

# Missouri Ecological Classification System

**C**onserving Missouri's rich array of native plant and animal communities involves properly maintaining, enhancing and restoring these native ecosystems. Land managers in Missouri often have the difficult task of managing resources from a multiple-use perspective. An ecological classification system is a framework that allows landowners and natural resource managers to identify, map, and describe land with similar physical and biological characteristics (ecological sites) at scales suitable for natural resource planning and management.

## What are ecological sites?

Looking across a landscape, it is not difficult to recognize that areas differ from others in kinds, size and amount of vegetation. These differences are used as the basic subdivision for inventory and analysis of landscapes. Ecological sites (ES) incorporate a land classification system that describes the ecological potential and ecosystem dynamics of land areas. Lands are classified considering discrete physical and biotic factors. Physical factors include soils, climate, hydrology, geology, and physiographic features. Biotic factors include plant species occurrence and plant community compositions.

## How are ecological sites named?

Ecological sites in Missouri are named based upon: soil/substrate; landform; and type of historic plant community. Examples of Missouri ecological sites include: Loess Fragipan Upland Flatwoods; Alfic Chert Protected Backslope Forest; and Mollic Claypan Summit Prairie.

## How are ecological sites mapped?

A fundamental concept of ecological sites is their direct linkage to soil types, specifically the soil map unit components of the National Cooperative Soil Survey. Ecological sites are linked to one or more map unit components of one or more soil map units.

## What is an ecological site description?

Information and data pertaining to a particular ecological site is organized into a reference document known as an Ecological Site Description (ESD). ESDs function as repositories of ecological knowledge regarding ecological sites. Basic or provisional ESDs for all ecological sites identified in Missouri are available within the Missouri Field Office Technical Guide, in Section II - Natural Resources Information.

## How are ecological sites used?

Ecological sites help land users understand how ecosystem attributes vary within and among regions, and can help them develop sound management goals and objectives. Silviculture, wildlife management, resource planning, natural community management, ecosystem restoration, private lands conservation, and scientific research can all benefit when considering ecological sites.

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## How is Missouri developing ecological sites?

The Missouri ecological site description project is a team effort with a wide range of technical experts. The USDA Natural Resources Conservation Service and the Missouri Department of Conservation are leading this effort along with the University of Missouri, Missouri Department of Natural Resources, USDA Forest Service, and U.S. Fish and Wildlife Service. Missouri is using a framework for identifying ecological sites that is based on soil properties. These essential soil properties include: landform; parent material; root restriction; base saturation; drainage; texture; flooding; and ponding.

### Summary

Missouri is part of a nationwide effort to describe and map management-scale ecological site conditions to guide decisions about cost-share programs, land management and conservation planning. This multi-agency team effort can help drive resource planning and management at a variety of scales, from eco-region, to landscape, and finally, to the farm and field level. Ecological site information is available via the NRCS Web Soil Survey, USDA Ecological Site Information System website, and the Missouri Field Office Technical Guide.

### For More Information

#### Missouri Field Office Technical Guide:

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/ftog>

#### Web Soil Survey:

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

#### Ecological Site Information System:

<http://esis.sc.egov.usda.gov/>



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