



## YELLOWSTONE NATIONAL PARK

### 2006 Summary Report

prepared by

**Natural Resources Conservation Service**

**Bridger Montana Plant Materials Center**

**INTRODUCTION:** The Bridger PMC has maintained a cooperative agreement with Yellowstone National Park (YNP) since FY 1986. This agreement facilitates the collection, increase, and reestablishment of indigenous plant material for restoration of disturbances resulting from road construction and other improvement projects within Park boundaries.

In 2006, 8 allocations of 89 seed lots from 42 species were distributed to YNP, YNP-contracted growers, or to the PMC totaling 414 pounds (188 kg). This included 48 grass lots (13 species) weighing 390 pounds (177 kg); 38 forb lots (26 species) weighing 7.5 pounds (3.4 kg); and 3 woody lots (3 species) weighing 16 pounds (7.3 kg). This includes the distribution of 5 grass lots (5 species) to the PMC for planting seed increase fields.

**ACCOMPLISHMENTS:** Yellowstone National Park has identified future road projects allowing collection and production efforts to begin at least 3 years in advance of each project.

Wildland seed collections are made by Yellowstone National Park crews, dried, and either delivered to the Bridger PMC, or picked up by PMC personnel. In 2006, 58 collections were made from 38 species: 17 grasses (12 species) at 9.6 pounds (4.4 kg); 40 forbs (25 species) at 7.4 pounds (3.3 kg); and 1 tree at 0.2 pound (0.09 kg). The wildland seed collections totaled 17 pounds (7.8 kg).

Records are maintained by the PMC of person-hours to collect each seed lot, from which the approximate cost of collecting native seed can be estimated. In 2006, YNP personnel spent more than 137 person hours in the activity of seed collection on 12 different sites. There were 38 hours (approximately 2.2 hours per collection) dedicated to collecting grass seed on 7 sites, 97 hours (approximately 2.4 hours per collection) for forbs on 12 sites, and 2 hours at 1 site for a tree species.

There were 5 grass increase blocks planted on 1.6 acres (.58 ha) in 2006. Seed increase blocks of 9 grasses on 1.54 acres (.62 ha), and a forb on 0.18 acre (0.07 ha), were removed due to natural decline in production or poor establishment. Currently there are 3.8 acres planted with 16 accessions of 10 grass species and 0.03 acres (.01 ha) of 1 forb species in seed increase blocks at the Bridger PMC.

During the past growing season, 19 grass accessions (10 species) and 2 forb species were harvested on 3.5 acres (1.4 ha), producing 505 pounds (229 kg) of clean seed. Grass seed production averaged approximately 147 lb ac<sup>-1</sup> (165 kg ha<sup>-1</sup>).

Purity analysis and tetrazolium viability tests were conducted on PMC seed increase production for 15 grass accessions. All samples were cleaned to exceed purity standards set forth for foundation seed class as established by the Association of Official Seed Certifying Agencies. The percentage viability ranged from 89 to 99 and averaged 94.

The wildland collection and seed increase inventory contains 599 lots (103 species) totaling 1,964 pounds (891 kg). This is comprised of 309 grass lots (35 species) at 1,906 pounds (865 kg), 284 forb lots (63 species) at 57 pounds (26 kg), and 6 woody lots (5 species) weighing 1 pound (0.5 kg).

**TECHNOLOGY DEVELOPMENT:** All plant material collections are assigned accession numbers and inventoried in a database. The lot identification numbers have been upgraded to include identification by individual construction projects. Detailed field instructions were completed for the vegetation monitoring protocols developed in 2004. An abstract and digital summary, *The Taming of Yellowstone's Native Plants*, was presented at the 10<sup>th</sup> Billings Land Reclamation Symposium.