



**GLACIER NATIONAL PARK
2002 SUMMARY REPORT**

prepared by

**Natural Resources Conservation Service
Bridger Plant Materials Center**



INTRODUCTION: The Bridger Plant Materials Center (BPMC) has maintained a cooperative agreement with Glacier National Park (GNP) since FY 1986. This agreement facilitates the collection, increase, and re-establishment of indigenous plant materials, and the development of technologies for the restoration of disturbances resulting from road construction and other projects within Park boundaries. Wildland seeds are collected by GNP staff, dried, and then mailed to the BPMC where they are cleaned, weighed, accessioned, inventoried, and stored until needed. GNP anticipates their seed and plant needs for each project and then allows 2 to 3 years of lead time for seed or plant production.

ACCOMPLISHMENTS: In 2002 and early 2003, 108 seed lots representing 47 individual species totaling 60.20 pounds (27.31 kg) were delivered to GNP or used for BPMC production. The 2002 distribution included 17 grass lots (8 species), 36 forb lots (20 species), and 55 shrub lots (19 species). Fifty-eight of the 108 seed lots were 1992-1993 lots removed from inventory and sent to GNP to supplement seeding mixes.

In 2002, 151 wildland collections were sent to the BPMC and cleaned: 16 collections of grasses, sedges, and rushes (9 species); 81 forb collections (30 species); and 54 shrub collections (19 species). A total of 13.22 lb (5.99 kg) of clean seed were processed; 3.89 lb (1.76 kg) of grass and grass-like, 6.27 lb (2.84 kg) of forbs, and 3.07 lb (1.39 kg) of trees and shrubs. A total of 71 new species:collection sites were identified and accessioned representing 3 grass or grass-like species (3 species), 41 forbs (27 species), and 27 woodies (17 species).

Eight seed production fields remained active in 2002, including *Carex athrostachya* (Camas), *C. athrostachya* (Avalanche), *C. pachystachya* (two Avalanche sources), *C. deweyana* (Avalanche), *Elymus glaucus* (Many Glacier), *Poa alpina* (Logan Pass 9057881/9058304), and *Aster laevis* (Avalanche). These fields produced a total of 40.34 lb (18.30 kg) of seed. Although *E. glaucus* (Many Glacier) and *P. alpina* (Logan Pass 9057881/9058304) were not removed, they are declining and may be removed in early 2003. Production fields of *Phleum alpinum* (Sperry Chalet), *P. alpina* (Logan Pass; 9054561), *Pseudoroegneria spicata* (Many Glacier), and *Stipa nelsonii* (Rising Sun) were removed. Three new fields were sown in 2002, including *P. alpina* (Logan Pass), *P. alpinum* (Logan Pass), and *E. glaucus* (West Glacier); but only the *E. glaucus* established.

Seed germination tests are currently being conducted on 8 accessions (6 species) grown in 2002 including *C. athrostachya* (two collections: Avalanche and Camas Road), *C. deweyana* (Avalanche), *C. pachystachya* (two Avalanche collections), *E. glaucus* (Many Glacier Road), *P. alpina* (Logan Pass), and *Aster laevis* (Avalanche). Results will be available in the 2002 GNP Annual Technical Report.

No bareroot or containerized material was delivered to GNP in 2002. Woody seed stratifications established in late 2000 of *Rosa woodsii* (Quarter Circle Bridge), *Rubus parviflorus* (North Fork), and *Symphoricarpos albus* (Avalanche) were lost to a power failure while the lots were in cold chilling. Approximately 90 *R. parviflorus* were transplanted into 40-in³ containers and will be available for delivery in 2003. Seed stratifications were initiated for *Mahonia repens* (Apgar), *R. woodsii* (Headquarters), *R. parviflorus* (Walton), *S. albus* (Headquarters), *Arctostaphylos uva-ursi* (Walton), and two lots of *R. parviflorus* (Goat Haunt).

TECHNOLOGY DEVELOPMENT: A BPMC:NPS cost estimating procedure was the basis for a paper titled *Nursery Cost Estimating at the USDA/NRCS Bridger Plant Materials Center* presented at the combined Western Forest and Conservation Nursery Association/Forest Nursery Association of British Columbia meeting held in August 2002 in Olympia, WA. A paper titled *Starting a Small-Scale Bareroot Production Nursery For Riparian Trees and Shrubs* was presented at the Inter-Tribal Nursery Council Conference and Workshop at Salish-Kootenai College in June 2002, and was based largely on PMC:GNP related production. Germination and establishment studies of *Xerophyllum tenax* initiated in 2001 were discontinued because of chronic plant mortality. Cultures of dead and dying seedlings indicate the presence of *Pythium*, and suggest this pathogen as a causal agent. Future *X. tenax* establishment studies will target control of this pathogen.