

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



Severe
Moose
Damage to
the 1985
International
Siblarh Expt.
Willow Res.
For., Wasilla
in 2012/13.



SibLarch Heart and Sap Wood







2013/06/13

Moose Browse- 2nd Gen. Delta SO



18 year old
Western
Siblarb 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

1974 International
Lodgepole Prov. Trial
T-Field Arboretum

Twelve of 30
provenances
survived
winter kill,
10 north of
60° Lat.
Spacing is 6
feet.





2012/08/10



2013/08/06



2013/07/17



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)
Cones in
2002. Trees
Planted in
1964.**





Balsam Fir at Big Lake

28 years-old
in 2002. 1 to
5 year-old
Regen.

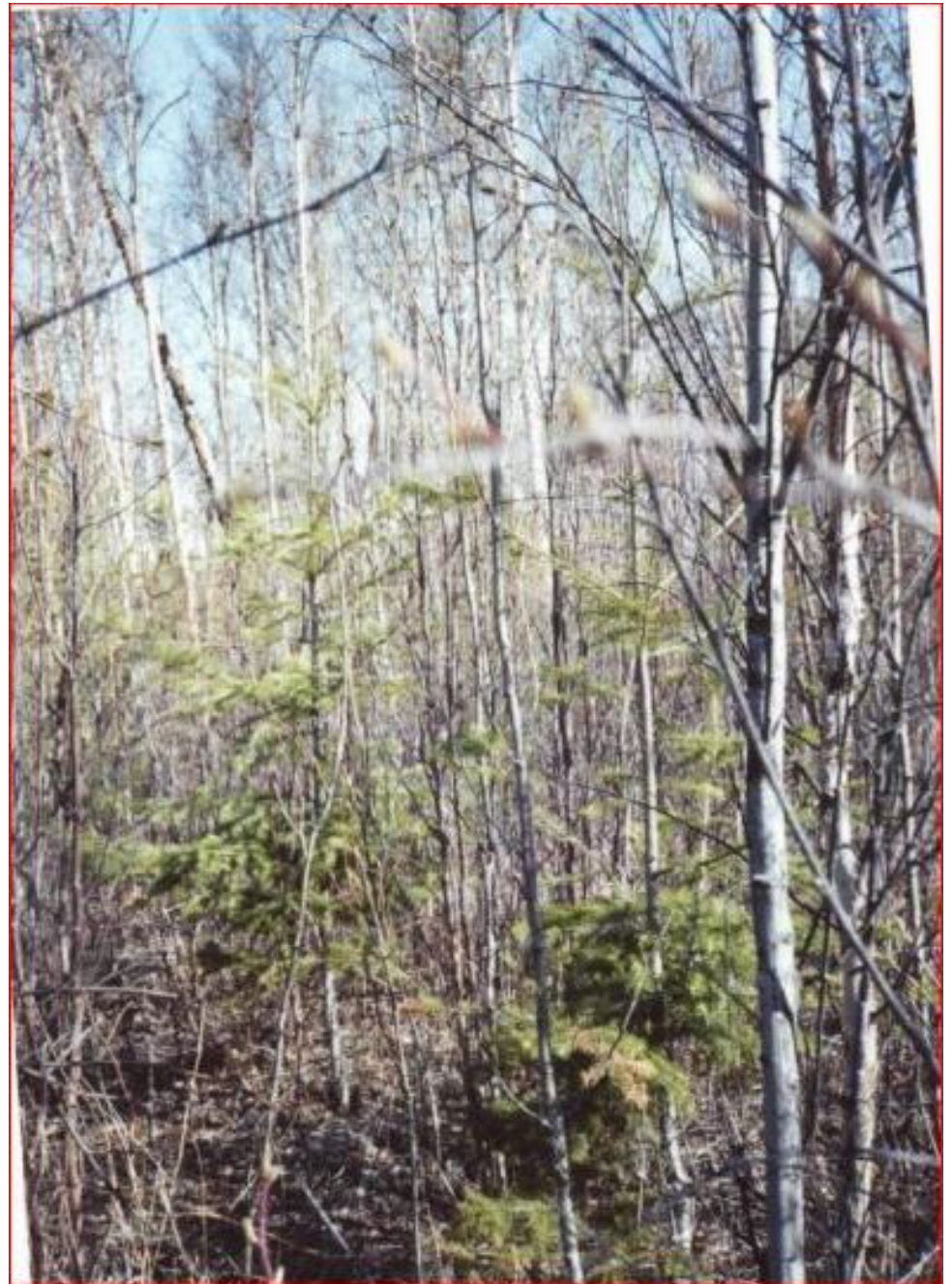
Marked with
Yellow Flags







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. : 1988,89- 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