



Preserving Bunchgrass Steppe at the Clarno Unit John Day Fossil Beds National Monument

Columbia Basin Bunchgrass Steppe: A threatened ecosystem

Substantial portions of the landscapes in and around John Day Fossil Beds National Monument have been converted from native sagebrush and bunchgrass steppe vegetation to invasive annual grasslands, as a result of historic overgrazing, wildfire, and the invasion of introduced plant species.

However, the Monument also preserves important remnants of the bunchgrass steppe conditions thought to have dominated much of the area prior to and during the historic settlement era of the late 19th century. Preserving these legacies of our American natural history is an important role of the National Park Service.

Taking the pulse of the Park!

The National Park Service regularly surveys bunchgrass steppe in the Monument as a part of its Vital Signs monitoring program, which determines the health of the Nation's parks and protected areas.

2012 Survey Results

National Park Service scientists surveyed the Clarno Unit steppe in June 2012 following the August 2011 wildfire as part of the Vital Signs monitoring program. About 98% of the Unit had been burned in 2011. Although bluebunch wheatgrass, one of the most important native bunchgrasses in the Monument, did not decline from before the fire, only about 10% of the Unit still supports healthy stands of wheatgrass. Cheatgrass, a widespread invasive annual grass, is pervasive throughout the Clarno unit, but was slightly less abundant in 2012, possibly because of the dry winter weather that occurred that year. Medusahead, another very aggressive invasive annual grass, increased substantially from 2011, a possible early indication of impact from the fire. In the coming years, continued monitoring will track this unfolding ecological story and help guide effective management actions.



Healthy bunchgrass steppe in Clarno before the 2011 wildfire.



Wildfire swept through the Clarno Unit in August 2011. Although the sagebrush-bunchgrass steppe ecosystems of the Columbia Basin have always experienced periodic wildfires, today the presence of invasive annual grasses, which can outcompete native plants following fire, presents a serious threat.



The steep north-facing slopes of the Clarno Unit, as shown in this photo, support resilient bunchgrass plant communities that appear to be recovering well following the August 2011 wildfire. Protecting these areas from further degradation is an important management objective.

From Monitoring to Management

Vital signs monitoring provides the information necessary to make sound decisions about management and restoration of the Monument's bunchgrass steppe.