

AWARE Quarterly Progress Report Project ID: Question 17b Core Site: Newfoundland Title: What landscape level ecosystem goods and service (ES) indicators can be developed with airborne LiDAR data?	Institution: USherbrooke Project Supervisor: Fournier, R HQP Name: Catherine Frizzle
Report Period Year: 4 <input checked="" type="checkbox"/> S1 <input type="checkbox"/> S2 <input type="checkbox"/> S3 Jan- May- Sep- Apr Aug Dec	Committee Members <input type="checkbox"/> See Progress Report Year: _____ Q _____ <input type="checkbox"/> Names: _____
	Number of Courses Left to Complete 0

Research Progress During this Reporting Period

----- **Semester 2 May-Aug 2017** -----

Milestone: Get familiar with the AWARE Project

- Deliverable: Attend the 2nd AGM meeting in New Brunswick
- Status: Completed

Milestone: Visit Core site and meeting local partners (CBPPL)

- Deliverable: Meet partners, present first thoughts on project and get feedback, field visit of Harry River's Watershed
- Status: Completed

Milestone: Familiarize with LiDAR data and software

- Deliverable: Explore Harry's river watershed LiDAR data and get familiar with ArcGis (ArcHydro), Fusion, eCognition to produce function indicators with LiDAR
- Status: Completed

Milestone: Complete the registration procedures for the PhD in program "Doctorat en télédétection" at Université de Sherbrooke under the supervision of Richard Fournier

- Deliverable: Submit my application case load and get accepted
- Status: Completed

----- **Semester 3 Sep-Dec 2017** -----

Milestone: Completion of 3 of 3 courses

- Deliverable: 3 courses completed of 3 required for the PhD
- Status: Completed

Milestone: Initial literature review on ES quantification, Forest and water ES and the use of LiDAR to quantify ecosystem function indicators

- Status: Completed

----- **Semester 1 Jan-Apr 2018** -----

----- **COMPLETED** -----

n/a

----- **STARTED & ON-GOING FOR NEXT SEMESTER** -----

Milestone: Submit the PhD proposal which includes literature review and a proposed methodology. This document will be reviewed by a jury

- Deliverable: 20 pages PhD proposal composed by ½ literature review, ½ methodology
- Status: Planned to be completed by the end of May 2018

Milestone: Define workflow to implement tests for one ecological service

- Deliverable: Workflow definition, implementation and results analysis
- Status: Planned to be completed by the end of May 2018

Milestone: Preparation of the presentation at the AWARE AGM meeting

- Deliverable: Presentation of the research project, and poster (Q17a and Q17b) at the 3rd AGM meeting in Montréal, Québec
- Status: The meeting is scheduled for June 5, 6 and 7.

Milestone: Preparation of the Visit Core site and meeting with local partners (CBPPL)

- Deliverable: Present the potential of LiDAR for ES quantification in a workshop for partners
- Status: The workshop is scheduled June 12

Milestone: Preparation of the defence for the PhD plan exam (TEL910)

- Deliverable: Prepare a presentation, defend the proposal and make changes in the PhD plan following the suggestions by the jury
- Status: Planned to be completed by the end of June

Milestone: Define potential LiDAR indicators for Water and Forest ES mapping

- Deliverable: LiDAR data preprocessing and list of potential indicators relevant for ES mapping. Complete the supervision of an internship for a MSc student from May 7 to Aug 17 in support of my PhD project.
- Status: Planned to be completed by the end of the semester

----- **PLANNING AHEAD** -----

- Preparing data and ES analysis on a new watershed to have more contrasting results. The HRW may not show high magnitude values for some ES and having a contrasting watershed will be necessary to prove the use of the methods
- Mapping of water and forest ES for two watersheds: HRW and Riviere au saumon (QC)
- Establish the validation steps related to the hydrological model (water ES)
- Define potential trade-off analysis between water and forest ES

Presentations Done

Presentation for partners at CBPPL (June 15, 2017)
AWARE Student Forum #6 (September 15, 2017)

Papers Submitted : none

Annual General Meetings

AGM1

- Attended
- Reported results

AGM2

- Attended
- Reported results

AGM3

- Attended
- Reported results

Research Targets for next Reporting Period

Implement workflow for one ecological service

HQP Signature:



Date: 02/05/2018

Project Supervisor Signature:



Date: 9/05/2018

