TECHNOLOGY AND INNOVATION

Russian Model Forest Builds a Better Mouse Trap

Forest Fire Management

Innovative computer software modeling technology, developed by Russia’s Gassinski Model Forest Association (GMFA), is helping to preserve the habitat of endangered animals — and improving the forecasting of forest fire behaviour in Russia and around the world.

When fires wiped out some 1.5 million hectares of forest in the Khabarovsk Krai Region of the Russian Far East in 1998-1999, they endangered more than the region’s Korean pine trees.

About 15 million cubic metres of commercial timber (valued at US$26.9 million) were lost, destroying much needed local income. Also at risk was the habitat of endangered Amur (Siberian) tigers, bears and birds.

Enter the GMFA. The Model Forest, together with one of its partners, Khabarovsk National Technical University (Alexander Karpov, Institute of Computer Technologies), had just completed the three-year development of a computer model for forecasting the severity of potential forest fires and simulating forest fire propagation and suppression. The silver lining to the devastating 1998-1999 forest fire cloud is that the fires provided an excellent opportunity to test this newly developed software.

The Microsoft-based software has since been provided free-of-charge to help train forest fire fighters around the world that are striving to forecast forest fires, assess their effects and decide whether forest fires should or should not be suppressed.

But the story doesn’t end here. The GMFA’s reputation in forest fire forecasting and modeling has grown. In September 2003, the model forest co-hosted, along with the World Bank and the Russian Space Research Institute, an international seminar, entitled New Approaches to Forest Fire Management on an Ecoregional Level, in Khabarovsk province, attended by more than 100 people.

Equally noteworthy, the seminar resulted in the listing of the Gassinski Model Forest area as a key site for testing the remote sensing of forest fires.

For more information, please contact Genrikh Telitsyn at: forestry@trk.kht.ru

Canadian Model Forest Wins Environmental Innovation Award

Habit Protection

The Foothills Model Forest (FMF) in west-central Alberta includes not only some of the most photographed landscape in Canada — Jasper National Park, for example — it is also home to a symbol of Canada’s natural heritage: grizzly bears.

Gathering and disseminating information and tools that will help conserve these majestic animals has been an important project for the FMF. And a very successful one so far.

On June 9, 2004, the FMF received the Emerald Award (Research and Innovation category) from the Alberta-based Foundation for Environmental Excellence for its five-year grizzly bear research project that has yielded grizzly bear habitat maps and movement models for a 100 000 square kilometer area — an unprecedented scale in wildlife management research.

During the research period 1999-2003, 41 bears were captured and fitted with global positioning system (GPS) collars in order to monitor their movements and habitat use, population status and trends, and mortality.

The FMF’s tools are being put to good use. Some of the model forest’s industry partners are already using them to minimize their impact on prime grizzly bear habitat, particularly as it relates to the planning of roads and pipelines.

For more information, contact Lisa Jones at: lisa.jones@gov.ab.ca