

## **Crested Wheatgrass Control and Native Plant Establishment in Utah**

*April Hulet<sup>1</sup>, Bruce A. Roundy<sup>1</sup>, Brad Jessop<sup>2</sup> and Jennifer Rawlins<sup>1</sup>*

*<sup>1</sup>Brigham Young University, Provo, Utah; <sup>2</sup>USDI BLM, Salt Lake Field Office, Utah*

This research was designed to determine effective ways to reduce crested wheatgrass and establish native species while minimizing weed invasion. We mechanically (single- or double-pass disking) and chemically (1.1 L/ ha or 3.2 L/ha glyphosate–Roundup Original Max) treated two crested wheatgrass sites in northern Utah followed by seeding native species in 2005 and 2006. Following wheatgrass-reduction treatments, plots were divided into 0.2-ha subplots that were either unseeded or seeded with native plant species using a Truax Rough Rider rangeland drill. Double-pass disking best initially controlled wheatgrass and decreased cover from 14% to 6% at Lookout Pass and from 14% to 4% at Skull Valley. However, crested wheatgrass recovered to similar cover percentages as untreated plots 2-3 yr after wheatgrass-reduction treatments. At the Skull Valley site, cheatgrass cover decreased by 14% on herbicide-treated plots compared to an increase of 33% on mechanical-treated plots. Cheatgrass cover was also similar on undisturbed and treated plots 2-3 yr after wheatgrass-reduction treatments, indicating that wheatgrass recovery minimized any increases in weed dominance as a result of disturbance. Native grasses had high emergence after seeding, but lack of survival was associated with short periods of soil moisture availability in spring 2007. Effective wheatgrass control may require secondary treatments to reduce the seed bank and open stands to permit dominance by seeded native species. Manipulation of crested wheatgrass stands to restore native species carries the risk of weed invasion if secondary treatments effectively control the wheatgrass and native species have limited survival due to drought.