



YELLOWSTONE NATIONAL PARK

2007 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 2007, 9 allocations of 112 seed lots from 37 species were distributed to YNP, YNP-contracted growers, or to the PMC totaling 581 pounds (264 kg). This included 63 grass lots (14 species) weighing 573 pounds (260 kg); 48 forb lots (22 species) weighing 8 pounds (3.6 kg); and 1 woody lot weighing 0.1 pound (0.7 kg). This includes the distribution of 3 grass lots (2 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 2007, 80 collections were made from 42 species: 36 grasses (19 species) at 9.2 pounds (4.2 kg) and; 44 forbs (23 species) at 7.8 pounds (3.6 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 2007, YNP personnel spent more than 131 person hours in the activity of seed collection on 15 different sites. There were 45 hours (approximately 1.3 hours per collection) dedicated to collecting grass seed on 13 sites, and 86 hours (approximately 2 hours per collection) for forbs on 10 sites.

There were 2 grass increase blocks planted at the PMC on 0.61 acres (0.25 ha) in 2007. Seed increase blocks of 6 grasses on 2 acres (0.8 ha), and a forb on 0.03 acre (0.01 ha), were removed due to natural decline in production or poor establishment. Currently there are 2.8 acres (1.1 ha) planted with 10 accessions of 4 grass species in seed increase blocks at the Bridger PMC.

During the past growing season, 13 grass accessions (9 species) and 1 forb species were harvested on 3 acres (1.2 ha), producing 223 pounds (101 kg) of clean seed. Grass seed production averaged approximately 100 lb ac⁻¹ (14 kg ha⁻¹).

Purity analysis and tetrazolium viability tests were conducted on PMC seed increase production for 7 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 average viability is estimated to be 90%.

The wildland collection and seed increase inventory contains 516 lots (92 species) totaling 1,964 pounds (891 kg). This is comprised of 297 grass lots (39 species) at 1,782 pounds (808 kg), 203 forb lots (47 species) at 51 pounds (112 kg), and 8 woody lots (6 species) weighing approximately 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. Extensive assistance was provided in the development of a cost estimate for revegetating the Northern Boundary. An abstract and digital summary, *The Taming of Yellowstone's Native Plants*, was presented at the 7th Annual Native Seed Quality Symposium in Cody, Wyoming.