



Species: Subalpine fir (BI)

Region: Interior B.C.

Source: Thrower, 1997

QUICK GUIDE TO FIELD PROCEDURES

This quick guide to field procedures will remind you of the steps you should follow to use the growth intercept method in a silviculture survey. Complete instructions on using the growth intercept method are provided in the report *Growth Intercept Method for Silviculture Surveys* available from the Stand Development Specialist, Forest Practices Branch, Victoria, B.C. (Tel) 250-953-3582 (FAX) 250-387-2136.

To use the growth intercept method to estimate site index for each stratum in an opening, follow these four steps.

1. Pre-stratify the opening:

See the Forest Practices Branch manual *Growth Intercept Method for Silviculture Surveys* for details.

2. For each stratum, select the site index species:

Use the leading species (inventory component) as the site index species. See the Forest Practices Branch manual *Growth Intercept Method for Silviculture Surveys* for more details.

3. In each stratum, collect growth intercept measurements:

a. Establish one growth intercept plot per hectare to a maximum of 10 plots per stratum. A sample grid is recommended to achieve uniform coverage of the entire stratum area. Use a plot radius of 5.64 m.

b. Select one growth intercept sample tree from each plot. Sample tree should have the following characteristics:

Species	Subalpine fir
DBH	largest DBH subalpine fir
Stem condition	undamaged stem vigorous, uniform annual height growth above breast height
Crown position	dominant or co-dominant crown class not overtopped by trees or brush
Ring width	vigorous, uniform ring widths from pith to bark

c. On each growth intercept sample tree:

- locate breast height (1.3 m above ground level);
- measure total tree height (m);
- determine age at breast height; and
- on the field sheet, record species, total height, and breast height age.

GROWTH INTERCEPT TABLE

Species: Subalpine fir (BI)

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Breast height age (yr)	Site index (m)												
	5	6	7	8	9	10	11	12	13	14	15	16	17
	Tree total height (m)												
3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9
4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.1	2.2
5	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.1	2.2	2.3	2.4
6	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
7	1.5	1.6	1.7	1.8	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.9	3.0
8	1.5	1.6	1.8	1.9	2.0	2.1	2.3	2.4	2.6	2.8	2.9	3.1	3.3
9	1.6	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8	3.0	3.2	3.4	3.6
10	1.6	1.7	1.9	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.7	3.9
11	1.6	1.8	2.0	2.1	2.3	2.5	2.8	3.0	3.2	3.5	3.7	4.0	4.3
12	1.7	1.9	2.0	2.2	2.4	2.7	2.9	3.2	3.4	3.7	4.0	4.3	4.6
13	1.7	1.9	2.1	2.3	2.6	2.8	3.1	3.4	3.6	3.9	4.3	4.6	4.9
14	1.8	2.0	2.2	2.4	2.7	3.0	3.2	3.5	3.9	4.2	4.5	4.9	5.3
15	1.8	2.0	2.3	2.5	2.8	3.1	3.4	3.7	4.1	4.5	4.8	5.2	5.6
16	1.9	2.1	2.4	2.6	2.9	3.3	3.6	4.0	4.3	4.7	5.1	5.6	6.0
17	1.9	2.2	2.5	2.8	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.9	6.3
18	2.0	2.2	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.3	5.7	6.2	6.7
19	2.0	2.3	2.6	3.0	3.4	3.8	4.2	4.6	5.1	5.6	6.1	6.6	7.1
20	2.1	2.4	2.7	3.1	3.5	3.9	4.4	4.9	5.3	5.8	6.4	6.9	7.4
21	2.1	2.5	2.9	3.3	3.7	4.1	4.6	5.1	5.6	6.1	6.7	7.2	7.8
22	2.2	2.6	3.0	3.4	3.8	4.3	4.8	5.3	5.9	6.4	7.0	7.6	8.2
23	2.3	2.7	3.1	3.5	4.0	4.5	5.0	5.5	6.1	6.7	7.3	7.9	8.5
24	2.3	2.8	3.2	3.7	4.2	4.7	5.2	5.8	6.4	7.0	7.6	8.2	8.9
25	2.4	2.9	3.3	3.8	4.3	4.9	5.4	6.0	6.6	7.2	7.9	8.5	9.2
26	2.5	3.0	3.5	4.0	4.5	5.1	5.7	6.3	6.9	7.5	8.2	8.9	9.6
27	2.6	3.1	3.6	4.1	4.7	5.3	5.9	6.5	7.2	7.8	8.5	9.2	9.9
28	2.7	3.2	3.7	4.3	4.9	5.5	6.1	6.8	7.4	8.1	8.8	9.5	10.3
29	2.8	3.3	3.9	4.5	5.1	5.7	6.3	7.0	7.7	8.4	9.1	9.9	10.6
30	2.9	3.4	4.0	4.6	5.2	5.9	6.6	7.3	8.0	8.7	9.4	10.2	10.9

How to use the table to get a site index estimate from measured height and age.

Step1: Look down the breast height age column to find the row corresponding to the breast height age of your sample tree.

Step2: Look across the row to find the total height that is closest to the total height of the sample tree.

Step3: Look up the column to find the site index estimated by sample tree height and age.

GROWTH INTERCEPT TABLE

Species: Subalpine fir (BI)

Region: Interior B.C.

Source: Thrower, 1997

Breast height age (yr)	Site index (m)												
	18	19	20	21	22	23	24	25	26	27	28	29	30
	Tree total height (m)												
3	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.6	2.6	2.7
4	2.2	2.3	2.4	2.5	2.6	2.7	2.7	2.8	2.9	3.0	3.1	3.2	3.3
5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.4	3.5	3.6	3.7	3.9	4.0
6	2.9	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.2	4.4	4.5	4.7
7	3.2	3.3	3.5	3.7	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4
8	3.5	3.7	3.9	4.1	4.3	4.5	4.7	5.0	5.2	5.4	5.7	5.9	6.1
9	3.8	4.1	4.3	4.5	4.8	5.0	5.3	5.5	5.8	6.1	6.4	6.6	6.9
10	4.2	4.4	4.7	5.0	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.4	7.7
11	4.5	4.8	5.1	5.4	5.7	6.1	6.4	6.7	7.1	7.4	7.8	8.1	8.5
12	4.9	5.2	5.5	5.9	6.2	6.6	6.9	7.3	7.7	8.1	8.5	8.9	9.3
13	5.3	5.6	6.0	6.4	6.8	7.2	7.6	8.0	8.4	8.8	9.3	9.7	10.2
14	5.6	6.0	6.4	6.8	7.3	7.7	8.1	8.6	9.1	9.5	10.0	10.5	11.0
15	6.0	6.4	6.9	7.3	7.8	8.2	8.7	9.2	9.7	10.2	10.7	11.3	11.8
16	6.4	6.9	7.4	7.8	8.3	8.9	9.4	9.9	10.4	11.0	11.6	12.1	12.7
17	6.8	7.3	7.8	8.3	8.9	9.4	9.9	10.5	11.1	11.7	12.3	12.9	13.5
18	7.2	7.8	8.3	8.9	9.4	10.0	10.6	11.2	11.8	12.4	13.1	13.7	14.4
19	7.6	8.2	8.8	9.4	9.9	10.6	11.2	11.8	12.5	13.1	13.8	14.5	15.2
20	8.0	8.6	9.2	9.8	10.4	11.1	11.7	12.4	13.0	13.7	14.4	15.1	15.8
21	8.4	9.0	9.6	10.3	10.9	11.6	12.3	13.0	13.7	14.4	15.1	15.8	16.6
22	8.8	9.4	10.1	10.7	11.4	12.1	12.8	13.5	14.2	15.0	15.7	16.5	17.3
23	9.2	9.8	10.5	11.2	11.9	12.6	13.3	14.0	14.8	15.5	16.3	17.1	17.9
24	9.5	10.2	10.9	11.6	12.3	13.1	13.8	14.6	15.4	16.1	16.9	17.7	18.6
25	9.9	10.6	11.3	12.0	12.8	13.5	14.3	15.0	15.8	16.6	17.4	18.3	19.1
26	10.3	11.0	11.7	12.4	13.2	14.0	14.7	15.5	16.3	17.1	17.9	18.8	19.6
27	10.6	11.4	12.1	12.9	13.7	14.4	15.2	16.0	16.9	17.7	18.5	19.4	20.2
28	11.0	11.8	12.5	13.3	14.1	14.9	15.7	16.6	17.4	18.3	19.1	20.0	20.9
29	11.4	12.1	12.9	13.7	14.5	15.3	16.2	17.0	17.8	18.7	19.6	20.4	21.3
30	11.7	12.5	13.3	14.1	14.9	15.8	16.6	17.4	18.3	19.2	20.0	20.9	21.8

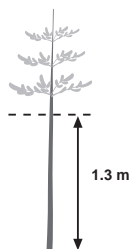
How to use the table to get a site index estimate from measured height and age.

Step1: Look down the breast height age column to find the row corresponding to the breast height age of your sample tree.

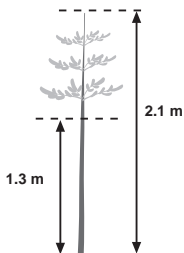
Step2: Look across the row to find the total height that is closest to the total height of the sample tree.

Step3: Look up the column to find the site index estimated by sample tree height and age.

Step 1: Locate breast height



Step 2: Measure total height



Step 3: Determine breast height age by one of two methods

1. fell tree and count rings



4 years old

2. count rings on increment core



4 years old

Step 4: Record species, height, and age on field card

Plot no.	Species	Total height (m)	Breast height age (yr)
1	Bl	2.1	4

4. For each stratum, calculate the average site index:

- For each sample tree, look up site index in the Growth Intercept Table based on total height and breast height age; and
- Average the site index values from all plots in the stratum.

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