

# Nevada Ecological Site Descriptions

Access Provisional ESDs to Help Make Resource Management Decisions



## Ecological Site Descriptions

Have you ever wondered where to find information about the characteristics, distribution, and dynamics of specific ecosystems? The Natural Resources Conservation Service (NRCS) actively partners with researchers and resource management professionals to catalog knowledge about the characteristics, spatial distribution, and temporal dynamics of ecosystems to support science-based resource management decisions.

Ecological Site Descriptions (ESDs) provide a framework for cataloging observations and expert knowledge about distinctive ecosystem classes and how they change over time. ESDs provide accessible, reliable ecosystem knowledge for those seeking to understand how disturbance and management affect ecosystem structure and processes. ESDs and associated information are used primarily to stratify the landscape for monitoring and assessment, interpretation of resource hazards and opportunities, and to prioritize and select management actions.

## How Can ESDs Help Me?

ESDs are reports that provide detailed information about a particular kind of land—a distinctive ecological site. They provide land managers with the information needed to evaluate suitability for various land uses, capability to respond to different management activities or disturbances, and the ability to sustain productivity over the long term. Understanding the potential of ecosystems and how they might respond to disturbance and management inputs help natural resource professionals anticipate change and prioritize investment in conservation and restoration practices.



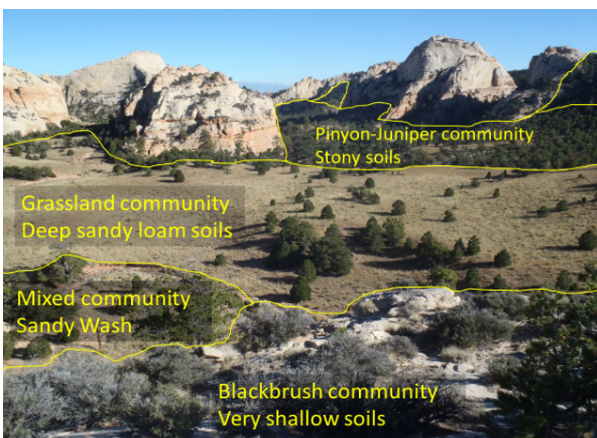
## Publication Status in Nevada

Through a recent initiative by the NRCS' Soil and Plant Science Division, all of the Major Land Resource Areas within Nevada now feature published, publicly available ecological site data. This information is almost exclusively available at the "Provisional" approval level. This is the minimum standard for publication, which means that the site has undergone a rigorous scientific review process and contains the information which makes it most useful for land management decision-making.

Every provisional site features a state-and-transition model (STM). An STM describes the patterns, causes, and indicators of transitions between communities within an ecological site. STMs synthesize literature and informal knowledge tied to particular ecological sites to distinguish changes in vegetation and soils that are easily reversible versus changes that are subject to thresholds beyond which reversal is costly or impossible. The models describe all possible states, community phases (i.e., easily-reversible variants of states), and transitions between communities and states. Transitions contain information about mechanisms, triggers, thresholds, and indicators of threshold development (see figure on page 2).

ESD information is presented in four major sections:

- Site Characteristics: physiographic, climate, soil, and water features
- Plant Communities: plant species, vegetation states, and ecological dynamics
- Site Interpretations: management alternatives for the site and its related resources
- Supporting Information: relevant literature, information, and data sources



## Where Can I Find ESD Reports?

ESDs are stored and accessed within the Ecosystem Dynamics Interpretative Tool (EDIT). If you are interested in obtaining soil and ESD information for your farm, ranch, or other lands, use the NRCS Web Soil Survey application. You can create your personal Area of Interest and view, save, and print maps and reports providing soil and ecological site information in your property or project area. Ecological sites are connected to spatial data via soil map units. Every soil mapped in Nevada has an ESD associated with it.

Web Soil Survey: <https://websoilsurvey.nrcs.usda.gov/>



EDIT (Use the "NRCS-EDIT" link found on this website): <https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soil/ecological-sites-tools>



For assistance, please contact Chris Savastio, acting Nevada state soil scientist, at [chris.savastio@usda.gov](mailto:chris.savastio@usda.gov) or 775-834-0904.

Right: Map of the NRCS Major Land Resource Areas for Nevada

Example of a state-and-transition model. This is for Ecological Site R027XY015NV (STONY LOAM 4-8 P.Z.). Upper alluvial fans in the Fallon-Lovelock, Nevada area

