



Sagebrush Steppe Monitoring

John Day Fossil Beds National Monument Lake Roosevelt National Recreation Area

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.

2011 Status

In 2011 the UCBN estimated the amount of bare soil and principal native and non-native plant species in the steppe communities of Lake Roosevelt National Recreation Area (LARO) and John Day Fossil Beds National Monument (JODA). This information provided important baseline indications of ecological health for these areas. This is the second year of monitoring in these two parks following completion of the final protocol in 2009. Cheatgrass and other weeds appear to be at higher levels in 2011 relative to 2009, possibly a result of recent wet spring weather. The medusahead infestation in the JODA Sheep Rock Unit also appears to be on the rise. Medusahead poses a clear and present threat to the integrity of remnant bunchgrass steppe communities in JODA. This information and the patterns described for other native species are being used to identify areas in need of special protection or restoration.

Management Applications

- Provides 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.



Medusahead, an invasive annual grass, appears to be increasing in many areas of the John Day Fossil Beds and presents a threat to the biological diversity of park bunchgrass steppe communities, such as the one shown here from the Clarno Unit of the park.



2011 monitoring has contributed to the establishment of baseline conditions, which include identifying areas of intact sagebrush steppe vegetation such as in this photo from a north-facing slope overlooking Crescent Butte and Coulee Dam at Lake Roosevelt National Recreation Area.