

BC Coastal Hem-Fir Initiative – 2012/13

Project Title	A Review and Preliminary Assessment of Second-Growth Western Redcedar Wood Attributes and Opportunities
Project Number	C.02
Project Leader	Gerry R. Middleton
Project Team	Dave Munro
Total Budget	\$70,000

Need(s)

Old-growth western redcedar has wood properties that make the species one of the most valuable in BC, and one that generally provided reliable returns to industry even during adverse market conditions. One of the best known properties is its durability but wood density is important too in applications such as poles, decking, roofing, and log houses and in determining the wood's fastening capacity to hold nails, screws and bolts. As harvesting in the coastal region shifts increasingly to second growth, and as silvicultural practices influence growth rates, there is a need to assess the properties of younger-aged and faster-grown trees to both demonstrate and to ensure that these valuable intrinsic properties are not unduly altered and to determine the potential for new products in the bio-economy. Artificial regeneration of redcedar in the coastal region began in the 1960s and trees planted then are now approaching harvest age.

Objectives & Approach

To review existing information and to undertake preliminary wood properties assessment to determine if the wood attributes of younger-aged and faster-grown western redcedar trees differ significantly from those of old growth and to determine if and how any differences might affect market value and silvicultural practices.

A literature search will be conducted and, based on findings, both younger aged and faster-grown western redcedar trees will be sampled to assess stem wood properties. This initial assessment will be based on x-ray densitometry of breast-height increment cores. Pith-to-bark cumulative growth rates, volumes and wood density profiles will be generated and compared to species average (old growth) values. Results will be assessed to determine age and growth-rate effects and to determine the need for further more comprehensive testing of wood attributes for continued value in traditional products and their potential value in new products.

Benefits

Western redcedar is under increasing pressure in the market place from new composite materials that claim, for example, superior durability and fire resistance. Redcedar retains its intrinsic appeal as a building product but a changing resource will come under increasing scrutiny. Industry needs information to confirm properties that support the species current advantages in traditional markets and to explore new product opportunities if changes in these properties are eroding those advantages. The value of WRC lumber exports to Canada, during normal market conditions, is approximately \$750 million.

Project Tasks and Outputs – Current fiscal year

Tasks / Outputs	Expected Delivery Date
Complete a literature search to update currently available information on second-growth western redcedar and sampling for preliminary wood properties assessment.	June 2012
Complete field sampling and obtain increment cores representative of slow, medium and fast-grown second-growth redcedar.	September 2012
Complete x-ray densitometry	December 2012
Analyze results and report findings and recommendations.	March 2013

Status and Major Accomplishments – Previous year

New Project

Performance Measures

Key Success Factor	Key Performance Indicator	Target	How the outcome of the Project supports the Program objectives
Determination of present knowledge of second-growth wood properties.	Up –to-date knowledge of past and current research on second-growth redcedar wood quality.	Determine need for further research and analysis.	Industry and government have information needed to ensure redcedar continues to meet expectations in current and new markets.
Determination of growth rate and age effects on wood density.	A clear understanding of age and growth rate related differences in properties of second-growth in comparison to old growth.	Determine the effects of shorter rotations and silvicultural practices on wood quality.	Provides guidelines to assist BC MFLNRO to determine economic rotation lengths and to ensure silvicultural practices are not detrimental to attributes valued in the market place.

Communication Strategy for Information Dissemination

A report will be provided to BCMFLNRO and to FPInnovations industry supporters in both the coastal forest region and the interior cedar- hemlock wet belt region.

Collaboration – Research Partners

Peter Kofoed, Western Forest Products and Jim Goudie, BCMFLNRO will be consulted for advice on determining the most appropriate regions and stand types for tree sampling.