

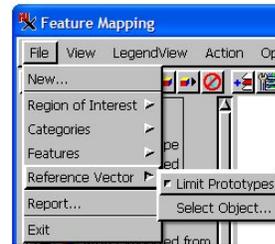
## Feature Mapping

# Using a Reference Vector

Feature Mapping is an interactive, multivariable, image interpretation aid that lets you make the decisions at every step in the classification process, thus utilizing your expertise. You view a reference image to select cells you think are representative of a particular feature type while the process identifies the values of the corresponding cells in all the rasters in the processing set. The ability to use a reference vector lets you bring other image interpretation results or historic (or newer) data into the feature identification process. When a reference vector is used, prototype features will extend beyond the vector's polygons if they are contiguous with prototypes within a polygon.

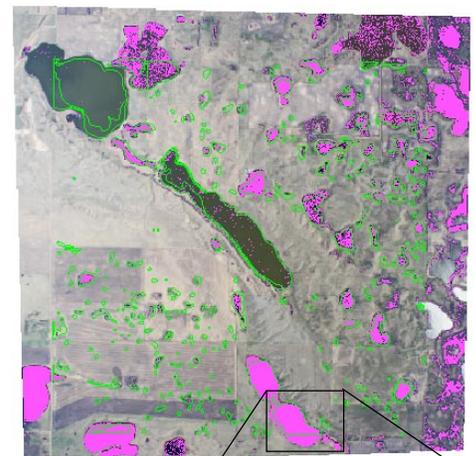
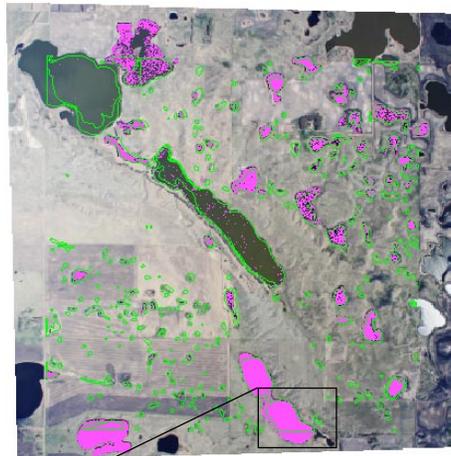
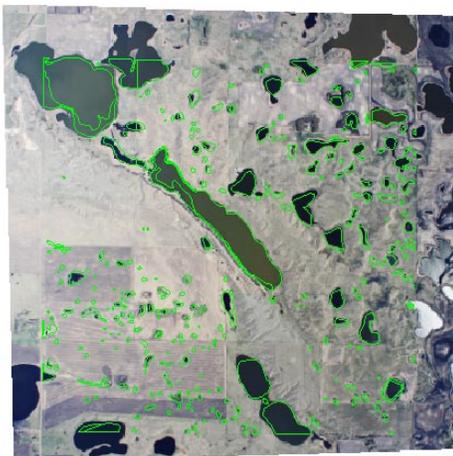
There are two methods to get the Feature Mapping process to identify potential, or prototype, features. For the region growing method that works on one feature at a time see the Technical Guide entitled *Feature Mapping: Region Growing Tool*. The method that uses the Define Samples tool can use either a range of cell values identified in each processing raster by the sample points you have selected, or it may use only those cells that have the exact values in the processing set as any one of the locations where you clicked to define samples. You then right-click in the View or click on the Classify icon to identify all cells within the defined range/values that fall within the entire raster (or Region of Interest if selected) as prototype cells.

Restricting the identification of prototype feature cells to fall within the polygons in a reference vector or to be contiguous with cells that fall within the reference polygons only applies to prototypes generated when right-clicking in the View or clicking on the Classify button while using the Define Samples tool.

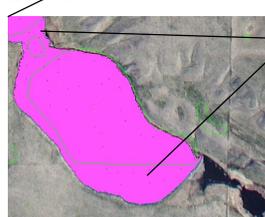


When you initially turn on the File/Reference Vector/Limit Prototypes toggle, you are prompted to select a vector object that contains polygons and at least partially overlaps the raster(s) selected for processing. You can then toggle this option off/on between classification steps. When you turn the toggle back on, the same vector as originally selected will be used for reference. To select a new vector for reference, choose File/Reference Vector/Select Object.

You can mix and match the methods of identifying prototypes to mark as permanent features, but you must mark the desired features before switching methods. Additionally, cells used for samples with a reference vector limiting prototypes need not fall within any of the vector polygons. It is recommended that you use the Define Samples tool at 1X (full resolution) zoom or sample cells may not be visible.



The reference raster selected for Feature Mapping is shown above with the selected reference vector overlaid (green polygons). The results of defining prototypes from the same sample cells without (above center) and with (above right) a reference vector to limit prototype extents is illustrated. You can see that many more features are identified at the upper right of the raster without the use of the reference vector in the classification step.



Note both the areas of the prototype features that fall outside the original polygons because they are contiguous with prototype features within the polygons (left) and the additional water areas identified as prototype features (right) without a reference vector.

