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U of A researcher receives $540,000 research award

Dr. Fangliang He leads national research team to measure and model biodiversity

Edmonton, Alberta . . . . Principal Investigator Dr. Fangliang He will receive $540,000 over three years to improve our knowledge and understanding of what biodiversity actually means. “In many parts of the world, including boreal forests, there is poor understanding of what comprises biodiversity, how that diversity should be measured, what components of diversity are to be observed and monitored, and how the knowledge of biodiversity can be practically used to predict the effect of management and to guide sustainable forest management.” said He.

Driven by concerns about multiple functions of the boreal forest and the sustainability of forest ecosystems over the past decade, the management paradigm for mixedwood forests has been shifting in concept from timber production to integrated management aiming at conserving biodiversity and ecosystem functionalities. Traditional sustainable management for mixedwood forests is centered on individual species, particularly the larger, charismatic wildlife species. “Although this wildlife-centered approach is widely appreciated by the public, key assumptions underlying this approach are largely untested and its effectiveness as criteria and indicators is poorly understood. It is far from clear whether an ecosystem will be safeguided by management aiming to protect just a small group of species,” said He.

Dr. He’s research work will be largely conducted at Alberta’s EMEND research site north of Peace River, Alberta. He and his research team will seek to develop solid connections between basic ecological theory and biodiversity patterns for the boreal mixedwood forests in Alberta by focusing on a whole variety of plants and insects. The objective is to document, model and synthesize five prominent diversity patterns and to create a suite of species diversity characteristics from managed to intact mature and old boreal mixedwood landscapes. These patterns will be consistent with theory, statistically representative, scientifically solid and practically useful to forest managers and conservation experts.

Dr. He’s proposal went through an extensive scientific peer-review process. His project received significant support from Natural Resources Canada (Canadian Forest Service), Government of Alberta and forward-thinking forest companies including Ainsworth Lumber Company Limited, Canadian Forest Products Ltd., Daishowa-Marubeni International Ltd., and Manning Diversified Forest Products Ltd.

Dr. He will be supported by Dr. Brian McGill, McGill University, Drs. John Spence and Felix Sperling, University of Alberta; Dr. Tim Work, Université du Québec à Montréal and Dr. Charmaine Dean, Simon Fraser University along with four other research collaborators.

For more project information, contact:   More information about SFM Network
Dr. Fangliang He Marvin Abugov
Canada Research Chair, Biodiversity and Communications Manager
Landscape Modelling, SFM Network
Dept. of Renewable Resources, U of A Tel: (780) 492-2492
Tel: (780) 492-7575 E-mail: marvin.abugov@sfmnetwork.ca
E-mail: fhe@ualberta.ca