Discussion 2: Project land management activities

Overview

The Integrated Farm and Land Management (IFLM) method is intended to modernise carbon farming by moving from a siloed "one activity, one method" structure to a holistic framework that reflects real-world land management. It enables land managers to undertake a package of carbon management activities in a single, cohesive project, covered by a single audit framework. This will help overcome hurdles to participation, enabling greater adoption of carbon farming.

The core principle of the IFLM method is that project eligibility, activities, and outcomes are all anchored to land condition. The framework consists of three core stages:

1. assessing the pre-project condition and historical land management practices
2. developing a robust Land Management Strategy with a package of land management changes that are additional / beyond business as usual and designed to increase carbon storage
3. implementing a rigorous system of monitoring (including periodic measurement) and verification.

IFLM projects must demonstrate a clear, evidence-based "theory of change" showing how new / additional land management interventions will overcome specific barriers to improve land condition and, consequently, increase carbon stocks. The Land Management Strategy (LMS) is the central document that articulates this theory of change, validates the changes are additional to business as usual and guides implementation of the project activities and monitoring.

Assessing baseline land condition (pre-project)

The first step in any IFLM project is to establish a comprehensive and evidence-based understanding of the project area's starting land condition and historical land management practices. This involves a thorough assessment of the land's management history and its resulting ecological condition before any project activities begin. This baseline diagnosis is not merely a snapshot in time, but a rich description of the interconnected factors that have shaped the landscape. Evidence is gathered from historical records, remote sensing imagery, and direct observation to understand past and present land use, such as patterns of clearing, grazing intensity, and fire regimes.

This historical context is then used to classify the project area's current ecological state using a nationally consistent framework, such as the Vegetation Assets, States, and Transitions (VAST) framework. The specific entry criteria are discussed in more detail in *Discussion Paper 1: eligibility & entry criteria*.

Developing the Land Management Strategy (LMS)

The Land Management Strategy (LMS) is the central document that guides implementation of the IFLM project. It functions as a "theory of change," articulating a clear, logical, and verifiable pathway from the diagnosed baseline condition to a desired future state of improved land condition and enhanced carbon storage. The LMS must first identify the specific barriers that are preventing the ecosystem from sequestering more carbon on its own. These barriers could be ecological, such as a lack of a native seed bank or compacted soil, or they could be related to management, like persistent overgrazing or an inappropriate fire frequency, or a combination of these factors.

Once these barriers are identified, the LMS defines an achievable target state of improved land condition. It then sets out a proposed package of additional / new carbon management practice changes chosen from the “menu” of eligible IFLM activities. These activities are designed to directly overcome those identified barriers and to be implemented, monitored and updated through dynamic management through the life of the project. The LMS should explain the causal link between the proposed carbon management practice changes and the expected project outcomes. For instance, it could describe how changing grazing management will reduce pressure on juvenile trees, leading to the outcome of increased woody biomass, or how applying soil ameliorants will improve soil structure, leading to increased soil organic carbon.

The LMS must be prepared or certified by a “qualified person” with demonstrated expertise relevant to the project's activities, such as in natural resource management, ecology or agronomy. Where a project involves specialised activities, such as an altered fire regime or the application of Indigenous Ecological Knowledge, those specific sections of the LMS must be signed off by a person with the appropriate, specialised expertise or by a person recognised as holding that knowledge.

A core component of the LMS is a comprehensive risk assessment. The strategy must identify key risks to the permanence of carbon stocks—such as fire, drought, pests, or overgrazing—and detail the mitigation and management actions that will be employed throughout the project's life. It must also formally assess the potential for emissions leakage. Where a significant risk of leakage is identified, the LMS must describe the leakage prevention strategy and the plan for monitoring its effectiveness. A leakage decision tree is provided in **Appendix 1.**

The LMS must reference the method's list of restricted and prohibited activities and confirm they will not be undertaken in a manner that breaches the method's rules, but it is not itself an exhaustive operational manual.

To ensure the LMS remains a clear and functional strategic document, its content should focus on the information that directly defines and governs the project's management approach. Information related to the day-to-day execution of project activities, detailed monitoring data, or extensive financial records should be housed in separate project documentation, such as within the periodic Project Reports. This distinction ensures the LMS remains a clear, high-level document that is fit-for-purpose for all its audiences, including land managers, auditors, and the Regulator.

For a simple guide to the LMS, refer to **Appendix 2**.

Eligible Management Activities in the Method

Eligible management activities should be structured into a series of Activity Modules that can be expanded overtime as distinct carbon pools are added. The activity modules should be distinct from the project eligibility criteria and historic management activities, which relate to starting land condition This approach provides a clear and enforceable rule set for carbon management practice changes or activities that can deliver targeted carbon sequestration outcomes.

The initial IFLM method should include, at a minimum, three Activity Modules: a) woody biomass sequestration through facilitated plantings, b) woody biomass sequestration through managed regeneration, and c) soil organic carbon sequestration. Additional modules should be promptly added, including avoided emissions from woody biomass (avoided clearing) and avoided emissions from livestock (herd management and supplements).

Module 1: Woody biomass sequestration via facilitated plantings

This module is intended to credit facilitated planting activities that deliver increases in woody biomass resulting from planting or seeding. To ensure consistency and regulatory certainty, the legislative draft for this module should be constructed to mirror the core principles and operational sections of the *Carbon Credits (Carbon Farming Initiative) (Reforestation by Environmental or Mallee Plantings—FullCAM) Methodology Determination 2024*. This could be expanded in the future to include plantation forestry and afforestation / reforestation activities. Eligible management activities should be defined to include the direct seeding or planting of native species. However, the IFLM's capacity for direct measurement allows for the inclusion of a broader suite of activities than can be readily modelled in FullCAM, such as in-fill planting to increase the density of existing vegetation. Given that these activities represent a direct and immediate change in management, the baseline period for this module should be defined as seven years.

Module 2: Woody biomass sequestration via managed regeneration

This module is intended to credit sequestration from managed regeneration where active, human-induced pressures are the primary barrier preventing ecosystem recovery. Projects are required to meet the evidence requirements set out in detail in *Discussion Paper 1: Eligibility & Entry Criteria*. Eligible activities must therefore be targeted to tackle an enduring gap and address specific suppression agents, such as altering the timing and impact of grazing pressure, managing feral animals, or ceasing the mechanical suppression of regrowth. To ensure this management change is additional and not a temporary fluctuation, a minimum period of ten+ years is recommended (proponents may opt for longer baselines, e.g. 20 years) to demonstrate a genuine departure from the historical land use that caused the suppressed condition.

Module 3: Soil organic carbon sequestration

This module is intended to credit increases in soil organic carbon resulting from new or materially different agricultural practices. To ensure consistency with established precedent and to leverage existing, well-vetted provisions, the legislative draft for this module should be constructed to directly mirror the key operational sections of the *Carbon Credits (Carbon Farming Initiative—Estimation of Soil Organic Carbon Sequestration using Measurement and Models) Methodology Determination 2021* (hereafter "the 2021 Soil Method"). Land eligibility should mirror the 2021 method, except where provisions prevent overlapping soil and woody biomass CEAs, and the baseline period should mirror the 2021 Soil Method.

Implementation, monitoring, and verification

After project registration, the implementation of LMS and consequent project outcomes are assessed using a strict framework of monitoring and verification.

An initial, independent audit is required to validate the project stratification and initial conditions. For projects using FullCAM or FullCAM equivalent model-only estimation approaches, the audit must also validate the baseline forest cover assessment. For projects utilising measurement-based approaches, it must validate the initial carbon stock measurements, and for managed regeneration activities the eligible carbon stock ratio. This audit establishes the verifiable starting point for all subsequent abatement calculations. The technical protocols for measurement, mapping, and monitoring are to be detailed in schedules, supported by the method's supplements and guidelines, and are discussed in more detail in Discussion paper: Estimation of carbon stock changes in woody biomass & soil.

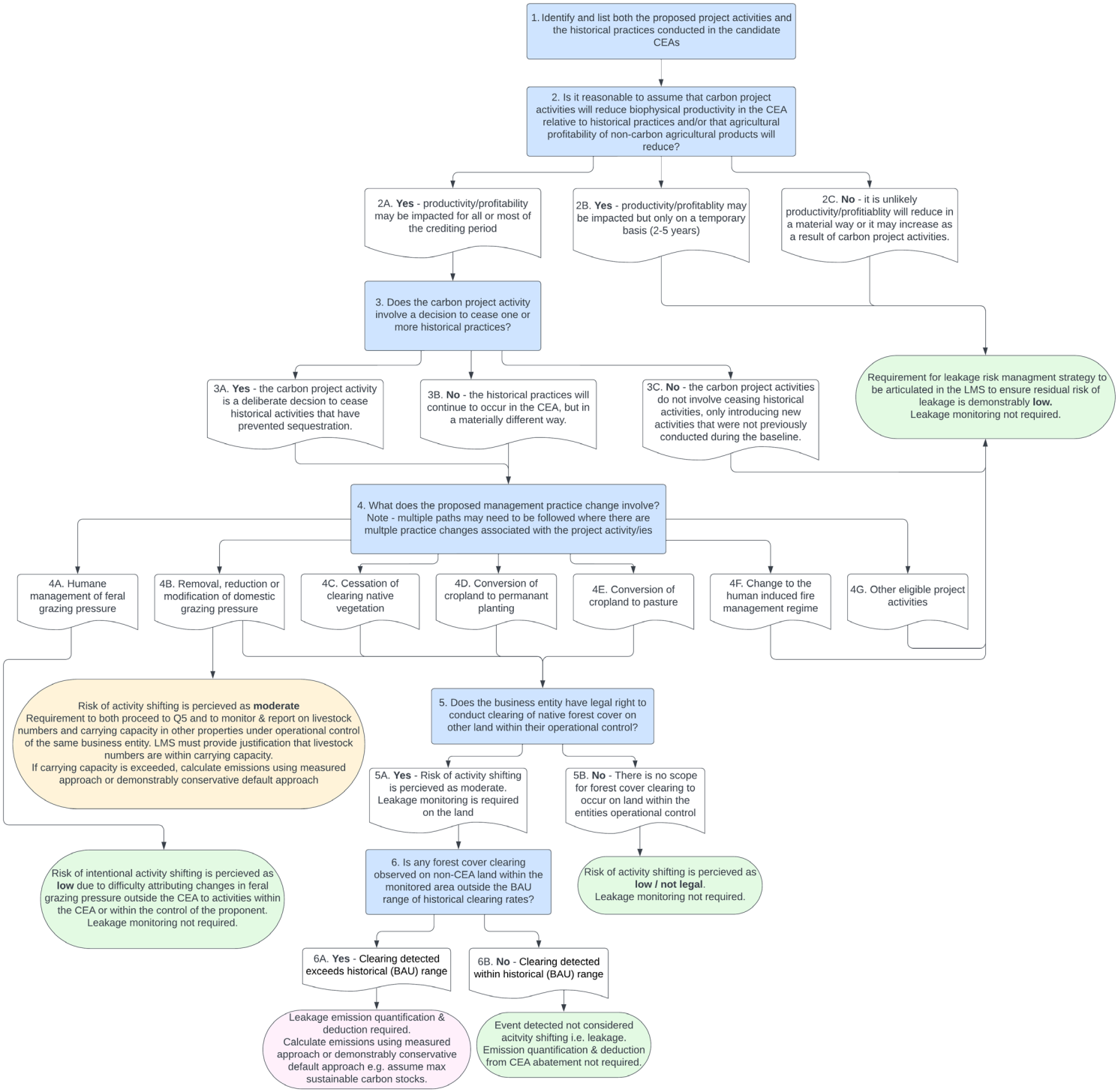
Throughout the project, the proponent must conduct ongoing monitoring to collect evidence of compliance with the LMS, including validating that additional / new carbon management activities were undertaken. This includes maintaining records that demonstrate the management activities designed to remove identified barriers have been implemented as specified. The proponent must also monitor for and report any disturbance events or the use of any restricted activities in accordance with the method's notification protocols.

The net change in carbon stocks is quantified by calculating the change from the validated baseline and deducting any project-related greenhouse gas emissions. This calculation forms the basis of a Project Report submitted for crediting by the Clean Energy Regulator. While this accounting may occur at any reporting event, project gateways are distinct, mandatory checkpoints that require a comprehensive reassessment of the project's progress.

At a gateway, the proponent must conduct a formal re-measurement of carbon stocks or, for model-only approaches, an assessment of canopy cover. This quantitative data must be supported by a weight-of-evidence analysis demonstrating that the project's theory of change is working in practice. This analysis should include evidence that specific barriers to regeneration have been addressed, data from ongoing monitoring showing improvements in the prescribed indicators of condition, such as the successful establishment of regenerating species, and a re-application of the analysis performed at the project's demonstrating that the project is successfully closing the gap identified in the assessment of baseline condition. Further crediting is contingent upon verified progress toward the project's target state, defined in the LMS.

For a simple guide to gap analysis, refer to **Appendix 3**.

Appendix 1: Leakage decision tree



Appendix 2: Land Management Strategy

Requires signoff from an internal or external qualified person
e.g. NRM, ecology, agronomy

before registration

sign off

1. Project details

Specify Methodology, carbon pool/s, abatement approach/es, proponent, location, LGA, IBRA, Indigenous Group/s (NTD/ILUA details), property map, newness statement, key dates (proposed start date, 25/100 PP, crediting and permanence periods), LMS author/'s credentials/experience, farm management objectives.

2. Current State & Gap Analysis

Describe the historical land use and current state of the ecosystem (using VAST* framework for woody biomass or equivalent soil framework) and the natural and human processes impacting on carbon storage in the ecosystem, including a list of barriers preventing the ecosystem moving to a higher carbon state (i.e. "Class I – Residual" / "Ecosystem Benchmark"). Include farm infrastructure map.

3. Proposed State Change (Management Change)

Specific activities may require preparation and signoff by an additional relevant qualified person

Describe proposed eligible management activity/ies that can remove/decrease the impact of barrier/s and result in additional carbon sequestration, above seasonal and climatic fluctuations. Provide a list of *Restricted and Prohibited Activities* specific to the project. Provide commentary on the impact on carbon sequestration from the interaction of activities conducted concurrently, and outline limiting environmental factors.

4. Additional Management Modules

Modules will require preparation and signoff by relevant qualified person (see brackets for e.g.)

Provide additional information of current and proposed management and provide evidence for predicted reduction and/or removal of barrier/s to additional carbon sequestration regarding the following, where relevant:

- Altered Fire regimes *(e.g. fire ecologist)*
- Indigenous Ecological Management *(e.g. appropriate person with Indigenous Ecological Knowledge)*
- Climate-adjusted species *(e.g. ecologist with appropriate knowledge)*
- Altered thinning regime *(e.g. ecologist with appropriate knowledge)*

5. Risks Assessment & Mitigation

Carbon Stock Permanence

- Fire management (avoidance/reduction) *– if bushfire mgmt. plan, expert signoff required*
- E.g. Pests, weeds, climate, erosion, overgrazing, drought, flood, etc.

Administrative / Regulatory

- Reporting requirements and audit schedules
- Regulatory approvals
- Stakeholder engagement
- Impact on threatened spp./comms

Emissions Leakage

- Determine whether clearance displacement is likely and the activity/ies are therefore deemed "high-risk". If high-risk, follow the steps outlined in the IFLM Method

6. Regional Fire Management

List relevant bushfire region/s, fire danger seasons dates, local Bushfire management plans, Fire Service contacts and communication channels, regional fire history (map and commentary), approaches to reducing bushfire risk.

7. Legislative/Regulatory Alignment

Describe how the project aligns with the relevant NRM / Landscape Plan, and the Local Government / State Planning requirements, if relevant. If specific approval/s are required, describe the steps and timeline for obtaining the approval/s. List threatened species/communities and specific protection measures, if relevant.

8. Notification Protocols

Describe decision process (e.g. flowchart) for notifying the CER of significant reversals (CFI Act/Rule s81&82) or restricted / prohibited activity/ies has been undertaken. Describe process for identifying and communicating with key stakeholders prior to, during and after specific management activities are undertaken (e.g. altered fire regime, Native Title land).

9. Record keeping relating to management change/s

Outline the steps and key metrics for which records are required to demonstrate that management activities are being conducted to the extent necessary.

Appendix 3: Gateways & gap analysis factsheet

Gap analysis is applicable for woody biomass CEAs only

Before registration | Between registration and first report/audit | At gateway

1. Initial stratification: Define candidate CEAs using the VAST classification

Purpose: To classify vegetation according to its degree of anthropogenic modification from a natural state.

Process: Classify current ecosystem state using the Vegetation Assets, States and Transitions (VAST) framework. List the natural and anthropogenic barriers preventing the ecosystem moving to a higher carbon state. Identify woody biomass activity approach based on whether the natural regenerative capacity is intact (i.e. potentially be eligible for managed regeneration); or not intact (i.e. potentially eligible for facilitated regeneration). Steps 3-5 (gap analysis) are unlikely to be necessary for facilitated regeneration CEAs.

2. Document the Land Management Strategy (LMS)

Purpose: To articulate the proposed management changes in each CEA based on assessment of the barriers to sequestration.

Process: Refer to separate factsheet on the Land Management Strategy.

3. Qualification of CEAs and reference ecosystems

Purpose: To determine if the candidate CEAs and reference ecosystems are considered 'like for like', with the exception of anthropogenic impact, and therefore if they are eligible for use in the gap analysis.

Process: Compare ecosystem 'similarity' metrics (e.g. vegetation community, soil type, climate) that are not vulnerable to anthropogenic impact between the CEA and the reference ecosystem.

4. Gap analysis: Compare CEAs to reference ecosystems

Purpose: To assess whether the CEAs a) have sequestration potential; and if so whether b) this can be attributed to management, rather than solely due to a natural ecosystem fluctuation.

Process: Compare ecosystem indicators in the CEA to those in the ecosystem benchmark.

Broad indicator category	Example indicators in CEA	Example indicators in reference ecosystem
Successional stage (State & transition model if available)[1]	Depauperate heathland with resprouting mallee (lacking serotinous obligate seeder shrub species)	Mesic heathy mallee with serotinous obligate seeder shrubs (e.g., Proteaceae)
Fire regime	Repeat large scale fire with a frequency beyond threshold of obligate seeders (<20 years)	Mean fire interval 40 – 65 years
Vegetation – structural characteristics (eg: diameter, height, crown cover)	Stem density by height classes: 0 – 1m: 150 stems ha^{-1} (resprouting by lignotuber) 1 - 2 m: 100 stems ha^{-1} 2 – 4m: 30 stems ha^{-1} 4m+: 50 stems ha^{-1} (80% dead – killed by fire)	Stem density by height classes: 0 – 1m: 40 stems ha^{-1} 1 - 2 m: 50 stems ha^{-1} 2 – 4m: 50 stems ha^{-1} 4m+: 100 stems ha^{-1} (10% dead)
Management impact	• Absence of soil crust • Lack of ground cover, litter • Absence of leaves (>50% of plant) in palatable species, snapped branches • Numerous bare patches • Evidence of erosion	• Presence of soil crust • Presence of litter mats • Presence of palatable shrubs
Carbon stock	5 t C ha^{-1}	100 t C ha^{-1}

5. Gateways

Purpose: To assess whether the ecosystem is sequestering carbon and advancing toward its maximum sustainable carbon stock.

Process: Project gateways involve repeating the gap analysis based on carbon stocks and other ecosystem indicators, to test if CEAs are responding to management activities and are progressing towards to the reference ecosystem (i.e. the gap is closing). If carbon stocks are not increasing, the CEA fails the project gateway.