

Project Number 08S239
Annual Report 2001
Prepared by Steve Parr

BRYCE CANYON NATIONAL PARK
COOPERATIVE AGREEMENT

**Project No. 08S239
Annual Report 2001**

INTRODUCTION:

Upper Colorado Environmental Plant Center (UCEPC) Project No. 08S239 was initiated on June 3, 1998 by Bryce Canyon National Park, the USDA Natural Resources Conservation Service, and the UCEPC. Changes in Park priorities increased the scope of the project by nearly two times and construction was delayed by one year. Because of the necessary changes in the project, an amendment to the original Interagency Agreement 2071-8-0001 was initiated in August of 1999. The fully signed amendment was executed in its entirety on February 2, 2000, and will direct future operations in lieu of the original agreement. Two species, nodding brome, *Bromus anomalus*, and slender wheatgrass, *Elymus trachycaulus*, continue to be the only species targeted for seed increase. Quantities of seed were harvested from both species in 1999 and 2000.

OBJECTIVE:

The intent of the agreement is for the UCEPC to provide approximately 1500 pounds of seed of these two species for revegetation purposes on disturbances associated with Rainbow Point Road reconstruction within Bryce Canyon National Park. The present contract will be completed during the fall of fiscal year 2002.

ACTIVITIES:

The nodding brome field, which was planted in July 1998, was intra-seeded on May 12, 1999. This was done to improve stand establishment for the field and increase seed production during subsequent years. Both fields were cultivated twice, irrigated twice with hand set overhead sprinklers and hand rouged twice prior to seed harvest. Three hundred pounds per acre of 30-10-0 fertilizer was applied in November. On September 5, 2000, an additional 0.8-acre of slender wheatgrass was planted to bolster seed production quantity in an effort to meet targets. Initial targets were approximately 50% nodding brome and 50% slender wheatgrass. Bryce slender is about twice as productive as the nodding, so an increase in slender was done to accomplish total seed targets. Concern was expressed about the vigor of the nodding brome field in the 2000 report. The field simply looked to be in poor condition in the fall of 2000, and inspections by staff and Russ Haas in the spring of 2001 indicated a new planting would be more beneficial for Bryce Canyon seed production than by working to produce seed from a decadent field. Contacts were made by Russ to Bryce Canyon to determine if production should be extended. Bryce indicated that additional production would be conducive to their long-range revegetation needs. As a result, the nodding brome field was plowed and a new 0.5-acre field was planted on August 29, 2001 with Planet Junior planters. The planting utilized seed produced in 1995, which was estimated to have a germination of 20%. Vitavax was used to treat 8.2 pounds of seed for the planting. A very good stand was noted two weeks later.

**Project No. 08S239
Annual Report 2001**

SEED PRODUCTION:

The following quantities of seed were produced for Bryce Canyon in 1999:

Bromus anomalus	185 pounds (49 PLS)
Elymus trachycaulus	30.5 pounds (28 PLS)

Fiscal year 2000 seed production

Bromus anomalus	34 pounds (9 PLS)
Elymus trachycaulus	103 pounds (78 PLS)

Fiscal year 2001 seed production

Bromus anomalus	Field plowed
Elymus trachycaulus	246 pounds

Total Inventory in Clean Pounds of Seed 1,048.5

DISCUSSION

The summer of 2001 was the hottest and driest on record at UCEPC. The previous year was extremely dry as well. These two drought years back to back have caused stress on the production of seed. Seed fill was quite poor on many materials, but the Bryce slender produced near its long time average. Seed tests are not available at this time, so PLS production is not known.

The following information recaps the accomplishments of the UCEPC relative to seed increase production for Bryce Canyon through 2001.

Species

Nodding Brome
Bromus anomalus

Establishment

1.0 acre on July 20, 1998

Activities

Intra-seeded May 12, 1999

Harvest

185 clean pounds 1999
34 clean pounds 2000
Field plowed 2001

Species

Project No. 08S239
Annual Report 2001

Slender Wheatgrass
Elymus trachycaulus

Establishment

0.5 acre on August 12, 1998
0.8 acre on September 5, 2000

Harvest

30.5 clean pounds 1999
103 clean pounds 2000
246 clean pounds 2001

The 2001 production boosts the quantity of bulk, clean Bryce Canyon seed to 1048 pounds. Estimating PLS at this point is ill advised. Instead, if Bryce would like a PLS update on all the seed in inventory, which is highly recommended, it may prove very beneficial for planning purposes. UCEPC can do the work for an additional cost.