



Natural Resource Development Network

News Flash

[03/27/ 2019]

Spring Into New Opportunities!

To date the Natural Resource Development Network has provided over \$50,000 in funding opportunities to support successful applicants in the development of 7 policy briefs, 9 literature reviews, and assisted 34 network members with travel costs to attend/present at prioritized conferences.

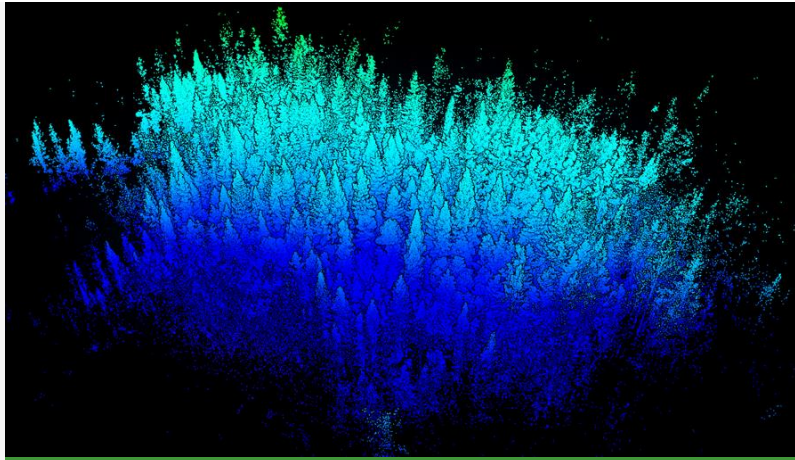
An additional \$9,000 in funding opportunities has been allocated this year resulting in a grand total of ~\$15,500 now available within the following categories:

- Literature Reviews - \$4,000
- Policy Briefs - \$6,000
- General Funding/Travel - \$5,500

The next group of applications for policy briefs and literature reviews are due **April 15th, 2019**. Details regarding the application process are provided in the [NRDN work plan](#). Questions and comments can be directed to NRDN team support [David Greaves](#).

See the Forest for the Trees

*Selkirk College Forestry Innovation Enhancement
Projects Take Flight!*



Selkirk College's Applied Research & Innovation Centre (ARIC) is taking part in rapid innovation and technology adoption across the forest sector in rural British Columbia with \$2 million in funding over five years from the Natural Science and Engineering Council of Canada. This research program has been designed to advance the region's economy by building a regional forest tech ecosystem that is bigger and more vibrant than the sum of its parts.

Collaborative efforts between industry partners and research leads have identified the following project areas of interest:

- LiDAR-based Hydrological Recovery Estimation in Kootenay Forest Stands
- Fibre Inventory for Biomass Utilization Enhancement
- Beyond Visual Line of Sight (BVLOS) Unmanned Aerial System (UAS) Forest Intelligence
- Identifying Usable versus Non-Usable Forestry Roads
- Tree-Level Inventory and Total Resource Plans
- Wildfire Hazard Mapping using LiDAR
- AR/VR Applications in Visual Resource Management (VRM)

Featured projects:

Lidar-based Hydrological Recovery

In snowmelt-dominated regions forest removal affects the hydrology of a watershed including the frequency of flooding (Green and Alila, 2012). To date, there have been few published studies in the Kootenay-Boundary region geared at quantifying incremental changes in snow accumulation and melt in forest openings and

regenerating stands. This lack of information on hydrological recovery results in uncertainty regarding sustainable rates of cut in watersheds. Traditional methods of assessing these impacts have relied on labor-intensive, field-based surveys of SWE conducted over many years. Recent technological advances in stand-level snow depth monitoring using airborne and UAV LiDAR surveys allows the question of hydrological recovery to be addressed much more rapidly than traditional field-based studies. Regionally-applicable data on the influence of forest stand height, canopy density and stand density on processes of snow accumulation and melt will reduce uncertainty concerning the potential for harvesting related impacts to aquatic values including volume and timing of runoff. This project explores the use of UAV-based lidar and multi-spectral imagery in forested mountain stands during the snowmelt period over a range of elevations, aspects and forest stand types to determine if this technology can be applied by forest licensees to assess the condition of hydrological recovery in forested mountain watersheds.

Fiber Inventory for Biomass Utilization

Any timber that is merchantable, was not removed from the cut block, and was not reserved for harvesting is called wood waste. This can be felled timber left on site such as tree tops and branches or standing timber that was supposed to have been felled and removed. According to the BC government statistics, from 2004 to 2008, 4.3 % of harvested amount was wood waste or forest residues. Current regulations enable licensees to extract any logs of value to them within the cut block and to leave uneconomical lower quality wood when the cost of falling, yarding, trucking and milling it exceeds the value of the end product. However, the process of measuring the volume, assessing the value and quality of standing or felled wood waste on site after primarily logging of each cut block is a time and money consuming process.

This project aims to map the amount of wood waste or residual fiber after logging operations using remotely sensed technologies in order to improve residual fiber utilization.

BVLOS Forest Intelligence

The BVLOS Forest Intelligence project aims to develop beyond visual line of sight mission workflows and data products to strengthen the integration and efficacy of UAVs into forest management planning and operations in BC's southern interior. By conducting BVLOS missions in the region's mountainous terrain, this project will demonstrate how the technology can reduce costs and provide improved safety and more actionable data during post-harvest, silviculture, and corridor management surveys. This project is a partnership between UAV operators ([Terra Sense Analytics](#) and [Harrier Aerial Surveys](#)), forest industry companies ([Interfor](#), [Canfor](#), and [Kalesnikoff](#)) and [Selkirk College](#).



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