

**SPU # 7**      **Interior Lodgepole Pine**      **Nelson**      **700 - 1600m**  
**Breeding and orchard production**  
Adjusted for new Parent Tree Area of use. Previously 700-1400m      **Seedling need (million): 3.5**  
**Program category: Advanced-generation**      filename: 7 Pii NE low July 12, 2015

**STRATEGY**      Parent-tree selection in wild stands; progeny testing wind-pollinated seeds from selected parents; focus on stem volume. 1.5 gen seed orchard with forward or backward selections from progeny tests. Second generation breeding focus on volume and wood density.

**TRAITS**      **Primary: Stem volume**      **Secondary: Wood density**

**TESTING AND PRODUCTION**      **Production Year (July 1 to June 30) -- (Cone harvest year shown)**

	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
<b>Parents in progeny test:</b>																				
Open pollin.	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286
Polycross																				
Clonal																				
F1	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
F2																				
F3																				

**Production forecast (million plantables)**

Orchards (#, owner)	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
307 FLNRO (Kalamalka)	1.0	1.0																		
313 PRT (Grandview)	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
337 PRT/SelectSeed	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
347 FLNRO (Kalamalka)	0.6	0.9	1.1	1.3	1.5	1.9	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

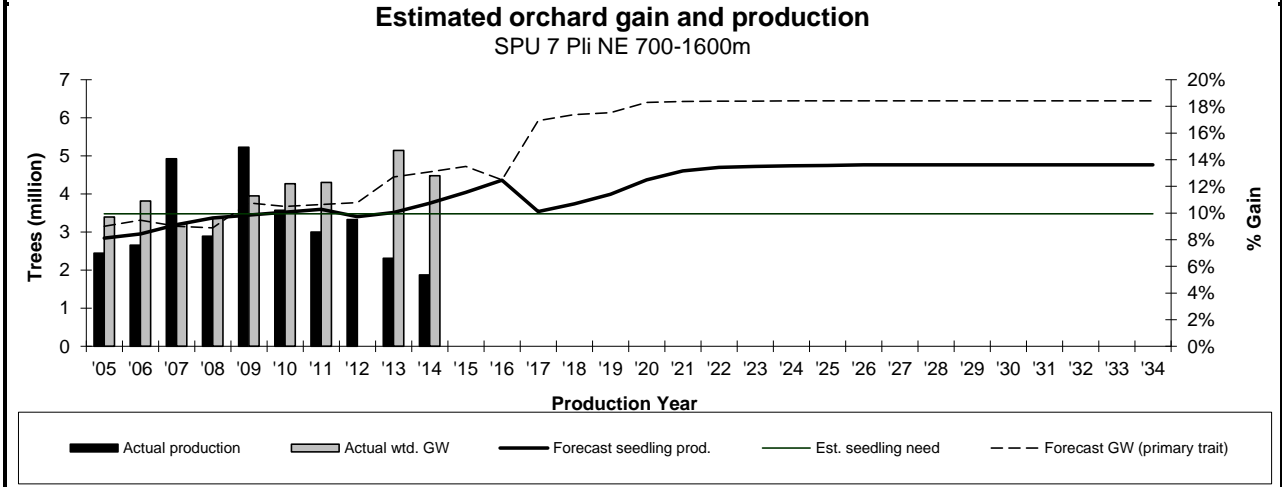
Vegetative prod.:  
Phase 1  
Phase 2

**Estimated gain in primary trait**

Orchards (#, owner)	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
307 FLNRO (Kalamalka)	6%																			
313 PRT (Grandview)	16%	16%	16%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
337 PRT/SelectSeed	14%	14%	15%	16%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
347 FLNRO (Kalamalka)	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Vegetative prod.:  
Phase 1  
Phase 2

<b>Total Production</b>	4.0	4.4	3.5	3.7	4.0	4.4	4.6	4.7	4.7	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
<b>Total gain</b>	13%	13%	17%	17%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%



Seed production estimates are subject to change. When using this information for silviculture planning or timber supply analysis, contact the Tree Improvement Branch of the Ministry of Forests Lands and Natural Resource Operations to confirm data. See SeedMap on [www.for.gov.bc.ca/hti/seedmap](http://www.for.gov.bc.ca/hti/seedmap) for current inventory by Seed Planning Unit

## Interior Lodgepole Pine Nelson 700 - 1600m Conservation -- Seed Orchards -- Seedling Use

**SPU #7**

### GENE CONSERVATION STATUS

#### Conservation statistics

Seed planning unit (SPU) area	<b>2,049,372</b>	<b>ha</b>
Area protected within SPU	<b>131,798</b>	<b>ha</b>
Percentage of SPU area protected	<b>6%</b>	
Estimated genetic reserves with >5000 mature trees based on botanical sample data	<b>&gt;9</b>	
Confirmed genetic reserves with >5000 mature trees based on forest inventory data	<b>27</b>	

#### Conservation status

Current in-situ protection status: **Very well protected**  
 Probability of maintaining > 3 protected areas with adequate  
 population size given natural disturbance regimes: **Very high**

For further information visit <http://www.genetics.forestry.ubc.ca/cfgc/>

### ORCHARD STATUS

Orchard location	Orchard number	Number of parents	Mean BV	# of ramets currently established	# of ramets planned for final orchard size	Target Seed production kg/y at maturity	Total Seedling Prod. million seedlings
FLNRO (Kalamalka)	307	37	6%	885	0	0.0	<b>0.00</b>
PRT (Grandview)	313	46	16%	1,100	1,178	8.6	<b>1.43</b>
PRT/SelectSeed	337	40	14%	990	1,000	7.3	<b>1.21</b>
FLNRO (Kalamalka)	347	40	20%	1,893	2,022	14.8	<b>2.45</b>
<b>Total ramets</b>				<b>4,868</b>	<b>4,200</b>	<b>Total production</b>	<b>5.08</b>

Vegetative propagation	<b>Stecklings/Emblings</b>	<b>0.0</b>
	<b>Total production</b>	<b>5.1</b>

#### Seed and Nursery Factors

#### Estimate of Required Orchard Capacity

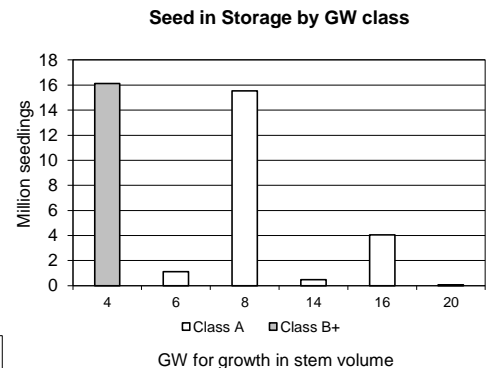
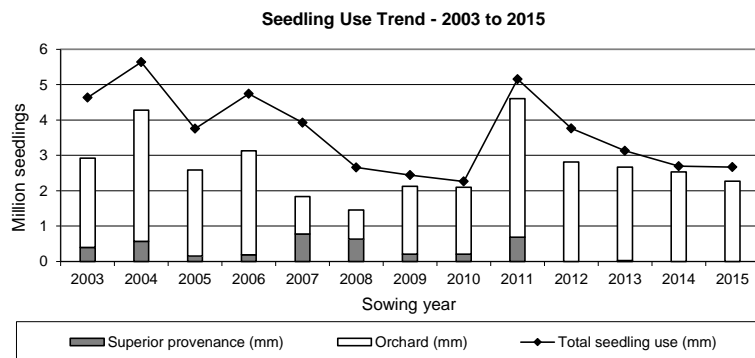
Expected annual average seedling production per ramet = 1,210	<b>Annual planting (million seedlings)</b>	<b>3.5</b>
Seed weight (seeds/gram) = 256	<b>Planned over-production factor</b>	<b>1.3</b>
Seedling recovery factor (seedlings/seed) = 0.65	<b>Ramets required</b>	<b>2,876</b>
Seedling recovery factor (seeds/seedling) = 1.55	<b>Ramets required with over-capacity</b>	<b>3,739</b>
	<b>Projected necessary expansion</b>	<b>0</b>

#### Superior provenances (B+) suitable for this Seed Planning Unit

Canoe Creek, Cartwright Lake, Champion Lakes, China Valley, Inonoaklin Creek, Larch Hills, Lossie Creek, Marl Creek, Rocky Mtn. Trench

### SEEDLING USE AND SEED IN STORAGE

**Average 5-year seedling use from SPAR (2011 - 2015) 3.5 million**  
**Estimated years of class-A seed in storage 6.1 years**



- Notes:
- Seedling use data prior to the 2000 sowing year are estimated from old seed planning zones and are approximate.
  - Seedling use data include 1/2 of adjacent overlap zones, where applicable
  - Sowing year: Aug 1 to July 31 (i.e. 2015 sowing year starts Aug 1, 2014)

- Notes:
- Seed held in both "reserve" and "available" status in the Seed Planning and Registration (SPAR) system is included
  - Seed inventories change with new orders. Data presented here are based on a Julne sample.
  - For up-to-date information use SPAR, or contact the Tree Improvement Branch of the Ministry of Forests and Range

Seed production estimates are subject to change. When using this information for silviculture planning or timber supply analysis, contact the Tree Improvement Branch of the Ministry of Forests Lands and Natural Resource Operations to confirm data.

See SeedMap on [www.for.gov.bc.ca/htii/seedmap](http://www.for.gov.bc.ca/htii/seedmap) for current inventory by Seed Planning Unit