ABSTRACT:

Ecological sites are the fundamental land units that make up the pattern relating vegetation and soil across the landscape at a local scale. Ecological sites within a complex landscape setting provide a consistent framework for organizing vegetation-soil relations and for estimating effects of disturbances or responses to management. The Natural Resources Conservation Service (NRCS) is committed to developing “provisional” ecological sites (PES) for all soil components mapped within each Major Land Resource Area (MLRA) across the US over the next 5 years. To rapidly approximate ecological sites at a provisional level, pre-existing ecological information relevant to the soils and vegetation was used. Existing soil catena models were used to describe different parent materials and soil sequences and properties related to landscape position and wetness. Vegetation information was obtained from pre-existing sources (e.g., state Natural Heritage programs) with accounts of native plant communities and generalized descriptions of living and site conditions. Changing vegetation patterns reflecting the ecological and environmental nature of the land surface form toposequences or catenas. Using soil catena charts as a reference for soil sequences, native plant communities were matched and assigned to individual soil series based on:

- soil temperature
- lithology
- parent material
- soil drainage class
- soil texture
- presence of restrictive layer
- tacit knowledge (personal observations and consultation with area ecologists)

The resulting series of ecological sites show the combined vegetation toposequence/soil catena for selected parent materials. These PES are hypothesized soil-vegetation combinations proposed for future clarification, testing, and refinement using field reconnaissance and plot data per NRCS standards.