



Sagebrush Steppe Monitoring

City of Rocks National Reserve

Importance: A threatened ecosystem

Sagebrush steppe is one of the most threatened ecosystems in the Intermountain West. Substantial portions of the region have been converted to agriculture and heavily grazed rangeland. Much of the remaining sagebrush steppe has been degraded through altered fire regimes and invasion of introduced plants. Historic and current land use practices, both within and adjacent to Upper Columbia Basin Network park steppe communities, continue to fragment and alter steppe ecosystems, and predicted climate change scenarios for the region will likely exacerbate these changes.

2012 Status

In 2012 the UCBN estimated the amount (measured by percent cover) of bare soil and important native and nonnative plant species in steppe communities of City of Rocks National Reserve (CIRO). This information provided important baseline indications of ecological health for this area. This is the third year of sagebrush steppe monitoring in the reserve since 2008 and many areas within CIRO appear to have healthy sagebrush and native bunchgrass communities within them. In addition to big sagebrush, western wheatgrass and big showy flowering forbs like arrowleaf balsamroot often dominate these plant communities. Cheatgrass, a non-native invasive annual grass, increased in most monitoring areas within CIRO in 2012 relative to 2010, a worrisome trend. Of particular concern is the abundance of cheatgrass in portions of the southern part of the Reserve that have experienced recent wildfire. Like many places in the Snake River Plain of southern Idaho, fire appears to exacerbate annual grass invasion in the Reserve. The information provided through regular monitoring is being used to identify areas in need of special protection or restoration and can assist the park in vegetation management.

Management Applications

- Provide critical information on park ecological condition
- Provide feedback on the success of park management and restoration activities
- Inform integrated assessments of climate change impacts on park resources
- Support park resource planning and land health reporting efforts

Objectives

Determine the status and trends in the composition and abundance of principal native and non-native invasive indicator plant species, and in the amount of exposed bare soil, in sagebrush steppe communities of the Upper Columbia Basin Network.



View from Bath Rock. Sagebrush steppe makes up about 70% of the land within City of Rocks National Reserve (CIRO) and plays a major ecological role in supporting native plant species diversity and providing habitat for wildlife.



Many areas within CIRO have healthy sagebrush steppe with abundant native grasses, shrubs, and flowers, as shown in this photo west of the Twin Sisters. Other areas are challenged by invasive weeds, and continued monitoring will help Reserve managers track those trends.