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**

<table>
<thead>
<tr>
<th>Shapefile Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merge_Patch.shp</td>
<td>polygon shapefile digitized on-screen</td>
</tr>
<tr>
<td>Merge_Boundary.shp</td>
<td>line shapefile digitized on-screen</td>
</tr>
<tr>
<td>Merge_Habitat.shp</td>
<td>point shapefile digitized on-screen with habitat</td>
</tr>
<tr>
<td></td>
<td>attribute field</td>
</tr>
</tbody>
</table>

**CREATED DATA**

<table>
<thead>
<tr>
<th>Shapefile Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merge_Patch_FetaureToLine.shp</td>
<td>line shapefile created by converting the Merge_Patch.shp file</td>
</tr>
<tr>
<td>All_Lines.shp</td>
<td>line shapefile created from merging the Merge_Patch_FetaureToLine.shp and Merge_Boundary.shp files together</td>
</tr>
<tr>
<td>habitat.mdb</td>
<td>personal geodatabase for feature classes resulting from line to polygon conversion; contains a feature dataset named patches</td>
</tr>
</tbody>
</table>

### 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 its spatial reference
   - Click OK

5. Choose DATA MANAGEMENT TOOLS >>> GENERAL >> APPEND
   - Select, click and drag `Merge_Patch Feature To Line.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 habits.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