



Combined CEAs in regeneration and environmental planting projects guidance

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Applicable methods

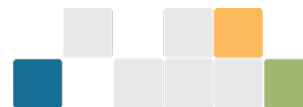
Methodology determination	Applicable method versions
<p>Carbon Credits (Carbon Farming Initiative) (Human-Induced Regeneration of a Permanent Even-Aged Native Forest—1.1) Methodology Determination 2013</p> <p>(HIR)</p>	<p>F2018C00125 (compilation 3)</p> <p>F2016C00281 (compilation 2)</p> <p>F2015C00576 (compilation 1)</p> <p>F2013L01189 (principal)</p>
<p>Carbon Credits (Carbon Farming Initiative) (Native Forest from Managed Regrowth) Methodology Determination 2013</p> <p>(NFMR)</p>	<p>F2018C00119 (compilation 2)</p> <p>F2015C00578 (compilation 1)</p> <p>F2013L02036 (principal)</p>
<p>Carbon Credits (Carbon Farming Initiative) (Reforestation by Environmental or Mallee Plantings—FullCAM) Methodology Determination 2014</p> <p>(Environmental plantings—FullCAM)</p>	<p>F2018C00118 (compilation 2)</p> <p>F2015C00581 (compilation 1)</p> <p>F2014L01212 (principal)</p>
<p>Carbon Farming (Quantifying Carbon Sequestration by Permanent Environmental Plantings of Native Species using the CFI Reforestation Modelling Tool) Methodology Determination 2012</p> <p>(Environmental plantings—RMT)</p>	<p>F2012L01340 (principal)</p>



Related guidance

Previously published guidance	Date	Nature of relationship*	Archive link
Combining multiple CEAs for RMT based methodologies	19 November 2014	Supersedes	NA
Guidelines on stratification, evidence and records for projects under the Human-Induced Regeneration of a Permanent Even-Aged Native Forest and Native Forest from Managed Regrowth methods	8 May 2019	Complements	NA

*Revises/supersedes/complements



Guidance overview

This guidance outlines the Clean Energy Regulator's (CER) position and rationale for Australian Carbon Credit Unit (ACCU) Scheme projects modelling abatement for 'combined CEAs' using the Full Carbon Accounting Model (FullCAM) and the Reforestation Modelling Tool (RMT). This guidance does not represent a substantive change to carbon estimation area (CEA) stratification or any other project implementation requirement – rather, it simply provides additional clarification on the expectations for RMT and FullCAM calculations to be used for a subset of projects using combined CEAs.

For the purposes of this guidance, a 'combined CEA' under the applicable methods is:

- for RMT methods, a single CEA comprised of multiple non-contiguous areas of land
- for FullCAM methods, a CEA consisting of multiple CEA parts, despite extending outside boundaries specified in the applicable method.

This 'combined CEA' approach to modelling for both RMT and FullCAM is acceptable as long as the model point¹ is representative², as defined by this guidance, and all other legislative requirements are met. The CER considers that representativeness, above centrality, is the primary factor in the selection and placement of a model point.

This guidance applies to projects:

- currently stratified with a combined CEA
- undergoing initial stratification of CEAs in accordance with the relevant method; or
- containing a CEA with an unbroken perimeter that is larger than the boundaries specified in the method and will be re-stratified into more than one CEA part in accordance with the method.

Existing projects that do not have combined CEAs or meet the categories above cannot redefine their CEAs in accordance with this guidance as it is important to maintain continuity in CEA boundaries and stratification approaches between reporting periods.

Guidance rationale

The CER has previously [published guidance](#) that permits combined CEAs for projects registered under methods that use the RMT model. In the absence of that guidance, non-contiguous areas of land would have been identified as separate CEAs, each with unique identifiers, modelling points and RMT files (which would number in the hundreds or thousands).

The CER has previously advised project participants that it was permissible to carry over this practice to equivalent methods that use RMT's successor: FullCAM.³ This guidance confirms this position as a reasonable practice.

This guidance clarifies that relevant projects may report and model multiple CEAs/CEA parts as a combined CEA, despite being non-contiguous (under RMT methods) or extend beyond the CEA boundary requirement (under FullCAM methods), as long as:

¹ Model points are used by FullCAM and RMT to calculate abatement for a CEA.

² Representativeness can be demonstrated by using the location closest to the mean or median maximum biomass value within a CEA. The maximum biomass (M) layer is the primary input to determining carbon abatement in RMT and FullCAM.

³ This is particularly relevant for projects under RMT that have varied methodology to a compilation using FullCAM.



- the single modelling point is representative of the entire CEA
- the combined CEA has common model inputs/events queue (i.e. sharing the same modelling commencement date, management activities, disturbance events and growth pauses)
- all other legislative requirements regarding CEA stratification are met (for example, under Human-Induced Regeneration (HIR) methods, the CEA must consist of land where a similar mix of vegetation is regenerating and first exhibited regeneration at or around the same time).

Where modelling points are representative of the CEA, this has the effect of aggregating the inputs (in place aggregating multiple outputs). This approach does not distort the abatement outcome and significantly reduces the computational and administrative load for all involved (participants, auditors and the CER). The CER has substantially analysed the effect of this approach to calculations. When using a representative modelling point, the difference between calculations of combined CEAs and individual CEAs in abatement outcomes is negligible (a few parts per thousand). Additionally the modelling in combined CEAs is generally more conservative when compared with modelling multiple non-contiguous or small CEAs.

The CER has undertaken extensive analysis to support this pragmatic position by comparing modelling point selection and CEA size across the project portfolio. Independent auditors of HIR projects have also found that this approach is immaterial in impact. The CER will engage with the ACCU Scheme's Carbon Abatement Integrity Committee to ensure this approach is considered for future methods.

Guidance implementation

The following tables set out how the representativeness of modelling points in a combined CEA must be demonstrated for FullCAM and RMT projects.

The same approach to modelling point placement must be applied across all CEAs in a project.

The CER will use new compliance monitoring tools to ensure that modelling points in combined CEAs are representative of the CEA and take action where they are found not to be representative.



Table 1: Guidance for selecting the model point location for a combined CEA

	Applicable method versions	Relevant provisions	Guidance
HIR—FullCAM	F2018C00125 F2016C00281	Section 29 sets out that model point location need not be within the CEA, not change unless the CEA is re-stratified, and must: <ul style="list-style-type: none"> • be representative of the CEA; and • be as close as reasonably practicable to the centre of the CEA. 	<ol style="list-style-type: none"> 1. The modelling point is representative of the combined CEA and is: <ol style="list-style-type: none"> a. the value that is closest to, but lower than the mean, of the relevant maximum biomass values** in the combined CEA or b. the median of the relevant maximum biomass values** in the combined CEA; and located as reasonably practical to the centre of the combined CEA.
Environmental plantings—FullCAM	F2018C00118 F2015C00581 F2014L01212	The method’s FullCAM guidelines (sections 2.1.3 and 3.5.1) require that FullCAM modelling points are central to and representative of the area being modelled (and not in the exclusion zone for the 2020 Public Release of FullCAM).	<ol style="list-style-type: none"> 2. The approach to use the mean (a) or median (b) under Condition 1 does not vary between the CEAs of a project. <p>**Maximum biomass values for CEAs that use the 2016 Public Release of FullCAM are available here and for the 2020 Public Release, here.</p>
HIR—RMT	F2015C00576 F2013L01189	Subsection 3.3(2) sets out that a CEA must contain a model point location which must be located at the approximate centre of the CEA, and not change unless the CEA is re-stratified.	The modelling point for a combined CEA can change for the purposes of ensuring alignment with this guidance.
Environmental plantings—RMT	F2012L01340	Section 2.3 requires that: <ul style="list-style-type: none"> • CEAs must contain a model point location for use by RMT • the model point location must not change unless the CEA is re-stratified. The area must be stratified into CEAs according to the site characteristics and management practices that will affect the growth rate of trees in the area.	
NFMR—FullCAM	F2018C00119 F2015C00578 F2013L02036	Section 3.3 requires that a CEA must contain a model point location that is at the approximate centre of the area.	



Table 2: Guidance for combined CEAs in methods that have provisions to restrict the boundaries of a CEA

Methodology determination	Applicable method versions	Relevant provisions	Guidance
HIR—FullCAM	F2018C00125 F2016C00281	<p>Subsection 16(5) requires the whole of the CEA must be contained in a circle with a radius of 1.5 kilometres.</p> <p>Section 29 sets out that model point location need not be within the CEA, not change unless the CEA is restratified, and must:</p> <ul style="list-style-type: none"> • be representative of the CEA; and • be as close as reasonably practicable to the centre of the CEA. 	<p>Project proponents may report and model multiple CEAs/CEA parts as a single combined CEA, regardless of whether the boundaries are larger than specified in the method (e.g. contained within a circle of 1.5 kilometres radius), if:</p> <ul style="list-style-type: none"> • all other legislative requirements are met • the modelling point is representative, and the approach meets condition 1 in Table 1 above • the CEA is not dissected by a land title that is not included in the project area. <p>The modelling point for a combined CEA can change for the purposes of ensuring alignment with this guidance.</p>
Environmental plantings—FullCAM	F2018C00118 F2015C00581 F2014L01212	<p>Subsection 3.3(3) of the method and section 3.2.5 of the CFI mapping guidelines require CEA parts to be contained in a radius of:</p> <ul style="list-style-type: none"> • for a mixed species environmental planting—1.5 kilometres; and • for a mallee planting—5 kilometres. <p>The method’s FullCAM guidelines (sections 2.1.3 and 3.5.1) require that FullCAM modelling points are central to and representative of the area being modelled (and not in the exclusion zone for the 2020 Public Release of FullCAM).</p>	



Table 3: Guidance for combined CEAs in methods that require contiguous CEAs

Methodology determination	Applicable method versions	Relevant provisions	Guidance
HIR—RMT	F2015C00576 F2013L01189	Subsection 3.3(1)(b) requires that a CEA must be a single area with an unbroken perimeter.	Project proponents may report and model multiple non-contiguous CEAs as a single combined CEA if: <ul style="list-style-type: none"> • all other legislative requirements are met • the modelling point is representative, and the approach meets condition 1 in Table 1 • the CEA is not dissected by a land title that is not included in the project area. The modelling point for a combined CEA can change for the purposes of ensuring alignment with this guidance.
Environmental plantings—RMT	F2012L01340	Section 2.3 requires that the area must be stratified into CEAs according to the site characteristics and management practices that will affect the growth rate of trees in the area.	
NFMR—FullCAM	F2018C00119 F2015C00578 F2013L02036	Section 3.3 requires that a CEA must be a single area with an unbroken outer perimeter.	



Figure 1: Example of several individual CEAs under RMT (a non-combined CEA)

This RMT project has multiple individual CEAs, each represented by a polygon with an unbroken outer perimeter. Under RMT, each CEA would have to be modelled separately, with an individual model point.

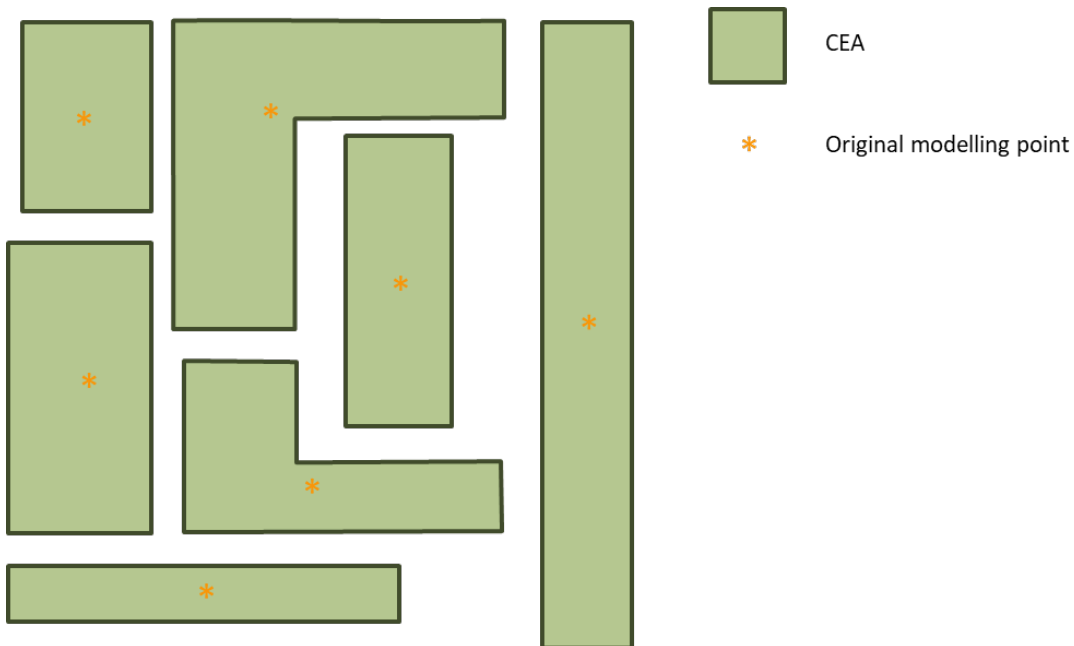


Figure 2: Example of CEAs with multiple parts extending outside the boundaries of a circle in FullCAM (a non-combined CEA)

This FullCAM project has multiple CEAs, with CEA 1 having multiple CEA parts and inside a circle with a radius of 1.5km. As CEA 2 and CEA 3 are outside the boundaries of a circle with a radius of 1.5km, these CEAs need to be modelled separately (even if they comprise the same vegetation community and have the same history of management activities and disturbance events).

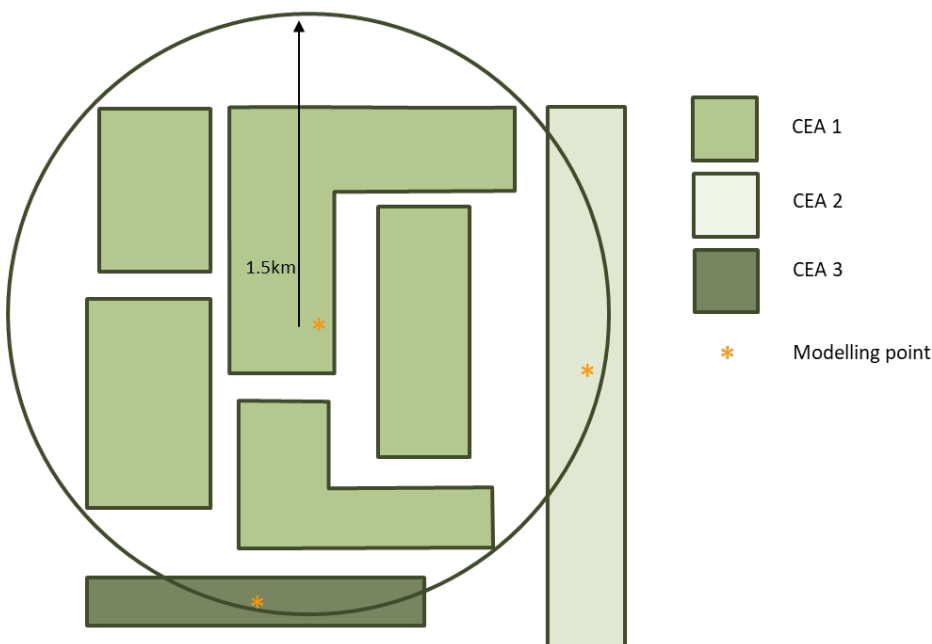




Figure 3: Example of several individual CEAs modelled as a combined CEA

This project (either RMT or FullCAM) has multiple individual CEAs/CEA parts that share the same events queue and other legislative requirements. Under this guidance, these have been stratified as a combined CEA. According to the maximum biomass layer (grid beneath – shaded to represent values, from lowest to highest), the approximate centre of this combined CEA is not representative. To ensure compliance with this guidance, the model point is relocated to a new location, which represents the median maximum biomass value closest to the centre of this combined CEA.

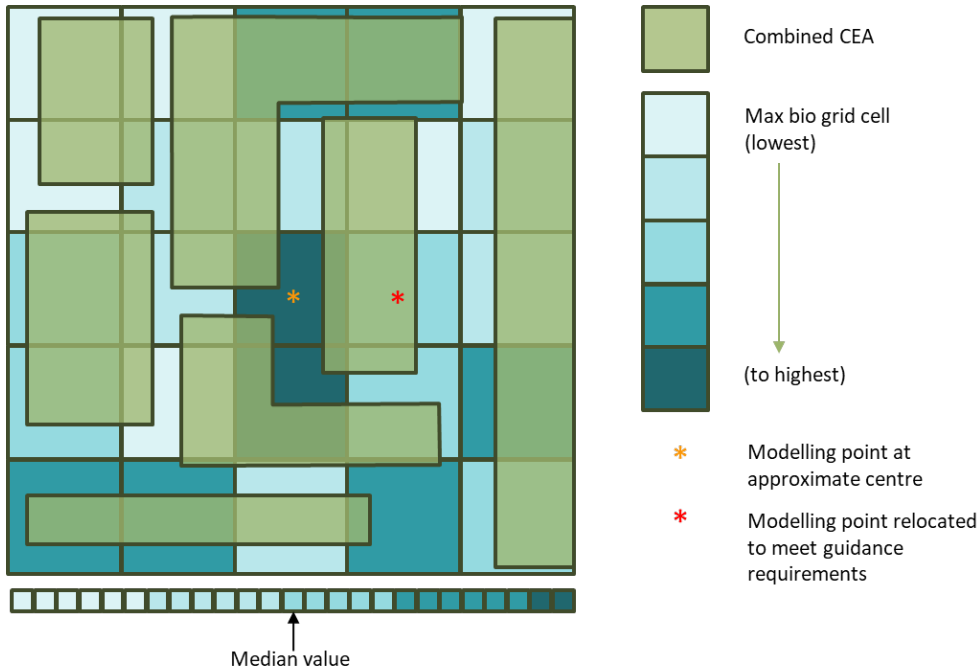


Figure 4: Example of a single CEA restratified into multiple parts as a combined CEA

This FullCAM project, prior to restratification (left pane), had a CEA consisting of a single part that was larger than a circle with a radius 1.5km, with a model point placed in the approximate centre and representative of the CEA. After restratification (right pane), the CEA now consists of multiple parts after removing areas without forest potential (yellow). These CEA parts can become a combined CEA (with multiple parts) as long as the model point meets requirements to be representative and in the approximate centre.

