Use of Nonnative Trees on Mainland Alaska

by

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Introduction

• Why Introduce Nonnative Trees To AK?
• Impoverished Tree Diversity; Climate Change; Anthropogenic and Wildlife Amenity.
• Potentially, What are Best Adapted Nonnative Species?
Nonnative Tree Introduction cont.
From My Notes: Exclusive OF shrubs, at least 28 Conifers in 5 Genera, and 14 Broadleaf Species in 9 Genera were Introduced to Alaska since 1950.

Nine Nonnative Conifers Survived >10 Yrs., 6 Colonized (Regenerated Naturally), and 1 Naturalized.
Ten Broadleaf Deciduous Species Survived 2 or More Years and 2 Naturalized.
I. The Siberian Larch Saga
Statistics (SL)

• In 2002, Successful Nonnative Plantings Totaled: 108
• Number SL Plant. in AK > 10 yrs.-old: 25
• Percent of Total Plantings in AK: 23%
• In Interior, No. and % were: 15 and 33%
• In South-Central, No. and % were: 10 and 16%
80 year old Larch @ Breivik, Norway
Gene Holmberg’s Raviola Larch on Schrock Road, Wasilla.
Largest Larch in Alaska in 2002:
75 ‘ tall, 16.5 DBH,
50 years-old at Schrock Rd., Wasilla.
Raviola larch planted at DNR Fairbanks Compound in ~1955:
62 Ft. tall and 19 In. DBh at ~48 years of age in 9/15/02.
Raviola Larch at Viereck’s Musk Ox Tree Farm, Fairbanks
91’ Tall, 13.5” DBH at 44 Yrs. Old; Mean 10 trees: 78’
tall, 12.5”DBH
International Siblarch Region Seed Collections:
1-7 *L. sukaczweii*, 8-11 *L. sibirica*, 12-13 *L. cajanderii*, and 14-17 are *L. gmelinii*. 
Siblarch Founders (red) and Collaborators (yellow)
2004 Delta Siblarch Trial at UAF Experimental Farm
• 5 yr. old Siblarch at UAF Delta Ag. Expt. Farm.
2004 Delta Siblarch Transplant Bed – 6” spacing
2005 Siblarch Trial At Willow Expt. Forest, Wasilla on 5/15/11  Photo by J. Graham
SibLarch Heart and Sap Wood
Moose Browse- 2nd Gen.
Delta SO
18 year old Western Siblarch in an unmaintained Species trial at Delta in 2002.
II. Lodgepole Pine (LP)

No. and Percent LP Plantings of Total Successful in AK as of 2002:

50 and 46%

(20 & 43% and 30 & 48% in Interior and South Central, respectively)

Total Non-native plantings: 108
Twelve of 30 provenances survived winter kill, 10 north of 60° Lat. Spacing is 6 feet.
1974 Whitehorse LP
Bear Damage to 20 yr. Lodgepole at Tyonek.

Bears **claw**, **strip** and **bite** bark after winter hibernation.

Photo: 2002
Strip
Bite
Note
teeth
marks
Wind or Snow Lodged Lodgepole
1986 Rosie Creek Reforestation Planting
Weak or Container Deformed Roots
III. Scotch Pine (SP)

• **Successful Nonnative Plantings In 2002:** 108
• Number SP > 10 yrs-old: 14
• % of Total Plantings: 13
• No. and % Interior: 3 and 7%
• No. and % South Central: 11 and 18%
39 Yr. Scotch Pine and 10 yr. natural Regen. @ Big Lake in 2001
IV. Nonnative Conifers With ≤5 % of All Plantings.

Including:
Balsam, Siberian and Subalpine Firs
Jack and Shore Pines
Dahurian Larch
Norway, Siberian and Blue Spruce
Douglas Fir
Interior Douglas Fir

Planted At Big Lake in 1964

Photo 2002

Cones, No regeneration
Big Lake
Interior
Doug Fir
(var. glauca)
Balsam Fir at Big Lake
28 years-old in 2002. 1 to 5 year-old Regen. Marked with Yellow Flags
Interior Doug Fir (var. *glauca*)-
Mat-Su Arboretum
~1984
Michigan Nursery
V. Lost Formal Species and Prov. Field Trials (From ‘05 ARC Files)

Interior AK: 1984- 3 sites, 9 species
   Tok, Glen. : 1988,894- 1 site ea., LP
   Delta: 1984,87- 3 sites, LP
   Fai.: 1985- 2 sites, LP; 2009- 1 site 4 SL

 Anchor River: 2002-3 sites LP & SL ea.
Near Pt., Anchorage: 2004- 1 site, 4 SL
Houston Dem. For.: 2007- 1 site, 4 SL
Kasiloff : 2007-08- 2 sites, 4 SL  Total: 15 sites