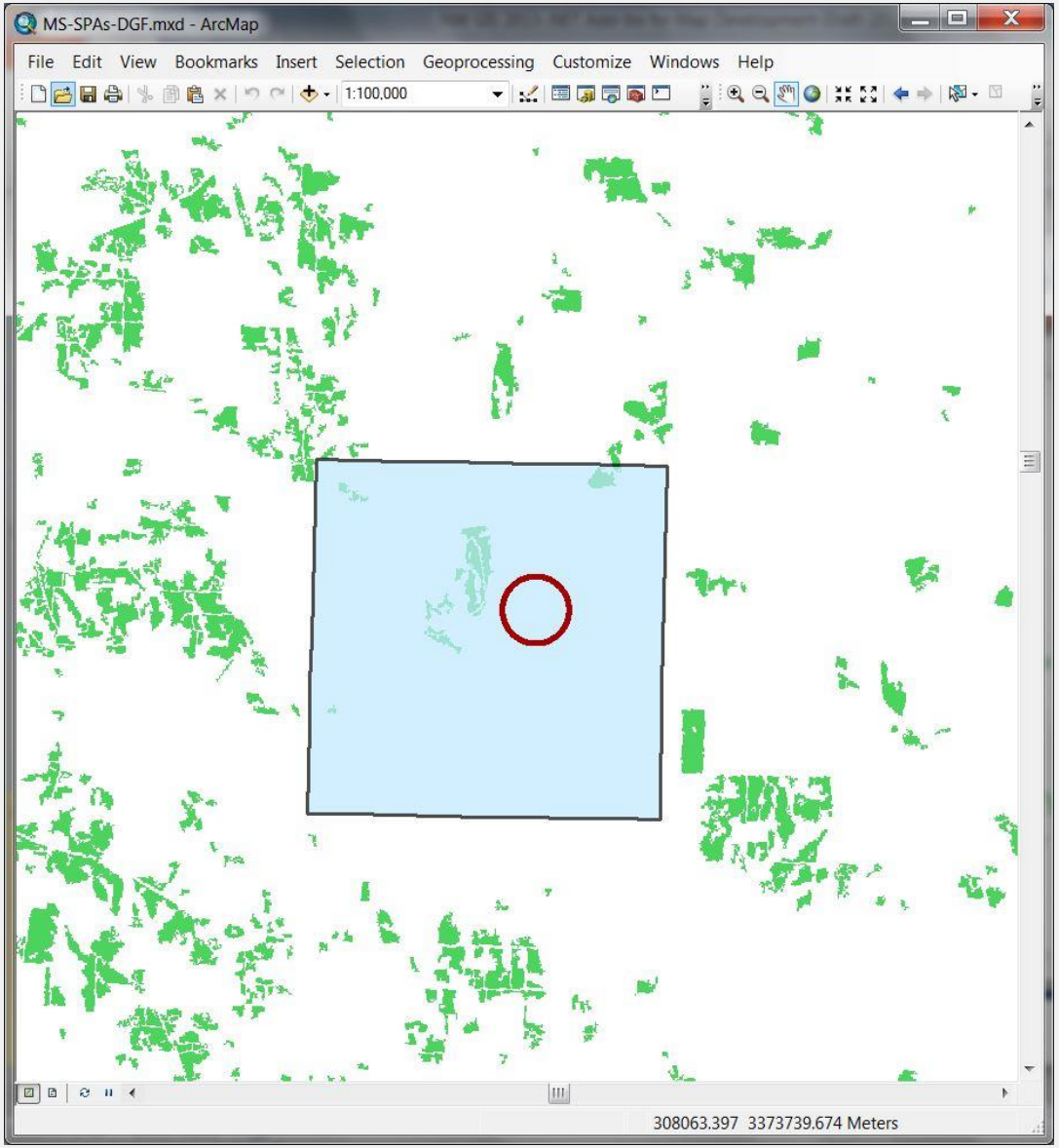
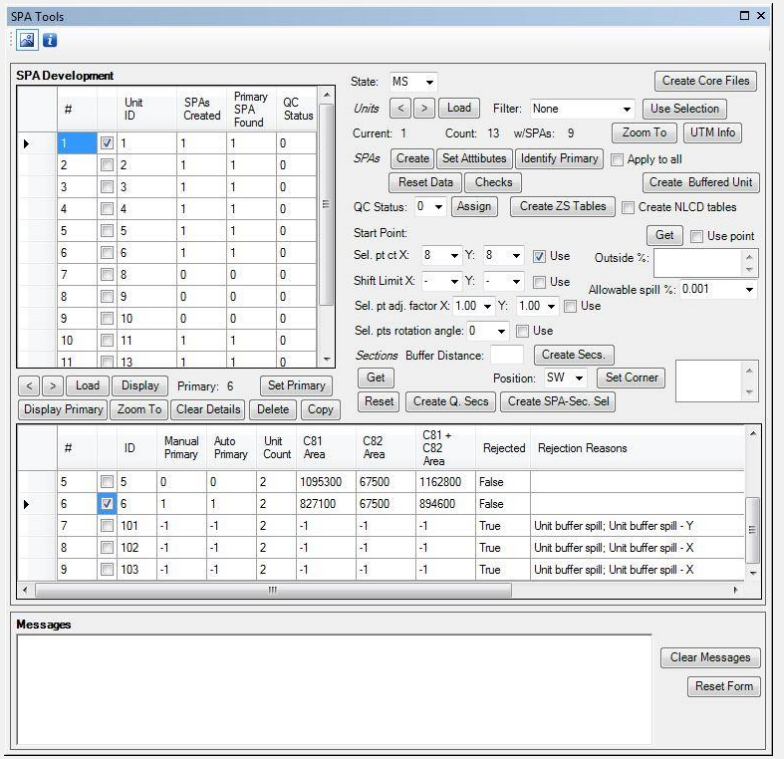
Species Protection Area Development with .NET

David A. Howes

January 15, 2014

Species Protection Area Tools – Primary Area



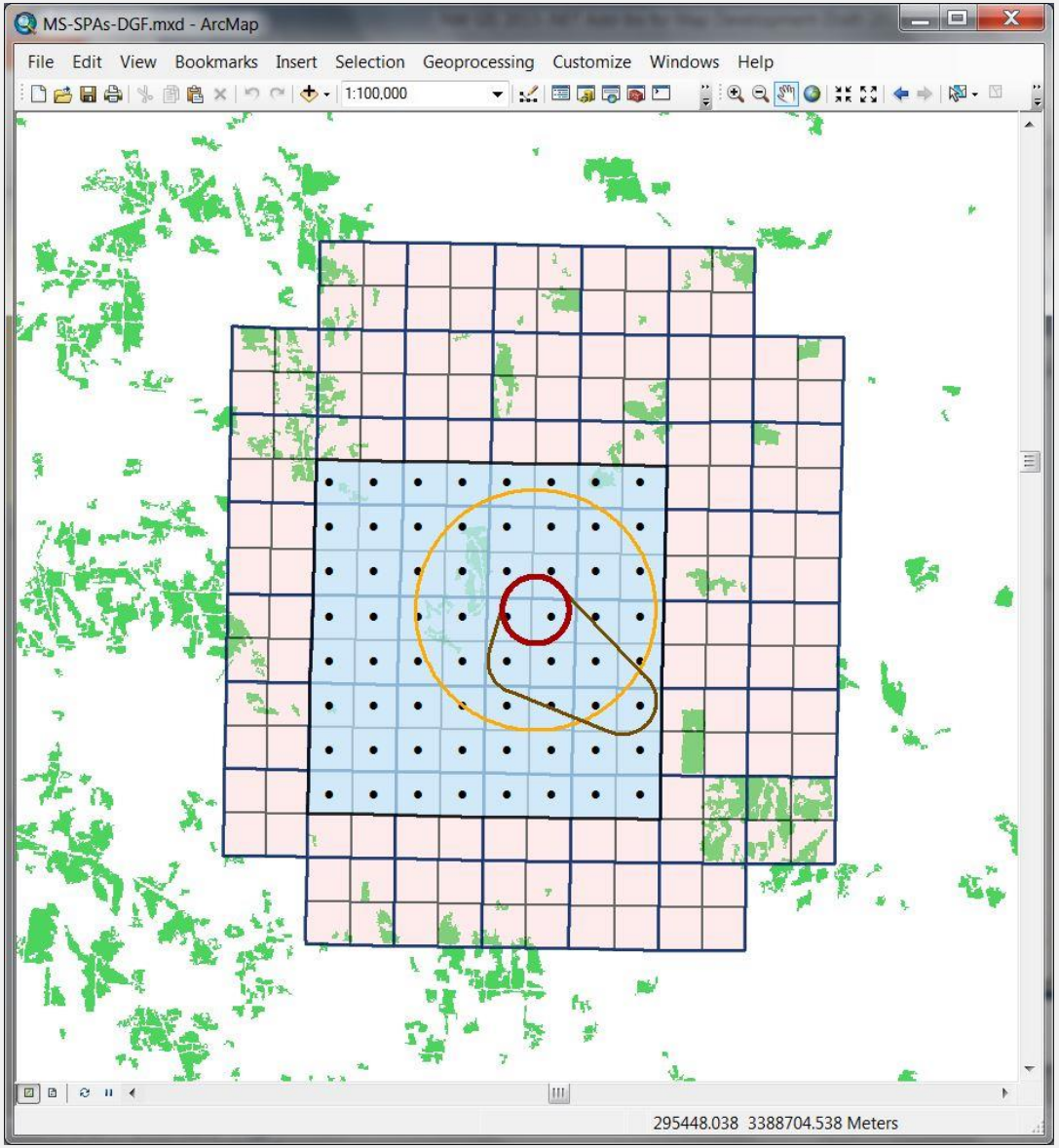


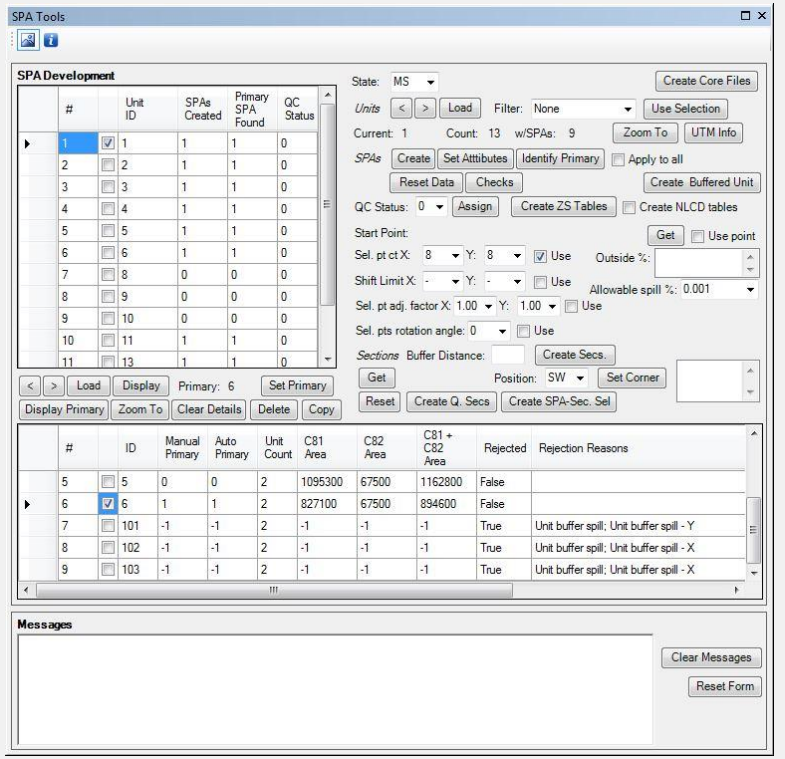
Goal: define protection areas for species habitat locations according to rules that vary from state to state

Example:

- US FWS Critical Habitat (CH) locations
- Polygon based on aggregation of selected quarter sections
- Positioning rules:
  - Maximize number of overlapping CH locations
  - Minimize area of agricultural land cover

Species Protection Area Tools – Area Construction

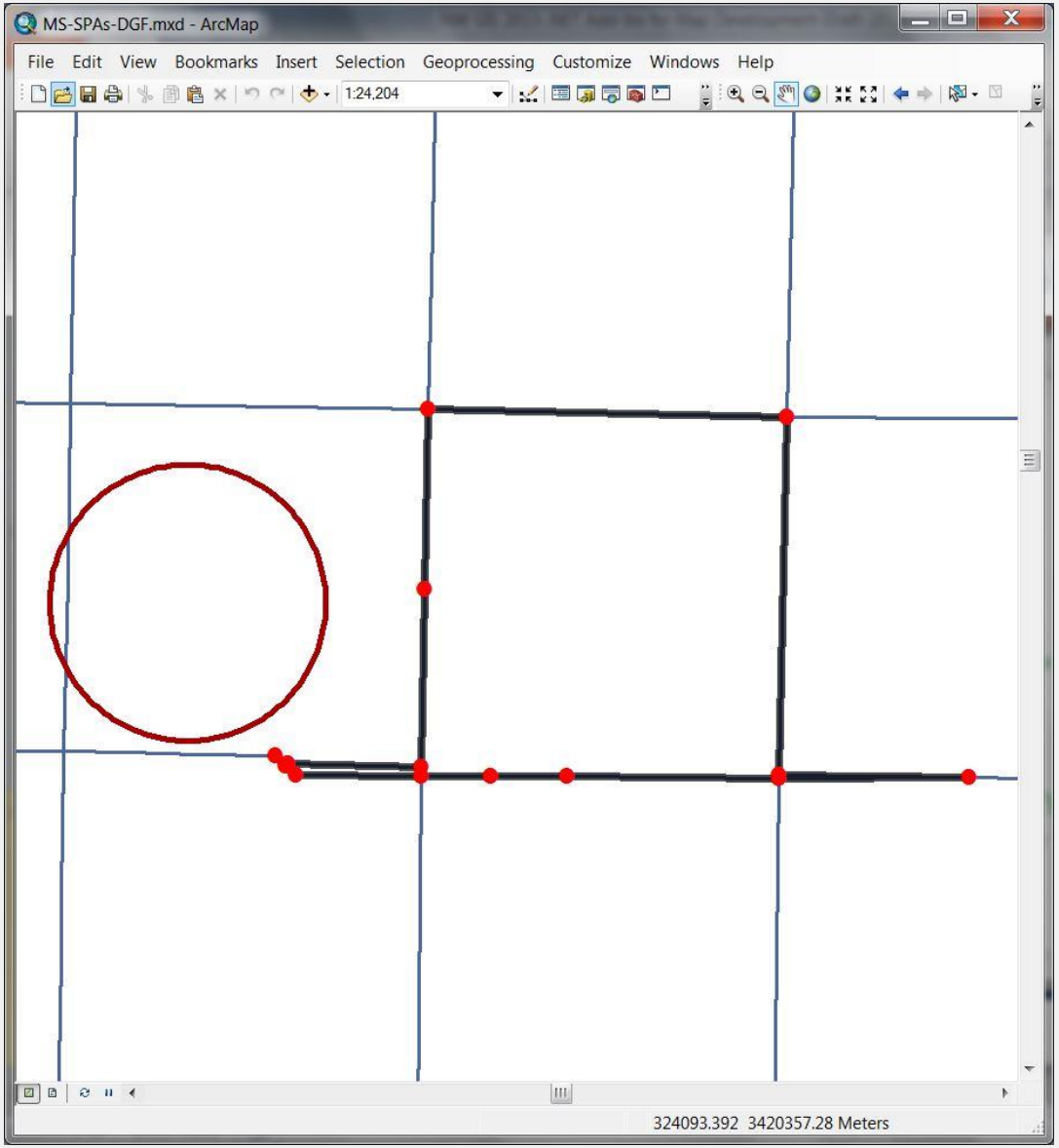


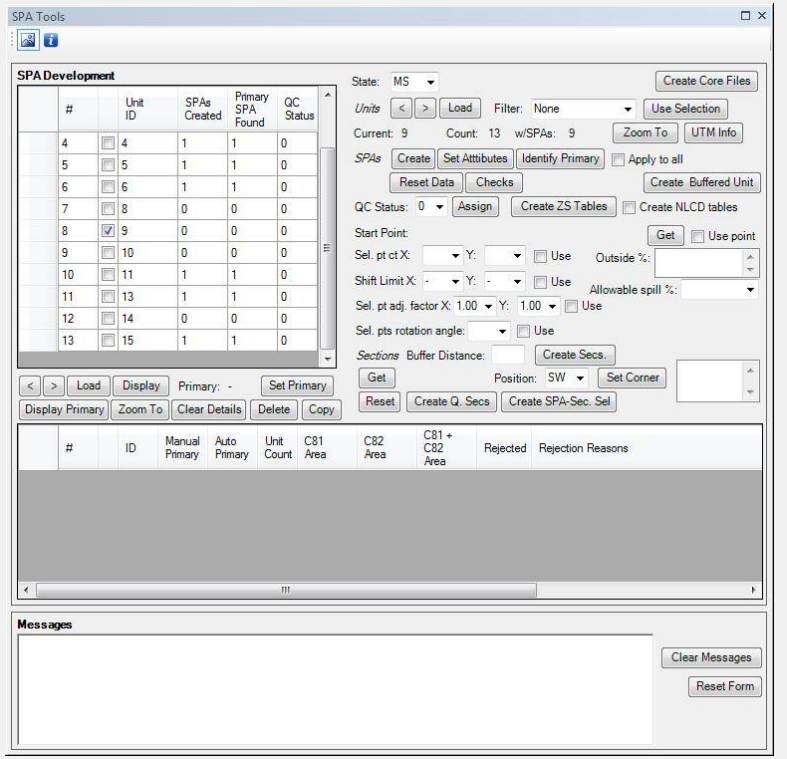


Key datasets:

- Public Land Survey Sections
- Derived quarter sections
- Critical Habitat locations
- Buffered Critical Habitat locations
- Selection points
- 2006 National Land Cover Data (NLCD)

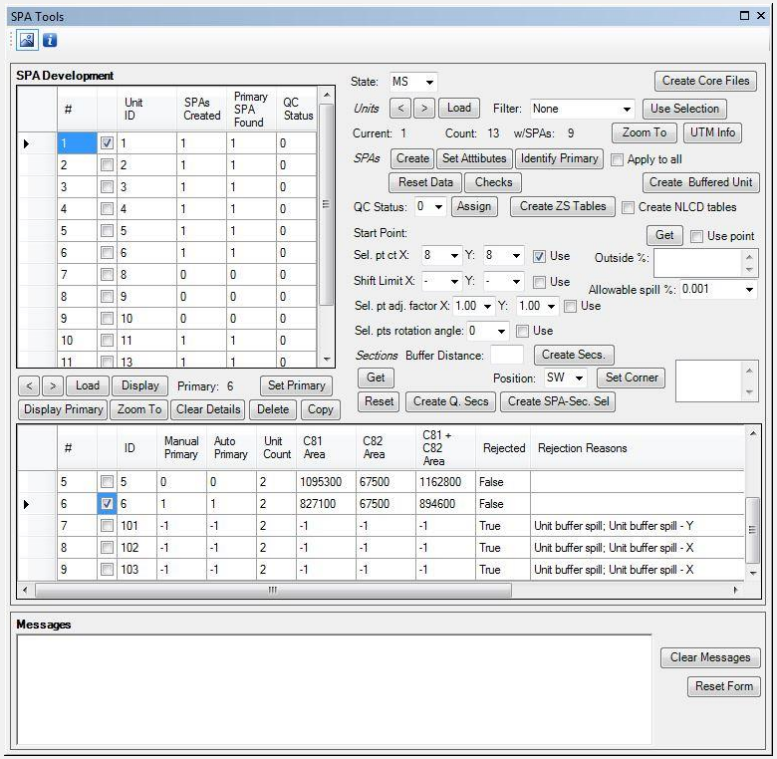
Species Protection Area Tools – Challenges



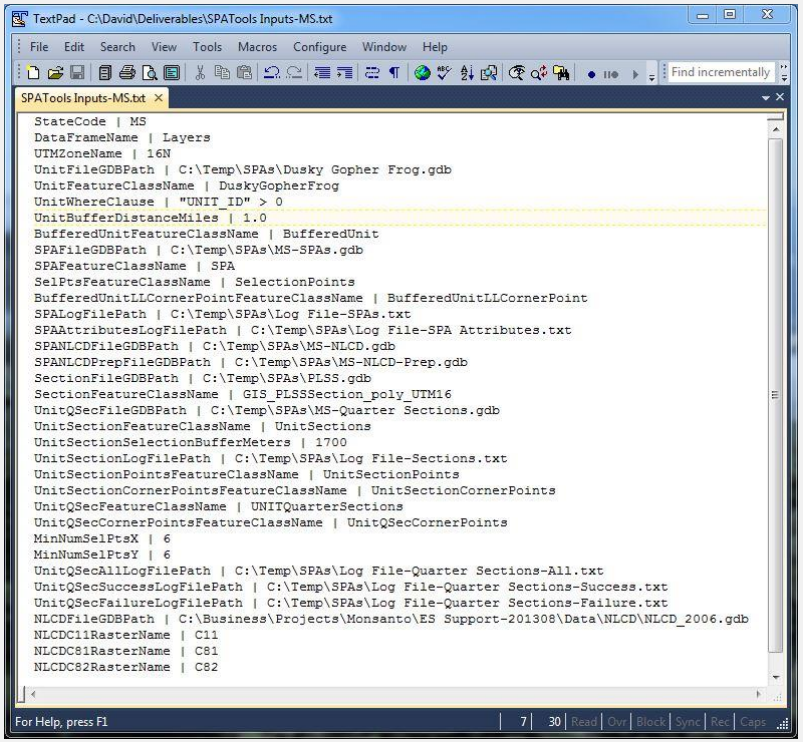


- Quarter section creation problem due to inability to automatically find corners
- Manually define corners and pass to procedure

Species Protection Area Tools – Operation

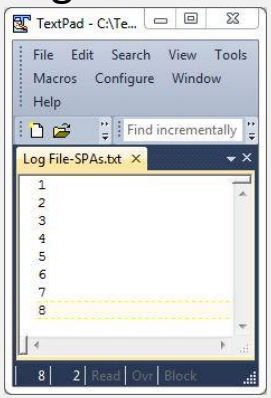


Tools



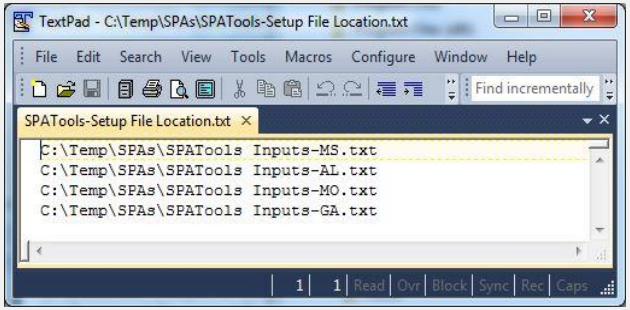
Setup file

Log file



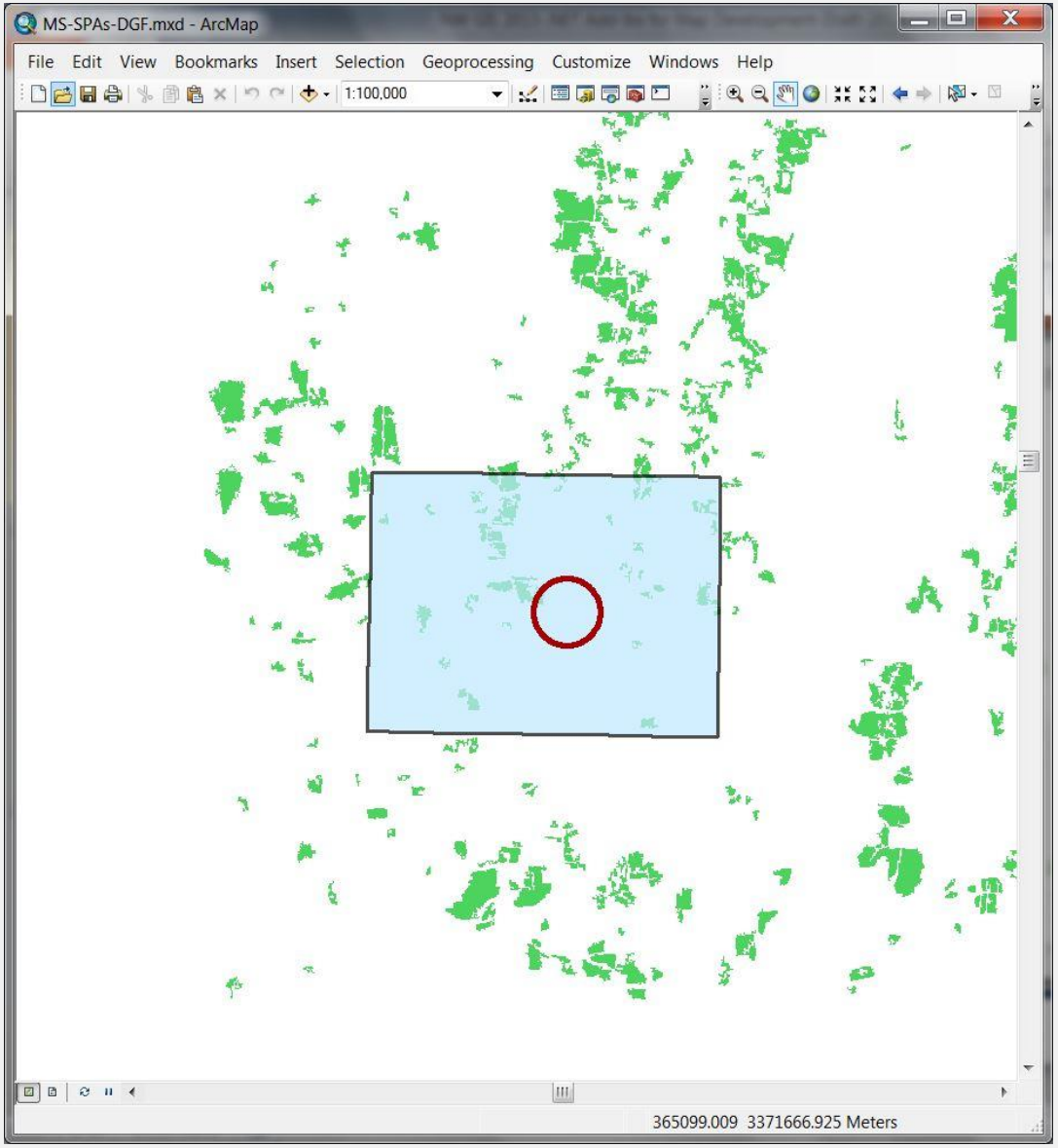
Deliverables

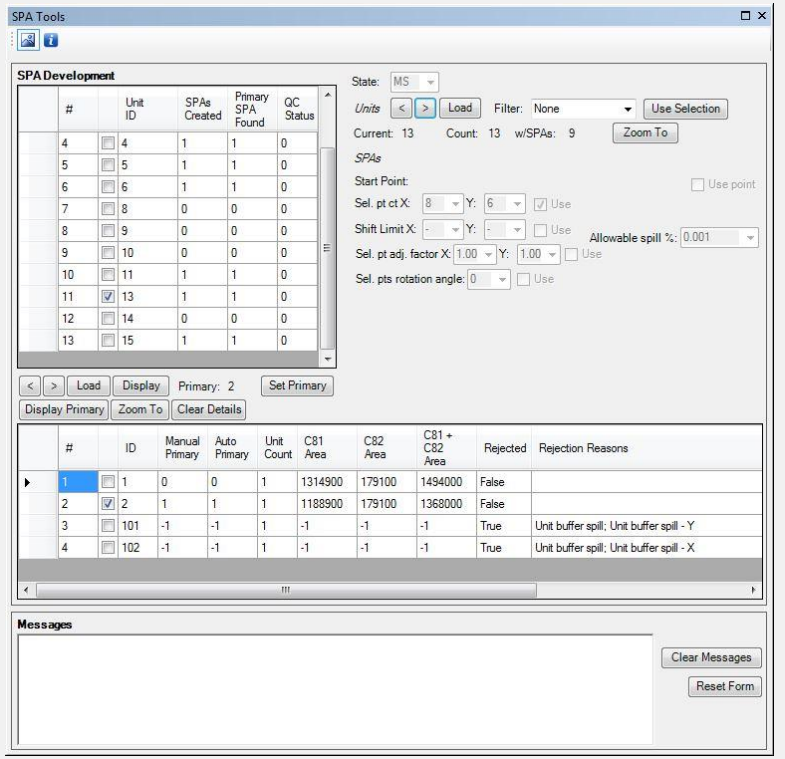
Name	Date modified	Type	Size
Code	10/13/2013 2:17 PM	File folder	
MS-Quarter Sections.gdb	10/13/2013 2:25 PM	File folder	
MS-SPAs.gdb	10/13/2013 2:25 PM	File folder	
MS-SPAs-DGF.mxd	10/13/2013 1:18 PM	ArcGIS ArcMap Document	2,439 KB
SPAs-MS-DGF-20131013-1420.zip	10/13/2013 2:20 PM	Compressed (zipped) Folder	1,078 KB
SPATools Inputs-MS.txt	10/13/2013 2:11 PM	TXT File	2 KB
SPATools-20131013-1415.esriaddin	10/13/2013 1:18 PM	Esri AddIn File	265 KB



Setup file location file

Species Protection Area Tools – Deliverable





- Read-only version of tools (functionality hidden as required)
- Tools appearance is a low priority
- Main priority is output data