AREA	PERIMETER	acres
375150.117123	4157.214788	8.612262
43305.572953	877.18778	0.994159
444541.944317	3911.347121	10.205279
628929.645559	3449.42929	14.438238
211998.729203	1922.699211	4.866821
188213.456165	1777.016758	4.320786

Calculating Area, Perimeter, and Length in ArcGIS

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You frequently need to calculate area, perimeter, or length for features in GIS. This can be accomplished using the *Calculate Geometry* function in an attribute table. Note you can also calculate the X and Y coordinates of a polygon or line centroid using this function. See ArcGIS 10.2.2 help for detailed information. Under the *help* tab, select ArcGIS Resources, click desktop and search for "Calculating area, length, and other geometric properties".

Important note: You can only calculate area, perimeter and length for **projected data files**! Data files that are in a geographic coordinate system, with units in decimal degrees (latitude and longitude) cannot have their area, perimeter and length calculated. You need to either project these data layers first, or set the *Data Frame* to a projected coordinate system. ESRI recommends that you use some kind of *equal-area projection*.

You also must have write permission to the data to calculate area, add a field, or do any other changes to table structure or values. That means you can't do these operations on data stored on the **Tufts M: drive – first copy the data to your own space**.

Create a new attribute field to hold the area, perimeter, or length value

Typically you want to calculate area or perimeter or length for features that don't already have an area field in the attribute table. To create a new attribute field to hold the area value, follow these steps.

1. Open the layer's attribute table
2. Click on the **Table Options** icon in the top left corner of the table and choose **Add Field**
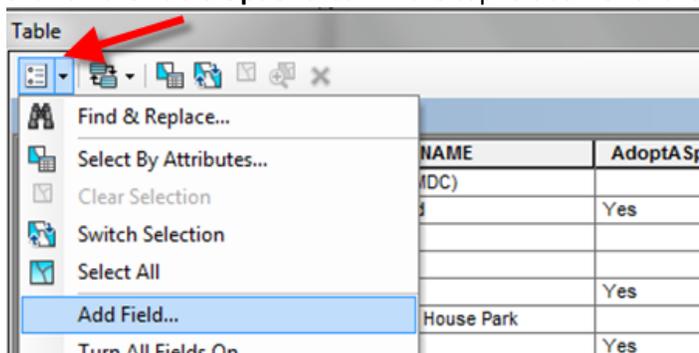
3. Name the new field (e.g., *Acres*) and make it *Double* type (numeric, double precision) and leave the precision and scale set to 0 and press OK.
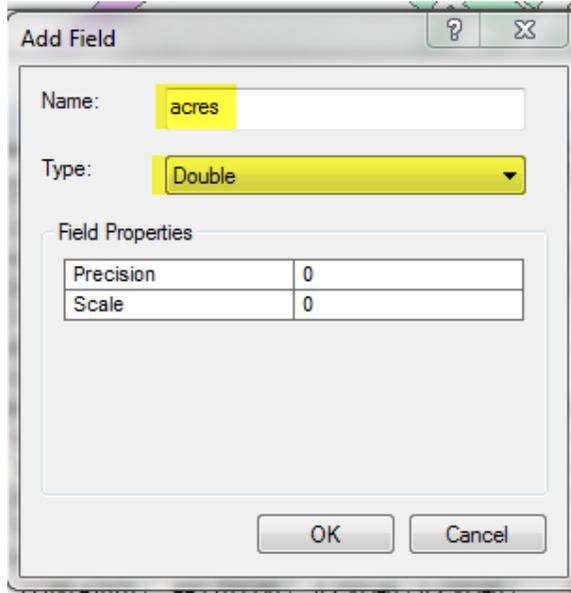
To calculate area, perimeter, or length for a GIS data file

1. Open the layer's attribute table, right-click on the name of the attribute field that will hold the area calculation (e.g., *Acres*) and choose *Calculate Geometry*
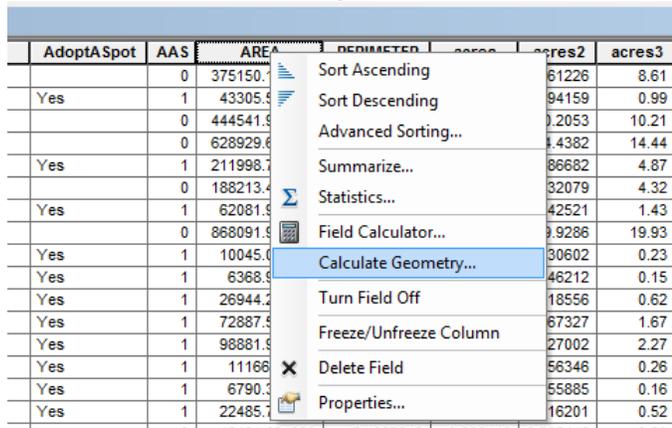
2. Ignore the warning message and press OK
3. Choose the property you want to calculate (e.g., *Area*), the coordinate system, and the units (e.g., acres), and press OK. (Note: if you see that the fields are disabled - e.g., *Area disabled* – that means you are trying to calculate area for an unprojected data set. First set the Data Frame's coordinate system to a projected coordinate system, then go through these steps again)
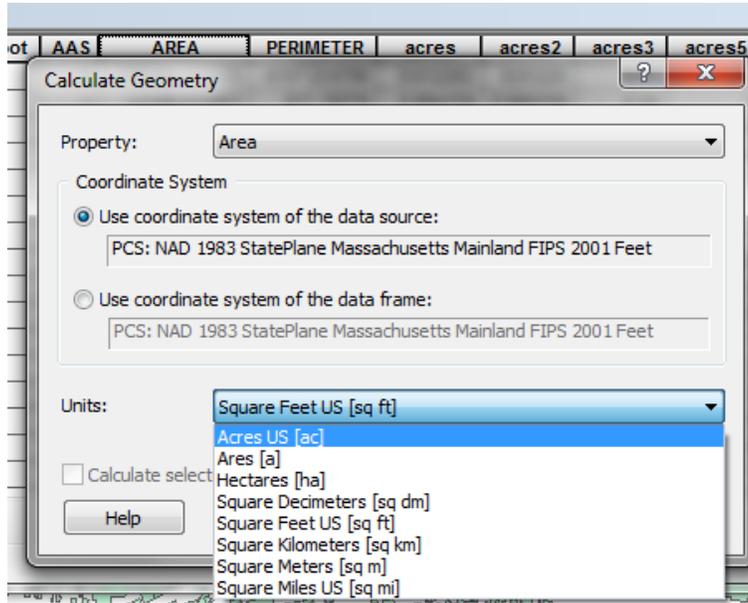
4. Do the same for any other fields if necessary (length, perimeter)
5. The column will automatically populate with the area.