

Ewen, Stephanie

From: Axelson, Jodi FLNR:EX <Jodi.Axelson@gov.bc.ca>
Sent: Friday, March 04, 2016 1:01 PM
To: Ewen, Stephanie
Cc: Day, Ken; Daintith, Nola FLNR:EX
Subject: RE: Trap Trees

Stephanie, a few references from my thesis that are about or are relevant to dry-belt fir:

- ✓ Alfaro, R., and L. E. Maclauchlan. 1992. A method to calculate the losses caused by western spruce budworm in uneven-aged Douglas-fir forests of British Columbia. *Forest Ecology and Management* 55:295–313.
- ✓ Alfaro, R. I., J. Berg, and J. Axelson. 2014. Periodicity of western spruce budworm in southern British Columbia, Canada. *Forest Ecology and Management* 315:72–79.
- ✓ Anderson, L., C. Carlson, and R. Wakimoto. 1987. Forest fire frequency and western spruce budworm outbreaks in western Montana. *Forest Ecology and Management* 22:251–260.
- ✓ Axelson, J. N., D. J. Smith, L. D. Daniels, and R. I. Alfaro. 2015. Multicentury reconstruction of western spruce budworm outbreaks in central British Columbia, Canada. *Forest Ecology and Management* 335:235–248.
- ✗ Buxton K, and L. Maclauchlan. 2001-2014. Overview of Forest Health Conditions in Southern B.C. Ministry of Forests, Lands and Natural Resource Operations, Kamloops, B.C. URL <http://www.for.gov.bc.ca/rsi/ForestHealth/Overview.htm>. [Accessed June 2015].
- * Campbell, R., D. Smith, and A. Arsenault. 2005. Dendroentomological and forest management implications in the Interior Douglas-fir zone of British Columbia, Canada. *Dendrochronologia* 22:135–140.
- * Chen, P.-Y., C. Welsh, and A. Hamann. 2010. Geographic variation in growth response of Douglas-fir to interannual climate variability and projected climate change. *Global Change Biology* 16:3374–3385.
- * Daniels, L., and E. Watson. 2003. Climate-fire-vegetation interactions in the Cariboo forests: A dendroecological analysis. Forest Innovation and Investment Forest Research Program Report, Victoria, BC.
- Drever, C. R., G. Peterson, C. Messier, Y. Bergeron, and M. Flannigan. 2006. Can forest management based on natural disturbances maintain ecological resilience? *Canadian Journal of Forest Research* 36:2285–2299.
- Fettig, C. J., M. L. Reid, B. J. Bentz, S. Sevanto, D. L. Spittlehouse, and T. L. Wang. 2013. Changing Climates, changing forests: A western North American perspective. *Journal of Forestry* 111:214–228.
- Flower, A., D. G. Gavin, E. K. Heyerdahl, R.A. Parsons, and G. M. Cohn. 2014. Drought-triggered western spruce budworm outbreaks in the interior Pacific Northwest: A multi-century dendrochronological record. *Forest Ecology and Management* 324:16–27.
- Griesbauer, H. P., and D. S. Green. 2010. Regional and ecological patterns in interior Douglas-fir climate–growth relationships in British Columbia, Canada. *Canadian Journal of Forest Research* 40:308–321.
- Hadley, K., and T. Veblen. 1993. Stand response to western spruce budworm and Douglas-fir bark beetle outbreaks, Colorado Front Range. *Canadian Journal of Forest Research* 23:479–491.

Hansen, A. J., T. A. Spies, F. J. Swanson, and J. L. Ohmann. 1991. Conserving biodiversity in managed forests. *BioScience* 41:382–392.

Hope, G. A., W. R. Mitchell, D. A. Lloyd, W. R. Erickson, W. L. Harper, and B. M. Wikeem. 1991. Chapter 10: Interior Douglas-fir zone. In: *Ecosystems of British Columbia*. D. Meidinger and J. Pojar (Eds.). B.C. Ministry of Forests, Victoria, BC, pp.153–166.

Klenner, W., R. Walton, A. Arsenault, and L. Kremsater. 2008. Dry forests in the southern interior of British Columbia: Historic disturbances and implications for restoration and management. *Forest Ecology and Management* 256:1711–1722.

Kolb, B. T. E., M. R. Wagner, and W. W. Covington. 1994. Concepts of forest health. *Journal of Forestry* 92:10–15.

Lavender, D. P., and R. K. Hermann. 2014. Douglas-fir: The Genus *Pseudotsuga*. The Forestry Communications Group, Oregon State University, Corvallis, OR.

Littell, J. S., D. L. Peterson, and M. Tjoelker. 2008. Douglas-fir growth in mountain ecosystems: water limits tree growth from stand to region. *Ecological Monographs* 78:349–368.

Logan, J. A., J. Régnière, and J. A. Powell. 2003. Assessing the impacts of global warming on forest pest dynamics. *Frontiers in Ecology and the Environment* 1:130–137.

MacIaughlan, L. E., and J. E. Brooks. 2009. Influence of past forestry practices on western spruce budworm defoliation and associated impacts in southern British Columbia. *BC Journal of Ecosystems and Management* 10:37–49.

MacIaughlan, L. E., J. E. Brooks, and J. C. Hodge. 2006. Analysis of historic western spruce budworm defoliation in south central British Columbia. *Forest Ecology and Management* 226:351–356.

Murdock, T. Q., S. W. Taylor, A. Flower, A. Mehlenbacher, A. Montenegro, F. W. Zwiers, R. Alfaro, and D. L. Spittlehouse. 2013. Pest outbreak distribution and forest management impacts in a changing climate in British Columbia. *Environmental Science & Policy* 26:75–89.

Nealis, V. G. 2012. The phenological window for western spruce budworm: seasonal decline in resource quality. *Agricultural and Forest Entomology* 14:340–347.

Nealis, V. G. 2015. Comparative ecology of conifer-feeding spruce budworms (Lepidoptera: Tortricidae). *The Canadian Entomologist* 25:1–25.

Robertson, E. O., L. A. Jozsa, and D. L. Spittlehouse. 1990. Estimating Douglas-fir wood production from soil and climatic data. *Canadian Journal of Forest Research* 20:357–364.

Shepherd, R. F. 1977. A classification of western Canadian defoliating forest insects by outbreak spread characteristics and habitat restriction. *Insect Ecol. Agric. Exp. Sta. U. Minn. Tech. Bull.* 310:80–88.

Shepherd, R. F. 1994. Management strategies for forest insect defoliators in British Columbia. *Forest Ecology and Management* 68:303–324.

Silen, R. R. 1978. Genetics of Douglas-fir. USDA Forest Service Research Paper. WO-35.

Simard, S. W. 2009. The foundational role of mycorrhizal networks in self-organization of interior Douglas-fir forests. *Forest Ecology and Management* 258:95–107.

- * Simpson, D. G. 2000. Water use of interior Douglas-fir. Canadian Journal of Forest Research 30:534–547.
- Spittlehouse, D. 2008. Climate change, impacts, and adaptation scenarios: climate change and forest and range management in British Columbia. Technical Report 045. British Columbia Ministry of Forests and Range, Victoria, BC.
- Steen, O., and R. Coupé. 1997. A field guide to forest site identification and interpretation for the Cariboo Forest Region. Ministry of Forests, Research Program. URL <http://www.for.gov.bc.ca/hfd/pubs/docs/lmh/lmh39.htm> [Accessed May 2014].
- Volney, J. A. 1994. Multi-century regional western spruce budworm outbreak patterns. Trends in Ecology & Evolution 9:43–45.
- Watson, E., and B. H. Luckman. 2002. The dendroclimatic signal in Douglas-fir and ponderosa pine tree-ring chronologies from the southern Canadian Cordillera. Canadian Journal of Forest Research 32:1858–1874.

Jodi Axelson, Ph.D.
Forest Entomologist - Cariboo Region
Ministry of Forests, Lands and Natural Resource Operations

From: Axelson, Jodi FLNR:EX
Sent: Wednesday, March 2, 2016 3:58 PM
To: 'Ewen, Stephanie'
Cc: 'Day, Ken'; 'Samantha Smolen'
Subject: RE: Trap Trees