

Reintroducing Native Plants to the American West

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The Aberdeen PMC is working together with other team members of the Great Basin Restoration Initiative (USDI-BLM) and the Great Basin Native Plant Selection and Increase Project (USDA-FS) to develop techniques to increase native plant diversity in crested wheatgrass monocultures. Since the early 1930s crested wheatgrass has been used in range seedings in the Intermountain West as a means to stabilize soils and sites after fires, improve forage production and compete against weeds such as cheatgrass. This introduced perennial bunchgrass has many outstanding characteristics that make it a valuable tool for recapturing and revegetating low precipitation areas in the arid to semi-arid west. However; the historical use of this species was to plant monoculture plantings instead of seed mixtures. This has led to the creation of millions of acres of crested wheatgrass monocultures covering broad expanses of western rangelands. In recent years land management agencies and private land owners have begun to realize the importance of diverse plant communities for the health and stability of ecosystem functions. The Aberdeen PMC is helping others look at ways to reduce crested wheatgrass dominance and to increase native plant diversity in these sites.

Rangeland specialists from Brigham Young University (Provo, UT) have developed a series of steps in what they call “assisted succession.” This is a means by which one can make a transition from annual weed monocultures to a healthy native plant community. First, they recommend capturing the site using crested wheatgrass and allowing the annual weed seed bank to be depleted. This may take several years to gain sufficient weed control. Second, reduce crested wheatgrass by mechanical and/or chemical means. Finally, reseed the site with a native seed mixture and then manage the site for a diverse long-term native plant community.

The current study investigates the most effective means of controlling crested wheatgrass in two long-established crested wheatgrass plantings; one at Skull Valley in north western Utah and one near Burns in south eastern Oregon. Investigators are looking at treatments for reducing crested wheatgrass involving chemical and/or mechanical control. Following the control treatments the sites were seeded with a “state-of-the-art” Truax Roughrider Range Drill that allows simultaneous drill and broadcast seeding in alternate rows over rough terrain. The seeded species included bluebunch wheatgrass, Indian ricegrass, Wyoming big sagebrush, fourwing saltbush and others. The treated plots will be monitored for the return of crested wheatgrass and annual weeds as well as establishment of the seeded native plant species.

The Aberdeen PMC staff has assisted with this project in several ways. The PMC provided input on species selection for the seed mixtures and prepared the mixes by adding rice hulls for improved seed delivery through the drill and broadcaster. The PMC also worked closely with the drill manufacturer to make several modifications to the Truax Roughrider Range Drill. The PMC crew replaced accordion style tubes with smooth tubes to prevent seed bridging; they added a generator and vacuum to clean out the seed box between plots; and new seed drop boots were designed that improved seed drop and seed placement into the furrows. The PMC also provided technical expertise in designing the seeding portions of the study and completed the plantings at both sites in the fall of 2005 and fall of 2006.

For more information regarding this study or other activities at the PMC, contact PMC Team Leader, Loren St. John at 208-397-4133.



The Truax Roughrider Range drill (above) being used to seed test plots in Utah. Addition of broadcast seeders (inset) allows planting shallow-seeded species in alternating rows with deep-seeded species in a single operation.



Wider disc opening in the soil for seed to drop into and press wheel adjustment to better cover seeds with soil behind disk openers.