



International visitors learn from EMEND site

By KATE WILSON

Biodiversity has become one of the key indicators of success for managers of Alberta's forested landscape. Globally, biodiversity indexes have been integrated into land management models or are under consideration. This was one of the disclosures at an international tour of the EMEND (Ecosystem Management Emulating Natural Disturbance) research site July 9.

A Swedish guest wanted to know how core vegetative data was collected and compiled at EMEND. In his home country, vegetation inventories are under discussion to incorporate more biodiversity monitoring into forest management planning.

"We're also considering taking picture of plots, for comparison year to year. Every year, we discuss these possibilities," said Jokim Hjältém, a forest researcher from southern Sweden.

He was visiting the EMEND site along with researchers from Australia, Mexico, Argentina and Canada, on a tour headed by John Spence, co-leader of the EMEND project and renewable resources department chair at the University of Alberta.

EMEND was launched at the invitation of industry to provide the science for variable retention, among other research goals. The design incorporates 1,000 ha of land northwest of Peace River, Alberta, with varying percentages of forest retention, and burn or harvest treatments. It is forecast to run for one stand rotation, 80 to 100 years.

"We are probably the largest scaled, detailed biodiversity map anywhere in the country," Spence told the group.

Jim Witiw, coordinator for biodiversity stewardship at Daishowa-Marubeni International (DMI) in Peace River, presented DMI's role in the project and how variable retention has been integrated into company operations.

"Variability of retention is the goal, from single stems to patches and small clumps," he explained.

Since wildfire is the prime natural disturbance shaping the boreal forest,



Left to right (front) Tim Work of Quebec, Jokim Hjältém of Sweden Enrique Montes de Oca of Mexico share insights at one of several stops during an international tour of the EMEND research site. Also shown are a core-crew member and Charlene Hahn (far right), EMEND base camp staff.



Vanessa Lencinas (left), a silviculture researcher from Argentina, and Sue Baker, researcher with Forestry Tasmania, take photos as John Spence, co-leader of the EMEND research project, lends assistance during an international tour of EMEND.

variability is intended to replicate the diversity left behind from fire, he said.

Forest structure retention is part of operations for several Alberta companies, arising from the move toward ecological based management, which in turn is based on the natural disturbance paradigm.

Shawn Barraclough, Alberta Sustainable Resource Development, noted that while research is industry driven, EMEND is producing valuable information for policy makers as well.

"EMEND is showing us that we are on the right track," he said. "It gives us a lot more information, either to adapt or defend our policy."

The design is also showing its capacity to support new research, with guest researchers attending for their own work, not strictly aligned with the variable retention template.

Downed trees and logs, collectively known as coarse woody debris, is becoming accepted as a future component of land management and an indicator of forest health.

Sue Baker, a biodiversity researcher with Forestry Tasmania, noted that Tasmania has some of the highest volumes of woody

debris on the planet, and that not much is known about its optimal spatial and volume parameters. This is becoming a challenge, as biomass harvest is ramping up. It has implications for saproxylic beetles (feeding on rotting wood), as they are a key indicator of forest biodiversity.

Enrique Montes de Oca, a biologist from Mexico who received his PhD at the University of Alberta, worked with ground beetles as indicators of land use change in the mountainous pine and oak forests of Mexico.

Mexico's land use issues stem in part from pressure on its drier northern forests, which are converted to pasture or harvested. In the south, the tropical Maya forests are facing agricultural pressure, as well.

EMEND has relevance to what he's seeing in his country, where different practices are being studied – prescribed burn and various harvest patterns.

"The conclusions are early, but are showing that even the smaller retention helps in terms of biodiversity," said Montes de Oca.

The EMEND project is centered at the University of Alberta, and is a collaboration of numerous research agencies, provincial and federal governments, and forest companies operating in northwestern Alberta.