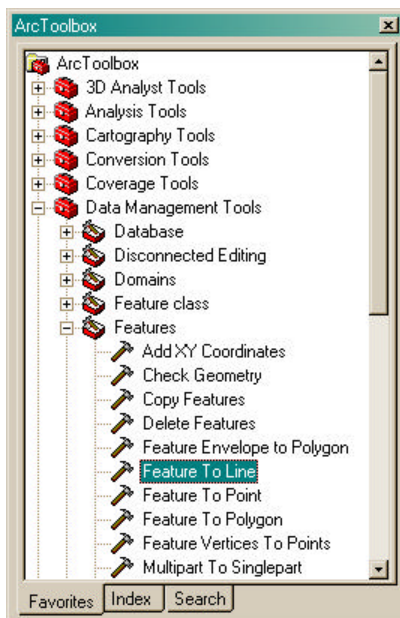# Converting Lines to Polygons in ArcGIS 9.0

These instructions enable you to combine and convert digitized polygon and line files into polygon areas complete with attributes by using geodatabase functionality.

ORIGINAL DATA

Merge_Patch.shp	polygon shapefile digitized on-screen
Merge_Boundary.shp	line shapefile digitized on-screen
Merge_Habitat.shp	point shapefile digitized on-screen with habitat attribute field

CREATED DATA

Merge_Patch_FetaureToLine.shp	line shapefile created by converting the Merge_Patch.shp file
All_Lines.shp	line shapefile created from merging the Merge_Patch_FeatureToLine.shp and Merge_Boundary.shp files together
habitat.mdb	personal geodatabase for feature classes resulting from line to polygon conversion; contains a feature dataset named **patches**

Steps in ArcMap:

Set up the Map Document in ArcMap:

1. Add all shapefiles to a new empty map document
2. Make sure that ArcToolbox is visible

Convert patch polygons to lines:

3. Choose DATA MANAGEMENT TOOLS >>> FEATURES >> FEATURE TO LINE
   - Drag **Merge_Patch.shp** to the input
   - Optionally change output name; e.g. **Merge_Patch_FetaureToLine.shp**
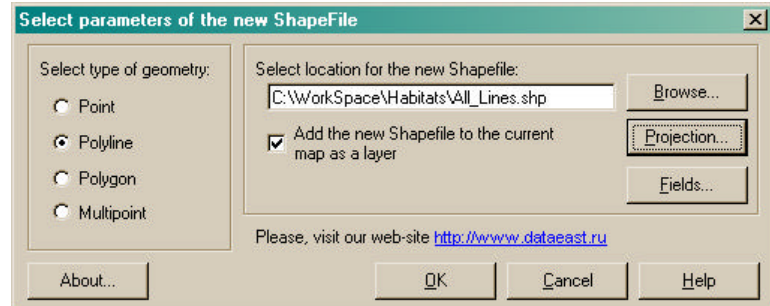   - Click OK

Combine all lines together:

4. Create a new empty LINE shapefile
    - Click on the ENHANCED CREATE SHAPEFILE button
    - Select POLYLINE as the geometry type
    - Click on the BROWSE button to navigate to the working directory and specify the output name; e.g. **All_lines.shp**
    - Click on the PROJECTION button and then on the IMPORT button
    - Browse for and select the **Merge_Boundary.shp** dataset to ADD it's spatial reference
    - Click OK
5. Choose DATA MANAGEMENT TOOLS >>> GENERAL >> APPEND
    - Select, click and drag **Merge_Patch_FeatureToLine.shp** and **Merge_Boundary.shp** from ArcMap's table of contents to the append tool's input box
    - Drag **All_Lines.shp** to the output box
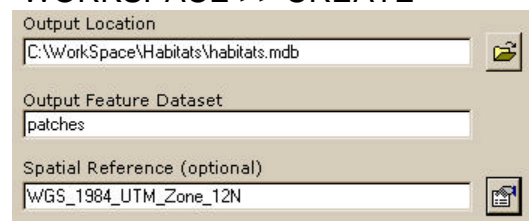   - Select **NO_TEST**
    - Click OK

Create a geodatabase with feature dataset classes:

6. Choose DATA MANAGEMENT TOOLS >>> WORKSPACE >> CREATE PERSONAL GDB
    - Select the output location folder
    - Specify a name; e.g. **habitats.mdb**
    - Click OK
7. Choose DATA MANAGEMENT TOOLS >>> WORKSPACE >> CREATE FEATURE DATASET
    - Select the output location geodatabase: **habitats.mdb**
    - Specify the feature dataset name; e.g. **patches**
    - Edit the spatial reference (click the PROPERTIES button and then IMPORT from one of the shapefiles)
    - Click OK
8. Choose CONVERSION TOOLS >>> TO GEODATABASE >>> FEATURE CLASS TO GEODATABASE
    - Drag **All_Lines.shp** and **Merge_Habitat.shp** to the input box
    - Select **habitats.mdb\patches** as the output geodatabase

- Click OK

Convert lines to polygons:

9. Choose DATA MANAGEMENT TOOLS >>> FEATURES >>> FEATURE TO POLYGON
   - Select **habitats.mdb\patches\All_Lines** as the input features
   - Select **Merge_Habitat** as the label features
   - Specify an output name; e.g **All_Lines_FeatureToPolygon**
   - Click OK

Check the output:

10. Examine the **All_Lines_FeatureToPolygon** output layer for errors or omissions
11. Edit the **All_Lines** feature class and redo the conversion to polygons if necessary