

# Alderleaf Mountain-Mahogany Complex



Boulder County  
Parks & Open Space

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## Community Description



Photo by  
BCPOS staff.

**Biotic:** One of the two communities is an open woodland with ponderosa pine, and the other as a shrubland with skunkbush sumac co-dominating the shrub layer with alderleaf mountain-mahogany. Both have big bluestem as the dominant herbaceous layer. Other common species include various cacti, sulphur-flowered buckwheat, little bluestem, needle-and-thread, and sideoats grama.

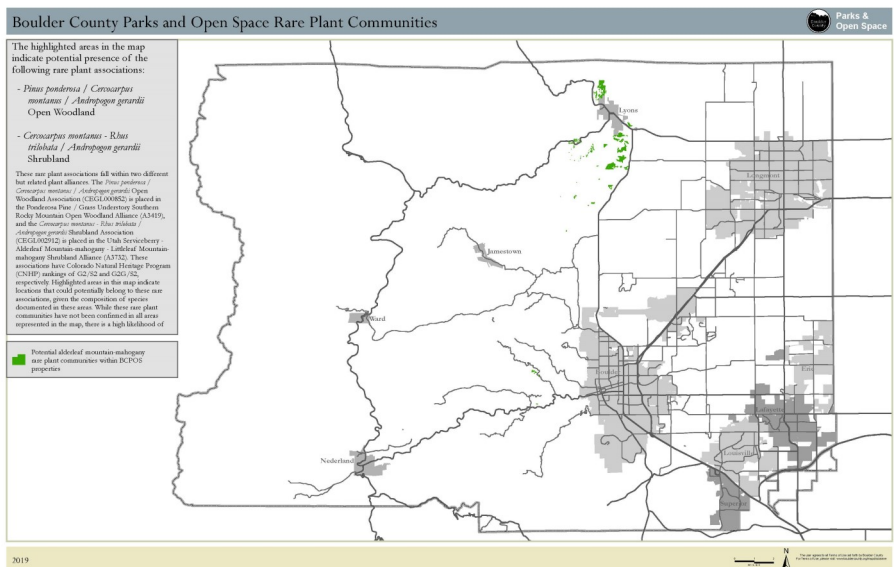
**Abiotic:** Usually found on south-facing slopes, occurring on some of the most xeric of the forested sites on the eastern Front Range. Soils are poorly developed and well-drained, and stands of this community are usually very rocky or gravelly.

**Vital processes:** Regular light-to-moderate grazing by ungulates or livestock is necessary for healthy stands of the associations in this complex. Low-intensity fires in a natural fire regime are a healthy component of these stands.

## Background

These two rare Colorado vegetation associations are found on the eastern side of the Colorado Front Range on hogbacks, ridges, mesas, and slopes. Alderleaf mountain-mahogany makes up the dominant shrub species in both associations along with big bluestem as the dominant grass. Both of these associations have been degraded by human activities such as development, invasive weeds, and a changing climate that alters community dynamics.

## Distribution & Range



## Threats

**Invasive Species:** Most stands of these communities have high cover of cheatgrass, and after fires mullein, dalmatian toadflax, and non-native thistles are likely to invade these rare communities.

**Overgrazing:** Overgrazing can result in lower abundance of native perennial grasses. On the other hand, lack of grazing can lead to decadence of stands which can increase wildfire intensity.

**Loss/alteration of vital processes:** Lack of fire disturbance can lead to an overabundance of ponderosa pine, eliminating alderleaf mountain-mahogany – skunkbrush sumac / big bluestem shrubland stands due to succession.

**Climate Change:** A warming climate leading to prolonged drought increases the susceptibility of ponderosa pines to disease and pests. Warming temperatures also favor cool-season grasses at the expense of warm-season grasses like big bluestem. Ponderosa pine range shifts are expected to occur with a warming climate.

**Development:** The eastern base of the Front Range continues to be subject to rapid housing development in the same geographic regions where these associations occur.



Photo By BCPOS Staff

## Management Considerations

**Coordinate management actions with**

**BCPOS:** Potential locations can be reported to BCPOS to help with planning and conservation. BCPOS can help with:

- **Documentation:** If stands are identified, landowners should map or monitor these areas with BCPOS.
- **Agriculture/grazing:** Low to moderate natural or livestock grazing is recommended to maintain healthy stands.
- **Restoration:** BCPOS can guide restoration efforts, which could entail the use of herbicide treatment and re-introducing native species that are known to occur in these communities.
- **Invasive Plant Management:** If possible, mechanical removal of invasive species (i.e. hand-pulling or using hand tools to remove invasive species) is ideal.
- **Fire Management:** BCPOS can help determine if fire management would be an effective tool to fight invasive species.

## Species Include

### **Ponderosa pine / Alderleaf mountain-mahogany / Big bluestem Open Woodland**

- **Scientific Name:** *Pinus ponderosa* / *Cercocarpus montanus* / *Andropogon gerardii* Open Woodland
- **CNHP Ranking:** G2/S2

### **Alderleaf mountain-mahogany - Skunkbush sumac / Big bluestem Shrubland**

- **Scientific Name:** *Cercocarpus montanus* - *Rhus trilobata* / *Andropogon gerardii* Shrubland
- **CNHP Ranking:** G2G3/S2