

Mat-Su Riparian Plant Material Development Final Report

The goal of the project was to collect seed and vegetative material from native species, and make it available to use on revegetation projects in Mat- Su Valley.

Seed collection and increases

Initial seed collections were conducted in the summer of 2010. Seed from the following species was collected from wild stands: *Calamagrostis canadensis*, *Chamerion angustifolium*, *Lupinus nootkatensis*, *Geranium erianthum*, *Carex mertensii*.

Seed from the species listed below was already available at the Alaska Plant Materials Center (PMC): *Deschampsia cespitosa*, *Aquilegia formosa*, *Delphinium glaucum*. The source of these three species was also Mat-Su Valley.

In 2010 following quantities of seed were collected:

Calamagrostis canadensis (wild collection) 0.4g

Chamerion angustifolium (wild collection) 110.3g

Lupinus nootkatensis (wild collection) 35.13g

Geranium erianthum (wild collection) 52.12g

Carex mertensii (wild collection) 60.9g

Aquilegia formosa (PMC field harvest) 280g

Delphinium glaucum (PMC field harvest) 99g

Total amount of seed collected and harvested in 2010 was 637.85g

The scope of the work in 2011 was focused on growing seedling from the seed collected the year before, and establishing field and box garden plantings. *C. canadensis* and *D. cespitosa* seedlings were planted in the field and the box garden.

Seedlings from *C. angustifolium*, *A. formosa*, *G. erianthum*, and *C. mertensii* were planted in the box garden.

During this summer wild seed collections were made: *C. angustifolium* 230g, *G. erianthum* 50g, *Lupinus nootkatensis* 18g.

Total weight of seed collected in 2011 was 298g.

In 2012 seed harvested from the field plantings yield: *C. canadensis*- 1200g, *Deschampsia cespitosa*- 3100g

In 2012 seed harvested from the box garden yield: *C. canadensis* --4.8g, *D. cespitosa*- 248g, *C. angustifolium* – 49g, *Lupinus nootkatensis*- 193g, *Aquilegia formosa* – 63g, *Carex mertensii*- 72g.

Wild seed collections in 2012 obtained: *C. angustifolium*- 61g, *L. nootkatensis*-648g, *A. formosa*- 20g, *C. mertensii*- 37g.

Total amount of seed collected and harvested in 2012 was 5695.8g

2013 growing season was unusually warm which affected the seed formation of the species in production. Amount of seed harvested was greatly reduced from the year before.

2013 field seed production: *C. canadensis* --10.6g, *D. cespitosa*- 135g.

2013 box garden seed production: *C. angustifolium*- 146g, *A. formosa*- 40.28g, *C. mertensii*- 88.6g.

2013 wild seed collection: *C. angustifolium*- 164g.

Vegetative Material Production

In the spring of 2010 dormant cuttings from *Salix alaxensis*, *Salix lasiandara*, and *Populus balsamifera* were collected. Over 170 cuttings were rooted and planting was created in a fenced area at Alaska PMC. During last three years all the species established very well. Cutting are available for harvest when necessary.