

# Implementation Guide for the National Potential Operational Delineations (PODs) Feature Service

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## Introduction

The Geospatial and Fire Planning Subcommittees of the National Wildfire Coordinating Group (NWCG) approved the [Potential Operational Delineations \(PODs\) data standard](#) for both lines and polys in December 2022. From this data standard, the National Office of Fire and Aviation Management created the National PODs Feature Service to serve as the official depiction of PODs approved by leadership. This service is hosted in the National Interagency Fire Center (NIFC) ArcGIS Online (AGOL) organization.

While the Forest Service is leading the effort to centralize PODs storage in one location, the National PODs Feature Service and data standard are Interagency, meaning that after approval from leadership and access granted to the proper editing group in the NIFC AGOL organization (see [Roles and Responsibilities](#) below), all Agencies can contribute and manage data.

This Implementation Guide and the National PODs Feature Service will likely evolve over time and consequently, the NWCG Data Standards may need to be adjusted to reflect any evolution. Requests for revisions to the current data standard can be made on the NWCG Data Standards [website](#). Questions on this guide can be directed to [Ben Gannon](#) or [Lauren Miller](#) and on PODs in general, to [Rick Stratton](#).

## Dataset Components

The National PODs Feature Service has three components, PODs\_Poly (a polygon layer), PODs\_Line (a line layer), and PODs\_Lines\_HAVE\_Polys (a many to many relationship table between lines and polygons).

- **PODs Poly.** The PODs Poly layer represents pre-planned areas, potentially defined by potential operational delineation lines (i.e., potential control features), such as roads and ridge tops, within which relevant information can be summarized.
- **PODs Line.** The PODs Line layer represents pre-planned potential control features, such as roads and ridge tops, that *may* form polygon wildland fire potential operational delineations. Lines may extend beyond or bisect polygons.
- **PODs\_Lines\_HAVE\_Polys.** This is a many-to-many relationship which allows a line to be shared by many polygons or a polygon to be shared by many lines.

The expectation is that populating the National PODs Feature Service will be a “work in progress”, as fully uploading and attributing all three components will likely be a significant workload for most Units. Having fully attributed Polys and Lines is ideal, but we recognize that this is challenging. **Creating topologically clean data (polys, lines, or both), free of gaps and overlaps, should be the top priority.** Coordinate with your Geographic POD Editor (GPE, see [Roles and Responsibilities](#) below) on data creation and editing plans. If a Unit only has capacity to create PODs Polys OR PODs Lines, your GPE may be able to create the complementary data using GIS processing methods (see [Data Preparation](#)). We are researching methods to automatically populate some line attributes from national data sources and the relationship table to reduce data management burdens.

The benefit of fully attributing and maintaining all three dataset components is the ability to generate polygon summarizations with line-centric data elements (e.g., Poly A is associated with X miles of paved road and Y miles of planned fuel breaks). Consult [Appendix C](#) for information on assigning relationships, if interested in populating the relationship table.

PODs data management is complicated by multijurisdictional POD features. The NWCG Data Standards and current implementation of the National PODs Feature Service are aligned with the intent that PODs are a cross boundary planning tool that should involve coordination with neighbors on PODs identification, improvement, and data management. Multijurisdictional PODs Polys or Lines should not be duplicated in the National PODs Feature Service<sup>1</sup>; doing so has the potential to confuse and complicate their use in incident response. PODs associated with a specific jurisdiction can be identified from the National PODs Feature Service using a spatial selection regardless of how the [PODs Data Steward](#) attribute is populated.

## Updating PODs

PODs are intended to be living decision support tools that are modified in response to changing landscape conditions and fire management objectives. Periodic reviews and updates are suggested to maximize their relevance. Remember to involve your neighbors and other key internal and external stakeholders. Every Fall/Winter, we encourage [PODs Data Stewards](#) and/or GPEs to review their PODs to ensure that they are free of overlaps, gaps, or attribute issues. Moving forward, we suggest reevaluating PODs approximately every three years or after one of the triggers described below to determine if meaningful updates are needed. Due to data management burdens, we discourage minor updates if they will not substantively change their use in fire and fuels management.

Potential triggers for updating PODs:

- Critical modifications are identified from using or reexamining PODs (e.g., different control feature types, spatial arrangements, or POD sizes)
- Landscape conditions meaningfully change due to development, wildfires, fuel treatments, other disturbances, or disturbance recovery affecting wildfire risk, suppression opportunities, or suppression difficulty
- A new Quantitative Wildfire Risk Assessment (QWRA) provides a different or more refined characterization of wildfire risk
- New partnerships allow PODs to be refined or expanded
- Neighbors revise PODs requiring coordination along shared borders

## Roles and Responsibilities

**Regional Leadership.** It is the responsibility of local units and ultimately regional leadership to ensure that PODs uploaded into the National PODs Feature Service are up to date, have been approved by all relevant stakeholders, attributes are populated as intended, and attributes do not contain potentially offensive or unapproved language.

**POD Dataset Owner.** The dataset owner, RMA\_Authoritative, is responsible for the creation of views from the parent service, creating and adding users to editing groups, and maintaining and updating implementation guidance. The PODs Dataset Owner will coordinate with NIFC AGOL Administration to archive and back-up the National PODs Feature Service using a process similar to that used to archive and back-up the [National Incident Feature Service \(NIFS\)](#). Note that the archive and back-up can be used to recover accidentally deleted data, but users are advised to create their own back-ups.

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<sup>1</sup> The exception to this is the rare circumstance where a PODs line forms a Geographic Area boundary and needs to be duplicated to make a Geographic Area dataset complete.

**National POD Editors (NPEs).** NPEs must have a [NIFC AGOL](#) account, experience with ArcPro and editing services using an Offline Copy, and are responsible for QA/QC of the entire dataset. [QA/QC](#) will include identifying areas of gaps/overlaps both within and across Geographic Areas, ensuring attributes and the [relationship table](#) are populated as recommended in the [NWCG Data Standard](#) and this implementation guide, and reducing any other potential sources of error. Topologically clean data and standardized attributes are essential for analyses and summarizations executed on the data. NPEs will rectify errors or coordinate directly with Geographic POD Editors to facilitate error correction. NPEs will edit within a national editing group (see [Services/Views and Groups](#)).







**Geographic POD Editors (GPEs).** GPEs have the most critical role in this process. GPEs must have a [NIFC AGOL](#) account, experience with ArcPro and editing services using an Offline Copy. They are responsible for loading, editing, maintaining, and backing up data within their Geographic Area as well as QA/QC of the data entered. [QA/QC](#) will include identifying areas of gaps/overlaps both within and across Geographic Areas, ensuring that attributes and the [relationship table](#) are populated as recommended in the [NWCG Data Standard](#) and this implementation guide, and reducing any other potential sources of error. Topologically clean data and standardized attributes are essential for analyses and summarizations executed on the data.





GPEs will edit within a geographically based editing group (see [Services/Views and Groups](#)). **It is likely most efficient for one or two Geographic Area-level GPEs to manage the entire Geographic Area’s data.** See [Preparing Data](#) for more detail. A NIFC AGOL Data Manager role is preferred for GPEs, as it is possible to make mistakes that impact other areas while working in an Offline Copy. Names and NIFC AGOL usernames of designated GPEs should be submitted to the [PODs Dataset Owner](#) for inclusion into the appropriate editing group.

### Services/Views and Groups<sup>2</sup>

 <p>National Potential Operational Delineations (PODs) <b>Edit TRAINING</b></p>	<p><b>Service Name:</b> <a href="#">#TRAINING National Potential Operational Delineations (PODs) GIS Edit</a>  <b>View Definition:</b> None  <b>Group:</b> All Geographic Area PODs Editing Groups</p> <p>This TRAINING service is available to facilitate learning. Data uploaded and edited within this service will only be visible within Geographic Area Editing Groups and not to the NIFC AGOL Organization or Public.</p>
 <p>National Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">National Potential Operational Delineations (PODs) GIS Edit</a>  <b>View Definition:</b> None  <b>Group:</b> RMA Working and Administration</p>
 <p>Alaska Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b>  <a href="#">Alaska Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Alaska and Not Yet Set</p>

<sup>2</sup> Each of these service [Views](#) (except #TRAINING) present the same underlying data with different editing permissions, capabilities, or symbology.

	<p><b>Group:</b> Alaska Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>California Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">California Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> California and Not Yet Set</p> <p><b>Group:</b> California Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>Eastern Area Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Eastern Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Eastern Area and Not Yet Set</p> <p><b>Group:</b> Eastern Area Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>Great Basin Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Great Basin Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Great Basin and Not Yet Set</p> <p><b>Group:</b> Great Basin Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>Northern Rockies Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Northern Rockies Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Northern Rockies and Not Yet Set</p> <p><b>Group:</b> Northern Rockies Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>PNW Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Pacific Northwest Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Northwest and Not Yet Set</p> <p><b>Group:</b> Northwest Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>Rocky Mountain Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Rocky Mountain Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all of the domain values for GeoArea <b>except</b> Rocky Mountain and Not Yet Set</p> <p><b>Group:</b> Rocky Mountain Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>

 <p>Southern Area Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Southern Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Southern Area and Not Yet Set</p> <p><b>Group:</b> Southern Area Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>Southwest Area Potential Operational Delineations (PODs) <b>Edit Service</b></p>	<p><b>View Name:</b> <a href="#">Southwest Potential Operational Delineations (PODs) GIS Edit</a></p> <p><b>View Definition:</b> GeoArea <b>excludes</b> all the domain values for GeoArea <b>except</b> Southwest and Not Yet Set</p> <p><b>Group:</b> Southwest Potential Operational Delineations (PODs) Geographic Area Editors (GPEs)</p>
 <p>National Potential Operational Delineations (PODs) <b>INTERNAL</b></p>	<p><b>View Name:</b> <a href="#">National Potential Operational Delineations PODs Internal View</a></p> <p><b>View Definition:</b> Feature Access = Cooperators or Feature Access = Public</p> <p>NIFC AGOL (Internal) Organization POD Viewers will have access to a national-level, organizationally shared, non-editable, and sync-enabled view to facilitate organizational web mapping needs.</p>
 <p>National Potential Operational Delineations (PODs) <b>PUBLIC</b></p>	<p><b>View Name:</b> <a href="#">National Potential Operational Delineations (PODs) Public</a></p> <p><b>View Definition:</b> Feature Access = Public</p> <p>Public POD Viewers will have access to a national-level, publicly shared, non-editable view to facilitate consumption by other applications. All fields with personally identifiable information (Contact Name, Contact Position, Contact Email) and other fields deemed not relevant to the public will be removed from this view.</p> <p>This public view will also be discoverable through the <a href="#">NIFC Open Data</a> Site and via layerfile on the Forest Service network. T:\FS\Reference\EDW\Fire_NIFC_PODs_NationalPotentialOperationalDelineations_AGOL.lyr</p>

## What Changed from the Previous Implementation Guidance

After a year of implementation, the following adjustments have been made to this guidance. Follow the links for additional detail related to each of the below bullets.

- [Updating Existing PODs](#). We suggest reevaluating PODs approximately every three years or after major landscape changes to determine if meaningful updates are needed. Due to data management burdens, we discourage minor updates to PODs polygons or lines if they will not substantively change their use in fire and fuels management (excluding updates to free the data of topological errors).
- [Priorities](#). It is still recognized that populating the National PODs Feature Service is a “work in progress”. Having fully attributed Polys and Lines is ideal, but we recognize that this is challenging. **Creating topologically clean data (polys, lines, or both), free of gaps and overlaps, should be the top priority.** Coordinate with your GPE on data creation and editing plans. If a Unit only has capacity to create PODs Polys OR PODs Lines, your GPE may be able to create the complementary data using GIS processing methods. We are researching methods to automatically populate some line attributes from national data sources to reduce data management burdens.
- [PODs Monitoring](#). It is the responsibility of local units and regional leadership to ensure that PODs uploaded into the National PODs Feature Service have been approved by all relevant stakeholders, attributes are populated as intended, and attributes do not contain potentially offensive or unapproved language.
- [Multiple GPEs](#). In the previous version of this guide, we suggested that after the initial upload of data into the service, leadership within each Geographic Area may choose to designate 1-2 GPEs to manage the data for the entire Geographic Area or *designate Unit-level GPEs to manage their own data within the service*. While leadership can still manage the data within the service in any way that meets their needs, we recommend that edits be coordinated through 1-2 GPEs per Geographic Area, to reduce the potential for topological errors.
- **Editing Specifics**
  - [Feature Layer Caching](#). When working with the National PODs Feature Service in ArcPro, Geographic PODs Editors (GPEs) should ensure that “feature layer caching” is turned off in both the PODs Line and PODs Poly layers. This setting can be found by right-clicking on the layer, selecting “Cache”, then “Don’t cache any data locally”. Feature layer caching is often the cause of unexpected behavior.
  - [Domain Codes/Descriptions](#). GPEs should still use “extreme caution” to ensure that domain driven fields are populated with the codes/descriptions documented in the NWCG Data Standard. However, appending the GeoArea description (e.g., Northwest) vs the GeoArea code (e.g., NW) when geoprocessing will no longer cause edits to disappear from your view after syncing. If a GPE notices a POD in their GeoArea Edit view that doesn’t belong, DO NOT delete the feature; please contact the [PODs Dataset Owner](#) or the responsible GPE to rectify. To rectify this issue, the PODs Dataset Owner or GPE would reapply the domain for GeoArea using the Attributes Window. Note that there is a GPE and National Analyst contact list posted within every Geographic Editing Group in NIFC AGOL.

- [Mass deletes](#). Initially, we advised GPEs to NOT delete ALL the data in the Offline Copy and replace with new features from another database, as unnecessary edits could cause issues with archiving. We recognize that the topological considerations for PODs makes editing within the offline copy difficult. GPEs can delete and replace entire units/regions, if desired. However, GPEs should be aware that deleting and replacing will result in a loss of history for that feature.
- [Clarification on POD Name and POD Label](#). Both fields are optional. The POD Label field was added to the standard to give maximum flexibility in how data is displayed in a map or pop-up. Units were meant to populate POD Label with whatever they want, in the instances where the other fields do not adequately capture intent.
- [Line Duplication](#). Units should avoid duplication in PODs Lines that form the boundary between Units within Geographic Areas. In other words, there should only be one line that forms the border between POD A and POD B in the Rocky Mountain Geographic Area. Note that line duplication is not problematic in the rare circumstance where a PODs line forms a Geographic Area boundary and needs to be duplicated to make a Geographic Area dataset complete.
- [Water](#). Units should avoid creating gaps to accommodate large water bodies. For example, it is preferable to have POD A and POD B meet halfway between a large river, rather than create a gap to accommodate the large river.

## Technical Implementation

This section outlines methods for preparing data for inclusion and appending data into the National PODs Feature Service. The [NWCG data standard](#) for PODs should be reviewed alongside this section, as references are made to it throughout. **Ultimately, how data is managed outside of the National PODs Feature Service is at the discretion of leadership. It only matters that the most current, approved, topologically clean data is in the National PODs Feature Service.** [Appendix A](#) contains an implementation checklist which provides an overview of the steps described in this document.

### Locating the most current source for PODs data

Your GPE should serve as the point of contact for the most current source of PODs data. The most current source of PODs data could be within the National PODs Feature Service, within the [Potential Operational Delineations Summary Service](#), or stored elsewhere by your Region/Unit.

### Data Preparation

**Populating a PODs geodatabase.** GPEs can export a geodatabase of the National PODs Feature Service via their assigned editing group, create a geodatabase with topology rules, and/or use the [Offline Copy](#) to make edits to existing data. It is important that domain driven fields are populated with the codes in the geodatabase. Overwriting a domain could introduce typos and/or break View Definitions/queries.

**Topological issues should be rectified prior to appending data into the service.** Currently, there is not a great way for handling topology in services so the onus of creating clean data rests with GPEs. Units can build their own [geodatabase topology](#) on data using local projections to inspect features for topological issues with the following topological rules using the ArcPro default tolerances:

- Polys - Must Not Overlap



- Polys - Must Not Have Gaps
- Lines - Must Not Overlap
- Lines - Must Be Single Part
- Lines - Must Not Self Intersect

Examples of how common topological issues could manifest in a dataset:

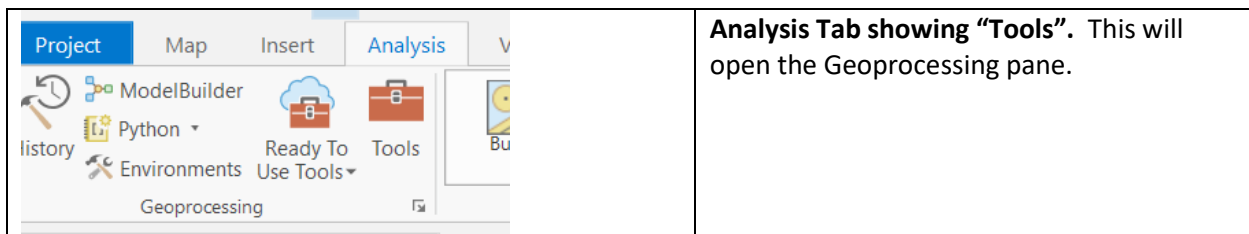
- Non-coincident boundaries between or within Units/features.
  - *When you zoom in closely, there are areas where POD A and POD B overlap.*
  - *When you zoom in closely, there are areas of “No Data” between POD A and POD B.*
  - *There is a gap to accommodate a large water body. It is preferable to have POD A and POD B meet halfway between a large water body, rather than create a gap to accommodate the large body.*
- Duplicated boundaries between Units *within* Geographic Areas. Note that line duplication is not problematic in the rare circumstance where a PODs line forms a Geographic Area boundary and needs to be duplicated to make a Geographic Area dataset complete.
  - *There are 2 coincident lines that form the boundary between POD A and POD B in the Rocky Mountain Geographic Area.*
- Digitizing Errors
  - *When you zoom in closely, the boundary of POD C twists around such that it intersects itself, resulting in a loop.*
- Hand digitized boundaries. The expectation is that PODs are digitized precisely enough that viewers can identify the underlying feature (e.g., road or river) when viewed at 1:24000 scale. Tracing major landscape features from authoritative data (if available), as opposed to hand digitizing, is preferred.
  - *The eastern boundary of POD A does not perfectly follow the highway. This line was hand digitized rather than traced in ArcMap/Pro.*

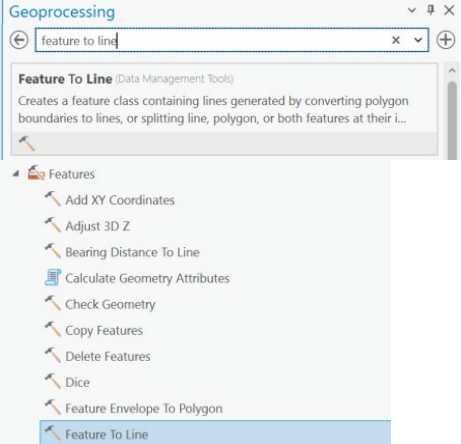
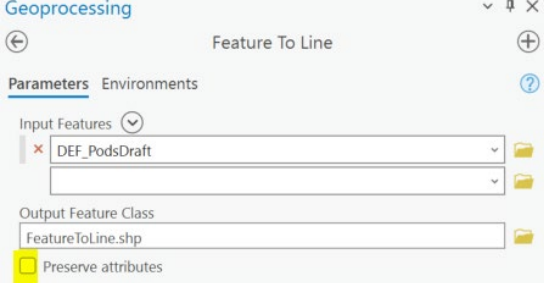
### Creating Lines from Polys or Polys from Lines

If a Unit only maintains PODs Polys and not PODs Lines, once all topological issues have been rectified, create PODs lines by:

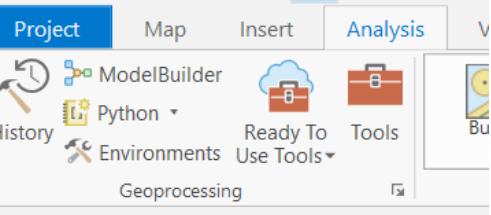
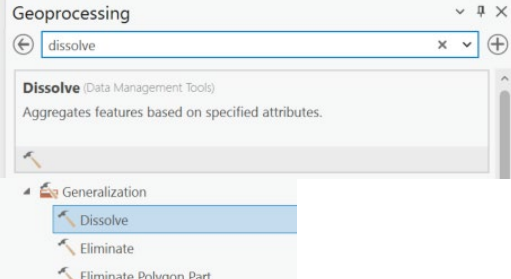
#### Converting Polys to Line

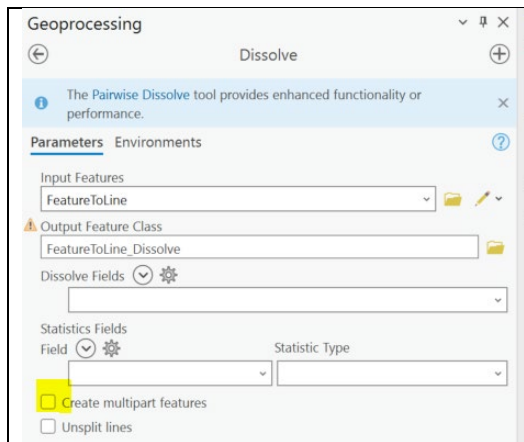
1. Open the **Feature to Line** tool by selecting Tools on the Analysis Tab, then search for or locate **Feature to Line** within Data Management Tools (Features).



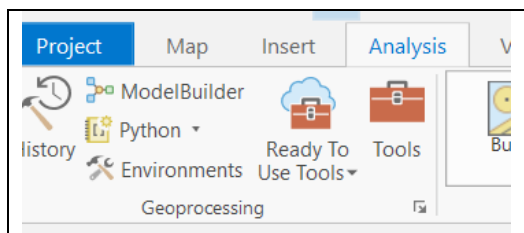
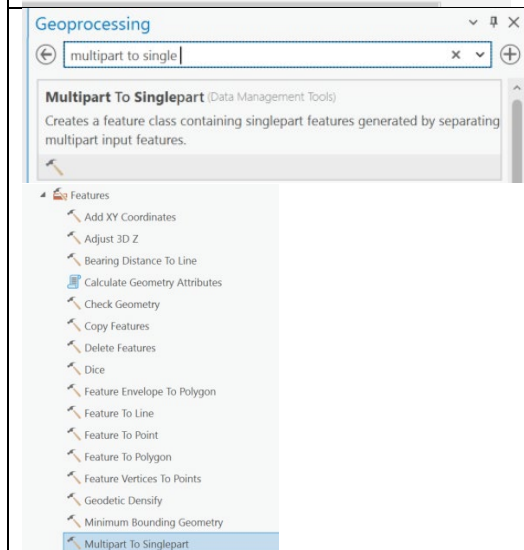
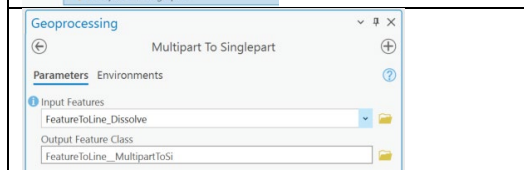
	<p><b>Search</b> for Feature to Line or <b>Locate</b> Feature to Line tool in Data Management Tools → Features</p>
	<p>Run the tool with “Preserve attributes” checked or unchecked according to your needs. Running the tool with “Preserve Attributes” checked will copy poly attributes to the lines.</p>

2. **Dissolve** the result to remove arbitrary endpoints within lines. Open the **Dissolve** tool by selecting Tools on the Analysis Tab, then search for or locate **Dissolve** within the Data Management Tools (Generalization).

	<p><b>Analysis Tab showing “Tools”</b>. This will open the Geoprocessing pane.</p>
	<p><b>Search</b> for Dissolve or <b>Locate</b> the Dissolve tool in Data Management Tools → Generalization</p>

	<p>Run the tool with “Create multipart features” unchecked</p>
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3. Ensure dataset only has singlepart features by running **Multipart to Singlepart**. Open the **Multipart to Singlepart** tool by selecting Tools on the Analysis Tab, then search for or locate **Multipart to Singlepart** within the Data Management Tools (Features).

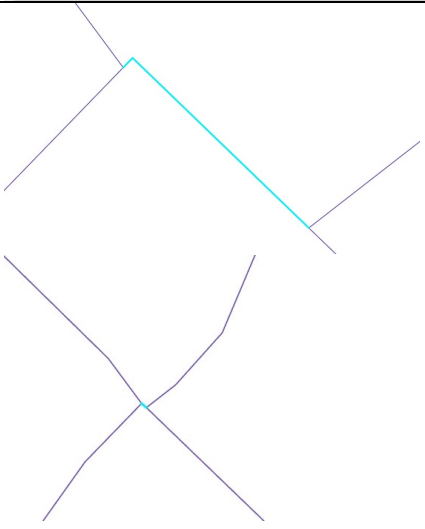
	<p><b>Analysis Tab showing “Tools”</b>. This will open the Geoprocessing pane.</p>
	<p><b>Search</b> for multipart to singlepart or <b>Locate</b> the <b>Multipart to Singlepart</b> tool in Data Management Tools → Features</p>
	<p>Run the tool.</p>

4. Investigate small segments for correctness by adding a “length” field and calculating length. The process to create line summary metrics will work with any line length, but processing time will

dramatically increase. Strive to examine all lines <0.5 miles. Consider whether line edits should be carried over to the polys.

Current Layer: FeatureToLine_MultipartToSI							
<input checked="" type="checkbox"/> Visible	<input checked="" type="checkbox"/> Read Only	Field Name	Alias	Data Type	<input checked="" type="checkbox"/> Allow NULL	<input type="checkbox"/> Highlight	Number Format
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	<input type="checkbox"/>	<input type="checkbox"/>	Numeric
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shape	Shape	Geometry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	ORIG_FID	ORIG_FID	Long	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Shape_Length	Shape_Length	Double	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Miles	Miles	Double	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**Add a length field**



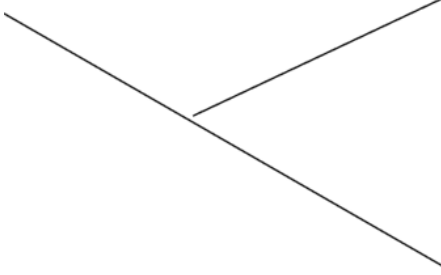
In this example, the selected line segment is <1 foot. These segments could be brought together at a common vertex using editing tools.

- Populate line attributes, ensuring you are populating domain driven fields with the codes in the geodatabase.

If a Unit only maintains PODs lines and not PODs polys, once all topological issues have been rectified, create PODs polys by:

*Converting Lines To Polys*

Open and run the **Feature to Polygon** tool by selecting Tools on the Analysis Tab, then search for or locate **Feature to Polygon** within Data Management Tools (Features). Note that if the result of this tool is fewer polys than you expect, investigate for errors, such as lines that do not intersect.



Example of a gap between lines that are intended to intersect (scale, 1:0.07)

## Working with the National PODs Feature Service

The process for editing the PODs Line and PODs Poly layers within the National PODs Feature Service is similar to the process used to edit the National Incident Feature Service (NIFS) in that editing Lines and Polys is accomplished with an **Offline Copy** and off the shelf tools available in ArcPro. **Spatial edits should NOT be done within AGOL applications.**

An Offline Copy is a downloaded subset of data which can be edited like a regular geodatabase and then synced with the service to apply the changes. Even though this process allows for multiple simultaneous editors, Feature Service and Offline Copy edits have none of the conflict protection or resolution capabilities of a truly versioned environment. Great care must be taken not to **overwrite other user's data.**

Offline editing in ArcGIS employs a “last in, wins” policy for conflict resolution. Conflicts are detected at the feature level. Meaning if two users edit the same feature, even if they each edit different attributes, it is considered a conflict, and the feature from the user who syncs second (last) will completely overwrite the first (essentially deleting the first user's edit). Features that are included but not edited in an Offline Copy will not overwrite anything during a sync. Consider setting a Definition Query in your Offline Copy so that you are viewing and editing only the data intended.

In the previous version of this guide, we advised GPEs to NOT delete ALL the data in the Offline Copy and replace with new features from another database. We recognize that the topological considerations for PODs makes editing within the Offline Copy difficult. GPEs can delete and replace entire units/regions, if desired. However, GPEs should be aware that deleting and replacing will result in a loss of history for that feature.

If a GPE chooses to edit data within the Offline Copy, we recommend consulting the GISS job aid, [Editing the Event GDB](#) and [Appendix B Editing Features in the Offline Copy](#) for examples and common editing scenarios. Snapping to and tracing existing features is critical. **Realize that adjusting one line or poly may impact adjacent lines and polys, and the relationship table.**

## Best Practices for Working with the National PODs Feature Service

- Use ArcPro to edit. Editing should NOT be done within AGOL applications.
- Create a back-up of the data in the Offline Copy, before and after editing has occurred.
- Maintain clean topology within the PODs\_Line and PODs\_Poly layers.
- When working with the National PODs Feature Service in ArcPro, Geographic PODs Editors (GPEs) should ensure that “feature layer caching” is turned off in both the PODs Line and PODs Poly layers. This setting can be found by right-clicking on the layer, selecting “Cache”, then “Don't cache any data locally”. Feature layer caching is often the cause of unexpected behavior.
- Set the Coordinate Reference System to a local, projected system in the Edit Project before creating the Offline Copy. Calculate acres using Area (International Acres)/Length (Statue Miles) within ArcPro 3.x.

- Editing is enabled on all workspaces available. Pay close attention to what layer is being edited. If data already exists in the area you are editing, consider setting a Definition Query in your Offline Copy to ensure you don't accidentally edit another Unit's data.
- Save Often – Both the project and edits.
- Download only the area you need to manage (i.e., do not download an entire Geographic Area if you have only need to edit one Unit). Know that edits performed outside of the area downloaded in the Offline Copy will not Sync to the service.
- Avoid editing the PODs\_Line and PODs\_Poly layers “live” (i.e., directly in the service).
- Sync immediately before and after each editing session. Sync can also be performed any time during editing session.
- Use the Attributes Window rather than the Append tool to [populate the GeoArea attribute](#).
- If there are multiple editors assigned to a Geographic Area, communicate, and establish clear boundaries.
  - *Example: If editing simultaneously, GPE1 will only edit PODs Poly features within the Big Tree National Forest, while GPE2 will only edit PODs Line features within the Big Tree National Forest.*
  - *Example: GPE2 will not begin editing a PODs Poly that is shared between the Big Tree and Smokey Bear National Forests until GPE1 has confirmed that they are not planning on doing any edits to this PODs Poly.*
- Do not run bulk update tools such as Calculate Geometry/Field or custom scripts on Offline copies, especially when data from other units is present. Use Selected Records and the Attributes Window.
  - *Example:*  

*The Geographic POD Editor (GPE) for the Big Tree National Forest is unable to create an Offline Copy of all their PODs Line and PODs Poly features without including several features from their neighboring unit, the Smokey Bear National Forest.*

*The GPE for the Big Tree National Forest creates an Offline Copy and begins making edits but is careful not to touch any of the Smokey Bear National Forest features.*

*Meanwhile, the GPE on the Smokey Bear National Forest moves one of the Smokey Bear National Forest PODs poly features that are included in the Big Tree National Forest Offline Copy.*

*The GPE on the Big Tree National Forest finishes their edits and runs Calculate Geometry on the entire PODs Poly layer in the Offline Copy, then syncs.*

*The GPE on the Smokey Bear National Forest sees the moved feature revert to the location it was when GPE for the Big Tree National Forest created their Offline Copy.*

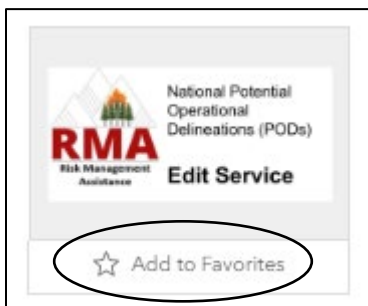
The overall workflow for uploading PODs data in the National PODs Feature Service is as follows:

- [Connect to the Appropriate GIS Edit Service](#)
- [Create the Offline Copy of your Area of Interest](#)
- [Load Data using the Append Tool](#)
- [Populate Attribute Tables using the Attributes Window and Field Calculations on selected records](#)
- [Perform a QA/QC using the Attributes Window](#)
- [Sync your Edits](#)

Connect to the Appropriate GIS Edit Service

To connect to the GIS Edit Service for your Geographic Area:

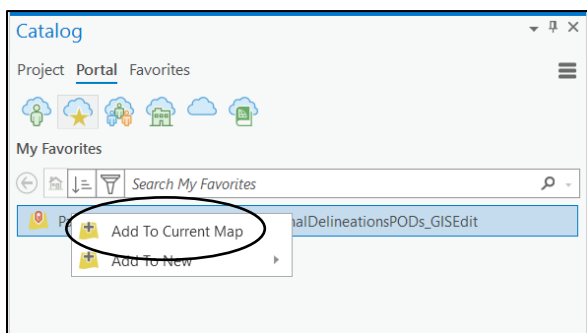
1. Wait for confirmation that you have been added to the appropriate Editing Group
2. Sign into your [NIFC AGOL](#) account
3. Search for the appropriate Editing Group and GIS Edit Service (Refer to the [Services/View and Groups](#) section for naming conventions)
4. Add the appropriate GIS Edit Service to your “Favorites” by going to the Item Details page in AGOL and select “Add to Favorites” under the thumbnail



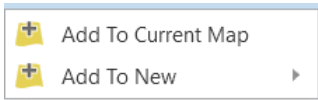
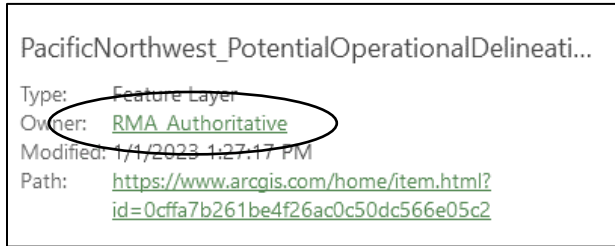
Open ArcPro and sign in using your NIFC AGOL credentials.



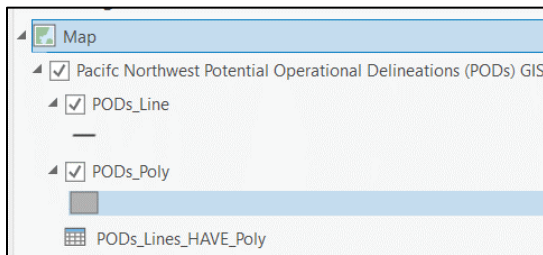
From the Catalog pane in ArcPro, select the Portal then the cloud with the star (My Favorites) icon. Right-click the GIS Edit Service and select “Add to Current Map”



The service can also be added by selecting Portal then the cloud with people (My Groups) then searching for the appropriate GIS Edit Service (using quotes will return more specific results). Hovering over services in the search results will display additional information. Potential Operational Delineations are owned by the RMA\_Authoritative account. Right-click and select “Add to Current Map”



Verify that all three service components (PODs\_Poly, PODs\_Line, and PODs\_Lines\_HAVE\_Poly) are in you ArcPro project.

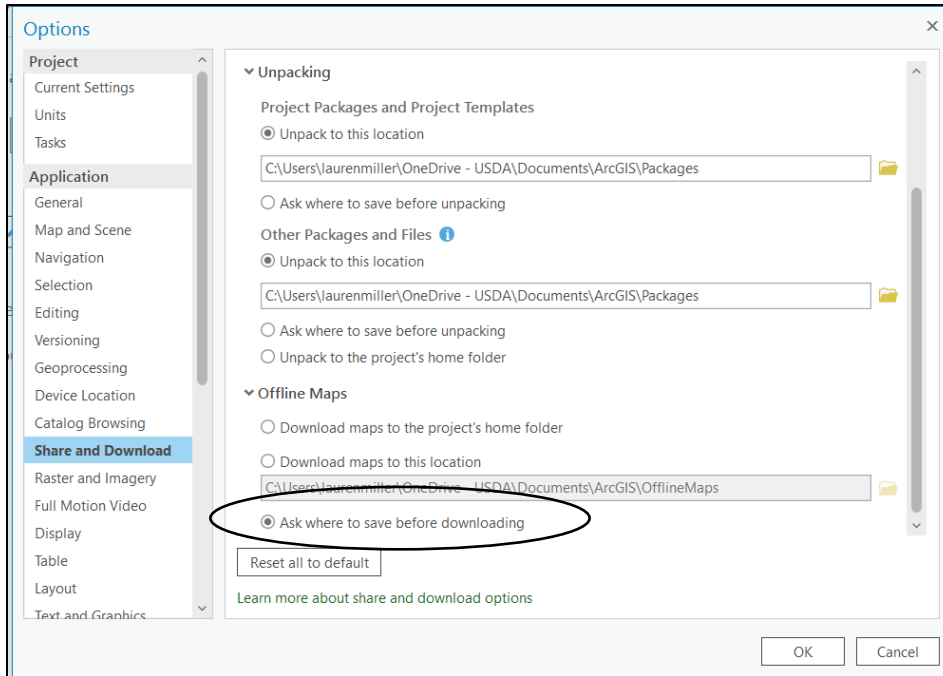


Create the Offline Copy of your Area of Interest in ArcPro

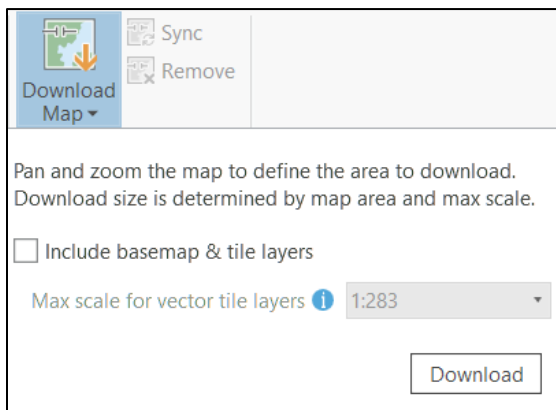
In ArcPro, feature services can be edited directly, but do not do this; always create an **Offline Copy** of the PODs Poly and PODs Line layers.

The Offline Copy will be created in the ArcPro Project’s Home folder by default. To change this, in the Project Options for Share and Download, settings under Offline Maps, set to, “Ask where to save each time before downloading.”

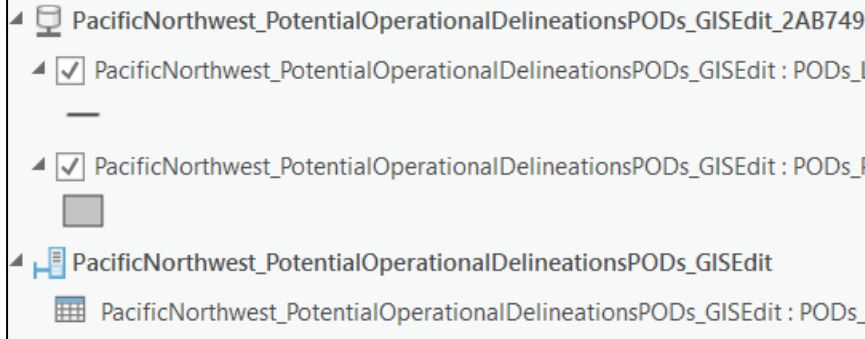
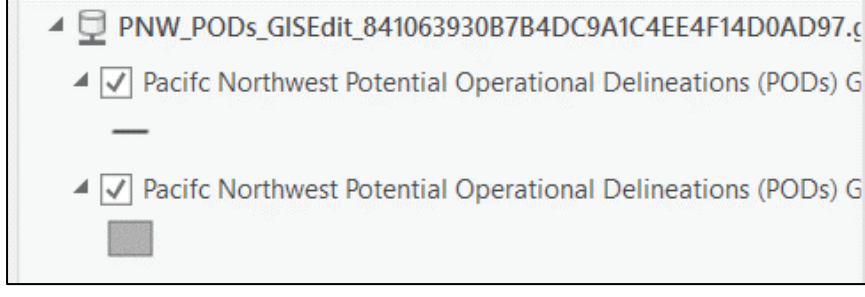




Zoom into the appropriate area and click **Download Map** on the **Map Tab**. Do not include basemap and tile layers. Ensure that the area downloaded is large enough to meet your needs, but not so large that you could accidentally overwrite another Unit's data. Edits performed outside of the area downloaded in the Offline Copy will not Sync to the service.

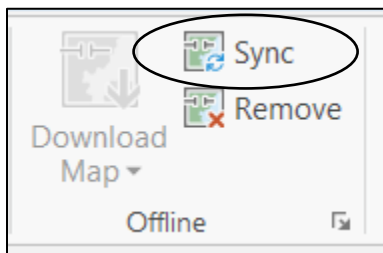


Once the download is complete, change the Contents pane to List by Data Source and confirm that the source for the PODs Poly and PODs Lines GIS Edit Service is now a local database (database symbol). Note that due to a potential bug, when the Contents pane is changed to List by Source, you may or may not see the relationship table. The relationship table may remain online, even if you do not see it when you List by Data Source in the Contents pane.

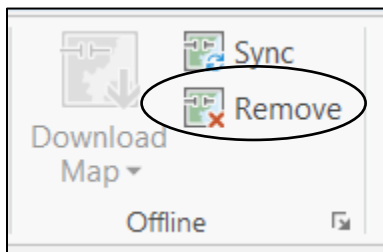
 <p>PacificNorthwest_PotentialOperationalDelineationsPODs_GISEdit_2AB749</p> <ul style="list-style-type: none"> <li>✓ PacificNorthwest_PotentialOperationalDelineationsPODs_GISEdit : PODs_L</li> <li>—</li> <li>✓ PacificNorthwest_PotentialOperationalDelineationsPODs_GISEdit : PODs_F</li> <li>□</li> <li>PacificNorthwest_PotentialOperationalDelineationsPODs_GISEdit       <ul style="list-style-type: none"> <li>☰ PacificNorthwest_PotentialOperationalDelineationsPODs_GISEdit : PODs_</li> </ul> </li> </ul>	<p><b>Contents Pane</b> displaying by Source. PODs_Poly and PODs_Line are a local database.</p> <p>The relationship table <b>may</b> remain online as a service.</p>
 <p>PNW_PODs_GISEdit_841063930B7B4DC9A1C4EE4F14D0AD97.g</p> <ul style="list-style-type: none"> <li>✓ Pacific Northwest Potential Operational Delineations (PODs) G</li> <li>—</li> <li>✓ Pacific Northwest Potential Operational Delineations (PODs) G</li> <li>□</li> </ul>	<p><b>Contents Pane</b> displaying by Source. PODs_Poly and PODs_Line are a local database.</p> <p>If the relationship table remains online, it will <b>not be visible</b> when listing by source (potential bug).</p>

The Offline Copy is not a File Geodatabase. It is a Mobile Geodatabase (aka Runtime GDB). ArcPro works natively with this format. Depending on planned usage, it may be necessary to convert the [Mobile Geodatabase to a File Geodatabase](#).

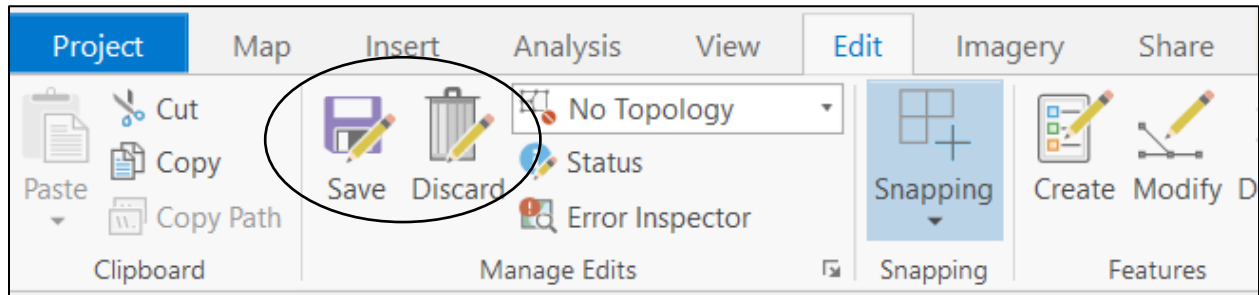
It is critical to Sync before and after each editing session. Syncing before will pull down any edits that have been made since the last sync. Not doing so will greatly increase the chances of a conflict and data being overwritten. Sync can be performed multiple times during an editing session.



Note that as of ArcPro 3.x, clicking **Remove** will no longer automatically delete the Offline Copy from your local PC. This is a known bug, not a feature, and may be rectified in future updates.



Unlike ArcMap, there are no edit sessions in ArcPro. However, all edits must still be saved. Once edits are made in a map, the Save and Discard buttons will become available on the Edit tab (Manage Edits Section).



Because editing is enabled on all available workspaces, it is important to pay close attention to the Feature Template being used when creating features. Renaming layers in the Table of Contents can help avoid confusion without affecting the underlying data.

If data already exists in the area you are editing, consider setting a Definition Query in your Offline Copy to ensure that you don't unintentionally edit a feature.

#### Loading Data into the Offline Copy

As with many tasks in GIS, there are likely several methods that could be used to load data into the National PODs Feature Service. Regardless of the workflow chosen, it is essential that GPEs adhere to the [Best Practices for Editing the National PODs Feature Service](#) and consult the [Recommended Methods to Populate the PODs Line and PODs poly attribute table](#).

This section details one workflow which uses the "Append" tool, the Attributes Window, and Field Calculations on selected records.

#### **Geoprocessing Tools (e.g., the "Append" tool), Field Calculate, custom tools, and scripts will overwrite a domain.**

In the National PODs Feature Service, GeoArea Codes are two letters (e.g., NW) while the descriptions are the full name (Northwest). The Geographic Area GIS Edit Views are built using the GeoArea attribute (see [Services/Views and Groups](#)). If a domain *description* is written to this field rather than a domain *code* (the Append Tool functions in this way), the GIS Edit View definition will no longer apply, and the feature will appear in multiple Geographic Area GIS Edit Views.

If a GPE notices a feature in their GeoArea GIS Edit view that doesn't belong, they should NOT delete the feature. Contact the [PODs Dataset Owner](#) or the responsible GPE to rectify. To rectify this issue, the PODs Dataset Owner or GPE would reapply the domain for GeoArea using the Attributes Window. Note that there is a GPE and National Analyst contact list posted within every Geographic Editing Group in NIFC AGOL.

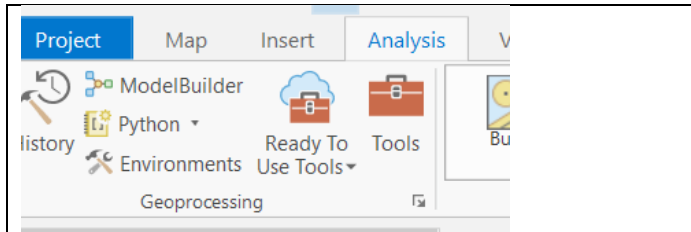
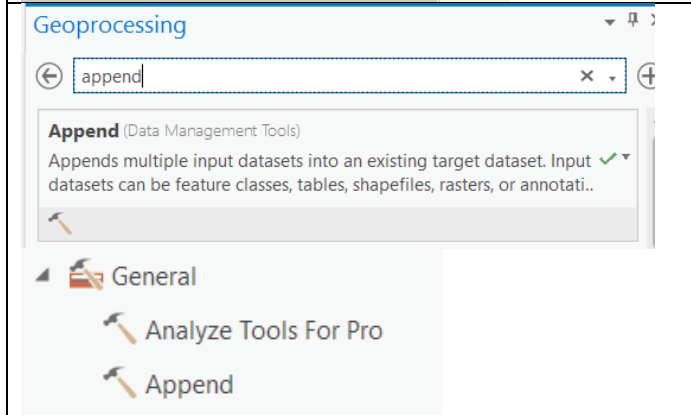
**Due to this complexity and nuance, we recommend using the Attributes Window rather than the Append tool to populate GeoArea attribute.**

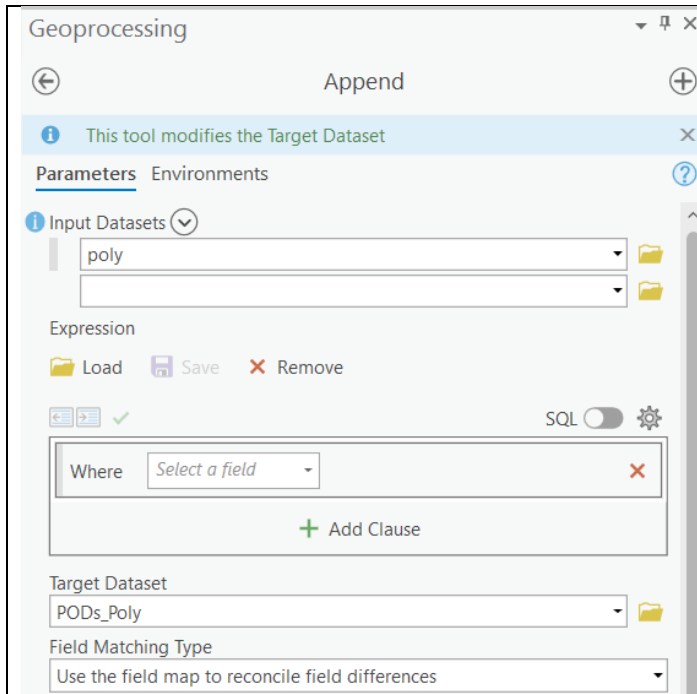
### Append Tool

The Field Map options in the Append tool will allow you to crosswalk attributes from your local dataset to the fields in the Offline Copy. This process can be used to map local fields that may be in common with the National PODs Feature Service, however, **use extreme caution because the Append Tool will append descriptions rather than codes**. Overwriting a domain could introduce typos and/or break View Definitions/queries.

Open the **Append tool** by selecting Tools on the Analysis Tab, then search for or locate Append within the Data Management Toolbox (General). Within the **Append Tool**, the Input Dataset is the local unit copy (with no topological issues) of PODs data with attributes populated. The Target Dataset is the Offline Copy of the National PODs Feature Service. Set Field Matching Type to “Use the field map to reconcile field differences” Note that the field names do not need to be identical between your local dataset and the Offline Copy.

In the Field Map, select the Output Field (within the Offline Copy of the National PODs Feature Service) to the matching Source Field (local data). Do not use this process for the GeoArea attribute.

	<p><b>Analysis Tab showing “Tools”</b>. This will open the Geoprocessing pane.</p>
	<p><b>Search for Append or Locate</b> Append in the Data Management Toolbox → General</p>

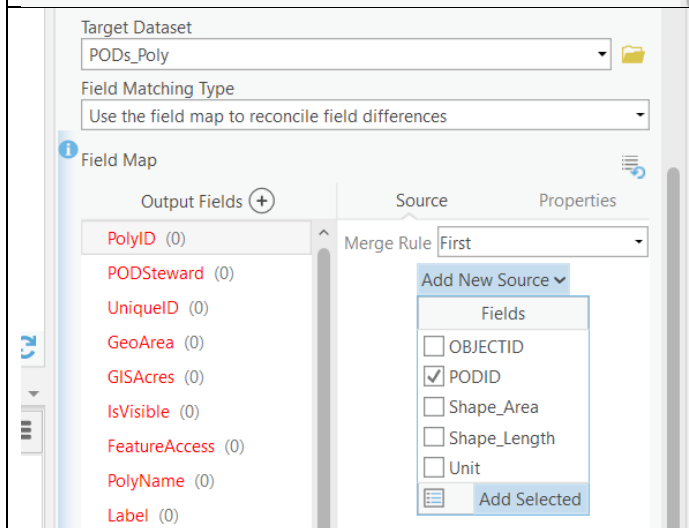


### Append Tool

**Input Dataset** – local unit copy of PODs polygon data (in this example, poly) with no topological issues and PODSteward and PolyID fields populated

**Target Dataset** – Offline Copy of the National PODs Poly feature service

**Field Matching Type** – Use the field map to reconcile field differences

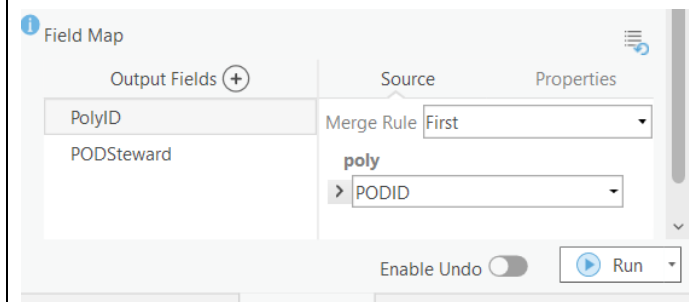


**Field Map Settings** – Crosswalk the fields used in your local data copy to the fields in the Offline Copy of the National PODs Poly feature service

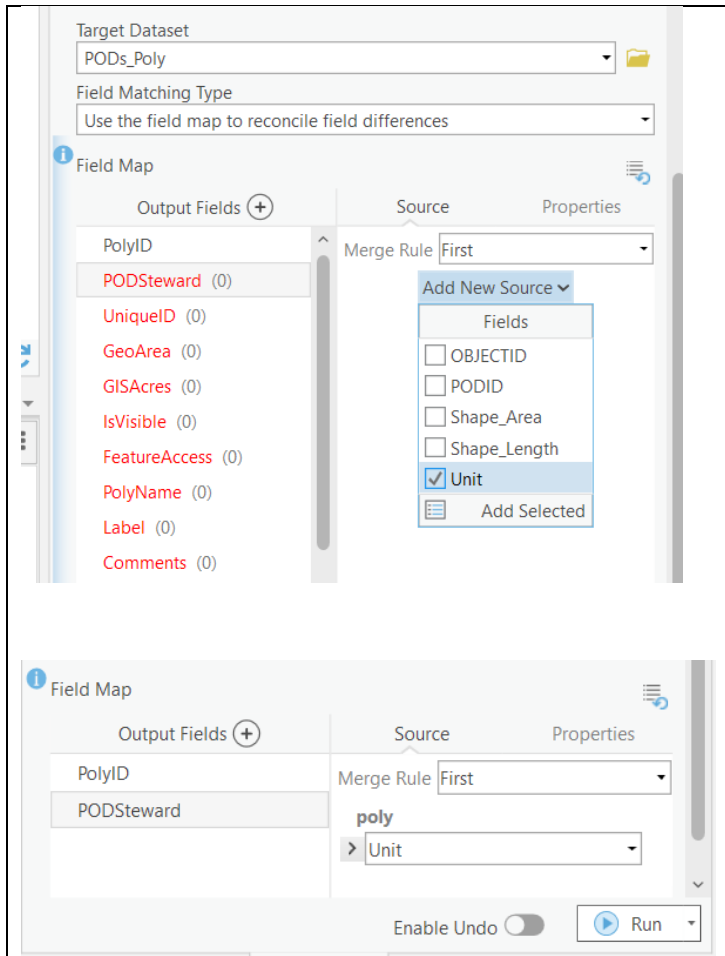
**Output Fields** – Fields in the Offline Copy of the National PODs Poly feature service.

**Source** local unit copy of PODs polygon data

In this example, **PolyID** in Offline Copy of the National PODs Poly feature service will be populated by **PODID** in the local unit copy of PODs polygon data



**Field Map Settings** – Crosswalk the fields used in your local data copy to the fields



in the Offline Copy of the National PODs Poly feature service

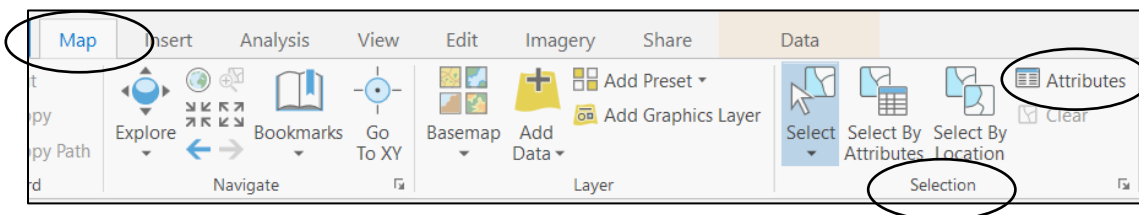
**Output Fields** – Fields in the Offline Copy of the National PODs Poly feature service.

**Source** local unit copy of PODs polygon data

In this example, **PODSteward** in Offline Copy of the National PODs Poly feature service will be populated by **Unit** in the local unit copy of PODs polygon data.

*Using the Attributes Window in the Offline Copy*

The Attributes window is the preferred method for both single and bulk attribute updates because domains are set for many of the fields. Select the records which need to be updated, then use the **Attributes** Button (within the Selection group) in the **Map** Tab to bring up the **Attributes Window**.



Highlight the layer (i.e., PODs\_Line or PODs\_Poly) or individual records (i.e., Line 3 or Line 4 in the example below) which need to be edited.

	<p><b>Attributes Window</b> with edits to occur <i>across</i> the selected records in the PODs_Line Layer</p>																								
<table border="1"> <tr><td>OBJECTID</td><td>(Different Values)</td></tr> <tr><td>POD Line Identifier</td><td>(Different Values)</td></tr> <tr><td>POD Line Data Steward</td><td>ORDEF</td></tr> <tr><td>Unique POD Line ID</td><td>(Different Values)</td></tr> <tr><td>POD Line Geographic Area</td><td>Northwest</td></tr> <tr><td>GIS Miles</td><td>(Different Values)</td></tr> <tr><td>Is Visible</td><td>Yes</td></tr> <tr><td>Feature Access</td><td>Public</td></tr> <tr><td>POD Line Name</td><td>(Different Values)</td></tr> <tr><td>POD Line Label</td><td>ORDEF</td></tr> <tr><td>POD Line Type</td><td>(Different Values)</td></tr> <tr><td>POD Line Status</td><td>(Different Values)</td></tr> </table>	OBJECTID	(Different Values)	POD Line Identifier	(Different Values)	POD Line Data Steward	ORDEF	Unique POD Line ID	(Different Values)	POD Line Geographic Area	Northwest	GIS Miles	(Different Values)	Is Visible	Yes	Feature Access	Public	POD Line Name	(Different Values)	POD Line Label	ORDEF	POD Line Type	(Different Values)	POD Line Status	(Different Values)	<p>Modify values using the domain list, where possible (see table <a href="#">below</a>).</p> <p>In this example, POD Line Geographic Area will be changed to Northwest for all selected Line records.</p>
OBJECTID	(Different Values)																								
POD Line Identifier	(Different Values)																								
POD Line Data Steward	ORDEF																								
Unique POD Line ID	(Different Values)																								
POD Line Geographic Area	Northwest																								
GIS Miles	(Different Values)																								
Is Visible	Yes																								
Feature Access	Public																								
POD Line Name	(Different Values)																								
POD Line Label	ORDEF																								
POD Line Type	(Different Values)																								
POD Line Status	(Different Values)																								

*Field Calculating Selected Records in the Offline Copy*

As mentioned previously, editors should not run *unnecessary* bulk update tools such as Calculate Geometry or custom scripts on the entire Offline copy. However, editing individual records could be labor intensive for a few fields. Consequently, when using Field Calculations, be sure to **select only the records that need to be updated.**

PODs\_Poly X

Field: Selection: Highlighted:

	OBJECTID *	POD Poly Identifier	POD Poly Data Steward	Unique POD Poly ID	POD
1	182	2545	ORDEF		Nort
	185	1	ORDEF		Nort

Click to add new row.

2 of 5 selected

Attribute table for PODs\_Poly in the Offline Copy with 2 of 5 records selected.

PC

1:527,638 122.20974

PODs\_Poly X

Field: Selection: Highlighted:

	OBJECTID *	POD Poly Identifier	POD Poly Data Steward	Unique POD Poly ID	POD Poly Geographic Area *	GIS Acres
1	182	2545	ORDEF		Northwest	6075.425491
	185	1	ORDEF		Northwest	39565.125202

Click to add new row.

Right-click on the column heading and select **Calculate Field**



	<p>Populate according to the <a href="#">table below</a>. In this example, the Unique POD Poly ID is calculated by concatenating POD Poly Identifier and POD Poly Data Steward using a Python Expression Type.</p>
--	--

The table below documents how best to populate fields using in National PODs Features Service. Refer to the [NWCG Data Standard](#) for additional detail on field definitions.

Recommended Methods to Populate the PODs\_Line and PODs\_Poly Attribute Tables  
*Fields with an \* are required according to the NWCG Data Standard*

Standard	Field	Alias	Recommended Procedure to Populate
Line/Poly	*LineID/PolyID	POD Poly/Line Identifier	<a href="#">Append Tool</a>
Line/Poly	*PODSteward	POD Poly/Line Data Steward	<a href="#">Append Tool</a>
Line/Poly	*UniqueID	Unique POD Poly/Line ID	<p><a href="#">Field Calculation on Selected Records or Append Tool</a></p> <p>Concatenate Poly/Line ID with PODSteward</p> <p><i>Python Expression Type</i></p> <p>UniqueID = !PolyID!!PODSteward!</p> <p>OR</p>

			<p>UniqueID = !LineID!!PODSteward!</p> <p><i>Arcade Expression Type</i></p> <p>\$feature.PolyID + \$feature.PODSteward</p> <p>OR</p> <p>\$feature.LineID + \$feature.PODSteward</p>
Line/Poly	*GeoArea	POD Poly/Line Geographic Area	<p><u>Attributes Window</u></p> <p>Modify records using domain list.</p> <p><i>GeoArea Codes are two letters (e.g., NW) while the descriptions are the full name (Northwest). The Append Tool will copy the description, rather than the code, breaking the GIS Edit View definition.</i></p>
Poly	*GISAcres	GIS Acres	<p><u>Field Calculation on Selected Records or Append Tool</u></p> <p>Calculate Geometry using Area, International Acres in the local unit projection on Selected Records.</p>
Line	*GISMiles	GIS Miles	<p><u>Field Calculation on Selected Records or Append Tool</u></p> <p>Calculate Geometry using Length, Statue Miles on Selected Records.</p>
Line/Poly	IsVisible	Is Visible	<p><u>Append Tool or Attributes Window</u></p> <p>Defaults to Yes.</p> <p><i>Modify for local cartographic needs.</i></p> <p><i>Domain driven field, use caution if using the Append Tool</i></p>
Line/Poly	*FeatureAccess	Feature Access	<p><u>Attributes Window</u></p> <p>Defaults to Restricted.</p> <p><i>Restricted features will be visible in Edit Views within NIFC AGOL Only. Choose <b>Public</b> if the Feature has been approved for NIFC AGOL org and public viewing. Choose <b>Cooperators</b> if the Feature has been approved for NIFC AGOL Org (Internal) viewing only.</i></p>
Line/Poly	Poly/Line Name	POD Poly/Line Name	<p><u>Append Tool</u></p> <p>Determined by Local Unit</p>
Line/Poly	Label	POD Poly/Line Label	<p><u>Append Tool</u></p>

			<p>Determined by Local Unit</p> <p><i>Note that this field can be used for finer scale control over labeling/pop-ups. The POD Label field was added to the standard to give maximum flexibility in how data is displayed in a map or pop-up. Units can populate the POD Label with whatever they want if other fields do not adequately capture intent.</i></p>
Line	LineType	POD Line Type	<p><u>Attributes Window</u></p> <p>Modify records using domain list</p>
Line	LineStatus	POD Line Status	<p><u>Attributes Window</u></p> <p>Modify records using domain list</p>
Line/Poly	Comments	POD Poly/Line Comments	<p><u>Append Tool</u></p> <p>Determined by Local Unit</p> <p><i>This attribute will not be visible when Feature Access = Public</i></p>
Line/Poly	*Version Date	POD Poly/Line Version Date	<p><u>Append Tool or Attributes Window</u></p> <p>Modify records using the calendar, recording time in UTC.</p> <p><i>Note that time is recorded in UTC and adjusted by AGOL for your local time zone. For example, 1/4/2023 1100 recorded in UTC displays as 1/4/2023 0300 in AGOL in Pacific Time Zone while 1/4/2023 0500 in recorded in UTC displays as 1/3/2023 2100 in AGOL in Pacific Time Zone.</i></p> <p><i>Ensure that you pick a UTC time which does result in a date switch in AGOL.</i></p>
Line/Poly	*ContactName	POD Poly/Line Contact Name	<p><u>Field Calculation on Selected Records or Append Tool</u></p> <p>Determined by Local Unit</p> <p><i>This attribute will not be visible when Feature Access = Public</i></p>
Line/Poly	*ContactPosition	POD Poly/Line Contact Position	<p><u>Field Calculation on Selected Records or Append Tool</u></p> <p>Determined by Local Unit</p>

			<i>This attribute will not be visible when Feature Access = Public</i>
Line/Poly	*ContactEmail	POD Poly/Line Contact Email	<u>Field Calculation on Selected Records or Append Tool</u>  Determined by Local Unit  <i>This attribute will not be visible when Feature Access = Public</i>
Line/Poly	*GlobalID, CreationDate, Creator, EditDate, Editor	GlobalID, CreationDate, Creator, EditDate, Editor	Automatically populated in the Offline Copy when a new record is added. No action needed.  <i>These attributes will not be visible when Feature Access = Public</i>

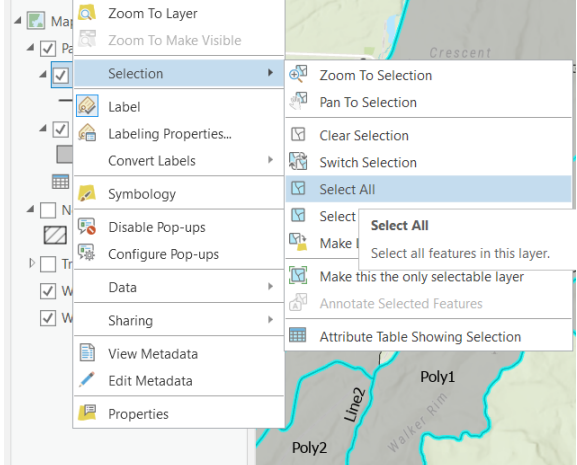
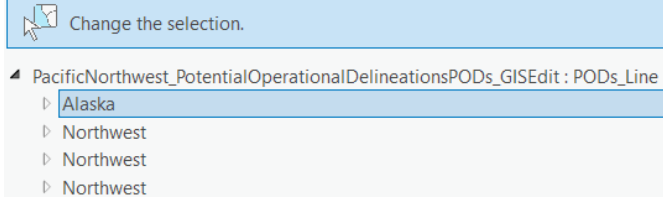
*QA/QC of PODs\_Poly and PODs\_Lines*

As noted in [Data Preparation](#), there is currently not a great way for handling topology in services. Topological QA/QC should be performed prior to loading data into the Offline Copy.

The **Display Field** settings under **Layer Properties** and the **Attributes Window** can be leveraged as a quality control tool to ensure that the data is fully attributed and/or attributed as intended.

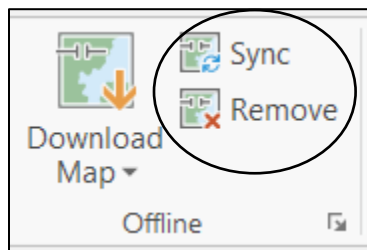
*Example: You want to ensure that all your line features have the correct Geographic Area.*

	<p>Right-click on PODs_line layer in the Contents pane. Change the <b>display field</b> to POD Line Geographic Area</p>
--	---

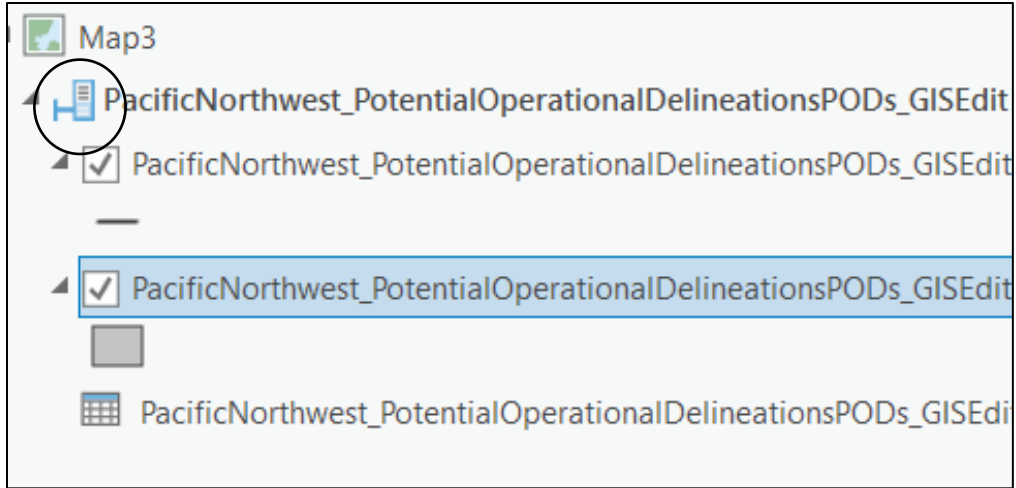
	<p>Right-click on PODs_Line and <b>Select All</b>.</p>
	<p>In the <b>Attributes Window</b>, it is evident that one of the PODs_Line features in the Northwest is mislabeled as Alaska.</p> <p>Rectify the error and repeat this process for other attributes.</p>

### Sync Edits in the Offline Copy

When POD Poly and Line Edits are complete, Sync the Offline Copy. Note that a copy of your Mobile Geodatabase will persist in on your C drive, even if you Remove. **This is a known bug**, not a feature, and may be rectified in future updates.



Once the Offline Copy has been removed, change the Contents pane to List by Data Source and confirm that the source for the PODs Poly and PODs Lines GIS Edit Service are feature services (service symbol). Note that due to a potential bug, when the Contents pane is changed to List by Source, you may or may not see the PODs\_Lines\_HAVE\_Polys relationship table.



## Appendix A – Implementation Checklist

### Initial Steps

Leadership for each Geographic Area designates Geographic POD Editors (GPEs) and establishes a plan for uploading and managing data within the National PODs Feature Service.

- *GPEs must be familiar with editing a feature service using an Offline Copy. NIFC AGOL Data Manager role is preferred.*
- *GPEs must have or request a [NIFC AGOL](#) account*
- *Names and NIFC AGOL usernames of GPEs should be submitted to the [PODs Dataset Owner](#) for inclusion in the appropriate editing group*

GPEs locate the latest version of the PODs Data they are responsible for uploading and managing.

### Data Preparation

GPEs rectify any topological issues and create polys from lines/lines from polys, as necessary

GPEs ensure that required fields are fully attributed according to the PODs Line/Poly [NWCG data standard](#)

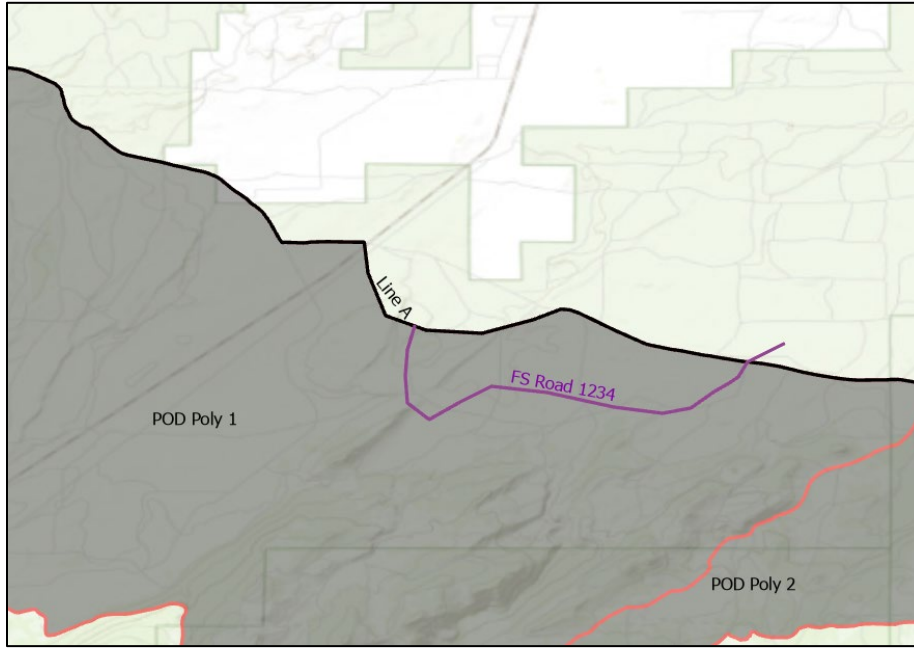
### Loading/Editing Data

GPEs create an Offline Copy of their area of responsibility, append data, perform edits, populate fields in the attribute table, perform QA/QC, and then sync edits. GPEs should consult [Best Practices for Working with the National PODs Feature Service](#) and [Recommended Methods to Populate/Edit the PODs Line and PODs Poly Attribute Tables](#)

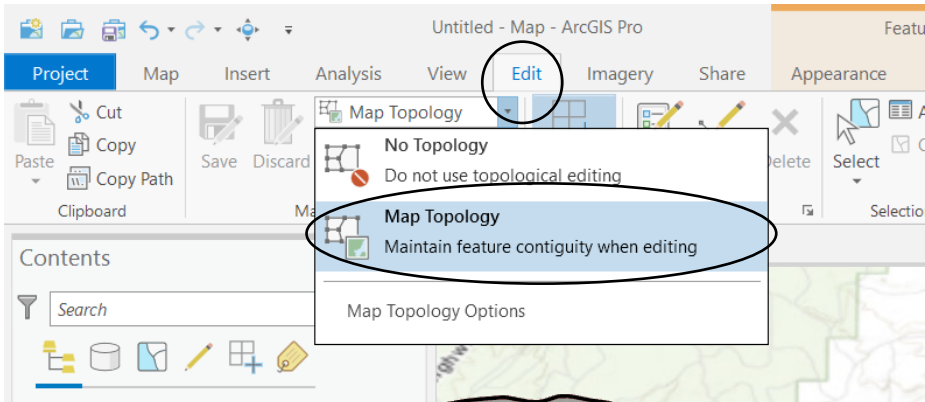
## Appendix B – Editing Features in the Offline Copy

### Modify Features using Map Topology

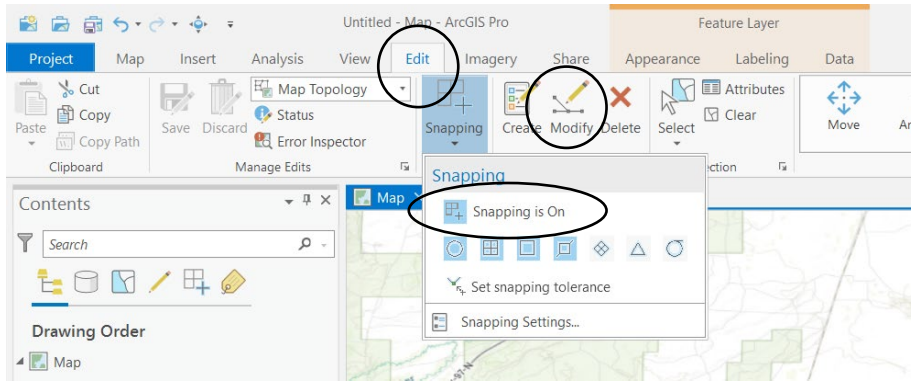
Example: *POD Poly 1 and POD Line A need to be adjusted to follow FS Road 1234*



Select the Poly (POD Poly 1) and Line (Line A) that need to be adjusted. On the **Edit** Tab, ensure that **Snapping** and **Map Topology** (Manage Edits Group) **are On** and Select **Modify**.

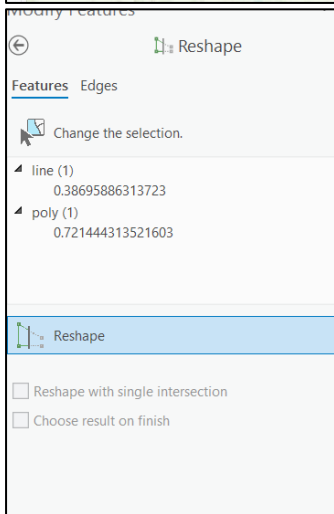
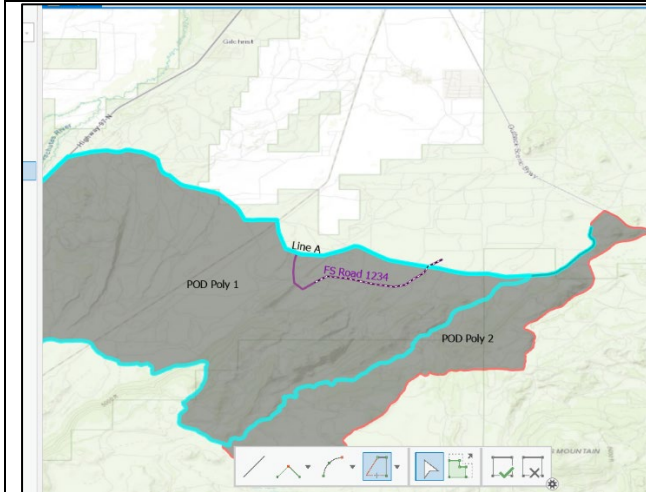






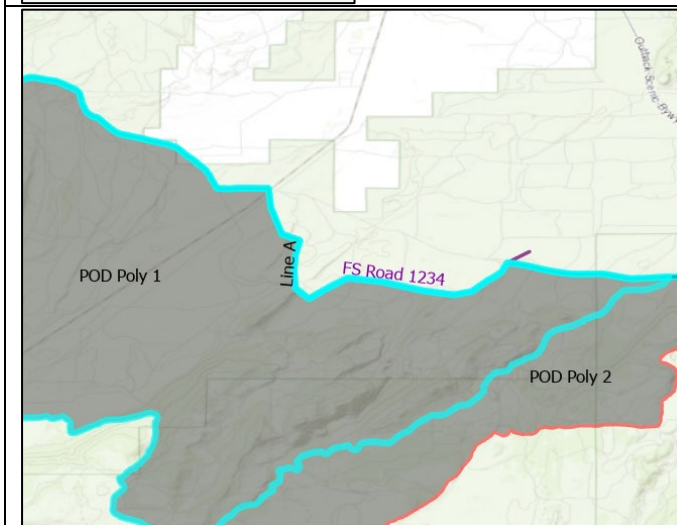
In the **Modify Features** window, locate the **Reshape** Tool in the **Reshape** Group. Reshape the feature using the trace tool. Use the Attributes Window to adjust attributes, if necessary. Open the **Attributes Table** and **Calculate Geometry** on **selected records** to update acres and miles. After completing edits, [perform QA/QC](#) using the Attributes Window, sync and remove the Offline Copy, and adjust the [relationship table](#), as needed. See screen shots below for more detail.

<p>The screenshot shows the 'Modify Features' window with a search bar at the top. Below the search bar are two tabs: 'All Tools' and 'My Tools'. Under 'All Tools', there is a list of tools. The 'Reshape' group is expanded, showing several tools: 'Edit Vertices', 'Reshape', 'Replace Geometry', 'Replace Multipatch', 'Multipatch Texture', 'Continue Feature', 'Extend or Trim', 'Fillet', 'Generalize', and 'Line Intersection'. The 'Reshape' tool is highlighted with a mouse cursor.</p>	<p><b>Modify Features</b> window.</p> <p>The <b>Reshape</b> tool is located in the <b>Reshape</b> group.</p>
--	--



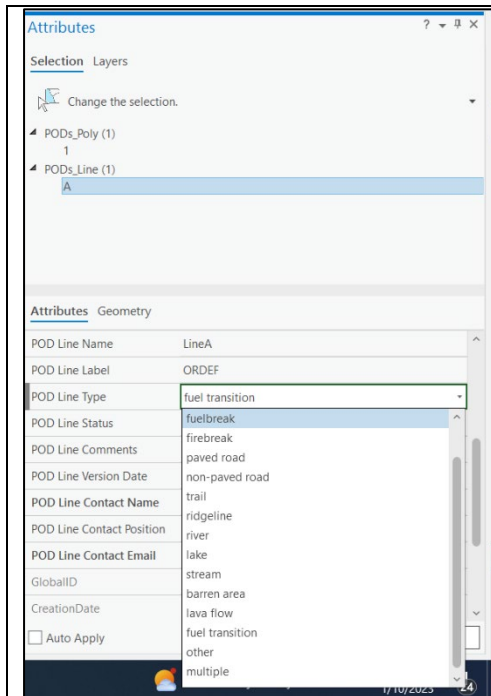
With both features to be edited selected, use the **Trace** tool to trace along the road (FS Road 1234) which POD Poly 1 and Line A are to follow.

Note that you must start and end tracing outside of the selected polygon and line.

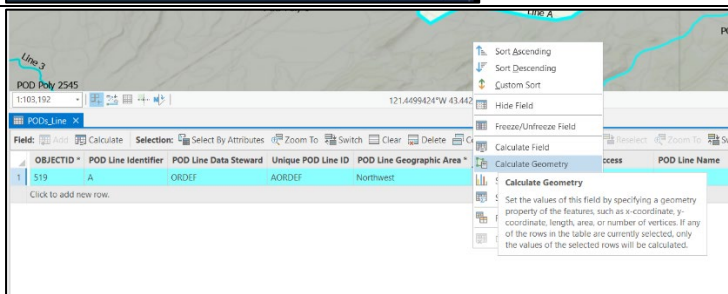


Poly 1 and Line A are adjusted simultaneously.

*Note that this technique can also be used to adjust the boundary between 2 polygons.*

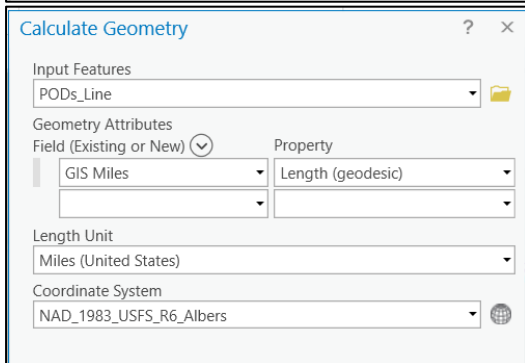


Adjust attributes as needed using the **Attributes Window**.



Calculate **Geometry** to update miles/acres on the **selected records only** in the local coordinate reference system using geodesic length/area.

Ensure everything is attributed as intended by [performing QA/QC](#)



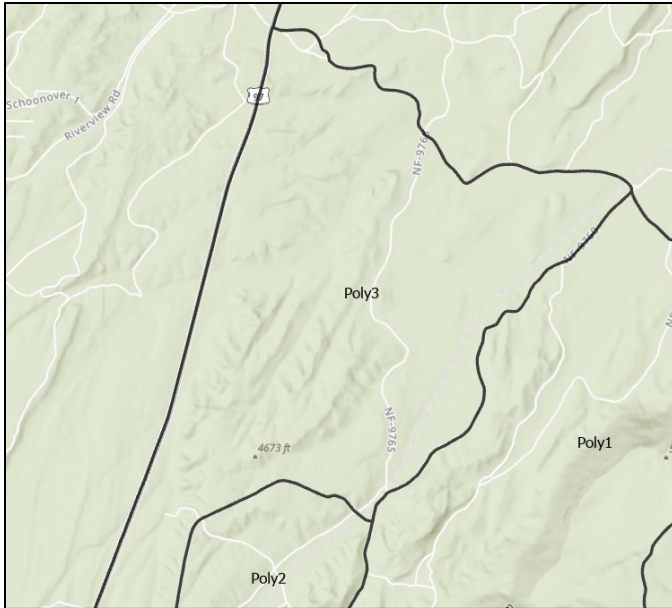
**Sync Edits and Remove** the Offline Copy to adjust the [Relationship Table](#), as needed.

In this example, no modifications to the relationship table are needed.

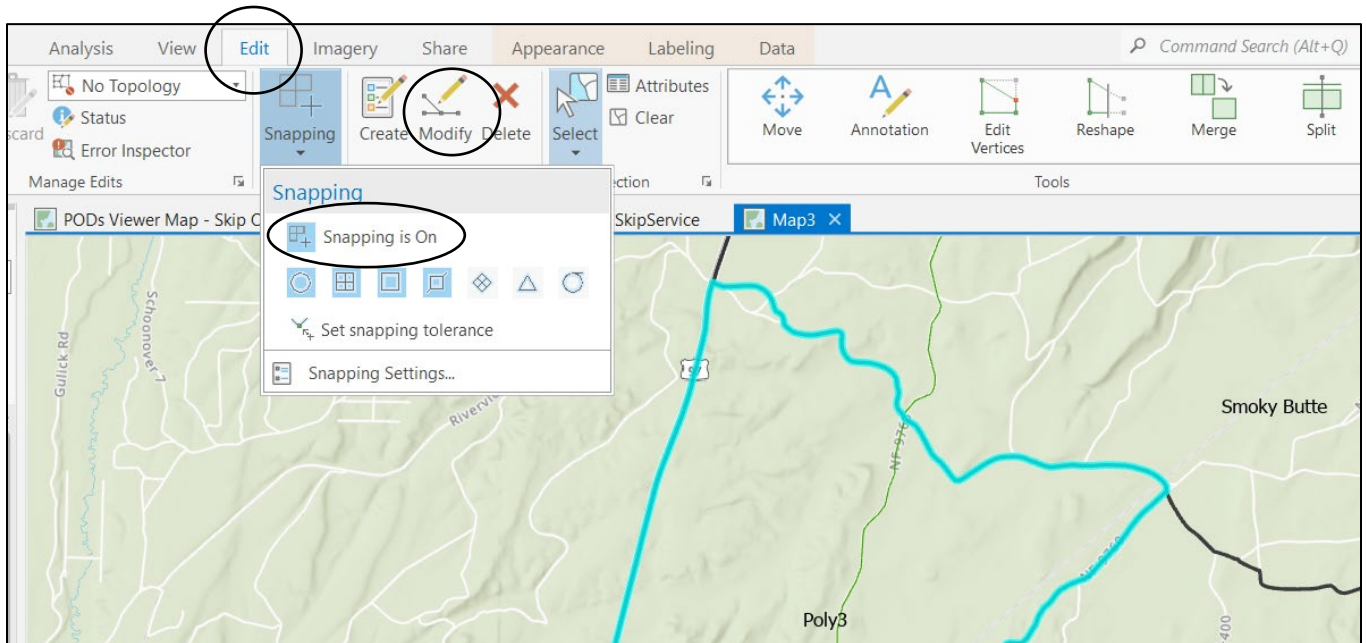
### Splitting a POD Poly based on a feature

*Example: POD Poly 3 needs to be split into two separate PODS along FS Road 9765.*

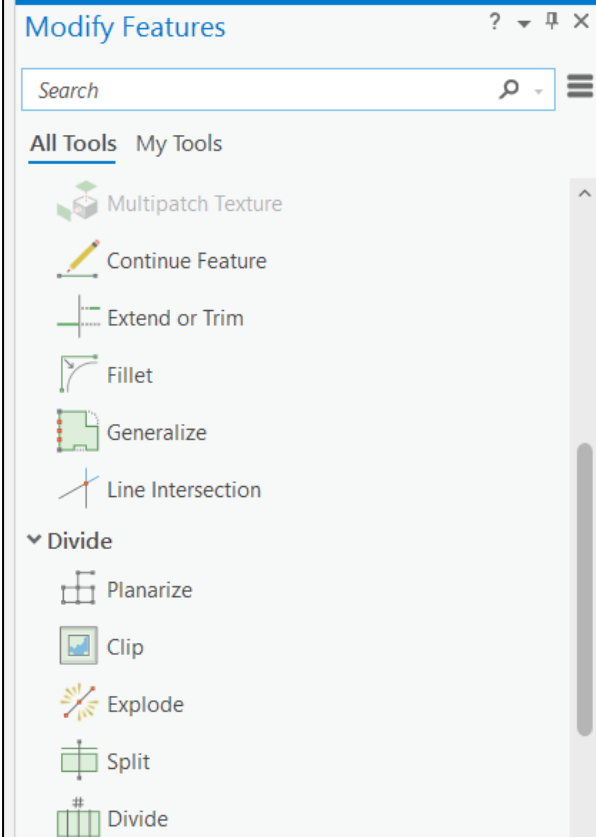
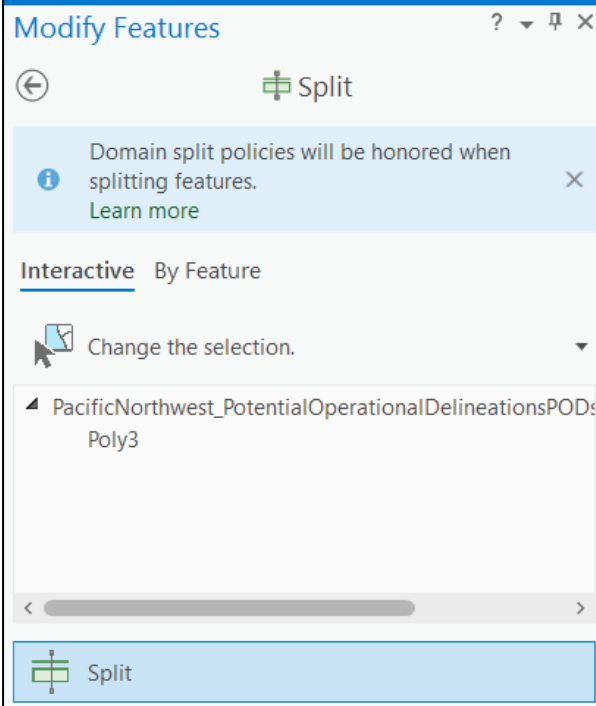
Even though FS Road 9765 is visible on the Basemap, locate a GIS depiction of FS Road 9765. Avoid hand-digitizing of major features, when feasible. *Note that ESRI's Living Atlas has a national level [transportation service](#).*

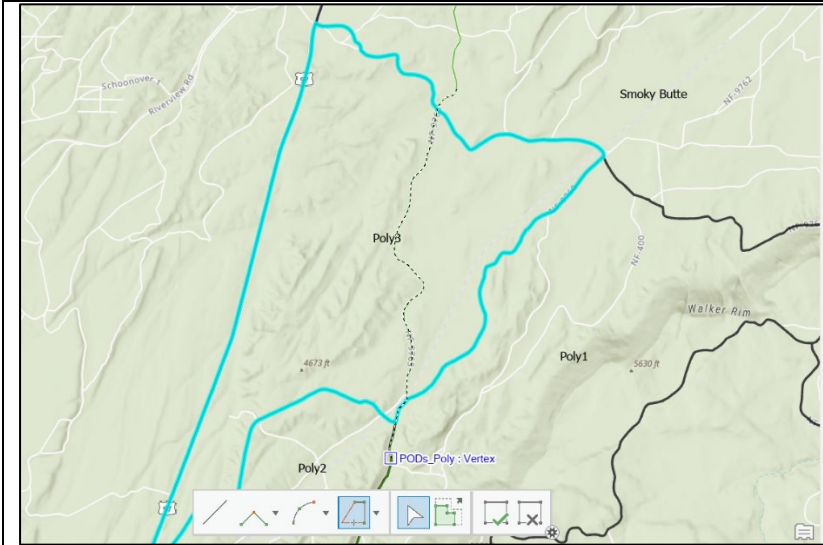


Select the Poly to be split. On the **Edit** Tab, ensure that **Snapping is On**, and Select **Modify**.



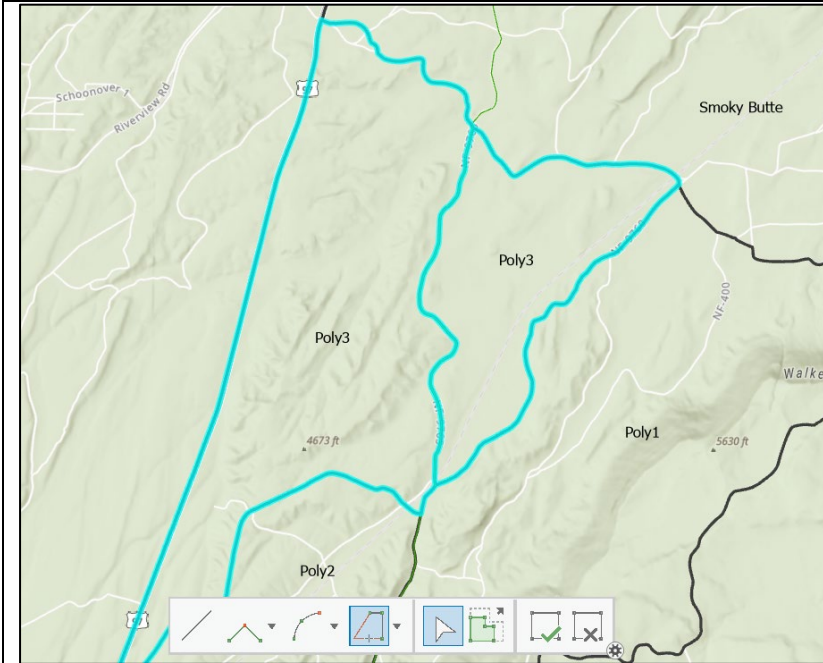
In the **Modify Features** window, locate the **Split** Tool in the **Divide** Group. You can split using **Interactive** (use the trace tool to execute the split) or by **Feature** (adjust the target and input). The attributes of the original poly will be duplicated in the split polys. Use the **Attributes Window** to adjust attributes of the split polys. Open the **Attributes Table** and **Calculate Geometry** on **selected records** to update the acres. After completing edits, [perform QA/QC](#) using the Attributes Window, sync and remove the Offline Copy, and adjust the [relationship table](#), as needed. See screen shots below for more detail.

 <p>The screenshot shows the 'Modify Features' window with a search bar at the top. Below the search bar are two tabs: 'All Tools' and 'My Tools'. A list of tools is displayed, including 'Multipatch Texture', 'Continue Feature', 'Extend or Trim', 'Fillet', 'Generalize', 'Line Intersection', and a collapsed 'Divide' group. The 'Divide' group is expanded, showing 'Planarize', 'Clip', 'Explode', 'Split', and 'Divide'. The 'Split' tool is highlighted with a green background.</p>		<p>Modify Features window. The <b>Split</b> tool is located in the Divide group</p>
 <p>The screenshot shows the 'Modify Features' window with the 'Split' tool selected. A message box at the top states: 'Domain split policies will be honored when splitting features. Learn more'. Below this, there are two tabs: 'Interactive' and 'By Feature'. The 'Interactive' tab is selected. Underneath, there is a 'Change the selection.' dropdown menu with a mouse cursor over it. Below the dropdown, a feature is listed: 'PacificNorthwest_PotentialOperationalDelineationsPODs Poly3'. At the bottom, there is a 'Split' button with a green background.</p>		<p>With the feature selected, split by <b>Interactive</b> or by <b>Feature</b>.</p>



Use the **Trace** tool to trace along the road which Poly 3 is to be split by.

Note that you must start and end tracing outside of the selected polygon.



The original Poly is divided along the road. The attributes are duplicated.



**Attributes** ? ▾ ↕ ✕

**Selection** Layers

Change the selection. ▾

▾ PacificNorthwest\_PotentialOperationalDelineations

- ▾ Poly3
- ▾ Poly3.5

---

**Attributes** Geometry

OBJECTID	196
POD Poly Identifier	2546
POD Poly Data Steward	ORDEF
Unique POD Poly ID	2546ORDEF
POD Poly Geographic Area	Northwest
GIS Acres	6075.425491
Is Visible	Yes
Feature Access	Public
POD Poly Name	Poly3.5
POD Poly Label	ORDEF
POD Poly Comments	<Null>

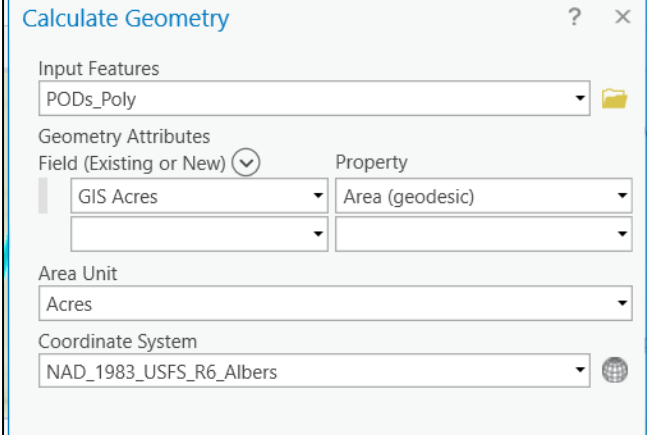
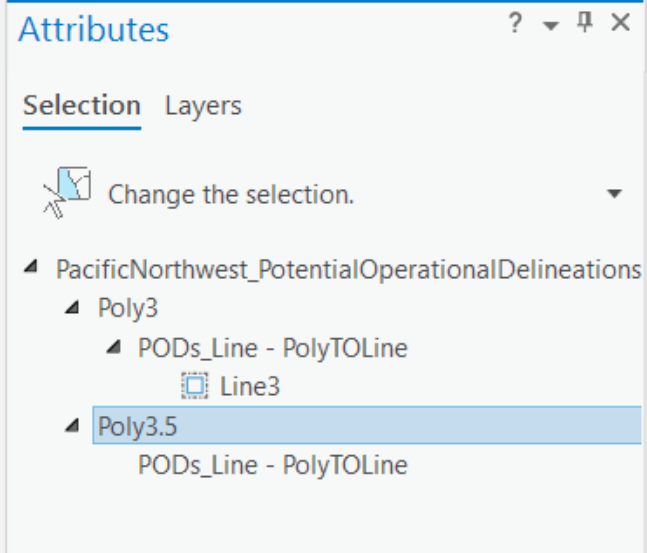
The eastern Poly is renamed to Poly 3.5 and all other attributes are adjusted as needed using the **Attributes Window**.

Sort Ascending  
Sort Descending  
Custom Sort  
Hide Field  
Freeze/Unfreeze Field  
Calculate Field  
**Calculate Geometry**  
Statistics  
Summarize  
Fields  
Delete

**Calculate Geometry**  
Set the values of this field by specifying a geometry property of the features, such as x-coordinate, y-coordinate, length, area, or number of vertices. If any of the rows in the table are currently selected, only the values of the selected rows will be calculated.

Feature Access	POD Poly Name	POD Poly Label
		ORDEF
		ORDEF

**Calculate Geometry** to update acres on the **selected records only** in the **local coordinate reference system** using **geodesic area**.

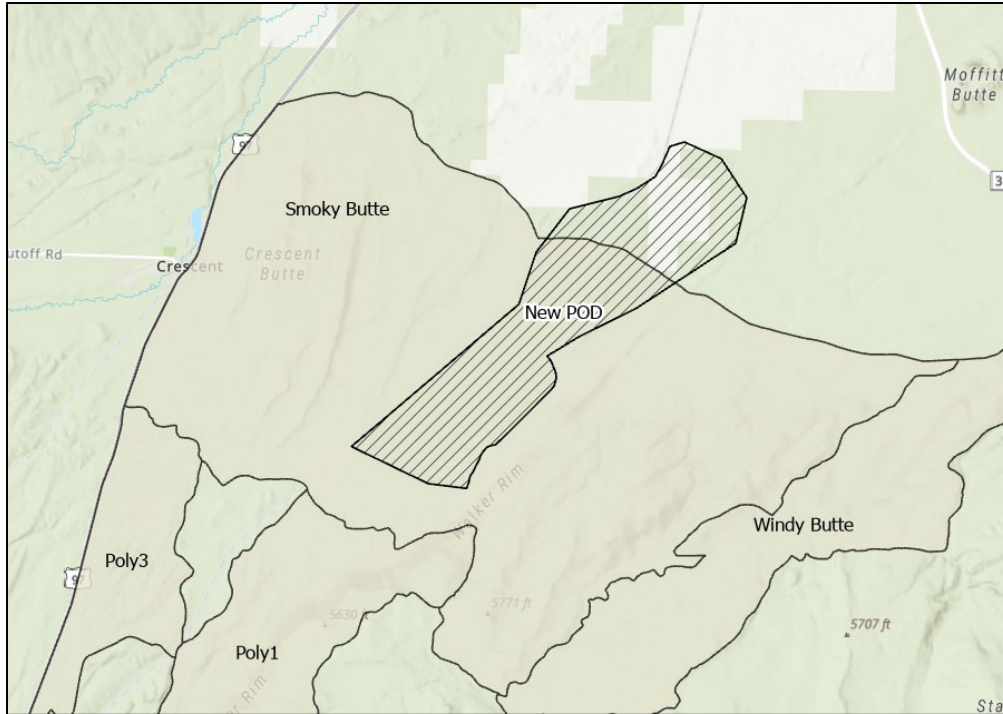
		
		<p>Ensure everything is attributed as intended by <a href="#">performing QA/QC</a></p> <p><b>Sync Edits and Remove</b> the Offline Copy to adjust the <a href="#">Relationship Table</a> as needed.</p> <p>In this example, Poly 3 is related to Line3 while Poly 3.5 is not part of a relationship.</p>

### *Create a New POD Poly without Overlap*

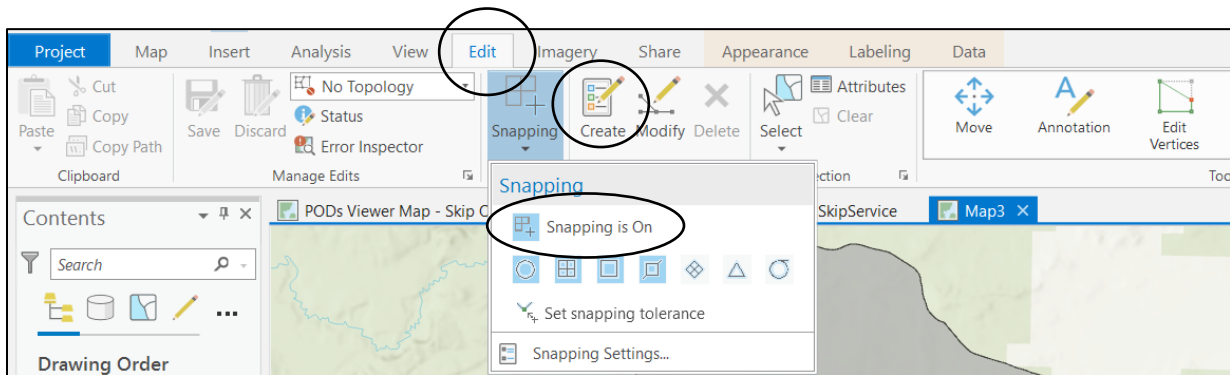
A technique that may be useful if an additional PODs\_Poly is needed is to **create a new polygon without overlap**.

*Example: A new POD, called “New POD” needs to be added to the PODs\_Poly layer. New POD is on top of the Smoky Butte POD.*

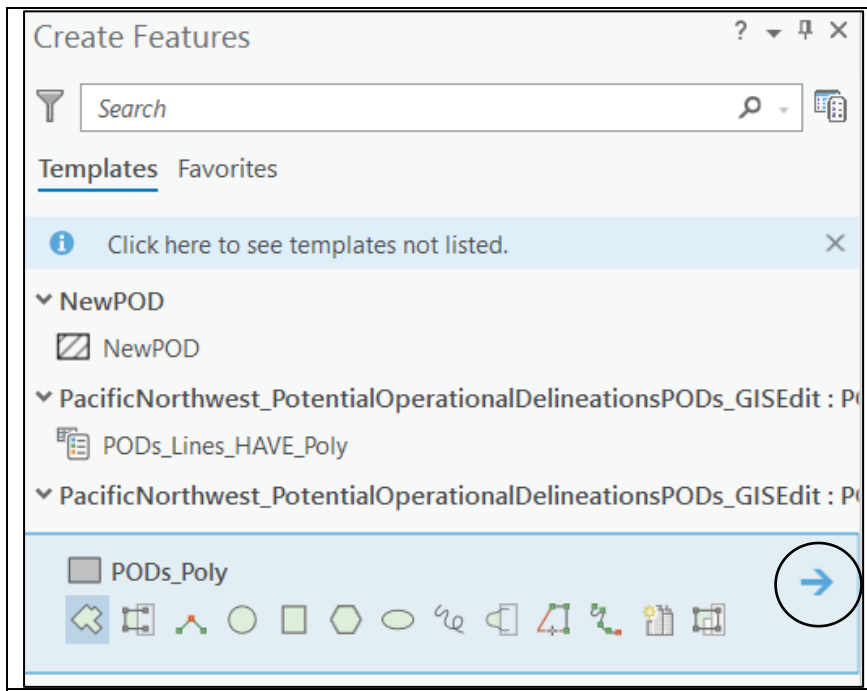




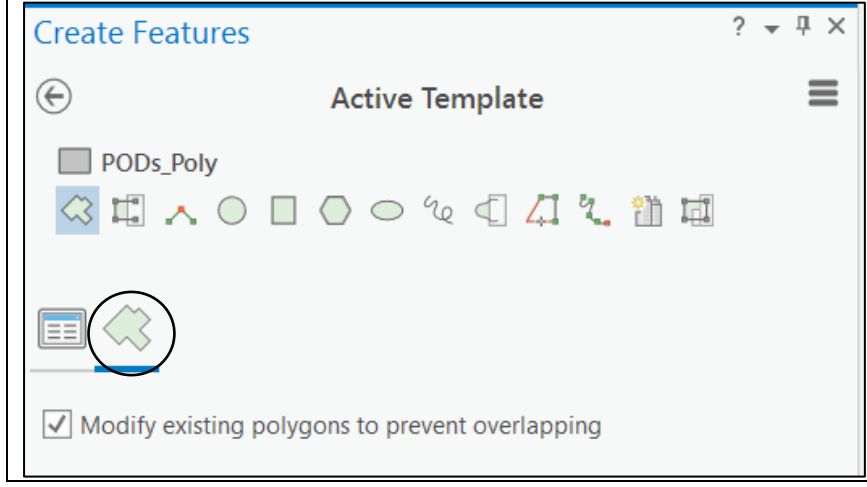
On the **Edit** Tab, ensure that **Snapping is On**, and Select **Create**. Select the New POD in the map.



In the **Create Features** window, Highlight the **PODs\_Poly** layer and Select **“Open the Active Templates”** pane. In the **Active Templates** Window, select the polygon symbol and place a check mark next to **“Modify existing polygons to prevent overlapping”**. Return to the Create Features Window. Use the trace tool to trace the New POD. The New POD is created without overlapping the Smoky Butte POD. Use the **Attributes Window** to enter attributes for the New POD. Open the **Attributes Table** and Calculate Geometry to update the Acres of both polys impacted by this change (**selected records only**). After completing edits, [perform QA/QC](#) using the Attributes Window, sync and remove the Offline Copy, and adjust the [relationship table](#), as needed. See screen shots below for more detail.



**Create Features** Window with PODs\_poly selected. Use the blue arrow to open the **Active Templates** Window.



In the **Active Templates** Window, select Create a Polygon Feature and place a check mark next to "Modify existing polygons to prevent overlapping".



Attributes

Selection Layers

Change the selection.

- PacificNorthwest\_PotentialOperationalDelineationsPODs\_GISEdit : PODs\_Poly
  - New POD
  - Smoky Butte

Attributes Geometry

OBJECTID	193
POD Poly Identifier	123
POD Poly Data Steward	ORDEF
Unique POD Poly ID	123ORDEF
POD Poly Geographic Area	Northwest
GIS Acres	0
Is Visible	Yes
Feature Access	Public
POD Poly Name	New POD
POD Poly Label	ORDEF
POD Poly Comments	<Null>

Use the **Attributes Window** to update the attributes for New POD.

Windy Butte

- Sort Ascending
- Sort Descending
- Custom Sort
- Hide Field
- Freeze/Unfreeze Field
- Calculate Field
- Calculate Geometry
- Statistics
- Summarize
- Fields
- Delete

Attributes Geometry

OBJECTID	193
POD Poly Identifier	123
POD Poly Data Steward	ORDEF

Calculate Geometry

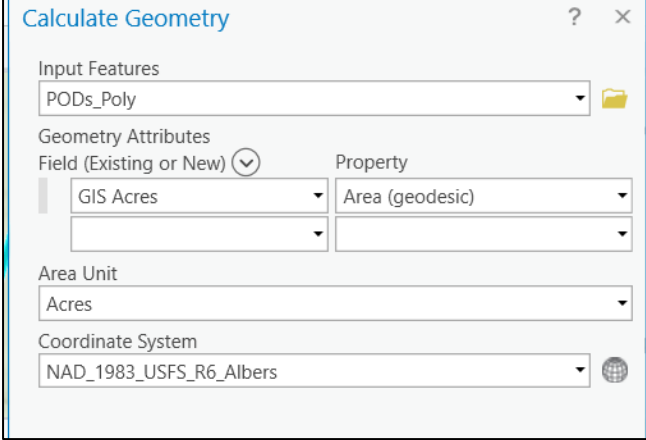
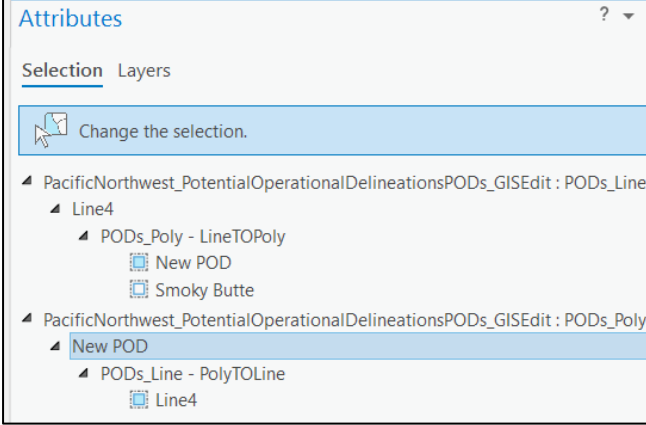
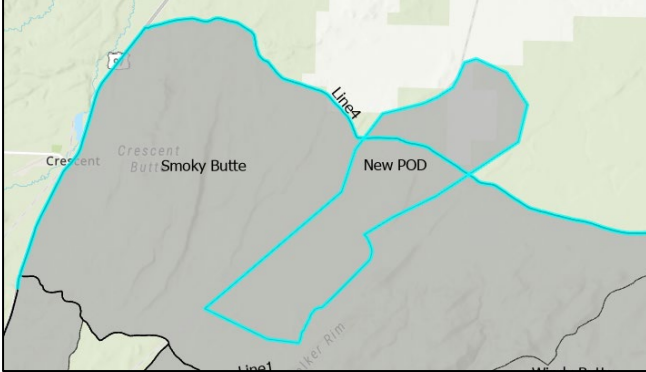
Set the values of this field by specifying a geometry property of the features, such as x-coordinate, y-coordinate, length, area, or number of vertices. If any of the rows in the table are currently selected, only the values of the selected rows will be calculated.

Poly ID	POD Poly Geographic Area *
Northwest	Northwest
Northwest	Northwest

Feature Access: Public

POD Poly Name: New POD

**Calculate Geometry** to update acres on the **selected records only** in the **local coordinate reference system** using **geodesic area**.

		
		<p>Ensure everything is attributed as intended by <a href="#">performing QA/QC</a></p> <p><b>Sync Edits and Remove</b> the Offline Copy to adjust the <a href="#">Relationship Table</a> as needed.</p> <p>In this example, Line 4 is related to New POD and Smoky Butte.</p>
		<p>New POD is related to Line 4</p>

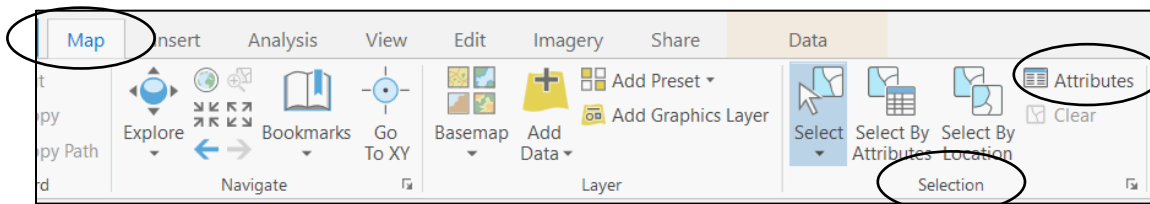
## Appendix C. Assigning the Relationship: PODs\_Lines\_HAVE\_Polys Relationship Table

**Note that an automated process is currently being explored to replace manual assignment of the Relationship.** A Unit can manually assign the relationship if desired, at any time. Prior to doing this, each PODs Line should be split at each PODs Poly junction.

If editing relationships is not something you are familiar with, please review the ArcPro documentation on [Editing Relationships](#).

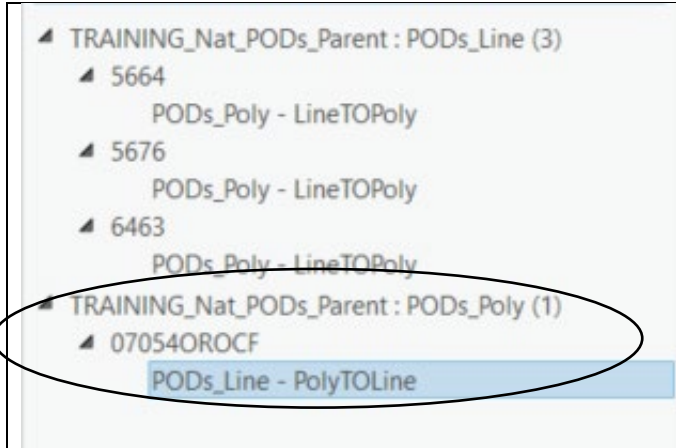
Once your edits have been synced. Remove the Offline Copy and **select one poly and the lines that are related to this poly.**

Use the **Attributes** Button (within the Selection group) in the **Map** Tab to bring up the attributes window.

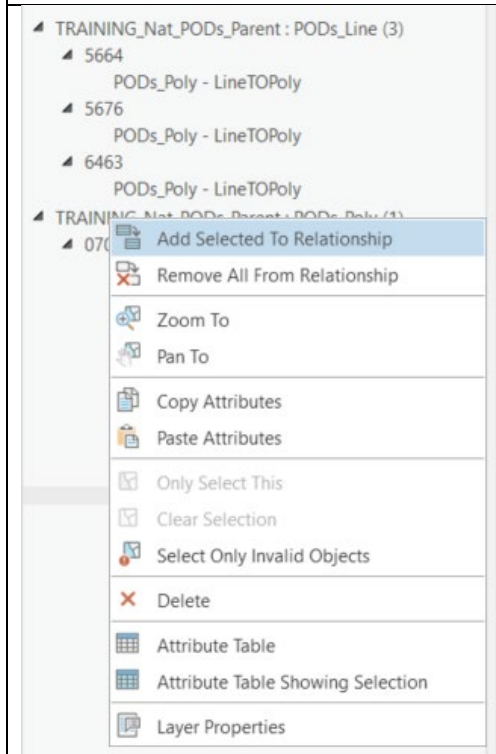


Expand the drop down next to the **poly** that you have selected. Right-click on the relationship (PODs\_Line– PolyTOLine) and select “Add Selected to Relationship”. This will create a record in the relationship table for each poly/line combination. Note that you **DO NOT** need to also add each relationship under the PODs Line (LineTOPoly); this will result in duplicate relationships in the relationship table.

<ul style="list-style-type: none"><li>TRAINING_Nat_PODs_Parent: <b>PODs_Line (3)</b><ul style="list-style-type: none"><li>5664</li><li>5676</li><li>6463</li></ul></li><li>TRAINING_Nat_PODs_Parent: <b>PODs_Poly (1)</b><ul style="list-style-type: none"><li>07054OROCF</li></ul></li></ul>	<p><b>Attributes Window</b> showing relationships available for <b>selected</b> lines (three lines selected) and polys (one poly selected)</p>
---	--



Expand the drop down next to the PODs\_Poly layer to view the relationship, PODs\_Line – PolyTOLine.



Right-click the PODs\_Line – PolyTOLine and select **Add Selected to Relationship**.

Add only **one relationship**. Adding the LineTOPoly relationships is unnecessary and will result in duplication within the relationship table.

See screen shots below for more detail related to duplication.

You can verify that the relationship was added by opening the relationship table and verifying your addition OR through the **Attributes Window**.

REL_Line_GlobalID *	REL_Poly_GlobalID *	RID *	GlobalID *
{98f747ea-7ee6-4cd9-a763-e1269c23809e}	{bd2fd7e6-6b52-4026-b0c2-c429818893cf}	134	{af2fd8b7-8fb7-4eee-ab86-87e73cd94956}
{30e62d37-ed1a-443a-a29c-3d89707f35d3}	{bd2fd7e6-6b52-4026-b0c2-c429818893cf}	135	{0a3d324b-c030-410b-958d-758b6c1f118d}
{ebe24686-02f3-4b0d-b926-c26d572f9cd6}	{bd2fd7e6-6b52-4026-b0c2-c429818893cf}	136	{853ae2dc-3672-420d-b87e-8659aaf5c613}

Attribute Table for the Relationship showing **3 different Lines** (different REL\_Line\_GlobalIDs) associated with **1 Poly** (same REL\_Poly\_GlobalID).



In the Attributes Window, the added relationship, LineTOPoly and PolyTOLine, is indicated by an outlined blue square. Note that you may have to remove and then re-add your service to see the outlined blue square, often there is a delay.

	<p><b>Attributes Window</b> showing that:</p> <p>Lines 5664, 5676, and 6463 are related to Poly 07054OROCF  AND  Poly 07054OROCF is related to Lines 5664, 5676, and 6463</p>
--	---

Note that Editors should NOT add the selected relationship to **both** LineTOPoly and PolyTOLine. This will result in duplicate relationships within the relationship table. NPEs will periodically check for and remove duplicate relationships.

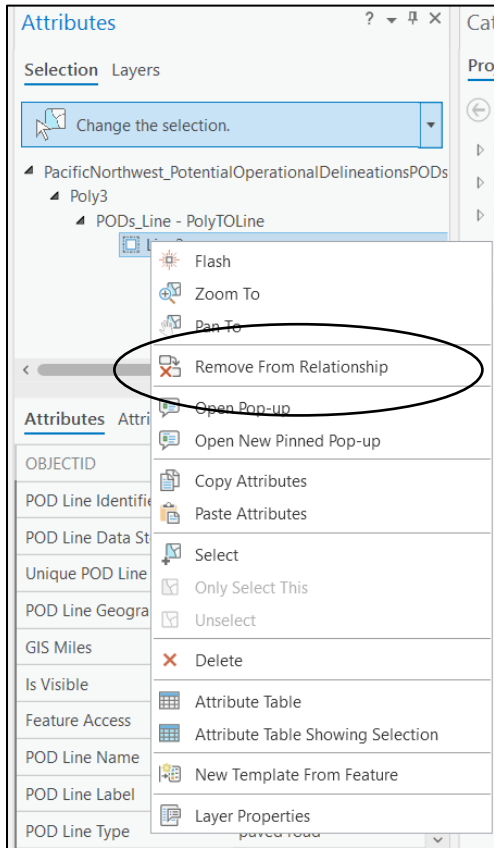
Duplicate relationships will have the same REL\_PolyGlobalID and REL\_Line GlobalID in two rows of the table, but with a different RID and GlobalID.

	REL_Line_GlobalID *	REL_Poly_GlobalID *	RID *	GlobalID *
1	{E2DF41B5-7A7B-479F-A5B0-F4E887F01C03}	{EC6443C3-E888-48BF-B7C1-6AB1865AECED}	15	{A24482A4-B0AC-4671-B8A1-6EB8062985CA}
2	{E2DF41B5-7A7B-479F-A5B0-F4E887F01C03}	{EC6443C3-E888-48BF-B7C1-6AB1865AECED}	16	{E587A848-3CAB-4AAD-AC93-9348E96D0AA9}

To remove an unwanted relationship, select a line, poly, or line AND poly, open the **Attributes Window**, and select “Remove From Relationship” (or “Remove All From Relationship”, if more than one



relationship is selected). *Note that you may have to remove and then re-add your service to see the change because there is often a delay.*



## Acknowledgments

Many thanks to Skip Edel, Walker Henry, and entire NIFC Administration team for providing guidance and allowing us to build this document using their robust documentation for the National Incident Feature Service. We are greatly appreciative of the testers, reviewers, and for everyone that submitted a response to the PODs Feedback Survey. We also appreciate the NWCG Geospatial and Fire Planning Subcommittees for approving the standard upon which the National PODs Feature Service is based on.