Final report

Environmental credentials for Australian Grass-fed Beef: co-design of the Ground Cover theme

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Abstract

The 'Environmental credentials for Australian grass-fed beef' project led by a consortium of Meat and Livestock Australia (MLA), the University of Queensland (UQ) and WWF Australia (WWF-A) aims to support landholders seeking to demonstrate their environmental credentials to market, and to improve sustainability outcomes.

This project engaged with beef producers and industry representatives to consider five themes: (1) biodiversity stewardship (2) tree cover (3) groundcover (4) carbon balance, and (5) drought resilience.

WWF-Australia partnered with the Australian National University (ANU), given their experience working with the Australian Government, designing the Australian Farm Biodiversity Certification scheme. The partnership ran a co-design process for three themes: biodiversity stewardship, tree cover and ground cover. This brought together representatives from the beef industry to agree on recommendations for a 'design brief', to inform the next stage of the project: development of an online sustainability platform and online learning resources. The ground cover co-design group agreed on the definition of 'ground cover', indicators and measures, benchmarks, and gaps in learning resources. The co-design group also identified overarching 'design principles' to guide the development of project outputs relevant to the ground cover theme.

Executive summary

Background

The 'Environmental Credentials for Australian Grass-fed beef' project ('the Project') recognises a growing consumer and market demand for sustainably produced beef, and the need for beef producers to be able to demonstrate their 'environmental credentials' in a consistent and efficient manner. This project aims to provide beef producers with tools that will assist them in doing this.

There are two main stages to this project:

(1) Engagement with beef industry representatives and seeking their input into the design of an online sustainability platform and learning resources for beef producers around five key sustainability themes: (1) biodiversity stewardship, (2) tree cover, (3) ground cover, (4) drought resilience, and (5) carbon balance. This was done via a 'co-design' process with five co-design groups agreeing on a 'design brief' for each of the five themes. This process ran from November 2021-May 2022.
(2) The design and development of the online sustainability platform and online resources, and the potential development of 'environmental credentials' based around the sustainability themes, informed by the design briefs agreed on during the co-design process. The online sustainability platform and learning resources are due to be piloted and completed by December 2023.

Objectives

The objectives for the 'Ground Cover' theme were to:

1. Develop the design brief for the Ground Cover Theme for Environmental Credentials for Australian Beef (Smart Farms) project ready for translation into an on-line platform. Theme designs will include indicators, measuring tools/approaches, benchmarks and learning resources. The platform design must be suitable for producer self-assessment of environmental performance.
2. Support the environmental credentials platform developer in integrating the ground cover theme into the on-line platform.

Methodology

The ground cover theme co-design process brought together a number of key industry representatives (producers and supply chain representatives) from a MLA selection process. The members of the co-design team discussed and agreed on the definition of this theme, appropriate indicators and measures, benchmarks, gaps in learning resources and key design principles. The co-design group met six times on-line, and once as a larger group including co-design groups across all themes. Once the co-design group had agreed on a draft design brief, feedback was sought from external reviewers.

Results/key findings

The ground cover theme co-design group successfully agreed on a design brief which will inform the second stage of the Project: the development of the proposed online sustainability platform and learning resources.

Benefits to industry

Overall Project benefits to industry are unclear as the second stage of the Project is yet to be complete, however during this initial co-design process, industry representatives had the opportunity to engage and influence final project outcomes. Potential benefits to industry include increased awareness of the importance of ground cover, and emerging market opportunities for beef producers.

Future research and recommendations

Potential areas of further R&D:

- Spot verification of a sample of properties could be done to determine levels of accuracy of the remote sensing information and to identify any issues with the platform for amendment. For example, some properties using the platform will be well-surveyed for their vegetation and biodiversity and could be used as examples to calibrate data accuracy.
- Further as remote sensing information improves, the maintenance contractor for the platform should ensure that this information is updated to ensure it is using the most up to date information.
- Industry representatives involved in the co-design expressed an interest in nature-based markets and opportunities for participation in these markets. Opportunities for producers or supply chain stakeholders, using the platform to meet the needs of emerging nature-based markets and other market requirements, such as Taskforce on Nature-related Financial Disclosures (TFND) and Science Based Targets of Nature (SBTN) should be reviewed.
- The co-design groups raised a request for a customisable dashboard design where producers can create an interface useful for them.
- Another idea was whether producers would be able to connect their platform data with other financial, stock or farm management systems to streamline data transfer and minimise data entry requirements. It was recognised there may be software compatibility issues but considered it might be useful for integrated decision-making.
- Given concerns discussed about the accuracy of remote sensing data, the co-design groups suggested the need for feedback mechanisms, incorporating the capability for user input of biophysical data, alongside the primary reliance on remote sensing data. This feature will be necessary when remote sensing cannot cover a specific indicator or measure, or when users believe the remote sensed data is incorrect.

Adoption:

- The platform will be promoted through communication and dissemination among the Australian beef industry, including grass-fed beef producers and wider networks. This will include engagement with various supply chain stakeholders to ensure they have a strong understanding

of the platform and its capability to drive adoption. As with adoption of any new tool, there will need to be capacity building for users and end-users of the tool to understand it and integrate it into their production or supply chain businesses as well as NRM consultants and advisers.

Table of contents

Abstract **2**

Executive summary **3**

1. Background **7**

2. Objectives **8**

3. Methodology **9**

3.1 Development of a background material to inform the co-design process **9**

3.2 Codesign **10**

3.2.1 Selection of co-design participants 10

3.2.2 The co-design process 10

3.3 Design brief process **11**

4. Results **12**

4.1 Design brief overview **12**

5. Conclusion **14**

6. Key findings **15**

7. Benefits to industry **16**

8. Future research and recommendations **16**

9. Appendix **17**

9.1 Ground cover: final design brief **17**

1. Background

In 2020, under its 'Smart Farming Partnerships Program', the Australian Government funded the 'verifiable sustainability beef credentials and practice change modules' project. This project, which has become known as the 'Environmental Credentials for Australian Grass-fed beef project' ('the Project') is led by a consortium between Meat & Livestock Australia (MLA), the University of Queensland (UQ) and WWF Australia (WWF-A). This project identified a growing demand from the market for sustainable beef products, and tools that enable beef producers to demonstrate their environmental performance in a consistent and efficient manner. The aim of this project was to develop tools for beef producers to enable them to demonstrate their 'environmental credentials' to market.

This project has two key stages:

1. Engagement with beef industry representatives and seeking their input into the design of an online sustainability platform and learning resources for beef producers around five key sustainability themes:
    1. biodiversity stewardship
    2. tree cover
    3. ground cover
    4. drought resilience, and
    5. carbon balance.

    This was done via a 'co-design' process with five co-design groups, one per theme, agreeing on a 'design brief' for each of the five themes. This process ran from November 2021-May 2022.

2. The design and development of the online sustainability platform and online resources, and the potential development of 'environmental credentials' based around the sustainability themes, informed by the design briefs agreed on during the co-design process. The online sustainability platform and learning resources are due to be piloted and completed by December 2023.

The Australian National University (ANU) was invited by WWF Australia (with the support of the consortium) to partner with them as subject matter experts in leading the co-design process (Stage 1 of the Project) for three of the five project 'sustainability themes': biodiversity stewardship, tree cover and ground cover. ANU's involvement in the Project recognised the linkages between the Project and the Australian National University's work under the Australian Government's Agriculture Biodiversity Stewardship Package, particularly the proposed Australian Farm Biodiversity Certification Scheme.

At its inception, the Project recognised that customers and other industry stakeholders are increasingly looking for evidence of sustainable production practices. The Project aimed to enable beef producers to take advantage of emerging opportunities presented by markets and supply chains through the provision of tools and resources to support their efforts. Anticipated final project

outcomes include an online sustainability platform which includes learning resources, property-level data and remote sensing information and a questionnaire to inform whether the producer has met the requirements for a biodiversity and/or carbon credential across three tiers: (1) aware; (2) action; and (3) advance. Initially, regarding groundcover, the credential will be informed from within the Biodiversity theme, which accesses the Australian Feedbase Monitor tool to generate accurate groundcover records and benchmarks. The platform will be continually updated to integrate new technologies with potential to deliver more cost effective and accurate groundcover information. It will be voluntary whether the producer uses the information to inform their own decision-making or, if they have achieved compliance with a credential, they may wish to demonstrate this compliance to market.

Using a 'co-design' process that directly engaged with lead grass-fed beef producers and supply chain representatives, each theme developed design briefs that are intended to inform the development of the online 'sustainability platform' and 'learning resources' that will support landholders seeking to demonstrate their environmental credentials.

This report outlines the work undertaken by WWF and the ANU as theme leads for the co-design process for the ground cover theme between November 2021 and June 2023.

2. Objectives

Table 1

Objective	Status
1. Develop the design brief for the Ground Cover Theme for Environmental Credentials for Australian Beef (Smart Farms) project ready for translation into an on-line platform. Theme designs will include indicators, measuring tools/approaches, benchmarks and learning resources. The platform design must be suitable for producer self-assessment of environmental performance. The process to achieve this will include: a) Coordinate and manage up to five co-design sessions with beef producers and relevant industry and other stakeholders to identify the scope and design of the solution for the Ground Cover Theme. b) Select, collate, review and update relevant Ground Cover theme materials for inclusion in the online platform, and incorporating co-design working groups and technical peer review feedback into the platform design brief for the Ground Cover Theme. c) Produce a design brief for the technical builder of the online platform, from the co-design process. Design brief to cover (minimum):	Achieved. A design brief for the Ground Cover Theme, including indicators, measures, benchmarks and recommended learning resources was developed in consultation with members of the Ground Cover co-design group. Six meetings were held with the co-design group which focussed on topics such as definition of the theme, suitable indicators and measures, and gaps in learning resources. A further meeting was held that included members of the five co-design groups. A peer review process of the design brief was undertaken, and feedback was incorporated into the final design brief. The final design brief is provided at Attachment 1.

i. Technical brief including any remote sensing or decision support component requirements. ii. Brief for online learning.	
2. Support the environmental credentials platform developer in integrating the ground cover theme into the on-line platform.	Achieved. Following delivery of the design brief, the project team (MLA, UQ, WWF-A, and ANU) recognised there was a need to document how the themes were interrelated to inform the platform build team. A matrix of interdependencies and common design principles across the themes were developed to inform the platform design. MLA worked directly with the platform designers, providing updates to the partners on platform design via management and theme leads meetings.

3. Methodology

3.1 Development of a background material to inform the co-design process

The first step in the co-design process was the drafting of a Ground Cover Theme Co-design Background paper (ANU). This paper outlined key elements such as aim, scope, key design issues, and possible approaches to the development of this theme. It also considered the importance of benchmarking, balancing cost and accuracy and compatibility of this project with other initiatives. This background paper informed the development of the 'Environmental Credentials for Australian Beef: Background scoping paper for the tree cover, groundcover and biodiversity stewardship themes' (WWF, September 2021). This background scoping paper was provided to the co-design group for their information and consideration prior to the first co-design group meeting.

UQ also completed a 'beef industry business scan' which documented the 'sustainability context' for the Project and the key findings from interviews held with participants in the beef value chain. This material was also provided to co-design participants prior to their first meeting.

Before each meeting, the co-design group was provided with background briefing material in various forms (for example via video, slides, background papers etc). This information formed the basis of discussion in the co-design meetings.

3.2 Codesign

3.2.1 Selection of co-design participants

Codesign groups were formed using a selection process managed by MLA. An expression of interest process was widely promoted throughout the Australian beef industry, offering remuneration according to the MLA sitting fee policy. The application process closed in August 2021. 110 expressions of interest were received from producers from all beef producing regions of Australia. Applicants were asked to nominate for the themes matching their experience and interests. All applications were considered, and applicants were ranked by a panel made up of all theme leads and MLA staff, according to set criteria. Attention was given to ensuring regional representation, age, gender and industry diversity was achieved through the selection process. The ground cover theme co-design members were:

1. Angus Atkinson (Owner, AJ & AL Atkinson)
2. Ben Evans (Director/Owner, Rampsbeck)
3. Olivia Lawson (Paringa Livestock)
4. Cameron Gibson (Director, Cattle Trust)
5. Anne Marie Huey (Owner/Manager, Dampier Downs Station)
6. Lucinda Corrigan (Director, Rennylea Pastoral Company)
7. Nick Allen (Owner/Manager, Boorook Partners)
8. Garlone Moulin (Mt Pleasant Grazing)
9. Angie Bettridge (Partner, Mt Wilga Pastoral Company)
10. Mark Inglis (JBS)
11. Nigel Hogan (Production Manager, Aringa North Pastoral)

3.2.2 The co-design process

Six on-line meetings of the ground cover co-design group were held between November 2021 and May 2022. These meetings were led by either WWF or ANU, who were also responsible for preparing and disseminating background material prior to each meeting. Prior to each co-design meeting, a 'planning' meeting was held between WWF, UQ, MLA (for early meetings) and John James, the co-design meetings facilitator. The on-line format of these meetings had some challenges (for example sometimes participants had connectivity issues or availability constraints), but overall it was a very successful, efficient and cost effective way of bringing together a diversity of participants from across Australia.

The focus of each of these meetings is outlined briefly below:

Meeting 1: An introductory meeting providing participants with an overview of the environmental credentials for Australian grass-fed beef project, including a presentation from MLA and WWF. There was a discussion about the role of the working group and next steps.

Meeting 2: Co-design participants were provided with background scoping material prepared by WWF and ANU and the results of a business scan completed by UQ. Focus of this meeting was on discussing and agreeing the definition of 'ground cover' and the scope of the ground cover theme. Key design elements of the theme (for example, outcome-based, activity-based, process-based or a hybrid approach) were also discussed, along with key linkages to other relevant initiatives such as the System of Environmental-Economic Accounting (SEEA), the Australian Farm Biodiversity Certification Scheme, Accounting for Nature, Land to Market Australia and Land Management Alliance.

Meeting 3: The focus of meeting 3 was to discuss appropriate indicators and measures, including what is possible with available data including remote sensing. The links between themes was also a discussion item in this meeting.

Meeting 4: In this meeting, the ANU team provided an overview of the proposed Australian Farm Biodiversity Certification Scheme and the biodiversity condition scoring approach that has been developed by ANU as part of that proposed Scheme. The working group was provided with information about the certification process, thresholds for reaching certification classes and an overview of the proposed vegetation condition for biodiversity scoring approach that the Scheme will be using to compare properties with relevant regional benchmarks. The group also discussed: 'what does success look like?'

Meeting 5: discussion focussed on a potential 'workflow' for an online sustainability tool to support the environmental credentials, linked to this was a discussion around existing data and platforms, including the potential to link to and use the National Stewardship Trading Platform (which will also be used to conduct assessments under the Australians Farm Biodiversity Certification Scheme with this functionality). The topic of learning resources was also introduced at this meeting,

Meeting 6: this meeting focused on confirming with working group members all agreed elements of the design brief: definition and scope, measures and indicators, existing data, benchmarks and learning resources. For learning resources, working group participants reviewed a list of existing resources and commented on their usefulness, and identified the need for synthesis of existing material, or any gaps in knowledge.

Meeting outcomes were recorded in a 'rolling report' produced at the end of each meeting.

A final 'webinar' was held in July 2022, involving co-design participants across all five Project themes to discuss final outcomes from the co-design process.

Key features of the co-design approach used in the Project included:

- A 'flipped learning' approach, where participants were provided with material ahead of the meeting to inform and prompt discussion. This approach meant that more time was available in meetings for interactive discussion.
- The use of polls and breakout rooms to receive rapid feedback from participants, or to allow certain topics to be discussed in more detail with a smaller group.
- Each meeting built on discussions and agreement at previous meetings.
- Time and effort were committed to building the group dynamic and commitment to the task.

3.3 Design brief process

A design brief for the ground cover theme was prepared by ANU and WWF on behalf of the co-design group. This brief was based on the outcomes of the co-design process. The draft design brief was circulated to co-design participants and updated to include feedback from them. A peer review process was also undertaken, with feedback received from a number of external reviewers also incorporated into the final version of the design brief. This design brief was then submitted to MLA who are leading Stage 2 of the Project (online sustainability platform and learning resource development).

4. Results

4.1 Design brief overview

The ground cover theme co-design group highlighted the following 'design principles' in their discussions:

1. Avoid duplication of existing initiatives and efforts.
2. Taking account of regional variability is essential to all elements of designing environmental credentials and the online sustainability tool.
3. Transparency is essential and the data and process used to assess or measure ground cover must be made available to provide market confidence.
4. Important that the online sustainability tool is free to access and ideally avoids having sign-in requirements.
5. Simple, easy to use and intuitive. There were concerns about training producers to be able to use the tool and support could be provided through NRM groups etc but will need to be as intuitive as possible.
6. Provides a 'feedback mechanism' to allow producers to correct or provide feedback on remote sensing data (concerns were raised about the accuracy of remote-sensing data and relying on desktop assessments for ground cover assessment).
7. Important to clearly communicate the limitations associated with relying on a desktop/remote assessment of ground cover.
8. Option should be made available for producers to supplement or correct remote sensing data by providing on-ground evidence (for example photos or on-ground assessment data).
9. Needs to capture producers straight away upon entering the platform and highlight why does the producer want to use it/what's the value or benefit to them (although getting people to the site is also a challenge).
10. Landholders must be adequately informed 'up-front' about any privacy issues related to data use and sharing.
11. Consideration will need to be given to the challenge of acknowledging past continuous improvement as well as a commitment to future improvement from a low base.

Key elements of the design brief are the definition, purpose and scope of the theme, indicators and measures and practices. These are summarised briefly below.

The co-design group agreed to the following definition of ground cover:

Definition: Ground cover generally refers to the organic material covering the soil surface and other biological crusts that are in contact with the soil surface. **In the context of Environmental Credentials for Australian Grass-fed Beef, ground cover means the organic material covering the soil surface. Avoiding or reducing bare soil is a priority.**

The purpose of the environmental credential for ground cover is to demonstrate that ground cover is being retained and/or improved in grass-fed grazing systems.

The ground cover co-design group agreed that the online sustainability platform and learning resources for this theme are intended to:

- enable producers to assess on-farm ground cover easily and remotely (recognising the limitations associated with this approach)
- provide producers with the ability to compare their property against regional benchmarks.
- support improved ground cover management
- enable producers to demonstrate their on-ground performance against market requirements, and to provide on-farm benefits
- enable producers to showcase their performance and to inform others.

In relation to the scope of the online sustainability platform and the learning resources (and the potential environmental credential for ground cover), the ground cover co-design group noted the following:

- The platform is intended to link to and build upon existing relevant initiatives,
- It should take into account regional variability.
- It should take into account seasonal variability and the impacts of natural disasters.
- The focus of this ground cover theme is maintaining pasture that is palatable, perennial and productive (the 3Ps), litter that will decompose and improve soil health, and elements that will slow down water flow and increase absorption.
- Assessment of the ground cover credential under the Environmental Credentials for Australian Grass-fed Beef project is intended to be cost-effective and based on remote sensing data rather than on-farm surveys, audits and measurements, noting that this approach has limitations and presents challenges that must be clearly communicated to users of the online sustainability tool, and to the market.
- There are strong linkages, in terms of both concepts and data, between the ground cover theme and other themes under the Environmental Credentials for Australian Grass-fed Beef project, **particularly the drought resilience theme**.
- Learning resources for this theme are intended to support producers seeking to retain and improve ground cover. They will link to and use existing learning resources and information networks, and synthesise existing resources where required to improve producer access to information.

It was agreed by the ground cover co-design group that groundcover itself was a key indicator of land condition, and that avoiding bare soil is a priority. The group agreed on three measures:

1. Percentage of a property achieving healthy ground cover thresholds (aligns with ABSF)
2. Percentage of area in ground cover classes (for example: 0-30% cover = low; 30-70% cover = medium; >70% cover = high)
3. Percentage of groundcover meeting the 3P criteria (palatable, perennial, productive). Noting that this measure would require field verification and is therefore likely to be outside of the scope of this project unless there is a self-reporting mechanism provided. It may be appropriate for there to be a dedicated learning resource focussed on 3P and the importance of biomass above and below the ground.

The challenges and limitations that exist within the scope of this project and using these measures are:

- Relying solely on remote sensing data to measure groundcover. It is not possible to measure or assess ground cover remotely in wooded areas where tree cover limits ground visibility.
- Getting the timing right for assessments (for example, measuring at the time of the year with the least cover, such as the end of the dry season), especially given regional variability.

It is recommended that the online sustainability tool allows remote assessment of ground cover to be supplemented by data and images provided by producers.

Although **practices** for ground cover management were not explicitly covered in co-design meetings, information on practices were required in the design brief and a number of widely accepted ground cover practices were therefore included in the brief.

The co-design group noted the following in relation to benchmarks for ground cover:

- Benchmarks will need to be regionally specific due to variability in rainfall, species, and other relevant factors (including legislative requirements)
- Thresholds of what constitutes good groundcover will need to be adjusted according to location, noting the general MLA recommendation that ground cover be maintained at 70% on lower slopes and up to 100% on steep areas[*]
- Some NRM regions are too large to provide meaningful comparisons in some locations (for example, in WA), and may need to be further divided.
- Historical benchmarks are particularly useful for people who have properties with low levels of groundcover and want to improve.
- It is recommended that properties be benchmarked against similar properties in that region (the proposed approach for regional benchmarking under the Australian Farm Biodiversity Certification Scheme is a good example).

A final design brief for ground cover is provided in full at Appendix 1.

5. Conclusion

The codesign process was an effective way of engaging with, and capturing feedback and input from, key industry representatives including beef producers. Although there were some limitations in a fully online approach for co-design meetings, these were insignificant in comparison to the benefits. The online format enabled broad regional representation and for generally time-poor producers and stakeholders to more easily engage without travelling and at a relatively low cost.

The flipped learning approach used in the co-design process meant that participants had the time to read and consider material prepared and circulated prior to a meeting allowing meeting time to be largely allocated to discussion and ensuring that all participants had the opportunity to provide input. Co-design participants were highly engaged and interested in the project and offered invaluable input and expertise. By the end of the co-design process, participants had a strong sense of ownership in

[*] 'Maintain ground cover' Meat and Livestock Australia https://www.mla.com.au/research-and-development/Environment-sustainability/Sustainable-grazing-a-producer-resource/climate-variability-using-water-wisely/maintain-ground-cover/ accessed 30 May 2022.

the process and the anticipated final outputs, with all agreeing to the final design brief. They also appreciated the opportunity to learn from others and share ideas.

The co-design group were strongly supportive of the opportunity to exploit linkages with the proposed Australian Farm Biodiversity Certification Scheme, and the proposed vegetation condition for biodiversity scoring approach that had been developed by ANU under that scheme.

One key challenge associated with the approach taken in the Project (with co-design as a first discrete stage in the Project) is the length of time between the co-design process ending (May 2022), and the final anticipated output (December 2023). There is also a lack of overlap between Stage 1 co-design participants and Stage 2, those who are closely involved with the platform design process (which is being led by MLA directly with the platform team). Both factors present risk of disconnect between the co-design process and platform development. While the co-design participants have been invited to join the pilot, responses to date have been relatively low. The consortium has discussed the need to reconnect with co-design participants closer to the pilot launch to encourage their participation to seek their feedback on the platform design.

While the co-design stage of the process is considered to have been very successful in engaging with key industry representatives, and developing a design brief, it is not yet possible to comment on how successfully the co-design process has been in informing and influencing the final project outcome.

6. Key findings

- A platform design brief for the ground cover theme was successfully developed. The design required inclusion of a definition, measures and indicators, benchmarks, gaps in learning resources.
- An environmental credential for ground cover should be consistent with, and link to (where possible) the proposed Australian Biodiversity Certification Scheme's vegetation condition for biodiversity scoring method.
- It is essential to account for regional variability when deciding on benchmarks for ground cover.
- Beef producers participating in co-design groups were highly engaged in the process and had strong ownership in potential project outcomes.
- 'Design principles' that emerged from discussions with the ground cover theme working group include the need for an online sustainability tool that is intuitive, easy to use and open access, avoids duplication of effort and builds on (and/or links to) existing initiatives, and addresses privacy and data accuracy concerns. Also noted was the importance of recognising and accounting for regional variability.
- There is a risk of 'disconnect' between Stage 1 and Stage 2 of the Project, which may limit the value of the work undertaken in Stage 1.

7. Benefits to industry

Work that raises awareness of the value of retaining or improving ground cover is of benefit to the grass-fed beef industry. This Project is not yet complete, so it is difficult to quantify or fully anticipate industry benefit. Given the invaluable input from key representatives from the beef industry, and the high level of interest from the market in sustainable beef production, it is anticipated that tools that enable to beef producers to demonstrate their environmental performance, including retention and improvement in ground cover, will have significant industry benefit. This benefit will be greater if final Project outcomes are consistent with, and linked to, other complementary initiatives.

8. Future research and recommendations

Potential areas of further R&D:

- Spot verification of a sample size of properties could determine levels of accuracy of the remote sensing information and to identify any issues with the platform for amendment. For example, some properties using the platform will be well-surveyed for their vegetation and biodiversity and could be used as examples to calibrate data accuracy.
- As remote sensing information improves, the maintenance contractor for the platform should ensure that information is updated.
- Industry representatives involved in the co-design expressed an interest in nature-based markets and opportunities for participation in these markets. Opportunities for producers or supply chain stakeholders, using the platform to meet the needs of emerging nature-based markets and other market requirements, such as Taskforce on Nature-related Financial Disclosures (TFND) and Science Based Targets for Nature (SBTN) should be reviewed.
- The co-design groups raised a request for a customisable dashboard design where producers can create an interface useful for them.
- Another idea was whether producers would be able to connect their platform data with other financial, stock or farm management systems to streamline data transfer and minimise data entry requirements. It was recognised there may be software compatibility issues but considered it might be useful for integrated decision-making.
- Given concerns about the accuracy of remote sensing data, the co-design groups suggested the need for feedback mechanisms, allowing user input of biophysical data, alongside the remote sensing data. This feature will be necessary when remote sensing cannot cover a specific indicator or measure, or when users believe the remote sensed data is incorrect.

Adoption:

- The platform will be promoted among the Australian beef industry, including grass-fed beef producers and wider networks. This will include engagement with various supply chain stakeholders to ensure they have a strong understanding of the platform and its capability to drive adoption. As with adoption of any new tool, there will need to be capacity building for users and end-users of the tool to understand it and integrate it into their production or supply chain businesses as well as NRM consultants and advisers.

9. Appendix

9.1 Ground cover: final design brief

Environmental Credentials for Australian Grass-fed Beef

Ground Cover working group

Final draft platform design brief June 2022

Background

WWF Australia is the theme lead for the Ground Cover theme. WWF sub-contracted the Australian National University Agricultural Stewardship team (Professor Andrew Macintosh, Professor Don Butler and Marie Waschka) to assist in the role of theme lead; to provide technical advice on this project; and, to build linkages between the environmental credentials for Australian grass-fed beef project and the Australian Farm Biodiversity Certification Scheme.

The working group for this theme was made up of the following members:

Angus Atkinson (AJ and AL Atkinson)
Ben Evans (Rampsbeck)
Olivia Lawson (Paringa Livestock)
Cameron Gibson (Coonabar Cattle Trust)
Anne Marie Huey (Dampier Downs Station)
Lucinda Corrigan (Rennylea Pastoral Company)
Nick Allen (Boorook Partners)
Garlone Moulin (Mt Pleasant Grazing)
Mark Inglis (JBS)
Nigel Hoges Hogan (Alinga North Pastoral)

Maintenance of ground cover is essential to sustainable grass-fed beef production. In addition to the obvious benefits of productive pastures, adequate ground cover improves drought resilience, soil conservation and health, catchment water quality, and biodiversity. As stated in the initial scoping paper for this theme, the purpose of an environmental credential for ground cover is to enable grass-fed beef producers to demonstrate that high levels of ground cover are being retained. In doing so, they are more likely to be able to demonstrate that their land is in good condition and being managed in a way that supports more consistent and sustainable stocking rates, and is more drought resilient.

It is within this context that the working group met to progress co-design discussions for this theme.

The working group met six times between November 2021 and May 2022. The meetings had the following focus:

Meeting 1: An introductory meeting providing participants with an overview of the environmental credentials for Australian grass-fed beef project, including a presentation from MLA and WWF. There was a discussion about the role of the working group and next steps.

Meeting 2: Focus on discussing and agreeing to the definition of ground cover in the context of this project and the scope of the ground cover theme. Key design elements of the theme (for example, outcome-based, activity-based, process-based or a hybrid approach) were also discussed, along with key linkages to other relevant initiatives.

Meeting 3: The focus of meeting 3 was to discuss appropriate indicators and measures, including what is possible with available data including remote sensing.

Meeting 4: In this meeting, the ANU team provided an overview of the Australian Farm Biodiversity Certification Scheme that establishes three classes of certification: green, gold and provisional class. The working group was provided with information about the certification process, thresholds for reaching these classes and an overview of the proposed

vegetation condition and biodiversity condition scoring approach that the Scheme will be using to compare properties with relevant regional benchmarks. The group also discussed: 'what does success look like?'

Meeting 5: discussion focussed on a potential 'workflow' for an online sustainability tool to support the environmental credentials, linked to this was a discussion around existing data and platforms, including the potential to link to and use the National Stewardship Trading Platform (which will also be used to conduct assessments under the Australians Farm Biodiversity Certification Scheme with this functionality due to be available on the site in late 2022). The topic of learning resources was also introduced at this meeting,

Meeting 6: this meeting focused on confirming with working group members all agreed elements of the design brief: definition and scope, measures and indicators, existing data, benchmarks and learning resources. For learning resources, working group participants reviewed a list of existing resources and commented on their usefulness, and identified the need for synthesis of existing material, or any gaps in knowledge.

As part of an 'external review' requirement under this project, two reviewers provided comment on this document, simple changes have been incorporated into this document, and other comments are summarised in a table at Attachment C.

The following table outlines the key elements of a 'design brief' for the development of the online sustainability tool as discussed by the working group members.

Design brief item	**Progress**
Definition and scope	**Definition:** Ground cover generally refers to the organic material covering the soil surface and other biological crusts that are in contact with the soil surface. **In the context of Environmental Credentials for Australian Grass-fed Beef, ground cover means the organic material covering the soil surface. Avoiding or reducing bare soil is a priority.**

	Purpose: The key purpose of the environmental credential for ground cover is to demonstrate that ground cover is being retained and/or improved in grass-fed grazing systems. **Scope:** The online sustainability tool and supporting learning resources are intended to: - enable producers to assess on-farm ground cover easily and remotely (recognising the limitations associated with this approach) - provide producers with the ability to compare their property against regional benchmarks. - support improved ground cover management - enable producers to demonstrate their on-ground performance against market requirements, and to provide on-farm benefits - enable producers to showcase their performance and to inform others. Note: - This tool is intended to link to and build upon existing relevant initiatives, - It should take into account regional variability. - It should take into account seasonal variability and the impacts of natural disasters. - The focus of this ground cover theme is maintaining pasture that is palatable, perennial and productive (the 3Ps), litter that will decompose and improve soil health, and elements that will slow down water flow and increase absorption. - Assessment of the ground cover credential under the Environmental Credentials for Australian Grass-fed Beef project is intended to be cost-effective and based on remote sensing data rather than on-farm surveys, audits and measurements, noting that this approach has limitations and presents challenges that must be clearly communicated to users of the online sustainability tool, and to the market. - There are strong linkages, in terms of both concepts and data, between the ground cover theme and other themes under the Environmental Credentials for Australian Grass-fed Beef project, **particularly the drought resilience theme**. - Learning resources for this theme are intended to support producers seeking to retain and improve ground cover. They will link to and use existing learning resources and information networks, and synthesise existing resources where required to improve producer access to information.
Indicators and measures	**Indicator** **Groundcover is a key indicator of land condition. Avoiding bare soil is a priority.**

	Measures The ground cover working group proposes three measures: 4. Percentage of a property achieving healthy ground cover thresholds (aligns with ABSF) 5. Percentage of area in ground cover classes (for example: 0-30% cover = low; 30-70% cover = medium; >70% cover = high) 6. Percentage of groundcover meeting the 3P criteria (palatable, perennial, productive). Noting that this measure would require field verification and is therefore likely to be outside of the scope of this project unless there is a self-reporting mechanism provided. It may be appropriate for there to be a dedicated learning resource focussed on 3P and the importance of biomass above and below the ground. The challenges and limitations that exist within the scope of this project and using these measures are: - Relying solely on remote sensing data to measure groundcover. It is not possible to measure or assess ground cover remotely in wooded areas where tree cover limits ground visibility. - Getting the timing right for assessments (for example, measuring at the time of the year with the least cover, such as the end of the dry season), especially given regional variability. It is recommended that the online sustainability tool allows remote assessment of ground cover to be supplemented by data and images provided by producers. Note that the National Stewardship Trading Platform https://agsteward.com.au will be used to support vegetation and biodiversity condition assessments under the Australian Farm Biodiversity Certification Scheme. This functionality is expected to be available on the NSTP in late 2022. It is recommended that the Environmental Credentials for Australian Grass-fed Beef online sustainability tool link to and utilise the technology and data available on the NSTP rather than duplicate this platform. Queensland's 'The Long Paddock' website and its AussieGrass Portal is another relevant resource that should be built upon rather than duplicated. **Data sources:** Sources of contextual data (all freely available): - Land parcels - Image base - National vegetation condition data, ideally same as developed for AFBCS (NSW and Victoria have published condition layers, Qld in development but other states do not have plans to develop their own data)

	- Habitat Condition Assessment System (National product that's an input to the AFBCS condition layer) - Land use - Land cover - The Australian Farm Biodiversity Certification Scheme (AFBCS, recently launched by the Australian Government) will use land use and landcover data to develop assessment units across regions to estimate average condition of those units using HCAS and local knowledge) **Measurement frequency** Fractional cover data are commonly available quarterly, but an annual measure taken at the driest time of the year is recognised as a minimum measure for groundcover and is recommended in this instance. It is recommended that measurements (both type and timing) align with existing measurement requirements in certain regions, for example the Reef Protection Regulations specified for reef catchments in Queensland. **Data to be shared with the supply chain** Recommend numbers for each measure, with graphs to show the time-series data and capacity to drill through to maps (a spatial representation of the data that goes into producing those numbers).
Practices	The working group for ground cover did not specifically discuss management practices as a topic at its working group meetings, however it is broadly accepted that management practices to support sustainable ground cover would likely include practices such as: • 'Tactical grazing' (wet season spelling from grazing, time-controlled grazing etc) and sustainable stock limits that are responsive to regionally specific conditions, and considering the long term carrying capacity of the property. • Prescribed burning where appropriate • Strategic fencing and placement of watering points • Improve pasture composition so that it is appropriate to a specific region, and it meets the 3P criteria • Erosion control • Undertaking a 'forage budget' managing stocking rates accordinglu • Having a drought management plan that includes key decision dates to manage livestock numbers. **Scenarios**

	The working group have discussed the potential for the online sustainability tool to run scenarios to inform their on-ground management practices. Whilst the benefits of providing a tool such as this were acknowledged, there were concerns about how difficult it is to 'get this right'. It was recommended that the potential for scenario planning to be included on the online sustainability tool should be explored at a higher level, across all themes, rather than at a thematic level, for it to be most useful to producers and to avoid potentially conflicting scenarios.
Benchmarks	The working group noted that: - Benchmarks will need to be regionally specific due to variability in rainfall, species, and other relevant factors (including legislative requirements) - Thresholds of what constitutes good groundcover will need to be adjusted according to location, noting the general MLA recommendation that ground cover be maintained at 70% on lower slopes and up to 100% on steep areas[2] - Some NRM regions are too large to provide meaningful comparisons in some locations (for example, in WA), and may need to be further divided. - Historical benchmarks are particularly useful for people who have properties with low levels of groundcover and want to improve. It is recommended that properties should be benchmarked against similar properties in that region (the proposed approach for regional benchmarking under the Australian Farm Biodiversity Certification Scheme is a good example).
Learning resources	**Existing resources**: see Appendix B **Gaps in knowledge or learning opportunities**: - Demonstrating how best to use the online sustainability tool and what it is capable of doing to support producers. - There are already many excellent 'learning resources' and these need to be linked to, or synthesised in a way that adds value rather than duplication. - Important that regionally specific information is provided. - On-farm learning and face-to-face communication is very important, this might be via existing networks or groups, or specifically delivered by MLA through their extension activities where there are gaps. - There is a need for producers to adapt tools to their environment. Highlighting key principles for each area e.g. ground cover (minimising bare ground to improve soil health, maintain top soil and reduce erosion), would be good with ideas on how to then adapt and adopt. Reviewer comments:

[2] 'Maintain ground cover' Meat and Livestock Australia https://www.mla.com.au/research-and-development/Environment-sustainability/Sustainable-grazing-a-producer-resource/climate-variability-using-water-wisely/maintain-ground-cover/ accessed 30 May 2022.

	- resources that build producer knowledge and skills in assessing groundcover in their paddocks, with the easiest approach to support landholders in using ground cover reference photos for different land types. - A brief value proposition for the producer on understanding and managing ground cover would be useful.
Key design principles to increase platform useability	The following design principles have been highlighted by the ground cover working group throughout discussions: 12. Avoid duplication of existing initiatives and efforts. 13. Taking account of regional variability is essential to all elements of designing environmental credentials and the online sustainability tool. 14. Transparency is essential and the data and process used to assess or measure ground cover must be made available to provide market confidence. 15. Important that the online sustainability tool is free to access and ideally avoids having sign-in requirements. 16. Simple, easy to use and intuitive. There were concerns about training producers to be able to use the tool and support could be provided through NRM groups etc but will need to be as intuitive as possible. 17. Provides a 'feedback mechanism' to allow producers to correct or provide feedback on remote sensing data (concerns were raised about the accuracy of remote-sensing data and relying on desktop assessments for ground cover assessment). 18. Important to clearly communicate the limitations associated with relying on a desktop/remote assessment of ground cover. 19. Option should be made available for producers to supplement or correct remote sensing data by providing on-ground evidence (for example photos or on-ground assessment data). 20. Needs to capture producers straight away upon entering the platform and highlight why does the producer want to use it/what's the value or benefit to them (although getting people to the site is also a challenge). 21. Landholders must be adequately informed 'up-front' about any privacy issues related to data use and sharing. 22. Consideration will need to be given to the challenge of acknowledging past continuous improvement as well as a commitment to future improvement from a low base.

APPENDIX A: Environmental Credentials for Australian Beef Issues Scoping Paper Ground Cover Theme

Introduction

Australian beef producers pride themselves on their environmental stewardship across a range of sustainable practices but few have secured market recognition or benefit for their environmental performance to date. Some existing customers of beef as well as emerging markets are calling for more information on beef production practices, including the environmental performance of supply chains.

This project will develop an on-line platform with performance indicators, benchmarking and learning resources, that will enable beef producers to self-assess their on-farm management practice against five environmental credentials (Figure 1).

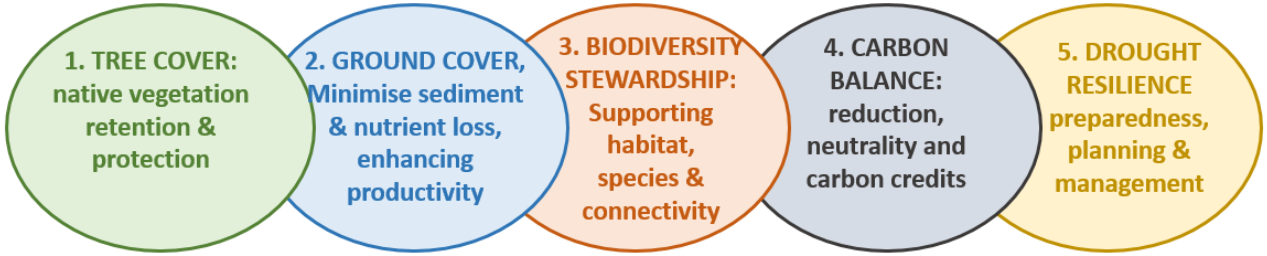

Figure 1 summary of theme areas covered by the demonstrating beef environmental credentials program

Purpose of this paper

The purpose of this background issues scoping paper is to guide the development of the environmental verification and e-learning platform for the biodiversity theme. It will ensure that there is no duplication of existing programs or platforms, and that project activities leverage and complement pre-existing programs or platforms and build on what has gone before. It will ensure that the project is efficient, relevant and is targeting areas where there is a need. The paper will be used as the basis for the co-design working groups in designing the verification and learning platforms.
This paper provides an overview of:

- Why ground cover is relevant to the grass-fed beef industry
- existing programs or activities for verifying or measuring ground cover, which are relevant to the Australian beef industry
- existing resources or programs for ground cover, which are relevant to the Australian beef industry, and
- work required to develop a Ground Cover credential for Australian beef.

Background and context

Ground Cover is an essential element of land stewardship in a livestock production setting in Australia. Ground is obviously critical for beef production, however it also provides provides important services beyond productivity, including drought resilience and consequently producer welfare, soil conservation, catchment water quality and biodiversity. Evidence suggests that ground cover increases water infiltration rates and water holding capacity of soils, thereby providing an additional element of resilience to drought alongside the availability of forage. Retention and enhancement of soil organic matter and soil carbon is reliant on good levels of ground cover.

A national framework that recognises ground cover as an environmental performance indicator for beef production will be useful to beef producers as one of a suite of indicators that demonstrate best environmental practise, and that allows a producer to benchmark his or her performance.

Ground cover performance could also be used to assess financial risk management in beef production. If ground cover is consistently high, it is evidence that land condition is high, and that stocking rates have been managed to match carrying capacity as seasons and conditions change on a property. It could also be viewed as a good indicator that buying in feed is not required on a given property, thereby minimising financial risk over time in the event of a prolonged drought.

This project will investigate the value of Ground Cover as an environmental credential for Australian grassfed beef. If the industry sees merit in Ground Cover as an environmental performance indicator, the Ground Cover credential will be developed to allow beef producers to voluntarily 'opt-in' to gain recognition for their ground cover using remote sensing technology and analytics to verify ground cover levels. Producers will also be able to access learning materials to continually improve environmental practices on farm.

Purpose, Definition, Scope of theme

Ground Cover as a demonstrable environmental credential for Australian beef is specifically about demonstrating that high levels of ground cover are being retained in grassfed grazing systems. This has the potential to provide multiple benefits to producers, including:

- better management of ground cover to improve productivity/profitability and management of a key operational risk

- quantify their performance against their farm targets or regional benchmarks
- support the industry to showcase best practice environmental stewardship

Ground cover is defined as the vegetation (living and dead) and biological material that are in contact with the soil surface. Ground cover includes both green (i.e. photosynthetic vegetation) and non-green (i.e. non-photosynthetic dry vegetation and plant litter) components.

The amount of ground cover is the result of interactions between landscape characteristics (soil, topography and vegetation), climate, and land management. Some areas support naturally higher levels of ground cover due to factors such as high soil fertility and consistently high annual rainfall.

The amount and type of ground cover affects many soil processes including infiltration, runoff and surface erosion. Maintenance of ground cover is essential for sustainable production, especially in rangeland environments where rainfall is highly variable.

Indicators and measures, measurement and verification

Ground cover is generally measured as a percentage cover of the ground area. Analysis of satellite imagery to establish ground cover classes is well advanced in many States and Territories in Australia, with products being made available on weekly or monthly bases.
Ground cover is a central theme to many Natural Resource Management plans and strategies around Australia. Research into ground cover as a measure of land condition and land stewardship in Australia is extensive. Remote sensing methodologies and analytics are well advanced for determining levels of ground cover in many regions of Australia. The published literature on this topic is vast.

The Co-design Working Group for Ground Cover will be invited to consider the merits of a Ground Cover credential, or whether the Ground Cover theme is better suited to a benchmarking tool for producers to gauge their own performance in comparison with their region. Attachment 1 provides some early questions for the Ground Cover Co-design Working Group to consider.

Learning resources

The Ground Cover theme is not intended to duplicate or replace existing initiatives or programs that recognise and/or encourage best practice in the beef industry. Rather, it is intended to support and promote those initiatives and programs by establishing a nation-wide credential to demonstrate on farm environmental performance. The intention is to provide producers with resources and links to existing initiatives that will boost their beef production towards successful Ground Cover credentials. Learning resources and guidance to assist producers in maximising ground cover are in abundance within each State and Territory and within each Natural Resource Management region. It is unlikely that additional material will be required to be developed, but that the platform links to existing resources.

Glossary

Term	Meaning
Indicator	a sign or signal that shows something exists or is true, or that makes something clear eg. the A common Ground Cover indicator is 'percentage area of ground cover
Verification	the process of establishing the truth, accuracy, or validity of something eg. satellite imagery analysis can be used to verify levels of ground cover

References and Reading

AussieGRASS Environmental Calculator Product Descriptions Version 1.5 Remote Sensing Centre May 2015
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Bastin, G. (2014) *Australian rangelands and climate change – remotely sensed ground cover*. Ninti One Limited and CSIRO, Alice Springs.
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Attachment 1. Theme development – Assumptions and Questions for Co-design

Table 1. Assumptions to be tested by Ground Cover Working Group

Aspect	Assumption	Comments and References
Ground Cover credential	No assumptions.	The value proposition needs to be established.
Ground Cover definition	The standard definition in Australia is % ground cover, as a converse of % bare ground and includes green, dry and dead fractions.	
Measurement of Ground Cover	Using remotely sensed data analysis rather than expensive, time-consuming on-ground audits and measurements.	
Frequency of re-measurement of Ground Cover if a producer opts in	No assumptions	To be decided with industry. Consideration to be given to cost of re-measurement and what markets request by way of information.
Timing of re-measurement	No assumptions	In northern beef areas, a date just prior to the Green Date is a logical point in time annually that could be

		used for measuring Ground cover, which marks the end of the Dry period. Is there a southern equivalent?

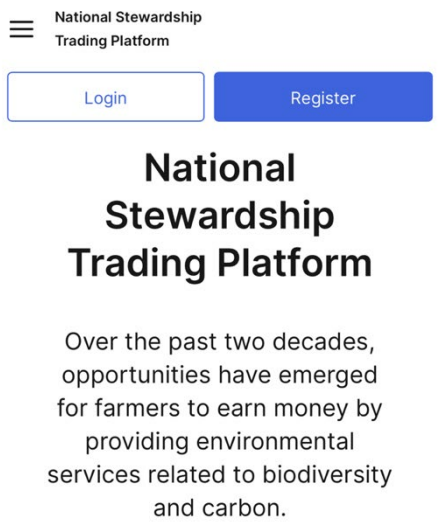
‘‘Green date’ is a useful concept in grazing systems where summer perennial grasses are the main component of the pasture base. It’s usually defined as the number of days after 1 October to achieve a 70% chance of receiving 50mm of rain over a maximum of three days. It’s based on soil temperatures and pasture responses to a specified amount of rain. For more information, visit: climateapp.net.au’ (MLA TIPS & TOOLS How do I manage heifers pre-joining to improve reproductive performance?)

Table 2. Questions to be answered by Ground Cover Working Group

- What regional variations do we need to consider in verifying best practice levels of Ground cover? Is Bastin’s work useful for this (Bastin 2014)?
- What frequency of re-measurement or averages should we decide on?
- What current guidance or initiatives relate directly to the Ground Cover theme?
- What natural justice arrangements are needed for events beyond a beef producer’s control that may decrease Ground Cover? (eg. wildfires, floods, pasture dieback).
- What is the likelihood of financial institutions being interested in ground cover performance?

Appendix B: Existing Learning Resources relevant to the Ground Cover Theme

1. National Stewardship Trading Platform (NSTP) is an Australian Government funded online tool that was launched in early 2022.



The NTSP provides a single platform to help farmers participate in emerging environmental markets. The NTSP provides planning tools to help farmers plan and evaluate biodiversity and carbon credits. It connects farmers with potential buyers in biodiversity and carbon services on its Marketplace. It also provides easy-to-use application portals for farmers to apply to the Australian Government Agricultural Biodiversity Stewardship pilot programs. It is designed to be modular, allowing other programs and projects to link to and use it, while allowing them to use their own 'front end' if required. It can be accessed at www.agsteward.com.au.

The NTSP will also provide the basis for assessment of biodiversity friendly farms under the recently launched 'Australian Farm Biodiversity Certification Scheme'(AFBCS). This Scheme has many synergies with the Environmental Credentials for Australian Beef project. Further information about the AFBCS, including a consultation draft of the Standard is available at https://www.awe.gov.au/agriculture-land/farm-food-drought/natural-resources/landcare/sustaining-future-australian-farming/aus-farm-cert-scheme

2. The MLA website includes a number of pages relevant to this theme including: 'Maintain groundcover', which is a page which illustrates ground at various percentages of cover and the impacts of that particular cover. Can be accessed at https://www.mla.com.au/research-and-development/Environment-sustainability/Sustainable-grazing-a-producer-resource/climate-variability-using-water-wisely/maintain-ground-cover/

From this page, it is possible to link to a number of manuals and guides of relevance including:

- More beef from Pastures – Map grazing land
- Tips and tools: Managing groundcover to reduce run-off and water loss

- Measuring groundcover

It is possible to download a whole 'module'/'More Beef from Pastures' manual, which includes a recommended approach to assessing groundcover, including instructions on how to undertake a visual assessment, or a field assessment using the 'step point method'. This resource is quite comprehensive providing proformas and examples. See also https://mbfp.mla.com.au which includes videos demonstrating on-farm experiences with applying the 'More Beef from Pastures' approach.

3. The Queensland Government's 'The Long Paddock' Website provides a range of excellent resources including access to 'AussieGrass' which provides rainfall and pasture growth maps https://www.longpaddock.qld.gov.au

4. The NSW Government, Local Land Services has a 'Maintain and improve groundcover' factsheet as part of its 'Grazing management principles' series see https://www.lls.nsw.gov.au/__data/assets/pdf_file/0004/571846/gmp3-maintain-and-improve-groundcover.pdf

5. The Queensland Government provides online information for graziers about its standards for beef cattle grazing using ground cover as an indicator for land condition. There are specific standards under reef protection regulations. See https://www.qld.gov.au/environment/agriculture/sustainable-farming/reef/reef-regulations/producers/grazing

6. 'Evergraze' has information about managing groundcover on their website, including definitions for groundcover, information about the importance of groundcover and management targets. Links to the MLA tool for assessing groundcover https://www.evergraze.com.au/library-content/manage-ground-cover/index.html

7. The NSW DPI's Prograze website provides information and assistance in pasture assessment, livestock assessment and plant species identification to support on-farm decision making https://www.dpi.nsw.gov.au/agriculture/pastures-and-rangelands/establishment-mgmt/grazing-management2/prograze-profitable,-sustainable-grazing

8. The Future Beef website includes a page 'Why you need ground cover – maximise rainfall infiltration' that includes a video explaining why you need groundcover https://futurebeef.com.au/resources/need-ground-cover/

9. Agriculture Victoria's Better Beef Network focuses on increasing sustainability and profitability of beef enterprises including through the sharing and provision of information and networking opportunities https://agriculture.vic.gov.au/support-and-resources/networks/betterbeef-network

10. The NSW Department of Primary Industries has a section on their website titled 'Responsible, sustainable beef production' that includes information about sustainable pasture management and maintaining ground cover https://www.dpi.nsw.gov.au/animals-and-livestock/beef-cattle/husbandry/general-management/production

11. The Queensland Government has published a literature review titled 'Managing ground cover for economic and sustainability outcomes on grazing lands in the Great Barrier Reef Lagoon catchments' (2019) https://era.daf.qld.gov.au/id/eprint/7077/1/groundcover_project_literature_review_2019.pdf

12. Sustainable Australian Beef website supporting the Australian Beef Sustainability Framework has information on the framework's six key priorities, including balance of tree and grass cover in grazing systems. https://www.sustainableaustralianbeef.com.au/the-framework/six-key-priorities/balance-of-tree--grass-cover/

13. MLA have a case study titled 'Case study: data drives gains in grass and tree cover' outlines how a cattle company have used online tools and the ABSF to prioritise and invest in sustainability across their beef business. See https://www.mla.com.au/news-and-events/industry-news/case-study-data-drives-gains-in-grass-and-tree-cover/

14. Many NRM Groups have excellent regionally specific information.

15. Other relevant tools such as forage reports, Vegmachine, StocktakeGLM, My FarmKey, Grazing Land Management EDGE, FutureBeef website.

Attachment C

Environmental Credentials for Australian Grass-fed Beef: Ground Cover Theme

Reviewer comments

Reviewer	Comment	Action
Steve Banney	Maybe not measured but would be good for producers to understand that the best ground cover is 3P which means it has lots of biomass above and below the ground.	Note added to design brief – useful as a learning resource.
	Not all producers know how to assess ground cover in the paddock. Remote sensing tools are great, but first producers must be competent in assessing ground cover in their paddocks. It is a simple learning process; much easier than estimating dry matter yield or the live weight of cattle. The learning process is easy using ground cover reference photos for different land types.	Comment noted and note added to design brief
	Issue around privacy and providing information to producers up front about how the information is going to be used	Noted and privacy point added to design principles section of the design brief.
	A brief value proposition for the producer on knowing and managing ground cover would be valuable.	Noted and note added to design brief
	A number of comments made in tracked changes in the background issues paper	As this is a historical document drafted prior to the working group meetings at the beginning of this project, that has been attached for information only, these changes have not been made.
Steven Bray	If a rundown property is purchased or through succession and the new owners want to improve that property. They need to be able to engage. Not just be 'knocked out' of the process because their property in currently in poor condition. The process needs to acknowledge past continuous improvement (e.g. ground cover improvement over the last 10 years) but also future improvement from a low base.	Noted: reviewer comment added to design brief

Reviewer	Comment	Action
	A number of tools/ learning resource and practices suggestions were made: Tools include: • Forage reports • Vegmachine • StocktakeGLM • CIBO tools • Grazing Land Management EDGE • FutureBeef website Practices • Grazing around the Long term carrying capacity • Matching stocking rate to forage supply (doing a forage budget) • Having a drought management plan that include key decision dates to manage livestock numbers (e.g. sell, agist)	Noted and have been included in the design brief