



Species: Western redcedar (Cw)

Region: Interior B.C.

Source: Nigh, 1999b

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 *How to Determine Site Index* available from the Stand Development Specialist, Forest Practices Branch, Victoria, B.C. (Tel) 250-356-0305 (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 *How to Determine Site Index* 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 *How to Determine Site Index* 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	Western redcedar
DBH	largest DBH western redcedar
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: Western redcedar (Cw)

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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	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.9
4	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1
5	1.3	1.4	1.4	1.5	1.5	1.6	1.7	1.7	1.8	2.0	2.1	2.2	2.4
6	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	2.0	2.1	2.3	2.4	2.6
7	1.4	1.4	1.5	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.8
8	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.2	2.4	2.6	2.9	3.1
9	1.4	1.5	1.5	1.6	1.7	1.9	2.0	2.2	2.4	2.6	2.9	3.1	3.4
10	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.3	2.6	2.8	3.1	3.4	3.7
11	1.4	1.5	1.6	1.7	1.9	2.1	2.3	2.5	2.7	3.0	3.3	3.6	4.0
12	1.4	1.5	1.7	1.8	2.0	2.2	2.4	2.6	2.9	3.2	3.5	3.9	4.3
13	1.5	1.6	1.7	1.9	2.1	2.3	2.5	2.8	3.1	3.4	3.8	4.2	4.6
14	1.5	1.6	1.8	1.9	2.1	2.4	2.6	2.9	3.3	3.6	4.0	4.4	4.9
15	1.5	1.6	1.8	2.0	2.2	2.5	2.8	3.1	3.5	3.9	4.3	4.7	5.2
16	1.5	1.7	1.9	2.1	2.3	2.6	2.9	3.3	3.7	4.1	4.5	5.0	5.5
17	1.6	1.8	2.0	2.2	2.5	2.8	3.1	3.5	3.9	4.3	4.8	5.3	5.9
18	1.6	1.8	2.0	2.3	2.6	2.9	3.3	3.7	4.1	4.6	5.1	5.6	6.2
19	1.7	1.9	2.1	2.4	2.7	3.1	3.5	3.9	4.4	4.9	5.4	6.0	6.6
20	1.7	1.9	2.2	2.5	2.9	3.3	3.7	4.1	4.6	5.1	5.7	6.3	6.9
21	1.8	2.0	2.3	2.6	3.0	3.4	3.9	4.3	4.9	5.4	6.0	6.6	7.2
22	1.8	2.1	2.4	2.8	3.2	3.6	4.1	4.6	5.1	5.7	6.3	6.9	7.6
23	1.9	2.2	2.5	2.9	3.3	3.8	4.3	4.8	5.4	6.0	6.6	7.3	7.9
24	2.0	2.3	2.7	3.1	3.5	4.0	4.5	5.1	5.6	6.3	6.9	7.6	8.3
25	2.0	2.4	2.8	3.2	3.7	4.2	4.7	5.3	5.9	6.6	7.2	7.9	8.6
26	2.1	2.5	2.9	3.4	3.9	4.4	5.0	5.6	6.2	6.8	7.5	8.2	9.0
27	2.2	2.6	3.0	3.5	4.0	4.6	5.2	5.8	6.5	7.1	7.9	8.6	9.4
28	2.3	2.7	3.2	3.7	4.2	4.8	5.4	6.1	6.7	7.5	8.2	8.9	9.7
29	2.4	2.8	3.3	3.8	4.4	5.0	5.7	6.3	7.0	7.7	8.5	9.3	10.1
30	2.5	2.9	3.4	4.0	4.6	5.2	5.9	6.6	7.3	8.0	8.8	9.6	10.4

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

Step 1: Look down the breast height age column to find the row corresponding to the breast height age of your sample tree.

Step 2: Look across the row to find the total height that is closest to the total height of the sample tree.

Step 3: Look up the column to find the site index estimated by sample tree height and age.

GROWTH INTERCEPT TABLE

Species: Western redcedar (Cw)

Region: Interior B.C.

Source: Nigh, 1999b

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	2.1	2.2	2.3	2.4	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.7
4	2.2	2.4	2.5	2.7	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.3	4.5
5	2.5	2.7	2.9	3.1	3.3	3.5	3.7	4.0	4.2	4.5	4.8	5.1	5.4
6	2.8	3.0	3.2	3.5	3.7	4.0	4.3	4.6	4.9	5.3	5.6	6.0	6.4
7	3.1	3.3	3.6	3.9	4.2	4.5	4.9	5.2	5.6	6.0	6.4	6.9	7.3
8	3.4	3.7	4.0	4.3	4.6	5.0	5.4	5.8	6.2	6.7	7.2	7.6	8.2
9	3.7	4.0	4.4	4.7	5.1	5.6	6.0	6.5	6.9	7.4	8.0	8.5	9.1
10	4.0	4.4	4.8	5.2	5.6	6.1	6.6	7.1	7.6	8.2	8.8	9.4	10.1
11	4.4	4.8	5.2	5.7	6.1	6.6	7.2	7.8	8.3	9.0	9.6	10.3	11.0
12	4.7	5.1	5.6	6.1	6.6	7.2	7.8	8.4	9.0	9.7	10.4	11.1	11.9
13	5.0	5.5	6.0	6.5	7.1	7.7	8.3	9.0	9.7	10.4	11.1	11.9	12.7
14	5.4	5.9	6.4	7.0	7.6	8.3	8.9	9.6	10.4	11.1	11.9	12.7	13.6
15	5.7	6.3	6.9	7.5	8.1	8.8	9.5	10.3	11.0	11.8	12.7	13.6	14.5
16	6.1	6.7	7.3	7.9	8.6	9.3	10.1	10.8	11.7	12.5	13.4	14.3	15.2
17	6.5	7.1	7.7	8.4	9.1	9.8	10.6	11.4	12.2	13.1	14.0	14.9	15.9
18	6.8	7.5	8.1	8.8	9.6	10.3	11.1	11.9	12.8	13.7	14.6	15.6	16.5
19	7.2	7.9	8.5	9.3	10.0	10.8	11.6	12.5	13.4	14.3	15.2	16.2	17.2
20	7.6	8.2	9.0	9.7	10.5	11.3	12.1	13.0	13.9	14.8	15.8	16.8	17.8
21	7.9	8.6	9.4	10.1	10.9	11.8	12.6	13.5	14.4	15.4	16.3	17.3	18.3
22	8.3	9.0	9.8	10.6	11.4	12.2	13.1	14.0	14.9	15.9	16.9	17.9	18.9
23	8.7	9.4	10.2	11.0	11.8	12.7	13.6	14.5	15.4	16.4	17.4	18.4	19.4
24	9.0	9.8	10.6	11.4	12.3	13.1	14.0	14.9	15.9	16.9	17.9	18.9	19.9
25	9.4	10.2	11.0	11.8	12.7	13.6	14.5	15.4	16.3	17.3	18.3	19.3	20.4
26	9.8	10.6	11.4	12.2	13.1	14.0	14.9	15.8	16.8	17.8	18.8	19.8	20.8
27	10.1	10.9	11.8	12.6	13.5	14.4	15.3	16.3	17.2	18.2	19.2	20.3	21.3
28	10.5	11.4	12.2	13.1	14.0	14.9	15.8	16.8	17.8	18.8	19.8	20.8	21.9
29	10.9	11.8	12.6	13.5	14.4	15.4	16.3	17.3	18.3	19.3	20.3	21.4	22.4
30	11.3	12.1	13.0	13.9	14.9	15.8	16.8	17.8	18.8	19.8	20.8	21.9	23.0

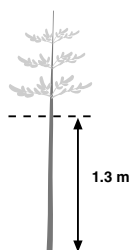
How to use the table to get a site index estimate from measured height and age.

Step 1: Look down the breast height age column to find the row corresponding to the breast height age of your sample tree.

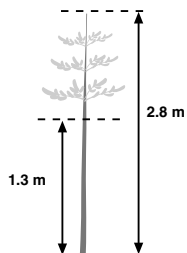
Step 2: Look across the row to find the total height that is closest to the total height of the sample tree.

Step 3: Look up the column to find the site index estimated by sample tree height and age.

Step 1: Locate breast height

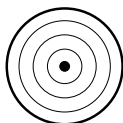


Step 2: Measure total height



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	Cw	2.8	4

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