

Forestry and Environmental Management

OVERVIEW

The University of New Brunswick's (UNB) Faculty of Forestry and Environmental Management has a long history of producing industry and science-focused research. One of the leading natural resource centers in Canada, the faculty is involved in relevant industry research with diverse private and public partners.

RESEARCH CAPABILITIES

- Forest Management
- Wildlife Conservation
- Water Resource Management
- Forest Biology and Genetics
- Wood Science and Engineering
- Remote Sensing and GIS Mapping
- Socio-Economics of Natural Resources
- Climate Change
- Wetland, Grassland and Crop Management
- Arctic Studies

MAJOR PROJECTS

New Brunswick Innovation Chair Program in Advanced Wood Products

Researcher(s): Dr. Ying Hei Chui

Developing high performance engineered wood products that can be used in taller wood structures.

Use of Sensors in the Wood Industry

Researcher(s): Dr. Brigitte Leblon, Dr. Bruce Balcom and Dr. Bryce MacMillan

Developing sensors to analyze the properties of wood in real-time.

EIS-SBW: Early Intervention Strategies to Suppress a Spruce Budworm Outbreak

Researcher(s): Dr. David MacLean, Dr. Van Lantz, Dr. Chris Hennigar and 28 others

Developing and testing a new strategy to suppress an emerging spruce budworm outbreak by early population manipulation techniques.

Wet Areas and Flow-Channel Mapping in Forested Watersheds

Researcher(s): Dr. Paul Arp, Dr. Jae Ogilve, B. White (Gov. of Alberta) and C. Bater (Gov. of Alberta)

Researching digital elevation, modeling and mapping of flow connectivity, soil drainage and vegetation distribution by soil moisture regimes across the forested watersheds of Alberta.

Role of Carnivores in Reducing Moose Density

Researcher(s): Dr. Graham Forbes and James Bridgland (Parks Canada)

Determining how to reduce the impact of hyper-abundant herbivores in Cape Breton National Park, NS.

Genetic Effects of Anthropogenic and Natural Disturbances, and Minimum Viable Population Size in Forest Trees

Researcher(s): Dr. Om P. Rajora

Understanding genetic diversity, population structure genetics, and the evolutionary effects of forest management practices. Reviewing fragmentation, forest fires, air pollution, climate change and range marginalization, as well as the genetic basis of local adaptation and minimum viable population size in forest trees.

Carbon Dynamics of Fine Roots in Eastern Forest Ecosystems Dominated by Balsam Fir

Researcher(s): Dr. Marek Krasowski, Dr. John Kershaw and Dr. M. Lavigne (CFS)

Assessing the extent of intraspecific variations in the turnover of fine roots in balsam-fir-dominated forest stands in Eastern Canada. Evaluating the associated implications of carbon cycling in terrestrial ecosystems.

Effect of Flow Regulation on Growth and Survival of Stream Fishes

Researcher(s): Dr. Rick Cunjak and Dr. A. Hards

Studying the responses of stream fishes after irregular flow releases from New Brunswick Power's storage lakes in the headwaters of the Tobique River in northern New Brunswick.

Best Management Practices to Maximize Environmental and Economic Benefits of Potato Production in New Brunswick

Researcher(s): Dr. Fan-rui Meng, Dr. Van Lantz, Dr. Sheng Li (AAFC) and others

Assessing the environmental, productivity and economic benefits of particular crop rotations and soil conservation structures used by farmers to aid in the development of sustainable management policies.

Community Self-Assessment Tools for Positive Transformational Change

Researcher(s): Dr. Tom Beckley and Dr. Louise Comeau

Testing the efficacy of a community capacity tool in four New Brunswick communities.

FACILITIES

Forest Watershed Research Centre

A partnership of industry, university and government dedicated to developing, applying and communicating watershed research to promote sustainable and integrated forest management policies and practices.

Remote Sensing and Wood Sensing Laboratory

Developing mapping methods using Earth observation satellite data and UAV's for various applications (coastal zones, eelgrass, fuel moisture, surficial material, permafrost, crop). Developing sensors for the forest products industry.

Wood Science and Technology Centre and Canadian BioEnergy Centre

Promoting conservation, sustainability and productivity through engineering, innovation and the efficient utilization of forest resources.

For more information please visit: www.unb.ca/fredericton/forestry/