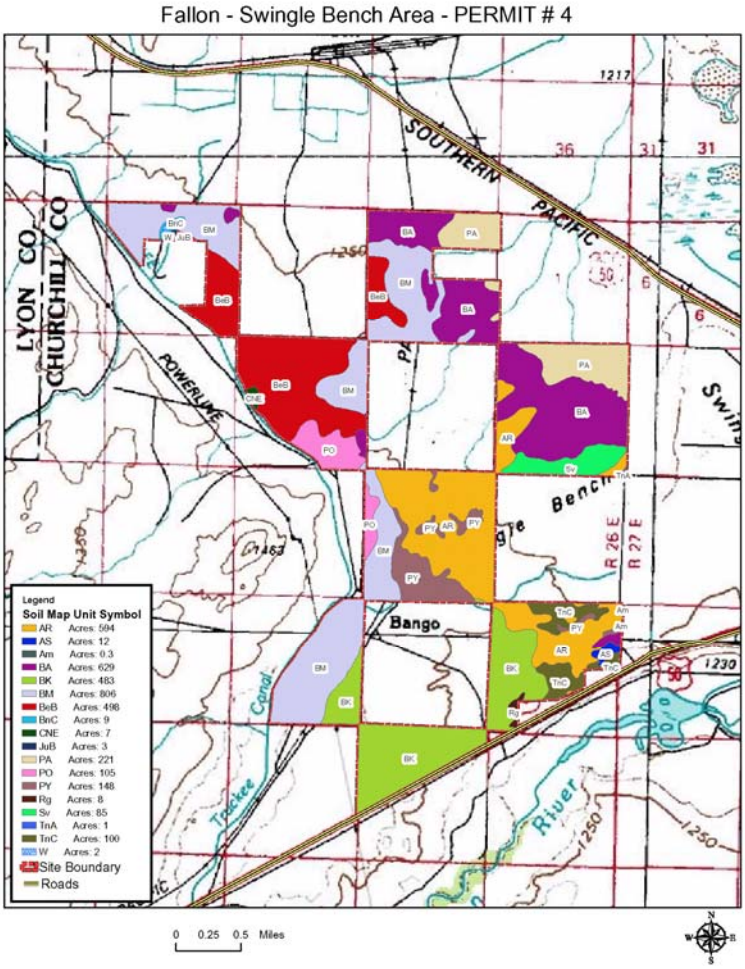
Determining Percentage of Soil Types within Grazing Permit areas in Churchill and Lyons Counties in Nevada



Purpose

To produce soil maps and MS Excel tables for thirty-seven permit sites around Churchill and Lyon Counties in Nevada to determine grazing suitability. This project was for Frontier Natural Resource Consulting (FNRC), who had a contract with the Bureau of Reclamation (BOR)

Methods

The first step was to georeference the six images provided by FNRC to real world coordinates based on the PLSS grid and USGS Topo maps. Then a polygon shapefile of the permit boundaries was created using on-screen digitizing techniques. Once all the shapefiles were completed, they were merged together and imported into a geodatabase to ensure that there were no overlaps or gaps.

The second step was to move the soils data into the same projection as the permit sites, import these into a geodatabase and then merge them together. Topology was then created to check for any overlaps or gaps.

The last step was to intersect the soils with the permit sites. Then the data was dissolved by the site number and the Soil Map Unit Symbol (musym). The data was then exported out as a shapefile to be viewed in ArcExplorer, which is a free program designed for simple viewing and querying. The associated attribute data was converted to an Excel file for further analysis by FNRC.

Results

Thirty-seven maps with summary tables for each permit site were created showing 112,200 acres of soils, classified by soil types.