

Sagebrush Ecosystem Trends Module: Quick Start User Guide

Background: Welcome to the [Sagebrush Ecosystem Trends Module](#)! This web-based mapping tool enables users to identify which threats are driving the current status of sagebrush ecological integrity (SEI), assess if SEI and associated threats (e.g., invasive annual grass, conifer encroachment, human modification) have changed over time, and visualize spatial trends in SEI and threats. The Sagebrush Ecosystem Trends Module supports managers in identifying specific locations within their management area that are most important to prioritize for conservation treatments and contextualizing them within the Sagebrush Conservation Design's Defend the Core framework.

Getting started: When users first open the mapping interface, they will see an outline of the sagebrush biome and a base map of the western US. The drop-down menus on the left allow users to add three different types of data:

1. **Sagebrush Reporting Units (SRUs)** represent management areas of known importance. When a variable is selected from the SRU menu, mean values across the SRU are shown. ***One of the SRU layers must be selected to generate an SRU pop-up report.***
2. **Raster Layers** show pixel-level values. Some of the raster layers display continuous values (i.e., 0-1) while other layers show categorical values (e.g., no to low, moderate, high).
3. **Context Layers** show lands by management type and conservation initiatives.

Visualizing multiple data layers: Users can select up to one layer from each of the three categories listed above and can control the opacity of the selected data layers by clicking on the box that says 'opacity' at the bottom of the screen and then using the slider to adjust opacity.

Visualizing data layers at different time steps: Users can visualize data layers included in the SRU and Raster Layers dropdown menus at different time steps. Using the Selected Year slider bar displayed beneath the data layers menu, users can select the year for which the data is displayed (i.e., 2001, 2006, 2011, 2016, 2020).

SRU reports: Both a mini pop-up report with summary statistics and a detailed PDF report with maps showing changes in sagebrush ecological integrity and cost estimates for treating threats are available for each SRU. To generate a pop-up report with trends and summary statistics, users must first select a data layer from the SRU drop-down menu, and then click on an individual SRU. When an SRU is selected, a pop-up report will appear. The SRU data layer that is selected does not change the content of the pop-up report. Within the pop-up report, users can select an icon in the upper right of the report to download a detailed PDF report.

Draw-your-own-polygon feature: Using the 'Polygon tool' (square icon in the lower right corner), users can draw their own polygon by clicking once to make a vertex, and double clicking to complete the polygon. Users can move the polygon by selecting it and dragging to a new location, can edit vertices by double-clicking on them, and can delete polygons by selecting them and clicking the 'Trash' icon or by clicking the 'Polygon tool' again. User-defined polygons must have a minimum area of 20,000 acres. Creating a polygon will generate a pop-up report similar to those available for SRUs. Pop-up reports for user-defined polygons that are 20,000-80,000 acres will only show trend graphs for threats and desired habitat components; reports for user-defined polygons >80,000 acres include additional summary statistics related to sagebrush ecological integrity. Detailed PDF reports are only available for SRUs and are not available for user-defined polygons.