

Natural Disturbance and Uneven-aged Silviculture: Not a Common Reference!

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"Natural disturbance-based management: Managing for complexity" was the central theme of the recent conference of the IUFRO 1.05 Uneven-aged Silviculture Research Group, held in Rouyn-Noranda, Québec (Canada) from May 14-18, 2006. The conference was intended to highlight both recent research and conceptual approaches that draw on knowledge of natural forest and stand dynamics involved in small-scale disturbances and silvicultural approaches that find some inspiration in these dynamics.

From the opening keynote address on using natural secondary disturbances as a template for silviculture in the boreal mixedwood forest of Eastern Canada, it was evident that the reference scales of natural disturbances and even the notion of natural disturbance-based management are not common currency across all forest regions and countries. Clearly, the extent to which disturbances such as fire, insect outbreaks and windthrow events affect forest dynamics, composition and structure in boreal Canada have few equivalents in regions where forests are highly accessible and have been intensively managed for generations. Moreover, the idea of wanting to manage in ways that integrate certain aspects of these natural processes and the disturbance patterns they create would appear to be a hard sell in regions where the capability exists to control most medium- to large-scale disturbances.

Thus, whereas natural disturbance-based management is perceived as a key element to maintaining biodiversity and natural complexity in much of the North American forest science community, disturbance in many regions where natural forests are rare continues to be perceived as a destructive force with little utility as a template for management, with the exception of efforts in forest ecosystem restoration and naturalisation of forest



Keynote speaker Dan Kneeshaw (Université du Québec à Montréal) explaining gap dynamics driven by spruce budworm in old growth balsam fir-white birch-cedar stand (Lake Duparquet Research and Teaching Forest) during mid-conference excursion. (Photo: Daniel Lesieur)

plantations. This dichotomy was underlined in a thought-provoking talk by Klaus Puettmann (Oregon State) entitled *UEA management: Which kind? Why do we care?* in which management approaches, goals and values, and ecological and economics concepts were compared for management regimes based on maximum sustainable yield *versus* those focused on building complex stand structures.

Despite differing viewpoints regarding the natural disturbance paradigm, numerous scientists from all represented regions presented research results concerning fine-scale stand-level dynamics (and disturbances) and their relationship to light environments, recruitment, growth and mortality processes in natural, old growth and stands managed under UEA regimes and variants of partial harvesting.

Conference on *Natural disturbance-based management: Managing for complexity*. Sponsored by the IUFRO Uneven-aged Silviculture Research Group (1.05.00); organized by the NSERC Industrial Chair in Sustainable Forest Management of the Université du Québec en Abitibi-Témiscamingue and the Université du Québec à Montréal in collaboration with the Canadian Forest Service and the Quebec Ministry of Natural Resources and Wildlife; 125 delegates from 12 countries. Website: <http://web2.uqat.ca/iufro/>. A "Forum Feature" of a limited number of peer-reviewed papers from the conference is being prepared for the Canadian Journal of Forest Research.