

Project Number 08S240
Annual Report 2003
By: Steve Parr

GRAND TETON NATIONAL PARK
COOPERATIVE AGREEMENT

**Project Number 08S240
Annual Report 2003**

INTRODUCTION - This report covers the activities related to the cooperative agreement between Upper Colorado Environmental Plant Center and Grand Teton National Park. The fully executed agreement, Interagency Agreement Number 1211-01-002, was formally signed in September of 2001. The agreement called for the production of five grass species through fiscal year 2005 for revegetation uses within Grand Teton National Park. Seed collection of one species, prairie Junegrass, has been unsuccessful. A substitute species, showy goldeneye, will be increased instead.

ACTIVITIES - Upper Colorado Environmental Plant Center (UCEPC) had established a 1.1 acre field of basin wildrye on October 5, 1999. In addition, four other species were targeted for seed increase. Blue wildrye, bluebunch wheatgrass, slender wheatgrass and prairie Junegrass were targeted for seed increase by UCEPC for revegetation purposes for several highway projects within Grand Teton National Park. On July 25, 2001, a meeting was held at Jackson Hole, Wyoming between Grand Teton Park personnel, UCEPC staff, Wyoming Department of Transportation and Bridger-Teton National Forest staff to coordinate seed collection, species selection and general increase efforts for the area in close proximity to Jackson Hole.

Collection efforts in Grand Teton were to focus on three species, prairie Junegrass, slender wheatgrass and blue wildrye. Grand Teton seed previously produced by UCEPC was to have been used if possible for the increase effort. Seed test results on bluebunch wheatgrass and slender wheatgrass seed held in inventory at UCEPC were to determine whether seed of those two species could be used from inventory rather than from collection. Seed was sent to Colorado State University Seed Laboratory for analysis in March of 2001.

Test results indicated no germination for slender wheatgrass, 32%, and 26% germination for two lots of bluebunch wheatgrass. As a result of the seed tests, slender wheatgrass was also targeted for collection, but bluebunch produced in 1992 was used to establish a one acre field on August 29, 2001. A good to fair stand, (70-80%), was noted in October, but vigor was less than two plantings of different species on either side, blue wildrye and nodding brome, for other project partners. Seed production was expected from both the bluebunch field and the basin wildrye field in 2002.

From seed collection efforts by park personnel, good collections of slender wheatgrass and blue wildrye were obtained. In addition, collections of Utah sweetvetch and upland Carex were also sent to UCEPC for cleaning. Discussions about producing Utah sweetvetch as an additional species occurred, so it was also tested. The Carex was cleaned only and was to be used directly for park projects. The prairie Junegrass collection was again, more difficult than the other products. As a result of two years of poor seed fill for the species, discussions of a substitute species, pinegrass, were made between Stephen Haynes, Russ Haas and UCEPC. Collection of pinegrass did occur during the summer of 2002, but the seed was used within the park. During 2003, 1.16 clean pounds of showy goldeneye seed resulted from collections by park personnel. It is hoped that a seed field can be established with this product this fiscal year. Seed test results are not available at this time.

**Project Number 08S240
Annual Report 2003**

Listed below are the species by accession, the clean weights of collected seed, and the PLS quantities of each product tested.

Blue wildrye	9070983	14 lb	8.4 PLS lb
Prairie Junegrass	9070986	41 g	no test
Slender wheatgrass	9070982	12.5 lb	11.3 PLS lb
Showy goldeneye		1.16 lb	

Two additional non-contract materials were collected by Park employees and cleaned by UCEPC.

Carex species	not accessioned	5.93 lb	no test
Utah sweetvetch	not accessioned	0.82 lb	184 PLS g

The seed collections of slender wheatgrass and blue wildrye resulted in establishment of one acre fields of each product in July 2002.

Common Name	Scientific Name	Acreage	Quantities
Basin wildrye	<i>Elymus cinereus</i>	1.1	1000 lb
Blue wildrye	<i>Elymus glaucus</i>	1.0	600 lb
Slender wheatgrass	<i>Elymus trachycaulus</i>	1.0	1200 lb
Prairie Junegrass	<i>Koeleria macrantha</i>	0.5	200 lb
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	1.0	400 lb

Inadequate seed from collections have resulted in selection of an alternate species for 2004 establishment

**Project Number 08S240
Annual Report 2003**

RESULTS

Species	Basin wildrye	
Field Establishment	October 5, 1999	1.1 acre
Production	2000	no harvest
	2001	13 lb
	2002	53 lb
	2003	225 lb
Species	Bluebunch wheatgrass	
Field Establishment	August 29, 2001	1.0 acre
Production	2002	no harvest
	2003	71.0 lb
Species	Blue wildrye	
Field Establishment	July 19, 2002	1.0 acre
Production	2003	25 lb
Species	Slender wheatgrass	
Field Establishment	July 15, 2002	1.0 acre
Production	2003	227 lb

SUMMARY - In fiscal year 2001, a formal agreement between Grand Teton National Park and Upper Colorado Environmental Plant Center was initiated. The agreement called for the production of five grass species through fiscal year 2005. One of those species was established in a prior agreement, but produced seed for the first time this year.

Bluebunch wheatgrass, which was produced by UCEPC for Grand Teton in a previous agreement, was used as the source seed for a one acre planting conducted in August 2001. It was anticipated that seed production would occur for each of these materials, but bluebunch wheatgrass displayed poor vigor during much of the growing season, and very few seed heads were produced. As a result, no harvest occurred for bluebunch. The basin wildrye produced 53 clean pounds of seed. The field was harvested on July 24 with our large combine. The other two products planted in July exhibited good establishment and vigor in the fall of 2002. Stephen Haynes from Grand Teton National Park was able to make a site visit on August 1-2 to view the center and seed production fields first hand, and to provide feedback during the course of the agreement. The year 2002 was the second consecutive driest year on record at the Plant Center. We received a total of 11.01 inches of precipitation for the year, which is 68% of our 50 year average. In addition, during the months of April, May and June, we received 1.31 inches of precipitation. This is just 32% of our 50 year average for this same period through time. As a result, the critical growing season received nearly 3 inches less precipitation than our 50 year average. Even with irrigation, crops were stressed and seed production was well short of potential.

Project Number 08S240
Annual Report 2003

In 2003, precipitation was 77.5% of average for the fourth year of continuous drought. However, spring moisture was beneficial for early season materials, and seed production was not too far off of species averages. The first production year for blue wildrye and slender wheatgrass should be the least productive years during the term of the agreement, and we anticipate good harvests of both of these products for 2004. The bluebunch wheatgrass field is also improving in vigor and percent stand. The basin wildrye had its best production year since being established.

Seed of four species is now on inventory for part revegetation projects and represents the entirety of the production quantities identified in this report.