

Seed Increase for Uncompahgre Restoration Project

INTRODUCTION

Years of noticeable mule deer declines in areas that once held healthy populations prompted a series of studies by Colorado Division of Wildlife to determine the cause(s) for these dramatic population declines. What was discovered was not specific to mule deer, but rather was much more widespread. It was apparent that many of the problems related to mule deer declines were shared by other species, including plants. Because of the recognition of declining habitat on the Uncompahgre Plateau, and the ramifications that unchecked decline would have on mule deer and other species, a collaborative, community based effort was formulated to address the concerns. As a result, the Public Lands Partnership was created. Upper Colorado Environmental Plant Center (UCEPC) was contacted by Rick Sherman. A summary of this partnership and the Uncompahgre Plateau Project is provided below.

EXECUTIVE SUMMARY

The Uncompahgre Plateau Project (UP) was formalized in a 2001 MOU by the Public Lands Partnership (PLP), Bureau of Land Management (BLM), Colorado Division of Wildlife (CDOW), and U.S. Forest Service (USFS). These organizations formed a partnership to work collaboratively to restore and sustain the ecological, social, cultural, and economic values of the Uncompahgre Plateau. The UP area, located in southwest Colorado, comprises over 1.5 million acres of private, state, and federal lands. Approximately 75% of the area is public land.

Native plant communities on the Plateau are maturing and becoming less diverse and productive. As a result, water quality, wildlife habitat, and forage yields have declined while soil erosion and noxious weed invasion have increased. Changes on the Plateau have resulted due to natural processes and past management practices including fire suppression and historic overgrazing. A decline in landscape health is particularly evident in the pinyon-juniper zone. A number of agency management plans and studies document these concerns. UP is assisting in the coordination of management across jurisdictional boundaries to address ecosystem needs.

The overarching goal of the project is to improve the ecosystem health and natural functions of the Uncompahgre Plateau through active restoration projects. Sustaining social, cultural, and economic values to the local communities are also important goals. The primary role of UP is to help coordinate and facilitate restoration activities on the Plateau. UP does not supersede management authority on any federal, state, or private lands.

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METHODS

To date, UCEPC has collected four grass species, three shrubs, and two forbs that can be utilized for seed increase or containerized production. Table 1 outlines the clean seed quantities collected during the 2002, 2003, and 2004 field seasons. A total of five collection days were used to obtain the seed. The six materials collected in 2002 were from two trips. The first trip on July 1 was conducted south and east of Montrose and the second trip, July 19, was done on the Uncompahgre Plateau. In 2003, a collection was conducted June 23 on Sims Mesa and on July 30, the entire staff again collected on the Plateau. A single trip, August 12, was taken to the Uncompahgre Plateau in 2004. All of these materials remain on inventory at the Plant Center.

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		UCEPC Collections		
Species	Scientific name	2002	2003	2004
Blue wildrye	<i>Elymus glaucus</i>	---	---	308 g
Bluestem penstemon*	<i>Penstemon cyanocaulis</i>	11 g	76 g	
Bottlebrush squirreltail	<i>Elymus elymoides</i>	47 g	361 g	
Indian ricegrass	<i>Achnatherum hymenoides</i>	---	361 g	
Lewis flax*	<i>Linum lewisii</i>	23 g	---	
Mexican cliffrose	<i>Cowania mexicana</i>	2 g	---	
Mountain mahogany	<i>Cercocarpus montanus</i>	18 g	566 g	
Needle and thread	<i>Hesperostipa comata</i>	---	169 g	
Utah serviceberry*	<i>Amelanchier utahensis</i>	13 g	87 g (rust)	
Utah serviceberry*	<i>Amelanchier utahensis</i>		120 g	

* Positive identification pending

The project plans had originally called for the use of seed from collections rather than greenhouse grown stock. However, region wide drought conditions did not provide good collectible populations of target materials. Steve Monsen, Native Plant Coordinator for the UP Project, provided seed to greenhouses for container production. In 2004, three species were provided to UCPEC for field increase as containerized stock. These materials were placed in production fields with the use of two Holland Old Faithful model transplanters. On June 16, 2004, a crew of eight people planted six rows (0.2 acre) of yarrow plugs that were grown in cone type containers. The crew started preparing the plugs for planting at 10:30 a.m. and by 3:30 p.m. the yarrow transplanting was done. The following day, 0.27 acre of muttongrass was

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transplanted by 12:30 p.m. and on June 18, 0.27 acre of Junegrass was done. A crew of seven transplanted the muttongrass and six people transplanted the Junegrass.

Two transplanters were placed on a toolbar, each with seating for two. This allowed four people to transplant into two rows, alternating the placement of plugs. Depth adjustments were made on the planting shoe for the size of the rooted stock. As the shoe opened the furrow, the plugs were placed at a slight angle in the furrow, held in place until the packer wheels approached the planting spot, and then released as the packer wheels pressed the soil around the plug. The second person would have the next plug in place while the first person closely observed and adjusted the placement of the plug being planted. Alternating in this way with two people planting per row provided excellent placement. Two people followed on foot, one for each row, to adjust planting depths on the transplants as necessary. Hand move sprinklers were set immediately after the plantings were completed each day. Survival and stand establishment were excellent on all three products utilizing these methods. In 2005, an additional material was planted in UCEPC Field 3A. Approximately 1,800 "Conetainer" type transplants of *Senecio multilobatus* were planted the first of July in the same manner the other materials were planted.

RESULTS

On November 2, 2004, 43 clean grams of UP yarrow were hand collected. This represents the first field produced seed by UCEPC for this project. Each field should produce some seed in 2005.

Species	Accession	Year Established	Acreage	Harvest Amount	Harvest Date
Junegrass	9092273	6/18/2004	0.27 acre	-0-	NA
				15 lb	7/26/2005
					2006
Muttongrass	9092272	6/17/2004	0.27 acre	-0-	NA
				2 lb	6/8/2005
					2006
Senecio		7/1/2005	0.13 acre	-0-	NA
					2006
Yarrow	9092271	6/16/2004	0.20 acre	43 grams	11/2/2004
				17.5 lb	8/6/2005
					2006

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CONCLUSION

UCEPC will continue to produce seed through 2006 of the fields established in 2004. It is anticipated that additional materials as well as the size of the established fields will be expanded to increase the amount of seed produced and delivered to UP growers. Currently, however, there is no formal agreement between UCEPC and the PLP. In 2002, UCEPC received a \$50,000 contribution from the UP committee for the initiation of work on the project. The initial funding has supported the activities of UCEPC to date and will cover some of the expenses in 2006. Work total for 2006 is \$11,983 for production and maintenance of the four established species and will be the same for 2007. There is \$2,085 remaining in the balance from which to draw funds for 2006. If additional materials are planted or if the field sizes are increased, the reimbursement will change accordingly. However, a formal agreement should be approved this year that specifies the scope of work by UCEPC for the UP project.