

# Enhanced Silviculture

## 1. Plan Deployment Overview

Period	PL	SW	max_area (ha)
1	3,000	7,262	10,262
2	5,000	14,881	19,881
3	5,000	14,881	19,881
4	5,000	14,881	19,881
5	5,000	14,881	19,881
6	5,000	14,881	19,881
7	5,000	14,881	19,881
8	5,000	14,881	19,881
9	5,000	14,881	19,881
10	5,000	14,881	19,881
11	5,000	14,881	19,881
12	5,000	14,881	19,881
13	5,000	14,881	19,881
14	5,000	14,881	19,881
15	5,000	14,881	19,881
16	5,000	14,881	19,881
17	5,000	14,881	19,881
18	5,000	14,881	19,881
19	5,000	14,881	19,881
20	5,000	14,881	19,881
21	5,000	14,881	19,881
22	5,000	14,881	19,881
23	5,000	14,881	19,881
24	5,000	14,881	19,881
25	5,000	14,881	19,881
26	5,000	14,881	19,881
27	5,000	14,881	19,881
28	5,000	14,881	19,881
29	5,000	14,881	19,881
30	5,000	14,881	19,881
31	5,000	14,881	19,881
32	5,000	14,881	19,881
33	5,000	14,881	19,881
34	5,000	14,881	19,881
35	5,000	14,881	19,881
36	5,000	14,881	19,881
37	5,000	14,881	19,881
38	5,000	14,881	19,881
39	5,000	14,881	19,881
40	5,000	14,881	19,881

## 2. B1 Seed Deployment (pine)

$\gamma$  = Gain, same as ANC and Canfor (7 to 8 % vol. at rotation).

$\alpha$  = 14% gain in height at age 14.

$\beta$  = 23% gain in height at age 14, *Interpreted from Dhir et al 1996*

$\chi$  = 36% gain in height at age 14 *Interpreted from Dhir et al 1996*

Planting date (spring)	Gain	Seed.(mm) Weyco's 41.3% share	Seedlings	Area (ha.) planted at 1500/HA	Culumnative area (ha)	Max deployable area. HA.	Percent of total area
2006	$\gamma$	0.8	444,444	296	296	142,000	0.21%
2007	$\gamma$	1.9	1,055,556	704	1000	142,000	0.70%
2008	$\gamma$	2.7	1,500,000	1000	2000	142,000	1.41%
2009	$\gamma$	2.7	1,500,000	1000	3000	142,000	2.11%
2010	$\gamma$	2.7	1,500,000	1000	4000	142,000	2.82%
2011	$\gamma$	2.7	1,500,000	1000	5000	142,000	3.52%
2012	$\gamma$	2.7	1,500,000	1000	6000	142,000	4.23%
2013	$\gamma$	2.7	1,500,000	1000	7000	142,000	4.93%
2014	$\gamma$	2.7	1,500,000	1000	8000	142,000	5.63%
2015	$\gamma$	2.7	1,500,000	1000	9000	142,000	6.34%
2016	$\gamma$	2.7	1,500,000	1000	10000	142,000	7.04%
2017	$\gamma$	2.7	1,500,000	1000	11000	142,000	7.75%
<b>2018</b>	$\alpha$	2.7	1,500,000	1000	1000	142,000	1%
2019	$\alpha$	2.7	1,500,000	1000	2000	142,000	1%
2020	$\alpha$	2.7	1,500,000	1000	3000	142,000	2%
2021	$\alpha$	2.7	1,500,000	1000	4000	142,000	3%
2022	$\alpha$	2.7	1,500,000	1000	5000	142,000	4%
2023	$\alpha$	2.7	1,500,000	1000	6000	142,000	4%
2024	$\alpha$	2.7	1,500,000	1000	7000	142,000	5%
2025	$\alpha$	2.7	1,500,000	1000	8000	142,000	6%
2026	$\alpha$	2.7	1,500,000	1000	9000	142,000	6%
2027	$\alpha$	2.7	1,500,000	1000	10000	142,000	7%
2028	$\alpha$	2.7	1,500,000	1000	11000	142,000	8%
2029	$\alpha$	2.7	1,500,000	1000	12000	142,000	8%
2030	$\alpha$	2.7	1,500,000	1000	13000	142,000	9%
2031	$\alpha$	2.7	1,500,000	1000	14000	142,000	10%
2032	$\alpha$	2.7	1,500,000	1000	15000	142,000	11%
2033	$\alpha$	2.7	1,500,000	1000	16000	142,000	11%
2034	$\alpha$	2.7	1,500,000	1000	17000	142,000	12%
2035	$\alpha$	2.7	1,500,000	1000	18000	142,000	13%
2036	$\alpha$	2.7	1,500,000	1000	19000	142,000	13%
2037	$\alpha$	2.7	1,500,000	1000	20000	142,000	14%
2038	$\alpha$	2.7	1,500,000	1000	21000	142,000	15%
2039	$\alpha$	2.7	1,500,000	1000	22000	142,000	15%
2040	$\alpha$	2.7	1,500,000	1000	23000	142,000	16%
2041	$\alpha$	2.7	1,500,000	1000	24000	142,000	17%
2042	$\alpha$	2.7	1,500,000	1000	25000	142,000	18%
2043	$\alpha$	2.7	1,500,000	1000	26000	142,000	18%
2044	$\alpha$	2.7	1,500,000	1000	27000	142,000	19%
2045	$\alpha$	2.7	1,500,000	1000	28000	142,000	20%

Planting date (spring)	Gain	Seed.(mm) Weyco's 41.3% share	Seedlings	Area (ha.) planted at 1500/HA	Culumnative area (ha)	Max deployable area. HA.	Percent of total area
2046	α	2.7	1,500,000	1000	29000	142,000	20%
2047	α	2.7	1,500,000	1000	30000	142,000	21%
2048	α	2.7	1,500,000	1000	31000	142,000	22%
2049	α	2.7	1,500,000	1000	32000	142,000	23%
2050	α	2.7	1,500,000	1000	33000	142,000	23%
2051	α	2.7	1,500,000	1000	34000	142,000	24%
2052	α	2.7	1,500,000	1000	35000	142,000	25%
2053	α	2.7	1,500,000	1000	36000	142,000	25%
2054	α	2.7	1,500,000	1000	37000	142,000	26%
2055	α	2.7	1,500,000	1000	38000	142,000	27%
2056	α	2.7	1,500,000	1000	39000	142,000	27%
2057	α	2.7	1,500,000	1000	40000	142,000	28%
2058	α	2.7	1,500,000	1000	41000	142,000	29%
2059	α	2.7	1,500,000	1000	42000	142,000	30%
2060	α	2.7	1,500,000	1000	43000	142,000	30%
2061	α	2.7	1,500,000	1000	44000	142,000	31%
2062	α	2.7	1,500,000	1000	45000	142,000	32%
2063	α	2.7	1,500,000	1000	46000	142,000	32%
2064	α	2.7	1,500,000	1000	47000	142,000	33%
2065	α	2.7	1,500,000	1000	48000	142,000	34%
2066	α	2.7	1,500,000	1000	49000	142,000	35%
2067	α	2.7	1,500,000	1000	50000	142,000	35%
2068	α	2.7	1,500,000	1000	51000	142,000	36%
2069	α	2.7	1,500,000	1000	52000	142,000	37%
2070	α	2.7	1,500,000	1000	53000	142,000	37%
2071	α	2.7	1,500,000	1000	54000	142,000	38%
2072	α	2.7	1,500,000	1000	55000	142,000	39%
2073	α	2.7	1,500,000	1000	56000	142,000	39%
2074	α	2.7	1,500,000	1000	57000	142,000	40%
2075	α	2.7	1,500,000	1000	58000	142,000	41%
2076	α	2.7	1,500,000	1000	59000	142,000	42%
2077	α	2.7	1,500,000	1000	60000	142,000	42%
2078	α	2.7	1,500,000	1000	61000	142,000	43%
2079	α	2.7	1,500,000	1000	62000	142,000	44%
2080	α	2.7	1,500,000	1000	63000	142,000	44%
2081	α	2.7	1,500,000	1000	64000	142,000	45%
2082	α	2.7	1,500,000	1000	65000	142,000	46%
2083	α	2.7	1,500,000	1000	66000	142,000	46%
2084	α	2.7	1,500,000	1000	67000	142,000	47%
2085	α	2.7	1,500,000	1000	68000	142,000	48%
2086	α	2.7	1,500,000	1000	69000	142,000	49%
2087	α	2.7	1,500,000	1000	70000	142,000	49%
2088	α	2.7	1,500,000	1000	71000	142,000	50%
2089	β	2.7	1,500,000	1000	1000	142,000	1%
2090	β	2.7	1,500,000	1000	2000	142,000	1%
2091	β	2.7	1,500,000	1000	3000	142,000	2%
2092	β	2.7	1,500,000	1000	4000	142,000	3%

Planting date (spring)	Gain	Seed.(mm) Weyco's 41.3% share	Seedlings	Area (ha.) planted at 1500/HA	Culumnative area (ha)	Max deployable area. HA.	Percent of total area
2093	β	2.7	1,500,000	1000	5000	142,000	4%
2094	β	2.7	1,500,000	1000	6000	142,000	4%
2095	β	2.7	1,500,000	1000	7000	142,000	5%
2096	β	2.7	1,500,000	1000	8000	142,000	6%
2097	β	2.7	1,500,000	1000	9000	142,000	6%
2098	β	2.7	1,500,000	1000	10000	142,000	7%
2099	β	2.7	1,500,000	1000	11000	142,000	8%
2100	β	2.7	1,500,000	1000	12000	142,000	8%
2101	β	2.7	1,500,000	1000	13000	142,000	9%
2102	β	2.7	1,500,000	1000	14000	142,000	10%
2103	β	2.7	1,500,000	1000	15000	142,000	11%
2104	β	2.7	1,500,000	1000	16000	142,000	11%
2105	β	2.7	1,500,000	1000	17000	142,000	12%
2106	β	2.7	1,500,000	1000	18000	142,000	13%
2107	β	2.7	1,500,000	1000	19000	142,000	13%
2108	β	2.7	1,500,000	1000	20000	142,000	14%
2109	β	2.7	1,500,000	1000	21000	142,000	15%
2110	β	2.7	1,500,000	1000	22000	142,000	15%
2111	β	2.7	1,500,000	1000	23000	142,000	16%
2112	β	2.7	1,500,000	1000	24000	142,000	17%
2113	β	2.7	1,500,000	1000	25000	142,000	18%
2114	β	2.7	1,500,000	1000	26000	142,000	18%
2115	β	2.7	1,500,000	1000	27000	142,000	19%
2116	β	2.7	1,500,000	1000	28000	142,000	20%
2117	β	2.7	1,500,000	1000	29000	142,000	20%
2118	β	2.7	1,500,000	1000	30000	142,000	21%
2119	β	2.7	1,500,000	1000	31000	142,000	22%
2120	β	2.7	1,500,000	1000	32000	142,000	23%
2121	β	2.7	1,500,000	1000	33000	142,000	23%
2122	β	2.7	1,500,000	1000	34000	142,000	24%
2123	β	2.7	1,500,000	1000	35000	142,000	25%
2124	β	2.7	1,500,000	1000	36000	142,000	25%
2125	β	2.7	1,500,000	1000	37000	142,000	26%
2126	β	2.7	1,500,000	1000	38000	142,000	27%
2127	β	2.7	1,500,000	1000	39000	142,000	27%
2128	β	2.7	1,500,000	1000	40000	142,000	28%
2129	β	2.7	1,500,000	1000	41000	142,000	29%
2130	β	2.7	1,500,000	1000	42000	142,000	30%
2131	β	2.7	1,500,000	1000	43000	142,000	30%
2132	β	2.7	1,500,000	1000	44000	142,000	31%
2133	β	2.7	1,500,000	1000	45000	142,000	32%
2134	β	2.7	1,500,000	1000	46000	142,000	32%
2135	β	2.7	1,500,000	1000	47000	142,000	33%
2136	β	2.7	1,500,000	1000	48000	142,000	34%
2137	β	2.7	1,500,000	1000	49000	142,000	35%
2138	β	2.7	1,500,000	1000	50000	142,000	35%
2139	β	2.7	1,500,000	1000	51000	142,000	36%

Planting date (spring)	Gain	Seed.(mm) Weyco's 41.3% share	Seedlings	Area (ha.) planted at 1500/HA	Culumnative area (ha)	Max deployable area. HA.	Percent of total area
2140	β	2.7	1,500,000	1000	52000	142,000	37%
2141	β	2.7	1,500,000	1000	53000	142,000	37%
2142	β	2.7	1,500,000	1000	54000	142,000	38%
2143	β	2.7	1,500,000	1000	55000	142,000	39%
2144	β	2.7	1,500,000	1000	56000	142,000	39%
2145	β	2.7	1,500,000	1000	57000	142,000	40%
2146	β	2.7	1,500,000	1000	58000	142,000	41%
2147	β	2.7	1,500,000	1000	59000	142,000	42%
2148	β	2.7	1,500,000	1000	60000	142,000	42%
2149	β	2.7	1,500,000	1000	61000	142,000	43%
2150	β	2.7	1,500,000	1000	62000	142,000	44%
2151	β	2.7	1,500,000	1000	63000	142,000	44%
2152	β	2.7	1,500,000	1000	64000	142,000	45%
2153	β	2.7	1,500,000	1000	65000	142,000	46%
2154	β	2.7	1,500,000	1000	66000	142,000	46%
2155	β	2.7	1,500,000	1000	67000	142,000	47%
2156	β	2.7	1,500,000	1000	68000	142,000	48%
2157	β	2.7	1,500,000	1000	69000	142,000	49%
2158	β	2.7	1,500,000	1000	70000	142,000	49%
2159	β	2.7	1,500,000	1000	71000	142,000	50%
2160	χ	2.7	1,500,000	1000	1000	142,000	1%
2161	χ	2.7	1,500,000	1000	2000	142,000	1%
2162	χ	2.7	1,500,000	1000	3000	142,000	2%
2163	χ	2.7	1,500,000	1000	4000	142,000	3%
2164	χ	2.7	1,500,000	1000	5000	142,000	4%
2165	χ	2.7	1,500,000	1000	6000	142,000	4%
2166	χ	2.7	1,500,000	1000	7000	142,000	5%
2167	χ	2.7	1,500,000	1000	8000	142,000	6%
2168	χ	2.7	1,500,000	1000	9000	142,000	6%
2169	χ	2.7	1,500,000	1000	10000	142,000	7%
2170	χ	2.7	1,500,000	1000	11000	142,000	8%
2171	χ	2.7	1,500,000	1000	12000	142,000	8%
2172	χ	2.7	1,500,000	1000	13000	142,000	9%
2173	χ	2.7	1,500,000	1000	14000	142,000	10%
2174	χ	2.7	1,500,000	1000	15000	142,000	11%
2175	χ	2.7	1,500,000	1000	16000	142,000	11%
2176	χ	2.7	1,500,000	1000	17000	142,000	12%
2177	χ	2.7	1,500,000	1000	18000	142,000	13%
2178	χ	2.7	1,500,000	1000	19000	142,000	13%
2179	χ	2.7	1,500,000	1000	20000	142,000	14%
2180	χ	2.7	1,500,000	1000	21000	142,000	15%
2181	χ	2.7	1,500,000	1000	22000	142,000	15%
2182	χ	2.7	1,500,000	1000	23000	142,000	16%
2183	χ	2.7	1,500,000	1000	24000	142,000	17%
2184	χ	2.7	1,500,000	1000	25000	142,000	18%
2185	χ	2.7	1,500,000	1000	26000	142,000	18%
2186	χ	2.7	1,500,000	1000	27000	142,000	19%

Planting date (spring)	Gain	Seed.(mm) Weyco's 41.3% share	Seedlings	Area (ha.) planted at 1500/HA	Culumnative area (ha)	Max deployable area. HA.	Percent of total area
2187	χ	2.7	1,500,000	1000	28000	142,000	20%
2188	χ	2.7	1,500,000	1000	29000	142,000	20%
2189	χ	2.7	1,500,000	1000	30000	142,000	21%
2190	χ	2.7	1,500,000	1000	31000	142,000	22%
2191	χ	2.7	1,500,000	1000	32000	142,000	23%
2192	χ	2.7	1,500,000	1000	33000	142,000	23%
2193	χ	2.7	1,500,000	1000	34000	142,000	24%
2194	χ	2.7	1,500,000	1000	35000	142,000	25%
2195	χ	2.7	1,500,000	1000	36000	142,000	25%
2196	χ	2.7	1,500,000	1000	37000	142,000	26%
2197	χ	2.7	1,500,000	1000	38000	142,000	27%
2198	χ	2.7	1,500,000	1000	39000	142,000	27%
2199	χ	2.7	1,500,000	1000	40000	142,000	28%
2200	χ	2.7	1,500,000	1000	41000	142,000	29%
2201	χ	2.7	1,500,000	1000	42000	142,000	30%
2202	χ	2.7	1,500,000	1000	43000	142,000	30%
2203	χ	2.7	1,500,000	1000	44000	142,000	31%
2204	χ	2.7	1,500,000	1000	45000	142,000	32%
2205	χ	2.7	1,500,000	1000	46000	142,000	32%
2206	χ	2.7	1,500,000	1000	47000	142,000	33%

### 3. G1 Seed (white spruce)

2006 -2019  $\delta$ = 2% gain based on selection, no gentic gain calculated for next 14 years.  
 2020 - 2028  $\phi$ = 5% with roughing of existing orchard based on 14 yr. test.  
 2029 - 2049  $\gamma$ = 15%, interpreted from AB government estimate.  
 2050 - 2070  $\eta$ = 20%, interpreted from AB government estimate.  
 2070 - beyond Need new orchard, Can't see going beyond 20%.

Planting date (spring)	Gain	Seed.(mm) Weyco's 40% share	Seedlings	(800-1400) Area (ha.) planted at 1400/HA	Culumnative area (ha)	Max deployable area. HA.	Percent of total area
2006	$\delta$ =	3,600,000	2,000,000	1,429	1,429	128,000	1%
2007	$\delta$ =	3,600,000	2,000,000	1,429	2,857	128,000	2%
2008	$\delta$ =	3,600,000	2,000,000	1,429	4,286	128,000	3%
2009	$\delta$ =	7,500,000	4,166,667	2,976	7,262	128,000	6%
2010	$\delta$ =	7,500,000	4,166,667	2,976	10,238	128,000	8%
2011	$\delta$ =	7,500,000	4,166,667	2,976	13,214	128,000	10%
2012	$\delta$ =	7,500,000	4,166,667	2,976	16,190	128,000	13%
2013	$\delta$ =	7,500,000	4,166,667	2,976	19,167	128,000	15%
2014	$\delta$ =	7,500,000	4,166,667	2,976	22,143	128,000	17%
2015	$\delta$ =	7,500,000	4,166,667	2,976	25,119	128,000	20%
2016	$\delta$ =	7,500,000	4,166,667	2,976	28,095	128,000	22%
2017	$\delta$ =	7,500,000	4,166,667	2,976	31,071	128,000	24%
2018	$\delta$ =	7,500,000	4,166,667	2,976	34,048	128,000	27%
2019	$\delta$ =	7,500,000	4,166,667	2,976	37,024	128,000	29%
2020	$\phi$ =	7,500,000	4,166,667	2,976	40,000	128,000	31%
2021	$\phi$ =	7,500,000	4,166,667	2,976	42,976	128,000	34%
2022	$\phi$ =	7,500,000	4,166,667	2,976	45,952	128,000	36%
2023	$\phi$ =	7,500,000	4,166,667	2,976	48,929	128,000	38%
2024	$\phi$ =	7,500,000	4,166,667	2,976	51,905	128,000	41%
2025	$\phi$ =	7,500,000	4,166,667	2,976	54,881	128,000	43%
2026	$\phi$ =	7,500,000	4,166,667	2,976	57,857	128,000	45%
2027	$\phi$ =	7,500,000	4,166,667	2,976	60,833	128,000	48%
2028	$\phi$ =	7,500,000	4,166,667	2,976	63,810	128,000	50%
2029	$\gamma$ =	7,500,000	4,166,667	2,976	2,976	128,000	2%
2030	$\gamma$ =	7,500,000	4,166,667	2,976	5,952	128,000	5%
2031	$\gamma$ =	7,500,000	4,166,667	2,976	8,929	128,000	7%
2032	$\gamma$ =	7,500,000	4,166,667	2,976	11,905	128,000	9%
2033	$\gamma$ =	7,500,000	4,166,667	2,976	14,881	128,000	12%
2034	$\gamma$ =	7,500,000	4,166,667	2,976	17,857	128,000	14%
2035	$\gamma$ =	7,500,000	4,166,667	2,976	20,833	128,000	16%
2036	$\gamma$ =	7,500,000	4,166,667	2,976	23,810	128,000	19%
2037	$\gamma$ =	7,500,000	4,166,667	2,976	26,786	128,000	21%
2038	$\gamma$ =	7,500,000	4,166,667	2,976	29,762	128,000	23%
2039	$\gamma$ =	7,500,000	4,166,667	2,976	32,738	128,000	26%
2040	$\gamma$ =	7,500,000	4,166,667	2,976	35,714	128,000	28%
2041	$\gamma$ =	7,500,000	4,166,667	2,976	38,690	128,000	30%
2042	$\gamma$ =	7,500,000	4,166,667	2,976	41,667	128,000	33%
2043	$\gamma$ =	7,500,000	4,166,667	2,976	44,643	128,000	35%
2044	$\gamma$ =	7,500,000	4,166,667	2,976	47,619	128,000	37%
2045	$\gamma$ =	7,500,000	4,166,667	2,976	50,595	128,000	40%

2046	γ=	7,500,000	4,166,667	2,976	53,571	128,000	42%
2047	γ=	7,500,000	4,166,667	2,976	56,548	128,000	44%
2048	γ=	7,500,000	4,166,667	2,976	59,524	128,000	47%
2049	γ=	7,500,000	4,166,667	2,976	62,500	128,000	49%
2050	η=	7,500,000	4,166,667	2,976	2,976	128,000	2%
2051	η=	7,500,000	4,166,667	2,976	5,952	128,000	5%
2052	η=	7,500,000	4,166,667	2,976	8,929	128,000	7%
2053	η=	7,500,000	4,166,667	2,976	11,905	128,000	9%
2054	η=	7,500,000	4,166,667	2,976	14,881	128,000	12%
2055	η=	7,500,000	4,166,667	2,976	17,857	128,000	14%
2056	η=	7,500,000	4,166,667	2,976	20,833	128,000	16%
2057	η=	7,500,000	4,166,667	2,976	23,810	128,000	19%
2058	η=	7,500,000	4,166,667	2,976	26,786	128,000	21%
2059	η=	7,500,000	4,166,667	2,976	29,762	128,000	23%
2060	η=	7,500,000	4,166,667	2,976	32,738	128,000	26%
2061	η=	7,500,000	4,166,667	2,976	35,714	128,000	28%
2062	η=	7,500,000	4,166,667	2,976	38,690	128,000	30%
2063	η=	7,500,000	4,166,667	2,976	41,667	128,000	33%
2064	η=	7,500,000	4,166,667	2,976	44,643	128,000	35%
2065	η=	7,500,000	4,166,667	2,976	47,619	128,000	37%
2066	η=	7,500,000	4,166,667	2,976	50,595	128,000	40%
2067	η=	7,500,000	4,166,667	2,976	53,571	128,000	42%
2068	η=	7,500,000	4,166,667	2,976	56,548	128,000	44%
2069	η=	7,500,000	4,166,667	2,976	59,524	128,000	47%
2070	η=	7,500,000	4,166,667	2,976	62,500	128,000	49%
2071+		etc.					etc.