

AWARE Quarterly Progress Report Project ID: Q15 Core Site: Causapscal, QC spruce budworm outbreak Black Brook, NB if outbreak occurs there		Institution: University of New Brunswick Project Supervisor: Dr. David MacLean HQP Name: Shawn Donovan	
Title: How can satellite and high spatial resolution optical imagery be used to augment spruce budworm forest health surveys?		Committee Members <input type="checkbox"/> See Progress Report Year: _____ <input type="checkbox"/> Names: <u>Dr. John Kershaw, Dr. Mike Lavigne, Dr. Yun Zhang</u>	
Report Period <input type="checkbox"/> Q1 <input type="checkbox"/> Q2 <input type="checkbox"/> Q3 <input checked="" type="checkbox"/> Q4 Year: 2019 Apr- Jun Jul- Sep Oct- Dec Jan- Mar (Q4)		Number of Courses Left to Complete: 0	
Research Progress During this Reporting Period <ol style="list-style-type: none"> 1. Finish pan-sharpened EO-1 imagery analysis and prepare results for EO-1 manuscript. Progress on creating pan-sharpened imagery using methods being developed Dr. Yun Zhang's lab has been paused due to a leave of absence by one of Dr. Zhang's grad student who is helping with this portion of the project. Currently, if we can not obtain pansharpened EO-1 imagery we will consider removing this from the analysis and manuscript. 2. Complete all defoliation mapping results and analysis using EO-1 imagery. Evaluation of supervised Random Forests and Support Vector Machine (SVM) classifiers for generating defoliation maps is just getting underway as we are finishing the band selection analysis for various vegetation indices. Earlier image preprocessing errors required correcting before extracting the spectral information overlaying the SBW plot defoliation data which serves as the classification training data. 3. Initial draft for EO-1 manuscript will be submitted to committee for review. An initial draft of the manuscript was reviewed by Dr. MacLean earlier in the year and currently more revisions and content are being addressed to complete the manuscript. <p>Presentations Done</p> <p>Papers Submitted</p>			
Annual General Meetings AGM1 <input checked="" type="checkbox"/> Attended <input checked="" type="checkbox"/> Reported results		AGM2 <input checked="" type="checkbox"/> Attended <input checked="" type="checkbox"/> Reported results	
		AGM3 <input checked="" type="checkbox"/> Attended <input checked="" type="checkbox"/> Reported results	
Research Targets for next Reporting Period <ol style="list-style-type: none"> 1. Finish narrow-band selection analyses for all 14 vegetation indices being examined. 2. Compare classification differences between SVM and Random Forests for mapping SBW defoliation. 3. Submit final manuscript for committee review and prepare for publication 			
HQP Signature: Shawn Donovan Date: Apr. 16, 2019		Project Supervisor Signature: <i>David A. Maclean</i> Date: Apr. 17, 2019	