MVP for SSURGO-SQLite

1. **SSURGO-SQLite Data Loader criteria**
   1. The SSURGO-SQLite Data Loader (DL) should be capable of running independently of any other application.
   2. When running in ‘independent-mode’ the DL should be able to ask the user for input and output parameters
   3. The DL should also be flexible enough that it is also ‘scriptable’, capable of handling input and output parameters.
   4. Ideally the DL will be written in a scripting language such as Python that will allow our customers to easily use the DL and perhaps even adapt it for their own use.
   5. Should be simple to maintain, update, distribute and support
   6. Ideally the DL should be able to import multiple SSURGO datasets in a single ‘run’
      1. Batch imports aren’t much more complicated than one-at-a-time
      2. This would allow us to more easily test larger, multiple-survey databases
      3. Allows for faster, bulk loading of data and reduced time spent opening and closing tables
2. **Spatialite vs. Geopackage comparison criteria**
   1. Storage efficiency
      1. Is there a significant advantage in the size of a populated database over another? (local diskspace)
      2. Is there a significant advantage in the size of one zipped database over another? (ease of distribution)
   2. Database functionality and performance
      1. Loading SSURGO data - ease and speed that spatial and tabular data imported
      2. Query performance – how fast spatial and tabular queries run
      3. How fast do soil polygon geometry display in a GIS map
      4. How well geometry operations such as ‘clipping’ are performed
      5. Both spatial and tabular joins and spatial views work well and can display information in table views and ‘Identify popup’ windows.
      6. Capacity for future enhancements such as standardized storage for ISO metadata, stylesheets, layer symbology, etc.
      7. Does it allow internal storage of a 32-bit raster (mukey)?
      8. The database version with the most readily available geometry extension
      9. Spatial data needs to be compatible with QGIS, ArcGIS Desktop, ArcGIS Pro, R