

March 9, 2010

Stanley Park Ecology Society
Stanley Park Dining Pavilion 2nd Floor
PO Box 5167
Vancouver, BC, V6B 4B2

Dear Editor:

Re: Current and future vegetation in Stanley Park

This report is a synopsis of data a vegetation mapping and modeling project which is part of my MSc requirement at the University of British Columbia. This report focuses on the current structure and composition of the major forest types at Stanley Park. Data analysis is currently in progress. Aside from the graphics presented here, I have prepared graphics showing the development of the forest overtime using modeling software. I can provide these graphics upon request.

Thank you for considering this submission for publication.

Yours sincerely,

Mike Buffo, MSc Candidate

Current and future vegetation in Stanley Park

Mike Buffo

University of British Columbia

Data were collected in 2008 and 2009 as part of a vegetation mapping and modeling project. Data analysis and presentation is currently in progress. Preliminary results, however, show how vegetation composition and structure will develop in the absence of natural or human disturbance.

Most of the forest in Stanley Park is in the Coastal Western Hemlock Dry Maritime subzone and can be divided into several forest types including wet conifer, dry conifer, alder dominated, and mixed deciduous and coniferous. A small part of the forest is in the Coastal Western Hemlock Xeric Maritime subzone. The dry conifer and wet conifer types cover the largest areas in the park. Forest stands in Stanley Park range widely in age. Many stands are multi-aged. Stands were classified into age groups based on age of the main canopy trees. Mature stands are between 20 and 100 years old. Many developed after wind disturbances in 1934 and 1962. The mature wet conifer type is dominated, in terms of basal area, by very large western redcedar, while the mature dry conifer type is dominated by Douglas-fir (Figures 1 & 2). In both forest types western hemlock is the dominant species in the smallest size class by basal area and stems per hectare (Figures 3 & 4). In the most wide-spread forest type with a deciduous component, the mature deciduous and coniferous type, is dominated by big leaf maple in the larger size classes but western hemlock in the younger size classes (Figure 5).

As age-related mortality and partial disturbances remove trees from the canopy, trees from the smaller size class will be recruited into the canopy. Given the present composition of the small tree size classes, western hemlock will eventually become the dominant overstory species unless disturbances create enough light for re-establishment of broadleaves, redcedar and Douglas-fir.

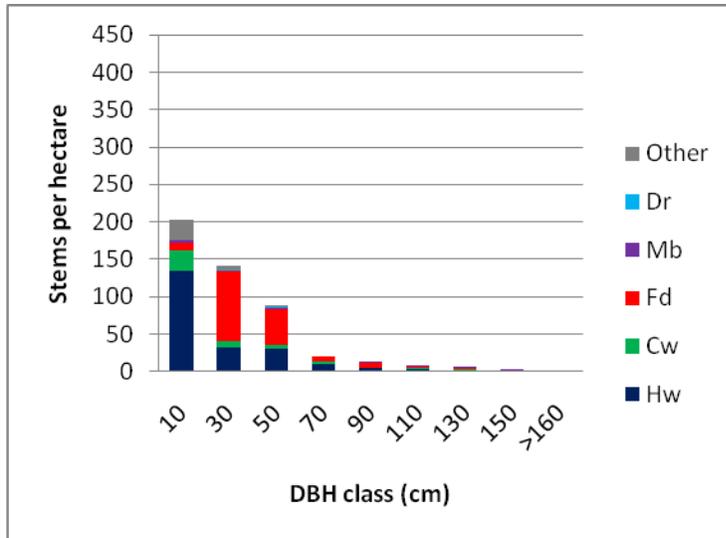


Figure 1. Stems per hectare by DBH class of trees in the mature dry conifer forest type. Dr – red alder, Mb – bigleaf maple, Fd – Douglas-fir, Cw – western redceder, Hw – western hemlock, other – includes Sitka mountain ash, bitter cherry, and non native deciduous trees.

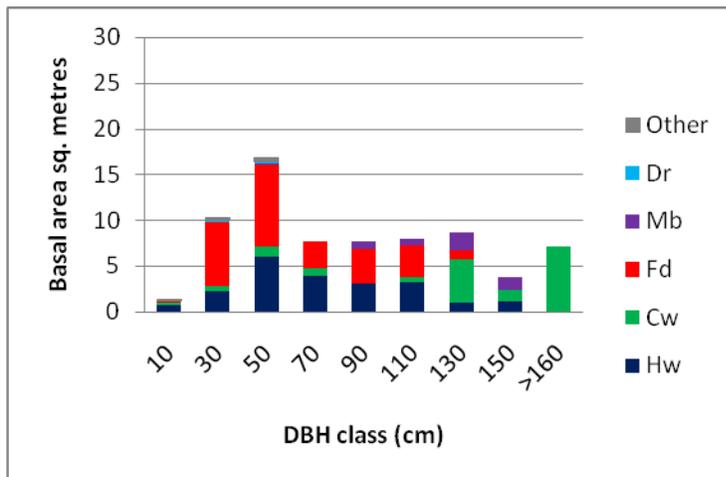


Figure 2. Basal area per hectare by DBH class of trees in the mature dry conifer forest type. Dr – red alder, Mb – bigleaf maple, Fd – Douglas-fir, Cw – western redceder, Hw – western hemlock, other – includes Sitka mountain ash, bitter cherry, and non native deciduous trees.

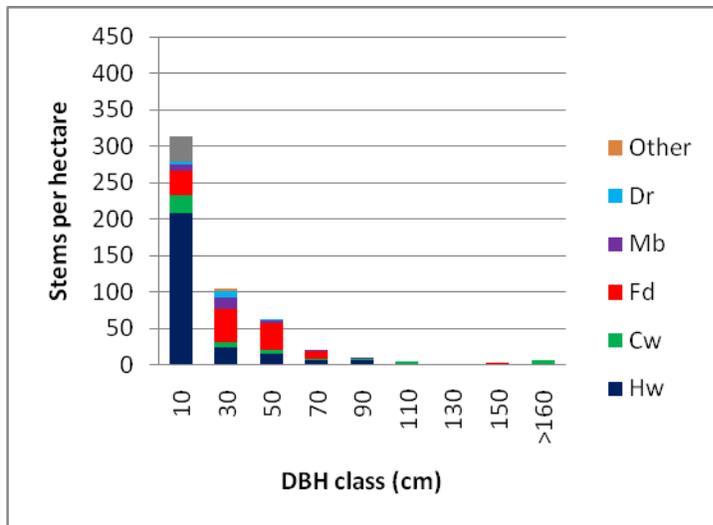


Figure 3. Stems per hectare by DBH class of trees in the mature wet conifer forest type. Dr – red alder, Mb – bigleaf maple, Fd – Douglas-fir, Cw – western redceder, Hw – western hemlock, other – includes Sitka mountain ash, bitter cherry, and non native deciduous trees.

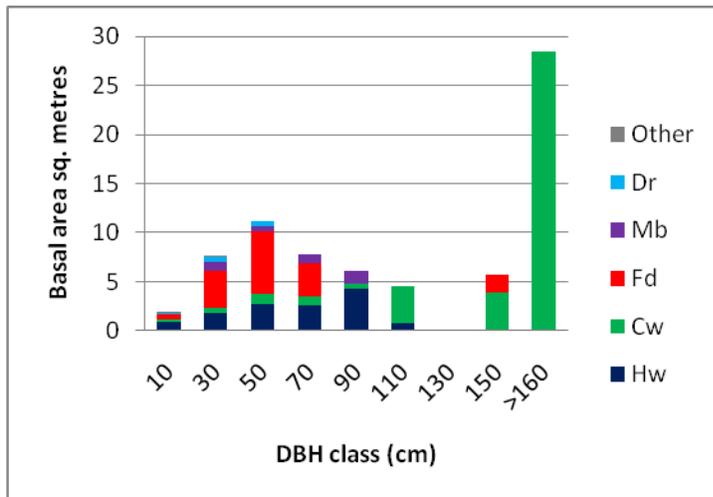


Figure 4. Basal area per hectare by DBH class of trees in the mature wet conifer forest type. Dr – red alder, Mb – bigleaf maple, Fd – Douglas-fir, Cw – western redceder, Hw – western hemlock, other – includes Sitka mountain ash, bitter cherry, and non native deciduous trees.

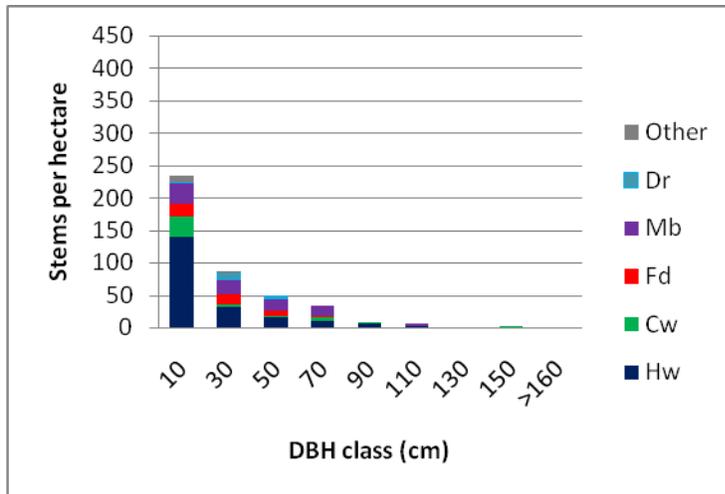


Figure 5. Stems per hectare by DBH class of trees in the mature mixed deciduous and coniferous forest type. Dr – red alder, Mb – bigleaf maple, Fd – Douglas-fir, Cw – western redceder, Hw – western hemlock, other – includes Sitka mountain ash, bitter cherry, and non native deciduous trees.