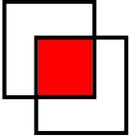


The Intersect Polygons Tool



The NRCS-MI Intersect Polygons tool will create a new polygon graphic or feature based on the area shared by the currently selected features.

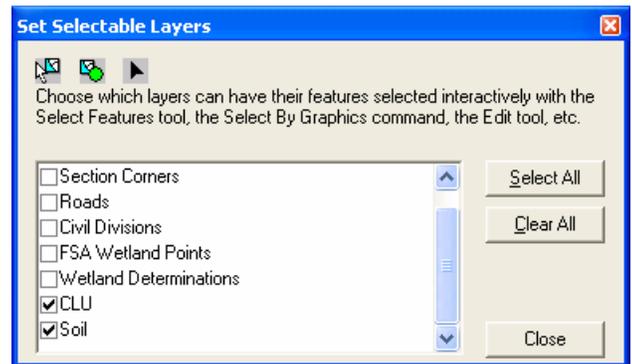
Selecting Features

The Intersect tool considers the selected features from all visible layers; therefore it is critical that the user first set the selectable layers to include only the layers of interest.

1. Click the  **Selectable Layers** button

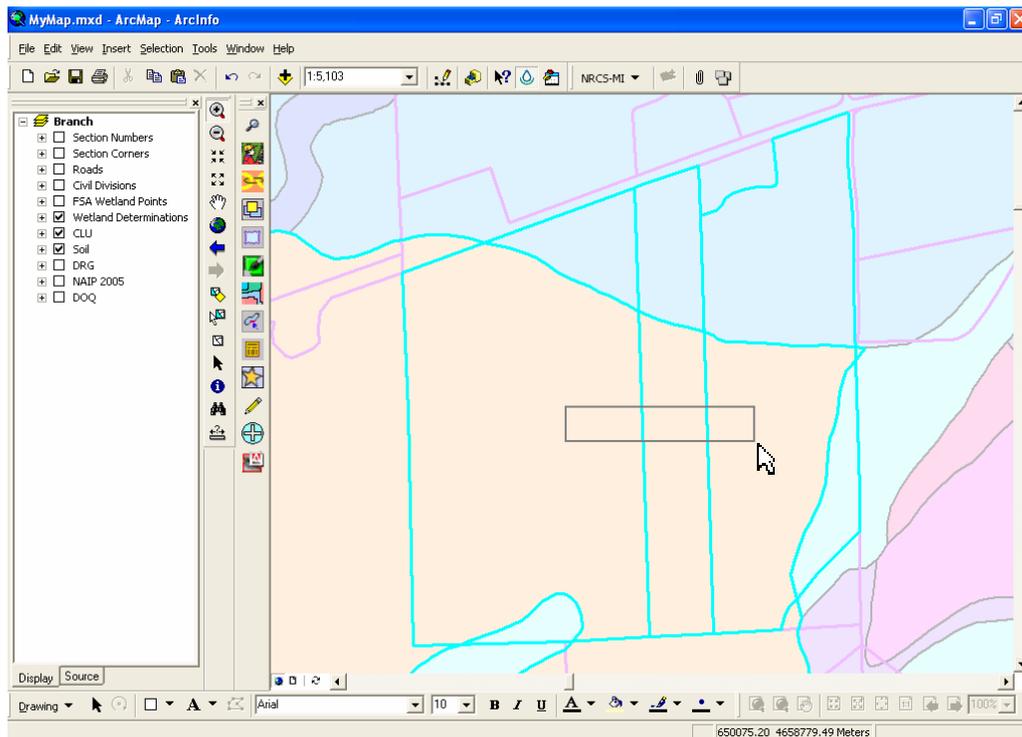
(If the Selectable Layers button is not present, click “**Selection, Set Selectable Layers...**”)

In these examples, we will be intersecting features from the “CLU” and “Soil” layers only. 



2. Click **Close** to continue

3. Use the  **Select Features** tool to select all of the features you wish to intersect.



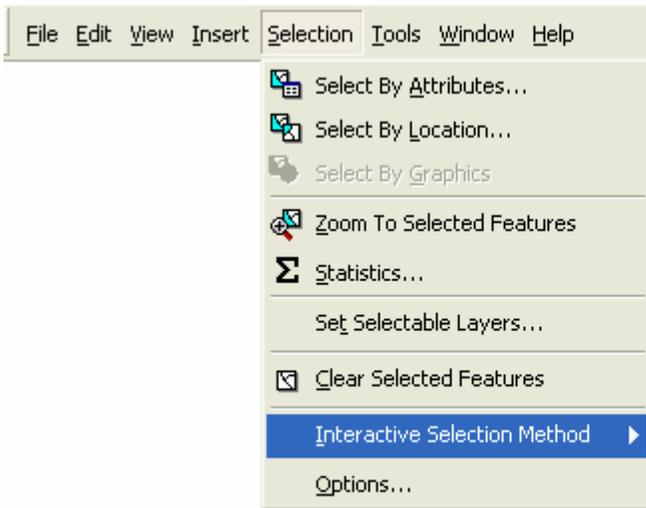
For this example, we have selected one soil feature which intersects three land unit features.

Selecting Features

(continued)

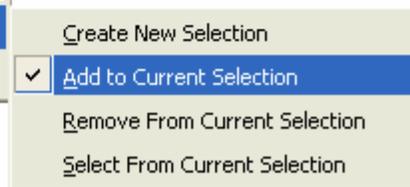
NOTE: The  **Select Feature** tool’s default behavior is to create a new selection each time it is used. While the user may hold down the <Shift> key to make multiple selections, doing so may cause a previously selected feature to become unselected.

If necessary, you may change the selection behavior by clicking “**Selection, Interactive Selection Method**” and choosing an alternate method.



For example, setting the selection method to “Add to Current Selection” allows additional features to be added to the current selection without pressing the <Shift> key.

For more information on selection methods, see “Selecting Features” in ArcGIS Desktop Help.



To avoid confusion, it is always a good idea to reset the Selection Method back to “Create New Selection” when you are finished using an alternate method.



NOTE: Be sure to use the standard ArcMap  **Select Features** tool to select the features you wish to intersect.

While editing a layer with the Customer Service Toolkit  editing tools, you may see various “look alike”  feature selection tools on Toolkit editor toolbars. These tools will generally only select features within the layer being edited and can not be used to select features within other layers.



Intersecting Polygons as Graphics

If a polygon feature layer is not currently being edited in ArcMap, the Intersect Polygons tool will create a new polygon graphic within the current data frame.

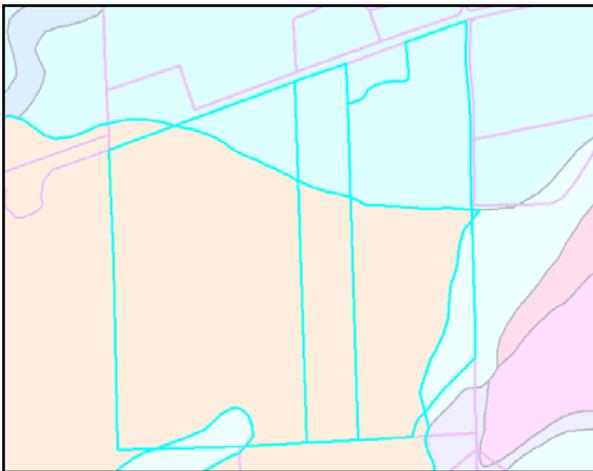
1.  Select the features you wish to intersect.
2. Click the **Intersect Polygons** tool on the NRCS-MI Toolbar



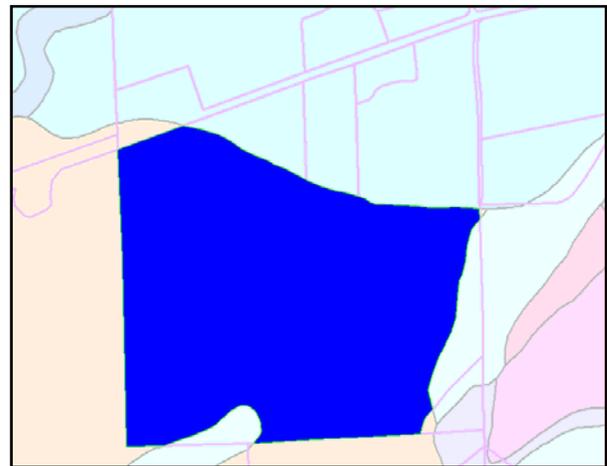
Note: The Intersect Polygons tool will be “grayed-out” until one or more polygon features is selected.

In this example we are not editing a polygon layer, so a graphic is created. Notice how the new polygon graphic is the same shape as the area common to all of the selected features.

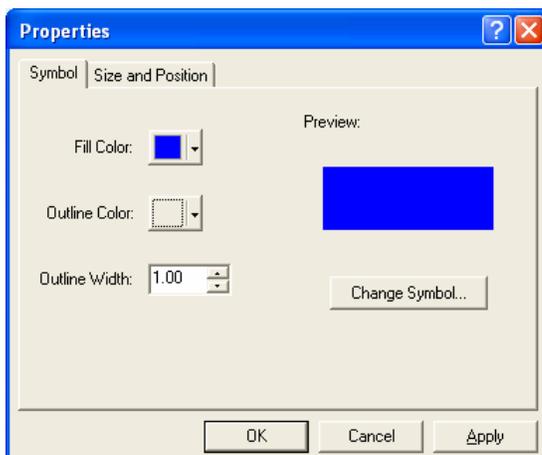
Selection



Intersection



The resulting polygon graphic element is added to the currently active annotation layer.



To change the graphic’s symbol, you may double-click on the graphic with the  **Select Elements** tool to access the “Properties” window...

...or use the ArcMap **Drawing Toolbar**.



Intersecting Polygons as Features

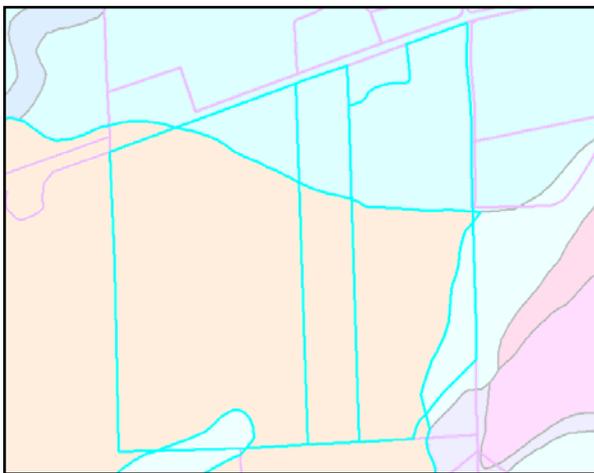
If a polygon feature layer is currently being edited, the Intersect Polygons tool will create a new polygon feature within the layer.

1. Begin editing the polygon layer with either the  standard or  Toolkit editing tools.
2.  Select the features you wish to intersect.
3. Click the **Intersect Polygons** tool on the NRCS-MI Toolbar



As when creating a polygon graphic, the new polygon feature corresponds to the area shared by the selected input features. All attribute values of the new feature will be empty.

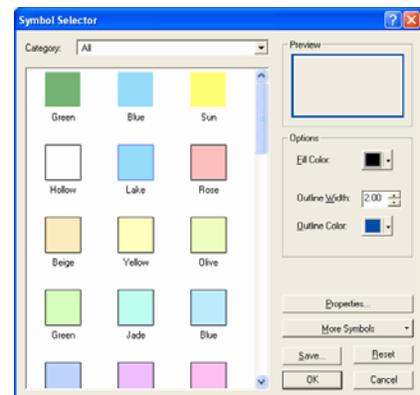
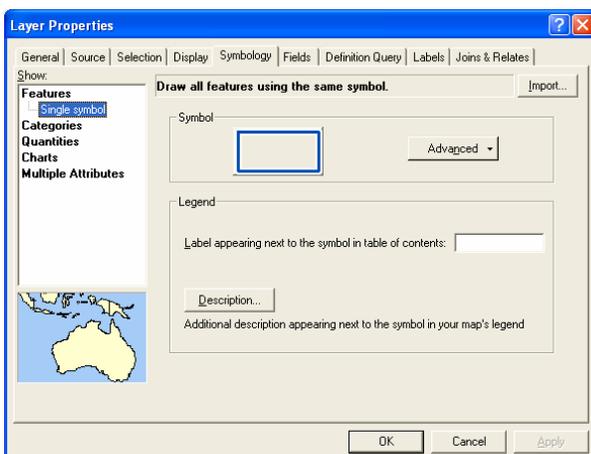
Selection



Intersection



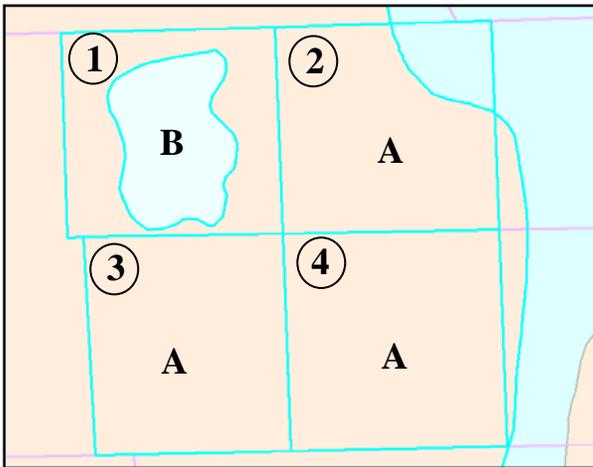
By default, the newly created feature will display according to the layer's current symbology rules for unattributed features. Symbology rules can be accessed through the layer's Properties.



Doughnut Polygons

(Also known as “D’oh, Nuts!” polygons)

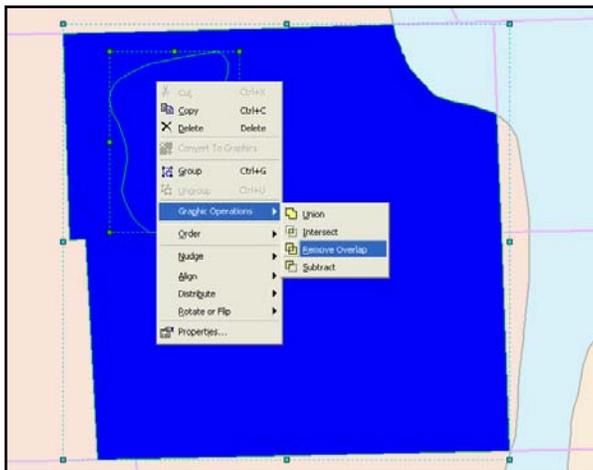
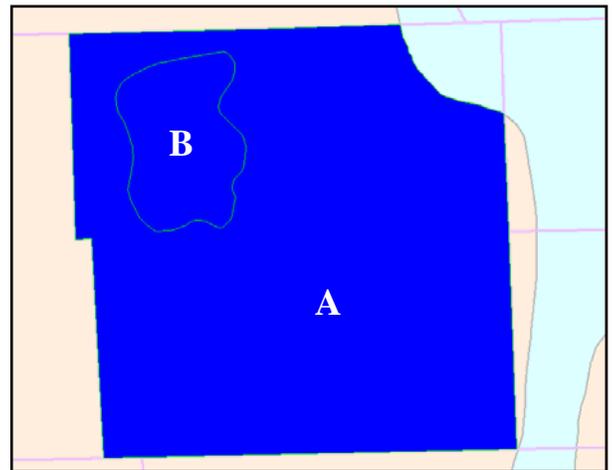
There may be times when you want to intersect features to create a polygon with a “hole” in the middle. While this is generally not a problem when creating features, doughnut graphics can be a bit messy since graphic elements don’t count on topology to keep them geospatially “tidy”.



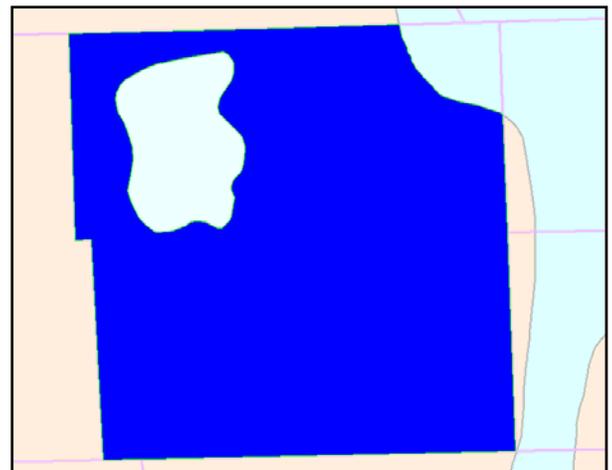
In this example, we’ll intersect four fields (1-4) and one soil map unit (A) which surrounds a smaller soil map unit (B). Assume that we want to exclude that interior polygon (B) from the final output polygon.

1.  Select the features to intersect and run the  **Intersect Polygons** tool.

The result is two polygon graphics. The smaller interior shape (B) is “stacked” on top of the larger exterior polygon (A). Polygon (A) also includes the area “under” polygon (B), so we must “punch-out” the area of (B) from (A) to create a “hole”.



2. Select both graphics with the  **Select Elements** tool, then right-click and choose “**Graphic Operations, Remove Overlap**”.



3. A hole is created in the exterior polygon in the exact size and shape of the interior polygon.

Hint: A separate graphic representing only the interior polygon can be easily created by selecting just the interior polygon and re-running the Intersect Polygons tool.

Doughnut Polygons

(continued)

You may also encounter doughnut polygons as features while editing a layer. To eliminate a “doughnut feature”, simply select it and delete it.

NOTE: Remember to use the right “select” tool for the job. The standard ArcMap selection tool selects features from every visible, selectable layer, while selection tools on Toolkit editor toolbars only select features within the layer being edited.

In this case, we only want to select the “doughnut feature” in the layer we’re editing, so we activate the select tool on the Toolkit editor toolbar, click on the feature to select it, and then hit the <Delete> key.

