



ENVIRONMENTAL SERVICES, INC.

American Carbon Registry Wabassus Improved Forest Management Project Validation Report

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| Offset Project Name: Wabassus Improved Forest Management Project | |
| ACR Project ID: | ACR422 |
| American Carbon Registry Standard | Version 5.1 (July 2018) |
| Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands | Version 1.3 (April 2018) |
| ESI Project Number: | VO18007.00 |
| Report Date: | 25 October 2018 |

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| Project Proponent: | Project Consultant: |
| Name: Downeast Lakes Land Trust Contact: David Montague, Executive Director Phone: (207) 796-2100 Email: dmontague@downeastlakes.org Mailing Address: 4 Water Street, Grand Lake Stream, ME 04668 | Name: The Climate Trust Contact: Julius Pasay, Forest and Grassland Asset Manager Phone: (503) 238-1915 Email: Jpasay@climatetrust.org Mailing Address: 80 SE Madison St, Ste. 420, Portland, OR 97214 |

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| Technical Consultant: | Validation Body: |
| Name: TerraCarbon LLC Contact: David Shoch, Director Forestry & Technical Services Phone: (434) 326-1144 Email: david.shoch@terracarbon.com Mailing Address: 707 E Jefferson St Charlottesville VA 22902 | Name: Environmental Services, Inc. Forestry, Carbon, and GHG Services Division Corporate Offices: 7220 Financial Way, Suite 100, Jacksonville, Florida 32256 Phone: 904-470-2200 |



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1 Introduction

Environmental Services, Inc., (ESI) was contracted by The Climate Trust on 24 January 2018 to conduct the validation of the *Wabassus Improved Forest Management Project*. ESI prepared this validation report in accordance with the outlined requirements of the American Carbon Registry's (ACR) Standard¹, ACR's Forest Carbon Project Standard² and the approved ACR Improved Forest Management Methodology³. ESI presents validation findings for the *Wabassus Improved Forest Management Project* – prepared by The Climate Trust. The project validation was conducted as part of ACR's program requirements for Improved Forest Management offset projects.

The Wabassus project follows ACR framework to achieve Greenhouse Gas (GHG) emissions reductions through Improved Forest Management (IFM) project activities. The project activity uses Improved Forest Management in conjunction with the landowner Downeast Lakes Land Trust, wildlife-targeted practices to offer an improvement in carbon storage and conservation values over higher returns expected from aggressive timber management common practice in the region. The GHG Project Plan validation included carbon sequestered through IFM on 6,144 acres.

The GHG Project Plan validation objective included an assessment of the likelihood that implementation of the planned GHG project would result in the GHG emission removal/enhancements as stated by the project proponent (ISO 14064-3:2006). The objective was to ensure the project is compliant with the ACR criteria for Improved Forest Management (IFM) projects). ESI assessed the IFM project under the ACR Validation and Verification Standard⁴.

ESI confirms all validation activities, including objectives, scope and criteria, level of assurance, and the GHG Project Plan's adherence to the ACR Standard as documented in this report are complete. ESI concludes without any qualifications or limiting conditions that the *Wabassus Improved Forest Management Project* GHG Project Plan meets the requirements of ACR's Standard and the Forest Carbon Project Standard.

The GHG Project Plan validation included carbon sequestered through IFM on 6,144 acres. The project's assertions of emissions removals (sequestration) for the first verification/reporting period will be found in a future separate report.

2 Validation Specifications

This Validation Report is prepared in accordance with the outlined requirements of the American Carbon Registry's (ACR), Forest Carbon Project Standard. ESI presents validation findings of the

¹ ACR. 2018. American Carbon Registry Standard, Version 5.1. American Carbon Registry, Arlington, VA, USA.

² ACR. 2010. Forest Carbon Project Standard, Version 2.1. American Carbon Registry, Arlington, VA, USA.

³ ACR. 2018. *Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal Forestlands*, Version 1.3, April 2018, American Carbon Registry, Arlington, VA, USA.

⁴ ACR. 2018. ACR Validation and Verification Standard, Version 1.1, Arlington, VA, USA.

Wabassus Improved Forest Management Project – prepared by the Offset Project Technical Consultant (Section 2.1) on behalf of The Climate Trust. The project validation was conducted as part of ACR’s program requirements for GHG offset projects (Improved Forest Management). ESI is accredited by the American National Standards Institute (ANSI) under ISO14065:2013 for greenhouse gas validation and verification bodies including ISO 14064-3:2006, ISO 14065:2013, and validation/verification of assertions at the project level for Land Use and Forestry (Group 3) and is an approved ACR Validation/Verification Body (VVB).

The GHG Project Plan validation included carbon sequestered through IFM on 6,144 acres. The project’s assertions of emissions removals (sequestration) for the first verification/reporting period can be found in a separate future verification report.

2.1 Contact Information – Roles and Responsibilities

| Project Proponent: | Project Consultant: |
|--|--|
| Name: Downeast Lakes Land Trust Contact: David Montague, Executive Director Phone: (207) 796-2100 Email: dmontague@downeastlakes.org Mailing Address: 4 Water Street, Grand Lake Stream, ME 04668 | Name: The Climate Trust Contact: Julius Pasay, Forest and Grassland Asset Manager Phone: (503) 238-1915 Email: jpasay@climatetrust.org Mailing Address: 65 SW Yamhill St., Ste 400, Portland, OR 97204 |
| Technical Consultant: | Validation Body: |
| Name: TerraCarbon LLC Contact: David Shoch, Director Forestry & Technical Services Phone: (434) 326-1144 Email: david.shoch@terracarbon.com Mailing Address: 700 Harris Street #201B, Charlottesville, VA 22903 | Name: Environmental Services, Inc. Forestry, Carbon, and GHG Services Division Corporate Offices: 7220 Financial Way, Suite 100, Jacksonville, Florida 32256 Phone: 904-470-2200 Shawn McMahon – Lead Validator (smcmahon@esinc.cc / 330-833-9941) Richard Scharf – Validation Team Member (rscharf@esinc.cc / 252-402-7354) Eric Jaeschke – Validation Team Member (ejaeschke@esinc.cc / 703-314-9064) Aaron Holley – Validation Team Member (aholley@esinc.cc / 681-285-5371) Matthew Perkowski - Senior Internal Reviewer (mperkowski@esinc.cc / 301-332-0771) Janice McMahon – QA/QC (jmcMahon@esinc.cc / 330-833-9941) |

2.2 Project Description

By ACR definition, the Wabassus project is considered an Improved Forest Management project (IFM). Project lands, totaling 6,144 semi-contiguous acres, are located in Washington County, Maine. The property is owned by the Downeast Lakes Land Trust (DLLT) which intends to manage the forests of the Wabassus property for carbon storage and climate mitigation. The Wabassus Improved Forest Management Project will provide critical finance for the oversight and management of the property. The project area is composed of 6,144 acres of coniferous and hardwood forest, with an extensive network of lakes and streams of important value to the local economy.

The property has been under the ownership of DLLT since 2008 but continues to face significant opportunity costs. The project activity uses Improved Forest Management in conjunction with the landowner DLLT, wildlife-targeted practices to offer an improvement in carbon storage and conservation values over higher returns expected from aggressive timber management common practice in the region.

2.3 Objective

The GHG Project Plan validation objective included an assessment of the likelihood that implementation of the planned GHG project would result in the GHG emission removal/enhancements as stated by the project proponent (ISO 14064-3:2006). The objective was to ensure the project is compliant with the ACR criteria for Improved Forest Management (IFM) projects). ESI assessed the GHG emission removals of the IFM project.

2.4 Criteria

The criteria followed by ESI included ISO 14064-3, ISO 14065, and the validation guidance documents provided by ACR located at <https://americancarbonregistry.org/carbon-accounting/standards-methodologies>. These documents included:

- *ACR Carbon Registry Standard (v5.1)*
- *ACR Validation and Verification Standard (v1.1)*
- *ACR Forest Carbon Project Standard, (v2.1)*
- *Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands (v1.3)*

2.5 Scope

The scope of the validation generally included the GHG Project Plan and eligibility requirements; GHG project and baseline scenarios, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHG's; and time periods covered. The geographic scope was defined by the project boundary, the carbon reservoir types, management activities, growth and yield model, and inventory program. The scope of the project was outlined by the project proponent prior and is re-defined as follows for the GHG project.



| | |
|-----------------------------------|---|
| Baseline Scenario | Aggressive harvest regime, targeted to maximize net present value at a 4% discount rate, typical of ca.2018 practices in the project regions on private lands. |
| Activities/Technologies/Processes | Improved Forest Management utilizing the ACR methodology for Non-Federal U.S. Forestlands. |
| Sources/sinks/Reservoirs | Carbon Pools: Above-ground biomass carbon – included Below-ground biomass – included Standing dead wood – included Lying dead wood – excluded Harvested wood products – included Litter/forest floor – excluded Soil organic carbon - excluded Sources: Burning of biomass – included Market leakage - included |
| GHG Type | CO ₂ and CH ₄ |
| Time Period | Start date: 01 January 2018 Crediting Period: 20-years |
| Project Boundary | 6,144 acres of coniferous and hardwood forest, with an extensive network of lakes and streams |

2.6 Level of Assurance

The level of assurance was used to determine the depth of detail that the validator (ESI) placed in the validation plan to determine if there are any errors, omissions, or misrepresentations (ISO 14064-3:2006). ESI selected samples of data and information to be validated to provide reasonable assurance and to meet the materiality requirements of the project (ACR Validation and Verification Standard). ESI assessed the prepared ACR GHG Project Plan (general principles, proposed data, sampling descriptions, documentation, calculations, etc.) to provide reasonable assurance to meet the requirements of the *ACR Carbon Registry Standard*.

2.7 Materiality

Materiality is a concept that the individual or aggregation of errors, omissions, and misstatements could affect the GHG assertion and the decisions of the intended users. Materiality was also used as part of the validation sampling plan design, to determine the type of validation processes used by ESI to minimize the risk of not detecting a material misstatement. ACR's materiality threshold is +/-5% of the GHG project's emission reductions or removal enhancements, however, the materiality of a GHG Project Plan is based on an evaluation of whether or not the GHG Project Plan is following ACR requirements. If the GHG Project Plan does not adhere to the ACR program requirements, the project proponent is given the opportunity to correct the non-conformity and amend the GHG Project Plan within a reasonable timeframe. If the non-conformity is corrected, the level of assurance has been met then the GHG Project Plan is recommended for approval. If

the non-conformity cannot be satisfied in a satisfactory manner, the GHG Project Plan will not be recommended for validation approval.

3 Validation Process

3.1 Validation Process

The validation process closely followed the guidance provided by ACR, Forest Carbon Project Standard (v2.1), the ACR Validation and Verification Standard (v1.1), ISO14064-3, ISO 14065, and the ESI Management System and Management System Manual (MSM), Section V.5. A project-specific Validation and Sampling Plan (*note not combined with first verification*⁵) was developed to guide the validation auditing process to ensure efficiency and effectiveness. The purpose of the Validation and Sampling Plan was to present a risk assessment for determining the nature and extent of validation procedures necessary to ensure the risk of auditing error is reduced to a reasonable level.

As defined by ISO 14064-3:2006 (E), “validation is the systematic, independent and documented process for the evaluation of a greenhouse gas assertion in a GHG project plan against agreed validation criteria”. Specifically, the project validation included the review of the requirements outlined in the ACR documentation in Section 2.4 of this report. The assessment included the following items: eligibility criteria, baseline approach, additionality, project boundary, emissions, leakage, selected methodology, data and parameters, monitoring plan design, and environmental impacts.

During the validation process, there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included: notifying the client of the issue(s) identified and expanding our review to the extent that satisfied the Lead Verifier’s professional judgment.

The process of resolution of findings involved multiple rounds of assessment by the validation team. Findings were resolved during the validation by the project proponent implementing corrective actions such as amending the GHG Project Plan and calculations, as well as providing written responses. This resulted in project documentation that was in conformance with ACR and methodology requirements.

Findings were characterized in the following manner:

⁵ Approval was given by ACR via email on 02 February 2018 for ESI to expressly perform a desktop only validation. A full verification including a site visit will occur as soon as validation is complete.

Non-Conformity Reports (NCRs) were issued as a response to material discrepancies in a part of the project and generally fell into one category:

- Non-conformity to a ACR guiding or methodology document as listed in Section 1.4
- Consistency among project documentation or calculations was lacking
- Mathematical formulae were incorrect
- Additional information was required by the validation team to confirm reasonable assurance for compliance

Clarifications (CL) were issued when language within a project document needed extra clarification to avoid ambiguity.

Opportunities for Improvement (OFI) were issued to the Project Proponents when an opportunity for improvement was identified.

3.2 Desktop Assessment

The desktop validation component included a full review of all project documentation/calculations received from the Project Proponent, including the GHG Plan. The validation team reviewed the Wabassus Improved Forest Management GHG Project Plan to assess conformance with the requirements of the Forest Carbon Project Standard (Version 2.1). Key factors that impacted the reported emissions reductions were identified and the Validation and Sampling Plan was utilized to focus on the critical elements presenting potential risk for errors in reported data. These elements included:

- Implementation of appropriate and adequate eligibility criteria, by reviewing documentation and field conditions indicative of the pre-project conditions of the project area, and compliance with all eligibility requirements of the Forest Carbon Project Standard.
- Implementation of appropriate and adequate baseline approach, by reviewing documentation and local conditions indicative of the most-likely without-project scenario.
- Implementation of appropriate and adequate approach/tools for additionality, by reviewing documentation and field conditions, which reflect the most-likely without-project scenario, as it deviates from the with-project scenario.
- Implementation of appropriate and adequate approach to project boundary definitions, by reviewing documentation of project boundaries and ownership status, and field conditions relative to clearly delineated ownership extents and control over management activities within the project area.
- Implementation of appropriate and adequate approach to baseline emissions calculations, by reviewing documentation and field conditions, which reflect the most-likely without-project scenario and the emissions resulting from that scenario.

- Implementation of appropriate and adequate approach to inventory calculations and modeling, by reviewing documentation, reviewing conversion factors, and re-running selected calculations and modeling
- Implementation of appropriate and adequate approach to data and parameters, by reviewing data handling practices, and reviewing documentation at each step of the data analysis procedure.
- Implementation and adherence to project-level principles, by reviewing documentation and discussing the application of project-level principles with core staff.

A complete list of documents received and reviewed is located in Appendix B.

3.3 Site Visit

This validation was exclusively a desktop review with no site visit performed as allowed by ACR. Approval was given by ACR via email on 02 February 2018 for ESI to expressly perform a desktop only validation. A full verification including a site visit will occur as soon as validation is complete.

3.4 Quantitative Review

ESI focused on the quantitative analyses undertaken by the project technical consultant to assess the carbon pools accounted for by the project (above-ground biomass, below-ground biomass, harvested wood products and market leakage⁶). The project technical consultant used Microsoft Excel to estimate Net Present Value (NPV) for the baseline scenarios following the methodology. A discount rate of 4% was appropriately selected for this project following the methodology Section C1, Table 1 on non-federal lands. ESI examined model inputs, parameters, and results for adherence to described constraints including Maine's Forest Service management criteria and conservation easement management objectives.

ESI evaluated the project's baseline uncertainty quantification for each measured pool and independently quantified means and 90% confidence intervals. The project was confirmed to have met the methodology requirement for uncertainty under the 90% confidence interval as a percentage of the mean. With project uncertainty was also confirmed to have been correctly computed from the cruise statistics.

Higher risk components of the project's quantitative methods were also selected for review by ESI. Site index as a component in modeling in the Forest Vegetation Simulator (FVS) was examined closely and ESI checked site index values for each species for appropriateness. ESI independently examined the provided work and confirmed appropriateness of FVS calibration steps. Please see Appendix A for details.

⁶ CH₄ emissions from biomass burning were included in the project boundary but were conservatively assumed zero in the baseline. Further the project scenario does not involve burning of slash or otherwise due to site conditions.

Harvested wood product quantification were submitted for review and confirmed. The intent of the ARB Compliance Offset Protocol U.S. Forest Projects (2014 Forest Protocol)⁷ method was followed, and Table 1.6 values were appropriately used.

In broader terms, ESI's review included an assessment of the primary quantitative data supporting the GHG assertion including the direct sampling of biomass carbon and the use of modeling, as well as the project technical consultant's use of allometric methods and equations for calculating tree biomass, and the calculation of ERTs. ESI performed independent re-checks of all project quantification worksheets and confirmed steps of the project's modeling workflow for the baseline and project scenarios.

3.5 Meetings/Interviews

During the course of the project validation, ESI and the Technical Consultant held multiple meetings. All other correspondence occurred via email. The details of the meetings are briefly described in the table below.

| Date | Attendees | Topics Discussed |
|-------------------|--|--|
| 09 May 2018 | Julius Pasay (The Climate Trust) Shawn McMahon (ESI) | Opening Meeting, preliminary review of validation and sampling plan, review of travel logistics, project timeframes and deadlines. |
| 17 May 2018 | David Shoch (Terra Carbon) Shawn McMahon (ESI) Aaron Holley (ESI) | Meeting to discuss calculations |
| 27 September 2018 | David Shoch (Terra Carbon) Eric Jaeschke (ESI) Aaron Holley (ESI) | Meeting to discuss findings and calculations |
| 02 October 2018 | David Shoch (Terra Carbon) Aaron Holley (ESI) | Meeting to discuss findings and calculations |
| 22 October 2018 | Julius Pasay (The Climate Trust) David Shoch (Terra Carbon) Aaron Holley (ESI) | Closing Meeting - Review of draft validation report -Next steps - Request feedback on process |

⁷ https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/usforestprojects_2014.htm

3.6 Validation Milestones

| Project/Validation Activity | Date |
|---|--|
| ESI Internal Conflict of Interest (COI) process completed and approved (no issues). | 16 February 2018 |
| ACR approval of ACR-Specific COI Form | 25 April 2018 |
| Submission of Validation and Sampling Plan to The Climate Trust for approval | 09 May 2018 |
| Opening meeting with The Climate Trust | 09 May 2018 |
| Corrective actions/clarification submitted ⁸ | 05 July 2018, 17 August 2018, 24 September 2018, 26 September 2018 |
| ESI completes Review | 09 September 2018 |
| Draft validation report submitted to The Climate Trust for review | 19 October 2018 22 October 2018 |
| Closing Meeting with The Climate Trust | 22 October 2018 |
| ESI finalizes report and submits to ACR and The Climate Trust | 25 October 2018 |

4 Validation Activities

4.1 Eligibility Requirements

The *Wabassus Improved Forest Management Project* is an IFM project that is intended to manage the forests of the Wabassus property for carbon storage and climate mitigation. The Wabassus project is in compliance with ACR's project eligibility requirements set forth in ACR's Forest Carbon Project Standard, Version 2.1 [Chapter 3 (C)].

Prior to the initiation of the project validation, ACR first conducts its own assessment of meeting all applicable requirements and issues a certification letter. ACR approval of the eligibility screening and therefore permission for ESI to proceed with validation of the Wabassus project occurred on 16 April 2018.

⁸ At request by the Technical Consultant the quantitative findings were issued in "tiers" to resolve derivative elements first, therefore findings were issued at multiple dates.

The Wabassus project was found to be in compliance with ACR's project eligibility requirements set forth in ACR's Forest Carbon Project Standard, Version 2.1 [Chapter 1 (D) and Chapter 7 (F)]. Specifically, the GHG Project Plan outlined and described the following aspects of the project:

- Project start date is January 1, 2018, which is later than January 1, 2000 as required by the ACR Standard.
- The DLLT commits to a minimum project term of 40 years, meeting the ACR project term requirement.
- Only direct emission mitigation is counted.
- Ownership of offsets is clear.
- Ownership titling of land is clear.
- Project lands are eligible because they were not converted from forest within 10 years before the project start date.
- Project lands were forested at the project start date.
- Leakage is addressed using the ACR-approved methodology Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands.
- Permanence is addressed by the project through ongoing assessment of risk using the ACR Tool for Risk Analysis and Buffer Determination (v1.0)⁹.
- Additionality is demonstrated.
- Net positive community and environmental impacts are demonstrated.

The project uses Improved Forest Management techniques to increase stocking relative to the baseline.

The project utilized the following methodology and tools:

- ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3, April 2018
- ACR Tool for Risk Analysis and Buffer Determination (v1.0).

ESI confirms the project meets the applicability requirements of the methodology under which the project was validated:

- The project is implemented on non-federally owned forestland within the United States.
- The project is implemented on lands that may be subject to commercial timber harvesting activities by entities owning or controlling timber rights on forestland under a forest management plan.

⁹ <https://americancarbonregistry.org/carbon-accounting/guidance-tools-templates/acr-risk-tool-v1-0.pdf/view>

- The project is implemented on land owned by a non-federal organization (Downeast Lakes Land Trust, Maine), which is certified by FSC.
- The project has not utilized non-native species where adequately stocked native stands were converted for forestry or other land uses after 1997.
- The project does not implement draining or flooding of wetlands.
- The Project Proponent has demonstrated its ownership or control of timber rights for a period not less than 12 months prior to the project start date.

The project will demonstrate an increase in on-site stocking levels above the baseline condition by the end of the crediting period.

The GHG Project Plan includes maps and other geographic descriptions for the project area. Project proponents provided shapefiles of the project area and other ancillary geospatial files to corroborate boundaries. The geospatial boundaries were provided by a professional land survey conducted by the project proponent. They were found to have good alignment with the legal, documented deed where the metes and bounds description can be cross-referenced reliably from the attribute table of the survey shapefile. Geospatial boundaries were also overlain on Google Earth and found to have good agreement with land surface features such as lakes and roads.

4.2 Additionality

ESI confirms the *Wabassus Improved Forest Management Project* conducted the proper three-prong additionality analysis and conforms to the additionality requirements prescribed in ACR Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3. The project technical consultant sufficiently demonstrated in the GHG Project Plan and through the validation process that as of the project start date, the project activities exceed enforced laws and regulations, exceed common practice in the geographic region and forest type, and faced a financial implementation barrier.

4.3 Permanence and Risk Mitigation

The Downeast Lakes Land Trust commits to a 40-year agreement with ACR. ESI confirms that the Downeast Lakes Land Trust adequately addressed other potential causes of unintentional reversals for defined risk categories through application of the ACR Tool for Risk Analysis and Buffer Determination v1.0.

ESI reviewed and assessed the implementation and outputs of the tool provided by the project technical consultant and agrees with the overall default project risk rating (sum of Financial, Project Management, Social/Policy, Conservation Easement deduction, Fire, Diseases and Pests, Levee Failure and Water Table Changes, Other Natural Disaster Events risk totals), which equates to a default risk deduction buffer withholding of 16%.

4.4 Baseline and Leakage

The validation team confirms the project baseline as the continuance of an aggressive industrial harvesting regime which seeks to maximize net present value.

The validation team confirms the leakage assertions made within the GHG Project Plan. Leakage was limited to market leakage, as no activity-shifting leakage beyond the de minimis threshold is permitted, as prescribed by the Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, version 1.3. A review of the Wabassus property's FSC certification demonstrated that no activity shifting leakage was noted in Downeast Lakes Land Trust's forest management operations. Market leakage is based upon the difference between the project scenario harvested wood products volume and the baseline scenario harvested wood products volume.

The validation team confirmed the 20-year average baseline stocks as 322,982 mtCO₂e.

4.5 Monitoring Requirements

The validation team confirmed the appropriateness and implementation of GHG Project Plan monitoring plan, which details monitored data and parameters, measurements, timing, and data storage methods. The extent of monitoring performed by the project will be evaluated as part of the first verification and the results of that assessment can be found in the future first verification report.

4.6 Community and Environmental Impacts

ESI confirms the project's net positive community and environmental impacts and co-benefits such as providing important finance for oversight and management of the property by Downeast Lakes Land Trust and maintaining the integrity of the forest and water resources it harbors and allowing continued public access for recreational pursuits.

A formal environmental impact assessment was provided to substantiate claimed net positive impacts to the community and environment. It sufficiently demonstrated that project proponents evaluated community and environmental impacts in a carefully documented plan. Public information available through an internet search indicated that stakeholders in the project area vicinity have been considered and the impact analysis is thorough.

4.7 Stakeholders Comments

ESI reviewed stakeholder outreach efforts which are largely addressed through the structure of the Downeast Lakes Land Trust which is composed of local residents. As noted in the previous section, internet searches and knowledge of the area indicate that local stakeholders are not only able to comment on activities in the Wabassus property but that have a direct stake in management decisions.

4.8 Validation Findings and Conclusions

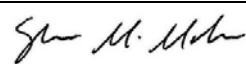
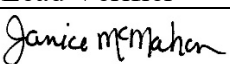
The ESI validation team identified thirty-five (35) non-conformity reports (NCRs), clarifications (CL) and opportunities for improvement (OFI). All were addressed satisfactorily by The Climate Trust during the project validation process. These NCRs and CLs provided needed clarity to ensure the GHG Project Plan was in compliance with ACR requirements. The *Wabassus Improved Forest Management Project* did not employ any project-specific deviations under ACR's Standard Chapter 6, Part E.

The *Wabassus Improved Forest Management Project's* GHG Plan was found to be in compliance with ACR's program requirements.

The complete list of validation findings and resolutions has been compiled and is located in Appendix A.

ESI confirms all validation activities including objectives, scope and criteria, level of assurance and the GHG Project Plan's adherence to ACR requirements, as documented in this report, are complete. ESI concludes without any qualifications or limiting conditions that the B *Wabassus Improved Forest Management Project* meets the requirements of ACR's Standard and the Forest Carbon Project Standard).

Submittal Information:

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|--|--|
| Report Submitted to: | The Climate Trust - Julius Pasay American Carbon Registry |
| Report Submitted by: | Environmental Services Inc. Corporate Office 7220 Financial Way, Suite 100 Jacksonville, Florida 32257 |
| ESI Lead Validator/Verifier Name and Signature: |  Shawn McMahon Lead Verifier |
| ESI Sr. Vice President/Technical Director Name and Signature |  Janice McMahon Sr. Vice President/Technical Director Forestry, Carbon and GHG Services Division |
| Date: | 25 October 2018 |

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Appendix A – ESI's Validation Findings

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|---|--|
| Number | 1 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | CHAPTER 3: PROJECT ELIGIBILITY REQUIREMENTS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | <p>Start date: ACR defines the Start Date for all projects other than AFOLU as the date on which the project began to reduce GHG emissions against its baseline. ACR defines the eligible Start Date(s) for AFOLU project types in Annex A, "ACR Requirements for AFOLU-Based Carbon Projects."</p> <p>Non-AFOLU Projects must be validated within 2 years of the project Start Date. AFOLU Projects must be validated within 3 years of the project Start Date. One exception applies to these timeframes: Projects using a newly approved methodology⁸ or a newly approved modification that expands the eligibility of a previously published methodology⁹ may submit it for listing with ACR within 10 years of the project Start Date. However, the date of listing submittal must be within 6 months of the methodology publication date, and the project must then be validated within 2 years of the listing. The Start Date and the start of the Minimum Project Term shall be the same. The Start Date and the start of the first Crediting Period are generally the same, unless otherwise allowable in the relevant methodology.</p> |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section H1; DLLT Board Action RE Wabassus Carbon Project 12.2017.pdf |
| ESI Findings - Round 1 | The project start date is January 1, 2018, "marked by the action of the DLLT board to pass a resolution affirming its intention to manage for carbon" as stated in Section H1 of the GHG Plan. The documentation "DLLT Board Action RE Wabassus Carbon Project 12.2017" was reviewed and it states "Resolved: In addition to other management objectives, the Board of Directors of the Downeast Lakes Land Trust commits to manage the Wabassus Tract for the generation and maintenance of carbon offset credits on the American Carbon Registry and to comply with the reasonable terms of the ACR for any offsets issued." Although this documentation clarifies the intent of the start date requirement it lacks signatures, dates or other elements to confirm its validity. |



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| Round NCR/CL/OFI | 1 | CL: Please provide additional evidence to confirm that the start date represents the date on which the project began to reduce GHG emissions against its baseline. |
| Round Response from Project Proponent | 1 | We have submitted the document "Wabassus Carbon Credit Board Resolution Secretary Cert" which is the secretary's certificate (with signatures and dates) establishing DLLT's commitment on Dec 18, 2017 to manage the project area for carbon storage, a formal board decision that will be reflected in ongoing forest management decisions and planning. |
| ESI Findings - Round 2 | - | <p>The validation team reviewed the attestation from DLLT stating that on the 18 December 2017 Board Meeting, the board approved the resolution stating that the Wabassus Lake property's management goal is to support carbon offset credit generation for ACR. This was signed on 11 April 2018 by Stephen Schaefer, who is the Secretary of DLLT.</p> <p>While the resolution is clear on its intents and purposes, the validation team is unsure how the 18 December 2017 resolution date corresponds to the start date of 01 January 2018.</p> |
| Round NCR /CL/OFI | 2 | CL: Please clarify how the 18 December 2017 resolution date corresponds to the start date of 01 January 2018. |
| Round Response from Project Proponent | 2 | The Board Resolution on December 18, 2017 was referencing management in the coming year. We are submitting an updated secretary's certificate that clarifies January 1, 2018 as the date of institution of the new management objectives. |
| ESI Findings - Round 3 | - | While the original document demonstrates a resolution date of Dec 18, 2017, and the project start date is Jan 1, 2018, the validation team is reasonably assured that the later start date is conservative and sufficiently appropriate. Finding closed. |

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| Number | 2 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | CHAPTER 3: PROJECT ELIGIBILITY REQUIREMENTS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | <p>Regulatory Compliance: Projects must maintain material regulatory compliance. To do this, a regulatory body/bodies must deem that a project is not out of compliance at any point during a re-reporting period. Projects deemed to be out of compliance with regulatory requirements are not eligible to earn ERTs during the period of non-compliance. Regulatory compliance violations related to administrative processes (e.g., missed application or reporting dead-lines) or for issues unrelated to integrity of the GHG emissions reductions shall be treated on a case-by-case basis and may not disqualify a project from ERT issuance. Project Proponents are required to provide a regulatory compliance attestation to a verification body at each verification. This attestation must disclose all violations or other instances of non-compliance with laws, regulations, or other legally binding mandates directly related to Project Activities.</p> |



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| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan; ACR website |
| ESI Findings - Round 1 | Validators understand that project implementation requires meeting regulatory compliance obligations under this requirement. Validators presume that the project has submitted an initial annual ACR Voluntary Offset Project Attestation where this attestation confirms that there have not been any undisclosed or unmitigated adverse environmental or community impacts as a result of the development, operation and/or maintenance of the Project. |
| Round 1 NCR/CL/OFI | CL: Please provide the initial annual ACR Voluntary Offset Project Attestation or equivalent document that discloses all violations or other instances of noncompliance with laws, regulations, or other legally binding mandates as a result of the development, operation and/or maintenance of the Project. |
| Round 1 Response from Project Proponent | We have submitted the signed initial annual ACR Voluntary Offset Project Attestation, "ACR Attestation - Wabassus DLLT IFM.pdf" As added evidence, the most recent 2018 FSC certification report, which also cover compliance with laws and regulations, has been submitted ("Downeast-Lakes-FSC-FM-Audit-18.pdf"). |
| ESI Findings - Round 2 | <p>The ACR Voluntary Offset Project Attestation was provided that states that the project must meet the eligibility criteria of the ACR at the time of registration. This includes regulatory compliance.</p> <p>Further, the FSC audit reports provided displayed no evidence of a nonconformance in relation to laws and supported the claim that the project has met regulatory compliance. The 2017 audit report states "FME follows laws and regulations covering their operations. No violations were noted by enforcement officials. Staff have clear respect for following laws and regulations and for doing the right thing at all times."</p> <p>This item is addressed.</p> |

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| Number | 3 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | CHAPTER 7: METHODOLOGIES AND TOOLS |



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| American Carbon Registry Standard Version 5.0, February 2018 Description | <p>ACR requires that projects adhere to environmental and community safeguards best practices to:</p> <ul style="list-style-type: none"> œ Ensure that projects “do no harm” by maintaining compliance with local, national, and international laws and regulations; œ Identify environmental and community risks and impacts; œ Detail how negative environmental and community impacts will be avoided, reduced, mitigated, or compensated, and how mechanisms will be monitored, managed, and enforced; œ Ensure that the rights of affected communities and other stakeholders are recognized, and that they have been fully and effectively engaged and consulted; and œ Ensure that ongoing communications and grievance redress mechanisms are in place, and that affected communities will share in the project benefits. |
| Applicability to the Project (Y or N/A) | <p>Y</p> |
| Requirement Met (Y, N, Pending) | <p>Y</p> |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | <p>GHG Plan Section F1, F2</p> |
| ESI Findings - Round 1 | <p>Compliance with these environmental and community safeguards appears to be met through the project area ownership structure and the conditions of the conservation easement. However, the GHG Plan lacks some details on how the project is able to provide these safeguards, for instance; rights of affected communities and grievance redress mechanisms.</p> <p>The next section of the ACR Standard (Section 8.A 1-5) relates to an environmental and community impact assessment, it is not clear whether this requirement has been met in a standalone document or is intended to be captured by the GHG Plan contents.</p> |
| Round 1 NCR/CL/OFI | <p>CL: Please provide additional detail within the GHG Plan to describe how the project is placing environmental and community safeguards which satisfy all elements of this requirement. Please also clarify whether the project has developed a distinct environmental and community impact assessment which addresses all required components of the ACR Standard Section 8.A parts 1-5.</p> |
| Round 1 Response from Project Proponent | <p>We have submitted the document "Wabassus+Addendum+6-10-10+[1] from ARCHIVES", which is a 2010 addendum to the Wabassus forest management plan. The addendum notes specifically the designation of Special Management Areas and High Conservation Value Forests, including the rationale for designation, demonstrating the incorporation of environmental safeguards in forest management activities. Environmental and community safeguards are further evaluated comprehensively through DLLT's ongoing FSC certification, documented in the submitted June 2018 evaluation ("Downeast-Lakes-FSC-FM-Audit-18.pdf") and 2017 5-year evaluation ("DLLT-FSC-FM-Reassess-Report-17.pdf") reports.</p> |



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| ESI Findings Round 2 | - | <p>The previous request was for additional detail to be included in the GHG Plan to describe how the project is placing environmental and community safeguards which satisfy all elements of this requirement. However, the validation team was not provided with an updated GHG Plan.</p> <p>The project provided the Wabassus Lake Tract Addendum Farm Cove Community Forest Management Plan. The validation team reviewed the management plan and noted that the plan does not fully meet the ACR requirements for the Environmental and Community Impact Assessments as detailed in section 8.A of the ACR Standard and is not referenced as an addendum to the GHG Plan with the GHG Plan.</p> <p>Per section 8.A of the ACR Standard, the Environmental and Community Impact Assessments must be part of the GHG Plan, and must "include [...] a description of project impacts on communities and the environment in the immediate project area. This shall include changes in community well-being due to the Project Activity and an evaluation of any negative impacts on community groups. Project Proponents shall base these estimates on de-fined and defensible assumptions about how the Project Activity will alter social and economic well-being, including potential impacts of changes in natural resources and ecosystem services identified as important by the communities, for the project duration." Please see section 8.A of the Standard for the complete list of items to be included in the assessment.</p> |
| Round NCR /CL/OFI | 2 | <p>CL: Please provide additional detail within the GHG Plan to describe how the project is placing environmental and community safeguards which satisfy all elements of this requirement.</p> <p>CL: Please include an Environmental and Community Impact Assessment as part of the GHG Plan that includes the requirements of section 8.A of the ACR Standard.</p> |
| Round Response from Project Proponent | 2 | <p>We have now made reference in the GHG Plan to the FSC documents: June 2018 evaluation ("Downeast-Lakes-FSC-FM-Audit-18.pdf") and 2017 5-year evaluation ("DLLT-FSC-FM-Reassess-Report-17.pdf") reports and have provided a review of the FSC audit reports cross-walked against ACR Section 8.A requirements in "Wabassus - Env Impact – FSC.doc" (also referenced in the GHG Plan).</p> |
| ESI Findings Round 3 | - | <p>The project developer has elected to provide the Environmental and Community Impact Assessment in the form of an attachment to the GHG Plan. Please see the explicit requirements below for the Environmental and Community Impact Assessment.</p> <p>The satisfaction of this requirement is pending the dependent rows below.</p> |
| Round NCR /CL/OFI | 3 | |
| Round Response from Project Proponent | 3 | |
| ESI Findings Round 4 | - | <p>The project developer has elected to provide the Environmental and Community Impact Assessment in the form of an attachment to the GHG Plan. Please see the explicit requirements below for the Environmental and Community Impact Assessment.</p> |

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| American Carbon Registry Standard Version 5.0, February 2018 Section | CHAPTER 7: METHODOLOGIES AND TOOLS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | 2. Applicable laws, regulations, rules, and procedures and the associated oversight institutions. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan F1; Environmental Impact document; FSC documentation; |
| ESI Findings - Round 1 | While the FSC audit reports demonstrate net positive impacts, an overview of the applicable laws, regulations, rules, and procedures and the associated oversight institutions is not included in the assessment. |
| Round 1 NCR/CL/OFI | CL: Please include a list of all applicable laws, regulations, rules, and procedures and the associated oversight institutions in the Environmental and Community Impact Assessment. |
| Round 1 Response from Project Proponent | Response provided in "Wabassus detailed responses 1Oct2018.docx" |
| ESI Findings - Round 2 | The GHG Plan now includes reference to the FSC audit reports as well as a new Environmental Impact Assessment document. The Environmental Impact Assessment now lists the applicable forest laws as modeled in the baseline. This item is addressed. |

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| Number | 3.2 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | CHAPTER 7: METHODOLOGIES AND TOOLS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | 3. A description of the process to identify community(ies)19F19 and other stakeholders20F20 affected by the project and, as applicable, the community consultation and communications plan. |



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| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan F1; Environmental Impact document; FSC documentation; |
| ESI Findings - Round 1 | While the FSC audit reports demonstrate net positive impacts, a description of the process to identify communities and other stakeholders affected by the project and (if applicable) the community consultation and communications plan were not included as part of the assessment. |
| Round 1 NCR/CL/OFI | CL: Please include a description of the process to identify communities and other stakeholders affected by the project and (if applicable) the community consultation and communications plan in the Environmental and Community Impact Assessment. |
| Round 1 Response from Project Proponent | Response provided in "Wabassus detailed responses 1Oct2018.docx" |
| ESI Findings - Round 2 | The GHG Plan now includes reference to the FSC audit reports as well as a new Environmental Impact Assessment document. The Environmental Impact Assessment now includes a description of the process to identify communities and other stakeholders. This item is addressed. |

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| Number | 3.3 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | CHAPTER 7: METHODOLOGIES AND TOOLS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | 4. An assessment of the project's environmental risks and impacts, including factors such as climate change mitigation and adaptation, biodiversity, air quality, water quality, soil quality, and ozone quality, as well as the protection, conservation, or restoration of natural habitats such as forests, grasslands, and wetlands. The assessment shall: 1) identify each risk/impact; 2) categorize the risk/impact as positive, negative, or neutral and substantiate the risk category; 3) describe how any negative impacts will be avoided, reduced, mitigated, or compensated; 4) detail how risks and impacts will be monitored, and how often and by whom; and 5) describe how positive impacts contribute to sustainable development goals (optional). |
| Applicability to the Project (Y or N/A) | Y |



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| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan F1; Environmental Impact document; FSC documentation; |
| ESI Findings - Round 1 | <p>The validation team located assessments of the project's risks and impacts for the following required subjects: biodiversity, water quality, soil quality, and protection, conservation, or restoration of natural habitats.</p> <p>The validation team could not locate assessment of the project's risks and impacts for the following requirements: climate change mitigation and adaptation, air quality, and ozone quality.</p> <p>While the FSC documentation does provide a demonstration of the project's risk mitigation, it does not fully fulfil this criteria's requirements for identifying the risk/impact, categorizing the risk/impact as positive, negative, or neutral and substantiating the risk category, describing how any negative impacts will be avoided, reduced, mitigated, or compensated, detailing how any risks and impacts will be monitored, and how often and by whom, and describing how positive impacts contribute to sustainable development goals.</p> |
| Round 1 NCR/CL/OFI | <p>CL: Please include an assessment of the project's risks and impacts for the following requirements: climate change mitigation and adaptation, air quality, and ozone quality in the Environmental and Community Impact Assessment.</p> <p>CL: Please clearly include language fully identifying the risk/impact, categorizing the risk/impact as positive, negative, or neutral and substantiating the risk category, describing how any negative impacts will be avoided, reduced, mitigated, or compensated, detailing how any risks and impacts will be monitored, and how often and by whom, and describing how positive impacts contribute to sustainable development goals within the Environmental and Community Impact Assessment.</p> |
| Round 1 Response from Project Proponent | Response provided in "Wabassus detailed responses 1Oct2018.docx" |
| ESI Findings - Round 2 | <p>The GHG Plan now includes reference to the FSC audit reports as well as a new Environmental Impact Assessment document.</p> <p>The Environmental Impact Assessment document includes a table that lists the project's environmental risks. The risks listed, and their descriptions are appropriate. Further, the validation team agrees with the project's assessment of the required reporting of environmental risks. This item is addressed.</p> |

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| Number | 4 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | The Three-Prong Additionality Test |



| American Carbon Registry Standard Version 5.0, February 2018 Description | Regulatory Surplus Test |
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| | To apply the regulatory surplus test, the Project Proponent shall evaluate existing laws, regulations, statutes, legal rulings, or other regulatory frameworks that directly or indirectly affect GHG emissions associated with a project action or its baseline candidates, and which require technical, performance, or management actions. National, state or local forest management/forest practice rules may require managing operations according to a certain set of criteria. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section C |
| ESI Findings - Round 1 | The GHG project plan states that Project meets the requirements of the Mandatory Maine Forest Service standards and conservation easement (signed with the state of Maine in 2009). restrictions, and thus passes the regulatory surplus test. However, the conservation easement could not be found in materials submitted for the validation. |
| Round NCR/CL/OFI 1 | CL: Please provide the conservation easement placed on the Wabassus Lake parcel. |
| Round Response from Project Proponent 1 | We have submitted a copy of the document "Wabassus CE Final 8.14.09 with exhibits", which is the final conservation easement placed on the Wabassus Lake parcel. The easement is held by the state of Maine and monitored by the Bureau of Parks and Lands. |
| ESI Findings - Round 2 | The validation team reviewed the Wabassus conservation easement and noted that the project is surplus to regulations regarding the conservation easement. This item is addressed. |

| Number | 5 |
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| American Carbon Registry Standard Version 5.0, February 2018 Section | A4. METHODOLOGY SUMMARY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | The baseline management scenario shall be based on silvicultural prescriptions recommended by published state or federal agencies to perpetuate existing onsite timber-producing species while fully utilizing available growing space. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |



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| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan (Section B5) |
| ESI Findings - Round 1 | The project has developed prescriptions for the baseline that include management to the maximum legally allowable harvest levels. However, the validation team understands that these prescriptions are to be based on the sub requirements below (1) management records (2) historical 10-year data. Therefore, the validation team requests evidence based on (1) or (2) below. |
| Round 1 NCR/CL/OFI | CL: Please address the findings and clarify the basis for the baseline scenario silvicultural prescriptions following this requirement (substantiated by (1) or (2)), providing evidence as needed to support. |
| Round 1 Response from Project Proponent | This requirement only applies where the baseline involves replacement of existing species (i.e. stand replacement with plantation establishment); TerraCarbon drafted this modification in 2015. It is not applicable in the context of the baseline as outlined. |
| ESI Findings - Round 2 | Items (1) and (2) below do pertain to baseline management scenarios involving replacement of existing onsite timber producing species, of which this project has none. This item is addressed. |

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| Number | 6 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | B1. PROJECT ELIGIBILITY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | 1) clear land title or timber rights and 2) offsets title. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan |



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| ESI Findings - Round 1 | <p>Project area is owned by Downeast Lakes Land Trust (DLLT) as stated in the GHG Plan. However, in order to reach reasonable assurance, the validation team requests documentary evidence that DLLT has a clear title to the land and a title to offsets.</p> <p>Note this clarification request is combined with applicability conditions where the project proponent must demonstrate its ownership or control of timber rights at the project start date.</p> |
| Round 1 NCR/CL/OFI | CL: Please provide documentary evidence of a land title and offset title following this requirement, ensuring ownership extends to the start date. |
| Round 1 Response from Project Proponent | A copy of the title has been submitted - "08 Quitclaim Deed.pdf" |
| ESI Findings - Round 2 | The validation team reviewed the quitclaim deed and compared to deeds pulled from the Washington County, ME assessor's office website. The validation team is reasonably assured that the project area is under the ownership of DLLT, please also see the finding below pertaining to the geospatial review of parcels and the receipt and review of the GHG Plan. |

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| Number | 7 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | B2. PROJECT GEOGRAPHIC BOUNDARY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | The Project Proponent must provide a detailed description of the geographic boundary of project activities. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section B3; project area geospatial files |



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| ESI Findings - Round 1 | Section B3 of the GHG Plan document details the geographic boundaries of the Project Area and describes the steps taken to delineate the project area. Shapefiles were provided and a location map (Figure A1) included in the GHG Plan. Project area stratum acreages used in accounting were independently verified from shapefiles and confirmed appropriate. -"Wabassus_campplots.shp" was indicated as having been excluded but portions remain in the project area as seen in "inholdings_clip.shp" -"Boundaries_polygon.shp" as mentioned in the GHG Plan for DLLT boundaries could not be found in materials submitted for validation |
| Round 1 NCR/CL/OFI | CL: Please clarify whether the inholdings are included in the project area as noted in the finding. Please also provide the original DLLT boundary geospatial file. |
| Round 1 Response from Project Proponent | See narrative response in "Wabassus round 1 narrative responses 27Jul.doc" |
| ESI Findings - Round 2 | <p>The validation team reviewed the updated shapefiles for the PA (ProjectArea_72618_noinholdings.shp) and the inholdings (Inholdings_726.shp). As a response to the receipt of the quitclaim deed as part of another request, the validation team utilized a Maine state shapefile of parcels (Maine_Parcels_Unorganized_Territory.shp - accessed from https://geolibrary-maine.opendata.arcgis.com/datasets/maine-parcels-unorganized-territory).</p> <p>It was noted that some parcels from the Maine shapefile did not match with the project shapefiles noted above.</p> <p>The validation team attempted to crosswalk the above noted state parcel shapefile to the quitclaim deed provided but could not make the connection. An attempt to contact both Washington County and the Maine State GIS offices was unsuccessful. The validation team cannot confirm ownership of the property utilizing the legal description in the quitclaim deed. Provision of a legal plat map from Washington County or another form of connection between the provided deed and the project area shapefile is requested.</p> |
| Round 2 NCR /CL/OFI | <p>CL: Please clarify any discrepancies between the PA (ProjectArea_72618_noinholdings.shp) and the inholdings (Inholdings_726.shp) shapefiles and the Maine parcel shapefile (Maine_Parcels_Unorganized_Territory.shp - accessed from https://geolibrary-maine.opendata.arcgis.com/datasets/maine-parcels-unorganized-territory).</p> <p>CL: Please provide a verifiable crosswalk between the provided deed and spatial references (ex: official legal plat map, etc.) that will allow the validation team to confirm the connection between the deed and project area shapefile.</p> |
| Round 2 Response from Project Proponent | Detailed response provided in "Wabassus round 1 tier 2 narrative responses.doc" |



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| ESI Findings - Round 3 | <p>The data source "Maine_Parcels_Unorganized_Territory.shp" was discussed via phone call on 23 August 2018 with proponents and it was agreed that it is not superior to the Plisga and Day survey of 2008 due to observed overlaps and encroachments.</p> <p>The original project area boundaries (point and line shapefiles) were found to agree well with the legal, documented deed where the metes and bounds description can be cross-referenced reliably from the attribute table. Further clarification on data sources and linking references was discussed via phone call on 23 August 2018 with proponents. The item is addressed.</p> |
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| Number | 8 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | B2. PROJECT GEOGRAPHIC BOUNDARY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Project area delineated on USGS topographic map |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan |
| ESI Findings - Round 1 | A topographic map with the Project Area delineated could not be found in the GHG Plan or in materials provided for the validation. |
| Round 1 NCR/CL/OFI | CL: Please include a project area delineated on a USGS topo map in the GHG Plan following this requirement. |
| Round 1 Response from Project Proponent | The GHG Plan now includes a map of the project area overlain on a USGS topo; we used the topo map from ESRI which has USGS listed as the source. |
| ESI Findings - Round 2 | Verifiers reviewed Figure A1b of the GHG Plan which illustrates the project area superimposed on a USGS topo map to satisfy this requirement. The item is addressed. |

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| American Carbon Registry Standard Version 5.0, February 2018 Section | B2. PROJECT GEOGRAPHIC BOUNDARY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Property parcel map |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan |
| ESI Findings - Round 1 | A property parcel map displaying tax or other unique property identification could not be found in the GHG Plan or in materials provided for the validation. |
| Round 1 NCR/CL/OFI | CL: Please include a property parcel map in the GHG Plan following this requirement. |
| Round 1 Response from Project Proponent | The GHG Plan now includes a parcel map outlining the legal boundary of the Wabassus Lake parcel from the 2008 Plisga and Day survey ("Wabassus Survey Map original 12.08.pdf"); this should satisfy the methodology requirement and reflects our discussion with ESI on Jul 18, 2018. |
| ESI Findings - Round 2 | Verifiers reviewed Figure A1c of the GHG Plan which illustrates the project area survey boundary ("parcel") to satisfy this requirement. The item is addressed. |

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| Number | 10 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | B4. ADDITIONALITY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | When applying the financial implementation barrier test, Project Proponents should include solid quantitative evidence such as NPV and Internal Rate of Return (IRR) calculations. |
| Applicability to the Project (Y or N/A) | Y |



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| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section C; NPV Wabassus additionality.xlsx |
| ESI Findings - Round 1 | <p>The validation team reviewed the NPV calculations file for additionality (NPV Wabassus additionality.xlsx). Several clarifications are requested:</p> <p>Overall, the GHG plan is lacking sufficient detail to allow the validation team to fully evaluate the project NPV calculations. Please see findings and requests elsewhere related to this item.</p> <p>It is unclear why statewide stumpage prices are utilized instead of county-specific stumpage prices. Please refer to the baseline NPV findings and requests for the original finding and request.</p> <p>The "g/cm³ (from REF SPECIES)" for WC appears to be incorrect. Please refer to the baseline NPV findings and requests for the original finding and request.</p> <p>It is unclear why, when converting from \$/ton to \$/ft³, a factor of 0.5 is included in the conversion. Please refer to the baseline NPV findings and requests for the original finding and request.</p> <p>The acreage tab is inconsistent with acreages as calculated utilizing the most recent geospatial files.</p> <p>The validation team could not ascertain the differences in the input data within the following tabs and the FVS output file (DLLT2017nomgt.xlsx): "HE thin", "NWC thin", and "HE thin SMZ".</p> |
| Round 1 NCR/CL/OFI | <p>CL: Please clarify why statewide stumpage prices are utilized instead of county-specific stumpage prices.</p> <p>CL: Please clarify the "g/cm³ (from REF SPECIES)" value for WC.</p> <p>CL: Please clarify the 0.5 factor in the conversion of \$/ton to \$/ft³.</p> <p>CL: Please clarify why the acreage tab is inconsistent with acreages as calculated utilizing the most recent geospatial files.</p> <p>CL: Please clarify any differences between the FVS output file (DLLT2017nomgt.xlsx) and input data for the following tabs: "HE thin", "NWC thin", and "HE thin SMZ".</p> |
| Round 1 Response from Project Proponent | See narrative response in "Wabassus round 1 narrative responses 27Jul.doc" |



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| ESI Findings - Round 2 | <p>Statewide stumpage rates were utilized because of the lack of data for just Washington County, and because of the fluid nature of the timber industry in Maine. The validation team is reasonably assured that the stumpage values utilized are representative of regional stumpage prices. This item is addressed.</p> <p>The validation team accessed the most recent version of the REF_SPECIES table from ARB's 2015 U.S. Forests protocol and noted that 0.29 g/cm³ is correct for wood specific gravity for white cedar. It is likely that the validation team accessed a REF_SPECIES table of a different publishing date than did the project. This item is addressed.</p> <p>The validation team could not locate a source describing the conversion from green weight to dry weight as being 0.5 for all species. It is the understanding of the validation team that multiplying the cubic foot volume by the wood density and by 62.43 lbs/ft³ results in pounds of biomass at zero moisture content.</p> <p>** Note some portions of the previous findings are on hold until NPV is updated.</p> |
| Round 2 NCR /CL/OFI | <p>CL: Please provide the source of the 0.5 factor to convert from green weight (100% moisture) to dry weight. Please ensure that the source is able to be verified by the validation team.</p> |
| Round 2 Response from Project Proponent | <p>The 0.5 factor applied corresponds to moisture content of 100%. Per the USFS Wood Handbook Chapter 4, moisture content of green wood is highly variable and ranges from 30% to 200%. Some "typical" values of moisture content are presented in Table 4-1 of the USFS Wood Handbook Chapter 4, but not all species of interest in Wabassus are covered (no values present for eastern white pine and northern white cedar), and more importantly, due to the high variability ("... variation within and between trees is considerable. Variability of green moisture content exists even within individual boards cut from the same tree...") these values are essentially illustrative. The 100% moisture content used is roughly in the middle of the 30-200% range, and the equivalent 1 bone dry ton = 2 green ton conversion is often used (see e.g. http://ucanr.edu/sites/WoodyBiomass/newsletters/IG003_-_Woody_Biomass_Definitions_and_Conversions_Factors31510.pdf). Also, because price is a fixed value over the NPV analysis period (in the absence of reliable price forecasts to incorporate), a change in the price used (e.g. due to adjusting conversion factors like moisture content) would not change the year in which NPV is maximized (marking the optimal year of harvest in the baseline), which is the outcome of consequence of the NPV analysis.</p> |
| ESI Findings - Round 3 | <p>This item is addressed.</p> |

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| Number | 11 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C1. IDENTIFICATION OF BASELINE |



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| American Carbon Registry Standard Version 5.0, February 2018 Description | The baseline determination is project-specific and must describe the harvesting scenario that would maximize NPV of perpetual wood products harvests over a 100-year modeling period. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | PD Part E1; |
| ESI Findings - Round 1 | <p>The validation team reviewed the baseline scenarios and prescriptions as reported in part E1 of the PD. The validation team reviewed applicable laws to forest harvesting in Maine and compared them to the proposed baseline scenarios in the PD. The validation team reviewed the following Maine forestry rules and made the following notes:</p> <ol style="list-style-type: none"> 1. Chapter 20 <ul style="list-style-type: none"> a. The project has limited clearcuts to less than 20 acres (Category 1), and in 10-year intervals. Chapter 20 details that Category 1 clearcuts must have a separation zone of at least 250 feet from any other clearcut. This separation zone must either contain an average basal area greater than 30 ft² BAAC of acceptable growing stock or must contain at least 450 TPA of acceptable growing stock with hardwood heights of 5 feet and softwood heights of at least 3 feet. The project has described in the PD that clearcuts have a 10-year buffer between cuts, per Chapter 20 requirements. It is unclear to the validation team how the Chapter 20 requirement for separation zone stocking was modeled in the baseline scenario. b. Chapter 20 also details that 450 TPA must be present on a clearcut 5 years after the cut. It is unclear to the validation team how the Chapter 20 requirement for post-harvest clearcut stocking is modeled in the baseline scenario. 2. Chapter 21 <ul style="list-style-type: none"> a. The PD states that Chapter 21 is not technically required, as the project falls in an unincorporated township. The project falls within T42 MD BPP and T43 MD BPP. The validation team confirmed that these two townships are unincorporated (unorganized). b. The PD states that, per Chapter 21, harvests in the SMZs are only allowed to reach 60% or 60ft² BAAC. Both of these are allowable per Chapter 21. However, not all SMZ scenarios describe the 10-year interval on the 60% retention option. 3. Chapter 27 <ul style="list-style-type: none"> a. The PD references Chapter 27 harvesting rules. No specific Chapter 27 rules are reported in the PD for baseline modeling. It was noted that Chapter 27 rules are dependent upon Maine LUPC sub districts. It is unclear into which district(s) the project falls. It is the validation team's understanding that the project's modeling constraints due to Chapter 27 will be different depending on which LUPC sub district the project falls within. As such, the confirmation of Chapter 27 rules are dependent upon the determination of the Maine LUPC sub districts in which the project falls. 4. Conservation Easement <ul style="list-style-type: none"> a. The PD details some limits on harvesting due to the conservation easement on the project area. However, the validation team does not currently possess the conservation easement. It has been requested elsewhere in this checklist |



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| | | <p>document. Confirmation of the modeling constraints due to the conservation easement will be assessed once the easement is provided.</p> <p>Please see the FVS tab for findings on modeling implementation.</p> |
| Round 1 NCR/CL/OFI | | <p>CL: Please clarify how the Chapter 20 requirement for separation zone stocking was modeled in the baseline scenario.</p> <p>CL: Please clarify if/how the 10-year interval on the 60% retention option is modeled for all SMZ scenarios.</p> <p>CL: Please clarify how the Chapter 20 requirement for post-harvest clearcut stocking is modeled in the baseline scenario.</p> <p>CL: Please clarify into which Maine LUPC sub district(s) the project falls to demonstrate the applicability of Chapter 27 harvesting rules.</p> |
| Round 1 Response from Project Proponent | | <p>Detailed response provided in "Wabassus round 1 tier 2 narrative responses.doc"</p> |



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| ESI Findings - Round 2 | <p>1. The validation team notes that the Chapter 20 separation zone requirements are satisfied through prescription management and allocation. Although the validation team was not present for a site visit to evaluate overall stand acceptable growing stock, the inventory data tends to support a high proportion of AGS. Basal area is high enough on average according to the inventory data to support separation $\geq 30\text{ft}^2/\text{ac}$. This requirement is spatially dependent but satisfied through sufficient prescription variability. This item is addressed.</p> <p>2. The .key file for prescriptions NH8 and NH10 was examined and adjustments made for paper birch regeneration, in addition to prescriptions PC5 and PC9 for white pine regeneration in order to comply with Ch. 20 post-harvest clearcut stocking requirements. This item is addressed.</p> <p>3. The shoreland management zone constraint of 60% residual BA is now described in the GHG Plan and was noted to have been applied to the relevant prescriptions through review of .key file. This item is addressed.</p> <p>4. SMZs were adjusted this round to account for Ch. 27 harvest rules in LUPC sub-districts great pond and shoreland, validation team confirms that the majority of these areas fall within existing delineated SMZs. Enlargement of the existing SMZs to encompass the Ch. 27 rules is inherently conservative. This item is addressed.</p> <p>The conservation easement, provided in response to other findings in this review was reviewed for encumbrances on the baseline. As stated in the GHG Plan the restrictions are general in nature but suggests Maine forest practice rules are to be followed. The validation team is reasonable assured that the easement's restrictions are being followed as reviewed under this criteria and elsewhere in the review.</p> |
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| Number | 12 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C1. IDENTIFICATION OF BASELINE |
| American Carbon Registry Standard Version 5.0, February 2018 Description | The project scenario by definition will result in a lower NPV than the baseline scenario. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | PD General; |



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| ESI Findings - Round 1 | The validation team could not locate project scenario NPV calculations. |
| Round 1 NCR/CL/OFI | CL: Please provide project scenario NPV calculations. |
| Round 1 Response from Project Proponent | Management openings envisioned in the project scenario are anticipated to produce insignificant commercial wood volumes, and for simplicity, the with project scenario in the GHG Plan is modeled as no (insignificant) harvest and project scenario NPV equals zero (or negative). Project scenario NPV calculations are not required as part of the methodology section C1 for identification of the baseline. |
| ESI Findings - Round 2 | The validation team notes that the ACR IFM methodology does not prescribe a specific project case NPV calculation but rather ensures that in all cases the baseline scenario NPV exceeds the project scenario. No further action is needed. The item is addressed. |

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| Number | 13 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C1. IDENTIFICATION OF BASELINE |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Required inputs for the project NPV calculation include the results of a recent timber inventory of the project lands, prices for wood products of grades that the project would produce, costs of logging, reforestation and related costs, silvicultural treatment costs, and carrying costs. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | NPV File; PD; |



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| ESI Findings - Round 1 | <p>The validation team reviewed the NPV calculations file (NPV Wabassus.xlsx). Several clarifications are requested:</p> <p>It is unclear why statewide stumpage prices are utilized instead of county-specific stumpage prices.</p> <p>The "g/cm³ (from REF SPECIES)" for WC appears to be incorrect.</p> <p>It is unclear why, when converting from \$/ton to \$/ft³, a factor of 0.5 is included in the conversion.</p> <p>The validation team requests tax receipts for the tax value utilized in NPV calculations.</p> <p>While matching the FVS runs/output files to the tab names, it appears that not all runs match the tab name. For example, the tab named "NHcc" is the FVS run of NH3, which is not a clearcut. Further, it is somewhat unclear which FVS cases (ex: NH3) match which prescriptions (ex: NH thin SMZ). Additional clarity in the PD is requested.</p> <p>The FVS output files provided to the validation team only cover 30 years, while the NPV projection covers 100 years. The validation team does not possess a 100-year projection.</p> <p>It appears that the tabs (ex: NH cc, AB cc, etc.) are the no management (let-grow) FVS runs. It is unclear to the validation team why let-grow FVS runs were utilized to determine NPV of the baseline scenario.</p> <p>The calculation of NPV in the "Costs" column is not consistent with the calculation of NPV in the "Liq Val" column.</p> <p>The validation team could not locate any management costs outside of road costs. in the NPV determination.</p> |
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| Round NCR/CL/OFI | 1 <p>CL: Please clarify why statewide stumpage prices are utilized instead of county-specific stumpage prices.</p> <p>CL: Please clarify the "g/cm³ (from REF SPECIES)" value for WC.</p> <p>CL: Please clarify the 0.5 factor in the conversion of \$/ton to \$/ft³.</p> <p>CL: Please provide tax receipts or other verifiable documentation of the tax costs utilized.</p> <p>CL: Please add clarity to the PD describing the crosswalk between the FVS cases (ex: NH3) and the prescription names (ex: NH thin SMZ). Please also clarify why it appears that not all runs match the tab name. For example, the tab named "NHcc" is the FVS run of NH3, which is not a clearcut.</p> <p>CL: Please provide the full FVS runs for the NPV determination.</p> <p>CL: Please clarify why the FVS outputs that are used for the NPV determination are the no-management runs.</p> <p>CL: Please clarify why the calculation of NPV in the "Costs" column is not consistent with the calculation of NPV in the "Liq Val" column.</p> <p>CL: Please clarify why no management costs were included in the NPV determination outside of road costs.</p> |
| Round Response from Project Proponent | 1 <p>See narrative response in "Wabassus round 1 narrative responses 27Jul.doc"</p> |
| ESI Findings - Round 2 | <p>The validation team understands that the timber market may be regional, and not county-specific. Therefore, the validation team is reasonably assured that the statewide stumpage prices are appropriate. This item is addressed.</p> <p>The validation team reviewed the 2015 ARB "REF_SPECIES" table and noted that northern white cedar referenced in the tab REF SPECIES is 0.29 g/cm³. This item is addressed.</p> <p>The validation team understands that in the "NPV Wabassus" file, the 0.5 is used to convert \$/green English ton to \$/cubic foot. This item is addressed elsewhere.</p> <p>The validation team reviewed the tax bill provided in 2017 Real Property Tax T42 T43.pdf. The taxes were confirmed at \$9,705.63 per year. However, the acreage in the NPV file (NPV Wabassus revAug2018.xlsx) is reported as 6,628 acres. The validation team summed the acreage taxed in the tax bill and achieved a total acreage taxed of 6,621 acres.</p> <p>The clarification describing the crosswalk between the FVS cases and the prescription names was provided. This item is addressed.</p> <p>All FVS runs were provided. This item is addressed.</p> <p>The validation team is reasonably assured that the FVS runs are appropriately implemented for NPV determination, through review of select inputs, .key files, outputs, and .out files, pending precedents. This item is addressed.</p> <p>It is unclear to the validation team why only the "Costs" column of the NPV</p> |



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| | <p>quantification file is cumulative for any given year of the analysis, yet “Liq Val” is not cumulative for any given year.</p> <p>The validation team is reasonably assured that the costs as presented are appropriate for the sake of NPV determination for the baseline, as all costs are consistently applied across all prescriptions. This item is addressed.</p> <p>The validation team attempted to review the “thin” prescriptions in the NPV file (NPV Wabassus revAug2018.xlsx). The validation team utilized the FVS outputs to sum the let-grow scenarios to the target BAAC, but could not achieve the same values as the project for “pulp CuFt”, “SCuFt”, and “SBdFt”. Since the calculations are not transparent, the validation team could not find the location of the discrepancy.</p> <p>The validation team continued the review of the FVS runs and their subsequent NPV determination steps. The validation team reviewed the NoMgt run, the NPV2, and the NPV3 runs, along with the corresponding NPV determination in NPV Wabassus revAug2018.xlsx. Pending precedents in this and other rows of this checklist, the validation team confirmed the table beginning on page 40 of the GHG plan, except for the following items which have an effect on the NPV determination/FVS runs:</p> <ol style="list-style-type: none">1. For NH thin SMZ, the project calculated the maximum NPV at 2021. However, a higher NPV is present at 2020.2. For PC thin SMZ, the project calculated the maximum NPV at 2044. However, a higher NPV is present at 2043. <p>It is unclear to the validation team how harvests in the RS SMZ (RS thin SMZ) has an NPV of less than 0\$/ac. It would appear that, to maximize NPV, the RS SMZ stand would receive no treatment.</p> <p>Lastly, the table beginning on page 40 of the GHG Plan incorrectly reports the maximum NPV of the following runs: NH rot, NH thin 2 SMZ, PC cc, RS cc.</p> |
| Round 2 NCR /CL/OFI | <p>CL: Please clarify the noted discrepancy in taxed acreage.</p> <p>CL: Please clarify why the “Costs” column of the NPV analysis file is cumulative for any given year, while the “Liq Val” column is not.</p> <p>CL: Please provide transparent calculations of “pulp CuFt”, “SCuFt”, and “SBdFt” for all thin scenarios in NPV Wabassus revAug2018.xlsx.</p> <p>CL: Please address the findings pertaining to the calculation of year of prescription implementation for NH thin SMZ and PC thin SMZ. Please clarify the discrepancies noted.</p> <p>CL: Please substantiate the inclusion of harvests that result in a maximum NPV of less than 0\$/ac.</p> <p>CL: Please clarify the noted discrepancies with the reporting of maximum NPVs in the GHG plan.</p> |



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| <p>Round 2 Response from Project Proponent</p> | <p>Response provided in "Wabassus detailed responses 1Oct2018.docx"</p> <p>In the NPV analysis file, we have corrected the taxed acreage, replacing 6628 with 6621 (the latter matching the acreage from the 2017 tax document), and updated NPV values reported in the GHG Plan.</p> <p>In the NPV analysis file, the "Liq Val" column is effectively cumulative, because it references the (cumulative) yields in each year from the "SBdFt" and "CuFt pulp" columns to produce a (cumulative) liquidation value for that year, which is then assessed against cumulative costs carried through that liquidation year.</p> <p>On Sep 27 we held a skype call with Eric Jaeschke and Aaron Holley of ESI and gave a demonstration of the summation of yields for thins from above to a designated minimum residual basal area. For a given year and model case, yields for saw (board feet) and pulp (cubic feet), discounted for defect, were summed from a list of trees ordered by dbh, beginning with the largest tree and working down the list (i.e. thin from above) until the last tree was reached that ensured a residual basal area equal to or exceeding the minimum requirement.</p> <p>Re the year of prescription implementation for NH thin SMZ and PC thin SMZ, we acknowledge that the selection of year of harvest in the baseline falls one year after maximization of NPV (by only \$0.04/acre for NH thin SMZ, e.g.). We retain this treatment as conservative (for both the baseline and additionality) and added the following explanatory text to the GHG Plan: "note that for two exceptions, "NH thin SMZ" and "PC thin SMZ", the harvest year in the baseline scenario was conservatively set one year after the year that maximized NPV." We have corrected the year of maximum NPV in the summary table for both model scenarios.</p> <p>In scenario "RS thin SMZ", maximum NPV is -\$8.33/ac in year 2068, because costs exceed revenues. The presentation of results is retained, because the value is the maximum – no harvest would result in a lower NPV because property tax is a fixed recurring cost (whether harvest takes place or not). In application, the result of this analysis has no impact on project accounting, as the year 2068 is far beyond the limit of the 20-year baseline period.</p> |
| <p>ESI Findings - Round 3</p> | <p>The taxed acreage has been corrected in the NPV calculations spreadsheet. This item is addressed.</p> <p>The validation team now understands the "Liq Val" field to be inherently cumulative. This item is addressed.</p> <p>The thinning yields have been confirmed to a reasonable level by the examination of a subsample of prescriptions. This item is addressed.</p> <p>The validation team agrees that a later harvest in the baseline is conservative. This item is addressed.</p> <p>The validation team agrees that a harvest with a negative NPV is better than no harvest, as costs mount regardless of harvests. This item is addressed.</p> <p>The validation team noted that the "PC cc" prescription utilizes the wrong max-NPV year. This was discussed with David Shoch on a Skype call on 20181002, during which it was determined that he would provide updated files to correct this issue.</p> |



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| Round NCR /CL/OFI | 3 | CL: The validation team noted that the "PC cc" prescription utilizes the wrong max-NPV year. This was discussed with David Shoch on a Skype call on 20181002, during which it was determined that he would provide updated files to correct this issue. |
| Round Response from Project Proponent | 3 | [Shoch replied via email on 20181003] "Hi Aaron, All of the changes we discussed yesterday are made, and updated files are in a subfolder marked 3Oct2018. This corrects the year in which NPV is maximized for PC cc and HE thin 2, and revises the baseline scenario to no management in all PC model groups. Let me know if you have any questions. David" |
| ESI Findings - Round 4 | - | The validation team is reasonably assured that, since the PC CC clearcut's maximum NPV does not occur until 2045 and the SMZ thinning does not occur until 2043, which is outside of the baseline period, that removing all harvests from the PC stratum is appropriate. Further, the HE Thin 2 date of NPV maximization was updated in the GHG Plan to correctly report 2072. As this is outside of the baseline period, this update does not affect the baseline projections. This item is addressed. |

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| Number | 14 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C3. BASELINE NET REDUCTIONS AND REMOVALS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | DCBSL, DEAD,t Change in the baseline carbon stock stored in dead wood (in metric tons CO2) for year t. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | bsl snag proj rev5Apr2018.xlsx; ACR_Calcs Wabassus rev5Apr2018.xlsx; |



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| ESI Findings - Round 1 | <p>The validation team reviewed the baseline snag projection file (bsl snag proj rev5Apr2018.xlsx) and noted a couple of points of needed clarification:</p> <ol style="list-style-type: none"> 1. It is unclear to the validation team why belowground carbon was not calculated for soft snags. 2. It appears that the data within the "SnagDet" tab does not match the data from the FVS outputs in DLLT2017BSL.xlsx. 3. The acreage tab does not match acreages as calculated from the most recent PA shapefile. 4. As discussed elsewhere in this checklist, it is unclear why 2017 inventory values are utilized for 2018 carbon stocks. |
| Round NCR/CL/OFI 1 | <p>CL: Please clarify why belowground carbon is not calculated on snags</p> <p>CL: Please clarify why the data within the "SnagDet" tab does not match the data from the FVS outputs in DLLT2017BSL.xlsx.</p> <p>CL: Please clarify why the acreage tab does not match acreages as calculated from the most recent PA shapefile.</p> <p>CL: Please clarify why 2017 inventory values are utilized for 2018 carbon stocks.</p> |
| Round Response from Project Proponent 1 | Detailed response provided in "Wabassus round 1 tier 2 narrative responses.doc" |
| ESI Findings - Round 2 | <ol style="list-style-type: none"> 1. Validation team agrees that soft snags should not have belowground biomass included following the ACR IFM methodology. This item is addressed. 2. The discrepancies regarding FVS outputs into the snag worksheet were confirmed corrected. This item is addressed. 3. Acreage within the snag worksheet was confirmed corrected to the latest version of interior and SMZ acres. This item is addressed. 4. The validation team understands the project start is 2018 and the same as FVS output year 2017 or year zero (start). This item is addressed. <p>This is pending FVS findings.</p> |
| Round NCR /CL/OFI 2 | |
| Round Response from Project Proponent 2 | |
| ESI Findings - Round 3 | This is pending precedents. |
| Round NCR /CL/OFI 3 | |



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| Round Response from Project Proponent | 3 |
| ESI Findings - Round 4 | This item is addressed. |

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| Number | 15 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C3. BASELINE NET REDUCTIONS AND REMOVALS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | CBSL,HWP,t Baseline value of carbon remaining in wood products 100 years after being harvested in the year t (in metric tons CO2). |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | ACR_Calcs Wabassus rev5Apr2018.xlsx; |
| ESI Findings - Round 1 | <p>The "CBSL,HWP,t" row of the "ACR IFM calc template" tab of ACR_Calcs Wabassus rev5Apr2018.xlsx contains calculations for the "Twenty-year average value of annual carbon remaining stored in wood products 100 years after harvest (in metric tons of CO2)".</p> <p>Further, it is unclear why the summation of the "CBSL,HWP,t" row of the "ACR IFM calc template" tab of ACR_Calcs Wabassus rev5Apr2018.xlsx within the "sum stocks" row is cumulative.</p> |
| Round NCR/CL/OFI | <p>1</p> <p>CL: Please clarify why the "CBSL,HWP,t" row of the "ACR IFM calc template" tab of ACR_Calcs Wabassus rev5Apr2018.xlsx contains calculations for the "Twenty-year average value of annual carbon remaining stored in wood products 100 years after harvest (in metric tons of CO2)".</p> <p>CL: Please clarify why the summation of the "CBSL,HWP,t" row of the "ACR IFM calc template" tab of ACR_Calcs Wabassus rev5Apr2018.xlsx within the "sum stocks" row is cumulative.</p> |



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| Round Response from Project Proponent | 1 | Calculations follow methodology equation 3, where total harvested wood products over the 20-year baseline projection period are summed and divided by 20 to produce an annual average applied in annual accounting via equation 6. The "sum stocks" row is used to calculate annual stocking level, used for determination of time "T". The methodology does not specify exactly how annual stocking level is calculated, however, it is logical that for each pool it reference stocks, *not* inputs. The annual values in the "CBSL,HWP,t" row represent annual *inputs*, not stocks, and therefore the relevant accumulated stock in the harvested wood product pool in a given year is the cumulative of annual inputs through that year, as is calculated in the equation applied in the "sum stocks" row. |
| ESI Findings - Round 2 | - | <p>Validation team was able to confirm that application of Equation 3 is reasonable as CBSL,HWP,t as applied within the ACR calculation worksheet uses the Cbar BSL,HWP value. Though the methodology is vague ESI understands that the change in stocks is being applied here against the CBSL,AVE (the baseline average). The sum stocks method ensures that live and dead stock annual changes are accounted for. The validation team noted the email from ACR, which allows for a "true-up" of change in baseline stocks in a partial year.</p> <p>The validation team was unable to confirm the acreage as applied within the ACR calculation worksheet as it appears to be slightly off.</p> |
| Round NCR /CL/OFI | 2 | CL: Please clarify the correct acreage for application in the ACR calculation worksheet. |
| Round Response from Project Proponent | 2 | Acreage in ACR Calc worksheet updated from 6144.937389 to 6143.618525. |
| ESI Findings - Round 3 | - | Verifiers confirmed that the discrepant acreage applied to the ACR ERT calculation worksheet has been corrected. No further action is needed. The item is addressed. |

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| Number | 16 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C3. BASELINE NET REDUCTIONS AND REMOVALS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | CBSL,TREE,t Baseline value of carbon stored in above and below ground live trees (in metric tons CO2) at the beginning of the year t |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |



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| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | ACR_Calcs Wabassus rev5Apr2018.xlsx; bsl live tree proj rev5Apr2018.xlsx; |
| ESI Findings - Round 1 | <p>The validation team reviewed "bsl live tree proj rev5Apr2018.xlsx" and noted a couple of clarifications needed:</p> <p>The acreage tab does not appear to match acreages as calculated from the latest GIS shapefile.</p> <p>Within the "PIVOT LIVE" tab, HE18 in 2027 has a value that is inconsistent with the validation team's independent calculations.</p> <p>It is unclear to the validation team why carbon values within the "PIVOT LIVE" tab are entered for the year following the projected year. For example, the 2017 data is entered in the 2018 row.</p> |
| Round 1 NCR/CL/OFI | <p>CL: Please clarify why the acreage tab does not appear to match acreages as calculated from the latest GIS shapefile.</p> <p>CL: Please clarify the value within the "PIVOT LIVE" tab, HE18 in 2027.</p> <p>CL: Please clarify why carbon values within the "PIVOT LIVE" tab are entered for the year following the projected year.</p> |
| Round 1 Response from Project Proponent | Acreages have been updated (see response to findings #7 and #10). Regarding why 2017 FVS values are utilized for 2018 carbon stocks, year zero in FVS is 2017, matching the FVS input from the fall 2017 inventory – in application to the baseline, years were shifted forward one year to reflect a January 2018 start date, i.e. start year = 2018 = FVS output year 2017. Likewise, the value for HE18 in 2027 in the PIVOT LIVE tab is referenced from the 2026 value from the FVS output. |
| ESI Findings - Round 2 | <p>Acreages have been confirmed fixed within "bsl live tree proj revAug2018.xlsx". This item is addressed.</p> <p>The validation team understands the project start is 2018 and the same as FVS output year 2017 or year zero (start). This item is addressed.</p> <p>The value for HE18 in 2027 in the PIVOT LIVE tab will be checked again upon confirmation that the baseline is fine.</p> |
| Round 2 NCR /CL/OFI | |
| Round 2 Response from Project Proponent | |
| ESI Findings - Round 3 | This item is pending precedents. |
| Round 3 NCR /CL/OFI | |
| Round 3 Response from | |



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| Project Proponent | |
| ESI Findings - Round 4 | This item is addressed. |

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| Number | 17 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | C3. BASELINE NET REDUCTIONS AND REMOVALS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Annual projected stocking levels are used for the baseline stock change calculation until the projected stocking level reaches the long-term average (time $t = T$). |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | ACR_Calcs Wabassus rev5Apr2018.xlsx; |
| ESI Findings - Round 1 | It is unclear to the validation team why the 2025 ACR Account Year Date value is 0 instead of 1, since the baseline stocks fall below the 20-year average in that year. |
| Round NCR/CL/OFI 1 | CL: Please clarify why the 2025 ACR Account Year Date value is 0 instead of 1, since the baseline stocks fall below the 20-year average in that year. |
| Round Response from Project Proponent 1 | Detailed response provided in "Wabassus round 1 tier 2 narrative responses.doc" |
| ESI Findings - Round 2 | As noted elsewhere in the review, the baseline stock change calculation was found to be reasonable and demonstrates when the projected baseline reaches the 20-year baseline average. This item is addressed. |

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| Number | 18 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | 3.1 Stocking Level Projections in the Baseline |



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| American Carbon Registry Standard Version 5.0, February 2018 Description | Modeling must be completed with a peer reviewed forestry model that has been calibrated for use in the project region. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | Wabassus inventory calcs and stats.xlsx; Wabassus_SiteIndex_2.14.18.xlsx; NRCS data |
| ESI Findings - Round 1 | Site index for baseline projections was sourced from NRCS web soil survey on a stratum basis. Appropriate tree species were found to have been selected from the NRCS web soil survey site index data with the exception of the hemlock stratum. Eastern white pine was chosen which is not the most prevalent species inventoried in the stratum and does not appear to be conservative for the baseline. |
| Round 1 NCR/CL/OFI | CL: Please justify the appropriateness of using NRCS site index tree species eastern white pine to apply to the hemlock stratum. |
| Round 1 Response from Project Proponent | See narrative response in "Wabassus round 1 narrative responses 27Jul.doc" |
| ESI Findings - Round 2 | <p>The validation team reviewed the provided demonstration of the appropriateness of utilizing the NRCS white pine site index for the HE stratum.</p> <p>The validation team independently accessed Maine site index data from the FIA EVALIDator. It was noted that the average site index for hemlock in Maine was 43.3 with a base age of 50.</p> <p>The validation team also transformed the SSURGO white pine site index to eastern hemlock using the FVS transformation algorithm and noted that the site index for hemlock was 50.9 with a base age of 50.</p> <p>Thus, since eastern hemlock and white pine are both shade tolerant softwoods, the validation team is reasonably assured that the site index used is appropriate. This item is addressed.</p> |

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| Number | 19 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | 3.1.1 Tree Carbon Stock Calculation |



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| American Carbon Registry Standard Version 5.0, February 2018 Description | If stump, top, and branch components are included, please use the quantification methodology found in Woodall et al. 2011 ²⁰ . |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | Project calculations files; |
| ESI Findings - Round 1 | Jenkins 2003 was utilized to calculate biomass. It is unclear if the Woodall methodology was utilized. |
| Round 1 NCR/CL/OFI | CL: Please clarify if the Woodall et al. 2011 methodology was utilized in carbon calculations. |
| Round 1 Response from Project Proponent | Woodall et al 2011 was not used for biomass calculations, nor is it required. |
| ESI Findings - Round 2 | The validation team agrees that Woodall is not required following this methodology. The item is addressed. |

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| Number | 20 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | 3.1.1 Tree Carbon Stock Calculation |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Note: The FVS Fire and Fuels Extension volume-based default estimates ²¹ of Live Carbon are compliant with the above, but do not include bark and stump components. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | Project calculations files; |



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| ESI Findings - Round 1 | FVS FFE was utilized for the baseline. It is unclear if bark and stump values were excluded from the project scenario. |
| Round NCR/CL/OFI 1 | CL: Please clarify if bark and stump components were excluded from the project scenario carbon calculations. |
| Round Response from Project Proponent 1 | Jenkins 2003 was applied in FVS-FFE to output total aboveground biomass, not via the volume-based default FVS-FFE method. The Jenkins 2003 equations produce estimates of total aboveground biomass, including bark and stump (total aboveground biomass is above the root collar and including bark). The same approach, using direct FVS-FFE outputs for baseline stock estimates, has been previously applied on at least three other validated projects using the same methodology (Astoria, Port Blakely Winston Creek and Middlebury). |
| ESI Findings - Round 2 | The volume-based default method from FVS-FFE was not used here instead Jenkins 2003 as reviewed through .key files submitted. The item is addressed. |

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| Number | 21 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | 3.1.2.1 Standing Dead Wood (if included) |
| American Carbon Registry Standard Version 5.0, February 2018 Description | If the top of the standing dead tree is missing, then top and branch biomass may be assumed to be zero. Identifiable tops on the ground meeting category 1 criteria may be directly measured. For trees broken below minimum merchantability specifications used in the tree biomass equation, existing standing dead tree height shall be used to determine tree bole biomass. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | Wabassus SOPs 18Oct2017 FINAL.docx |
| ESI Findings - Round 1 | The inventory SOPs document Section 1.9 describes measurement methods for trees with broken tops and it suggests that live and dead tree heights are to be reconstructed. It is not clear how this requirement was met based on the SOPs document description. Validation team notes that no site visit was performed for the validation following approval from ACR. |
| Round NCR/CL/OFI 1 | CL: Please clarify how the project meets this dead broken tree merchantability requirement. |
| Round Response from 1 | Detailed response provided in "Wabassus round 1 tier 2 narrative responses.doc" |



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| Project Proponent | |
| ESI Findings - Round 2 | Validation team agrees that this requirement has limited relevance because Jenkins et al 2003 doesn't require height. Further the percent deductions (1/3s) for decay class 4 trees appeared to be followed for the 24 snags as outlined in the inventory SOPs document. The item is addressed. |

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| Number | 22 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | 3.2 Wood Products Calculations |
| American Carbon Registry Standard Version 5.0, February 2018 Description | In all cases, harvested wood volumes and/or weights must exclude bark. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | bsl hwp proj.xlsx; EssentialFVS.pdf |
| ESI Findings - Round 1 | It is not clear whether baseline harvested wood volumes exclude bark. ESI referenced the Essential FVS variant overview but was unable to locate and confirm whether bark was excluded following this requirement. |
| Round NCR/CL/OFI 1 | CL: Please clarify whether baseline harvested wood excludes bark following this requirement. Please also provide supporting documentation as needed. |
| Round 1 Response from Project Proponent | Long-term storage in wood products was calculated from FVS-NE variant projections of harvested volumes. FVS-SN applies allometric volume equations from the US Forest Service National Volume Estimator Library (NVEL). Equations in the NVEL produce stem wood (without bark) volume. NVEL equations for USFS Region 9 (applied in FVS-NE) are sourced from Clark, Alexander, III; Souter, Ray A.; Schlaegel, Bryce E. 1991. Stem Profile Equations for Southern Tree Species. Res. Pap. SE-282. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 117 p., and produce estimates of *stem volume inside bark* |
| ESI Findings - Round 2 | Validation team agrees that FVS NE variant produces estimates without bark, exclusively steam volume following Clark et al 1991. No further action is needed. The item is addressed. |

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| Number | 23 |
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| American Carbon Registry Standard Version 5.0, February 2018 Section | Step 3: Estimate the Carbon Storage 100 Years after Harvest in In-Use Wood Products |
| American Carbon Registry Standard Version 5.0, February 2018 Description | 2. Multiply the total carbon transferred into wood products by the % in each product class |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | bsl hwp proj.xlsx |
| ESI Findings - Round 1 | This step was applied where management groups (sum of step 1 groups) were multiplied by the weighted average of in-use storage factors. Validators understand that the individual storage factors are to be used for this step. The project had previously broken out the groups for steps 1 and 2. |
| Round NCR/CL/OFI 1 | CL: Please address the findings and fix the calculation for this step to determine in-use values. |
| Round 1 Response from Project Proponent | Groups were broken out for steps 1 and 2 to permit different mill efficiency factors to be applied for the hwd pulp, hwd saw, sfw pulp and sfw saw groups at Step 2. Steps 3 and 4 then sum the post-mill processing values across groups and apply weighted (by % of total of each end wood product class) average 100-year storage factors for in use wood products and landfills. This streamlines the calculations, while still applying the individual storage factors (all included in cells I4 and I5 in the "assumptions" tab of the "bsl hwp proj.xls" file), and the methodology steps are effectively embedded in the weighted average formula in those cells. The result is the same as the result had individual storage factors been applied to each disaggregated end wood product and then summed. |
| ESI Findings - Round 2 | The validation team finds the calculation approach reasonable as the methodology are inherently captured in the methods implemented by the proponent. Baseline HWP values applied to the ACR calc worksheet were found to be conservative compared to independent analysis performed by the validation team. The item is addressed. |

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| Number | 24 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | Step 4: Estimate the Carbon Storage 100 Years after Harvest for Wood Products in Landfills |



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| American Carbon Registry Standard Version 5.0, February 2018 Description | 2. Multiply the total carbon transferred into wood products by the % in each product class. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | bsl hwp proj.xlsx |
| ESI Findings - Round 1 | This step was applied where management groups (sum of step 1 groups) were multiplied by the weighted average of landfill 100-year storage factors. Validators understand that the individual storage factors are to be used for this step. The project had previously broken out the groups for steps 1 and 2. |
| Round 1 NCR/CL/OFI | CL: Please address the findings and fix the calculation for this step to determine landfill 100-year values. |
| Round 1 Response from Project Proponent | Groups were broken out for steps 1 and 2 to permit different mill efficiency factors to be applied for the hwd pulp, hwd saw, sfw pulp and sfw saw groups at Step 2. Steps 3 and 4 then sum the post-mill processing values across groups and apply weighted (by % of total of each end wood product class) average 100-year storage factors for in use wood products and landfills. This streamlines the calculations, while still applying the individual storage factors (all included in cells I4 and I5 in the "assumptions" tab of the "bsl hwp proj.xls" file), and the methodology steps are effectively embedded in the weighted average formula in those cells. The result is the same as the result had individual storage factors been applied to each disaggregated end wood product and then summed. |
| ESI Findings - Round 2 | The validation team finds the calculation approach reasonable as the methodology are inherently captured in the methods implemented by the proponent. Baseline HWP values applied to the ACR calc worksheet were found to be conservative compared to independent analysis performed by the validation team. The item is addressed. |

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| Number | 25 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | D2. MONITORING PROJECT IMPLEMENTATION |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Wood products volume |



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| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section D1 |
| ESI Findings - Round 1 | Not listed in Section D1 of the GHG Plan. |
| Round 1 NCR/CL/OFI | CL: This data parameter was not listed in Section D1 of the GHG Plan. |
| Round 1 Response from Project Proponent | Parameter now listed in Section D1 of the revised GHG Plan |
| ESI Findings - Round 2 | Parameter Cp,HWP,t confirmed to have been added to Section D1 of the GHG Plan. The item is addressed. |

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| Number | 26 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | D2. MONITORING PROJECT IMPLEMENTATION |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Dead wood pool, if selected |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section D1 |
| ESI Findings - Round 1 | Not listed in Section D1 of the GHG Plan. |
| Round 1 NCR/CL/OFI | CL: This data parameter was not listed in Section D1 of the GHG Plan. |
| Round 1 Response from | Parameter now listed in Section D1 of the revised GHG Plan |



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| Project Proponent | |
| ESI Findings - Round 2 | Parameter Cp,DEAD,t confirmed to have been added to Section D1 of the GHG Plan. The item is addressed. |

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| Number | 27 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | D4. MONITORING OF EMISSION SOURCES |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Emissions from biomass burning must be monitored during project activities. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section B4, Section E6 |
| ESI Findings - Round 1 | The GHG Plan Section E6 states "No burning of any kind is expected to take place in the project area." Other sections of the GHG Plan state that no burning of logging slash will occur in the project case. This is reasonable however this requirement suggests that biomass burning must be monitored and the validation team was unable to locate in reporting documentation whether the project will implement monitoring for biomass burning. |
| Round NCR/CL/OFI 1 | CL: Please clarify how the project intends to monitor biomass burning following this requirement in the GHG Plan. |
| Round Response from Project Proponent 1 | Parameter now listed, and monitoring approach outlined, in Section D1 of the revised GHG Plan |
| ESI Findings - Round 2 | Parameter BSp,t was found to be listed in Section D1 of the GHG Plan appropriately. The validation team notes this is a low risk element for monitoring as burning is not prevalent in the project region. However, the project has now catalogued monitoring procedures. The item is addressed. |

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| Number | 28 |
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| American Carbon Registry Standard Version 5.0, February 2018 Section | D5. ESTIMATION OF PROJECT EMISSION REDUCTIONS OR ENHANCED REMOVALS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | DCP,t Change in the project carbon stock (in metric tons CO2) for year t. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | wp live tree proj rev5Apr2018.xlsx; ACR_Calcs Wabassus rev5Apr2018.xlsx |
| ESI Findings - Round 1 | <p>The validation team reviewed "wp live tree proj rev5Apr2018.xlsx" and noted a clarifications:</p> <p>The acreage tab does not appear to match acreages as calculated from the latest GIS shapefile.</p> <p>The 2017 inventory data was appropriately included in addition to the other 2 years of FVS projected ex-ante data.</p> |
| Round 1 NCR/CL/OFI | CL: Please clarify why the acreage tab does not appear to match acreages as calculated from the latest GIS shapefile. |
| Round 1 Response from Project Proponent | The "wp live tree proj*" file has been updated with the new acreages (per response to finding #7). The updated file has been submitted as "wp live tree proj revAug2018.xls" All other projection files have been similarly updated. |
| ESI Findings - Round 2 | The validation team confirmed that the acreage was correctly updated. The item is addressed. |

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| Number | 29 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | D6. MONITORING OF ACTIVITY-SHIFTING LEAKAGE |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Entity-wide management certification that requires sustainable practices (programs can include FSC, SFI, or ATFS). Management certification must cover all entity owned lands with active timber management programs. |

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| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section B2, F1; FSC website |
| ESI Findings - Round 1 | GHG Plan Section F1 states that the project area has Forest Stewardship Council (FSC) Forest Management certification by the Rainforest Alliance's SmartWood program. Evidence of the certification could not be found in materials submitted for validation. No project-case commercial harvesting is expected to take place (ex-ante HWP = 0) therefore it is not required that the Project Area be FSC-certified within one year of the start date. Verifiers noted that the Downeast Lakes Land Trust was listed on FSC's website as a valid certificate holder, where the most recent audit results list the Wabassus tract as being included under the certificate. Based on the above evidence however, it is not clear whether DLLT has FSC certification on all their lands with active timber management. |
| Round 1 NCR/CL/OFI | CL: Please provide evidence to confirm that FSC certification is held on all DLLT lands with active timber management to satisfy the activity shifting leakage requirement. |
| Round 1 Response from Project Proponent | We have confirmed with David Montague, director of DLLT, that all DLLT-owned lands (6 parcels), including those without active timber management, are under FSC certification. Documentation is provided in the June 2018 FSC evaluation ("Downeast-Lakes-FSC-FM-Audit-18.pdf") and 2017 5-year FSC evaluation ("DLLT-FSC-FM-Reassess-Report-17.pdf") reports. |
| ESI Findings - Round 2 | The validation team reviewed the provided FSC audit reports for DLLT land in Grand Lake Stream, ME. These reports certify that 22,491 ha (55,576 ac) of DLLT land in Grand Lake Stream falls under FSC audit approval. These reports cover a period of time between October 2017 and October 2022, which includes this reporting period in its entirety. Since the project area falls near Grand Lake Stream and is under 55,576 ac (6,144 ac), the validation team is reasonably assured that the project is under FSC certification. The validation team checked the FSC certificates database, and noted that DLLT's FSC certificate is current from October 2017 until October 2022. This item is addressed. |

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| Number | 30 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | D7. ESTIMATION OF EMISSIONS DUE TO MARKET LEAKAGE |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Where project activities decrease total wood products produced by the project relative to the baseline by 25% or more over the Crediting Period, the market leakage deduction is 40%36. |



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| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | ACR_Calcs Wabassus rev5Apr2018.xlsx; |
| ESI Findings - Round 1 | The validation team reviewed the leakage determination within ACR_Calcs Wabassus rev5Apr2018.xlsx. It is unclear to the validation team why no HWP is reported for the project scenario, when the GHG Plan states that management will occur for openings to diversify habitat. |
| Round 1 NCR/CL/OFI | CL: Please clarify why no project scenario HWP was utilized in the leakage determination, while addressing the finding. |
| Round 1 Response from Project Proponent | Management openings envisioned in the project scenario are anticipated to produce insignificant commercial wood volumes, and for simplicity, the with project scenario is modeled as no (insignificant) harvest, i.e. zero. The result, in application to the leakage assessment, is unambiguously conservative. The GHG Plan has been revised to clarify. |
| ESI Findings - Round 2 | The GHG Plan was confirmed to have the additional language added to clarify the intent of management openings and their insignificance on leakage. This is sufficient to demonstrate that the leakage factor applied is inherently conservative. The item is addressed. |

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| Number | 31 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | D8. ESTIMATION OF WITH-PROJECT UNCERTAINTY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Uncertainties arising from the measurement and monitoring of carbon pools and the changes in carbon pools shall always be quantified. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | Wabassus inventory calcs and stats.xlsx; ACR_Calcs Wabassus rev5Apr2018.xlsx |



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| ESI Findings Round 1 | - | Uncertainty in the project case was reviewed by the validation team. The RS stratum was understood to be inventoried in a different fashion from other stratum, only tree counts were taken. Uncertainty calculations reflect the lack of carbon data for the RS stratum. It is not clear if it is appropriate to omit the RS stratum from uncertainty calculations. |
| Round NCR/CL/OFI | 1 | CL: Please address the findings and clarify omitting the RS stratum from carbon inventory and uncertainty calculations. |
| Round Response from Project Proponent | 1 | It is appropriate to omit the RS stratum from inventory statistics and uncertainty calculations, because the area was not sampled (for stocks), thus it is not part of the (initial) sample frame. |
| ESI Findings Round 2 | - | ESI agrees that stratum RS has no uncertainty due to lack of measurements and is therefore omissible from uncertainty calculations. The item is addressed |

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| Number | 32 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | E1. EX-ANTE ESTIMATION METHODS |
| American Carbon Registry Standard Version 5.0, February 2018 Description | These values must be based on: -Data from well-referenced peer-reviewed literature or other well-established published sources; or -National inventory data or default data from IPCC literature that has, whenever possible and necessary, been checked for consistency against available local data specific to the project circumstances; or -In the absence of the above sources of information, expert opinion may be used to assist with data selection. Experts will often provide a range of data, as well as a most probable value for the data. The rationale for selecting a particular data value must be briefly noted in the GHG plan. For any data provided by experts, the GHG Plan shall also record the expert's name, affiliation, and principal qualification as an expert– plus inclusion of a 1-page summary CV for each expert consulted, included in an annex. |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section E2, E6 |
| ESI Findings - Round 1 | The validation team reviewed the project case calculations but was unable to locate a description in the GHG Plan for project case assumptions. For instance, the prescriptions allocated within the project case NPV calculation worksheet. It is unclear which of these requirements the project-case is able to satisfy. |
| Round NCR/CL/OFI 1 | CL: Please describe in the GHG Plan project case ex-ante management scenarios as noted in the finding. |



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| Round Response from Project Proponent | 1 | Management openings envisioned in the project scenario are anticipated to be minimal, and for simplicity, the with project scenario is modeled as no (insignificant) harvest. The GHG Plan (Section E6) has been revised to clarify. |
| ESI Findings Round 2 | - | Section E6 of the GHG Plan was confirmed to have been adjusted to include appropriate language to describe project-case management intentions. The item is addressed. |

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| Number | 33 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | F3. CALCULATION OF TOTAL PROJECT UNCERTAINTY |
| American Carbon Registry Standard Version 5.0, February 2018 Description | See equation (19) in PDF |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | GHG Plan Section E6; ACR_Calcs Wabassus rev5Apr2018.xlsx |
| ESI Findings Round 1 | - The project has used UNC _{bsl} for this calculation. UNC _{p,t} is assumed to be equal to baseline uncertainty UNC _{bsl} , which is clarified in the GHG Plan ex ante section E6. However, the GHG Plan does not appear to describe assumptions for determination of the overall total project uncertainty. In the monitoring case for Equation 19, UNC _t will be computed using separate baseline and project uncertainties. |
| Round NCR/CL/OFI | 1 CL: Please describe assumptions for UNC _t in the GHG Plan. |
| Round Response from Project Proponent | 1 The GHG Plan (Section E4) has been updated to clarify assumptions for UNC _t going forward. Namely, that the calculation of total uncertainty, UNC _t , for future monitoring events, where remeasurement has taken place, will use separate baseline and project uncertainties. |
| ESI Findings Round 2 | - Section E4 of the GHG Plan now describes assumptions for separating UNC _{p,t} when re-measurement occurs. This is sufficient to satisfy the request. The item is addressed. |

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| Number | 34 |
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| American Carbon Registry Standard Version 5.0, February 2018 Section | Overarching FVS Modeling Finding |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Overarching FVS Modeling Finding |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | DLLT inventory data for FVS.xlsx; DLLT2017_Database.mdb; DLLT2017nomgt.key; spruce fir FRP.xlsx; DLLT2017.key; DLLT2017nomgt.xls; |



**ESI Findings -
Round 1**

The validation team reviewed the inputs for baseline modeling. First, inventory data transformation for FVS inputs was reviewed within the DLLT inventory data for FVS.xlsx file. The validation team reviewed the input of data from Wabassus inventory calcs and stats.xlsx. Two clarifications are requested pertaining to the DLLT inventory data for FVS.xlsx file. First, it is unclear from where the following five tree numbers were sourced: 80200, 610400, 790200, 790300, and 1500700. Second, the validation team could not locate the source of the assumption of 72.2% of stem volume in the bottom third and 27.8% of the stem volume in the middle third and why that stem volume allocation is different from the volume allocation described in the PD.

The validation team then reviewed the FVS input database (DLLT2017_Database.mdb). One clarification is requested for the DLLT2017_Database.mdb database. It is unclear to the validation team why the RS stratum is included within the baseline modeling if the stratum was not inventoried.

The validation team then reviewed the .key file for the let-grow scenario (DLLT2017nomgt.key). It was noted that some of the parameters within the "Plant & Natural Regeneration" keyword do not match those parameters as calculated within spruce fir FRP.xlsx.

The validation team ran the .key file for the let-grow scenario (DLLT2017nomgt.key) and compared outputs DLLT2017nomgt.xls. All outputs for the let-grow scenario were confirmed, pending precedents.

The validation team reviewed the .key file for the baseline NPV determination (DLLT2017.key). The validation team compared the .key file to the constraints and prescriptions as presented in the PD. A couple of clarifications are requested:

1. General:
 - a. Plots that fall into SMZs and plots that do not fall into SMZs are not distinguished in the modeling. It is unclear to the validation team how utilizing all plots for SMZ-specific runs and vice versa is conservative/accurate.
2. HE
 - a. It is unclear to the validation team why the thin from above harvests end at 2027.
 - b. The validation team could not locate the source of the regeneration assumptions utilized in the HE prescriptions.
3. AB
 - a. It is unclear why no harvests were modeled for the AB modeling units, when the PD states that a clearcut and an SMZ thinning was implemented.
4. NH
 - a. It is unclear to the validation team why both a thin from above and clearcut were evoked in 2020 for NH1

The validation team ran the baseline NPV determination .key file (DLLT2017.key). The validation team could not confirm the FVS run due to differences in version number and lack of the .out file.



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| <p>Round NCR/CL/OFI</p> | <p>1</p> <p>CL: Please clarify and/or provide the source of the listed tree numbers within the DLLT inventory data for FVS.xlsx file.</p> <p>CL: Please provide the source of the assumption of 72.2% of stem volume in the bottom third and 27.8% of the stem volume in the middle third.</p> <p>CL: Please clarify the inclusion of the RS stratum in baseline modeling, per the finding.</p> <p>CL: Please clarify why some of the parameters within the "Plant & Natural Regeneration" keyword do not match those parameters as calculated within spruce fir FRP.xlsx.</p> <p>CL: Please provide the .out file for the FVS baseline run for NPV determination (DLLT2017.key).</p> |
| <p>Round Response from Project Proponent</p> | <p>1</p> <p>See narrative response in "Wabassus round 1 narrative responses 27Jul.doc"</p> |
| <p>ESI Findings - Round 2</p> | <p>The validation team reviewed the listed tree numbers within the DLLT inventory data for FVS.xlsx file, while utilizing the information provided. The validation team confirmed those trees are double-count trees and confirmed their input into the FVS inputs. This item is addressed.</p> <p>The provided clarification regarding the assumptions of 72.2% of stem volume in the bottom third and 27.8% of the stem volume in the middle third in FVS projections is sufficient to close this item.</p> <p>The clarification regarding the RS stratum is sufficient to close this item. RS was included in FVS modeling so that seedling regeneration would occur to provide future estimates of carbon stocks. This is conservative when compared to leaving the RS stratum out of baseline modeling. This item is addressed.</p> <p>All FVS inputs have been confirmed in the DLLT2017_Database.mdb database.</p> <p>The "Plant & Natural Regeneration" keyword of DLLT2017nomgt.key displays a TPA of 12 for black cherry and a TPA of 12 for white pine. However, the TPAs for these two species were both calculated as 11 within spruce fir FRP.xlsx.</p> <p>The validation team reviewed the demonstration of SMZ vs. non-SMZ plots for the HE stratum. The validation team is reasonably assured that the use of all plots for the SMZ modeling within each stratum is acceptable. This item is addressed.</p> <p>The validation team reviewed the newly provided NPV .key file (DLLT2017NPV2.key). As this file was not provided at the initial document submittal, the validation team conducted a full review of the .key file. It was noted that the input database is the confirmed DLLT2017_Database.mdb and utilizes the correct cycle length for FVS-NE. It is appropriate to utilize Oct-Dec 2017 inventory data for a baseline start date of 01 January 2018, as it is unlikely that trees grow during the months of Oct-Dec in Maine. The validation team has a few clarification requests regarding DLLT2017NPV2.key:</p> <p>HE1 – It is unclear why the harvest is in 2018 (2019). It is also unclear why the regeneration is conditional when 30% of basal area has been removed, when the GHG Plan states "For the Hemlock stratum, following any cuts removing 50% basal area or more, we assume average 1,000 stems per acre eastern hemlock</p> |



regeneration”.

NWC – It is unclear why no regeneration is implemented in this modeling group.

PC1 – The "Plant & Natural Regeneration" keyword displays a TPA of 12 for black cherry and a TPA of 12 for white pine. However, the TPAs for these two species were both calculated as 11 within spruce fir FRP.xlsx.

PC2 – It is unclear why no regeneration is implemented in this modeling group. Also, it is unclear why the thin from above is conducted to 70% residual BAAC.

The validation team ran DLLT2016NPV2.key. However, due to differences in FVS versions, the validation team was unable to confirm outputs by comparing output tree lists. The validation team compared a subsample of stands in the .out file and confirmed a correct FVS run to a reasonable level of assurance. However, this is pending the above requests and findings.

The remaining FVS findings (final baseline runs, etc.) will be analyzed under a different tier, per the proposed new tiered review structure. Please see the "FVS_TierB" tab of this checklist.



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| Round NCR /CL/OFI | 2 <p>CL: Please clarify why some of the parameters within the "Plant & Natural Regeneration" keyword do not match those parameters as calculated within spruce fir FRP.xlsx. Specifically, please clarify why TPAs for BC and WP do not correlate between the two files.</p> <p>CL: Please clarify why the HE1 harvest is in 2018 (2019) instead of 2017 (2018) within DLLT2017NPV2.key.</p> <p>CL: Please clarify why the regeneration for the HE1 harvest is conditional when 30% of basal area has been removed within DLLT2017NPV2.key.</p> <p>CL: Please clarify why no regeneration is implemented in the NWC modeling group within DLLT2017NPV2.key.</p> <p>CL: Please clarify why some of the parameters within the "Plant & Natural Regeneration" keyword of DLLT2017NPV2.key do not match those parameters as calculated within spruce fir FRP.xlsx. Specifically, please clarify why TPAs for BC and WP do not correlate between the two files.</p> <p>CL: Please clarify why no regeneration is implemented in the PC2 modeling group of DLLT2017NPV2.key.</p> <p>CL: Please clarify why the thin from above in PC2 is conducted to 70% residual BAAC within DLLT2017NPV2.key when the GHG Plan states that the thin from above would be implemented to 60%.</p> |
| Round Response from Project Proponent | 2 <p>Detailed response provided in "Wabassus round 1 tier 2 narrative responses.doc"</p> |



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| <p>ESI Findings - Round 3</p> | <p>The validation team reviewed the response pertaining to the "Plant & Natural Regeneration" keyword in the NoMgt FVS run. The validation team agrees that the minor rounding difference in TPA is insignificant. Further, it is unlikely that the slight rounding difference will significantly affect the NPV analysis, as all harvesting options would be affected equivalently. Higher stocks in the baseline is conservative. This item is addressed.</p> <p>The validation team now understands the reason for implementing a thin in 2019. This item is addressed.</p> <p>It is still unclear to the validation team how triggering regeneration in the HE stratum when 30% of basal area has been removed in the NPV2 FVS run is in-line with the note in the GHG Plan ("For the Hemlock stratum, following any cuts removing 50% basal area or more, we assume average 1,000 stems per acre eastern hemlock regeneration (1-year old, 3' height) established; per communication from Brittany Mauricette, DLLT forester."). Please either revise the FVS run or the documentation to complement one another.</p> <p>The validation team is reasonably assured the no regeneration in the NWC modeling group thinning prescriptions is appropriate. This item is addressed.</p> <p>The validation team reviewed the response pertaining to the "Plant & Natural Regeneration" keyword. The validation team agrees that the minor rounding difference in TPA is insignificant. Further, it is unlikely that the slight rounding difference will significantly affect the NPV analysis, as all harvesting options would be affected equivalently. Higher stocks in the baseline is conservative. This item is addressed.</p> <p>The validation team is reasonably assured that the PC2 modeling group is not utilized, pending precedents.</p> <p>The GHG plan has been updated to now report that the PC stratum is thinned from above to 70% basal area in SMZ. This item is now addressed.</p> <p>This row is now pending findings elsewhere in the checklist regarding FVS.</p> |
| <p>Round 3 NCR /CL/OFI</p> | <p>CL: Please either revise the FVS runs or the GHG Plan to accurately report the HE stratum regeneration.</p> |
| <p>Round 3 Response from Project Proponent</p> | <p>Response provided in "Wabassus detailed responses 1Oct2018.docx"</p> <p>Response: The GHG Plan narrative now matches the FVS model run specifications – the referenced footnote now reads: "For the Hemlock stratum, following any cuts removing 30% basal area or more, we assume average 1,000 stems per acre eastern hemlock regeneration (1-year old, 3' height) established; per communication from Brittany Mauricette, DLLT forester.", and the text has been revised to further specify that the regeneration is only applied in the more intensive thin from above to 30 ft²/acre residual basal area outside the SMZ.</p> |
| <p>ESI Findings - Round 4</p> | <p>Language has been added to the GHG Plan detailing that regeneration is triggered in the HE stratum when 30% of basal area has been removed in the NPV2 FVS run. This item is addressed.</p> |

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| <p>Number</p> | <p>34.1</p> |
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| American Carbon Registry Standard Version 5.0, February 2018 Section | Overarching FVS Modeling Finding |
| American Carbon Registry Standard Version 5.0, February 2018 Description | Overarching FVS Modeling Finding |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents) | DLLT inventory data for FVS.xlsx; DLLT2017_Database.mdb; DLLT2017nomgt.key; spruce fir FRP.xlsx; DLLT2017.key; DLLT2017nomgt.xls; |



**ESI Findings -
Round 1**

The validation team reviewed the inputs for baseline modeling. First, inventory data transformation for FVS inputs was reviewed within the DLLT inventory data for FVS.xlsx file. The validation team reviewed the input of data from Wabassus inventory calcs and stats.xlsx. Two clarifications are requested pertaining to the DLLT inventory data for FVS.xlsx file. First, it is unclear from where the following five tree numbers were sourced: 80200, 610400, 790200, 790300, and 1500700. Second, the validation team could not locate the source of the assumption of 72.2% of stem volume in the bottom third and 27.8% of the stem volume in the middle third and why that stem volume allocation is different from the volume allocation described in the PD.

The validation team then reviewed the FVS input database (DLLT2017_Database.mdb). One clarification is requested for the DLLT2017_Database.mdb database. It is unclear to the validation team why the RS stratum is included within the baseline modeling if the stratum was not inventoried.

The validation team then reviewed the .key file for the let-grow scenario (DLLT2017nomgt.key). It was noted that some of the parameters within the "Plant & Natural Regeneration" keyword do not match those parameters as calculated within spruce fir FRP.xlsx.

The validation team ran the .key file for the let-grow scenario (DLLT2017nomgt.key) and compared outputs DLLT2017nomgt.xls. All outputs for the let-grow scenario were confirmed, pending precedents.

The validation team reviewed the .key file for the baseline NPV determination (DLLT2017.key). The validation team compared the .key file to the constraints and prescriptions as presented in the PD. A couple of clarifications are requested:

1. General:
 - a. Plots that fall into SMZs and plots that do not fall into SMZs are not distinguished in the modeling. It is unclear to the validation team how utilizing all plots for SMZ-specific runs and vice versa is conservative/accurate.
2. HE
 - a. It is unclear to the validation team why the thin from above harvests end at 2027.
 - b. The validation team could not locate the source of the regeneration assumptions utilized in the HE prescriptions.
3. AB
 - a. It is unclear why no harvests were modeled for the AB modeling units, when the PD states that a clearcut and an SMZ thinning was implemented.
4. NH
 - a. It is unclear to the validation team why both a thin from above and clearcut were evoked in 2020 for NH1

The validation team ran the baseline NPV determination .key file (DLLT2017.key). The validation team could not confirm the FVS run due to differences in version number and lack of the .out file.



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| <p>Round 1 NCR/CL/OFI</p> | <p>CL: Please clarify and/or provide the source of the listed tree numbers within the DLLT inventory data for FVS.xlsx file.</p> <p>CL: Please provide the source of the assumption of 72.2% of stem volume in the bottom third and 27.8% of the stem volume in the middle third.</p> <p>CL: Please clarify the inclusion of the RS stratum in baseline modeling, per the finding.</p> <p>CL: Please clarify why some of the parameters within the "Plant & Natural Regeneration" keyword do not match those parameters as calculated within spruce fir FRP.xlsx.</p> <p>CL: Please provide the .out file for the FVS baseline run for NPV determination (DLLT2017.key).</p> |
| <p>Round 1 Response from Project Proponent</p> | <p>See narrative response in "Wabassus round 1 narrative responses 27Jul.doc"</p> |
| <p>ESI Findings - Round 2</p> | <p>1. Validation team confirms that 5 walkthrough trees were duplicated within the FVS input tree list, this is reasonable. This item is addressed.</p> <p>2. Defect conversion to merchantable portion was found to be reasonable and correct. This item is addressed.</p> <p>3. The spruce-fir stratum was confirmed added to the baseline for planting and natural regeneration. This is reasonable. This item is addressed.</p> <p>4. The validation team agrees that the minor rounding difference in TPA is insignificant. Further, it is unlikely that the slight rounding difference will significantly affect the NPV analysis, as all harvesting options would be affected equivalently. Higher stocks in the baseline is conservative. This item is addressed.</p> <p>The validation team reviewed DLLT2017BSLrev.key file, It was noted that the "RS" stratum parameters within the "Plant & Natural Regeneration" keyword slightly differ from those parameters as calculated within spruce fir FRP.xlsx, for species black cherry and white pine. However, they are reasonable.</p> <p>The validation team is fine with SMZs not delineated as separate stratum as they inherently receive prescriptions in line with BMP requirements (assessed elsewhere). Further, SMZ plots do not exhibit a significant difference in stocking from non-SMZ plots therefore all plots are fine to run for SMZ modeling.</p> <p>Thin from above harvests in the HE stratum end in FVS year 2027 as a result of hemlock regional demand as explained in the response. It is reasonable to expect annual cutting not to exceed regional demand, validation finds 10% to be acceptable.</p> <p>AB stratum prescriptions are listed in the GHG Plan but these stands are not cut in the 20 year crediting period.</p> <p>The three cases for NH stratum allow for different prescriptions to be applied and this is reasonable.</p> <p>The validation team reviewed the baseline FVS run (DLLT2017BSLrev.key) and compared the .out files between the validation team's run and the project's run. A</p> |



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| | subsample of stands were checked. The validation team is reasonably assured that the baseline run in DLLT2017BSLrev.key is appropriate. This item is addressed. This row is pending all precedents. |
| Round 2 NCR /CL/OFI | |
| Round 2 Response from Project Proponent | |
| ESI Findings - Round 3 | This item is addressed. |

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| Number | 35 |
| American Carbon Registry Standard Version 5.0, February 2018 Section | |
| American Carbon Registry Standard Version 5.0, February 2018 Description | F - Disease and Pests |
| Applicability to the Project (Y or N/A) | Y |
| Requirement Met (Y, N, Pending) | Y |
| Evidence Used to Assess (Location in PD, MR or Supporting Documents | GHG Plan (Section B8) |
| ESI Findings - Round 1 | The project has taken the 4% default value. Validation team agrees that the hemlock woolly adelgid is an epidemic infestation in Maine however the most recent data (http://www.maine.gov/dacf/mfs/forest_health/documents/hemlock_woolly_adelgid_detections_map.pdf) provided by proponents was dated to 2016. The ACR risk tool states "This evidence must be current at the time of verification." The validation team understands that evidence of this natural disaster pest risk should be current for the validation. |
| Round 1 NCR/CL/OFI | CL: Please clarify whether more updated data is available on hemlock woolly adelgid detection locations, providing evidence as able. |



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| Round Response from Project Proponent | 1 | We inquired with Allison Kanoti, acting state entomologist, and Colleen Teerling, forest entomologist, with the state of Maine and confirmed that no new pertinent information has been publicly released in the intervening 13 months since the referenced Nov 2016 hemlock wooly adelgid detections map (http://www.maine.gov/dacf/mfs/forest_health/documents/hemlock_woolly_adelgid_detections_map.pdf) and the January 2018 project start date. |
| ESI Findings Round 2 | - | The validation team agrees that the HWA materials provided are sufficient to substantiate the score for this criteria. No further action is needed. The item is addressed. |



Appendix B – List of Documents Received

Documents received 17 April 2018 (ACR website)

- Wabassus Improved Forest Management Project.docx
- Wabassus ACR GHG Project Plan Eligibility Screening 04162018_qbo.xlsx

Documents received 27 April 2018

- Wabassus Project GHG Plan Mar 2018 rev5Apr2018 (3).docx
- ACR_Calcs Wabassus rev5Apr2018.xlsx
- 2017 Inventory
 - Wabassus SOPs 18Oct2017 FINAL.docx
 - spruce fir FRP.xlsx
 - Wabassus inventory calcs and stats.xlsx
- Additionality
 - Additionality\Wabassus common practice.xlsx
 - NPV Wabassus additionality.xlsx
- FVS
 - wp live tree proj rev5Apr2018.xlsx
 - bsl hwp proj.xlsx
 - bsl live tree proj rev5Apr2018.xlsx
 - bsl snag proj rev5Apr2018.xlsx
 - DLLT inventory data for FVS.xlsx
 - DLLT2017_Database.mdb
 - DLLT2017BSL.key
 - DLLT2017BSL.xls
 - DLLT2017nomgt.key
 - DLLT2017nomgt.xls
 - Wabassus_SiteIndex_2.14.18.xlsx
- GIS
 - Inholdings
 - Wabassus_camplots.shp
 - Wabassus_camplots.shx
 - inholdings_clip.dbf
 - inholdings_clip.prj
 - inholdings_clip.sbn
 - inholdings_clip.sbx
 - inholdings_clip.shp
 - inholdings_clip.shp.xml
 - inholdings_clip.shx
 - Wabassus_camplots.cpg
 - Wabassus_camplots.dbf
 - Wabassus_camplots.prj
 - Project Boundary
 - Discounts
 - Wetlands_NWI.shx



- NFWetlands_NWI.cpg
- NFWetlands_NWI.dbf
- NFWetlands_NWI.prj
- NFWetlands_NWI.sbn
- NFWetlands_NWI.sbx
- NFWetlands_NWI.shp
- NFWetlands_NWI.shp.xml
- NFWetlands_NWI.shx
- Streams.cpg
- Streams.dbf
- Streams.prj
- Streams.sbn
- Streams.sbx
- Streams.shp
- Streams.shp.xml
- Streams.shx
- Streams_75ft.cpg
- Streams_75ft.dbf
- Streams_75ft.prj
- Streams_75ft.sbn
- Streams_75ft.sbx
- Streams_75ft.shp
- Streams_75ft.shp.xml
- Streams_75ft.shx
- Streams_250ft.cpg
- Streams_250ft.dbf
- Streams_250ft.prj
- Streams_250ft.sbn
- Streams_250ft.sbx
- Streams_250ft.shp
- Streams_250ft.shp.xml
- Streams_250ft.shx
- StreamsandWaterBodies_250ft.cpg
- StreamsandWaterBodies_250ft.dbf
- StreamsandWaterBodies_250ft.prj
- StreamsandWaterBodies_250ft.sbn
- StreamsandWaterBodies_250ft.sbx
- StreamsandWaterBodies_250ft.shp
- StreamsandWaterBodies_250ft.shp.xml
- StreamsandWaterBodies_250ft.shx
- WaterBodies.cpg
- WaterBodies.dbf
- WaterBodies.prj
- WaterBodies.sbn



- WaterBodies.sbx
- WaterBodies.shp
- WaterBodies.shp.xml
- WaterBodies.shx
- WaterBodies_75ft.cpg
- WaterBodies_75ft.dbf
- WaterBodies_75ft.prj
- WaterBodies_75ft.sbn
- WaterBodies_75ft.sbx
- WaterBodies_75ft.shp
- WaterBodies_75ft.shp.xml
- WaterBodies_75ft.shx
- WaterBodies_250ft.cpg
- WaterBodies_250ft.dbf
- WaterBodies_250ft.prj
- WaterBodies_250ft.sbn
- WaterBodies_250ft.sbx
- WaterBodies_250ft.shp
- WaterBodies_250ft.shp.xml
- WaterBodies_250ft.shx
- Wetlands_NWI.cpg
- Wetlands_NWI.dbf
- Wetlands_NWI.prj
- Wetlands_NWI.sbn
- Wetlands_NWI.sbx
- Wetlands_NWI.shp
- Wetlands_NWI.shp.xml
- Work
 - draftPA7.shx
 - draftPA1.cpg
 - draftPA1.dbf
 - draftPA1.prj
 - draftPA1.sbn
 - draftPA1.sbx
 - draftPA1.shp
 - draftPA1.shp.xml
 - draftPA1.shx
 - draftPA2.cpg
 - draftPA2.dbf
 - draftPA2.prj
 - draftPA2.sbn
 - draftPA2.sbx
 - draftPA2.shp
 - draftPA2.shp.xml



- draftPA2.shx
- draftPA3.cpg
- draftPA3.dbf
- draftPA3.prj
- draftPA3.sbn
- draftPA3.sbx
- draftPA3.shp
- draftPA3.shp.xml
- draftPA3.shx
- draftPA4.cpg
- draftPA4.dbf
- draftPA4.prj
- draftPA4.sbn
- draftPA4.sbx
- draftPA4.shp
- draftPA4.shp.xml
- draftPA4.shx
- draftPA5.cpg
- draftPA5.dbf
- draftPA5.prj
- draftPA5.sbn
- draftPA5.sbx
- draftPA5.shp
- draftPA5.shp.xml
- draftPA5.shx
- draftPA6.cpg
- draftPA6.dbf
- draftPA6.prj
- draftPA6.sbn
- draftPA6.sbx
- draftPA6.shp
- draftPA6.shp.xml
- draftPA6.shx
- draftPA7.cpg
- draftPA7.dbf
- draftPA7.prj
- draftPA7.sbn
- draftPA7.sbx
- draftPA7.shp
- draftPA7.shp.xml
- Strata Boundaries.lyr
- WabassusProject_2017.09.05.cpg
- WabassusProject_2017.09.05.dbf
- WabassusProject_2017.09.05.prj
- WabassusProject_2017.09.05.sbn



- WabassusProject_2017.09.05.sbx
- WabassusProject_2017.09.05.shp
- WabassusProject_2017.09.05.shp.xml
- WabassusProject_2017.09.05.shx
- WabassusProject_2017.09.06.cpg
- WabassusProject_2017.09.06.dbf
- WabassusProject_2017.09.06.prj
- WabassusProject_2017.09.06.sbn
- WabassusProject_2017.09.06.sbx
- WabassusProject_2017.09.06.shp
- WabassusProject_2017.09.06.shp.xml
- WabassusProject_2017.09.06.shx
- Project_Strata_excl_Inholdings.xlsx
- WabassusInventory_2017.09.05.cpg
- WabassusInventory_2017.09.05.dbf
- WabassusInventory_2017.09.05.prj
- WabassusInventory_2017.09.05.sbn
- WabassusInventory_2017.09.05.sbx
- WabassusInventory_2017.09.05.shp
- WabassusInventory_2017.09.05.shp.xml
- WabassusInventory_2017.09.05.shx
- NPV
 - NPV Wabassus.xlsx
 - 2016 Stumpage Price Report.pdf
 - DLLT2017nomgt.xls
 - DLLT2017NPV2.xls

Documents received 09 May 2018

- WabassusFinalSamplingPlanESI_EX.pdf

Documents received 06 June 2018

- DLLT Board Action RE Wabassus Carbon Project 12.2017.pdf

Documents received 27 July 2018

- FVS
 - DLLT2017BSL.key
 - DLLT2017BSL.xls
 - DLLT2017nomgt.key
 - DLLT2017nomgt.xls
 - DLLT2017NPV2.key
 - DLLT2017NPV2.xls
- inholdings GIS
 - Inholdings_726.shp
 - Inholdings_726.PNG
- Plisga and Day survey
 - 20090416
 - FINAL POINTS.shp



- Wabassus Survey Map original 12.08.pdf
- Wabassus_20090209
 - Boundaries.shp
- revised project area GIS
 - ProjectArea_72618_noinholdings.shp
- SMZ GIS
 - ProjectArea_72618_noinholdings_buffers.shp
- 08 Quitclaim Deed.pdf
- 2017 Real Property Tax T42 T43.pdf
- 18007_Wabassus_ACR_Validation_Round1_Responses 27Jul.xlsx
- ACR Attestation - Wabassus DLLT IFM.pdf
- DLLT-FSC-FM-Reassess-Report-17.pdf
- Downeast-Lakes-FSC-FM-Audit-18.pdf
- Wabassus Carbon Credit Board Resolution Secretary Cert.pdf
- Wabassus CE Final 8.14.09 with exhibits.pdf
- Wabassus round 1 narrative responses 27Jul.docx
- Wabassus SMZ comparison.xlsx
- Wabassus_ProjectArea_7262018.xlsx
- Wabassus_SiteIndex.xlsx
- Wabassus+Addendum+6-10-10+[1] from ARCHIVES.pdf

Documents received 09 August 2018

- DLLT2017BSL.out
- DLLT2017nomgt.out
- DLLT2017NPV2.out

Documents received 24 August 2018

- Wabassus round 1 tier 2 narrative responses.docx
- Wabassus round 2 24Aug2018
 - wp live tree proj revAug2018.xlsx
 - FVS
 - DLLT2017NPV3.out
 - DLLT2017BSLrev.key
 - DLLT2017BSLrev.out
 - DLLT2017BSLrev.xls
 - DLLT2017NPV3.key
 - 18007_Wabassus_ACR_Validation_Round2_Findings_Tier1_20180817.xlsx
 - ACR_Calcs Wabassus revAug2018.xlsx
 - bsl hwp proj revAug2018.xlsx
 - bsl live tree proj revAug2018.xlsx
 - bsl snag proj revAug2018.xlsx
 - LUPCZones Wabassus.pdf
 - NPV Wabassus additionality revAug2018.xlsx
 - NPV Wabassus revAug2018.xlsx
 - Secretary Certificate Climate Trust resolution.pdf
 - Wabassus - Env Impact - FSC.docx



- Wabassus inventory calcs and stats AGS.xlsx
- Wabassus inventory calcs and stats revAug2018.xlsx
- Wabassus Project GHG Plan revJul2018.docx
- Wabassus round 1 tier 2 narrative responses.docx
- Wabassus_NewBufferAreas.xlsx
- 18007_Wabassus_ACR_Validation_Round2_Findings_Tier1_20180817.xlsx

Documents received 27 August 2018

- wp live tree proj revAug2018.xlsx
- FVS
 - DLLT2017NPV3.xls
 - DLLT2017BSLrev.key
 - DLLT2017BSLrev.out
 - DLLT2017BSLrev.xls
 - DLLT2017NPV3.key
 - DLLT2017NPV3.out
- GIS
 - ProjectArea_New_Buffers
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.shx
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.cpg
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.dbf
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.prj
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.sbn
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.sbx
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.shp
 - Wabassus_ProjectArea_updatedbuffers_8_1_2018.shp.xml
- 18007_Wabassus_ACR_Validation_Round2_Findings_Tier1_20180817.xlsx
- ACR_Calcs Wabassus revAug2018.xlsx
- bsl hwp proj revAug2018.xlsx
- bsl live tree proj revAug2018.xlsx
- bsl snag proj revAug2018.xlsx
- LUPCZones Wabassus.pdf
- NPV Wabassus additionality revAug2018.xlsx
- NPV Wabassus revAug2018.xlsx
- Secretary Certificate Climate Trust resolution.pdf
- Wabassus - Env Impact - FSC.docx
- Wabassus inventory calcs and stats AGS.xlsx
- Wabassus inventory calcs and stats revAug2018.xlsx
- Wabassus Project GHG Plan revJul2018.docx
- Wabassus round 1 tier 2 narrative responses.docx
- Wabassus_NewBufferAreas.xlsx

Documents received 01 October 2018

- 18007_Wabassus_ACR_Validation_Round3_Findings_Tier1_Round1_Tier2_20180926 responses.xlsx
- ACR_Calcs Wabassus revOct2018.xlsx



- NPV Wabassus revOct2018.xlsx
- Wabassus - Env Impact Assessment.docx
- Wabassus detailed responses 1Oct2018.docx
- Wabassus Project GHG Plan revOct2018.docx

Documents received 02 October 2018

- Wabassus - Env Impact Assessment.docx

Documents received 03 October 2018

- 3October2018
 - ACR_Calcs Wabassus rev3Oct2018.xlsx
 - bsl hwp proj revOct2018.xlsx
 - bsl live tree proj revOct2018.xlsx
 - bsl snag proj revOct2018.xlsx
 - NPV Wabassus additionality revOct2018.xlsx
 - Wabassus Project GHG Plan rev3Oct2018.docx

Documents Received 08 October 2018

- Wabassus Project GHG Plan rev8Oct2018.docx