



Forest Service  
U.S. DEPARTMENT OF AGRICULTURE

# Geospatial Technology and Applications Center: *Editing Data in ArcGIS Pro*

**USDA Forest Service**

**Geospatial Technology and Applications Center | GTAC**

2222 West 2300 South

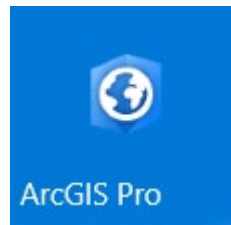
Salt Lake City, UT 84119



Meeting the Mission Through Geospatial Solutions

# Why ArcPro?

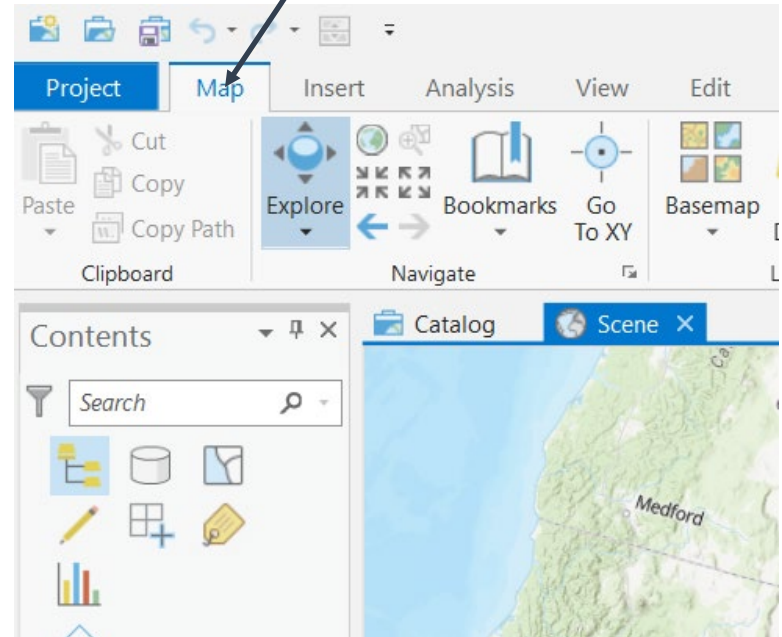
Fire moved to Pro this year



**Ribbon interface like Microsoft 2013.**

- ArcGIS Pro is the latest version of professional desktop GIS software from Esri.
- An ArcGIS Pro project can contain many maps and layouts as well as tables, charts, etc. 3D raster, large dataset capabilities are native to ArcGIS Pro.
- **ArcGIS Pro is not available in Production Citrix at this time. Target date for Citrix is Spring 2022.**

**ArcGIS Pro Forest Service SharePoint**



*ArcGIS Pro is a 64-bit software to take advantage of newest hardware and is designed to work more seamlessly with web data and WebGIS.*



# ArcGIS Pro Editing Course Outline

## Lesson 1: Creating Spatial Data

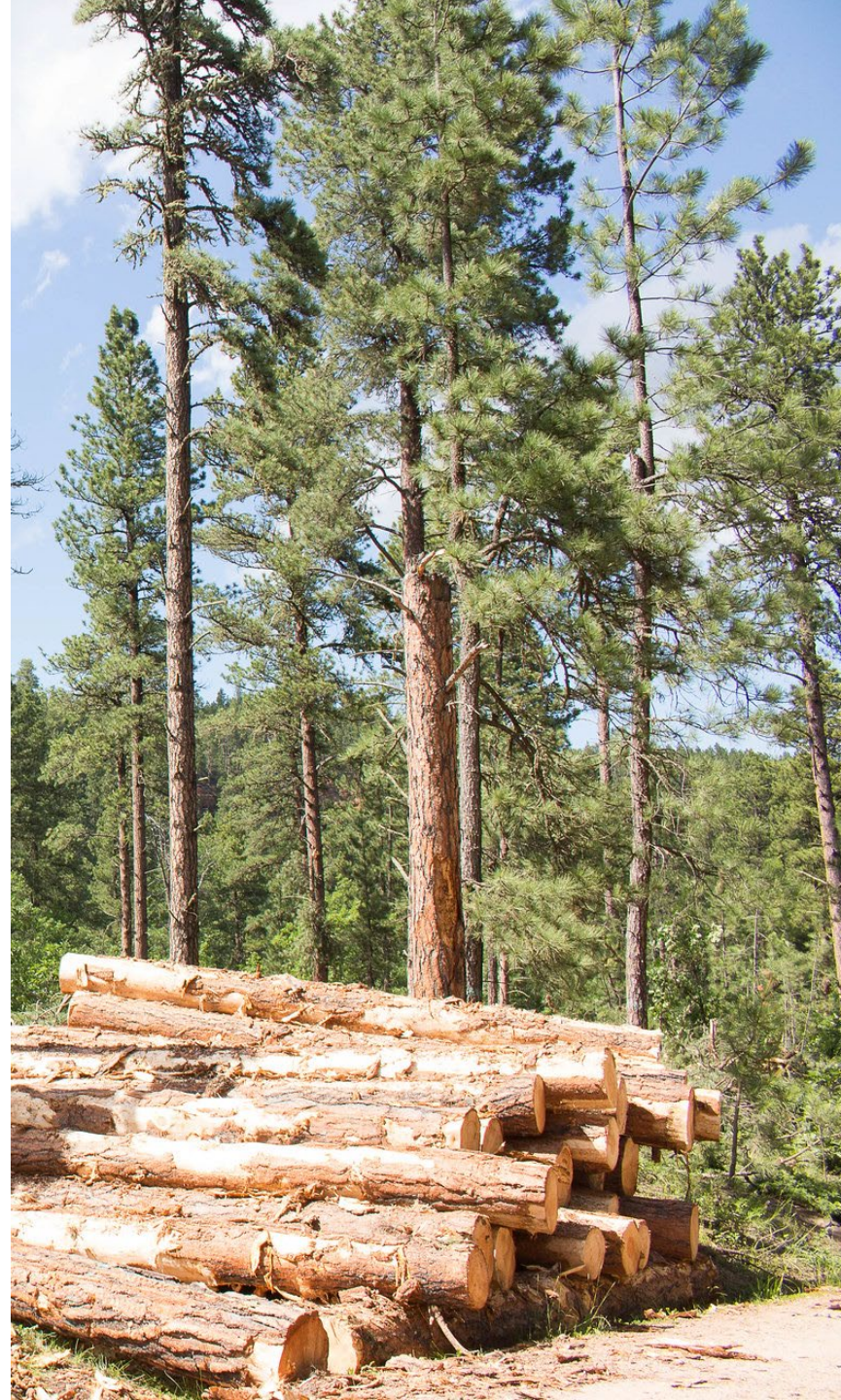
- Exercise

## Lesson 2: Attribute Edits

- Exercise
- Lunch/ extended break

## Lesson 3: Spatial Edits

- Exercise





# What is editing?

## ESRI Definition:

“Editing geographic data is the process of creating, modifying, or deleting features and related data on layers in a map. Each layer is connected to a data source that defines and stores the features; this is typically a geodatabase feature class or a feature service.”





# LESSON 1

## CREATING SPATIAL DATA



# Lesson 1

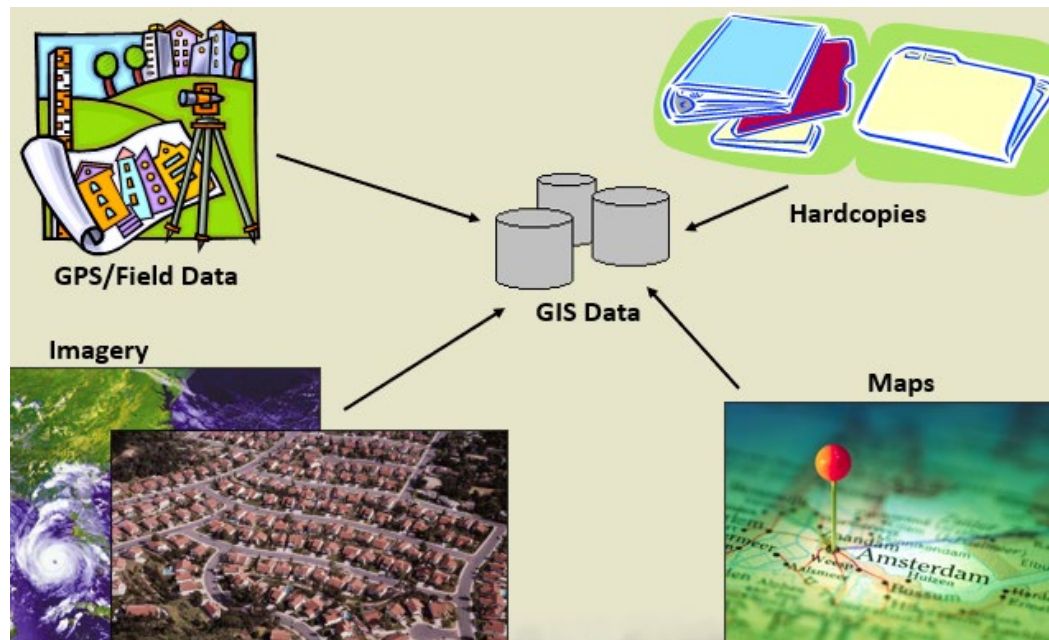
## *Overview*

- Creating Feature Classes and editing data
- Create new features
  - Create Features pane
- Data planning and preparation



# GIS Data Capture

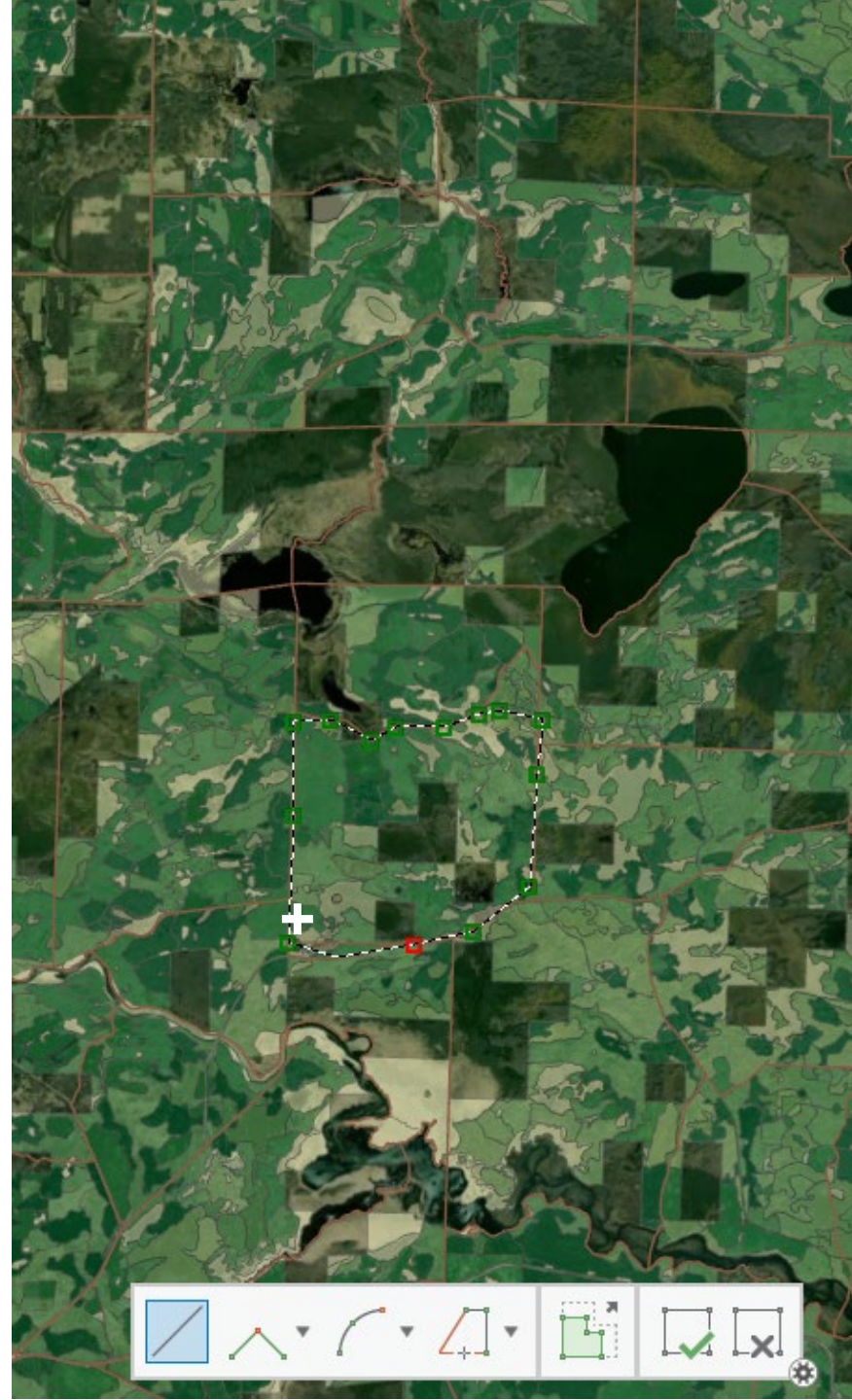
There are many ways to create GIS data





# Creating Data

- Create New Feature Class
- Use Georeferenced Background Data  
(base layer vector data, imagery, scanned maps)
- Digitize On-screen
- Copy and Paste existing features from another layer



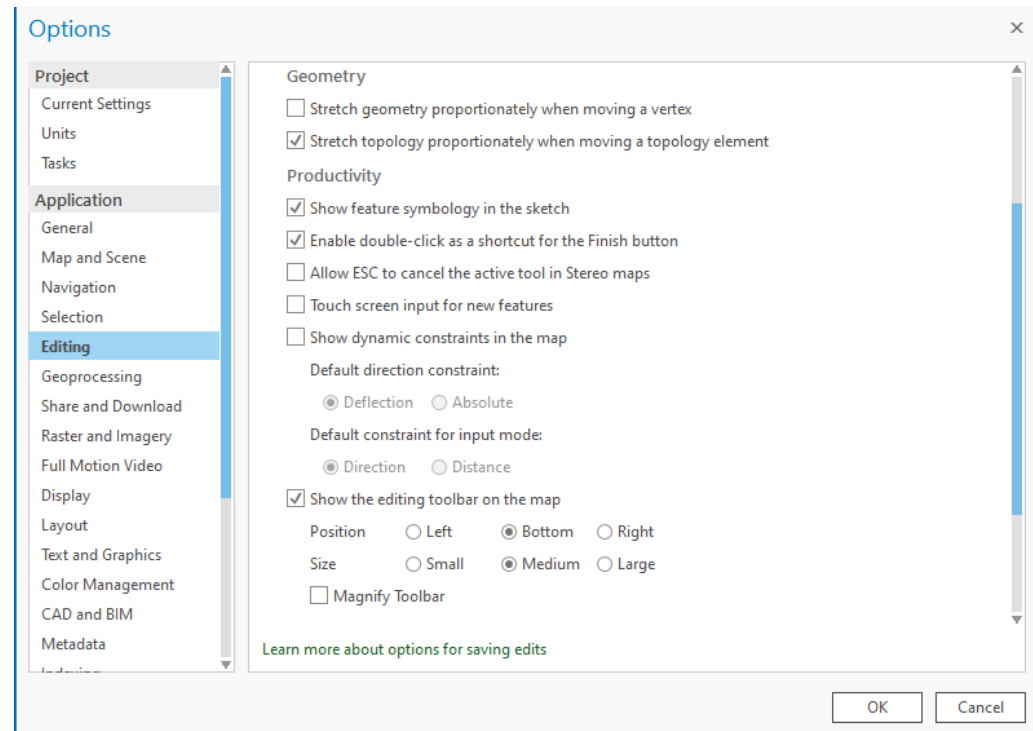


# Project Edit Settings

Project > Options >  
Application > Settings

## Set Editing defaults for Project

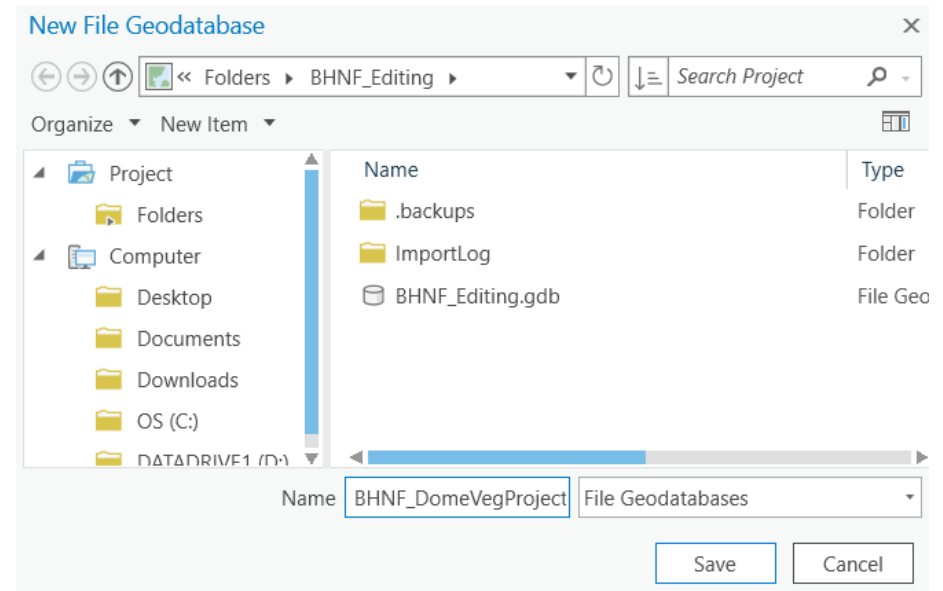
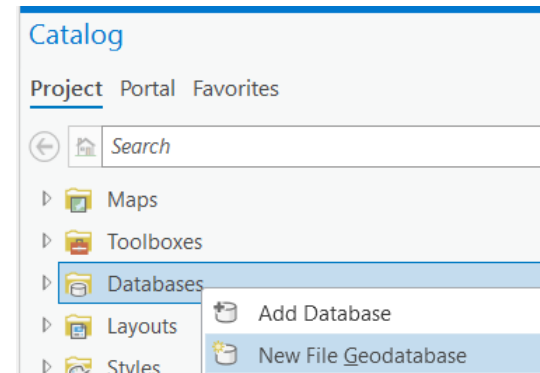
- Location of Editing toolbar
- Editing symbology
- Save dialogs
- Auto save or not



In Pro, by default, you do not need to start and Edit Session to edit data. This window is where you could change the settings so that you must start and Editing Session before you can edit.

# Creating New Data

- Open the Catalog pane
- Right click on the Databases folder
- Select New File Geodatabase
- Enter Name

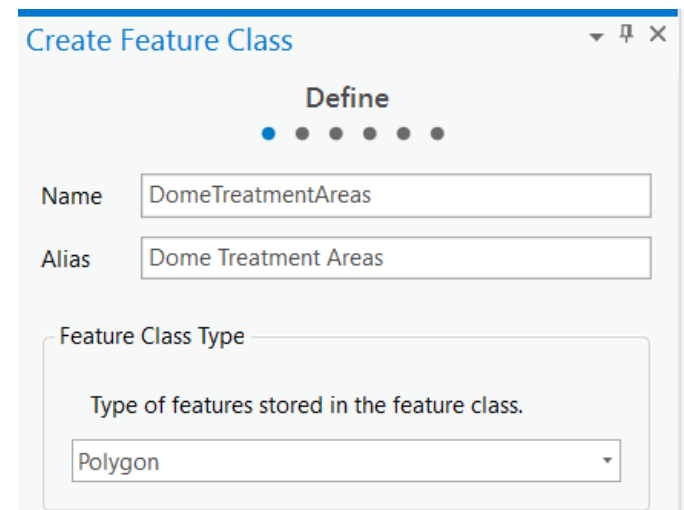
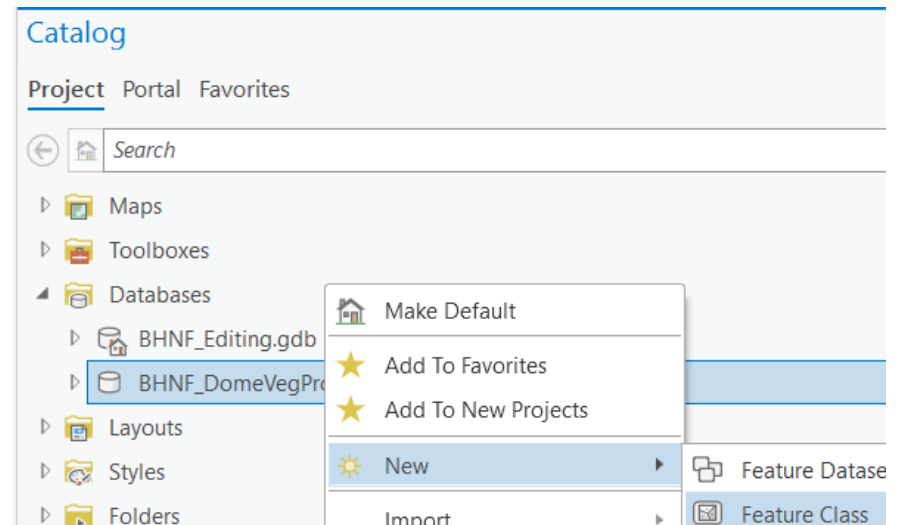


Be sure to follow [ESRI rules and FS Best Practices](#) for naming spatial data!



# Create New Feature Class

- Right-click on the Geodatabase
- Select New
- Select Feature Class
- Minimum: Name and Type
- Click Next



# Select the Spatial Reference

- Click Next twice to the Spatial Reference pane
- The default = same as the current Map tab
- May need to change defaults\*
- Options: search, select layer from current map, choose from full list, or import for existing data

## Create Feature Class

### Spatial Reference

Select the Coordinate System to view the available options.

Current XY

Details

Current Z

NAD 1983 UTM Zone 13N

<None>

### XY Coordinate Systems Available

Search

Layers

NAD 1983 UTM Zone 13N

Survey Locations

MVUM Roads



New Geographic Coordinate System...

New Projected Coordinate System...

New Vertical Coordinate System...

Import Coordinate System...

[ESRI Pro Help: Overview of spatial references](#)

*\*Always ask your GIS Specialist about data standards and Best Practices*



# What determines a feature's shape?

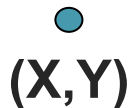
## Vector data model: vertices and edges

### Vertex

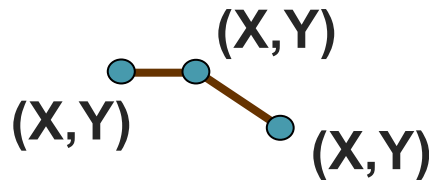
- X,Y coordinate
- Point feature → single vertex

### Edges

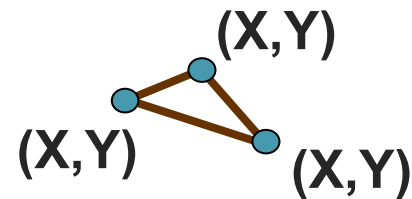
- Linear connection vertices
- Line feature → connection of vertices
- Polygon feature → closed connection of vertices



Point



Line



Polygon

# Data Creation: Digitizing

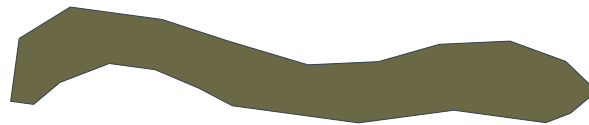
**Point:** ★

- Digitize with a single-click

**Line:** ■————■

- Endpoints (nodes) and vertices
- Digitize each vertex using a single mouse click

**Polygon:**

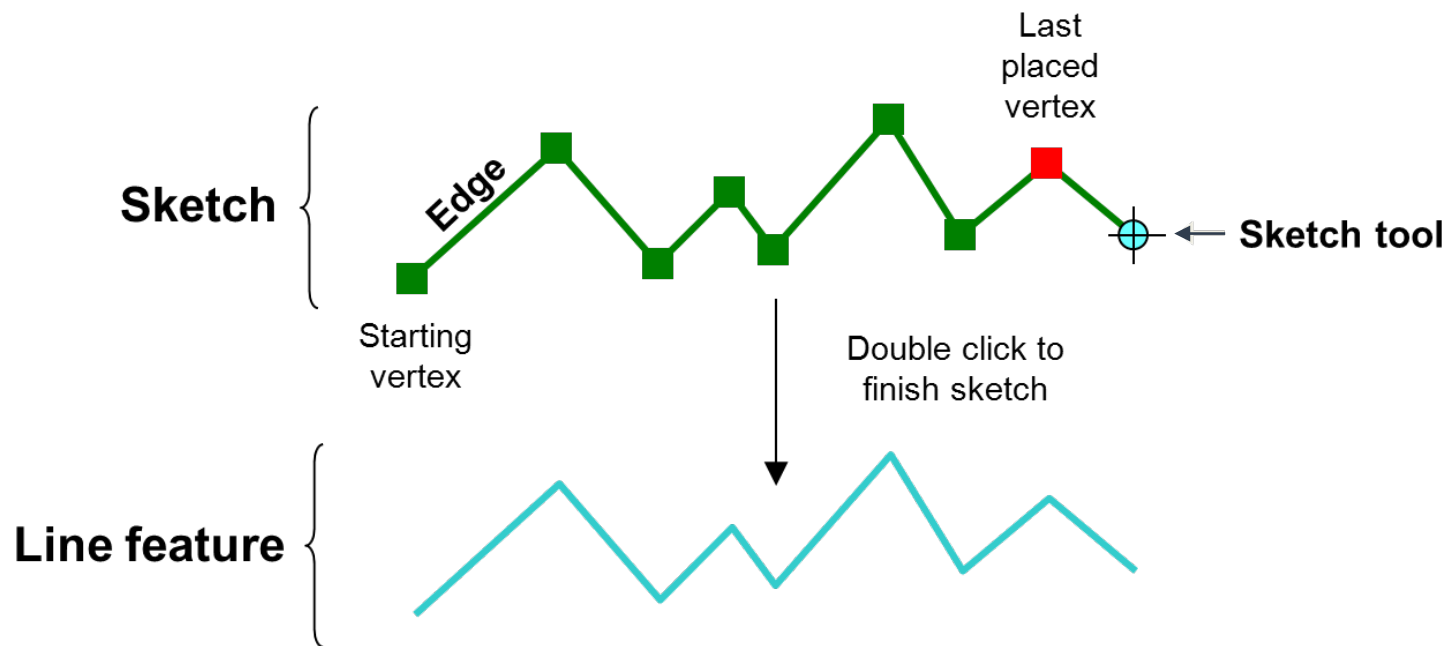


- Lines that return to their origin
- Similar to lines; digitize each vertex with a single mouse click; double click last vertex to end polygon

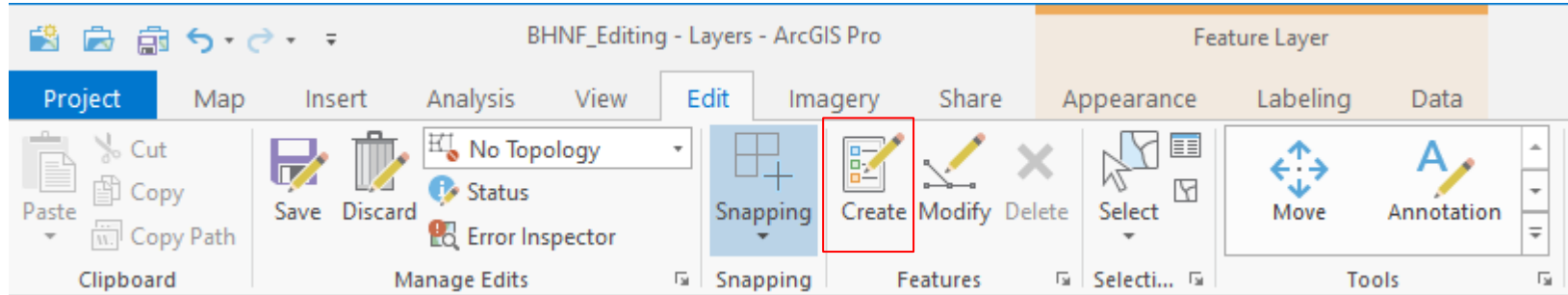


# Create a new Sketch

- Single-click to add vertex ■ Vertex
- Move mouse to determine length of edge — Edge
- Double click to finish Sketch → new feature created



# Editing in ArcGIS Pro



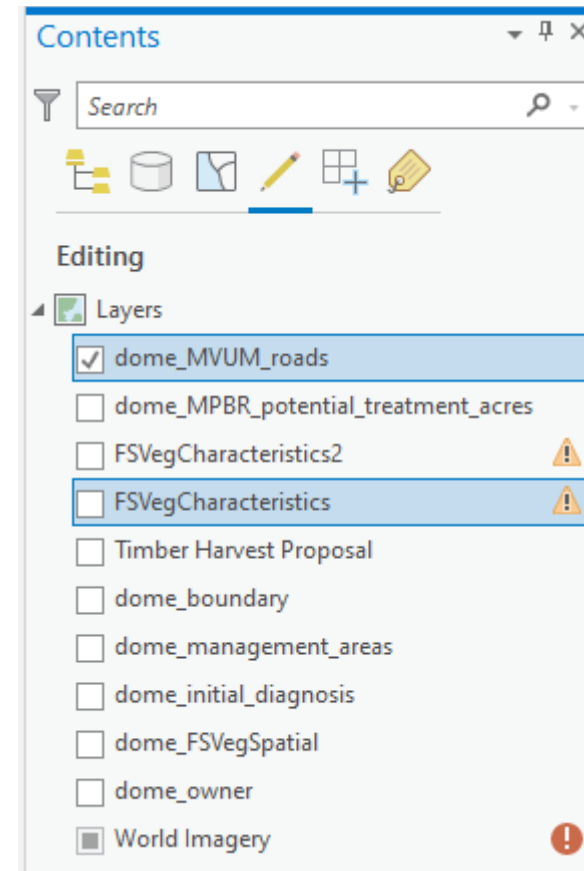
## The Editor Ribbon

- Click Edit tab
- Create / modify features
- Save your edits

***WARNING: In ArcGIS Pro there are no buttons to start or stop an edit session, by default. You are always in an edit session, so be careful!***

# Contents Pane

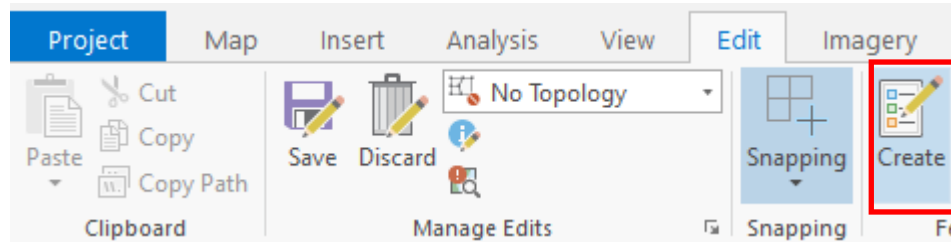
- List by Editing
- Determine Editable Layers
- Enable Layer Editing





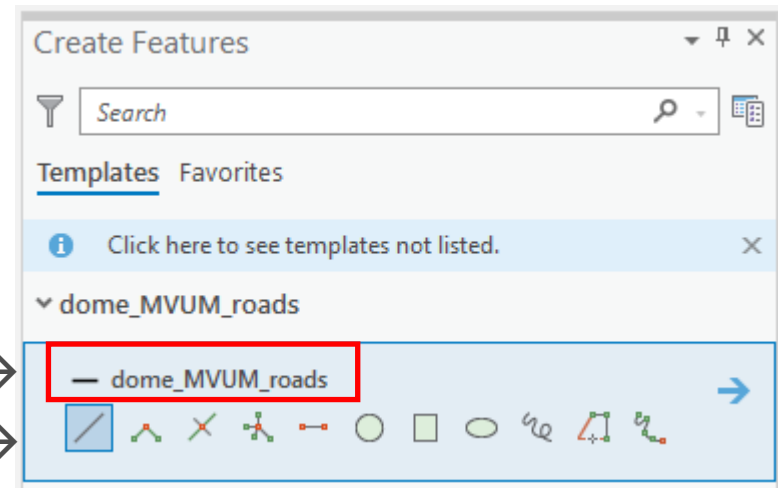
# Create Features Pane

Editor ribbon → Features Group → Create



Set up editing environment by selecting the target layer to edit and activate a feature construction tool.

Select Target Layer →  
Select Construction Tool →



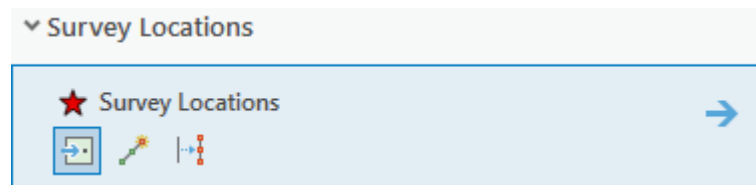
When in an edit session you can click the undo button to undo edits, as long as you do it before you hit Save.



# Construction Tools

The Construction Tools available depend on the features selected to edit.

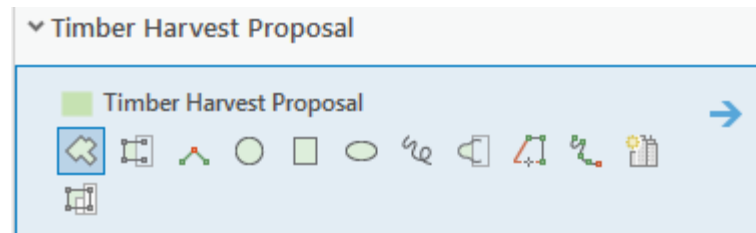
## Point



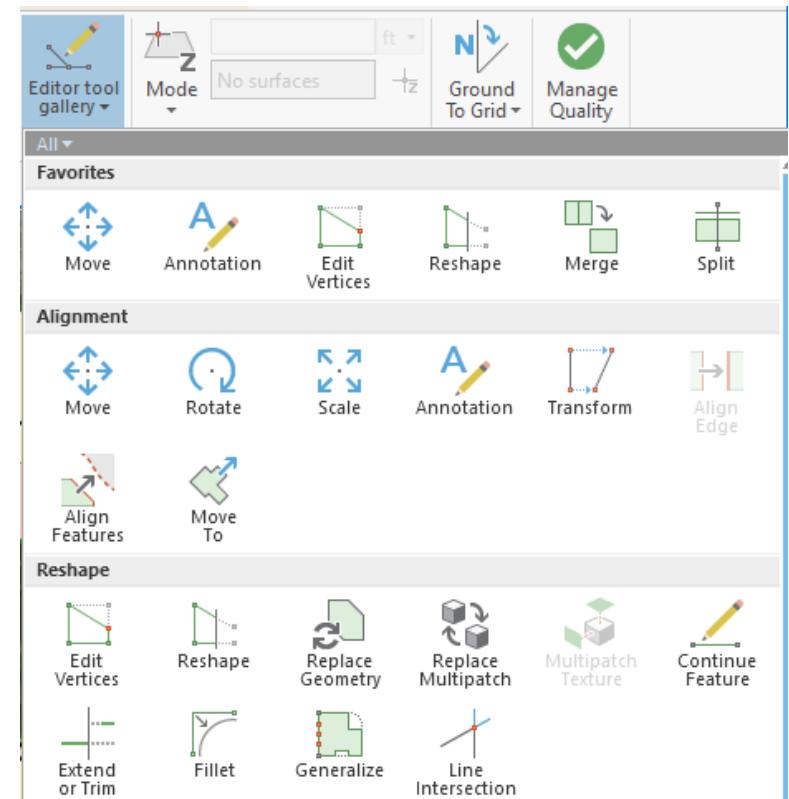
## Line



## Polygon

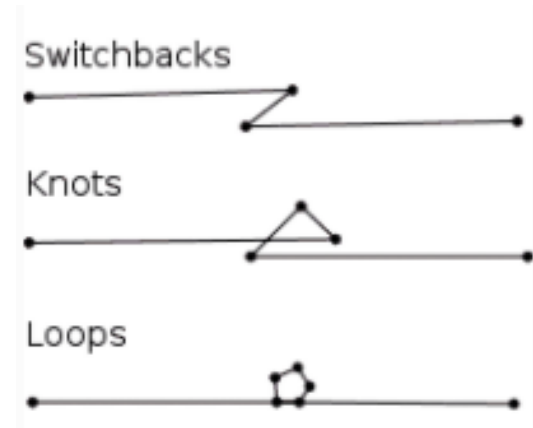


## Additional tools in the gallery



# Digitizing Errors

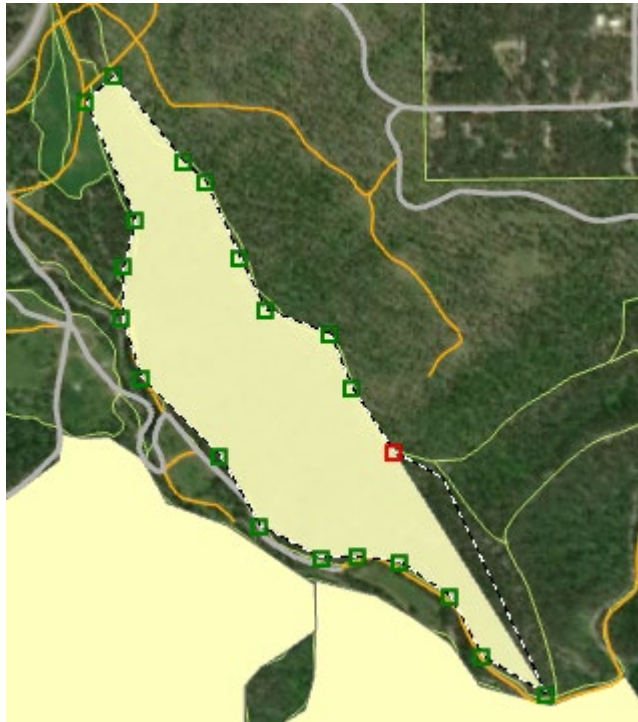
- Be careful not to allow your mouse clicks to cross each other
- If applicable, avoid misalignment errors by copying and pasting from base vector layers
- We will cover more tools to avoid other digitizing errors in Lesson 3





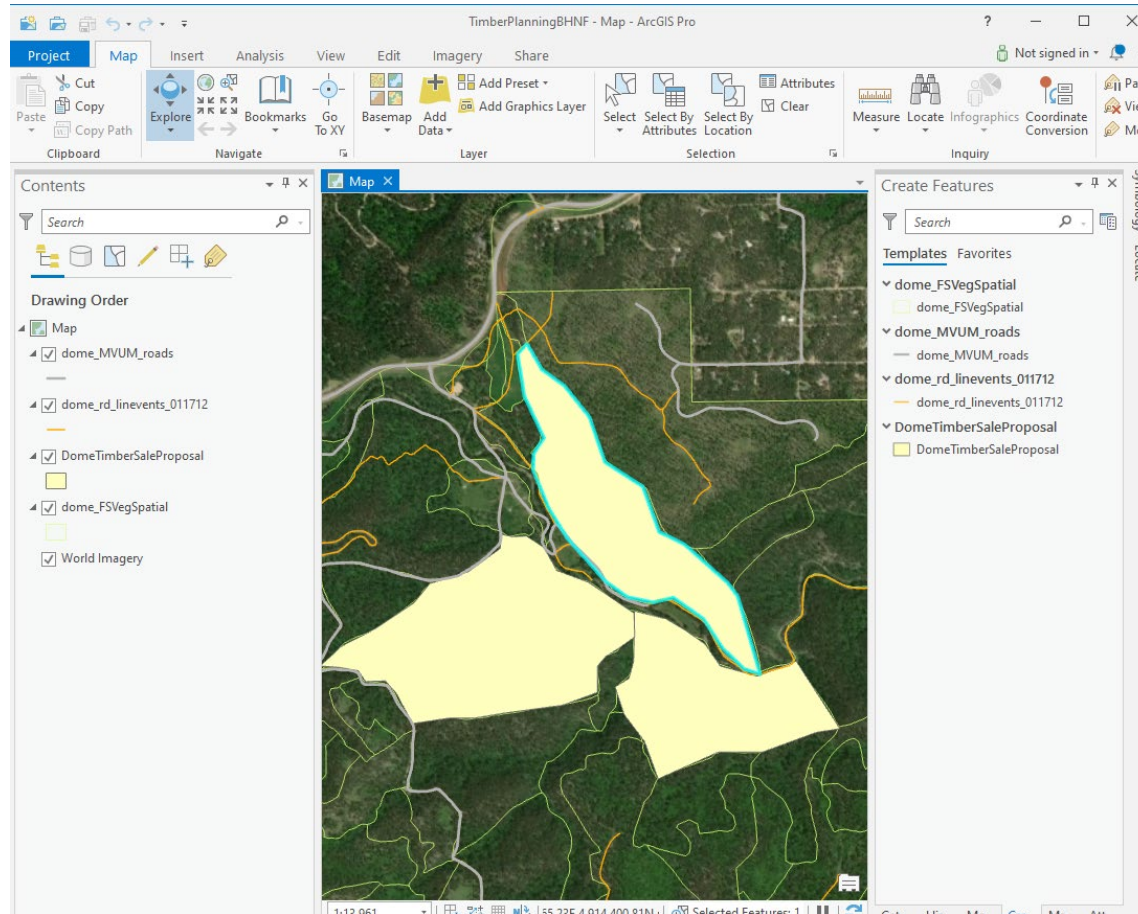
# Digitizing is easy but...

## "If you fail to plan, you plan to fail"



- It is relatively easy to start clicking and create GIS vector data in Pro.
- Creating data that is integrated, accurate, consistent and documented may take more time and effort in the beginning, but can save valuable time, money, and heartache in the future.

# Demonstration





# LESSON 2

## ATTRIBUTE EDITS



# Lesson 2

## *Overview*

Learn how to edit attribute values ...

- Directly from the table window
- Using the Field Calculator
- Using the Attributes dialog window




# GIS Features Have Attributes

**OID = 181**

(Object Identifier)

Record  
=  
Row



1:40,497 604,945.20E 4,904,739.53N m

DomeProposedTimberSale

Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy

OBJECTID *	SHAPE *	ADMIN_FOREST_CODE	ADMIN_REGION_CODE	ADMIN_FOREST_NAME	PROCLAIMED_FOREST_CODE
179	Polygon	03	02	Black Hills National Fo...	0203
180	Polygon	03	02	Black Hills National Fo...	0203
181	Polygon	03	02	Black Hills National Fo...	0203
182	Polygon	03	02	Black Hills National Fo...	0203

Field = Column

Tables in Pro have similarities to an Excel spreadsheet, but you will need to learn new buttons and terms.





# Before Creating New Data

## Work with your local or Regional GIS Specialist!

- Get protocols, best practices and recommendations

## Search for existing data and schemas

- [FS National GIS Data Dictionary Standard](#)
- In the SDE and NRM
- On the T
- On AGOL

## Talk to resource specialists on other Forests

- If they have good data, why re-invent the wheel?
- Consistency between Forests allows for comparisons

[FS Best Practices Website – Agency Data Management](#)



# When Creating New Data

## Use Pro tools and workflows

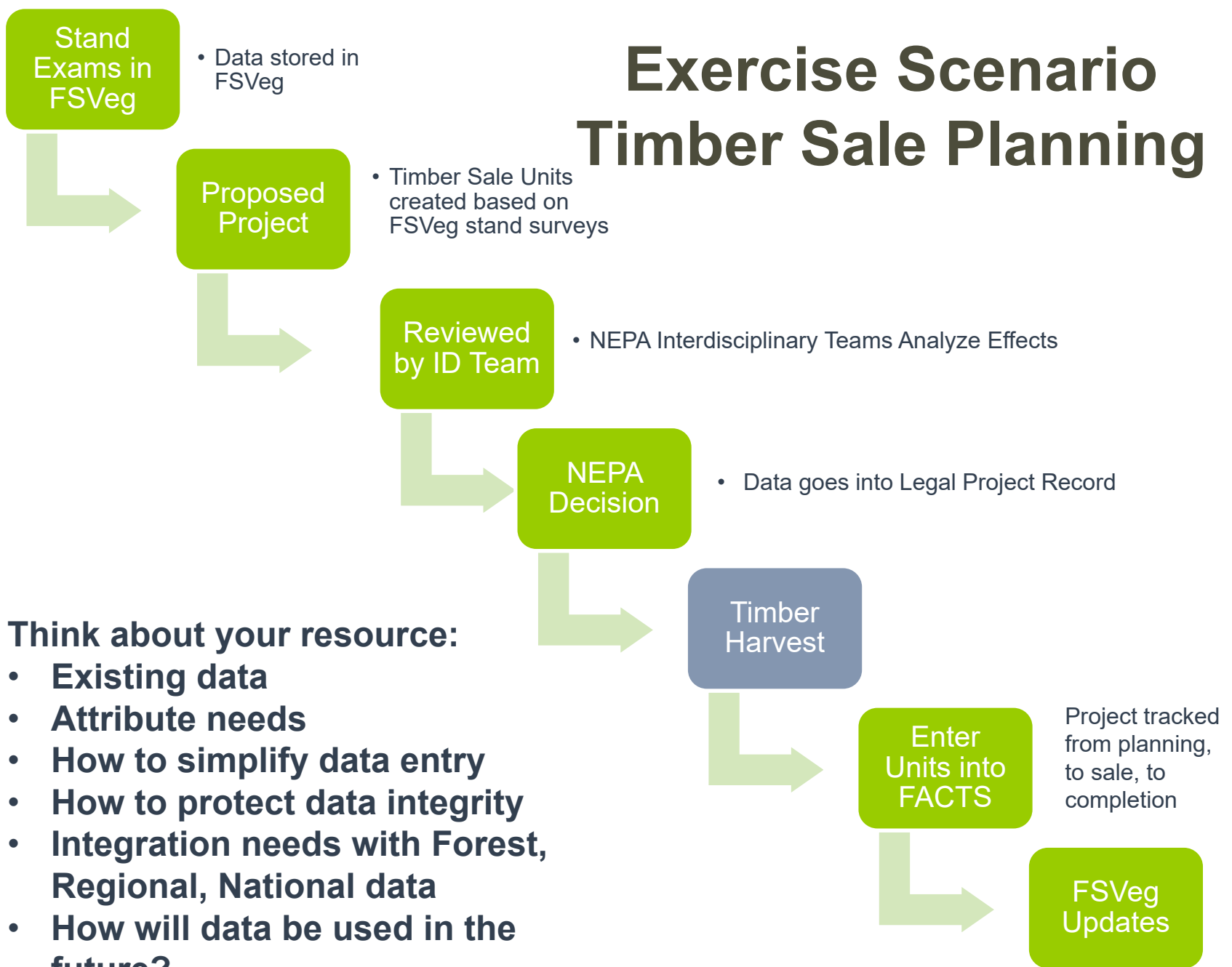
- Create Domains for attribute pick lists
- Use templates with attributes in Create Features pane
- Use Calculate tool to populate attributes
- Saves time, improves consistency, reduces errors and typos



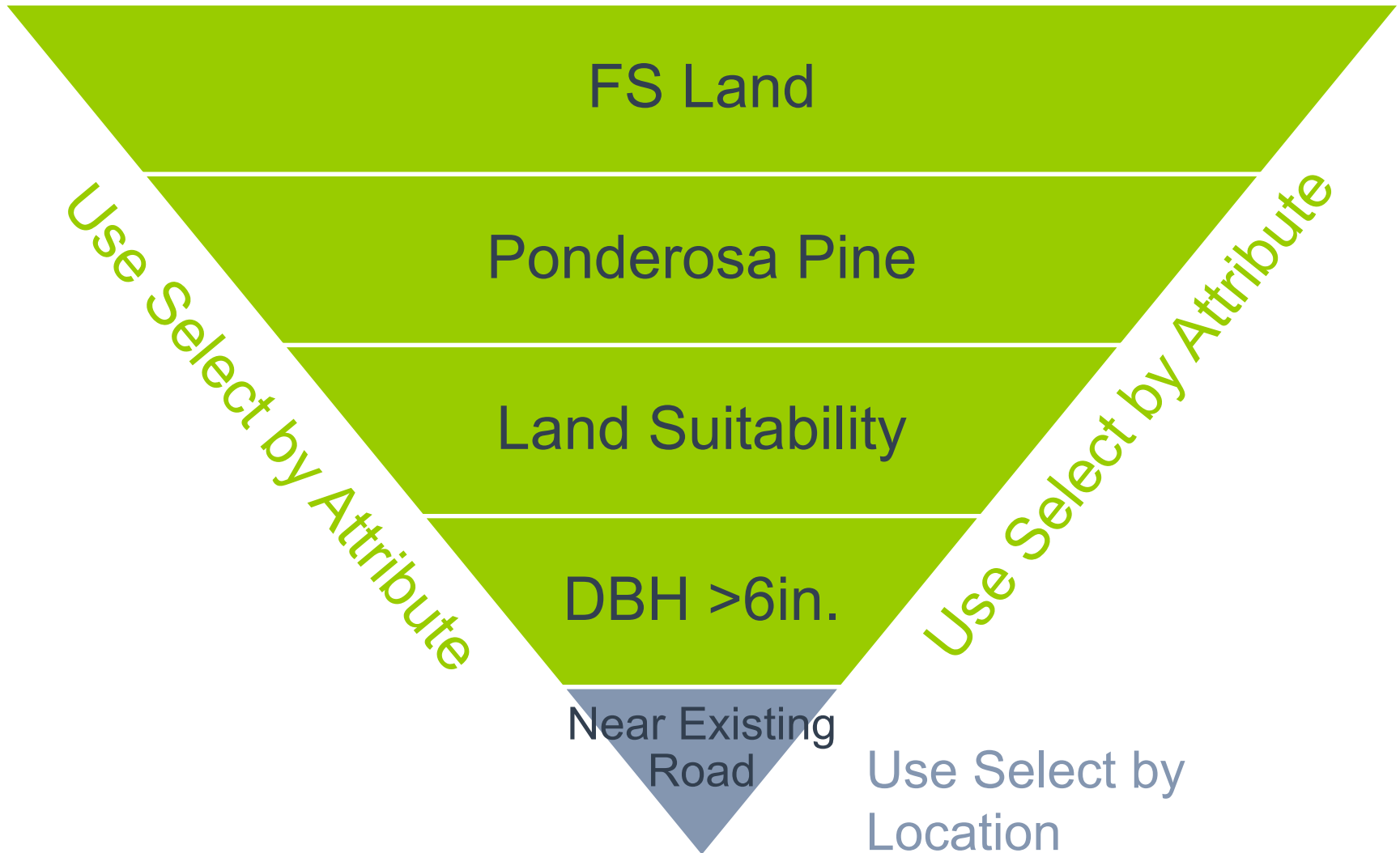


# Exercise Scenario

## Timber Sale Planning

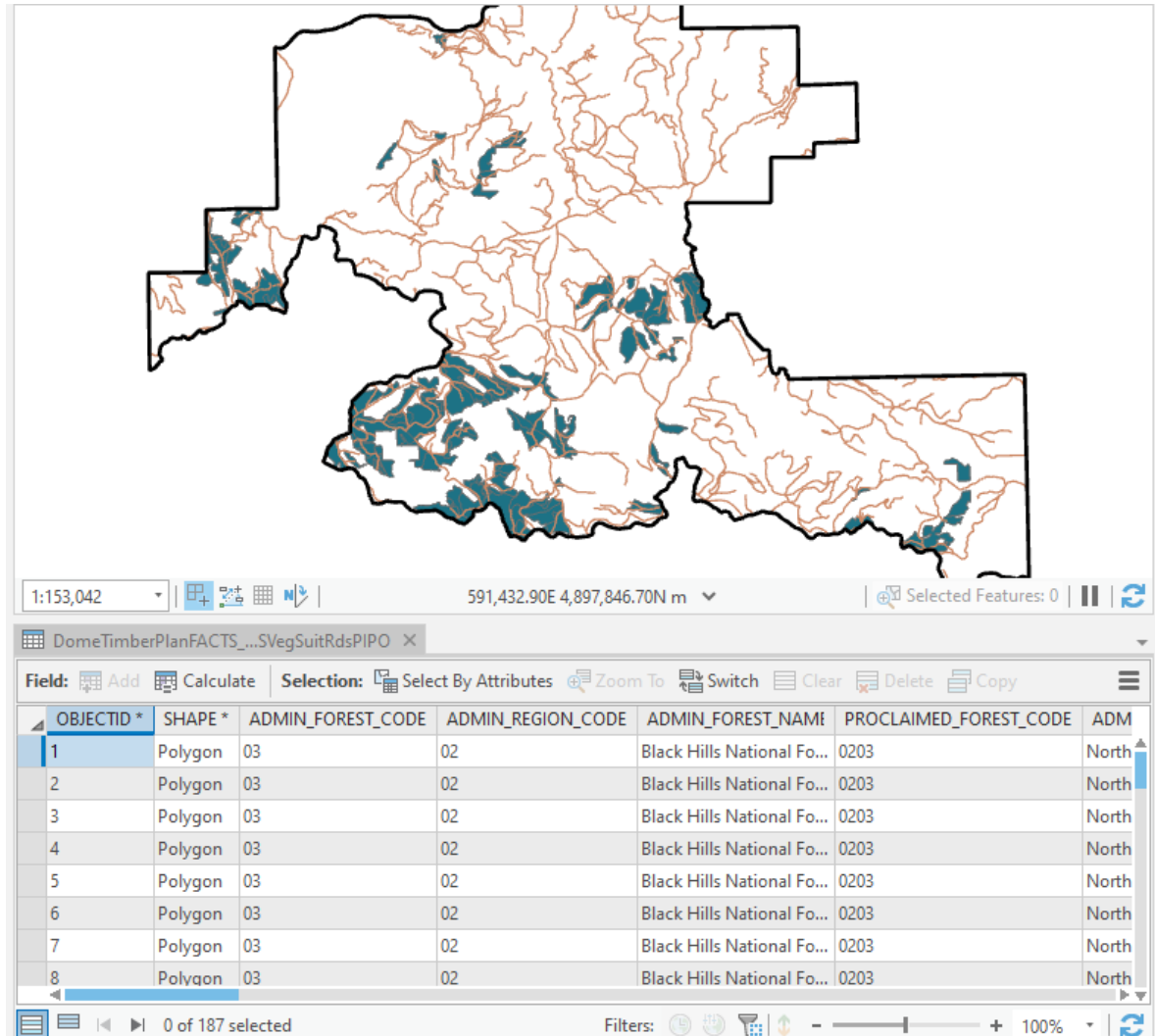


# Scenario: Filter FS Veg Data



# Added FACTS Fields

- Also saved only the FSVeg fields that were needed
- Added some FACTS fields on the location, activity, and the methods.
- Now we are ready to edit the spatial and attribute data, and add Project info





# Fields Pane

## The Fields Pane is new in Pro

- Shows field properties
- Visibility toggle
- Read Only toggle
- Set Domains

DomeProposedTimberSale											
Fields: DomeProposedTimberSale											
Current Layer		DomeProposedTimberSale									
	<input checked="" type="checkbox"/> Visible	<input type="checkbox"/> Read Only	Field Name	Alias	Data Type	<input checked="" type="checkbox"/> Allow NULL	<input type="checkbox"/> Highlight	Number Format	Domain	Default	Length
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ADMIN_FOREST_CODE	ADMIN_FOREST_CODE	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				2
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ADMIN_REGION_CODE	ADMIN_REGION_CODE	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				2
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ADMIN_FOREST_NAME	ADMIN_FOREST_NAME	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				150
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PROCLAIMED_FOREST_CODE	PROCLAIMED_FOREST_CODE	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				4
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ADMIN_DISTRICT_NAME	ADMIN_DISTRICT_NAME	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				150
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ADMIN_DISTRICT_CODE	ADMIN_DISTRICT_CODE	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				2
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ACTIVITY_UNIT_ORG	ACTIVITY_UNIT_ORG	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				6

# Attribute Editing Considerations

**Don't need to start an edit session in Pro!**

**Edit user-defined fields only**

- System defined fields will have an asterisk

**Values have to match Field properties (e.g. text, number, date)**

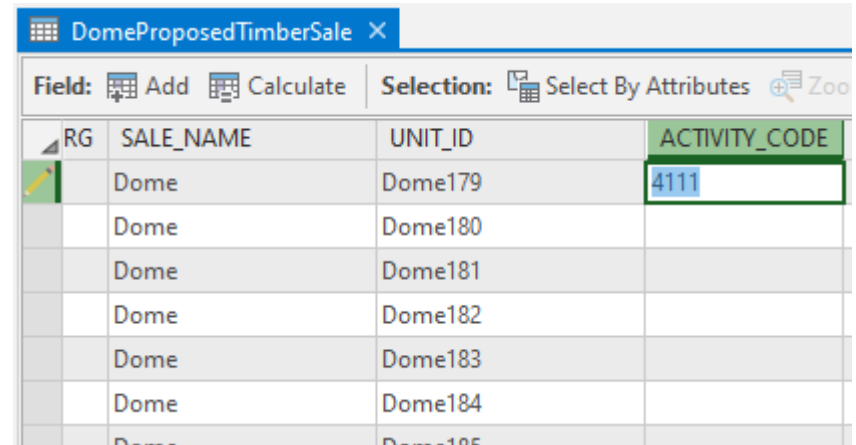
DomeProposedTimberSale			
Field:		Selection:	
OBJECTID *	SHAPE *	ADMIN_FOREST_CODE	AD
1	Polygon	03	02
2	Polygon	03	02

# Edit Values Directly in the Table

## Click in cell

- If no dropdown appears you can type
- Must match field format

## Type attribute value directly in cell



Field:	Add	Calculate	Selection:	Select By Attributes	Zoo
RG	SALE_NAME	UNIT_ID	ACTIVITY_CODE		
	Dome	Dome179	4111		
	Dome	Dome180			
	Dome	Dome181			
	Dome	Dome182			
	Dome	Dome183			
	Dome	Dome184			
	Dome	Dome185			

## Important:

- Understand the data
- Type the correct value
- Double check for typos
- If unknown enter <Null>
  - Never guess
  - Don't enter zero if it is an unknown number

# Copy/Paste Directly in the Table

Either by right-click  
Copy and Paste

Or <Ctrl>C and  
<Ctrl>V

Cannot paste directly  
into multiple cells  
within a field

DomeProposedTimberSale

Domains: TimberPlanningBHNf

Field:

Add

Calculate

Selection:

Select By Attributes

Zoom To

RG	SALE_NAME	UNIT_ID	ACTIVITY_CODE	ACTIVITY
	Dome	Dome179	4111	
	Dome	Dome180		

Copy

DomeProposedTimberSale

Domains: TimberPlanningBHNF

Field:

Add

Calculate

Selection:

Select By Attributes

Zoom To

RG	SALE_NAME	UNIT_ID	ACTIVITY_CODE	ACTIVITY
	Dome	Dome179	4111	
	Dome	Dome180		
	Dome	Dome181		
	Dome	Dome182		

Copy

Paste

DomeProposedTimberSale

Domains: TimberPlanningBHNH

Field:

Add

Calculate

Selection:

Select By Attributes


Zoom To

RG	SALE_NAME	UNIT_ID	ACTIVITY_CODE	ACTIVITY
	Dome	Dome179	4111	
	Dome	Dome180	4111	
	Dome	Dome181		



# Pick From List of Values

- Click on the cell and a dropdown appears with a List of Values
- LOVs are only available with a Geodatabase Feature Class (not Shapefiles)
- The only acceptable options are in the list



DomeProposedTimberSale

Field: Add Calculate Selection: Select By Attribute

NAME	FY_PLANNED	METHOD_DESC	LAND
	2023		511
	2023	<Null>	511
	2023	Highlead	511
	2023	Logging Methods	511
	2023	Manual	511

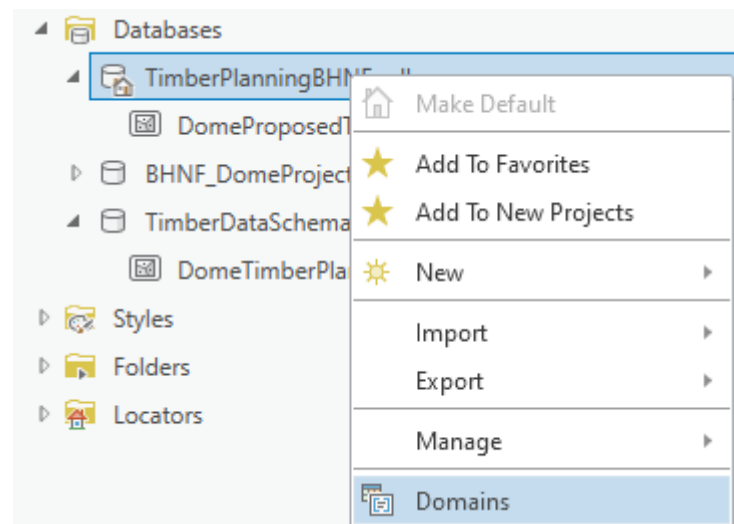
DomeProposedTimberSale

Field: Add Calculate Selection: Select By Attribute

NAME	FY_PLANNED	METHOD_DESC	LAND
	2023	Logging Methods	511
	2023		511
	2023		511
	2023		511

# Domains Pane

- Geodatabases manage the Lists of Values in Domains
- Domains are easy to view  
Creating Domains is beyond the scope of this course
- Take the Geodatabases course (Pro should be developed this fall)



Domain Name	Description	Field Type	Domain Type	Split Policy	Merge Policy	Code	Description
Dom_MethodDesc	Describes planned logging method using FACTS codes.	Text	Coded Value Domain	Default	Default	1	Highlead
						2	Logging Methods
						3	Manual
						4	Mechanical Pile
						5	Multispan Highline
Dom_TimberActivity	Describes FACTS activity for Timber projects	Text	Coded Value Domain	Default	Default		

# Use the Field Calculator

Populate all or selected cells for the field

Can Undo before save for example:

- Select by attributes
- Calculate Field dialogue window
- Value must match Field Properties
- Populates all selected records at once

The screenshot shows the QGIS interface with two dialogues open. The 'Select By Attributes' dialogue is in the foreground, showing a selection criteria of 'LAND\_SUITABIL is equal to pine to aspen'. The 'Calculate Field' dialogue is open in the background, showing the 'DomeProposedTimberSale' layer with the 'ACTIVITY\_CODE' field selected. The expression type is 'Python 3' and the expression is '4511'. The bottom panel shows a table of data for the 'DomeProposedTimberSale' layer, with the 'ACTIVITY\_CODE' column highlighted in blue.

**Select By Attributes Dialogue:**

- Input Rows: DomeProposedTimberSale
- Selection type: New selection
- Expression: LAND\_SUITABIL is equal to pine to aspen
- Buttons: Load, Save, Remove, SQL
- Checkbox: Invert Where Clause

**Calculate Field Dialogue:**

- Input Table: DomeProposedTimberSale
- Field Name (Existing or New): ACTIVITY\_CODE
- Expression Type: Python 3
- Expression: 4511
- Fields list: OBJECTID, SHAPE, ADMIN\_FOREST\_CODE, ADMIN\_REGION\_CODE, ADMIN\_FOREST\_NAME, PROCLAIMED\_FOREST\_CODE, ADMIN\_DISTRICT\_NAME, ADMIN\_DISTRICT\_CODE
- Helpers list: .as\_integer\_ratio(), .capitalize(), .center(), .conjugate(), .count(), .decode(), .denominator()
- Buttons: Apply, OK, Enable Undo

**Table Data:**

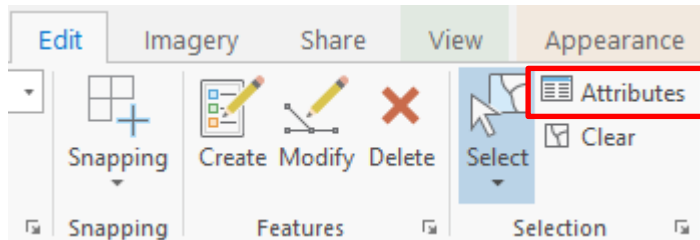
Field:	Selection:	Highlighted:				
NAME	UNIT_ID	ACTIVITY_CODE	ACTIVITY_NAME	FY_PLANNED	METHOD_DESC	LAND_SUI
	Dome4	4511		2023		891
	Dome15	4511		2023		891
	Dome18	4511		2023		891
	Dome28	4511		2023		891
	Dome61	4511		2023		891
	Dome90	4511		2023		891



# Edit Values in Attribute Pane

## Attributes Pane

- Displays attributes of selected features and allows you to edit the values below



To open the attributes window: From the Editor ribbon click the Attributes button

A screenshot of the 'Attributes' pane in ArcGIS. The pane has tabs for 'Selection' and 'Layers'. Under 'Selection', there is a dropdown menu that says 'Change the selection.' Below this, a list of features is shown, with 'DomeTimberSaleProposal (5)' expanded to show five entries, all labeled 'Black Hills National Forest'. At the bottom of the pane, there is a table with two columns: 'Attributes' and 'Geometry'. The table contains the following data:

Attributes	Geometry
OBJECTID	1
ADMIN_FOREST_CODE	03
ADMIN_REGION_CODE	02
ADMIN_FOREST_NAME	Black Hills National Forest
PROCLAIMED_FOREST_CODE	0203
ADMIN_DISTRICT_NAME	Northern Hills District
ADMIN_DISTRICT_CODE	08
ACTIVITY_UNIT_ORG	020308
SUBUNIT	2

# Attributes Pane

For the selected feature, attributes are in list format.

- The field names are on left and values on the right.

Methods for editing single features:

- Manual data entry
- Copy and paste value
- Pick from list

Edits can be undone before save

Attributes

Selection Layers

Change the selection.

▲ DomeProposedTimberSale (5)

- Black Hills National Forest
- Black Hills National Forest
- Black Hills National Forest
- Black Hills National Forest
- Black Hills National Forest

Attributes

METHOD_DESC	<Null>
LAND_SUITABILITY_CLASS_CC	<Null>
LAND_SUITABILITY_CLASS_DE	Highlead
PRODUCTIVITY_CLASS_CODE	Logging Methods
PRODUCTIVITY_CLASS_DESC	Manual
OWNERSHIP_CODE	Mechanical Pile
OWNERSHIP_DESC	Multispan Highline
STATE_ABBR	Single Span Highline
STAGE	Tractor Logging

☐ Auto Apply Apply Cancel

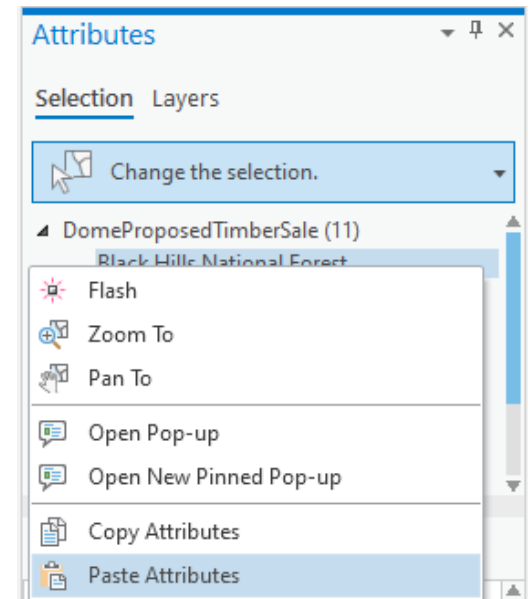
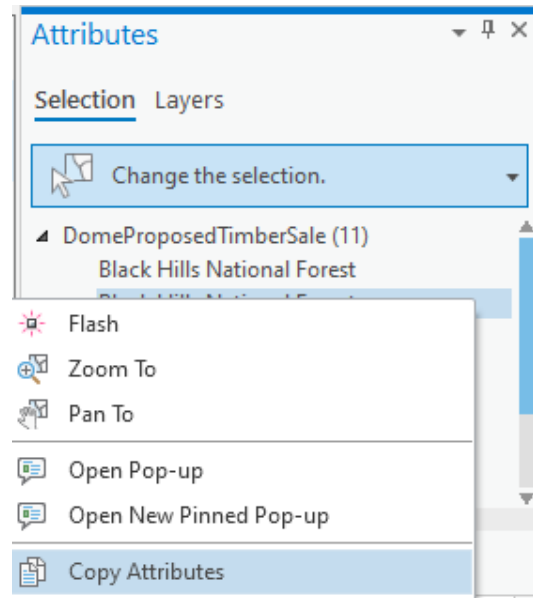
# Copy and Paste All Attributes

Right-click the record you want to copy from and click Copy Attributes

Right-click the record you want to paste all attributes into and click Paste Attributes

Do this only if you want every value to be overwritten\*

\*System-generated fields remain unaltered





# Attribute Pane Edits

- Copy/paste value from one feature into another feature
- Or Global edit to all selected features
- Nothing gets changed until you hit Apply
- PRIOR VALUES ARE REPLACED
- Can Undo until you Save Edits

The screenshot shows the 'Select By Attributes' dialog box and the 'Attributes' pane. The 'Select By Attributes' dialog has 'DomeProposedTimberSale' selected in the 'Input Rows' dropdown. The 'Selection type' is 'New selection'. The 'Expression' field contains 'Where LAND\_SUITABI is equal y pine to asper'. The 'Attributes' pane shows a list of attributes for the selected layer 'DomeProposedTimberSale (11)'. The 'METHOD\_DESC' attribute is highlighted, and its value 'Logging Methi' is shown in the 'Attributes' table. The 'Attributes' table has columns: 'ATTRIBUTE\_NAME', 'VALUE', and 'EDITED'. The 'METHOD\_DESC' row is highlighted in green. The 'Attributes' pane also shows a list of values for 'METHOD\_DESC': '<Null>', 'Highlead', 'Logging Methods', 'Manual', 'Mechanical Pile', 'Multispan Highline', 'Single Span Highline', and 'Tractor Logging'. The 'Apply' button is visible at the bottom of the 'Attributes' pane.

**Select By Attributes**

Pending edits.

Input Rows: DomeProposedTimberSale

Selection type: New selection

Expression: Where LAND\_SUITABI is equal y pine to asper

Buttons: Load, Save, Remove, SQL, Add Clause, Invert Where Clause, Apply, OK

**Attributes**

Selection: Layers

Change the selection.

▲ DomeProposedTimberSale (11)

Black Hills National Forest

Black Hills National Forest

Black Hills National Forest

Black Hills National Forest

Black Hills National Forest

Black Hills National Forest

Black Hills National Forest

Black Hills National Forest

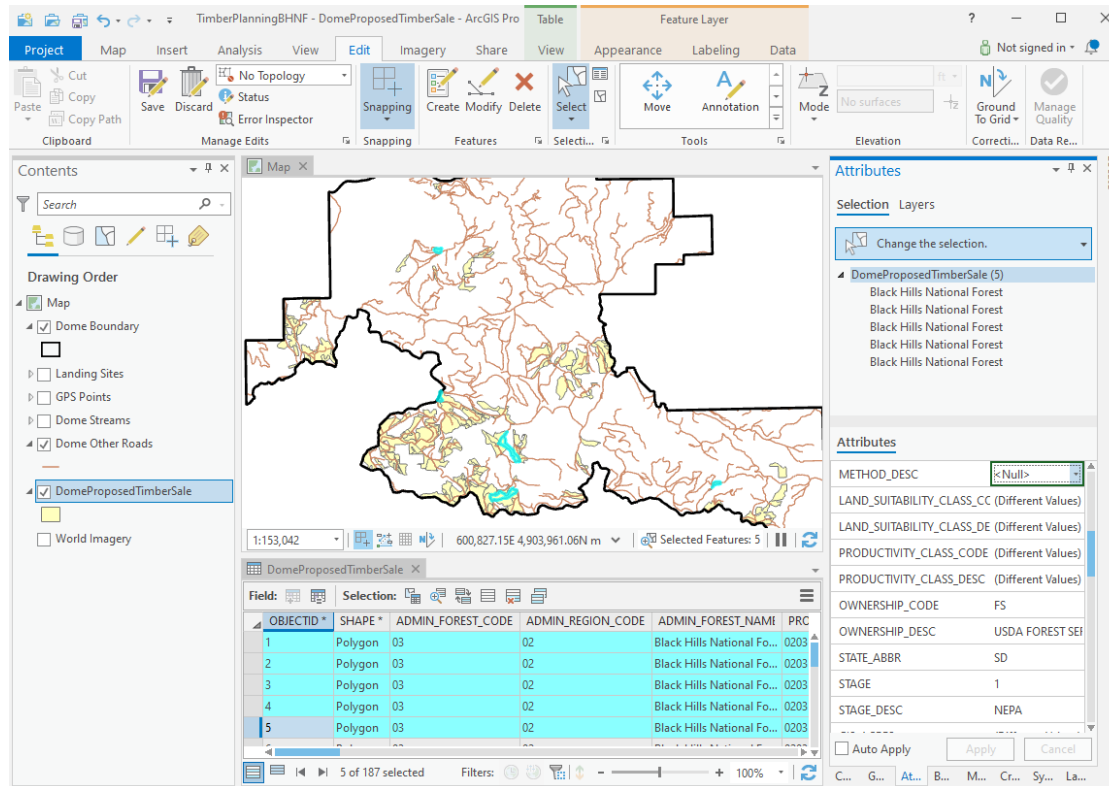
**Attributes**

ATTRIBUTE_NAME	VALUE	EDITED
ACTIVITY_CODE	4511	
ACTIVITY_NAME	<Null>	
FY_PLANNED	2023	
METHOD_DESC	Logging Methi	
LAND_SUITABILITY_CLASS_CC	<Null>	
LAND_SUITABILITY_CLASS_DE	Logging Methods	
PRODUCTIVITY_CLASS_CODE	Manual	
PRODUCTIVITY_CLASS_DESC	Mechanical Pile	
OWNERSHIP_CODE	Multispan Highline	
OWNERSHIP_DESC	Single Span Highline	
	Tractor Logging	

Buttons: Auto Apply, Apply, Cancel

11 of 187 selected Filters:

# Demonstration



I will demo a few things from the exercise. Then we will break for you to complete the exercise on your own.





United States Department of Agriculture

# Lesson 3: Spatial Edits





# LESSON 2

## SPATIAL EDITS



# Lesson overview

- Define edit scenario
- Set the edit environment
- Edit settings
- Editing existing features
- Create new features





# First Consider the Edit Scenario

**An edit scenario is a rough outline (often phrased as a question or set of tasks) concerning the required edits.**

## **What is my edit scenario?**

- Example: Expand a Timber Sale polygon so that it touches a road.

## **What Spatial Reference do I need?**

- For this Exercise we are assuming you already have all your layers and Map set to the same spatial reference since we did that in Exercise 1.

## **What datasets will I need in ArcGIS Pro?**

- Example: Add layers to edit, plus background-supportive information (e.g., aerial photos, roads, legal boundaries, etc.)

# When to Attribute and Save

## Add Attribute Preference:

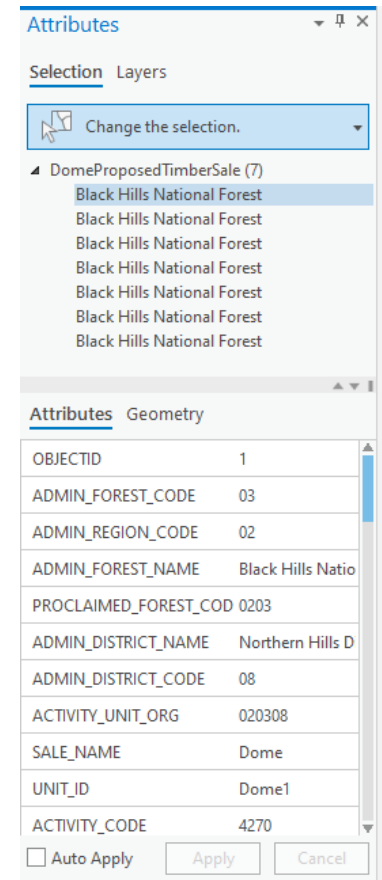
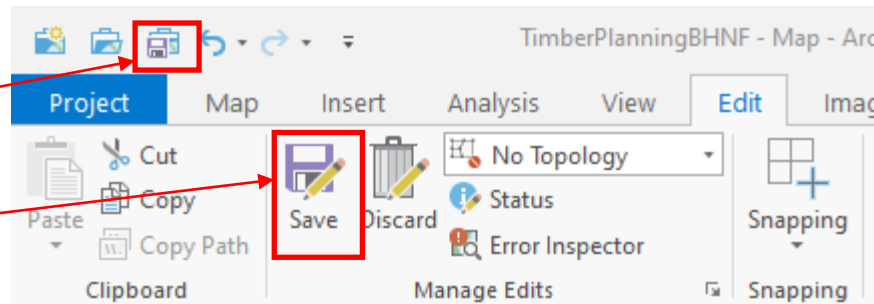
- Digitize all features first, then attributes?
- Attribute after each spatial edit?
  - Keep Attributes pane open and fill in immediately after a new feature is created.

## Save your edits early, save your edits often

- Use Save Edits command
- Saving the Project DOES NOT save your edits

**Save Project**

**Save Edits**



# ArcGIS Pro Edit Settings

## Edit Settings

- Editable layer

## Area of Interest

## Snapping Environment settings

- Snapping tolerance
- Snapping tool
- Snapping layer

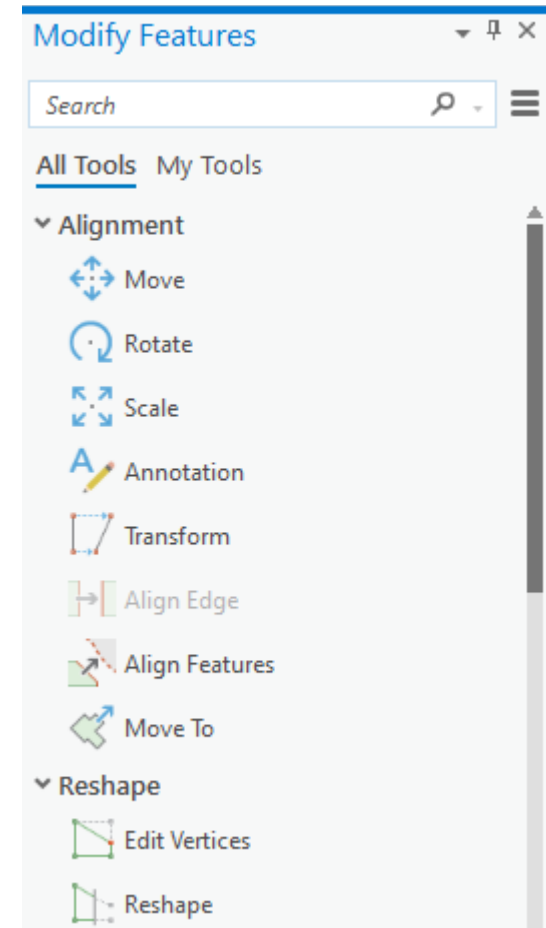
## Set Selectable layers

- List by Selection

## Create Features Pane

- Select Template
- Select Construction tool

## May need the Modify Features Pane



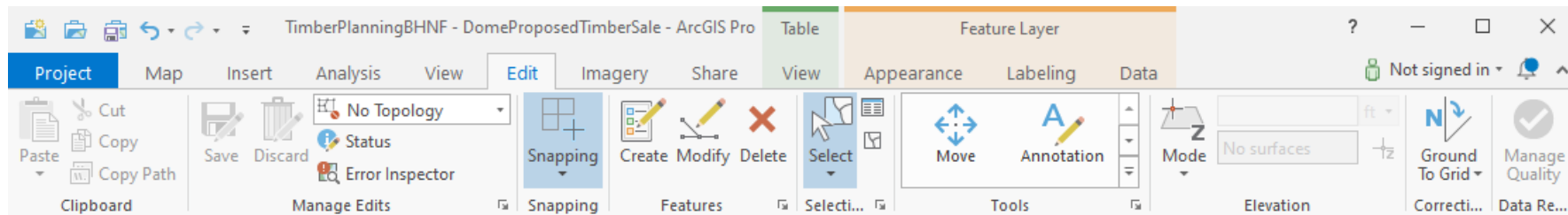
Edit environment settings vary between edit scenarios, and maybe between mouse clicks



# Edit Ribbon

## Edit Ribbon

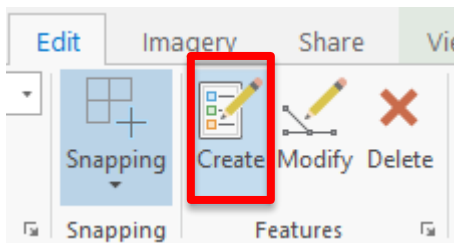
- Contextual ribbons change when tasks change



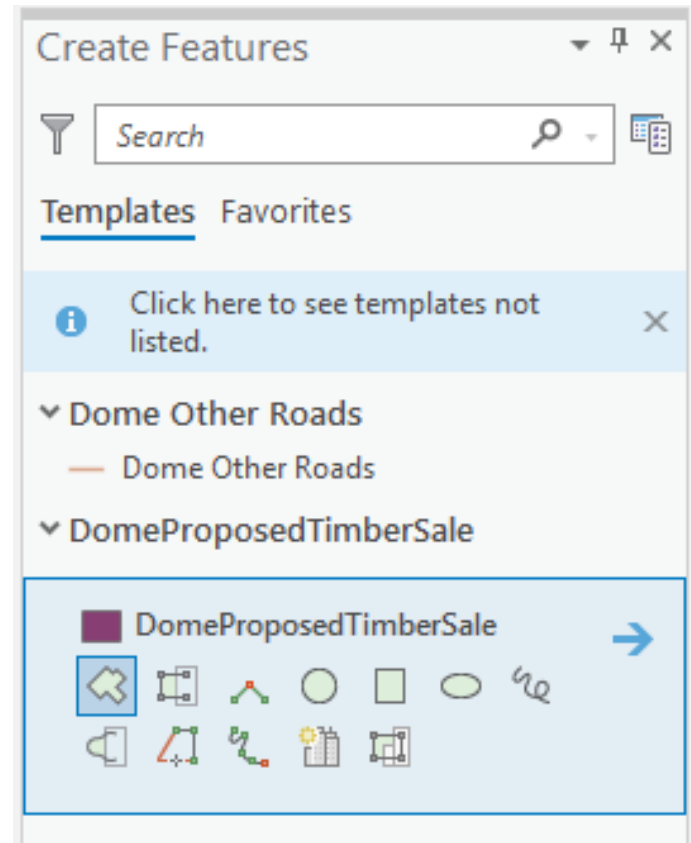
# Create Features Pane

## Turn on from Edit Ribbon

- Features Group



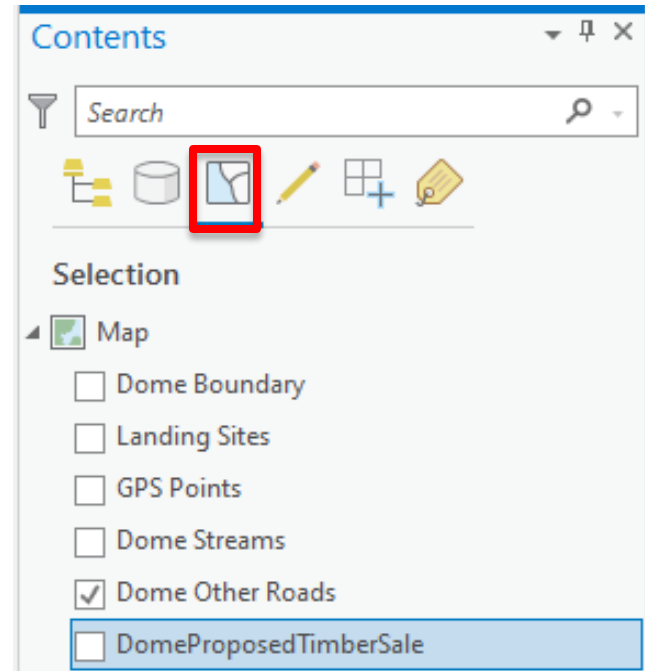
- Select Construction Tool
- Only Layers turned on in Contents pane will show by default



# Set Selectable Layers

## Contents Pane

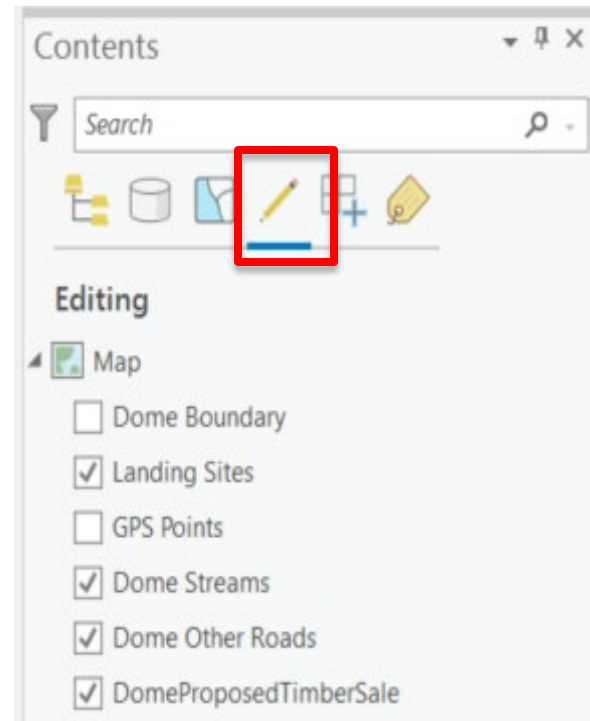
- List by Selection



# Set Editable Layers

## Contents Pane

- List by Editing
- New to Pro





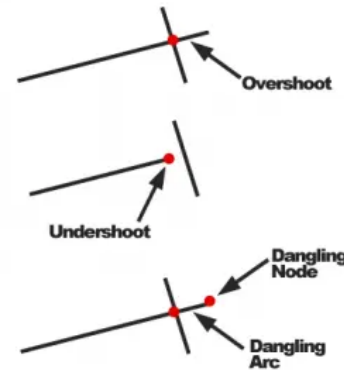
# Avoid Digitizing Errors in ArcGIS Pro

## Digitizing Errors

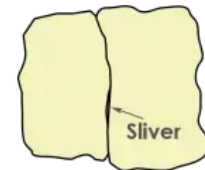
- Failure of Lines to connect
- Creation of sliver gaps or overlaps



**Dangles, overshoots** and **undershoots** are examples of errors.



**SLIVERS** are small, spurious gap often as a result of imprecise digitization of features in GIS.



**OVERLAPS** are polygons or lines that are on top of each other which could result in double-counting areas.



## One way to avoid vertical integration errors is using Snapping tools

# Snapping in ArcGIS Pro

## Snapping

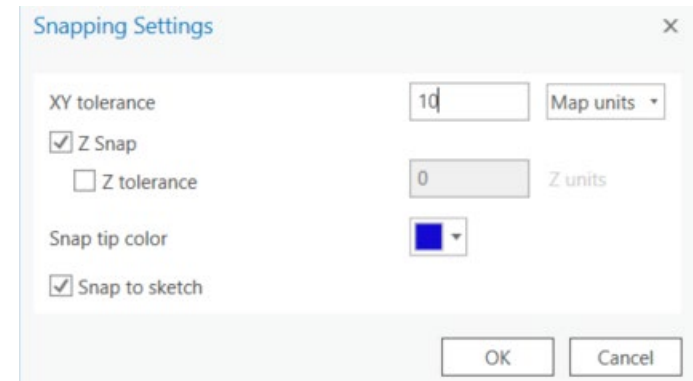
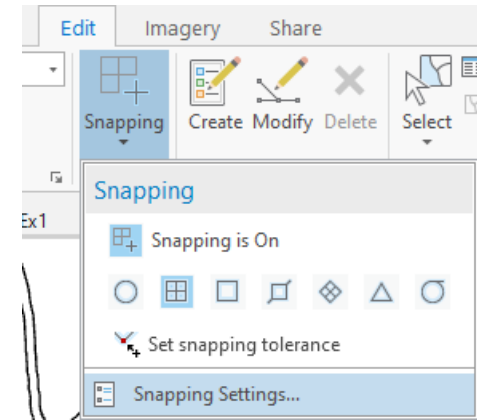
- Helps prevent digitizing errors such as gaps and slivers
- Snaps to edges, vertices, points, endpoints, and more

## Snapping tolerance

- When the cursor is within the set distance (in pixels or Map Units) the pointer is snapped to the feature

## Snap Tip:

- Tells you which Layer you are snapping to and which Snap Tool you are using as you hover over a feature



# How Does Snapping Work?

## Snap editing tool to an existing feature to avoid:

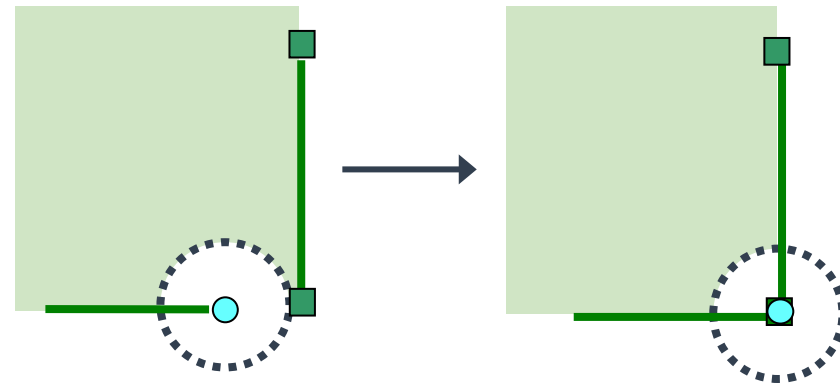
- Undershoots (gaps)
- Overshoots (dangles)

Vertex

Edge



Snapping  
tolerance



## You can snap to a feature's ...

- Vertex
- Edge
- End
- Point



Point

End



Vertex

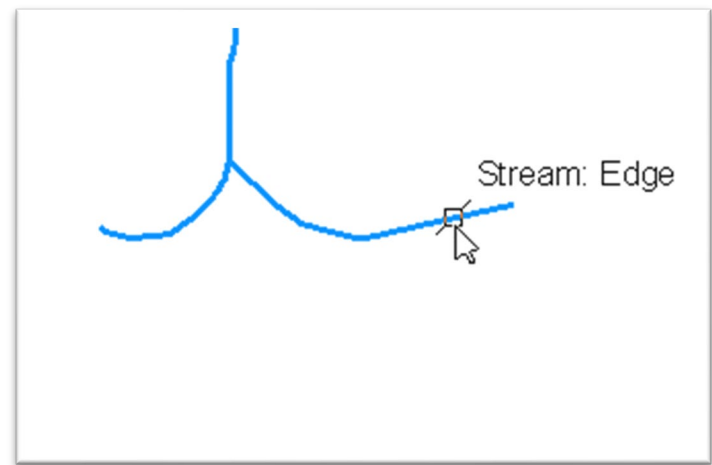
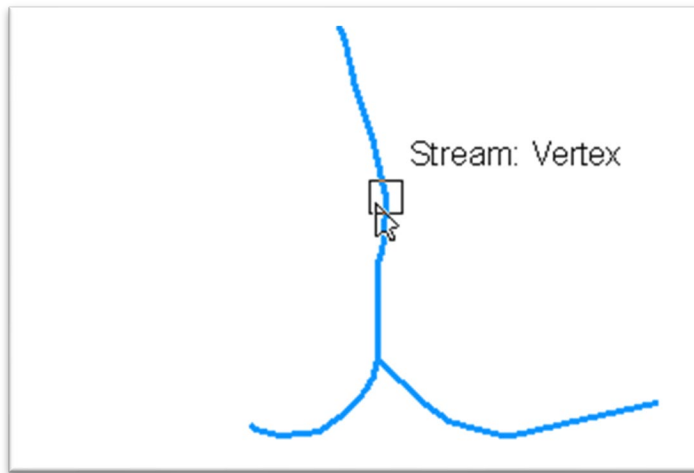
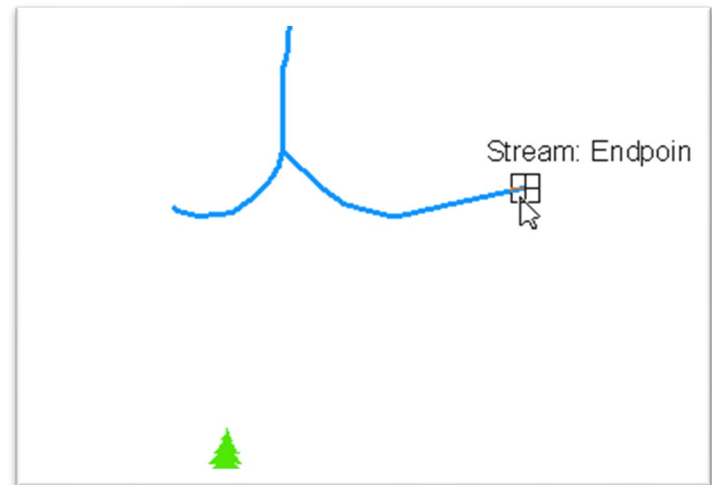
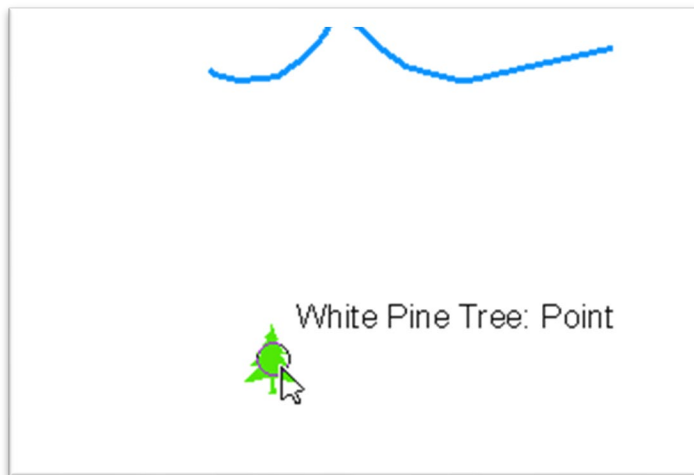


Edge



End  
Last  
Vertex  
Placed

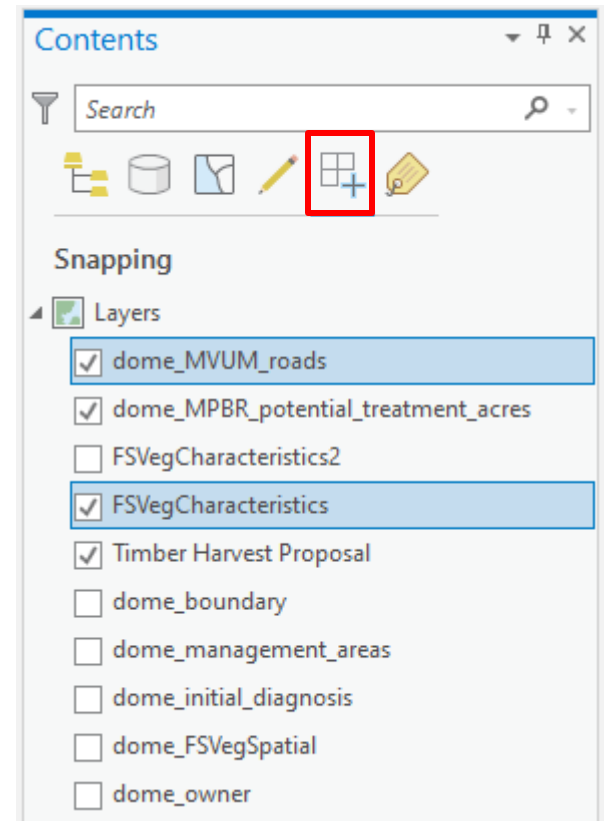
# Snap Tips





# List by Snapping

**New to Pro:**  
**You can toggle snapping**  
**on and off by layer.**

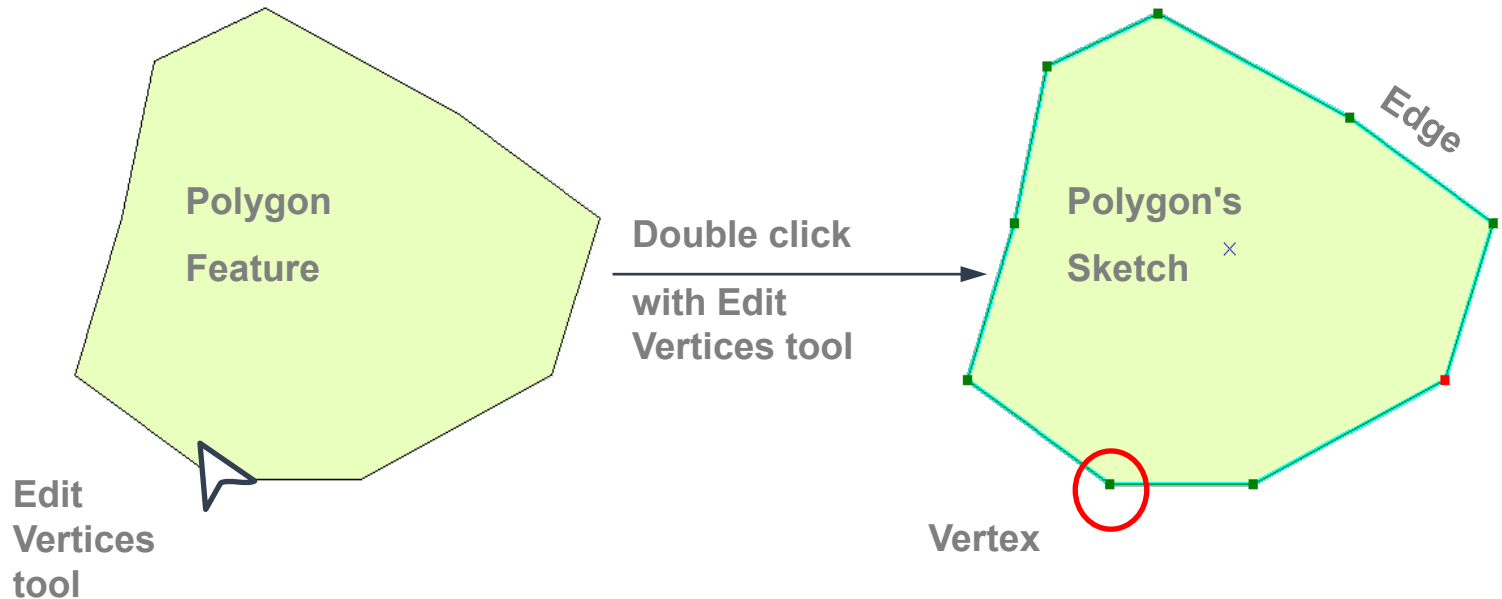


# ArcGIS Pro Sketches

When editing in ArcGIS Pro you edit a Sketch.

**Sketch:** vertices and edges defining a feature's shape

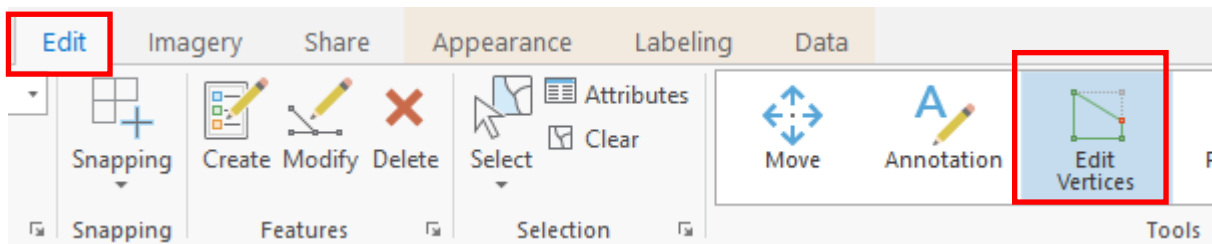
- Vertex – XY coordinate ■ Vertex
- Edge – Line segment between connected vertices — Edge
- End – End vertices of a line feature ■ End



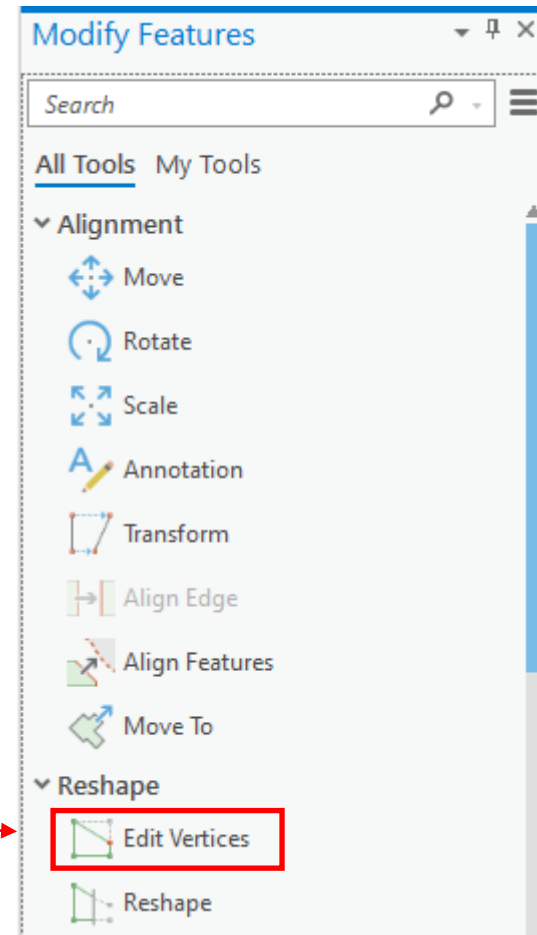
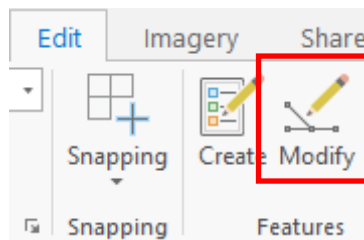
# Edit a Sketch with the Edit Vertices Tool

## Access the Edit Vertices Tool

- Click the Edit Vertices tool in the Tools section of the Edit Ribbon

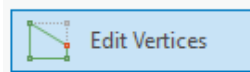


- OR Click the Modify button on the Edit ribbon and then click Edit Vertices from the Modify Features pane in the Reshape section.

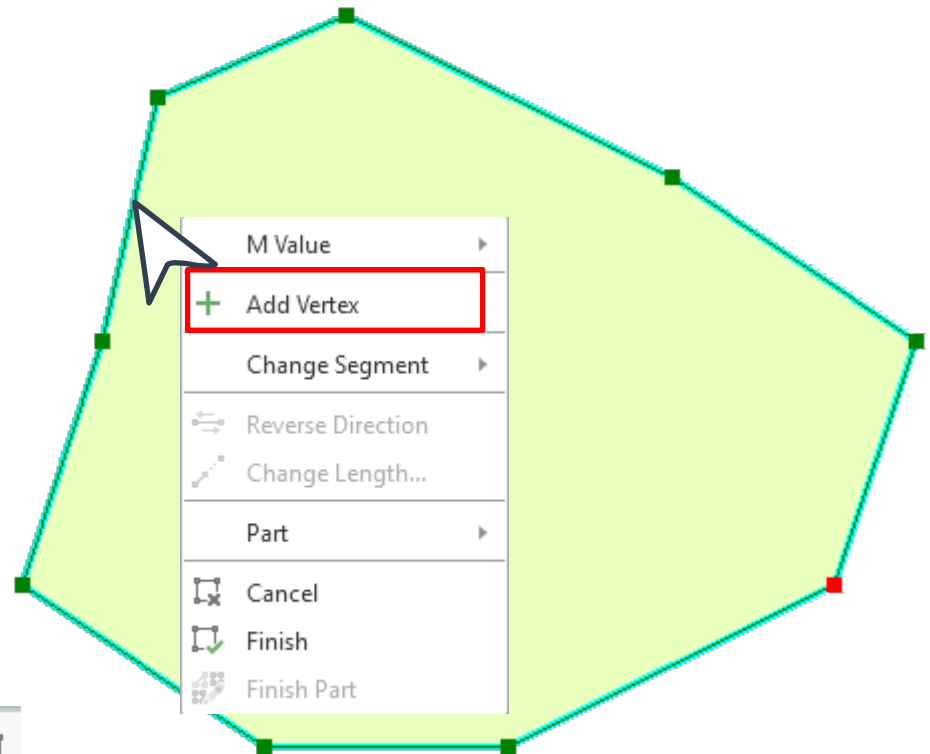
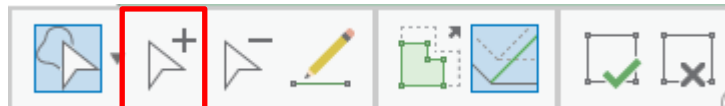


# Edit a Sketch with the Edit Vertices Tool

- Double-click the feature using the Edit Vertices Tool



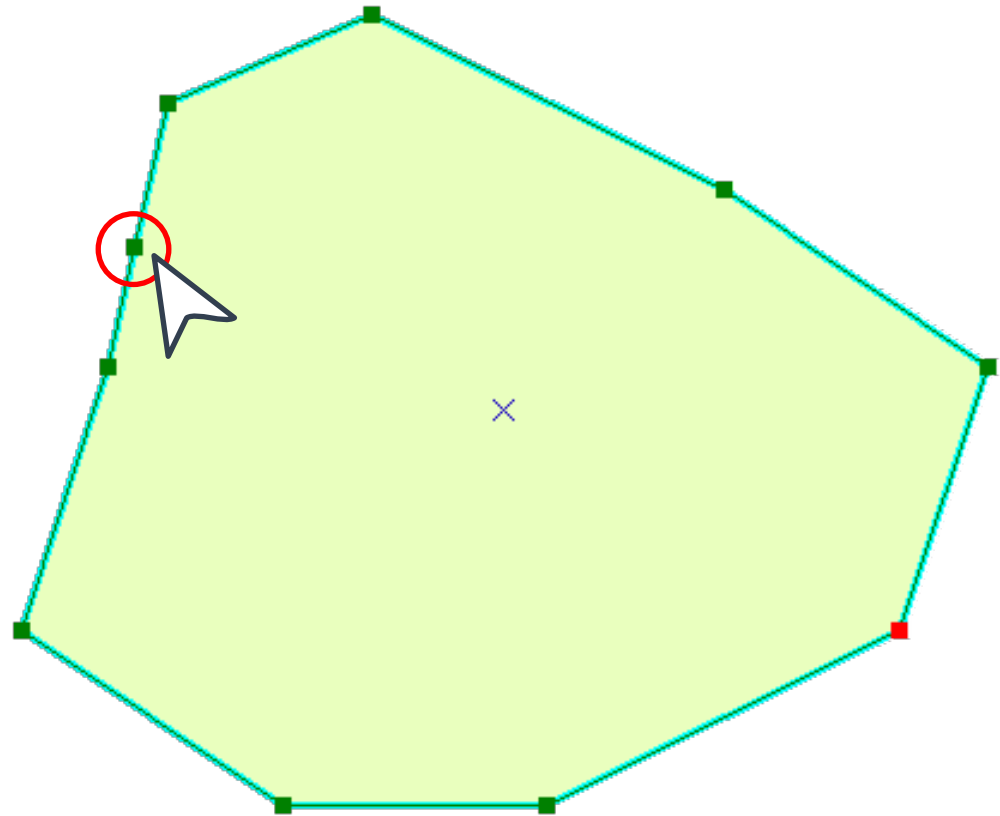
- Right-click on Sketch to see Context Menu
  - **Add** a vertex
- Could click the Add Vertex tool also





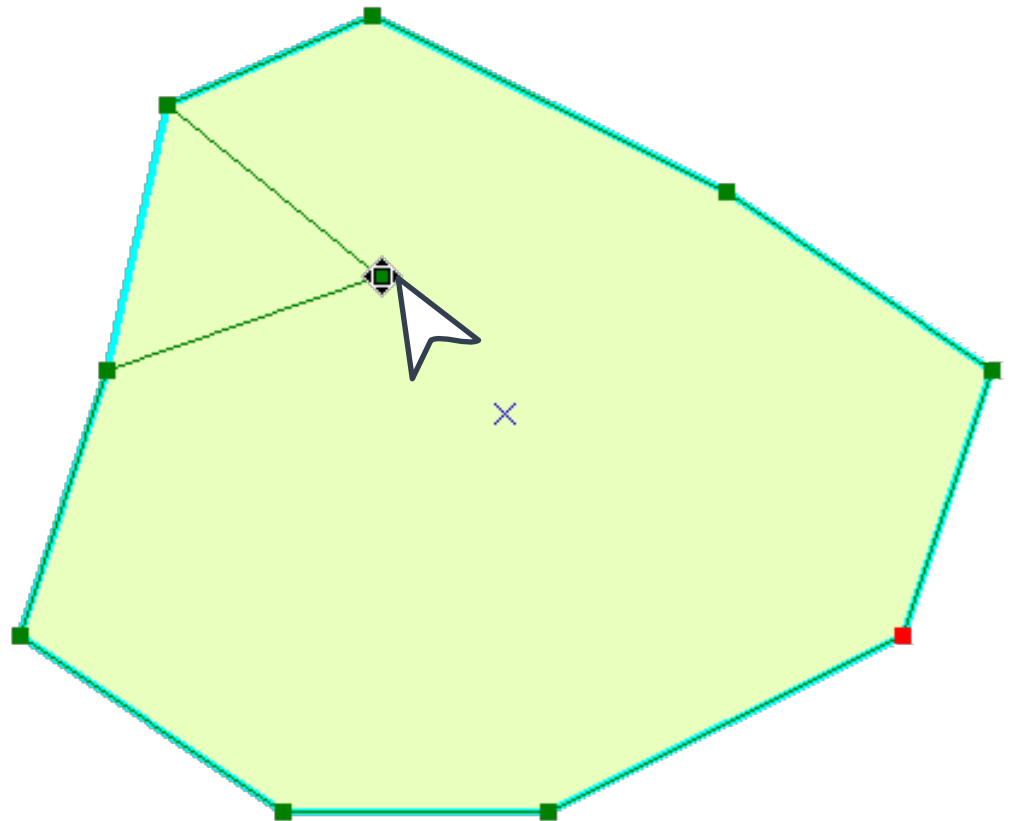
# Edit a Sketch with the Edit Vertices Tool

- A Vertex is inserted where you clicked.



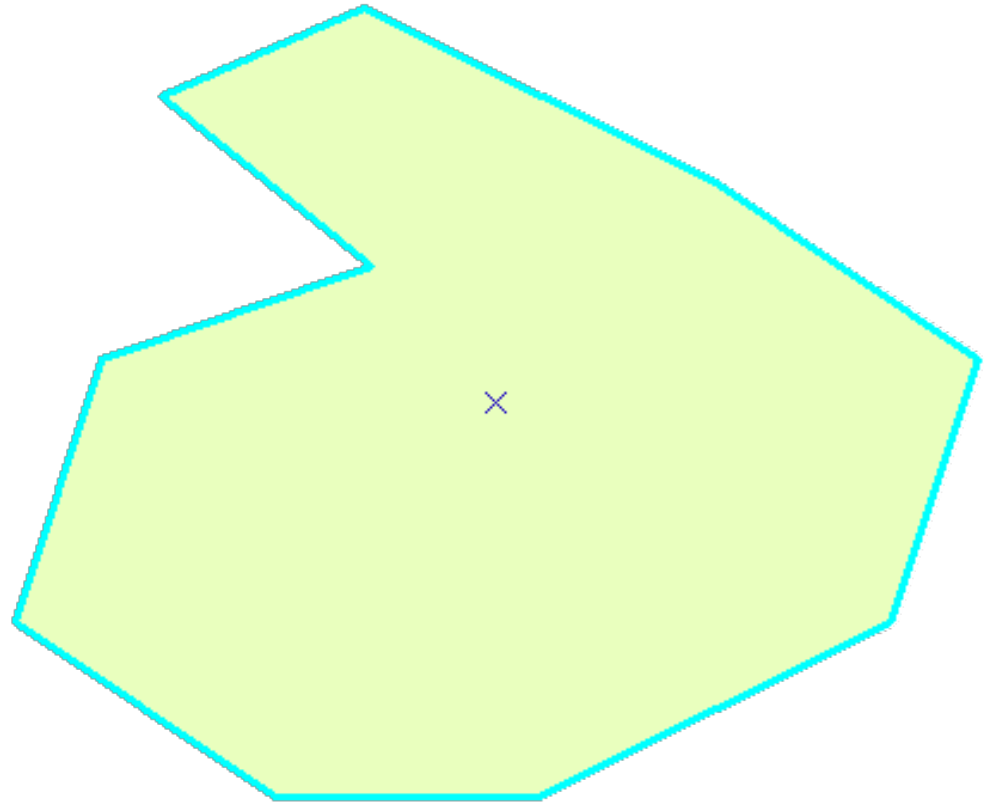
# Edit a Sketch with the Edit Vertices Tool

Use the Edit Vertices tool to grab the vertex with your mouse and move it.



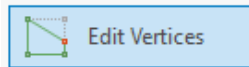
# Edit a Sketch with the Edit Vertices Tool

- Click F2 to Finish Sketch
- Feature is edited
- Can Undo until click Save Edits
- Could click the Finish Sketch tool also

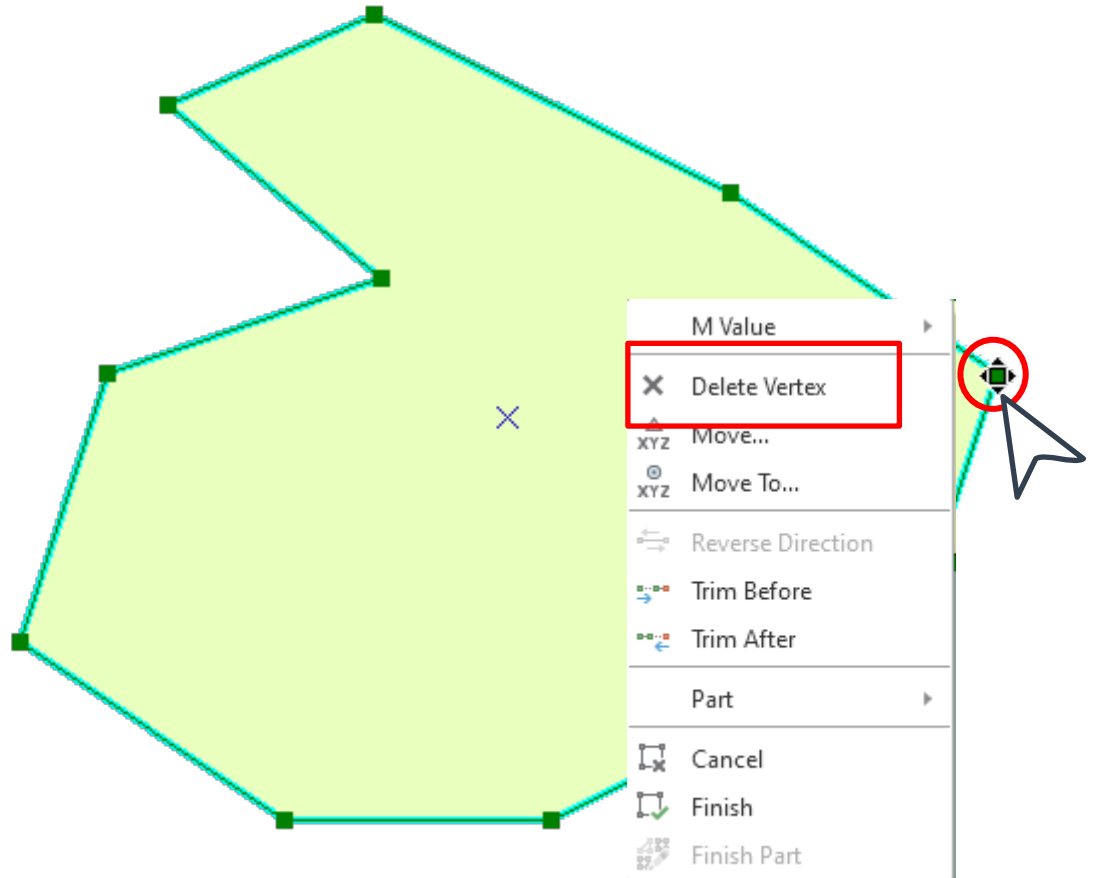


# Edit a Sketch with the Edit Vertices Tool

- Double-click the feature using the Edit Vertices Tool



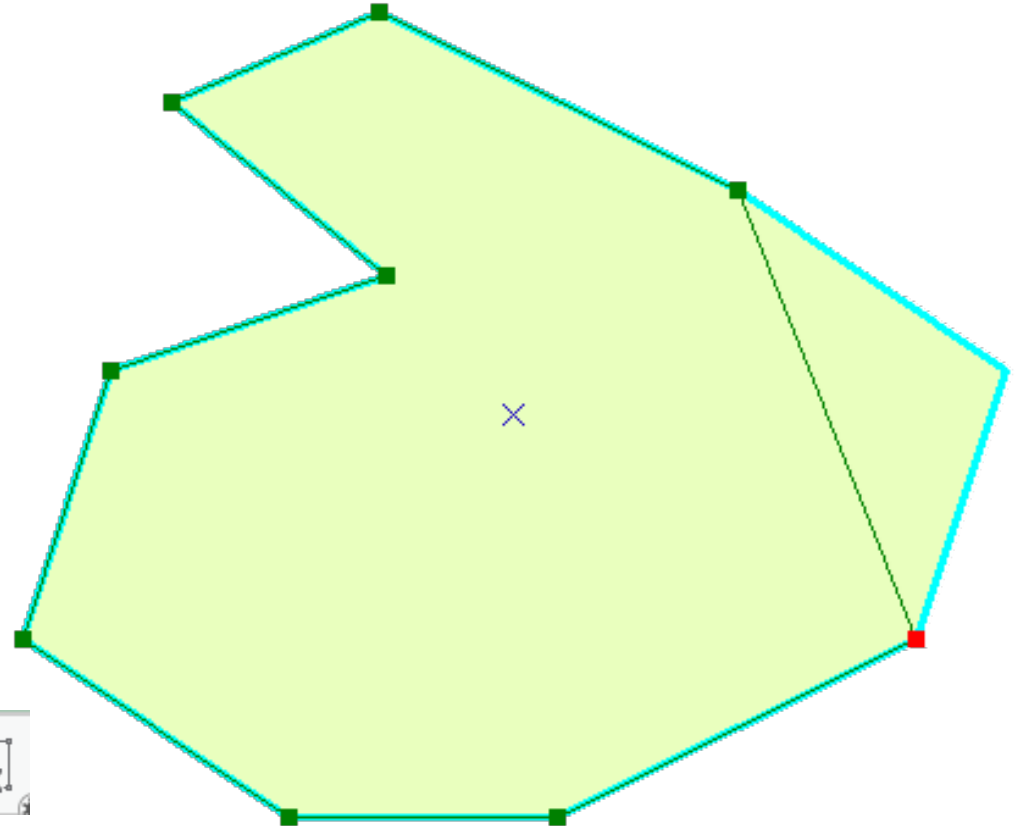
- Right-click on Sketch to see Context Menu
  - Delete vertex
- Could click the Delete Vertex tool also





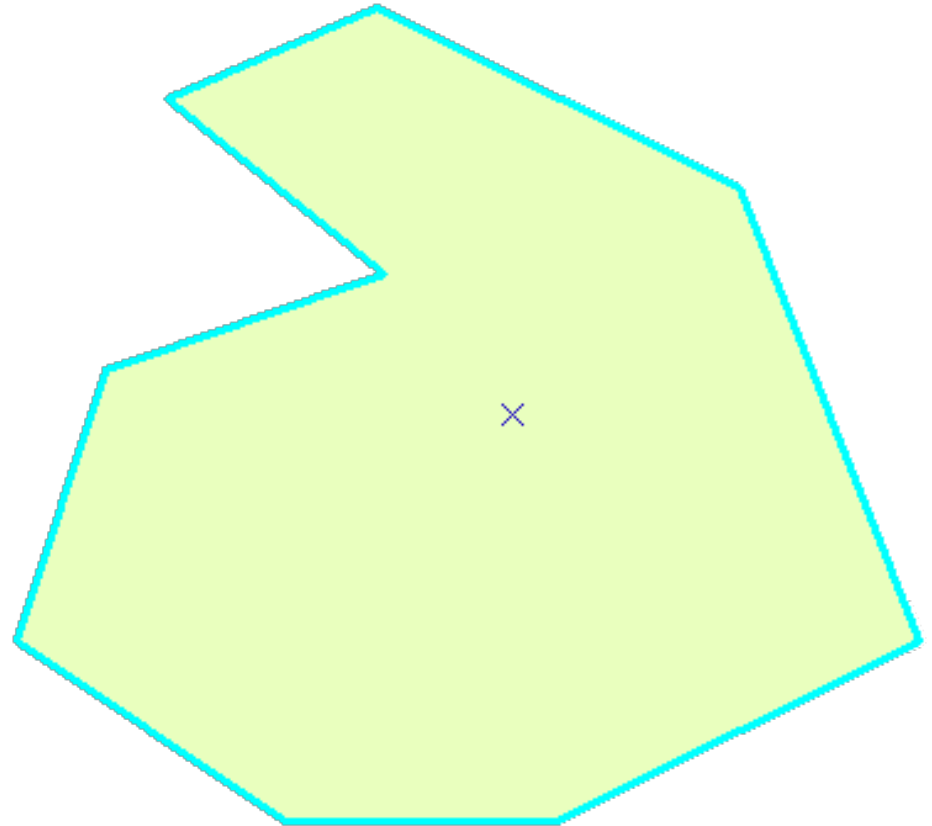
# Edit a Sketch with the Edit Vertices Tool

- Sketch looks like this until you Finish Sketch either by double-click or F2
- Could also click the Finish Sketch button on the edit toolbar



# Edit a Sketch with the Edit Vertices Tool

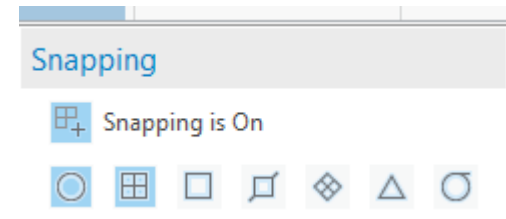
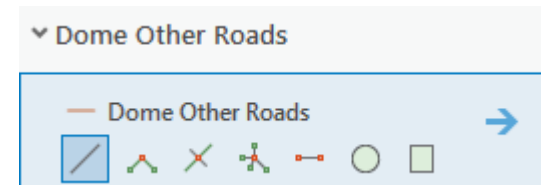
Polygon is edited



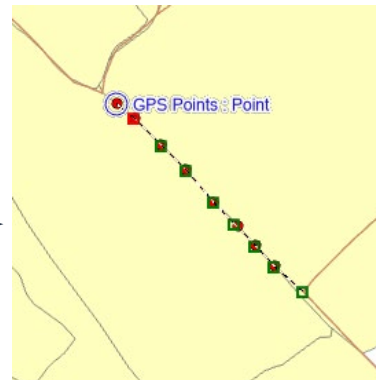
# Create New Line Features

**Edit scenario:** Create a new road line between existing roads

1. Select Template and Construction Tool
2. Set Snapping to End and Point Snapping
3. Use cursor to define new feature's shape



**Digitize  
Sketch**

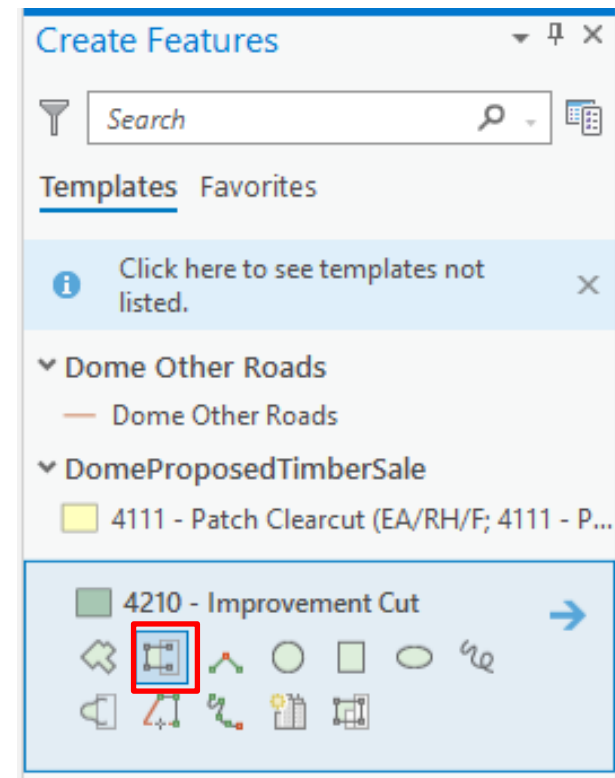


**Finish  
Sketch**



# Autocomplete Polygon Tool

- Choose the Layer to edit in Create Features Window
- Select the Autocomplete Polygon from Construction Tools

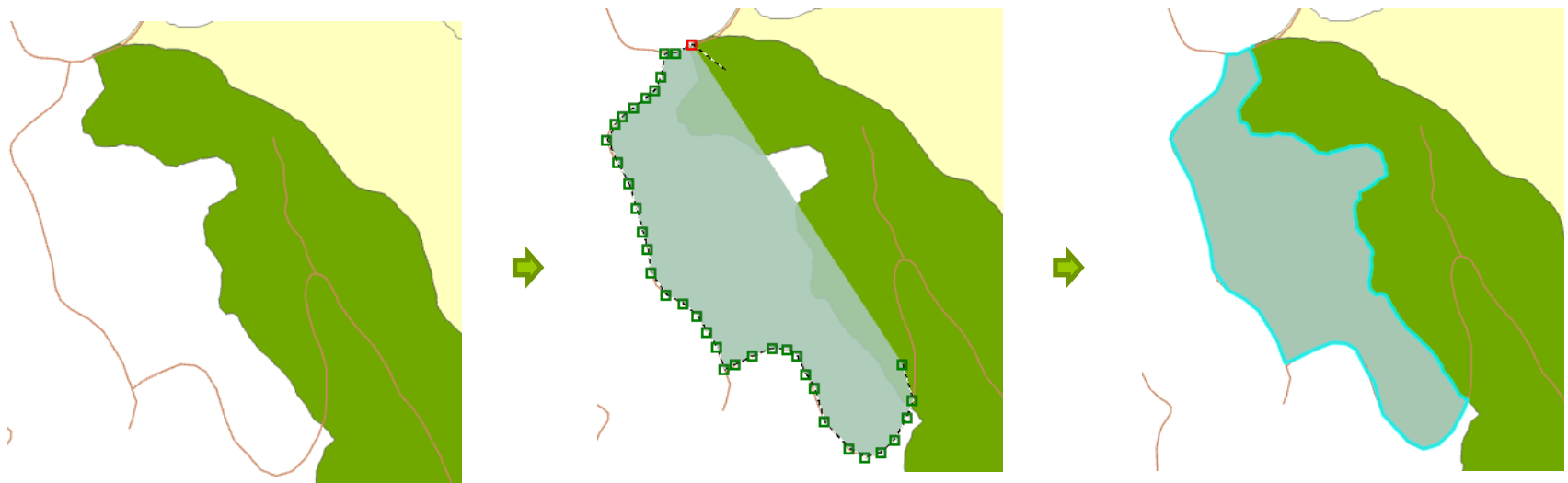




# Autocomplete Polygon Tool

To create new polygon feature adjacent to existing polygon:

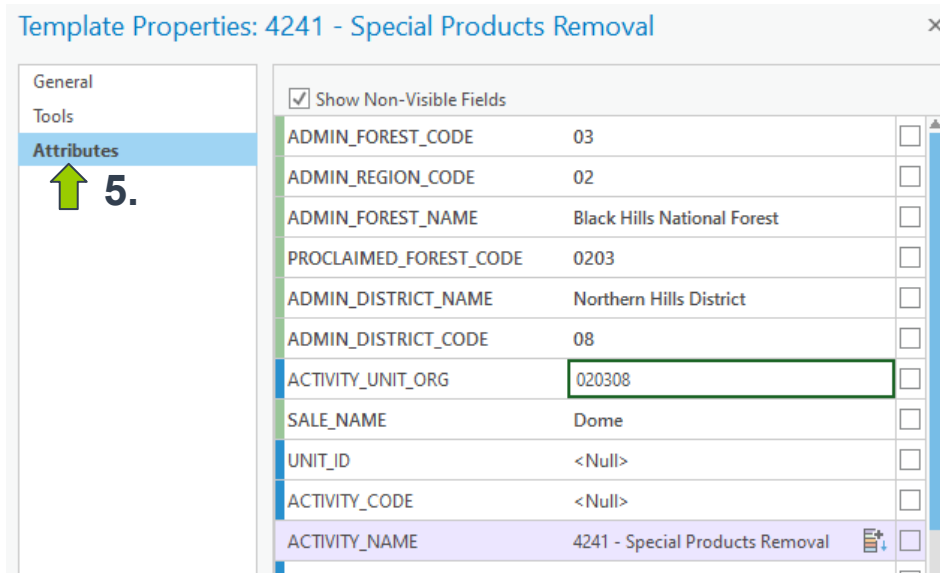
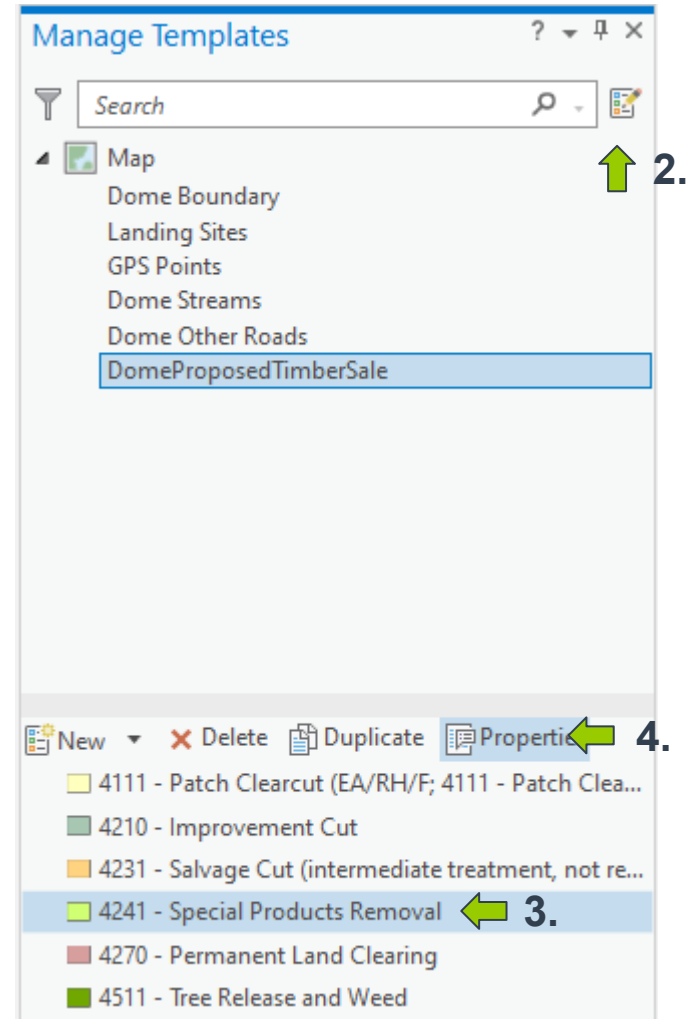
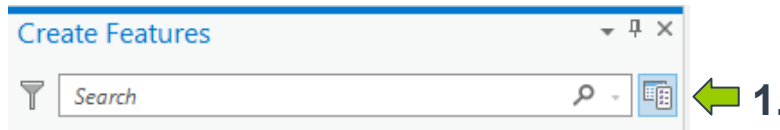
- Begin inside or intersect existing polygon
- Digitize new polygon
- Intersect existing polygon again double-click
- The coincident boundary between the two polygons is automatically created



# Manage Templates

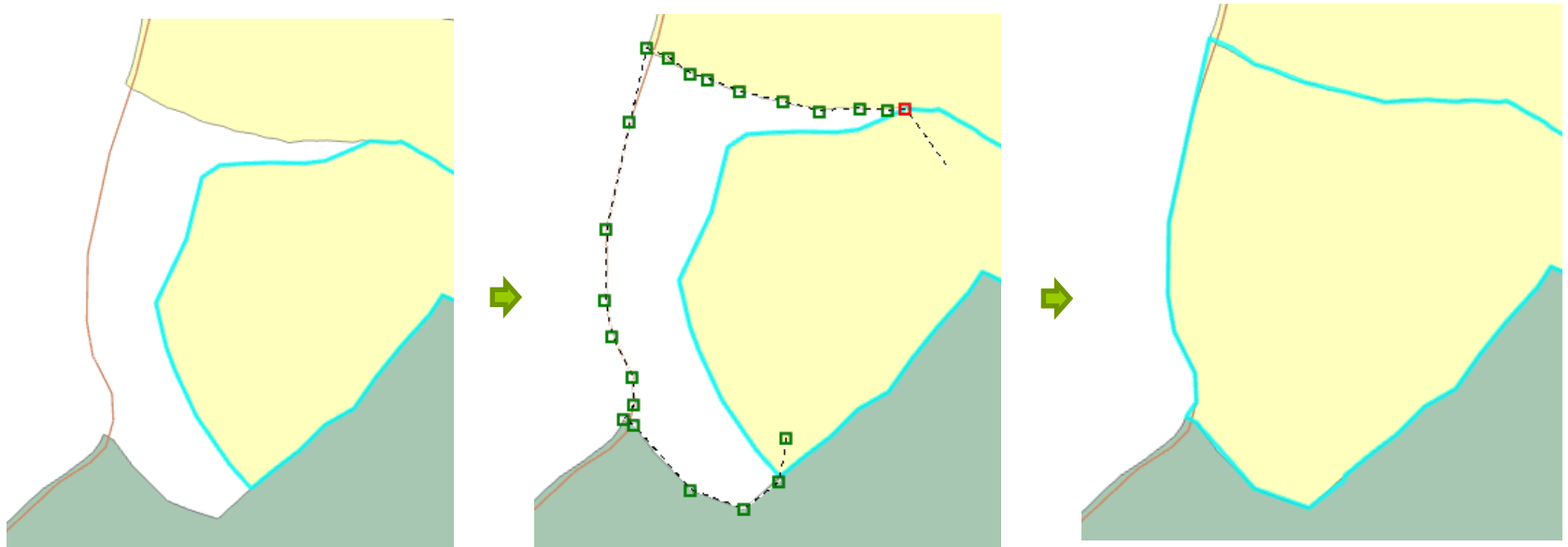
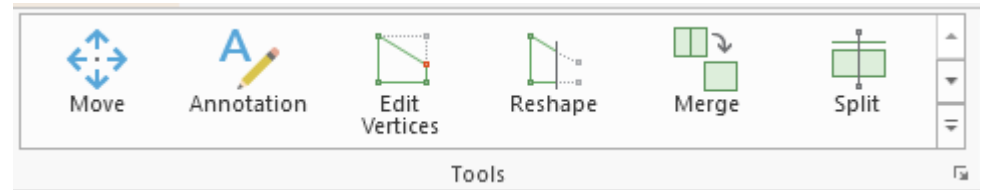
## Template Properties Set

- A feature's attributes and symbology
- The Default construction tool used



# Reshape Feature Tool

- Select feature to edit
- Modify Tools Button
- Reshape tool
- Start inside feature and end back inside feature





# More Editing Information

- Talk to your GIS Coordinator for Best Practices!
- [FS Data Stewardship](#) Direction and Training
- Visit the [FS ArcGIS Pro SharePoint](#)
- Refer to the [ESRI ArcGIS Pro Help](#)
- Free ESRI Virtual Campus courses for FS employees available through AGOL. Click [HERE](#) for more info.
- Problems? [Create GIS Helpdesk Ticket](#)

# Look for Advanced Editing in Pro

**Coming this fall — more tools to help with alignment**

- Use Trace tool



- Use Align Features tool



- Use Map Topology tools





# Demonstration





Forest Service  
U.S. DEPARTMENT OF AGRICULTURE

# Questions?



## GTAC

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