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Education

University of Toronto, Faculty of Forestry, Toronto, Ontario, Canada
Doctor of Philosophy (Ph.D.), Forest Biometrics, 1994
Thesis:

Master of Science in Forestry (M.Sc.F.), Forest Biometrics, 1991
Thesis:

Bachelor of Science in Forestry (B.Sc.F.), 1989

University of British Columbia, Faculty of Science, Vancouver, British Columbia, Canada
Bachelor of Science (B.Sc.), Mathematics and Computer Science, 1980

Professional Work Experience

Crown Life Insurance Company of Canada

Computer Programmer/Analyst (March 1984 – August, 1985): Maintained and developed the SACS system that tracked and reported on financial investment transactions.

Air Canada

Contract Computer Programmer (November 1983 – March 1984): Converted software in the Flight Management Information System to run on IBM computers.

Amoco Canada Petroleum Company Ltd.

Computer Programmer/Analyst (November 1980 – September 1983): Maintained and developed the DPLOG system that tracked and reported on data processing related costs.

Scientific Work Experience

British Columbia Ministry of Forests, Lands and Natural Resource Operations

Team Lead, Strategic Analysis Group (April 2003 – Present):

- Lead a group (currently 4 members) of scientists who provide support in forest growth and yield, biometrics, and landscape modelling
- Represents the Ministry as the expert in site index and height-age models
- Research and develop height-age and growth intercept models and site index conversion equations

- Research the effects of climate on tree growth and yield
- Research and develop growth and yield models
- Research in stand dynamics

Biometrician, Growth and Yield (August 1992 – April 2003):

- Initiated and led the Site Productivity Working Group, which was tasked with developing a research program to provide models that predict height growth and site index
- Researched and developed height-age and growth intercept models and site index conversion equations
- Represented the Ministry as the expert in site index and height-age models

Publications

Attached.

Professional Affiliations

Association of British Columbia Forest Professionals (October 1993 – Present)

Journal Articles

1. Chiu, C-M, Nigh, G and C-H Chung. 2018. Influence of climate on tree mortality in taiwania (Taiwania cryptomerioides) stands in Taiwan. N. Z. J. For. Sci. 48:6. Available at: <https://doi.org/10.1186/s40490-018-0111-0>.
2. Chiu, C-M, Chien C-T and G. Nigh. 2016. Density-dependent mortality in Taiwania cryptomerioides and Chamaecyparis formosensis stands in Taiwan. Cogent Environmental Science 2: 1148301. Available at: <http://dx.doi.org/10.1080/23311843.2016.1148301>.
3. Chiu, C-M, Chien C-T, Nigh, G. and C-T Chien. 2016. Climate and height growth of taiwania (Taiwania cryptomerioides) and Taiwan incense-cedar (Calocedrus formosana) in Taiwan. Forestry ; 0, 1–9, doi:10.1093/forestry/cpw014.
4. Chiu, C-M, Chien C-T and G. Nigh. 2015. A comparison of three taper equation formulations and an analysis of the slenderness coefficient for Taiwan incense cedar (Calocedrus formosana). Aust. For. 09:43. Available at: <http://dx.doi.org/10.1080/00049158.2015.1051610>.
5. Nigh, G. 2013. Evaluating Douglas-fir and western hemlock volume growth in response to thinning and fertilisation. N. Z. J. For. Sci. 43:9. Available at: <http://www.nzjforestryscience.com/content/43/1/9>.
6. Nigh, G. and W. Smith. 2012. Effect of climate on lodgepole pine stem taper in British Columbia, Canada. For. 85: 579-587.
7. Nigh, G. 2012. Calculating empirical best linear unbiased predictors (EBLUPs) for nonlinear mixed effects models in Excel/Solver. For. Chron. 88: 340-344.
8. Zhao, L., C. Ni, and G. Nigh. 2012. Generalized algebraic difference site index model for ponderosa pine in British Columbia, Canada. Scientia Silvae Sinicae 48: 74-81.
9. Ni, C. and G.D. Nigh. 2012. An analysis and comparison of predictors of random parameters demonstrated on planted loblolly pine diameter growth prediction. For. 85: 271-280.
10. Chung, J-D, G. Nigh, C-T Chien, C. C. Ying. 2011. Genetic variation and tree improvement of Konishii fir (Cunninghamia lanceolata (Lamb.) Hook. var. *konishii*) in Taiwan. Silvae Genetica 60(5): 196-204.
11. O'Neill, G.A. and G. Nigh. 2011. Linking population genetics and tree height growth models to predict impacts of climate change on forest production. Glob. Change Biol. 17: 3208-3217.
12. Ni, C. and G. Nigh. 2011. Assessing the effect of measurement error in age on dominant height and site index estimates. Can. J. For. Res. 41: 1698-1709.

13. Stoehr, M., K. Bird, G. Nigh, J. Woods, and A. Yanchuk. 2010. Realized genetic gains in coastal Douglas-fir in British Columbia: implications for growth and yield projections. *Silvae Genetica* 59(5): 223-233.
14. Chiu, C-M, G. Nigh, C-T Chien, and C.C. Ying. 2010. Growth patterns of plantation-grown *Taiwania cryptomerioides* following thinning. *Aust. For.* 73: 246-253.
15. Coombes, T., A. Bernard, and G. Nigh. 2010. Forest access road widths in the Lakes Timber Supply Area. *B.C. J. Ecosys. Manage.* 11(1&2): 84-90.
16. Nigh, G. 2010. A closer look at site index - biogeoclimatic site series correlations: Douglas-fir in the Coastal Western Hemlock Zone, xm2 variant, 01 site series. *For. Chron.* 86: 477-483.
17. Antos, J.A., R. Parish, and G.D. Nigh. 2010. Effects of neighbours on crown lengths of *Abies lasiocarpa* and *Picea engelmannii* in two old-growth stands in British Columbia. *Can. J. For. Res.* 40: 638-647.
18. Chiu, C-M, G. Nigh, C-T Chien, and C.C. Ying. 2010. Diameter distribution models for thinned *Taiwania* (*Taiwania cryptomerioides*) plantations. *Aust. For.* 73: 3-11.
19. Lin, W-C, D. Frey, G.D. Nigh, and C.C. Ying. 2009. Combined analysis to characterize yield pattern of greenhouse-grown red sweet peppers. *HortScience* 44: 362-365.
20. Nigh, G.D., K.D. Thomas, K. Yearsley, and J. Wang. 2009. Site dependent height-age models for paper birch in British Columbia. *Northwest Sci.* 83: 253-261.
21. Chung, J.D., C.T. Chien, G. Nigh, and C.C. Ying. 2009. Genetic variation in growth curve parameters of Konishii fir (*Cunninghamia lanceolata* (Lamb.) Hook. var *konishii*). *Silvae Genetica* 58: 1-10.
22. Nigh, G.D., J.A. Antos, and R. Parish. 2008. Density and distribution of advance regeneration in mountain pine beetle killed lodgepole pine stands of the Montane Spruce zone of southern British Columbia. *Can. J. For. Res.* 38: 2826-2836.
23. Antos, J.A., R. Parish, and G.D. Nigh. 2008. Growth patterns prior to mortality of mature *Abies lasiocarpa* in old-growth subalpine forests of southern British Columbia. *For. Ecol. Manage.* 255: 1568-1574.
24. O'Neill, G.A., G.D. Nigh, T. Wang, and P. Ott. 2007. Growth response functions improved by accounting for non-climatic site effects. *Can. J. For. Res.* 37: 2724-2730.
25. Parish, R., G.D. Nigh, and J.A. Antos. 2008. Allometry and size structure of trees in two ancient, snow forests in coastal British Columbia. *Can. J. For. Res.* 38: 278-288.

26. de Montigny, L. and G. Nigh. 2007. Density frontiers for even-aged Douglas-fir and western hemlock stands in coastal British Columbia. *For. Sci.* 53: 675-682.
27. Nigh, G.D. and R. Everett. 2007. Years-to-stump-height and years-to-breast-height model for Interior Douglas-fir, western larch, and ponderosa pine. *Northwest Sci.* 81: 293-304.
28. Nigh, G.D. 2006. Impact of climate, moisture regime, and nutrient regime on the productivity of Douglas-fir in coastal British Columbia. *Climatic Change* 76: 321-337.
29. Nigh, G.D. 2004. A comparison of fitting techniques for ponderosa pine height-age models in British Columbia. *Ann. For. Sci.* 61: 609-615.
30. Nigh, G.D., C.C. Ying, and H. Qian. 2004. Climate and productivity of major conifer species in the interior of British Columbia, Canada. *For. Sci.* 50: 659-671.
31. Nigh, G.D. and B.A. Love. 2003. Predicting crown class in three western conifer species. *Can. J. For. Res.* 34: 592-599.
32. Cieszewski, C.J. and G.D. Nigh. 2002. A dynamic equation for a published Sitka spruce site-dependent height-age model. *For. Chron.* 78: 690-694.
33. Nigh, G.D., P.V. Krestov, and K. Klinka. 2002. Trembling aspen height-age models for British Columbia. *Northwest Sci.* 76(3): 202-212.
34. Nigh, G. 2002. Site index conversion equations for mixed trembling aspen and white spruce stands in northern British Columbia. *Silva Fennica* 36(4): 789-797.
35. Nigh, G.D., P.V. Krestov, and K. Klinka. 2002. Height growth of black spruce in British Columbia. *For. Chron.* 78: 306-313.
36. Nigh, G.D., B.A. Love, and K. Thomas. 2003. A comparison of the time required for two methods of selecting site trees in juvenile stands. *North. J. Appl. For.* 20: 101-103.
37. Nigh, G.D. and M.G. E. Mitchell. 2003. Development of height-age models for estimating juvenile height of coastal Douglas-fir in British Columbia. *West. J. Appl. For.* 18: 207-212.
38. Nigh, G.D. 2001. Species-independent height-age models for British Columbia. *For. Sci.* 47(2): 150-157.
39. Brisco, D., K. Klinka, and G. Nigh. 2002. Height growth models for western larch in British Columbia. *West. J. Appl. For.* 17: 66-74.
40. Nigh, G.D. and P.J. Martin. 2001. A method to assess the performance of growth intercept models in British Columbia. *For. Chron.* 77(3): 491-499.

41. Brunner, A. and G. Nigh. 2000. Light absorption and bole volume growth of individual Douglas-fir trees. *Tree Physiol.* 20: 323-332.
42. Nigh, G.D. and G. Kayahara. 2000. Site index conversion equations for western redcedar and western hemlock. *Northwest Sci.* 74: 146-150.
43. Nigh, G.D. and B.A. Love. 2000. Juvenile height development in interior spruce stands of British Columbia. *West. J. Appl. For.* 15: 117-121.
44. Nigh, G.D. and B.A. Love. 1999. How well can we select undamaged site trees for estimating site index? *Can. J. For. Res.* 29: 1989-1992.
45. Nigh, G.D. and B.A. Love. 1999. A model for estimating juvenile height of lodgepole pine. *For. Ecol. Manage.* 123(2-3): 157-166.
46. Nigh, G. D. and P.J. Courtin. 1998. Height models for red alder (*Alnus rubra* Bong.) in British Columbia. *New For.* 16: 59-70.
47. Nigh, G. D. 1998. A system for estimating height and site index of western hemlock in the interior of British Columbia. *For. Chron.* 74: 588-596.
48. Nigh, G. D. 1998. Prediction intervals for estimates of site index based on ecosystem type. *Environ. Manage.* 22(2): 197-202.
49. Nigh, G. D. 1997. A Sitka spruce height-age model with improved extrapolation properties. *For. Chron.* 73(3): 363-369.
50. Nigh, G. D. 1997. Early height growth and site index of lodgepole pine under wet and dry soil moisture regimes in British Columbia. *West. J. Appl. For.* 12(1): 5-8.
51. Nigh, G. D. 1996. Growth intercept models for species without distinct annual branch whorls: western hemlock. *Can. J. For. Res.* 26: 1407-1415.
52. Nigh, G. D. and V. Sit. 1996. Validation of forest height-age models. *Can. J. For. Res.* 26: 810-818.
53. Nigh, G. D. 1995. The geometric mean regression line: a method for developing site index conversion equations for species in mixed stands. *For. Sci.* 41(1): 84-98.
54. Stauffer, H.B. and G.D. Nigh. 1980. Available: A computer model which simulates quadrat sampling for tree density and spacing. *For. Sci.* 31-32.

British Columbia Government Research Reports

1. Nigh, G.D. 2009. Amabilis fir height-age and growth intercept models for British Columbia. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Res. Rep. 30.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr30.htm>
2. Nigh, G.D. 2000. Western redcedar site index models for the interior of British Columbia. B.C. Min. For., Res. Br., Victoria, B.C., Res. Rep 18.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr18.htm>
3. Nigh, G. D. 1997. A growth intercept model for coastal Douglas-fir. B.C. Min. For., Res. Br., Victoria, B.C., Res. Rep. 10. 20 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr10.htm>
4. Nigh, G. D. 1996. A variable growth intercept model for spruce in the Sub-Boreal Spruce and Engelmann Spruce - Subalpine Fir biogeoclimatic zones of British Columbia. B.C. Min. For., Res. Br., Victoria, B.C. Res. Rep. 05. 20 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr05.htm>
5. Nigh, G. D. 1995. Compatibility improvements and bias reduction in height-age models. B.C. Min. For., Res. Br., Victoria, B.C. Res. Rep. 03. 10 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr03.htm>
6. Nigh, G. D. 1995. Variable growth intercept models for lodgepole pine in the Sub-Boreal Spruce biogeoclimatic zone, British Columbia. B.C. Min. For., Res. Br., Victoria, B.C. Res. Rep. 02. 22 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr02.htm>
7. Nigh, G. D. 1995. Site index conversion equations for mixed species stands. B.C. Min. For., Res. Br., Victoria, B.C. Res. Rep. 01. 20 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/Rr01.htm>

British Columbia Government Extension Notes

1. de Montigny, L. and G. Nigh. 2011. Effects of planting density on yellow-cedar and western redcedar growth. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Exten. Note 101.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En31.htm>
2. Nigh, G. 2010. An analysis of the SIBEC site index estimates fro Douglas-fir in the CWHxm2/01 site series. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Exten. Note 96.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En96.htm>.
3. Nigh, G.D. 2010. Amabilis fir height-age and growth intercept models for British Columbia. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Exten. Note 94.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En94.htm>
4. Nigh, G.D., J.A. Antos, and R. Parish. 2008. Tools to help forest managers with regeneration decision about beetle-killed stands in the Montane Spruce zone of the Merritt timber supply area. Res. Br., B.C. Min. For., Victoria, B.C. Exten. Note 83.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En83.htm>
5. Nigh, G.D. and K.R. Polsson. 2002. Splicing height curves. Res. Br., B.C. Min. For, Victoria, B.C., Exten. Note 60.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En60.htm>
6. Nigh, G.D. and K. Klinka. 2001. Growth intercept models for black spruce. B.C. Min. For., Res. Br., Victoria, B.C. Exten. Note. 57. 4 pp.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En57.htm>
7. Nigh, G.D. and P. Krestov. 1999. Site index conversion equations for mixed black spruce-lodgepole pine stands. B.C. Min. For., Res. Br., Victoria, B.C. Exten. Note 39. 3 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En39.htm>
8. Nigh, G.D., D. Brisco, and D. New. 1999. Growth intercept models for western larch. B.C. Min. For., Res. Br., Victoria, B.C., Exten. Note 38. 4 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En38.htm>
9. Nigh, G.D. 1999. Revised growth intercept models for coastal western hemlock, Sitka spruce, and interior spruce. B.C. Min. For., Res. Br., Victoria, B.C. Exten. Note 37.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En37.htm>
10. Nigh, G.D. 1999. Years to breast height and green-up age models based on a juvenile height model for lodgepole pine. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note. 31.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En31.htm>

11. Nigh, G.D. 1999. Smoothing height estimates from two lodgepole pine height models. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note. 30.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En30.htm>
12. Nigh, G.D. 1998. Site index conversion equations for mixed western hemlock - amabilis fir stands. B.C. Min. For., Res. Br., Victoria, B.C. Exten. Note 26.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En26.htm>
13. Nigh, G. D. 1997. Interior Douglas-fir growth intercept models. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note 12. 6 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/EN12.htm>
14. Nigh, G. D. 1997. Revised growth intercept models for lodgepole pine: comparing northern and southern models. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note 11. 6 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/EN11.htm>
15. Nigh, G. D. 1996. Interim validation of the western hemlock growth intercept model. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note 04. 3 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En04.htm>
16. Nigh, G. D. 1996. A variable growth intercept model for Sitka spruce. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note 03. 7 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En04.htm>
17. Nigh, G. D. 1995. Site index conversion equations for mixed Sitka spruce / western hemlock stands. B.C. Min. For., Res. Br., Victoria, B.C. Ext. Note 02. 3p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En02.htm>

British Columbia Government Working Papers

1. Nigh, G.D. 1998. Site index adjustments for old-growth stands based on veteran trees. B.C. Min. For., Res. Br., Victoria, B.C. Work. Pap. 36. 17 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Wp/Wp36.htm>
2. Nigh, G. D. and B.A. Love. 1997. Site index adjustment for old-growth coastal western hemlock stands in the Kalum Forest District. B.C. Min. For., Res. Br., Victoria, B.C. Work. Pap. 27. 13 p.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Wp/Wp27.htm>

British Columbia Government Technical Reports

1. Nigh, G.D. 2013. Estimating inventory attributes for the Lakes Timber Supply Area from remeasured Vegetation Resources Inventory ground data. Prov. B.C., Victoria, B.C. Tech. Rep. 078.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr078.htm>
2. Nigh, G.D. 2012. A biophysical model for estimating site index for the major commercial tree species in British Columbia. Prov. B.C., Victoria, B.C. Tech. Rep. 073.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr073.htm>
3. de Montigny, L.E. and G.D. Nigh. 2009. Silviculture Treatments for Ecosystem Management in the Sayward (STEMS) establishment report for STEMS 2, Elk Bay. Res. Br., B.C. Min. For. Range, Victoria, B.C. Tech. Rep. 049.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr049.htm>
4. de Montigny, L. and G.D. Nigh. 2007. Growth and survival of Douglas-fir and western redcedar planted at different densities and species mixtures. Res. Br., B.C. Min. For. Range, Victoria, B.C. Tech. Rep. 044.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr044.htm>
5. Nigh, G.D. 2002. Growth intercept, years-to-breast-height, and juvenile height growth models for ponderosa pine. Res. Br., B.C. Min. For., Victoria, B.C. Tech. Rep. 02.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr002.htm>
6. Mah, S. and G.D. Nigh. 2003. SIBEC site index estimates in support of forest management in British Columbia. Res. Br., B.C. Min. For., Victoria, B.C. Tech. Rep. 004.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr004.htm>
7. Nigh, G.D. 2004. Growth intercept and site series-based estimates of site index for white spruce in the Boreal White and Black Spruce biogeoclimatic zone. Res. Br., B.C. Min. For., Victoria, B.C. Tech. Rep. 13.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr013.htm>

British Columbia Government Field Guide Inserts

1. Nigh, G. D. 1999. Growth intercept models and tables for British Columbia - interior species. 3rd ed. B.C. Min. For., Res. Br., Victoria, B.C. Land Manage. Handb. Field Guide Insert 10.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Fgi/Fgi10.htm>
2. Nigh, G. D. 1999. Growth intercept models and tables for British Columbia - coastal species. 3rd ed. B.C. Min. For., Res. Br., Victoria, B.C. Land Manage. Handb. Field Guide Insert 9.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Fgi/Fgi09.htm>

Proceedings of Conferences

1. Nigh, G. D. 1996. Growth intercept method of determining site index. *In*: Proc. NIVMA Annual General Meeting, Jan. 24-25, 1996, Smithers, B.C. *Ed.* by P. Tollestrup. pp. 1-8.

Miscellaneous Reports

1. Forest Productivity Councils of British Columbia. 2000. Minimum standards and stem analysis procedures for site index research. Report by the Technical Advisory Committee to the Forest Productivity Councils of British Columbia (Chair: Gordon Nigh), Resources Inventory Branch, B.C. Min. For., Victoria, B.C. 9 p.
http://www.forestproductivity.gov.bc.ca/standards/Stem_Analysis.pdf
2. Site Productivity Working Group. 2000. SIBEC sampling and data standards. Ver. 5.0. B.C. Min. For., Res. Br., Victoria, B.C. 11 p.
3. Martin, P., A. Nemec, and G. Nigh. 2001. Behaviour of site index estimates when a growth intercept model is applied in surveys of regenerated stands. B.C. Min. For., For. Pract. Br., Victoria, B.C. Silv. Note 28.
4. Brisco, D., K. Klinka, and G. Nigh. 2001. New height growth models for western larch in British Columbia. Forest Sciences Dept., University of British Columbia, Vancouver, B.C. Scientia Silvana Exten. Series No. 33
5. O'Neill, G. and G. Nigh. 2012. Provenance trials help refine forest growth models. For. Genetics Council of BC. TICTalk 11: 6-7.