Last Updated: April 2021

Version: ArcGIS Pro 2.6.1

EXERCISE 1

# Editing – Create Data

**Introduction**In this exercise you will be Acting as a Timber Sale planner and create a simple feature class of proposed treatment areas. By means of “heads-up” digitizing, you will use FSVeg Data and aerial photography as a backdrop to find potential areas that meet your treatment criteria. This exercise walks you through basic data creation using the Catalog Pane, basic digitizing using the Editing tab, and the tools in the Create Features pane.

**Objectives**

* Become familiar with basic data creation and digitization
* Learn how to create new points, digitize lines and polygons on the map, change editing tools and utilize snapping while creating features

Prerequisites

* **Install ArcGIS Pro on local computer.**
* **Completed the GTAC “Arc Pro for ArcMap Users” class or equivalent experience.**
* **Copy the data to your workspace and unzip.**

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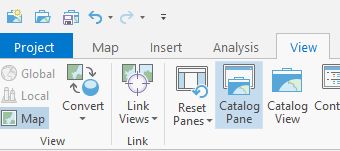
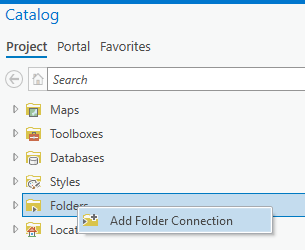
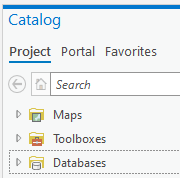
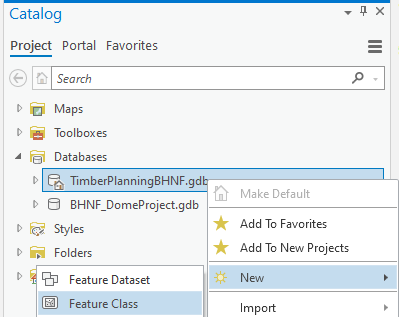
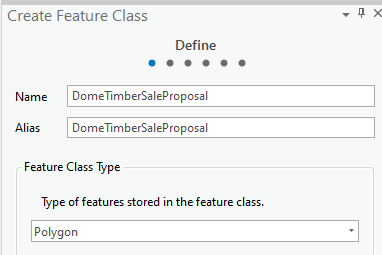
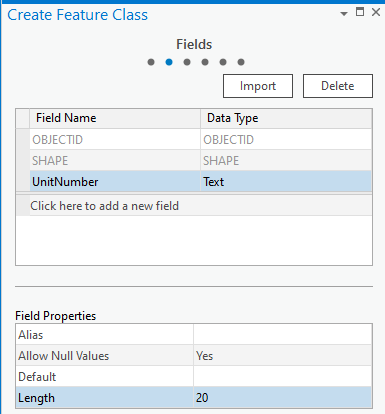
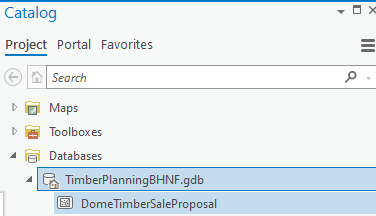
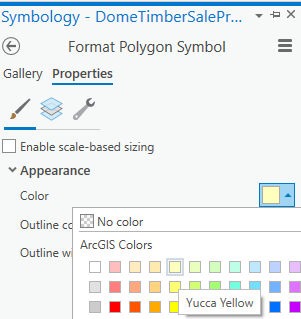
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Step I: Create a New Feature Class

In ArcGIS Pro there is a default geodatabse created with every project. As a Silviculturalist for the Forest Service you will begin planning a timber sale by using the stand evaluations from the FSVeg data combined with the aerial photography underneath. Your Project is set up and ready to go with the layers you need loaded and symbolized.

1. Start the Exercise Project by navigating to your ArcProEditing folder and open the ArcPro project called TimberPlanningBHNF.aprx by double-clicking on the **Start** button.
2. **Open the Catalog pane** by clicking the View ribbon and then Catalog Pane in the Windows section.  
   
3. In the Catalog Tree, right-click **Folder Connections**, then select **Connect to Folder**.  
   
4. **Expand Databases** in the Catalog tree by clicking the arrow on its left side.   
   
5. Right-click the default Project Geodatabase (it will have the same name as the Project) choose **New and then Feature Class**.  
   
6. In the Create Feature Class pane that opens, name the file **DomeTimberSaleProposal** and add **Dome Timber Sale Proposal** in the Alias text box. Leave the Feature Class Type as Polygon, and leave the rest as default. Click the Next button.   
   
7. In the **Fields pane** click to add a field called **UnitNumber** that is a **Text field** with a Length of 20.  
   
8. **Select “Click here to add a new field”** and name it **Treatment**. Make it a Text type with 50 Length. Click Next.
9. The new Feature Class will take on the Spatial Reference of the Map frame which is what we want (NAD 1983 UTM Zone 13N), so **click Next**.
10. We will accept the Tolerance, Resolution, and Storage Configuration defaults, **click Next twice and Finish**.  
    
11. **Drag and drop DomeTimberSaleProposal** into your Map from the Catalog pane.
12. Double click the symbol square to **open up the Symbology pane**, click the Properties tab, change the color to Yucca Yellow and click Apply.  
    
13. **Save** the Project.  
    

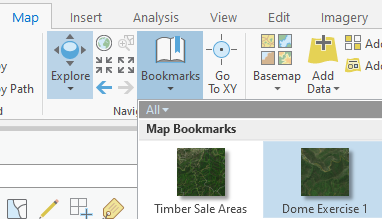
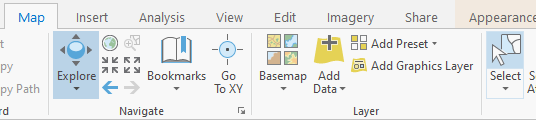
Step II: Digitize Polygons

In Pro, by default, you do not need to start an Edit session to start digitizing. When you are done digitizing you will need to save edits if you want to keep your work.

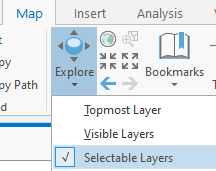
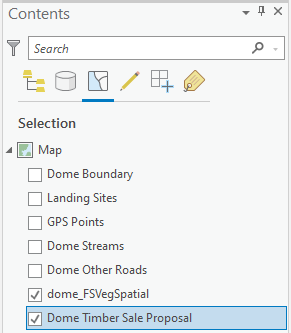
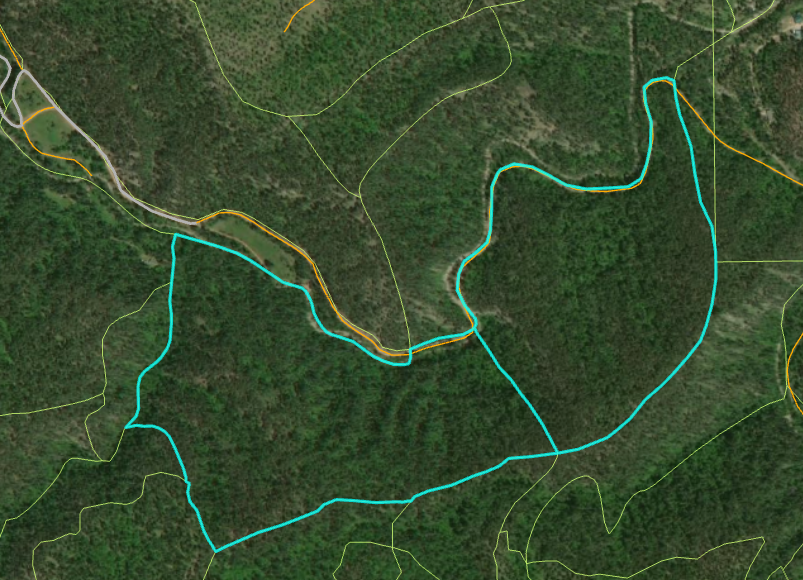
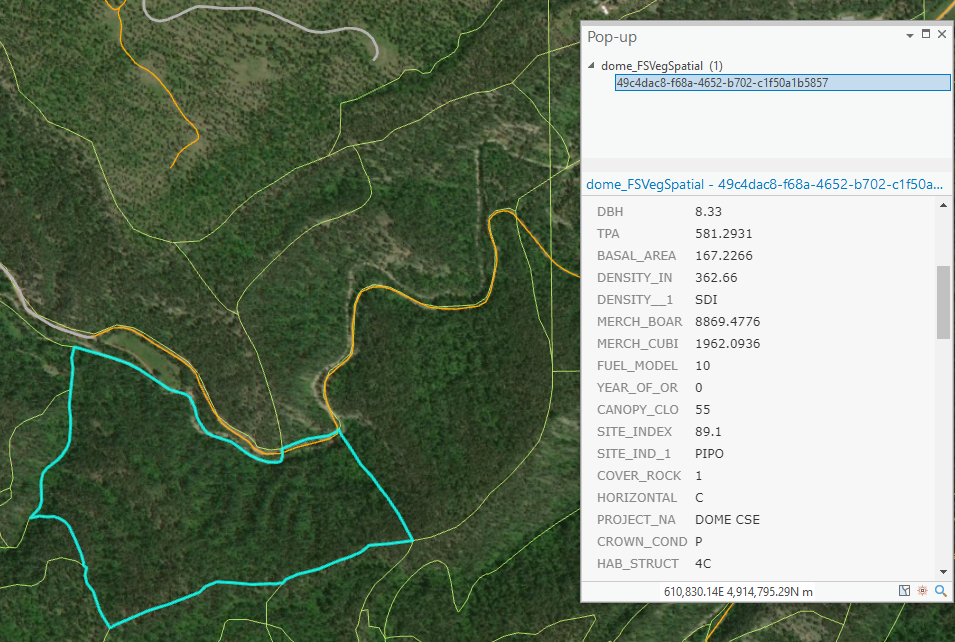
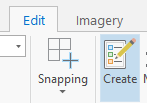
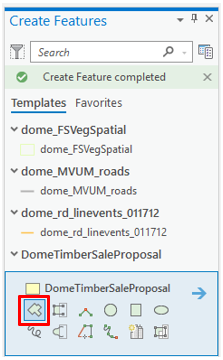
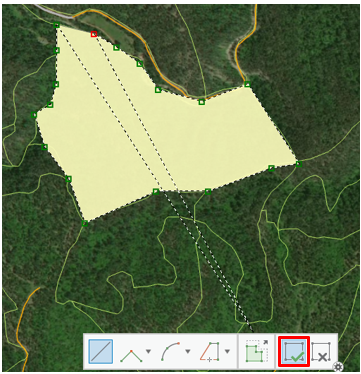
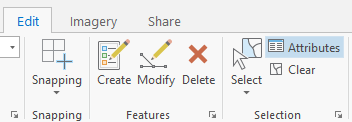
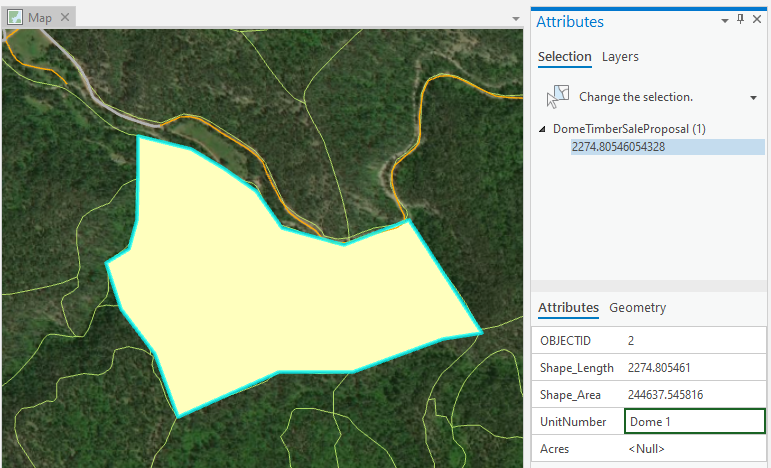
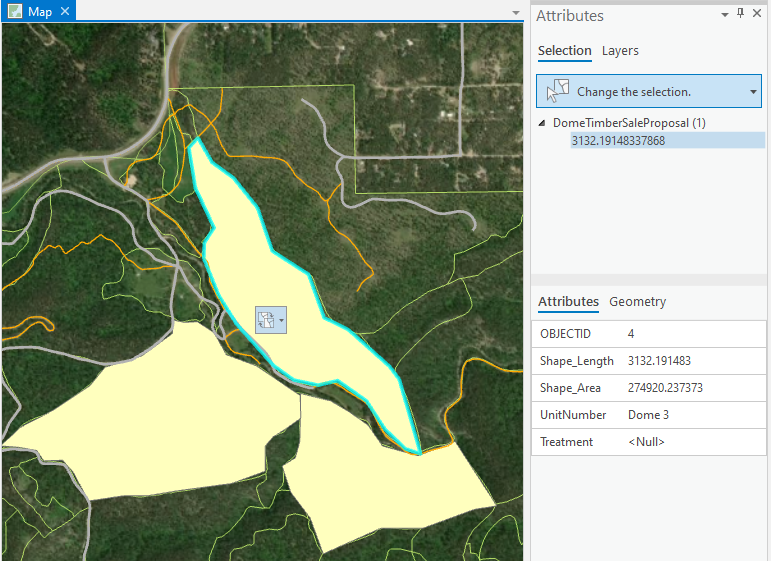
**Advantages / Disadvantages of not having to start an edit session**

* The advantage is you don’t have to always start and stop edit sessions.
* The disadvantage is that you could inadvertently edit a feature or attribute and introduce errors into your data.

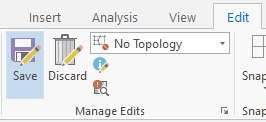
**NOTE:** Changes are not permanent until you click Save Edits on the Edit ribbon, but you need to be extra careful with your mouse clicks.

1. In the Map toolbar, click on Bookmarks and the **Dome Exercise 1** bookmark.  
    
2. Click the Map ribbon and click the Explore tool in the Navigate section.  
   

For this project example you are acting as a Silviculturist with limited GIS experience and you are looking for polygons with Forest Service Ownership, a stand near an existing road, Ponderosa Pines (PIPO), and DBH over 6 inches.

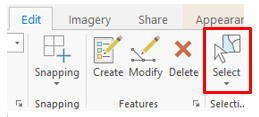
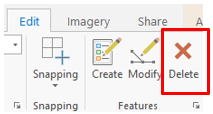
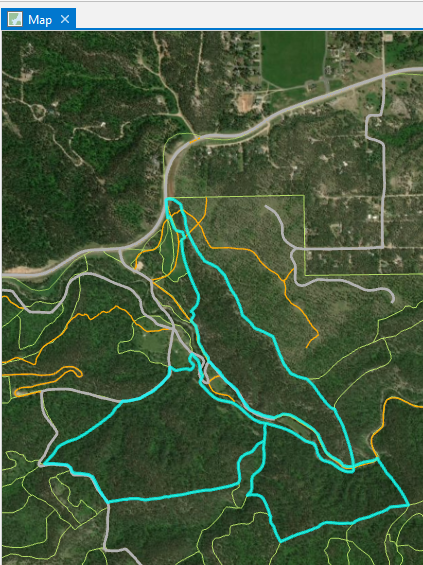
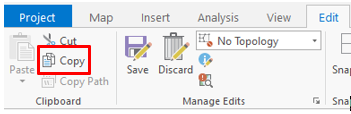
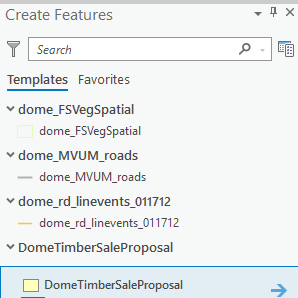
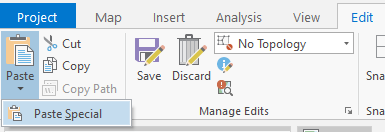
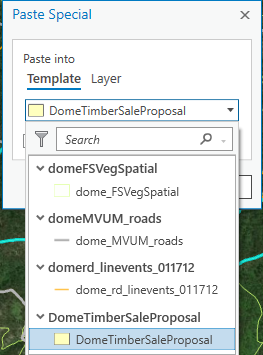
1. Click on the down arrow under the Explore tool and make sure it is set for Selectable Layers.  
    
2. Click on the Selectable Layers button n the Contents pane and make sure dome\_FSVegsSpatial and Dome Timber Sale Proposal are selectable.  
   
3. Click on the polygons below to inspect their attributes in the pop-up window.   
   
4. The eastern polygon is less than 6 inches DBH, but the western one has potential so we will digitize it.  
   
5. Click the Edit ribbon and **select the** **Create Features window button**.  
   
6. Select the DomeTimberSaleProposal template and **select the Create a Polygon Feature tool**.   
   
7. Digitize along the stand boundary by single clicking every place you want a vertex. Either double click on your last vertex or select **Finish Sketch** from the editing toolbar that automatically appears at the bottom of your Map when digitizing.   
   
8. Next click on the Attributes button on the edit window to **open the Attribute pane**.  
   
9. In the box next to UnitNumber **type Dome 1**, hit Enter, and click the Apply button at the bottom.  
   
10. Next digitize around the two other stands shown below that match the criteria stated above. Enter Dome 2 and Dome 3 as the UnitNumber, click Enter and then click Apply after each attribute.  
    

While this is a quick and easy way to get features on a map, is it the best way for you to create your data for this project? Probably not. We will give you a couple other options in this class, but your best bet is to discuss your project needs with your GIS Specialist and have them help you design the most efficient workflow and end up with the most valuable data possible.

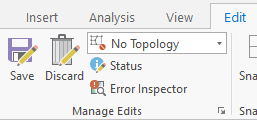
1. **Click Save** on the Edit ribbon in the Manage Edits section, then Yes to save all edits.  
   

Step III: Copy Existing Polygons

Your Timber treatments will all eventually be entered back into the FSVeg data, so why not use the exact polygons? Using the exact polygons where approriate will save you digitizing time, as well as make the units “vertically integrate” back into the FSVeg without creating slivers and gaps. In Exercise 3 we will learn how to use the editing tools to edit the unit boundaries as needed.

1. **Click on the Select tool** in the Edit ribbon, hold down the shift key and **select all three of your digitized polygons**.  
     
   
2. **Click the Delete** button on the Edit Toolbar.  
   
3. Click the Select tool again and **select the three polygons** from the dome\_FSVegSpatial layer that you digitized over before.  
   
4. **Click Copy** on the left side of the Edit ribbon.   
   
5. Open the Create Features pane and **click on the DomeTimberSaleProposal**.  
   
6. In the Edit ribbon, click the Paste dropdown and then **click Paste Special**.  
   
7. In the Paste Special dialog box choose the DomeTimberSaleProposal layer and click OK.  
   

The polygons will show up in your DomeTimberSaleProposal layer and will exactly overlay the polygons from the FSVeg layer. This is called vertical integration, or coincident boundaries.

1. **Click Save** on the Edit ribbon.  
   

The way you have this project set up where you manually digitize or copy polygons and then manually type in the Unit and Treatment attributes is not efficient or effective when you need to create hundreds of units, and additional attributes will be needed for the analysis. More importantly, you are not taking advantage of the tools and techniques available in Pro to help protect your attribute integrity that is vital for creating reliable legacy data in the future.   
  
THERE IS A BETTER WAY! In the next lesson scenario you will work with your GIS Specialist who can help you develop a workflow that will save time, reduce steps, improve the integrity of your data, and give a NEPA team enough information to analyze the project. We will also make your data consistent with NRM National formats so that it can more easily combine back into the authoritative legacy data.

**Congratulations!** You have successfully completed this exercise.