AWARE Quarterly Progress Report

Project ID: Q05
Core Site: Ontario
Title: How well do existing LiDAR metrics developed in the Eastern Mixedwood Boreal forests transfer to Western Mixedwood Boreal forest types?

Institution: Queen's University
Project Supervisor: Paul Treitz
HQP Name: Karin van Ewijk (PDF)

Committee Members

- ▫ See Progress Report Year:_____
- ▫ Names:_____

Report Period
Year:2019 ▫ Q1 Apr-Jun ▫ Q2 Jul-Sep ▫ Q3 Oct-Dec xQ4 Jan-Mar

Number of Courses Left to Complete
NA

Research Progress During this Reporting Period

1. Continued working on transferability of FRI variable models between the eastern and western boreal forests. Testing the transferability of FRI variables with two statistical approaches (lm and rf) to establish a methodology, using loocv validation to diminish the small sample size issue at Slave Lake. Initial results for LHT, BA, QMD and VOL from two modeling approaches (lm and rf) and single-site and multi-site (with even and uneven sample sizes from the two sites) datasets have been sent to all co-authors.

2. Continued working with Yan Wai Yeung (Ryerson University) on intensity correction of the PRF 2016 multispectral data and the incorporation of corrected intensity metrics in the predictor set to predict ABA FRI attributes.

Presentations Done
Van Ewijk, K., Tompalski, P., Treitz, P., Coops, N., Woods, M., and D. Pitt (2019). Transferability of Forest Resource Inventory Attributes, derived from LiDAR, in the Canadian Boreal Forest. Emerging Research Seminar Series, Queen's University, January 24 2019.

Papers Submitted
Van Ewijk, K, Treitz, P., Woods, M., Jones, T, and J. Caspersen (2019). Forest Site and Type Variability in ALS-based Forest Resource Inventory Attribute Predictions over Three Ontario Forest Sites. Forests, 10, 226; doi:10.3390/f10030226.

Format:
Authors (Year).Title. Name of Journal or conference, page numbers

Annual General Meetings		
AGM1	AGM2	AGM3
X Attended	X Attended	X Attended
X Reported results	X Reported results	X Reported results

Research Targets for next Reporting Period

Continue working on FRI variable (LH, BA, QMD, and VOL) transferability between Hearst (ON) and Slave Lake (AB) and vice versa. Testing if under- and over-prediction observed in some transferred attribute

models is forest type specific. Looking into the effect of site specific volume equations on the transferability of GTV (gross total volume).

Continue working on intensity correction and effect of intensity correction on ABA FRI attribute predictions.

HQP Signature: Date: April 10, 2019	Project Supervisor Signature: Date: April 12, 2019