIS Pro Ribbon.





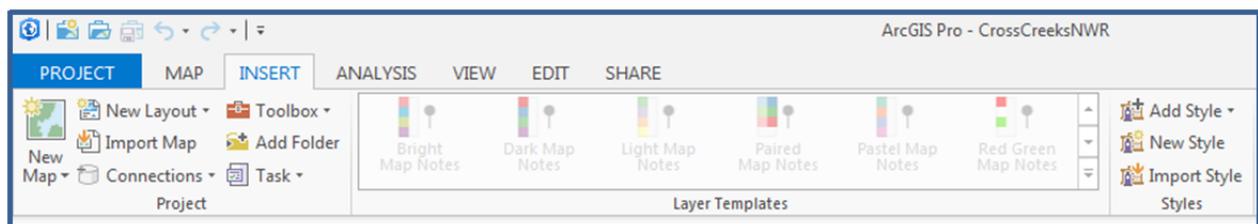
Map Tab

The Map tab is where you will find tools used to interact with Maps in your project. Since you have not created or imported a map yet, most of these tools are inactive.



Insert Tab

The Insert tab allows you to create new maps and layouts in your project as well as import existing maps into your project. The Import Map tool will be used in later steps to import an existing ArcGIS ArcMap document into your project. This is the best way to get started using ArcGIS Pro by importing existing .mxd files.



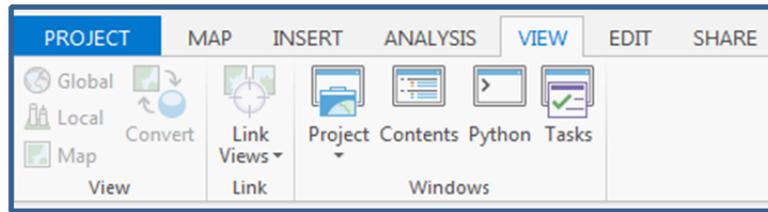
Analysis Tab

The Analysis tab is where you will perform geoprocessing tasks using tools, models and scripts similar to ArcGIS Desktop. Depending on the content in you ArcGIS Pro Projects, different geoprocessing tools will be exposed and active. Clicking the Expand arrow on the Geoprocessing group will open the Options dialog where you can set geoprocessing options.



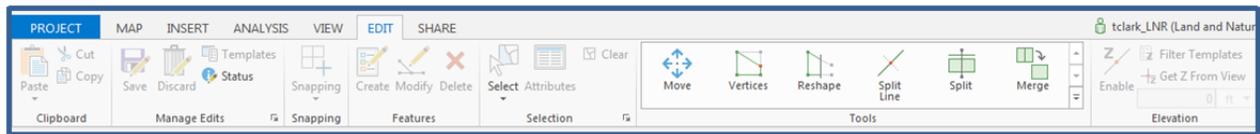
View Tab

The View tab controls how you view the content of your project. This includes viewing the Contents panel, Python window and the Tasks panel used to create and execute step-wise tasks for repetitive operations in ArcGIS Pro.



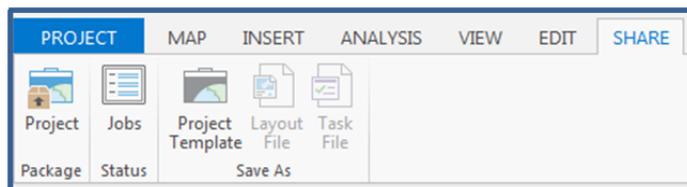
Edit Tab

The Edit tab is where all of the feature editing tools and tasks are found. Unlike ArcMap, Editing is always enabled in ArcGIS Pro, you do not need to start or stop editing to perform editing operations. Edit tools are context sensitive and active depending on the type of active feature selected in the project.



Share Tab

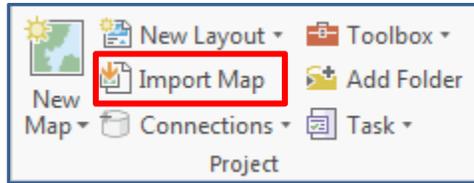
The share tab is used to share your ArcGIS Pro projects with other users or to ArcGIS Online or Portal. In ArcGIS Pro, you can package your project including data into a project package that can be shared online or with other users who have the appropriate file system access.



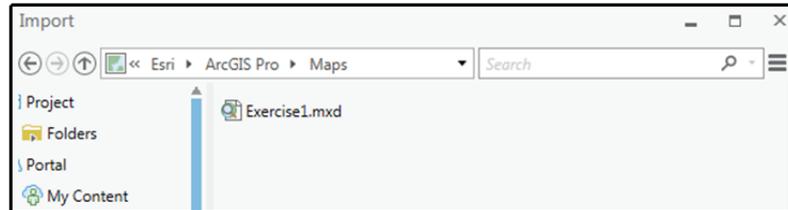
Importing an Existing map

For the remaining portion of this introduction to ArcGIS Pro, you will be working with some data for the Cross Creeks NWR located in Tennessee. This data was selected randomly and is only being used to highlight certain capabilities of ArcGIS Pro.

1. On the Insert tab on the ArcGIS Pro application ribbon, click on Import Map.



2. On the Import dialog, navigate to **C:\Esri\ArcGIS Pro\Maps** and select the **Exercis1.mxd** map document. This document was created using ArcMap.



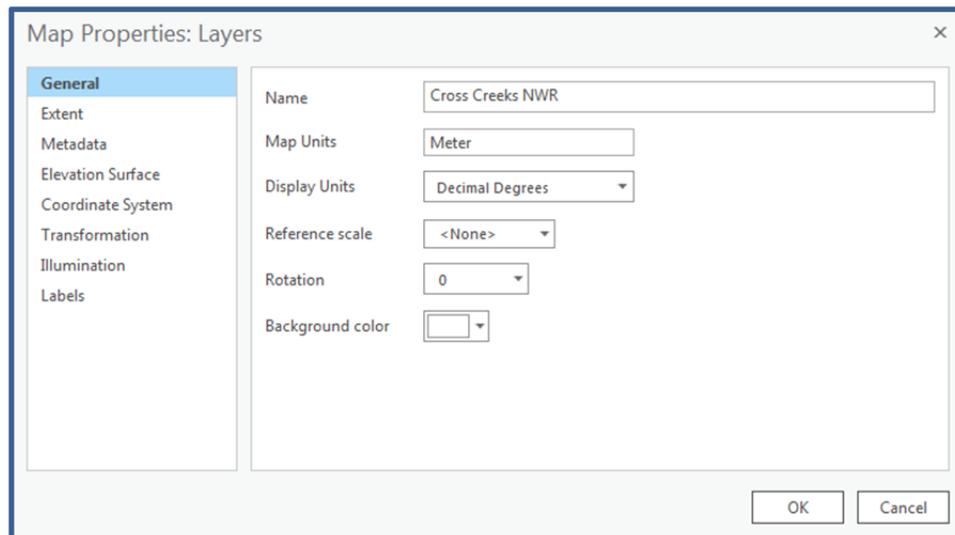
3. Click **Select** to import the map document.

You should now see a map displayed in a tab named **Layers**. Your map will be displayed with the Contents panel that shows the contents of the **Layers** map. If the Contents panel is not visible, you can activate it from the **View** tab on the application ribbon.

4. Double click  **Layers** in the Contents panel to open the map properties. Take time to explore the properties of the map.

Note this is similar to the Data Frame properties in an ArcMap document. The name of the **Map** tab is inherited from the Data Frame In the mxd you imported.

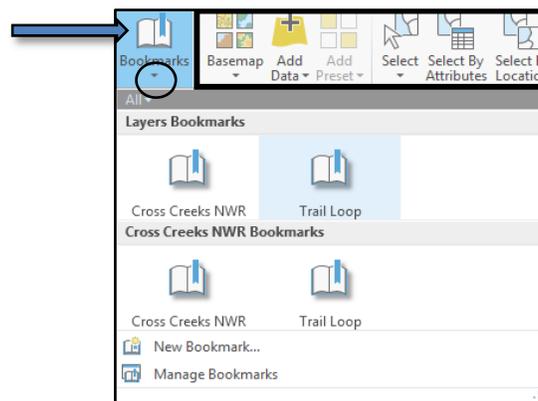
5. On the **General** Tab, set the Name field to **Cross Creeks NWR**
6. Click **OK** to apply the Name change. Note that the name is changed in the Contents panel as well as in the Map tab below the application ribbon.



You have successfully created your first map in ArcGIS Pro.

Next, you are going to create another map in the project that is zoomed into a small area on the Cross Creeks NWR containing a wildlife viewing trail.

7. On the **Insert** tab, click the **Import Map** button.
8. Import **Exercise1.mxd** map again so you now have two map tabs in your project.
9. On the **Map** tab, click the down arrow on the **Bookmarks** icon to expand the bookmarks dialog.



10. Under the Layers bookmarks panel, click on **Woodpecker Trail** to zoom into the desired area.
11. In the Contents panel with the newly imported copy of the map active (should be called Layers), rename this map to **“Woodpecker Trail”** (Double click Layers to open the Map Property page to rename the map).

You should now have two maps in your ArcGIS Pro document.



Modifying a Map in ArcGIS Pro

Next, you are going to modify some of the properties of the maps you just imported.

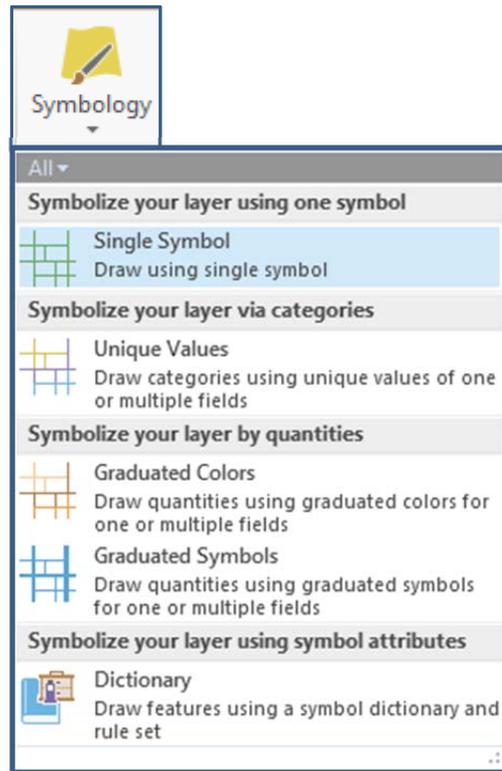
1. Remove the following layers in your “Woodpecker Trail Map tab.
Layers to Remove (Right click layer, then click Remove):

- Wetlands
 - FWS_Interest
 - Special Designation
 - NLCD
 - Hillshade
 - NHD Water Bodies
2. Make sure the GroundDEM Layer is turned off and above any Basemaps (Click and Drag the layer above the basemap).
 3. On the **Map** tab, select **Imagery** from the **Basemap** pull down menu.
 4. Zoom the Map to **1:5,000** scale and center/pan the map on the Woodpecker Trail.

Note: in the Lower left portion of the map is a Scale display, you can select 1:5,000 from the pull down list or zoom in/out with the thumb wheel to get to 1:5,000 scale.



5. Click on the **Trails** Layer in the *Contents* panel, note that the Application Ribbon changes to include additional tabs including **Appearance, Labeling** and **Data**.
6. Activate the **Appearance** tab.
7. Select **Single Symbol** from pull-down Symbology Menu.



Note: In ArcGIS Pro, properties like Symbology can be accessed using several different work flows including context based properties of the Application Ribbon.

- Click on the symbol under *Current Symbol* Label on the Symbology panel.



Note: there are tabs for both a Symbol **Gallery** and the actual **Properties** of the current symbol.

- Click on **Properties**, then set the Color to White or any other color that stand out from the Imagery basemap. Click Apply to change the color.



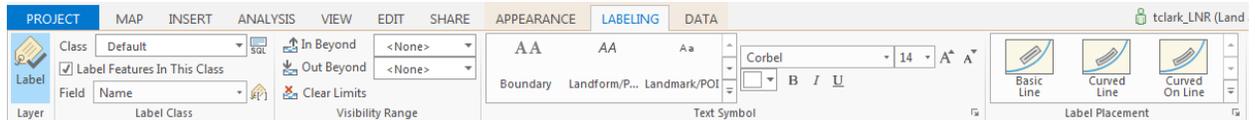
- Close the **Symbology** Panel.

Labeling your map

Now you are going to label some features on your map.

- Select the *Trails* layer in the **Contents** panel
- Activate the **Labeling** tab on the ArcGIS Pro Application Ribbon.

Note: that the properties set in the **Labeling** tab are specific to the selected layer in the Contents panel.



- Set the following properties for the Trails layer:
 - Field: *Name*
 - Text Symbol Style: *Point of Interest POI (Black Halo)* Use the Down Arrow  to expand the **Text Symbol** Options.
 - Font Size: **14**
 - Label Placement: **Basic Line**

- Click the **Label** button to activate the Label for the Trails Layer.



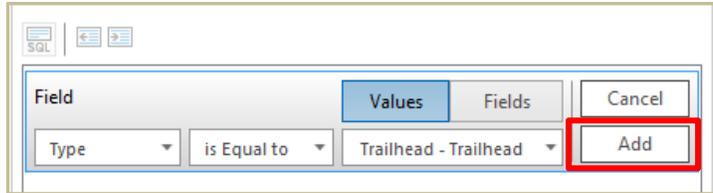
Label On



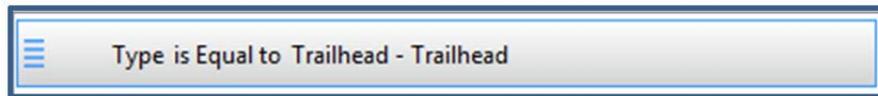
Label Off

For our map, we only want to display and label the Trailhead for the Woodpecker trail, not the other points in the Trails_Pts layer. To do this, you will apply a *Definition Query* to select only the desired points in the Trailhead layer.

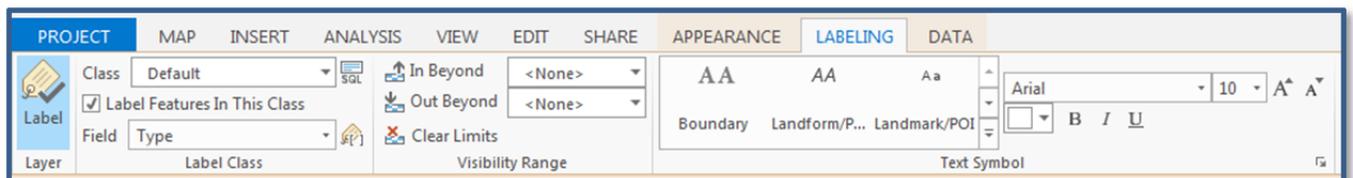
5. Right click the **Trails_Pts** layer and select Properties.
6. Click on the **Definition Query** Tab to add a definition query to only display Trailheads.
7. Click the **Add Clause** button, then set the dialog as shown below:



8. Make sure to click the **Add** button to apply the clause.



9. Click **OK** to apply the Definition Query. There should only be one point symbol visible on the map.
10. Next, label the Trail_Pts layer as shown below:



Geoprocessing

For our Map, we want to show trail access limited to 25 feet on either side of the trail. This will document a way to limit visitor impact to the area.

Before you run any geoprocessing tools, we want to add the output Geodatabase to the CroosCreekNWR project.

1. On the View tab, click **Project > Project Pane** to open the **Project Pane**. You can manage the properties of your project from this pane.
2. In the **Project** Pane, right click **Databases** and then click **Add Database**.
3. Navigate to *C:\Esri\ArcGIS Pro\Outputs* and then select *Exercise1.gdb*.
4. Click Select to add the **Exercise1** geodatabase to the project.

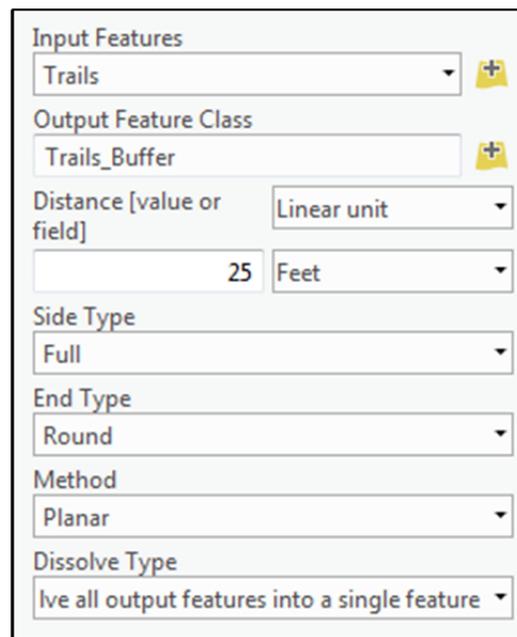
5. Expand the Databases tab and you should now have two geodatabases references in your project.

Next you will buffer the Trails layer.

1. Activate the **Analysis** tab on the Application Ribbon.
2. Expand the list of available tools using the Down Arrow on the Tools panel to see the various categories of tools available.



3. Click on the **Buffer** tool to activate the tool. Perform a buffer on the **Trails** layer using the following parameters. Place the Output in C:\Esri\ArcGIS Pro\Outputs\Exercise1.gdb and name it Trails_Buffer:

A screenshot of the Buffer tool dialog box. The parameters are as follows:

- Input Features: Trails
- Output Feature Class: Trails_Buffer
- Distance [value or field]: 25 Feet
- Side Type: Full
- End Type: Round
- Method: Planar
- Dissolve Type: I've all output features into a single feature

4. Run the Buffer.
5. In the **Contents** Pane, double click the **symbol** under the results of the Buffer to open the Symbology Properties panel.
6. Set the color of the buffer to "Leaf Green" (7 over, 5 down on Color picker).
7. Click **Apply** to set the Symbology.
8. Double click the layer to open the Buffer Layer's properties page
9. On the **General** Tab, rename the layer "**25' Access Area Around Trail**".

View your Maps Side by Side.

ArcGIS Pro allows you to view your maps in several different ways. In the next step, you will configure your maps to be side-by-side.

1. Click on the Woodpecker Trail Map tab and drag it towards the center of the map.



Note: As you drag the Map tab, a widget will appear in the center of the ArcGIS Pro interface that allows you to position the map in several different orientations.

2. Position your cursor over the Right hand side-by-side position and release the map.



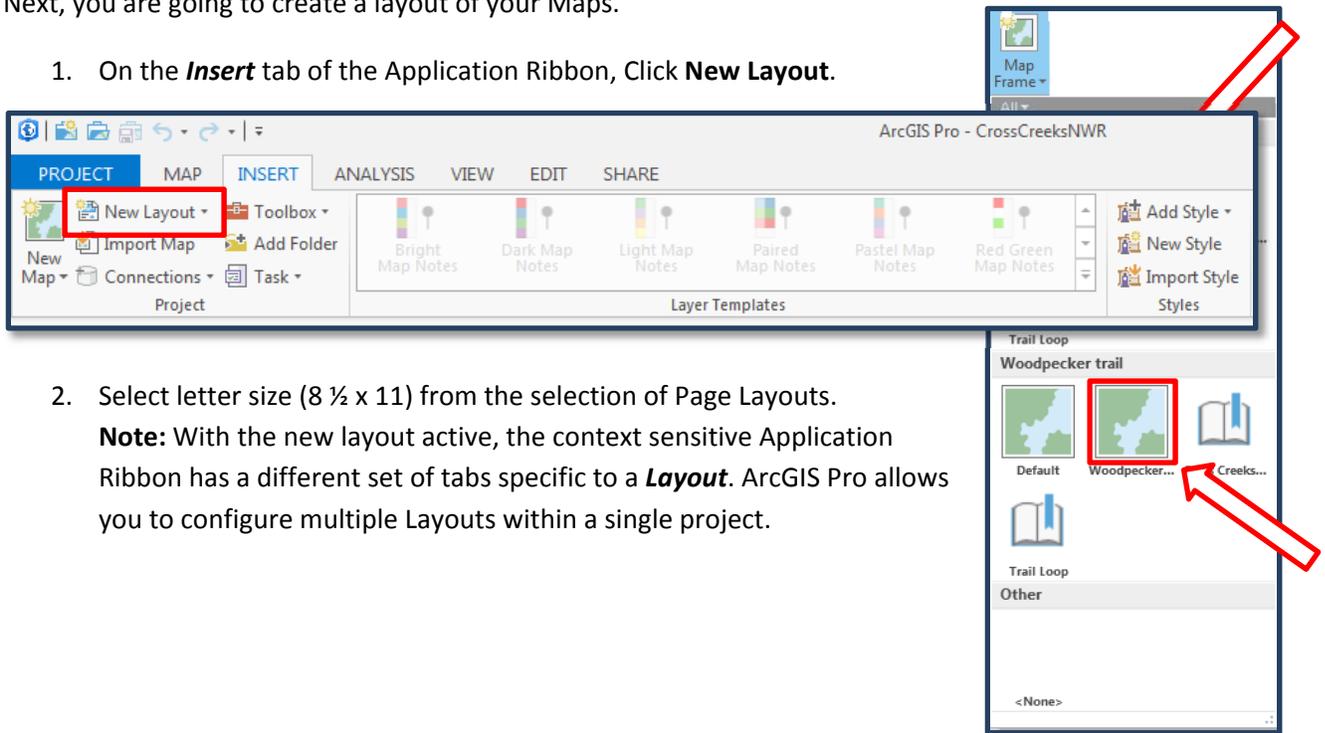
Your maps should now be oriented side-by-side.

3. Right click the **Woodpecker Trail** Map tab and select **Move to previous Tab Group** to return your maps to their original position.

Create a Layout

Next, you are going to create a layout of your Maps.

1. On the **Insert** tab of the Application Ribbon, Click **New Layout**.



2. Select letter size (8 ½ x 11) from the selection of Page Layouts.

Note: With the new layout active, the context sensitive Application Ribbon has a different set of tabs specific to a **Layout**. ArcGIS Pro allows you to configure multiple Layouts within a single project.

3. On the **Insert** tab, click on the arrow next to **Map Frame** to activate the Map Frame selection panel.
4. Click on the **Cross Creeks NWR** Map.
5. The Map will now appear in your Layout, reshape the map to fit into the lower half of your layout page.
6. Repeat the **Insert > Map Frame** Process and add *the Woodpecker Trail Map* to your layout.
7. Make sure the Woodpecker Trail Map is selected in your Layout.
8. On the **Design** Tab on the Application Interface, Select the **Ellipse** option under **Reshape**.
9. Draw an Ellipse over in the upper half of your layout.
10. Reshape and re-position the map ellipse to fit the Layout, leaving room at the top for a map title.
11. With the *Woodpecker Trail* map selected in the Layout, click **Activate** on the **Layout** tab. This will place the selected map in the layout into Map mode.
12. Use the Pan/zoom tools, or your mouse to center the full extent of the trail in the map.
13. Activate the **Layout** tab on the application ribbon, then click **Close Activation** once your map is centered the way you want it. This will return you to the Layout mode.
14. Activate the **Insert** tab on the application ribbon and select **Text**. Add the title "**Woodpecker Trail Map**" at the top of your layout. Use the **Element** panel to set the properties to something appropriate.
15. Select **Picture** on the **Insert** tab Graphics group to insert the agency logo on the Layout. Navigate to *C:\Esri\ArcGIS Pro\Images* and select the **fws.png** file.
16. Position the logo in the upper left corner of the layout.

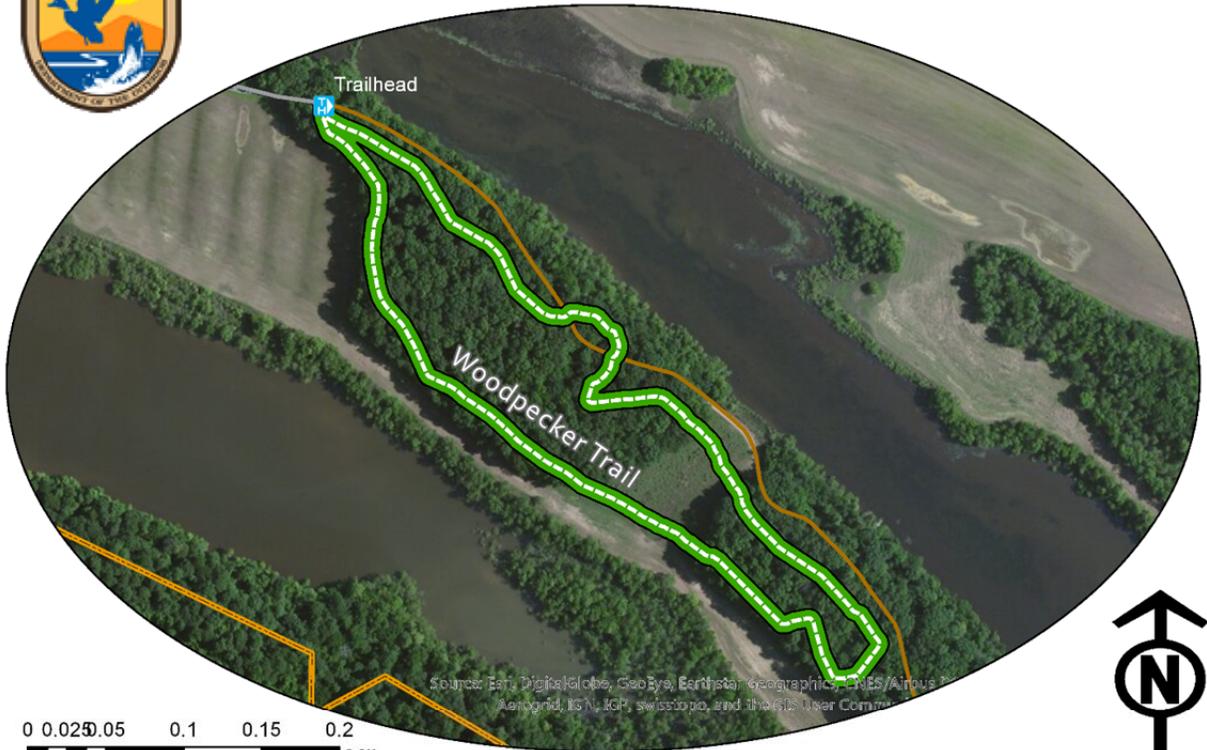
Note: For each element you add to the layout, you will see the item in the **Contents** pane. Double clicking on any element in the **Contents** pane will open the element properties panel. You can set all of the properties for each element in the layout. For example, you can specify the appropriate Map frame for map specific items like scale bars and North arrows.

17. Experiment with adding other layout items like Scale bars, and North arrows.

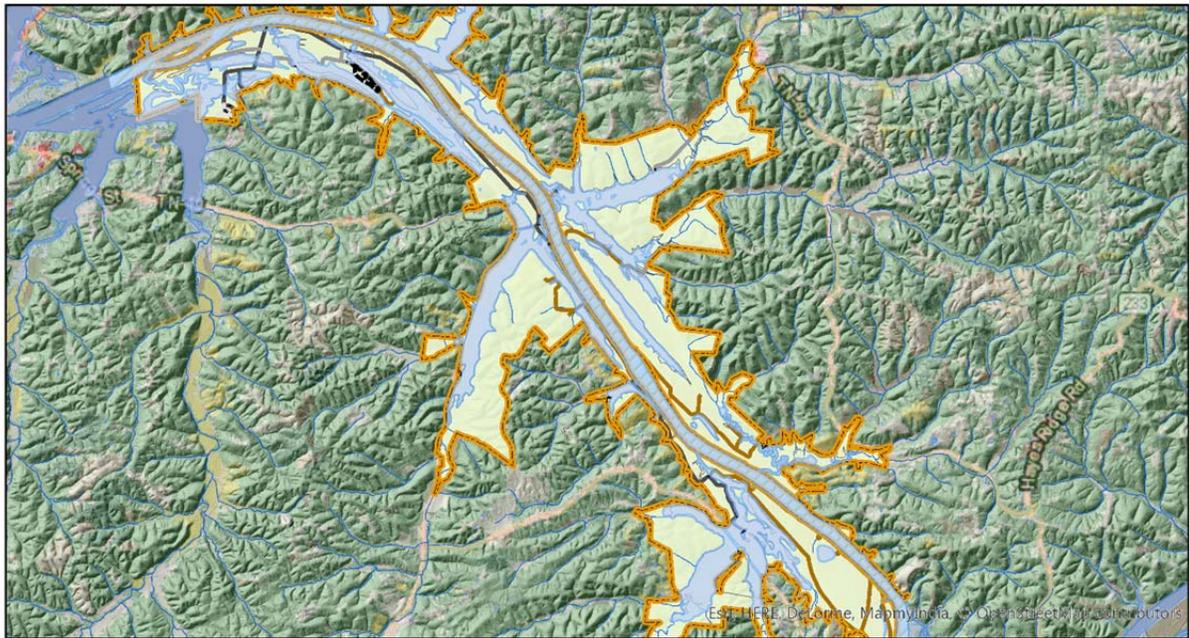
When completed, your map should appear similar to the example on the next page:



Woodpecker Trail Map



0 0.025 0.05 0.1 0.15 0.2
Miles



0 0.5 1 2 3 4
Miles

END of Exercise 1