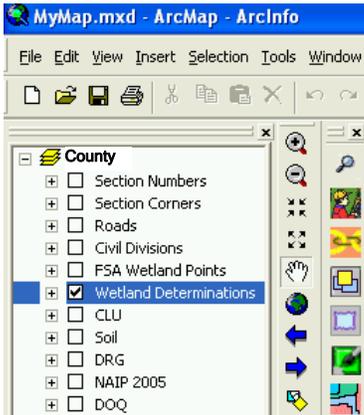


Digitizing Wetland Determinations

There are several options for creating wetland determination features. This skill builder outlines some of the various digitizing methods. The examples created here are used as a basis for the NRCS-MI GIS Skill Builder “Wetland Determinations”.



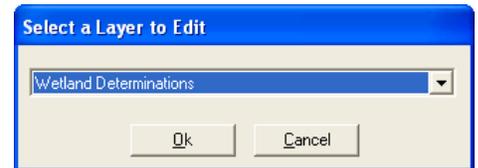
The Wetland Determination Layer

It is assumed that a valid wetland determination layer exists within the current data frame.

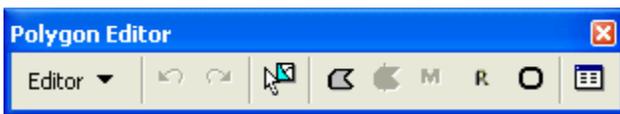
If no wetland determination layer exists one must be loaded from the “f:\geodata\project_data\nrcs\cwd” folder.

Preparing to Digitize

1. Click the  **Toolkit Digitizer** and choose the wetland determination layer as the layer to edit.



(Experienced ArcMap users may opt to use standard ArcMap editing tools.)



2. The Toolkit **Polygon Editor** Toolbar starts.

3. Use the  **Zoom** and  **Pan** tools to zoom in on the area you wish to digitize.

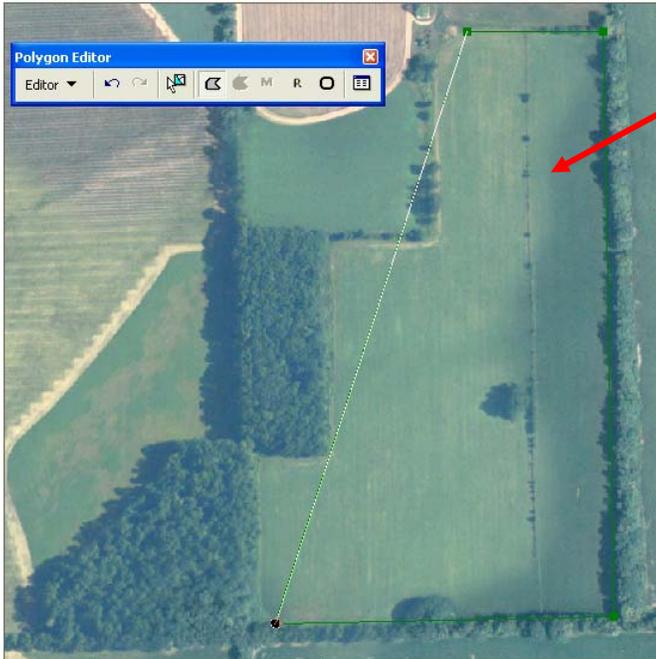
IMPORTANT: Generally, the closer you are zoomed in on a feature when you digitize it, the more accurate your digitizing will be. A good rule of thumb when manually digitizing wetland determination features is to zoom to an area no larger than a quarter-section whenever possible. Very small features may require that you zoom to an even smaller extent.

Digitizing Tip #1: If digitizing a large feature which goes “off the screen”, hold down the < C > key on your keyboard to temporarily activate the  **Pan** tool. Left-click and drag to pan to a new location then release the < C > key and continue digitizing.

Method 1 - Freehand Digitizing

1. Use the  **Add Feature** tool on the Polygon Editor Toolbar to manually digitize wetland determination features.

Left-click to digitize. Double-click to finish the polygon.



In this example, the entire field is being digitized since it was determined to be non-wetland.



The small “island” polygon on the middle of the field was also digitized since it was determined to be a wetland

Digitizing Tip #2: When digitizing “island” polygons, (a polygon within another polygon), always digitize the exterior polygon first. Doing so will help ensure that “stacking” or “covering” of the polygon features does not occur.

ADDENDUM: A bug in Toolkit SP3 requires that interior polygons be digitized before the exterior polygon when using Toolkit polygon editors. This bug will be corrected in future versions of Toolkit.

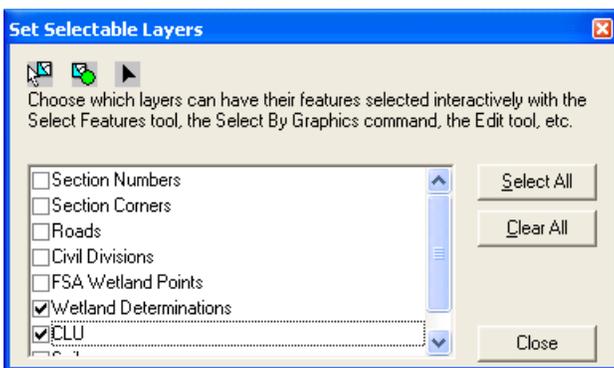
2. Use the  **Split Feature**,  **Merge Features**, and  **Reshape Polygon** tools to modify features as needed.

Method 2 - Copy Existing Features

Polygons in other layers may also be used as wetland determination features. For example, you may copy features from a CLU layer into your wetland determinations layer.

Digitizing Tip #3: To easily copy a feature from a visible, selectable layer, activate the  **Add Feature** tool, right-click on the desired feature, choose **Replace Sketch**, and hit the < F2 > key on your keyboard to finish the sketch.

1. Click the  **Selectable Layers** button and check off every layer except the source layer (the layer you want to copy from) and the target layer (the layer you want to copy into).



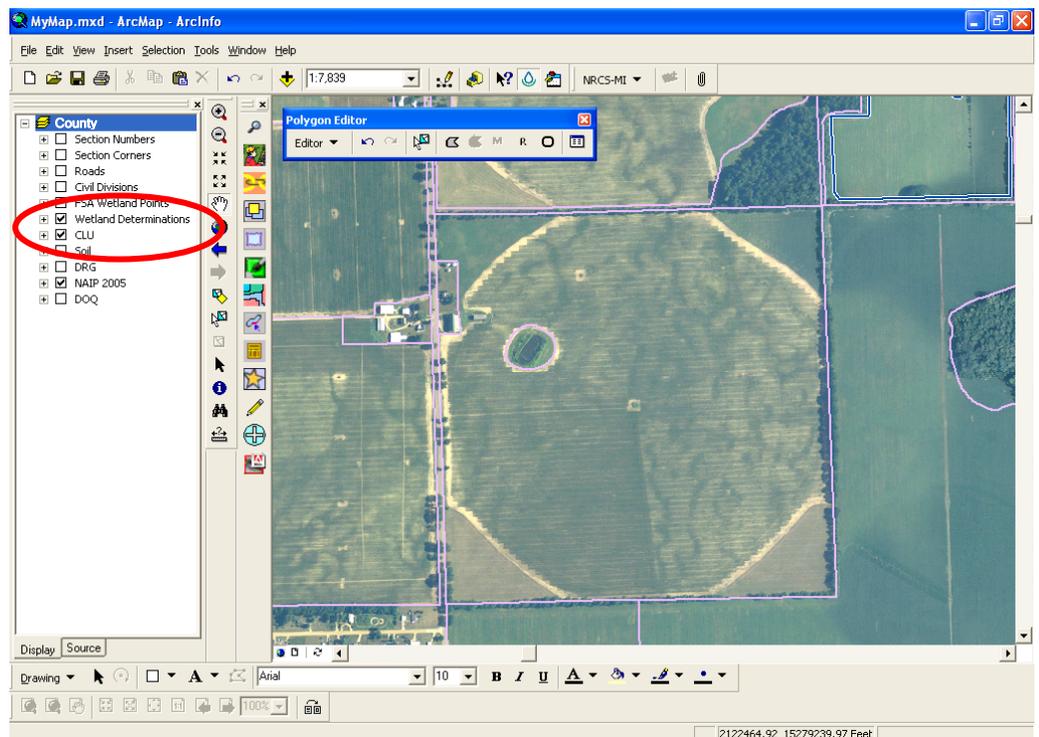
(If the **Selectable Layers** button is missing, choose “**Selection, Set Selectable Layers**” from the ArcMap menu bar instead.)

In this case, our source layer is **CLU** and our target layer is **Wetland Determinations**.

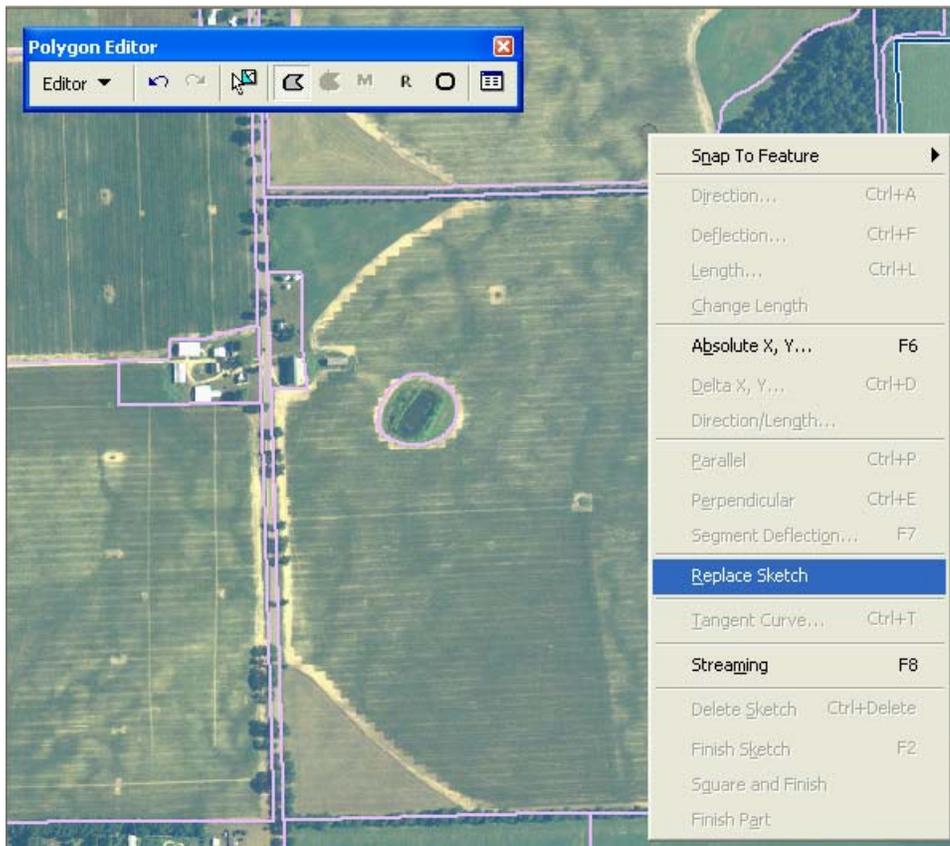
2. Click **Close** to continue.

3. In the Table of Contents (TOC) check off every feature layer except the source and target layers.

It is not necessary to turn off image layers, (like NAIP), since image layers do not contain features which could be copied over by mistake.



Method 2 - Copy Existing Features (continued)



4. Click the  **Add Feature** tool.

5. Right-click on the feature you want to copy.

Right-clicking pops up a context menu.

6. Click **Replace Sketch**.

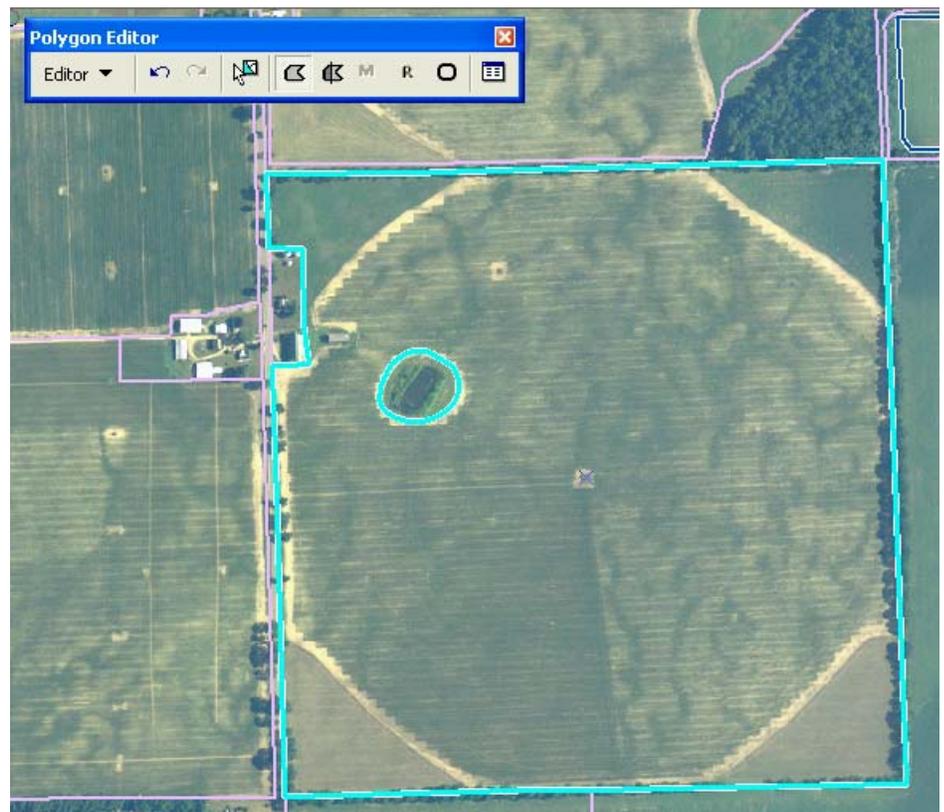
A sketch is automatically created to match the feature.

7. Hit the < **F2** > key to finish the sketch.

8. An identically shaped feature is created in the target layer.

9. Repeat the process for any other features you wish to copy.

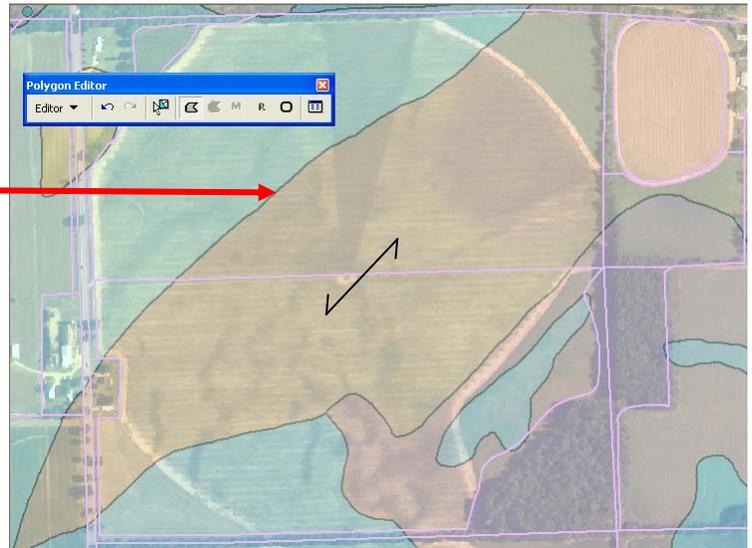
In this example, we would probably perform the process twice: once for the large field shape and again for the interior wetland.



Method 3 - Intersect Multiple Features

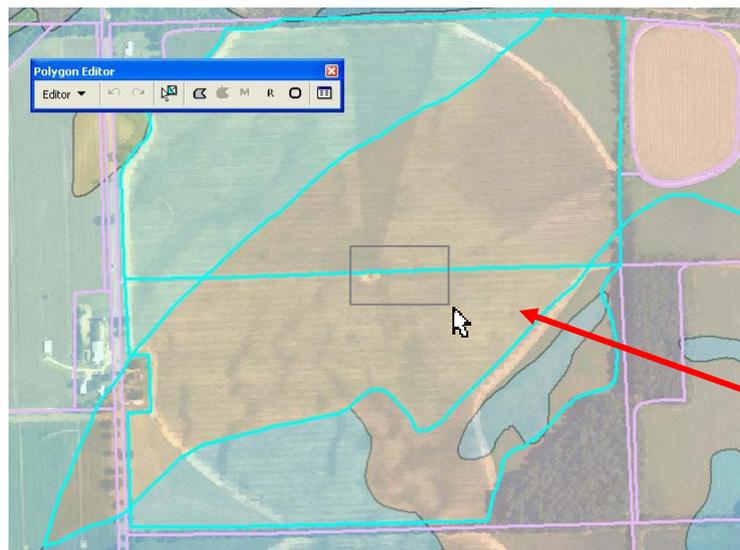
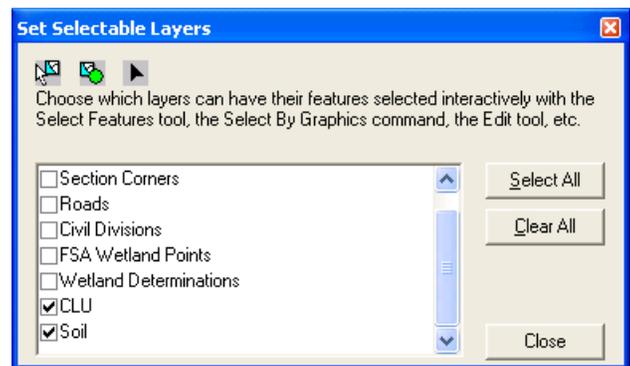
On many occasions, the area of the wetland determination does not correspond to any single feature, such as here, where a particular soil crosses multiple farm fields.

This method can be useful if you want to, for example, define a large “PC” area based on a hydric soil map unit which crosses multiple farmed fields.



1. Click the  **Selectable Layers** button and check only the layers whose features you want to include in the intersection.

In this example, we will intersect the selected features from the “CLU” and “Soil” layers.



2. Use the  **Select Features** tool to select the features you wish to intersect.

Hint: For every selectable layer, every feature you click on or “touch” with the click-and-drag box will be selected.

Here we clicked and dragged a box which touches one soil map unit and two CLU features, so those three features are selected.

3. On the NRCS Michigan Toolbar, click the  **Intersect Polygons** tool.

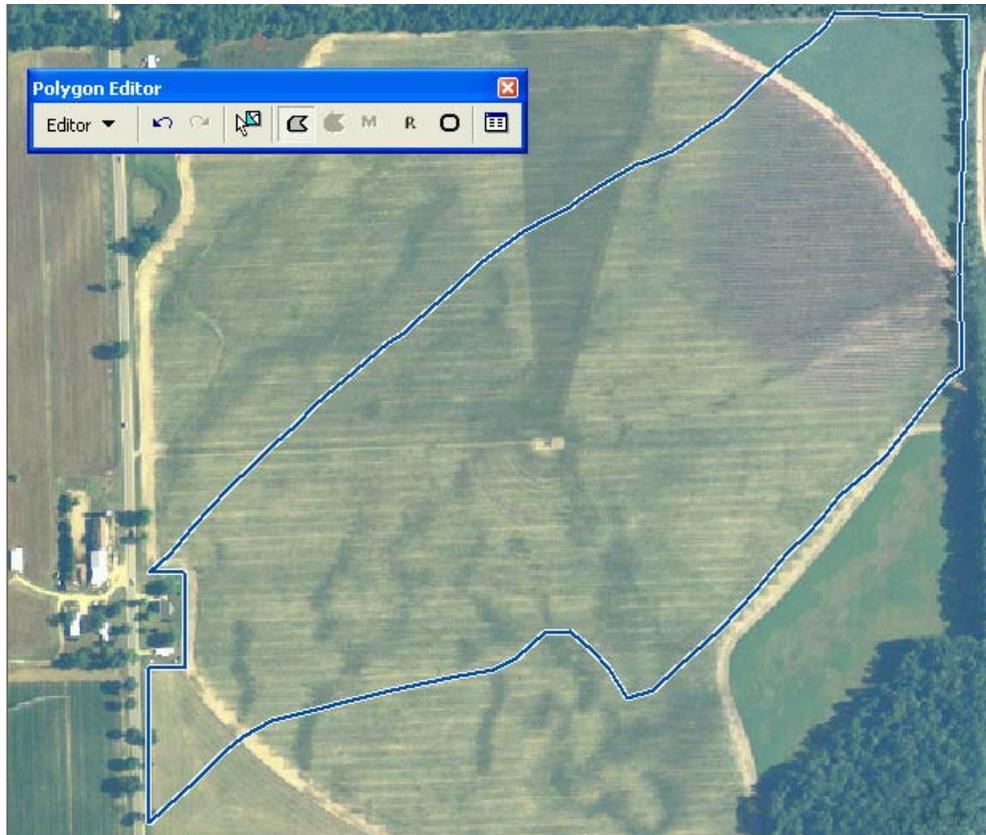
(For more information on using this tool, please refer to the NRCS-MI GIS Skill Builder “Intersect Polygons”.)



Method 3 - Intersect Multiple Features (continued)

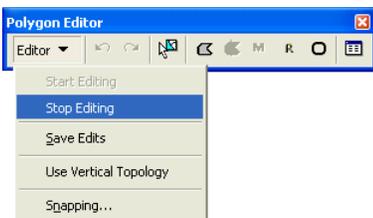
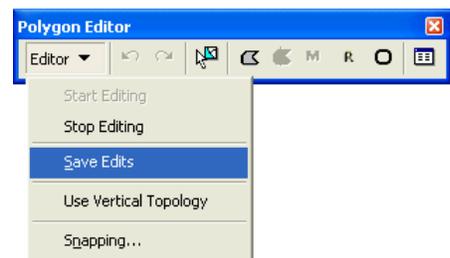
A new wetland determination feature is created based on the area covered by both the selected soil map unit and the selected land unit features.

4. Turn off the “intersection layers” and review the new wetland determination feature for accuracy. You may use the **Polygon Editor** tools to edit the feature if necessary.



Saving and Stopping

Remember to periodically save your changes...



...and stop editing when you have finished digitizing.

Keep In Mind

As with any GIS application, there are generally several different ways to complete a task. Here are some other ideas for creating wetland determination features.

1. Combining Soils and Fields

Use **Soil Data Viewer** or the **NRCS-MI Soil Layers Tool** to create a countywide hydric soils layer, which you can then “cookie-cut” to your fields with either the **Toolkit Soils Map Tool** or the **NRCS-MI Layer Cutter**. The resulting layer will consist of polygons with different hydric ratings by field. Features from this shapefile can be copied into the wetland determination layer, as shown above in Method 2.

2. Import from GPS

You may choose to delineate wetland determination features in the field with a GPS unit. The resulting tracks, routes, and series of waypoints can be used to create wetland determination features using the DNR Garmin software. Simply use DNR Garmin to save the selected waypoints to a new polygon shapefile containing the collected features, add the shapefile as a layer in ArcMap, and use Method 2 to copy features into the wetland determination layer.

Note: It is not recommended that you use DNR Garmin to append directly to a wetland determination layer.

3. Use What You Can and Dump the Rest

Generally, it is always faster and more consistent to utilize existing features than to completely redigitize freehand, even if the original shape isn't exactly what you want. Remember you can always split, reshape, merge, and delete features after copying them.

4. The Next Step

Creating wetland determination features is really only half the job. After digitizing the geospatial shapes, you must next use the **NRCS-MI Wetland Determinations Tool** to assign attributes describing what each feature actually represents. The tool will also assist with the creation of a CPA-026E form, based on your feature attributes.