Update: SIBEC research (ecologically-based site index estimates)

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CSC Workshop, February 25, 2010

Outline

- Overview of the SIBEC project (EP1215)

- First Approximation and Second Generation SIBEC estimates

- Application of SIBEC estimates

- Where to find SIBEC info

SIBEC project (EP1215)

- **The goal of the SIBEC project is to have the mean *site index* estimate for each given *BEC* site series/tree species combination to reflect the average growth potential of the site series and species**

- **1994 -** Initiative to develop an alternate method for estimating site index in stands where conventional methods are not suitable, i.e. very young and old growth stands

- **1997** – SIBEC First Approximation: site index by BEC site series

- **2000** – SIBEC sampling and data standards, V. 5.0

SIBEC project (cont'd)

- **2002** – VENUS 5.0, SIBEC data warehouse and analysis tools

- **2002** – SIBEC website [most recent reports, standards]

- **2003** – Tech Report – SIBEC site index estimates in support of forest management in British Columbia (Mah and Nigh)

- **2002, 03, 04, 05, 06, 07, 08** – SIBEC 2nd generation Approximations
  - Data from MFR-SIBEC projects and projects led by major licensees, woodlots, and community forests [~5600 plots]

- **2009/10** SIBEC Approximation - in progress ☺

Site index – measure of site growth potential

Height of the largest diameter (at breast height) site tree on a 0.01 ha plot at breast height age 50, *provided the tree is suitable*.

SIBEC sampling and data standards
(Version 5.3, Sept 2009)

• Plot and tree selection criteria

• Ecological and Mensuration data QA

• Contacts:
• Research Branch - Shirley Mah, Gord Nigh
• Regional ecologists and GY foresters
• Forest Analysis & Inventory Branch

Site classification

Starts with BEC
subzone/variant, e.g.
CWHvm1

Site classification - Ecosystem field form

- Site
- Soils
- Vegetation
- Mensuration

Soil Nutrient Regime

		Very Poor A	Poor B	Medium C	Rich D	Very Rich E
MD	0		02			
SD	1		03		04	
SD	2					
F		ZONAL 01			05	
M	5		06		07/08	
VM	6					
W	7		13		14	

Site Series

- **01** HwBa - Blueberry
- **02** HwPl - Cladina
- **03** HwCw - Salal
- **04** CwHw - Swordfern
- **05** BaCw - Foamflower
- **06** HwBa - Deer fern
- **07** BaCw - Salmonberry
- **08** BaSs - Devil's club
- **13** Pl - Sphagnum
- **14** CwSs - Skunk cabbage

** A nutrient-very poor to poor "salal phase" of site series 01 and 06 occurs in subdued terrain on the west coast and north end of Vancouver Island. It is denoted with an "s" modifier to the site series number (e.g. 01s).

* See grid # 29 for site series 09 - 11; Site series 08 in northern portion of variant; 12 rare in region.

SIBEC Approximation - blend

2nd generation estimates – mean site index and SE

BGC unit	Site series	Tree Species	Sample size	Mean plot site index	Standard error of the mean
CWHvm1	01	Ba	43	29.3	0.6
	01	Cw	34	22.6	0.4
	01	Fd	9	35.8	1.0
		Hw	94	27.6	0.4
		Ss	37	30.7	0.6

First approx – site index classes

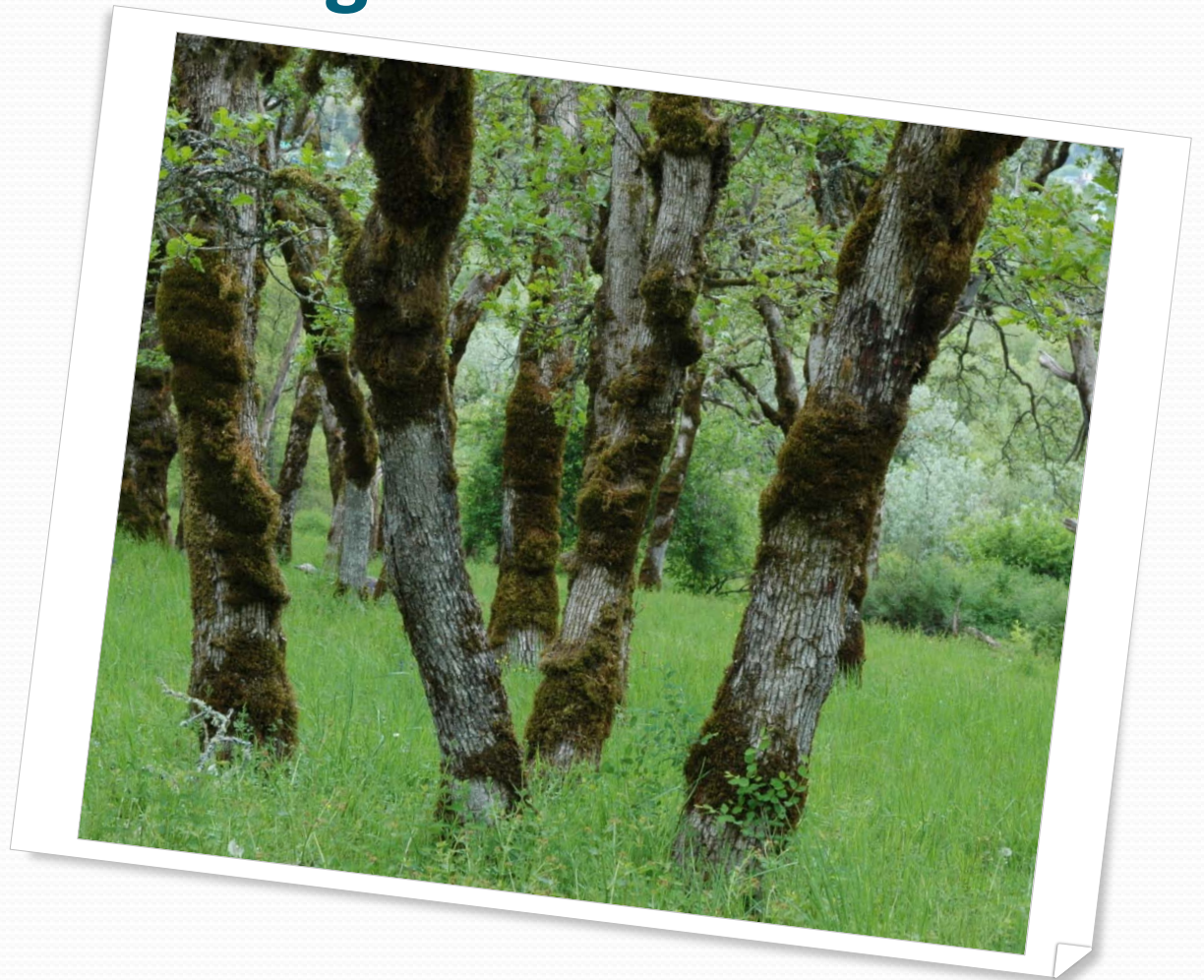| BGC unit	Site series	Tree Species	Sample size	Mean plot site index	Standard error of the mean
CWHvm1	01	Ba		24	
	01	Cw		20	
	01	Fd		36	
	01	Hw		24	
	01	Ss		24	

SIBEC application

- **Strategic**
  - Timber supply analysis (SIBEC + ecosystem mapping, e.g. PEM or TEM)
  - Strategic silviculture investments

- **Operational**
  - Silviculture/Inventory label at regen delay and Free to Grow surveys
  - Tree species selection
  - **NOTE:** intended use when stand conditions are unsuitable for using growth intercept or site index curve method; and correct site identification of the area can be obtained

Where to find all things SIBEC?

www.for.gov.bc.ca\hre\sibec