



EMEND celebrates a decade of work

By DAVID HOLEHOUSE

The novaNAIT Boreal Research Institute hosted a 10th anniversary celebration in November for the research endeavor known as EMEND: Ecosystem Management Emulating Natural Disturbance. At 1,000 hectares, EMEND, located 90 km northwest of Peace River, is one of the world's largest forest research sites.

Preliminary data, with applications in education, silviculture and forest operations, has started to emerge from EMEND and much more can be expected over the final 60 to 80 years of its life. The original vision belongs to Daishowa-Marubeni International Ltd. (DMI) and Canadian Forest Products Ltd., companies that wanted to find ways to test and monitor how a forest responds to human and natural disturbance over a "rotation" of 80 to 100 years. They caught the attention of the University of Alberta, the Canadian Forest Service and the Alberta Government, and the EMEND research partnership was born. "Its genesis was connected to a move back in the late 1990s to the ecological-based forest management approach," says Jim Witiw, Forest Resource Coordinator for biodiversity stewardship with DMI, and the company's representative on the EMEND management committee.

"It was a paradigm shift, guided by science, social expectations and Canada's commitments to the international community. In essence this management approach was and still is experimental." Due to the complexity of boreal ecosystems, it would be a "major leap" to base forest management practices on what was thought to be happening on a landscape shaped historically by wildfire. Forest companies wanted a way to see how new practices and relationships would work, Witiw says.

EMEND has become important in guiding company operations, right down to the composition of management plans submitted to the Alberta government for approval.

"We can never totally mimic fire, because we bring the timber to a mill, but we attempt to replicate some of the patterns we see in wildfire," says Witiw. "EMEND allows us to test on a multiple-replication scale some of the landscape patterns, such as surviving forest remnants, shapes and patterns after a fire that we can compare against forest harvest approaches."

Two things are becoming apparent after the first 10 years, Witiw says. First is that patterning timber harvest after natural wildfire still seems to be the right path to take, and is truer to what naturally happens on the landscape.

"Secondly, we are seeing that fires in the boreal landscape are highly variable, and EMEND is telling us as we monitor responses of species and a variety of ecological functions that this variability is very important," Witiw says.

A spin-off benefit from EMEND has been the discovery of new species, and a regional inventory of insect species – the latter a first in Canada. The Boreal Research Institute is the technology transfer partner for EMEND, bridging EMEND research results through seminars, e-news, tours, and community linkages.



Forest Islands can be unscathed by fire. (supplied photo)