

ACPF Toolbox Version 5 - Review & Changes

Tool	Change	Change
1. DEM Preparation		
a. DEM: Pit Fill / Hole Punch	no change	
b. D8 Terrain Processing	no change	
c. Identify Impeded Flow	no change	
d. Visualize Flowpaths	no change	
e. Manual cutter and dam builder	no change	
2. Develop Stream Network and Catchments		
a. Flow Network Definition - Area Threshold	no change	
b. Flow Network Definition - Peuker Douglas	no change	
c. Stream Reach and Catchments	no change	
d. Merge Stream Reach with Water Bodies	no change	
3. Field Characterization		
a1. By-Field Slope Statistics		
a2. By-Field Slope Statistics - Surface Parameters	Test for full version with v3.0 now in use	Change slope statistics to BIQUADRATIC Local Surface Parameter
b. Tile-Drainage Classification	Add Query 4: >= 90% of field is less than 5% slope AND OR >= 40% of field has a *poor* drainage class.	Add DrainageIndex: A summary of conditions met; +10 – slope <= 5%, +1 – for each soils condition met.
c. D8 Distance to Stream	no change	
d. Runoff Risk Assessment	no change	
4. Precision Conservation Practice Siting		
a. Depression Identification	no change	
b. Depression Drainage Area	no change	
c. Drainage Water Management	Resolved an issue probably create with the 07/2020 modifications. Bad exit on no fields meeting the condition. Changes mostly on not writing to output fc until all things considered.	
d. Moore Terrain Derivatives	Move to all ESRI calculations for SCA	
e. Grassed Waterways - SPThreshold	recommend move default threshold to 2.5	
f. Contour Buffer Strips	no change	
g. Edge-of-field Bioreactors	Insert AddXY in support of FiNRT	
5. Impoundment Siting		
a. Nutrient Removal Wetland	Change from hectares to acres - PoolAreaAc, BuffAreaAc	
b. Farm Ponds	Remove utf-8 encoded '-' to run in Pro 2.7	

c. WASCOB	Comment out environment setting that defines coordinate system - bug found in ArcGIS Pro 2.9.	
d. WASCOB basins	Change SurfAreaHA to SurfAreaAc - hectares to acres	
6. Riparian Assessment		
a. Create Riparian Catchments	no change	
b. Create Riparian Attribute Polygons	Flipped zones to reach buffer to eliminate cross-stream polygons	
c. Height Above Channel	no change	
d. Riparian Function Assessment	Removed entire module that created non-overlapping zones. In ArcGIS Pro (at least back until Pro 2.6), Zonal Statistics As Table can now handle non-overlapping zones. If the Input raster or feature zone data (in_zone_data in Python) has overlapping features, the zonal analysis will be performed for each individual feature.	Zones are now clipped by the buffered reach that they fall along. As zones are created along the left side of reach, they are clipped by this single reach-long left buffer, to prevent zones from crossing the stream to the other side (previously occurred in areas with high sinuosity). In previous ACPF versions, buffers were clipped by the new dissolved watershed boundary - this was removed in lieu of the above steps, and prevented the clipping of buffers to a less than a 15 m width.
e. Denitrifying Practices	see 6.d. above	see 6.d. above
f. Two Stage Ditch	new tool in version 5	
7. Soil Vulnerability Index		
a1. Map Unit SVI -Calculate SVI For All Components	new tool in version 5	
a2. Map Unit SVI - Summarize Map Unit SVI	new tool in version 5	
b1. By Pixel SVI - Get Soils Data for Dominant Component	new tool in version 5	
b2. By Pixel SVI - Generate By Pixel SVI Rasters	new tool in version 5	
b3. By Pixel SVI - Summarize Field SVI	new tool in version 5	
Utilities		
u1. Get ACPF Soils Data	Now NAD_1983_Contiguous_USA_Albers EPSG:5070, projectionCode:43007	
u2. Get NASS CDL by Year(s)	Now NAD_1983_Contiguous_USA_Albers EPSG:5070, projectionCode:43007	use version 2.0 of the NASS CDL @ GMU GetCoverage service; Year-list update
u3. Update Edited Field Boundaries	Add the use of updateYr as a required field	Add anonymous OID identification to thwart FSA editing
u4. Project ACPF FGDB to new Spatial Reference	Test for projecting to the same spatial reference	
u5. Find Terraces	Update for ArcGIS Pro 3.0.x compatibility	Find terraces within 10m of FB line, delete
u6. Get US Roads	new tool in version 5	