VM00XX METHODOLOGY FOR IMPROVED FOREST MANAGEMENT THROUGH REDUCED IMPACT LOGGING (RIL-C)

Document Prepared by TerraCarbon LLC and The Nature Conservancy, and developed in partnership with the Tropical Forest Foundation

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Prepared By	TerraCarbon LLC and The Nature Conservancy
Contact	Bronson W. Griscom, The Nature Conservancy email: bgriscom@tnc.org tel: 540 908 9040)
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Relationship to Approved or Pending Methodologies

As of the date of submission, no approved or pending methodology under the VCS Program, or any other approved GHG program, is available accounting emission reductions from Reduced Impact Logging as a project activity.

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1 SOURCES

This methodology must be used with a region-specific performance method. The list of approved performance methods can be found on the VCS website.

2 SUMMARY DESCRIPTION OF THE METHODOLOGY

Additionality and Crediting Method	
Additionality	Performance Method
Crediting Baseline	Performance Method

The project activity constitutes the implementation of one or more reduced impact logging practices to reduce carbon emissions (hereafter termed RIL-C practices) in one or more of three GHG emission source categories: timber felling, skidding and hauling. RIL-C practices may entail a range of improved logging and harvest planning practices, including, but not limited to, directional felling, improved log bucking (to permit greater recovery), improved harvest planning via pre-harvest inventory, skid trail planning and/or monocable winching, and reduction in width of haul roads and size of log landings.

The effectiveness of RIL-C practices, and accounting of emission reductions attributable to those practices, is assessed on the basis of their impacts post-harvest. Emission reductions are accounted for by applying a performance method approach, whereby an emission reductions (net of baseline and project emissions) are assigned as a function of the difference in measured impact (proxy) parameter between the project and a set crediting benchmark for each emission source category (felling, skidding and hauling).

To ensure credible application of emission reductions, the impact parameters applied are quantitative and outcome-based, rather than process-based criteria that are typically limited to demonstrating that the practice is in place (but may provide no information on how successful the implementation of the practice is). Further, emission reductions are estimated as a continuous function with the (proxy) impact parameter values with which they correspond, providing better resolution of outcomes than a flat default factor. It has been ensured that emissions reductions achieved based on one impact parameter are not reversed by excessive emissions with respect to another impact parameter by requiring that all impact parameters must be at or below the crediting benchmark in order for credits to be generated based on any one impact parameter.

Accounting is further simplified by incorporating the assumption that leakage equals zero and the wood products pool can be excluded because the methodology requires that there is no reduction in harvest levels.

Accounting is focused on emissions at the time of harvest from operations including felling, skidding and hauling, and delayed emissions from belowground biomass. Any net sequestration from comparatively improved growth post-RIL-C harvest is conservatively ignored.

Accounting of emissions reductions begins on the project start date and is accounted on all harvests through the project crediting period. Application of the methodology requires no ex-ante estimation.

Methodology structure: This document is the framework for the methodology and outlines core accounting procedures. Key parameters (additionality benchmarks, crediting benchmarks, impact parameters and emission reduction equations) and monitoring procedures are provided in corresponding geographic-specific RIL-C performance method.

3 DEFINITIONS

In addition to the definitions set out in VCS document *Program Definitions*, the following definitions apply to this methodology:

Additionality Benchmark
The level of a given impact parameter below which a project is deemed additional, specified in terms of impact parameter values which represent a certain base level of performance among logging operations within a sampled logging landscape. This threshold should be conservative and strike a balance between restriction of freeloaders and feasibility of participation. This threshold may be different from (ie, lower than) the crediting benchmark. Thus, while a project must be below the additionality benchmark in order to receive any emissions reductions credits, once below the additionality benchmark, the amount of credits generated is measured using the crediting benchmark.

Crediting Benchmark
The level of a given impact parameter below which emissions reductions may be credited, specified in terms of impact parameter values which represent a certain base level of performance among logging operations within a sampled logging landscape. The corresponding baseline scenario is represented by logging operations in aggregate from the logging landscape operating at this specified level of performance.

Impact Parameter
Quantitative parameters based on field measurements to define both crediting benchmarks and additionality benchmarks. Each impact parameter has an established empirical relationship with emissions levels, and is thus used as a proxy for emissions that can be readily measured in the field.

Logging Landscape
The geography, class of actors/sector, major logging system (eg, selective harvest) and timeframe within which the benchmark values and impact parameter relationships (with emission reductions) are applicable, and which is defined in the corresponding region-specific RIL-C performance method.

Reduced Impact Logging (RIL-C)
Measures that reduce emissions from timber harvest in one or more of three emission source categories: felling, skidding and hauling. Component practices may include, but are not limited to,

directional felling, improved log bucking, improved harvest planning via pre-harvest inventory, skid trail planning, mapping, and oversight and/or long cable winching, and reduction in width of haul roads and size of log landings. Note that some practices may apply to more than one emission category (directional felling, for example, can serve to align logs with the planned skidding network, reducing skidding damage, and reduce damage to the felled log, improving roundwood recovery). RIL-C does not involve a deliberate reduction in harvest levels.

4 APPLICABILITY CONDITIONS

4.1 Project-Specific Applicability Conditions

This methodology applies to project activities that implement RIL-C practices in forests.

Projects applying this methodology must meet the following applicability conditions:

1. The project activity does not involve a deliberate reduction in harvest levels.
2. The project activity and the baseline scenario do not involve conversion of forest to a non-forest land use/land cover (ie, both represent forests remaining as forests, *sensu* IPCC GL 2006).
3. RIL-C practices implemented as part of the project activity will not modify baselined levels of impact on pre-existing dead wood stocks through slash management, salvage harvesting or other planned removal of dead wood.
4. The project proponent must hold legal authorization, for all logging activities referenced in the project, from the relevant government authority through the crediting period.
5. The project area must be located in a logging landscape developed for a corresponding region-specific RIL-C performance method. It must be demonstrated with GIS analysis that the entire project area is contained within the applicable logging landscape.
6. The entire project area meets the definition of forest, either host country-specific UNFCCC or FAO definition.

4.2 New Region-Specific Performance Method Applicability Conditions

Similar benchmarks may be developed for other geographies, and may be documented and validated through incorporation of additional performance method. General requirements for applicable crediting/additionality benchmarks and proxy emission reduction relationships are:

1. The performance method must conform to all relevant VCS requirements[1] for performance methods.
2. The performance method must clearly specify the logging landscape, and timeframe within which the values/relationships are applicable (ie, the sample population[2]). The

[1]

[2] Note that conservative bias is allowed in sampling (ie, skewed toward logging operations allowing access to researchers).

logging landscape must be defined by broad parameters of consistent forest structure and composition, for example the WWF Forested Ecoregions (Olson *et al.* 2001).

3. The performance method must define additionality and crediting benchmarks in terms of impact parameters. Impact parameters must cover the following three sources of logging emissions: felling, skidding and hauling. One or more impact parameters may be identified for each of the three emissions source categories (felling, skidding, hauling). When more than one impact parameter is identified for an emissions source category, they must be measures of distinct (non-overlapping) components of that emissions source category.
4. The performance method must relate emission reductions to impact parameters and quantify and discount uncertainty in the dependent variable (emission reductions). Emission reductions are calculated from (base) emissions associated with the crediting benchmark value. Relationships between impact parameters and emission reductions must be developed for above and belowground tree biomass for each emission category (logging, felling and hauling) and expressed in units of t CO_2/ha (aboveground tree biomass) and t CO_2/ha/year (belowground tree biomass, fully decomposing in 10 years at a constant rate).
5. The performance method must specify monitoring procedures for all defined impact parameters.

An example of the derivation of applicable benchmarks and proxy relationships is provided in the *VMD00XX Performance Method for Reduced Impact Logging (RIL-C) in East Kalimantan*.

5 PROJECT BOUNDARY

Geographic boundary

The project area is defined as the area over which the project proponent holds legal authorization from the relevant government authority to conduct timber harvest over the length of the project crediting period. The area in its entirety must meet the definition of forest (see Section 4 for definition of forest).

The boundary of the project area will be clearly delineated and documented with digital maps in the format specified by the VCS.

Temporal boundary

The temporal boundary of the project is set from the project start date, marking the initial harvest on which RIL-C practices are implemented, and the end of the project crediting period. Accounting of emissions reductions starts on the project start date and they are accounted for on all harvests through the project crediting period. No *ex-ante* projections are necessary at project validation.

Pools and Sources

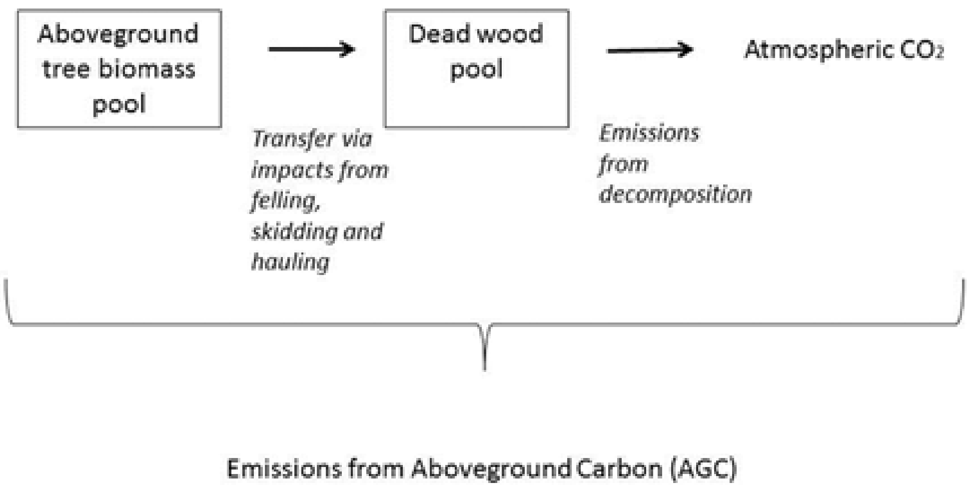
Table 1 below discusses the carbon pools included in the project boundary. Pools included in the project boundary are restricted to above- and below-ground tree biomass. Table 2 below discusses the emissions sources that are included in the project boundary. Emissions from fossil fuel combustion are conservatively excluded. Note thus that there are no optional pools, and that the included pools/sources (above- and below-ground tree biomass) are accounted in both the baseline and with-project cases.

Table 1: GHG Pools Including In or Excluded from the Project Boundary

Carbon pools	Included in the project and baseline scenarios?	Justification/Explanation
Aboveground tree biomass (included in aboveground carbon, AGC)	Yes	Must be included – represents a significant pool affected by the project activity
Aboveground non-tree biomass	No	Conservatively excluded – this pool is expected to increase relative to the baseline as a result of the project activity (from reduced skidding damage)
Belowground biomass	Yes	Must be included – represents a significant pool affected by the project activity
Dead wood (included in aboveground carbon, AGC)	Yes	Standing and lying dead wood produced by harvest are included. Changes in stocks of pre-existing dead wood are conservatively ignored (further explained below).
Harvested wood products	No	The applicability condition “The project activity involves no change in harvest levels from the baseline practice” allows for exclusion of the wood products pool because there is no difference in harvest levels between baseline and project scenarios.
Litter	No	No significant change is expected in this pool as a result of the project activity
Soil	No	No significant change is expected in this pool as a result of the project activity

Aboveground carbon stocks include both live and dead (standing and lying) pools. Emission reductions calculated for the aboveground carbon pool, represent transfer of biomass carbon from live trees to dead wood followed by steady emissions via decomposition, without explicitly breaking out the accounting of these elements, as described in Figure 1.

Figure 1: Schematic of Pools and Fluxes Incorporated in Aboveground Carbon (AGC) Emissions.



Emissions from the dead wood included in accounting is from dead wood produced during harvest (ie, slash and new standing dead wood from harvest and collateral damage). The methodology conservatively does not account for changes in pre-existing standing and lying dead wood after harvest; these stocks would be expected to be greater in the with-project case post-harvest due to less impact from RIL-C practices; the applicability condition that RIL-C practices implemented as part of the project activity do not include slash management, salvage harvesting or other planned removal of dead wood, further assures this assumption.

Table 2: GHG Sources Included In or Excluded From the Project Boundary

Source		Gas	Included?	Justification/Explanation
Baseline	Fossil fuel emissions	CO_2	No	Conservatively excluded - project activity is expected to result in lower emissions (from more efficient use of skidders) from use of machinery
		CH_4	No	Conservatively excluded - project activity is expected to result in lower emissions (from more efficient use of skidders) from use of machinery
		N_2O	No	Conservatively excluded - project activity is expected to result in lower emissions (from more efficient use of skidders) from use of machinery
Project	Fossil fuel emissions	CO_2	No	See above
		CH_4	No	See above
		N_2O	No	See above

6 BASELINE SCENARIO

The baseline scenario is established by the applicable region-specific RIL-C performance method, and represents logging operations in aggregate, operating at a specified level of performance, from the referenced logging landscape. The baseline scenario is quantified in terms of region-specific crediting benchmarks set for each impact parameter (ie, proxy factor) by the applicable region-specific RIL-C performance method.

7 ADDITIONALITY

This methodology uses a performance method for the demonstration of additionality.

Step 1: Regulatory Surplus

The project proponent must demonstrate regulatory surplus in accordance with the rules and requirements regarding regulatory surplus set out in the latest version of the *VCS Standard*.

Step 2: Performance Benchmark

Projects must exceed the region-specific performance benchmark for each impact parameter (ie, proxy factor), as provided in the applicable RIL-C performance method. One or more impact parameters are defined for each of three categories: felling impacts, skidding impacts, and hauling impacts (includes log landings).

The project can only be credited emissions reductions for one or more impact parameters if they are deemed additional. A project is deemed additional for one or more impact parameter if that impact parameter is below the additionality benchmark assigned for that impact parameter. The project may only be credited emission reductions if all impact parameters are at or below their respective crediting benchmarks.

8 QUANTIFICATION OF GHG EMISSION REDUCTIONS

8.1 Baseline Emissions

See below.

8.2 Project Emissions

Baseline and project emissions are addressed simultaneously, whereby an emissions reduction value (in units of tonnes CO_2 reduced, ie, net of baseline and project emissions) is assigned as a function of the difference between the impact parameter (proxy variable) in the project and in the crediting benchmark for each emission source category (felling, skidding and hauling). Assigned emissions reductions, expressed on a per hectare basis, are then summed for the three emission source categories, and multiplied by the number of hectares in the harvest area in year *t*.

Step 1: Determine Harvest Area

The harvest area in year *t* should be delineated on the basis of paper maps or GIS files specifying the authorized harvest area in year t. From this area, delineate and exclude any un-stocked areas or areas where timber harvest and skidding would not be feasible (eg, due to geographic features). The resulting area is specified in hectares to produce parameter A_t.

Step 2: Calculate Emission Reductions Based on Measured Impact Parameters

Calculate emission reductions for each emission source category based on measured impact parameters. Each equation below calculates emission reductions in t CO_2/ha (the dependent variable) as a function of (ie, f_{AGC}) a specific impact parameter (the independent variable). Functions and corresponding units are provided in the applicable region-specific RIL-C performance method.

$$ER_{fell\_AGC,t} = f_{AGC}\ (FELL_t) \quad (1)$$
$$ER_{skid\_AGC,t} = f_{AGC}\ (SKID_t) \quad (2)$$
$$ER_{haul\_AGC,t} = f_{AGC}\ (HAUL_t) \quad (3)$$
$$ER_{fell\_BGB,t} = f_{BGB}\ (FELL_t) \quad (4)$$
$$ER_{skid\_BGB,t} = f_{BGB}\ (SKID_t) \quad (5)$$
$$ER_{haul\_BGB,t} = f_{BGB}\ (HAUL_t) \quad (6)$$

Where:

$FELL_t$	Felling impact parameter measured in year *t* (unit specified in performance method)
$SKID_t$	Skidding impact parameter measured in year *t* (unit specified in performance method)
$HAUL_t$	Hauling impacts measured in year *t* (unit specified in performance method)
$ER_{fell\_AGC,t}$	Emission reductions from aboveground carbon related to felling in year *t* (t CO_2/ha)
$ER_{skid\_AGC,t}$	Emission reductions from aboveground carbon related to skidding in year *t* (t CO_2/ha)
$ER_{haul\_AGC,t}$	Emission reductions from aboveground carbon related to hauling in year *t* (t CO_2/ha)
$ER_{fell\_BGB,t}$	Emission reductions from belowground biomass related to felling in year *t* (t CO_2/ha/year)
$ER_{skid\_BGB,t}$	Emission reductions from belowground biomass related to skidding in year *t* (t CO_2/ha/year)
$ER_{haul\_BGB,t}$	Emission reductions from belowground biomass related to hauling in year *t* (t CO_2/ha/year)
t	1, 2, 3, …*t* time elapsed since the start of project activity (years)

Step 3: Sum Emission Reductions

Sum all emission reductions to determine the combined emission reductions from above- and belowground biomass.

For any time *t,* if any impact parameter is at or above the crediting benchmark for that year, parameters $RILC_{,AGC,t}$ and $RILC_{,BGB,t}$ are set to zero.

$$\mathrm{RILC}_{\mathrm{AGC,t}} = \mathrm{ERF}_{\mathrm{fell\_AGC,t}} + \mathrm{EF}_{\mathrm{skid\_AGC,t}} + \mathrm{EF}_{\mathrm{haul\_AGC,t}} \quad (7)$$

$$\mathrm{RILC}_{\mathrm{BGB,t}} = \mathrm{EF}_{\mathrm{fell\_BGB,t}} + \mathrm{EF}_{\mathrm{skid\_BGB,t}} + \mathrm{EF}_{\mathrm{haul\_BGB,t}} \quad (8)$$

If ER_{Fellt} and/or ER_{Skidt} and/or ER_{Hault} < 0 then $RILC_{AGCt}$ = 0 and $RILC_{BGBt}$ = 0.

Where:

$RILC_{,AGC,t}$	Combined emission reductions from aboveground carbon from RIL-C in year *t* (t CO_2/ha)
$RILC_{,BGB,t}$	Combined emission reductions from belowground biomass from RIL-C in year *t* (t CO_2/ha)
$ER_{fell\_AGC,t}$	Savings factor for emissions from aboveground carbon related to felling in year *t* (t CO_2/ha)
$ER_{skid\_AGC,t}$	Emissions reductions from aboveground carbon related to skidding in year *t* (t CO_2/ha)
$ER_{haul\_AGC,t}$	Emissions reductions from aboveground carbon related to hauling in year *t* (t CO_2/ha)
$ER_{fell\_BGB,t}$	Emissions reductions from belowground biomass related to felling in year *t* (t CO_2/ha/year)
$ER_{skid\_BGB,t}$	Emissions reductions from belowground biomass related to skidding in year *t* (t CO_2/ha/year)
$ER_{haul\_BGB,t}$	Emissions reductions from belowground biomass related to hauling in year *t* (t CO_2/ha/year)
t	1, 2, 3, …*t* time elapsed since the start of project activity (years)

Step 4: Determine Emission Reductions by Harvest Area

Emission reductions from the aboveground carbon pool are emitted applying an applicable dead wood decomposition rate (emissions from aboveground carbon result from transfer of aboveground live biomass to the dead wood pool followed by steady decomposition). Emission reductions from the belowground biomass pool are applied annually over a 10 year period post-harvest (annual emission reductions from belowground biomass are equal to 1/10 of the total emission reduction). Thus, for a given year *t*, annual emission reductions from above- and belowground carbon are summed across areas previously harvested.

$$C_{RIL,t} = \sum_{t=1}^{t} A_t * RILC_{AGC,t} * (1-K)^{t-t*} * K + \sum_{t-10}^{t} A_t * RILC_{BGB,t} \quad (9)$$

Where:

$C_{RIL,t}$	Total emission reductions at time *t* (t CO_2-e)
$RILC_{,AGC,t}$	Combined emission reductions from aboveground carbon from RIL-C in year *t* (t CO_2/ha)
$RILC_{,BGB,t}$	Combined emission reductions from belowground biomass from RIL-C in year *t* (t CO_2/ha/year)

K	Dead wood annual decomposition rate (percent/year)
A_t	Area of authorized harvest in year t (ha)
t	1, 2, 3, …t time elapsed since the start of the RIL project activity (years)

8.3 Leakage

As the applicability conditions do not allow for change in harvest levels, it can be assumed that leakage is zero because there is no difference in harvest levels between baseline and project scenarios.

8.4 Summary of GHG Emission Reduction and/or Removals

Uncertainty

Sources of uncertainty in this approach include uncertainty around calculation of emission reductions from impact parameters and uncertainty around estimates of impact parameters. These two sources of uncertainty are addressed through setting demonstrably conservative emission reductions associated with each impact parameter and through imposed minimum sampling intensity requirements for estimation of impact parameters, all established in the applicable region-specific RIL-C performance method. It is assumed that project area boundaries, A_t, are known exactly.

Net GHG emission reductions are calculated by subtracting leakage from emission reductions, as follows:

$$ER_t = C_{RIL,t} \quad (10)$$

Where:

ER_T Net GHG emissions reductions in year t (t CO_2-e)
$C_{RIL,t}$ Total emission reductions at time t (t CO_2-e)

Emissions reductions eligible for issuance as verified carbon units are calculated by subtracting the AFOLU pooled buffer account contribution from ER_t, referencing the project's risk rating at time t using the most recent version of the VCS *AFOLU Non-Permanence Risk Tool*.

9 MONITORING

The purpose of monitoring is to generate field measurements after each harvest from which emission reductions can be estimated. Thus, following completion of each harvest, all impact parameters from all logging emission source categories (felling, skidding and hauling), as identified in the applicable region-specific RIL-C performance method, must be sampled in the field and estimated according to procedures detailed in the applicable region-specific RIL-C performance method.

Throughout the project crediting period, monitoring must be conducted after each harvest, on not less than annual intervals.

9.1 Data and Parameters Available at Validation

Data Unit / Parameter:	f_{AGC} $(FELL_t)$
Data unit:	Dimensionless
Description:	Equation estimating emissions reductions from aboveground carbon related to felling in year *t* $(ER_{fell\_AGC,t})$ as a function of felling impacts measured in year *t* $(FELL_t)$
Source of data:	Applicable RIL-C Performance Method
Justification of choice of data or description of measurement methods and procedures applied:	Refer to applicable RIL-C performance method
Any comment:	

Data Unit / Parameter:	f_{BGB} $(FELL_t)$
Data unit:	Dimensionless
Description:	Equation estimating emissions reductions from belowground carbon related to felling in year *t* $(ER_{fell\_BGB,t})$ as a function of felling impacts measured in year *t* $(FELL_t)$
Source of data:	Applicable RIL-C Performance Method
Justification of choice of data or description of measurement methods and procedures applied:	Refer to applicable RIL-C performance method
Any comment:	

Data Unit / Parameter:	f_{AGC} $(SKID_t)$
Data unit:	Dimensionless
Description:	Equation estimating emissions reductions from aboveground carbon related to skidding in year *t* $(ER_{skid\_AGC,t})$ as a function of skidding impacts measured in year *t* $(SKID_t)$
Source of data:	Applicable RIL-C Performance Method
Justification of choice of data or description of measurement methods and procedures applied:	Refer to applicable RIL-C performance method
Any comment:	

Data Unit / Parameter:	f_{BGB} $(SKID_t)$
Data unit:	Dimensionless

Description:	Equation estimating savings factor for emissions from belowground carbon related to skidding in year *t* ($ER_{skid\_BGB,t}$) as a function of skidding impacts measured in year *t* ($SKID_t$)
Source of data:	Applicable RIL-C Performance Method
Justification of choice of data or description of measurement methods and procedures applied:	Refer to applicable RIL-C performance method
Any comment:	

Data Unit / Parameter:	f_{AGC} ($HAUL_t$)
Data unit:	Dimensionless
Description:	Equation estimating savings factor for emissions from aboveground carbon related to hauling in year *t* ($ER_{haul\_AGC,t}$) as a function of hauling impacts measured in year *t* ($HAUL_t$)
Source of data:	Applicable RIL-C Performance Method
Justification of choice of data or description of measurement methods and procedures applied:	Refer to applicable RIL-C performance method
Any comment:	

Data Unit / Parameter:	f_{BGB} ($HAUL_t$)
Data unit:	Dimensionless
Description:	Equation estimating savings factor for emissions from belowground carbon related to hauling in year *t* ($ER_{haul\_BGB,t}$) as a function of hauling impacts measured in year *t* ($HAUL_t$)
Source of data:	Applicable RIL-C Performance Method
Justification of choice of data or description of measurement methods and procedures applied:	Refer to applicable RIL-C performance method
Any comment:	

Data Unit / Parameter:	K
Data unit:	Percent/year
Description:	Dead wood annual decomposition rate
Source of data:	Values from the literature (eg, Chambers *et al.* 2000) must be used

Justification of choice of data or description of measurement methods and procedures applied:	The rate used should be derived from a similar climate regime and forest type as the project area
Any comment:	

9.2 Data and Parameters Monitored

Data Unit / Parameter:	A_t.
Data unit:	Ha
Description:	Area of authorized harvest in year *t.* Note that this area excludes any un-stocked areas or areas where timber harvest and skidding would be infeasible (eg, due to geographic features).
Source of data:	Paper maps or GIS files
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	Exclusion of un-stocked areas or areas where timber harvest and skidding would be infeasible from A_t will be confirmed using high resolution ($\leq$ 5 m) imagery, digital elevation models, on-site inspection with a GPS (eg, geo-referenced timber cruise data) and/or official maps. Any imagery or GIS datasets used must be geo-registered referencing corner points, clear landmarks or other intersection points.
Any comment:	

Data Unit / Parameter:	$FELL_t$
Data unit:	Units as specified in RIL-C Performance Method
Description:	Felling impact parameter, measured in year *t*
Source of data:	
Description of measurement methods and procedures to be applied:	See procedures as specified in applicable RIL-C Performance Method
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	See applicable RIL-C Performance Method
Any comment:	

Data Unit / Parameter:	$SKID_t$

Data unit:	Units as specified in RIL-C Performance Method
Description:	Skidding impact parameter, measured in year *t*
Source of data:	
Description of measurement methods and procedures to be applied:	See procedures as specified in applicable RIL-C Performance Method
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	See applicable RIL-C Performance Method
Any comment:	

Data Unit / Parameter:	$HAUL_t$
Data unit:	Units as specified in RIL-C Performance Method
Description:	Hauling impact parameter, measured in year *t*
Source of data:	
Description of measurement methods and procedures to be applied:	See procedures as specified in applicable RIL-C Performance Method
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	See applicable RIL-C Performance Method
Any comment:	

Data Unit / Parameter:	$ER_{fell\_AGC,t}$
Data unit:	t CO_2 /ha
Description:	Emissions reductions from aboveground carbon related to felling in year *t*
Source of data:	Applicable RIL-C Performance Method
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	

Data Unit / Parameter:	$ER_{skid\_AGC,t}$
Data unit:	t CO_2 /ha
Description:	Emissions reductions from aboveground carbon related to skidding in year *t*
Source of data:	Applicable RIL-C Performance Method
Description of measurement methods and procedures to be applied:	

Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	

Data Unit / Parameter:	$ER_{haul\_AGC,t}$
Data unit:	t CO_2 /ha
Description:	Emissions reductions from aboveground carbon related to hauling in year *t*
Source of data:	Applicable RIL-C Performance Method
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	

Data Unit / Parameter:	$ERf_{ell\_BGB,t}$
Data unit:	t CO_2 /ha/year
Description:	Emissions reductions from belowground biomass related to felling in year *t*
Source of data:	Applicable RIL-C Performance Method
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	Emission reductions from the belowground biomass pool are applied annually over a 10 year period post-harvest (annual emission reductions from belowground biomass are equal to 1/10 of the total emission reduction)

Data Unit / Parameter:	$ER_{skid\_BGB,t}$
Data unit:	t CO_2 /ha/year
Description:	Emissions reductions from belowground biomass related to skidding in year *t*
Source of data:	Applicable RIL-C Performance Method
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest

QA/QC procedures to be applied:	
Any comment:	Emission reductions from the belowground biomass pool are applied annually over a 10 year period post-harvest (annual emission reductions from belowground biomass are equal to 1/10 of the total emission reduction)

Data Unit / Parameter:	$RILC_{,AGC,t}$
Data unit:	t CO_2 /ha
Description:	Emission reductions from aboveground carbon from RIL-C in year *t*
Source of data:	Calculated
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	

Data Unit / Parameter:	$RILC_{,BGB,t}$
Data unit:	t CO_2 /ha/year
Description:	Emission reductions from belowground biomass from RIL-C in year *t*
Source of data:	Calculated
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	Emission reductions from the belowground biomass pool are applied annually over a 10 year period post-harvest (annual emission reductions from belowground biomass are equal to 1/10 of the total emission reduction).

Data Unit / Parameter:	$C_{RIL,t}$
Data unit:	t CO_2-e
Description:	Total emission reductions at time *t*
Source of data:	Calculated

Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	

Data Unit / Parameter:	ER_T
Data unit:	t CO_2-e
Description:	Net GHG emission reductions in year *t*
Source of data:	Calculated
Description of measurement methods and procedures to be applied:	
Frequency of monitoring/recording:	Following completion of each annual harvest
QA/QC procedures to be applied:	
Any comment:	

9.3 Description of the Monitoring Plan

Monitored parameters, and sampling and measurements procedures are specified in the applicable region-specific RIL-C performance method.

Monitoring must be conducted immediately following completion of each annual harvest.

10 REFERENCES

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