

Web-links and Literature for Mule Deer Habitat Management in the Cariboo Region (to December 2015)

Web Links for Resources

MDWR Management Strategies

Management Strategy for Mule Deer Winter Ranges in the Cariboo-Chilcotin Part 1a:

Management Plan for Shallow and Moderate Snowpack Zones. 2007. R.J. Dawson, H.M. Armleder, B. Bings, and D. Peel.

Management Strategy for Mule Deer Winter Ranges in the Cariboo-Chilcotin Part 1b:

Management Plan for Transition and Deep Snowpack Zones. 2006. R.J. Dawson, H.M. Armleder, B. Bings, and D. Peel.

General Wildlife Measures

Order for Shallow/Moderate Snowpack MDWRs:

http://www.env.gov.bc.ca/wld/documents/wha/Amendment_ShallowModerate_Feb07_Ord.pdf

Order for Transition/Deep Snowpack MDWRs:

http://www.env.gov.bc.ca/wld/documents/wha/Amendment_TransDeep_Feb07_ord.pdf

Individual MDWR Long-term Objectives Maps, Overview TSA MDWR maps, Snowpack Zones map:

<http://www.env.gov.bc.ca/esd/distdata/ecosystems/mdwr/>

Information Notes:

Mule Deer Winter Range Strategy Committee. 2014. Regional mule deer winter range strategy. Information Note #1. Guidance for fire damaged stands.

https://www.for.gov.bc.ca/tasb/slrp/lrmp/williamslake/cariboo_chilcotin/plan/biodiv/2014_June_Final_Information_Note1.pdf

Mule Deer Winter Range Strategy Committee. 2014. Regional mule deer winter range strategy. Information Note #2. Guidance for MDWR General Wildlife Measure Exemption Requests for Salvage of Insect-killed Douglas-fir.

https://www.for.gov.bc.ca/tasb/slrp/lrmp/williamslake/cariboo_chilcotin/plan/biodiv/2014_June_Final_Information_Note2.pdf

Land Use Order

Objectives for wildlife tree retention, OGMAs, Critical Fish Habitat, Lakes, Riparian Reserve Zones, Grasslands, High Value Moose Wetlands, Grizzly Bear.

ftp://ftp.geobc.gov.bc.ca/publish/Regional/WilliamsLake/Cariboo-Chilcotin_LUOR_Order/legal_order_document/CaribooChilcotinLUO_May2011.pdf

Biodiversity Committee Updates

Cariboo-Chilcotin Land Use Plan. 2006. An Integrated Strategy for Management of Biodiversity and Bark Beetles in Douglas-fir and Spruce Stands. Update Note #7b.

https://www.for.gov.bc.ca/tasb/slrp/lrmp/williamslake/cariboo_chilcotin/plan/biodiv/biodiv_update_7b_dec_11_2006.pdf

Frost Hazard Guide and Extension Note

Steen, O.A.S., R. Stathers, and R. Coupé. 1990. Identification and management of summer frost prone sites in the Cariboo Forest Region. For. Can. and B.C. Min. For., Victoria, B.C. FRDA Rep. 157. 23 pp. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Frr/Frr157.htm>
<https://www.for.gov.bc.ca/rsi/research/cextnotes/extnot05.pdf>

Ecora Resource Group Ltd. 2012. Drought risk and frost hazard mapping for the Williams Lake TSA. And Frost Hazard Workbook (Excel). (maps available upon request).
<https://www.for.gov.bc.ca/ftp/DCC/external/!publish/Frost%20Hazard/Report%20and%20tools/>

Cariboo Region Forest Health Strategies and Data

Strategic Douglas-fir Bark Beetle Management Plan - Cariboo Region
<https://www.for.gov.bc.ca/ftp/RSI/external/!publish/Forest%20Health/Douglas-fir%20Beetle%20Strategy/>

Interim Modifications to Biodiversity Update #7b August 2015 *Expires October 31, 2016*
<https://www.for.gov.bc.ca/ftp/RSI/external/!publish/Forest%20Health/>

Detailed helicopter-GPS Douglas-fir bark beetle survey data (2015)
<https://www.for.gov.bc.ca/ftp/RSI/external/!publish/Forest%20Health/Detailed%20BB%20Heli-flight%20Data/2015%20Detailed%20IBD%20Data/>

Bark beetle hazard rating maps (2014)
<https://www.for.gov.bc.ca/ftp/RSI/external/!publish/Forest%20Health/Bark%20Beetle%20Hazard%20Maps/2014/>

Beetle Management Unit Boundaries – BMUs (Spring 2015)
<https://www.for.gov.bc.ca/ftp/RSI/external/!publish/Forest%20Health/Beetle%20Management%20Unit%20Boundaries/Spring%202015/>

Guide to Identifying Douglas-fir beetle attack from ground assessments
https://www.for.gov.bc.ca/ftp/RSI/external/!publish/Forest%20Health/Forest%20Health%20Presentations/Douglas-fir_beetle_signs.pdf

Cariboo-Chilcotin Resource District Resources

Douglas-fir Bark Beetle Documents, including: BMU priority areas, signed Cariboo-Chilcotin Douglas-fir beetle implementation plan, signed Interim Modification Agreement #7b
<https://www.for.gov.bc.ca/ftp/DCC/external/!publish/Forest%20Health/Douglas-fir%20Bark%20Beetle%20Documents/>

Research Publications

Armleder, H.M. 1999. Clumpy spacing: juvenile spacing Douglas-fir into clumps to imitate natural stand structure. B.C. Min. For., Res. Br., Victoria, B.C. Extension Note 32. 6 pp. <https://www.for.gov.bc.ca/hfd/pubs/Docs/En/En32.htm>

Armleder, H.M., M.J. Waterhouse, R.J. Dawson and K.E. Iverson. 1998. Mule deer response to low-volume partial cutting on winter ranges in Central Interior British Columbia. B.C. Ministry of Forests. Research Report No. 16. <http://www.for.gov.bc.ca/hfd/pubs/docs/Rr/Rr16.htm>

Armleder, H.M., M.J. Waterhouse, D.K. Keisker and R.J. Dawson. 1994. Winter habitat use by mule deer in the Central Interior of British Columbia. Can. J. Zool. 72:1721–1725.

Armleder, H.M. and R.J. Dawson. 1992. Logging on mule deer winter range: An integrated management approach. For. Chron. 68:132–7.

Armleder, H.M., R.J. Dawson, and R.N. Thomson. 1986. Handbook for timber and mule deer management co-ordination on winter ranges in the Cariboo Forest Region. B.C. Min. For., Res. Br., Victoria, B.C. Land Manage. Handb. 13. 98 pp. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh13.htm>

Dawson, Richard J., and Harold M. Armleder. 1999. Structural definitions for management of mule deer winter range habitat in the interior Douglas-fir zone. Extension Note #25, BC Min. of For. Research, Cariboo Forest Region. https://www.for.gov.bc.ca/hfd/pubs/RSI/FSP/Cariboo/C_ext_notes/ENC25A.pdf

Dawson, R.J., H.M. Armleder, and M.J. Waterhouse. 1990. Preferences of mule deer for Douglas-fir foliage from different sized trees. J. Wildl. Manage. 54:378–382.

Chapman, B., G. Xiao, and S. Myers. 2004. Early results from field trials using *Hypholoma fasciculare* to reduce *Armillaria ostoyae* disease. Can. J. Bot. 82:962–9.

Day, Ken, G. Weckerle, J.L. Mitchell, R.W. Gray, C. Tretheway, and B.A. Atkins. 2003. Commercial thinning on mule deer winter range. Improving habitat through forest management. Tech. Rep. Forestry Innovation Investment Contract R2003-0216 <http://afrf-forestry.sites.olt.ubc.ca/files/2012/03/Commercial-thinning-in-mule-deer-winter-range-improving-habitat-through-mgt-2003.pdf>

Day, Ken, Rau, M., Zielke, K. 2000. Commercial Thinning of Dry-belt Douglas-fir Stands on Mule Deer Winter Range in the Cariboo Foest Region. <http://afrf.forestry.ubc.ca/files/2012/03/Commercial-thinning.pdf>

Day, J.K. 1998. Selection management of interior Douglas-fir for mule deer winter range. MF Thesis. Faculty of Forestry, Univ. B.C., Vancouver, B.C. 116 pp. <http://afrf-forestry.sites.olt.ubc.ca/files/2012/03/Ken-Days-MF-Thesis.pdf>

Koot, C., K.Day, S. Ewen, and D. Skea. 2015. Harvesting on mule deer winter range under General Wildlife Measures for shallow and moderate snowpack zones: Approach and lessons

learned following a second harvest entry after 30 years. Tech. Rep. Posted at http://afrf-forestry.sites.olt.ubc.ca/files/2015/07/30Yr_HarvMDWRunderGWM_AFRF_Report2015.pdf

Marshall, P., Lee, T., Day, K., Koot, K. 2000. Summary of 13 year Results of an IDF Precommercial Thinning Experiment in the Alex Fraser research Forest, Williams Lake, BC. <http://afrf.forestry.ubc.ca/files/2012/03/Summary-Report-88-11-Final2005.pdf>

Mitchell, S.J. 1995. The windthrow triangle: A relative windthrow hazard assessment procedure for forest managers. *For. Chron.* 71:446–50.

Parker, K.L., C.T. Robbins, and T.A. Hanley. 1984. Energy expenditures for locomotion by mule deer and elk. *J. Wildl. Manage.* 48:474–88.

Waterhouse, M.J. 2009. Silvicultural systems on a deep snowpack, mule deer winter range in the central interior of British Columbia: 10-year update. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Exten. Note 89. <http://www.for.gov.bc.ca/hfd/pubs/Docs/En/En89.htm>

Waterhouse, M.J. and A.M. Eastham. 2005. Assessment of silvicultural systems developed for deep snowpack, mule deer winter range in the central interior of British Columbia: regeneration and vegetation components. B.C. Min. For., Res. Br., Victoria, B.C. Tech. Rep. 021. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr021.htm>

Waterhouse, M.J. 1998. Silvicultural systems for Douglas-fir stands on very deep snowfall winter ranges. B.C. Min. For., Cariboo For. Reg., Williams Lake, B.C. Exten. Note 23. http://www.for.gov.bc.ca/hfd/pubs/RSI/FSP/Cariboo/C_ext_notes/ENC23.pdf

Waterhouse, M.J., H.M. Armleder and R.J. Dawson. 1994. Winter food habits of mule deer in the Central Interior of British Columbia. B.C. Min. For. Research Note No. 113. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Rn113.htm>

Waterhouse, M.J., H.M. Armleder and R.J. Dawson. 1991. Forage litterfall in Douglas-fir forests in the Central Interior of British Columbia. B.C. Min. For. Research Note No. 108. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Rn108.htm>

Waterhouse, M.J., R.J. Dawson and H.M. Armleder. 1991. Chemical composition of Douglas-fir foliage on mule deer winter range. B.C. Min. For. Research Report RR91003-CA. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/R91003-CA.htm>

Waterhouse, M.J., R.J. Dawson and H.M. Armleder. 1990. The effects of juvenile spacing on wildlife habitat use during winter in the Interior Douglas-fir zone of British Columbia. B.C. Min. For. Research Report RR89003-CA. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/R89003-CA.htm>

Waterhouse, M.J., R.J. Dawson, H.M. Armleder and P. Belliveau. 1988. A preliminary study of the effects of juvenile spacing on wildlife habitat use during winter in the interior Douglas-fir zone of British Columbia. B.C. Min. For. Research Report 88002-CA. <http://www.for.gov.bc.ca/hfd/pubs/Docs/Rr/R88002-CA.htm>