Final report

Environmental credentials for Australian Grass-fed Beef: co-design of the Biodiversity Stewardship theme

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Prepared by:	Marie Waschka, Andrew Macintosh and Don Butler, ANU Sharelle Polack, WWF-Australia
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Meat & Livestock Australia Limited
PO Box 1961
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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 the 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 to design the Australian Farm Biodiversity Certification scheme. The partnership ran a co-design process for three themes, biodiversity stewardship, tree cover and ground cover. This involved bringing together representatives from the beef industry to agree on recommendations for a 'design brief' intended to inform the development of an online sustainability platform and online learning resources. The biodiversity co-design group agreed on the definition of 'biodiversity stewardship', indicators and measures, benchmarks, and gaps in learning resources. The co-design group also identified a number of overarching 'design principles' to guide the development of project outputs relevant to biodiversity stewardship.

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 'Biodiversity Stewardship' theme were to:

1. Develop the design brief for the Biodiversity Stewardship 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 biodiversity theme into the on-line platform.

Methodology

The Biodiversity Stewardship 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, it sought feedback from a number of external reviewers and incorporated their feedback into the final brief.

Results/key findings

The Biodiversity Stewardship 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 biodiversity stewardship, 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.

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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:
    a. biodiversity stewardship
    b. tree cover
    c. ground cover
    d. drought resilience, and
    e. 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, with regard to biodiversity, the credential will indicate whether a producer is managing their property in a way that biodiversity is likely to be being maintained or improved. When remote sensing or other technology enables cost-effective quantification of comprehensive biodiversity indicators, the platform will aim to incorporate these as part of its ongoing maintenance and updating. 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 Biodiversity Stewardship theme between November 2021 and June 2023.

2. Objectives

Table 1 below describes project objectives and achievement status.

Table 1

Objective	**Status**
1. Develop the design brief for the Biodiversity Stewardship 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 Biodiversity Theme. b) Select, collate, review and update relevant Biodiversity Stewardship 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 Biodiversity Stewardship Theme.	Achieved. A design brief for the Biodiversity Stewardship Theme, including indicators, measures, benchmarks and recommended learning resources was developed in consultation with members of the Biodiversity Stewardship 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.

c) Produce a design brief for the technical builder of the online platform, from the co-design process. Design brief to cover (minimum): 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 biodiversity 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 Biodiversity Stewardship 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 on 27 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 biodiversity stewardship theme co-design members consisted of 11 beef producers.

3.2.2 The co-design process

Six on-line meetings of the biodiversity stewardship 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 'biodiversity stewardship' and the scope of the biodiversity stewardship 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 use of vegetation condition as an indicator of biodiversity was a key discussion point 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 biodiversity stewardship 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 biodiversity stewardship theme co-design group highlighted the following 'design principles' in their discussions:

1. Avoid duplication of existing initiatives and efforts. Particularly important to link to the Australian Farm Biodiversity Certification Scheme and use the National Stewardship Trading Platform as a 'one-stop-shop'.
2. The relationship between the Australian Farm Biodiversity Certification Scheme and the Environmental Credentials for Australian Grass-fed Beef project needs to be clearly communicated in a manner that allows producers and the market to clearly understand where they are linked, where they differ, and the opportunities and 'rewards' offered under each initiative.
3. It is essential that an environmental credential for biodiversity stewardship under this project does not undermine the integrity of the Australian Farm Biodiversity Certification Scheme, or limit producer opportunities for promoting their efforts to retain or improve on-ground biodiversity outcomes.
4. Important to clarify why a producer should use this platform, what's the benefit (compared to other natural capital tools and platforms).
5. Transparency is essential and the data and process used to calculate vegetation condition scores or other measures must be made available to provide market confidence.
6. Important that the online sustainability tool is free to access and ideally avoids having sign-in requirements.
7. Simple, easy to use and intuitive.
8. 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 biodiversity stewardship).
9. Important to clearly communicate the limitations associated with relying on a desktop/remote assessment of biodiversity stewardship and limitations around the use of vegetation condition as an indicator for biodiversity.
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 biodiversity stewardship:

Australian Beef Producers conserving and enhancing Australia's native plants and animals and the ecological communities of which they are a part.

The agreed purpose of this theme is to demonstrate that biodiversity is being retained and/or improved in grass-fed grazing systems. The strongest approach to this problem will be an outcome focussed assessment system, rather than one which places high weight on processes, practices or 'awareness'.

As stated in the design brief, the scope of a potential 'credential' for biodiversity stewardship:

- is intended to complement and link to existing relevant projects, particularly the proposed Australian Farm Biodiversity Certification Scheme recently launched by the Australian Government. It is recommended that achieving a Biodiversity Stewardship Credential in the form of a property vegetation condition score that meets or exceeds regional benchmarks is

also the first step towards achieving certification under the Australian Farm Biodiversity Certification Scheme. It is important that the links between these two initiatives, any differences in the relative standards of scrutiny and assessment, and their respective purposes are clearly communicated to producers, and to the market.

- Assessment of the biodiversity stewardship 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. It is intended to be an 'entry-level' recognition of on-ground biodiversity stewardship efforts with a clear focus on outcomes.
- There are strong linkages, in terms of both concepts and data, between the biodiversity stewardship theme and other themes under the Environmental Credentials for Australian Grass-fed Beef project, particularly the tree cover and ground cover themes.
- Learning resources for this theme are intended to support producers seeking to retain and improve on-farm biodiversity outcomes. 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 co-design group that vegetation condition be used as the primary **indicator** of biodiversity stewardship as follows:

1. It is recommended that vegetation condition in this context is assessed according to the methodology devised under the Australian Farm Biodiversity Certification scheme which calculates vegetation condition for biodiversity at a property-level relative to the broader region.

2. As outlined in the Australian Farm Biodiversity Certification Scheme Standard, the first step in this assessment involves dividing the farm and the region into land types. Wherever suitable data are available, the land types are based on combinations of pre-clearing vegetation types and agricultural capability. Land types are intersected with a vegetation condition for biodiversity layer for the region based on combinations of land use and land cover. The regional vegetation condition layer is used to generate average vegetation condition scores for land types across agricultural land in the region. The same layer is used to calculate the farm vegetation condition score, as a weighted average condition score across its land types, which can be compared to the regional agricultural land score.

3. The Australian Farm Biodiversity Certification Scheme will undertake this step as an initial desktop assessment to calculate an initial vegetation condition score determining a landholder's eligibility to proceed with an application for certification under the Scheme. Landholders can proceed to the next level of assessment for certification if they meet certain vegetation condition score thresholds. It is strongly recommended that the environmental credential for biodiversity stewardship use these same thresholds.

4. Under the Australian Farm Biodiversity Certification Scheme, the initial desktop assessment and calculation of the vegetation condition score is then supplemented with an on-site visit by an accredited site assessor. It is during this site assessment that other factors of importance to biodiversity, such as ecological significance, are further assessed (along with

on-ground verification of the remote sensing data) to calculate a 'biodiversity condition score', and to draft a property management plan.

5. As the Environmental Credentials for Australian Grass-fed Beef project is intended to be an online assessment only, it will only be possible to undertake the vegetation condition assessment (rather than a more complete biodiversity condition assessment). However, this will mean that producers will have completed the first step in being assessed for eligibility to be certified under the Australian Farm Biodiversity Certification scheme, and they can then go on to undertake the full certification process if they choose to do so. It is important that appropriate caveats are stated on the online sustainability tool around the limitations for undertaking desktop assessments of biodiversity stewardship using desktop vegetation condition assessments. This includes limitations in relying on remote sensing data, and the importance of allowing for a 'feedback loop' where producers can provide updated data relevant to their property if required. This would improve confidence in the process by both producers and the market.

6. It is important to ensure that the Environmental Credentials for Australian Grass-fed Beef project and the Australian Farm Biodiversity Certification scheme are complementary initiatives that allow producers to be appropriately recognised for their on-farm biodiversity efforts, and for their level of recognition to be justified according to the level of verification and assessment undertaken, and their commitment to maintaining or improving biodiversity outcomes. It is essential to ensure that one initiative is not undermined by the other or that the different approaches create confusion in the market.

Agreed **measures** for biodiversity stewardship were:

1. Vegetation condition score for the property relative to regional vegetation condition score (see proposed approach above as per the Australian Farm Biodiversity Certification Scheme).

   It is recommended that the environmental credential for biodiversity stewardship be based on a property meeting the vegetation condition score thresholds in the first assessment undertaken, and then at least maintaining or improving on this score in future annual assessments.
2. Land (ha) or percentage (%) of farm with native vegetation.

The opportunity to capture management actions undertaken at a property level was also discussed by the working group (for example, the farmer inputting information about actions being undertaken on site to support biodiversity stewardship).

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

The co-design group also recommended the following benchmarks for biodiversity stewardship:

1. Regional benchmarks against which properties in that region are compared, for the vegetation condition measure.
2. Initial property level vegetation condition assessment providing the a 'baseline' against which future assessments are made

A final design brief 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 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 biodiversity stewardship theme was successfully developed. The design required inclusion of a definition, measures and indicators, benchmarks, gaps in learning resources.
- An environmental credential for biodiversity stewardship should be consistent with, and link to (where possible) the proposed Australian Biodiversity Certification Scheme's vegetation condition for biodiversity scoring method.

- 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 Biodiversity Stewardship theme working group include the need for an online sustainability tool that is intuitive and easy to use, open access, avoids duplication of effort and builds on (and/or links to) existing initiatives, and addresses privacy and data accuracy concerns.
- 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

Any work that progresses improved on-ground biodiversity stewardship 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. However, 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 biodiversity stewardship, based on outcomes for biodiversity, 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 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.

9. Appendix

Biodiversity stewardship: final design brief

Environmental Credentials for Australian Grass-fed Beef

Biodiversity Stewardship working group

Final draft platform design brief June 2022

Background

WWF Australia is the theme lead for the Biodiversity Stewardship 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 11 beef producers.

As set out in the initial issues scoping paper for this theme (see Appendix A), this working group started from the premise that 'biodiversity stewardship as a demonstrable environmental credential for Australian beef is specifically about demonstrating that biodiversity is being retained and supported in grass-fed grazing systems'. As was also stated in the initial scoping paper provided to working group members at the beginning of the co-design process:

> The proposed Biodiversity Stewardship credential 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 link directly to these initiatives and enable beef producers to demonstrate their biodiversity stewardship credentials via a nation-wide credential that is cost effective, not reliant on on-farm surveys, audits and measurements, and uses remotely sensed data to the greatest degree possible to confirm biodiversity stewardship status.

Specifically, the clear potential benefit of linking the proposed environmental credentials for Australian beef to the Australian Government's Australian Farm Biodiversity Certification Scheme (designed by ANU) was acknowledged. As stated in the issues scoping paper for the Biodiversity Stewardship theme:

> It is proposed that the Biodiversity Stewardship certification scheme under development by ANU will be incorporated into the Environmental Credentials for Australian Beef in preference to devising a separate biodiversity stewardship framework. Co-design with producers is expected to confirm that the national Biodiversity Stewardship certification scheme is appropriate for beef producers, and if so, the entire framework will be linked to the online Australian beef producer platform.

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 the definition of 'biodiversity stewardship' and the scope of the biodiversity stewardship 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 use of vegetation condition as an indicator of biodiversity was a key discussion point in this meeting.

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.

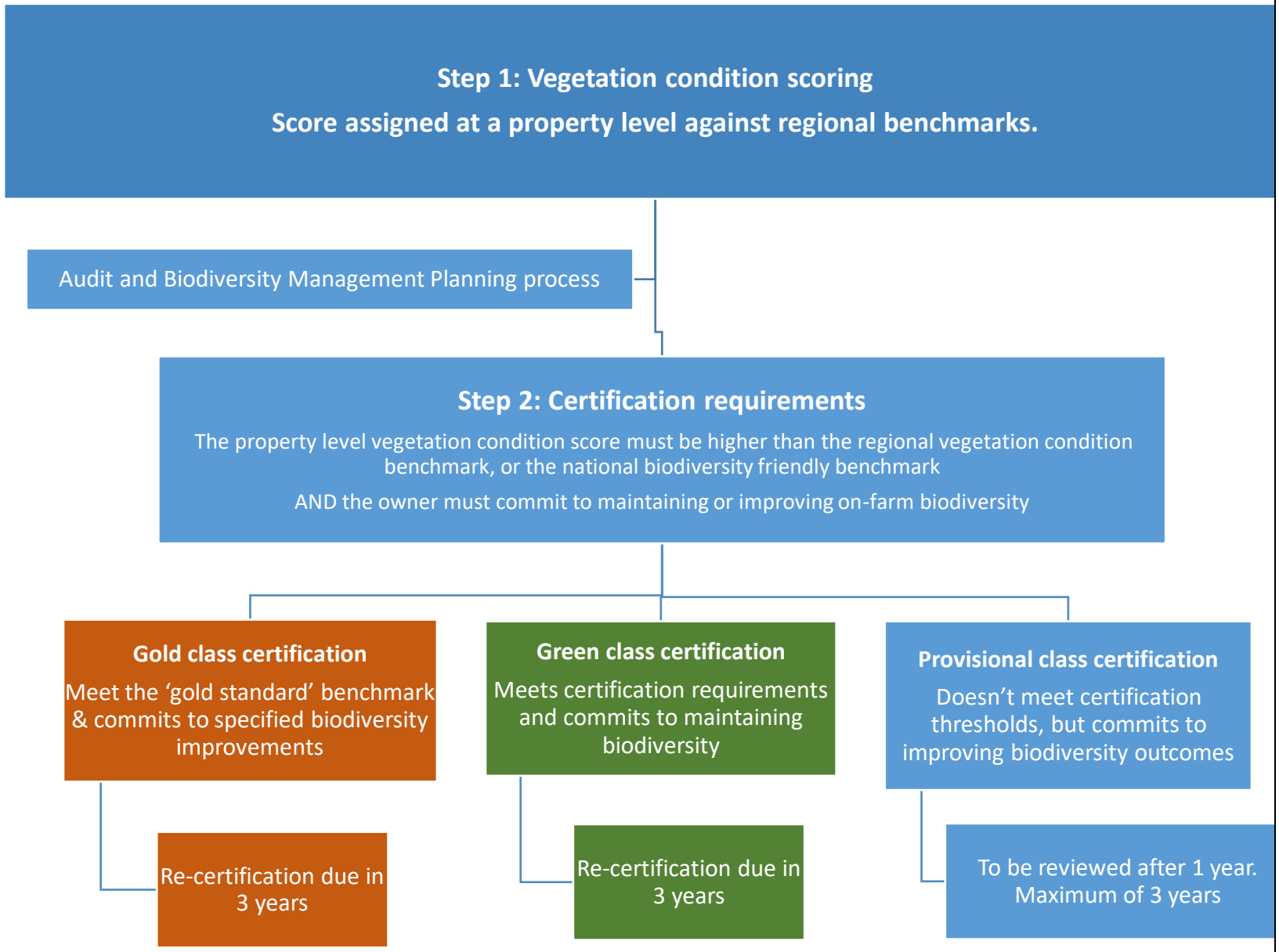
As part of an 'external review' requirement under this project, two reviewers provided comment on this document, simple changes have been incorporated into this document, and other comments are summarised in a table at Attachment C.

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:** ***Australian Beef Producers conserving and enhancing Australia's native plants and animals and the ecological communities of which they are a part.*** **Purpose:** The key purpose of the environmental credential for biodiversity stewardship is to demonstrate that biodiversity is being retained and or improved in grass-fed grazing systems. **Scope:** • This credential is intended to complement and link to existing relevant projects, particularly the Australian Farm Biodiversity Certification Scheme recently launched by the Australian Government. It is recommended that achieving a Biodiversity Stewardship Credential in the form of a property vegetation condition score that meets or exceeds regional benchmarks is also the first step towards achieving certification under the Australian Farm Biodiversity Certification Scheme (see following sections for further detail). It is important that the links between these two initiatives, any differences in the relative standards of scrutiny and assessment, and their respective purposes are clearly communicated to producers, and to the market.

	• Assessment of the biodiversity stewardship 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. It is intended to be an 'entry-level' recognition of on-ground biodiversity stewardship efforts. • There are strong linkages, in terms of both concepts and data, between the biodiversity stewardship theme and other themes under the Environmental Credentials for Australian Grass-fed Beef project, particularly the tree cover and ground cover themes. • Learning resources for this theme are intended to support producers seeking to retain and improve on-farm biodiversity outcomes. 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	**Options for beef environmental biodiversity stewardship credentials** **Indicator** **'Vegetation condition' to be used as the primary indicator of biodiversity stewardship.** 7. It is recommended that vegetation condition in this context is assessed according to the methodology devised under the Australian Farm Biodiversity Certification scheme which calculates vegetation condition for biodiversity at a property-level relative to the broader region. 8. As outlined in the Australian Farm Biodiversity Certification Scheme Standard, the first step in this assessment involves dividing the farm and the region into land types. Wherever suitable data are available, the land types are based on combinations of pre-clearing vegetation types and agricultural capability. Land types are intersected with a vegetation condition for biodiversity layer for the region based on combinations of land use and land cover. The regional vegetation condition layer is used to generate average vegetation condition scores for land types across agricultural land in the region. The same layer is used to calculate the farm vegetation condition score, as a weighted average condition score across its land types, which can be compared to the regional agricultural land score. 9. Please note that the Australian Farm Biodiversity Certification Scheme will undertake this step as an initial desktop assessment to calculate an initial vegetation condition score determining a landholder's eligibility to proceed with an application for certification under the Scheme. Landholders are able to proceed to the next level of assessment for certification if they meet certain vegetation

	condition score thresholds. It is strongly recommended that the environmental credential for biodiversity stewardship use these same thresholds (see diagram below). 10. Under the Australian Farm Biodiversity Certification Scheme, the initial desktop assessment and calculation of the vegetation condition score is then supplemented with an on-site visit by an accredited site assessor. It is during this site assessment that other factors of importance to biodiversity, such as ecological significance, are further assessed (along with on-ground verification of the remote sensing data) to calculate a 'biodiversity condition score', and to draft a property management plan. 11. As the Environmental Credentials for Australian Grass-fed Beef project is intended to be an online assessment only, it will only be possible to undertake the vegetation condition assessment ie Step 1 in the diagram below (rather than a more complete biodiversity condition assessment). However, this will mean that producers will have completed the first step in being assessed for eligibility to be certified under the Australian Farm Biodiversity Certification scheme, and they can then go on to undertake the full certification process if they choose to do so. It is important that appropriate caveats are stated on the online sustainability tool around the limitations for undertaking desktop assessments of biodiversity stewardship using desktop vegetation condition assessments. This includes limitations in relying on remote sensing data, and the importance of allowing for a 'feedback loop' where producers are able to provide updated data relevant to their property if required. This would improve confidence in the process by both producers and the market. 12. It is important to ensure that the Environmental Credentials for Australian Grass-fed Beef project and the Australian Farm Biodiversity Certification scheme are complementary initiatives that allow producers to be appropriately recognised for their on-farm biodiversity efforts, and also for their level of recognition to be justified according to the level of verification and assessment undertaken, and their commitment to maintaining or improving biodiversity outcomes. It is essential to ensure that one initiative is not undermined by the other or that the different approaches create confusion in the market. The following diagram illustrates the process for certification under the Australian Farm Biodiversity Certification Scheme, with vegetation condition scoring as the first step in this process. Reviewer input: Feedback received on the vegetation condition scoring approach. See Appendix C.


Step 1: Vegetation condition scoring
Score assigned at a property level against regional benchmarks.
Audit and Biodiversity Management Planning process
Step 2: Certification requirements
The property level vegetation condition score must be higher than the regional vegetation condition benchmark, or the national biodiversity friendly benchmark
AND the owner must commit to maintaining or improving on-farm biodiversity
Gold class certification
Meet the 'gold standard' benchmark & commits to specified biodiversity improvements
Green class certification
Meets certification requirements and commits to maintaining biodiversity
Provisional class certification
Doesn't meet certification thresholds, but commits to improving biodiversity outcomes
Re-certification due in 3 years
Re-certification due in 3 years
To be reviewed after 1 year. Maximum of 3 years

	Further information about the Australian Farm Biodiversity Certification Scheme, including a link to the draft 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 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 NSTP rather than duplicate this platform. **Measures:** 3. Vegetation condition score for the property relative to regional vegetation condition score (see proposed approach above as per the Australian Farm Biodiversity Certification Scheme). It is recommended that the environmental credential for biodiversity stewardship be based on a property meeting the vegetation condition score thresholds in the first assessment undertaken, and then at least maintaining or improving on this score in future annual assessments. 4. Land (ha) or percentage (%) of farm with native vegetation. The opportunity to capture management actions undertaken at a property level was also discussed by the working group (for example, the farmer inputting information about actions being undertaken on site to support biodiversity stewardship). *Reviewer comment: Ground-truthing by the landholder is essential and this should be clearly stated so the landholder understands this upfront.* **Data sources:** Sources of 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** Recommend an annual check. Land cover data underpinning the Australian Farm Biodiversity Certification Scheme will update annually (Geosciences Australia). Of most importance will be longer term trends. The option of producers providing real time 'feedback' on vegetation condition (including to address inaccuracies in remote sensing data) is important, including potentially providing photos at certain points on a map and having the ability to upload these onto the online sustainability tool. **Data to be shared with the supply chain** Recommend numbers for each measure and the relevant benchmarks for the condition score, 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 Biodiversity Stewardship did not specifically discuss management practices as a topic at its working group meetings, however it is broadly accepted that management practices to support on-farm biodiversity stewardship would likely include practices such as: • Grazing control (e.g. wet season spelling from grazing, time-controlled grazing' forage budgeting, working with your long term carrying capacity, etc) • Native vegetation management and restoration (e.g. identify and map native vegetation, management of timber thickening and thinning, fire management, etc.) • Threatened species and ecological community management and enhancement, (e.g. identify and map threatened species, monitor threatened species, etc)

	• Fencing of riparian, vegetated or other biodiverse areas or to allow for recovery of degraded areas, (e.g. fencing to encourage wildlife corridors and shelter, regular maintenance of fencing, etc. • Pest and weed control, (e.g. have a documented plan and annual budget, work with neighbours, minimise damage to existing ecology, etc.) • Erosion control, (e.g. prioritise worst erosion, maintain good ground cover at all times, plan roads and other infrastructure to avoid erosion, understand soil properties, etc) • Retaining regrowth and slowing regrowth clearing cycles (long clearing cycles are better), linking remnant areas, linking ridge to riparian areas, linking land types etc. • Ensuring that native forest practice/harvesting is selective and follows code • Maintaining ground cover and pasture biomass. • Dedicating areas for biodiversity and managing these areas appropriately, and actively offsetting impacts. The issue was raised that the species used in vegetation management need to be those for biodiversity outcomes ie native/local species rather than just 'vegetation'. **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' and be meaningful to a diversity of producers in different contexts. 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	Two benchmarks have been proposed: 3. Regional benchmarks against which properties in that region are compared, for the vegetation condition measure. 4. Initial property level vegetation condition assessment providing the a 'baseline' against which future assessments are made. Issues of note raised by the working group: - Concerns about accuracy of remote sensing data impacting on regional benchmark and individual property assessments. Recommend 'feedback loop' option on the tool to allow producers to provide feedback/evidence in cases where remote sensing data does not match on-ground data. This would increase producer and market confidence in the assessment process.

Learning resources	**Existing resources**: see Appendix B **Gaps in knowledge or learning opportunities**: - The working group strongly recommended links to regional natural resource management bodies and Landcare groups who are often producing regionally specific information of most relevance to producers. This relationship will also be important in promoting and supporting use of the online sustainability tool. - Important to communicate links to other initiatives, such as Accounting for Nature, and AgCarE and the function and role of these initiatives relative to this project - Weed identification and management was identified as a necessary learning resource by the working group - Websites of interest: MLA website, Agriculture Victoria, National Stewardship Trading Platform, Sustainable Farms website. - Recommend a function on the online sustainability tool that allows users to suggest/recommend resources.
Key design principles to increase platform useability	The following design principles have been highlighted by the biodiversity stewardship working group throughout discussions: 12. Avoid duplication of existing initiatives and efforts. Particularly important to link to the Australian Farm Biodiversity Certification Scheme and use the National Stewardship Trading Platform as a 'one-stop-shop'. 13. The relationship between the Australian Farm Biodiversity Certification Scheme and the Environmental Credentials for Australian Grass-fed Beef project needs to be clearly communicated in a manner that allows producers and the market to clearly understand where they are linked, where they differ, and the opportunities and 'rewards' offered under each initiative. 14. It is essential that an environmental credential for biodiversity stewardship under this project does not undermine the integrity of the Australian Farm Biodiversity Certification Scheme, or limit producer opportunities for promoting their efforts to retain or improve on-ground biodiversity outcomes. 15. Important to clarify why a producer should use this platform, what's the benefit (compared to other natural capital tools and platforms). 16. Transparency is essential and the data and process used to calculate vegetation condition scores or other measures must be made available to provide market confidence. 17. Important that the online sustainability tool is free to access and ideally avoids having sign-in requirements. 18. Simple, easy to use and intuitive. 19. 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 biodiversity stewardship). 20. Important to clearly communicate the limitations associated with relying on a desktop/remote assessment of biodiversity stewardship and limitations around the use of vegetation condition as an indicator for biodiversity. 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: Biodiversity Stewardship

Introduction

Australian beef producers pride themselves on their environmental stewardship across a range of sustainable practices but have not gained 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. The environmental credentials for Australian beef project will enable beef producers to voluntarily demonstrate their environmental credentials to markets looking to access beef with verified sustainability credentials. The project will develop indicators of performance, benchmarking and learning resources to enable beef producers to demonstrate high environmental performance on farm. The environmental credentials for Australian beef program focuses on five environmental theme areas (Figure 1).

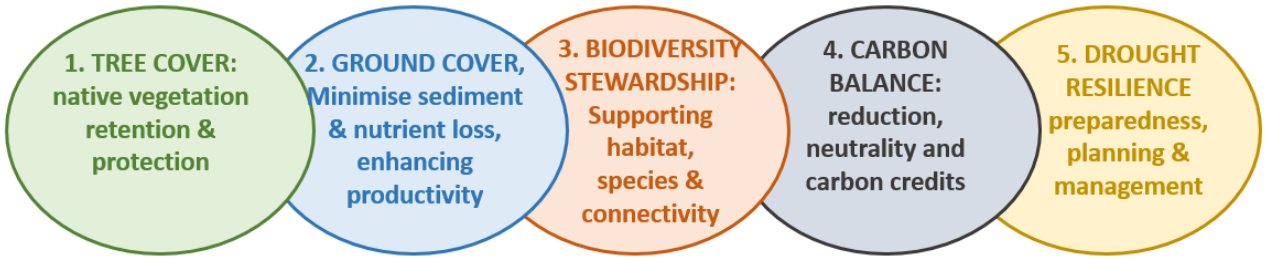


Figure 1 summary of theme areas covered by the demonstrating beef environmental credentials program

Purpose of this paper

This initial issues paper has been prepared to inform the development of a specific environmental credential for beef producers, to be recognised for the management of their farms to maintain and enhance biodiversity (biodiversity stewardship). The issues paper provides an overview of:

- Why biodiversity stewardship is relevant to the grass-fed beef industry
- national or international commitments or goals that are relevant to biodiversity stewardship
- existing programs or activities for verifying or measuring biodiversity stewardship, which are relevant to the Australian beef industry
- existing resources or programs for biodiversity stewardship, which are relevant to the Australian beef industry, and
- work required to develop a Biodiversity Stewardship credential for Australian beef.

Background and context

Grassfed beef properties present an unparalleled opportunity to sustain and enhance Australia's biodiversity. Covering almost 50% of Australia's land mass, vast areas under beef production are in a natural or semi-natural state, or present opportunities for recognition of the preservation of wildlife habitat, corridors and linkages and the protection of waterways.

With markets increasingly seeking evidence of environmental and sustainability performance, biodiversity stewardship is an environmental credential with the potential for very tangible outcomes and marketability. Many grassfed beef producers maintain and manage their properties to support biodiversity alongside cattle production, but do not currently have a widely accepted mechanism for gaining recognition or reward for their stewardship. Opportunities to increase biodiversity outcomes through continuous improvement of biodiversity on-farm also exist.

This project will develop a simple framework that will allow beef producers to voluntarily opt-in to gain recognition for their biodiversity stewardship, using remote sensing technology and analytics to verify outcomes. Producers will also be able to access learning resources to continually improve environmental practices on farm.

Purpose, Definition, Scope of theme

Biodiversity Stewardship as a demonstrable environmental credential for Australian beef is specifically about demonstrating that biodiversity is being retained and supported in grassfed grazing systems.

Whilst each State and Territory in Australia has some form of voluntary biodiversity stewardship program that producers can get involved with, there is currently no national framework for certified biodiversity stewardship that leads to market opportunities for beef producers.

The proposed Biodiversity Stewardship credential 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 link directly to these initiatives and enable beef producers to demonstrate their biodiversity stewardship credentials via a nation-wide credential that is cost effective, not reliant on on-farm surveys, audits and measurements, and uses remotely sensed data to the greatest degree possible to confirm biodiversity stewardship status.

Arguably the most significant development currently underway that aims to establish a biodiversity stewardship certification is the Australian Government funded proposal to develop a biodiversity stewardship certification scheme for all agricultural sectors. The National Farmer's Federation (NFF) was funded by the Australian Government in 2019 to develop and trial an on-farm Biodiversity Stewardship certification scheme. In 2020 the Australian Farm Institute was engaged to undertake cross-sectoral consultation on on-farm biodiversity stewardship certification nation-wide. The results were published in December 2020 in a report entitled Recognising on-farm biodiversity management. Key recommendations of this report are provided at Attachment 1.

In June 2020 the Australian National University (ANU) was granted funding from the Australian Government to progress the work of the National Farmers Federation on a Biodiversity Stewardship certification scheme by developing a monitoring, reporting and measuring framework for Biodiversity Stewardship certification. The intention of the Biodiversity Stewardship theme for 'Environmental Credentials for Australian Beef' is to engage with the Australian National University team to learn about their monitoring, reporting and measuring framework, and to test its applicability to beef producers and their properties.

Recognition of biodiversity stewardship on beef properties starts with acknowledging biodiversity values that exist currently on farms through the efforts of producers who give time and energy to supporting Australia's natural assets. There is also an option to recognise increases in biodiversity outcomes on farm over time as a result of active land stewardship by producers. This is referred to as 'additionality', as it demonstrates an improvement in a system over time against some baseline.

Two categories of Biodiversity Stewardship are currently proposed by the ANU Biodiversity Stewardship team:

- Stewardship of existing biodiversity on farm, and
- Increases in biodiversity over time as a result of active stewardship.

Other biodiversity stewardship and natural capital accounting frameworks are also under development currently. Landcare Australia is developing and workshopping natural capital accounting frameworks, and Agforce in Queensland is also rolling out a natural capital framework.

There are potentially strong linkages between the proposed Biodiversity Stewardship credential and other credentials being developed for 'Environmental Credentials for Australian Beef'. Biodiversity Stewardship is closely related to Tree Cover, so it is possible that these two credentials might involve similar indicators, and thus a producer may opt in for both, or the two credentials may be combined into one.

Indicators and measures, measurement and verification

It is proposed that the Biodiversity Stewardship certification scheme under development by the ANU team will be incorporated into the 'Environmental Credentials for Australian Beef' in preference to devising a separate biodiversity stewardship framework. Co-design with producers is expected to confirm that the national Biodiversity Stewardship certification scheme is appropriate for beef producers, and if so, the entire framework will be linked to the online Australian beef producer platform.

It is anticipated that the Biodiversity Stewardship certification scheme will utilise satellite imagery analysis to measure and verify biodiversity stewardship on farm. It is also expected that farm data will be kept confidential, and only producers themselves will be able to access their farm's data unless the producers have provided prior permission for the data to be shared with market facing platform users.

The Co-design Working Group for Biodiversity Stewardship will be invited to engage directly with the Australian National University development team to participate in the development of the Biodiversity Stewardship scheme, and test elements of the scheme as they are developed. Attachment 2 provides some early questions for the Biodiversity Stewardship Co-design Working Group to consider.

5. Learning resources

The Biodiversity Stewardship 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 a 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 Biodiversity Stewardship credentials. Until the Biodiversity Stewardship certification scheme has been further developed, the required learning resources and guidance to assist producers in maximising opportunities for biodiversity stewardship recognition are difficult to identify now, and will be reported on when development is progressed.

Acknowledgements

Professor Andrew McIntosh, Australian National University
Professor Philip Gibbons, Australian National University
Dr Don Butler, Queensland Herbarium/Australian National University

Glossary

Term	Meaning
Additionality	the 'extra good' that results from undertaking an activity, to demonstrate an increase in a positive outcome
Baseline	a baseline is a value or starting point on a scale with which other, future values can be compared

Indicator	a sign or signal that shows something exists or is true, or that makes something clear eg. the Tree Cover indicator may be ‘area of woody vegetation' on farm
Verification	the process of establishing the truth, accuracy, or validity of something eg. satellite imagery analysis can be used to verify Tree Cover

References and Reading

Dean Ansell, Fiona Gibson and David Salt (2016) *Learning from Agri-Environment Schemes in Australia: Investing in Biodiversity and other Ecosystem Services on Farms*. ANU Press https://press-files.anu.edu.au/downloads/press/p346093/pdf/book.pdf

Australian Farm Institute (2020) *Recognising on farm biodiversity management: Biodiversity Certification Scheme Phase 1 Report.* https://www.farminstitute.org.au/report-recognising-on-farm-biodiversity-management/

Food and Agriculture Organisation Draft for Public Review: *Biodiversity and the livestock sector: Guidelines for quantitative assessment*: http://www.fao.org/3/ca5565en/ca5565en.pdf

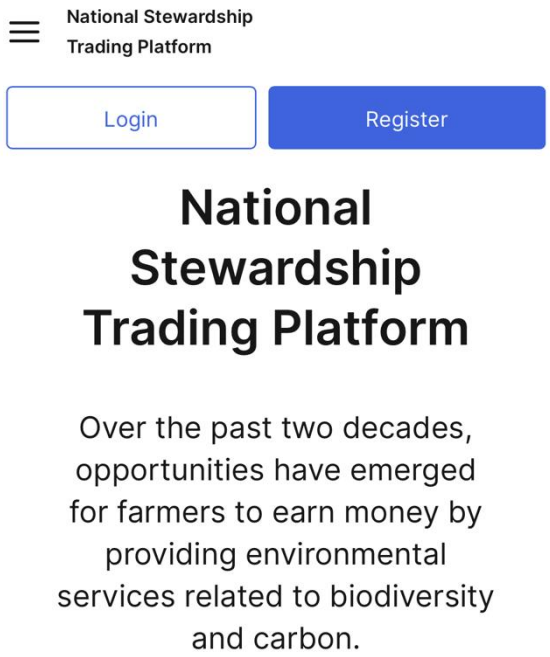
Erich Tasser, Johannes Rüdisser, Michaela Plaikner, Alexander Wezel, Sibylle Stöckli, Audrey Vincent, Heike Nitsch, Monika Dubbert, Valerie Moos, Janette Walde, Daniel Bogner (2019) A simple biodiversity assessment scheme supporting nature-friendly farm management, *Ecological Indicators*, Volume 107, 105649
https://www.sciencedirect.com/science/article/abs/pii/S1470160X19306417

Convention on Biological Diversity, United Nations Environment Programme (2008) *Biodiversity and Agriculture: Safeguarding Biodiversity and Securing Food for the World*
https://www.cbd.int/doc/bioday/2008/ibd-2008-booklet-en.pdf

Appendix B: Existing Learning Resources relevant to the Biodiversity Stewardship 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. MLA has produced a range of resources relevant to this theme including a 'Biodiversity Condition Toolkit for Grazed Lands' which is targeted at land managers in the Brigalow Belt and Mulga Lands of Southern Queensland https://publications.mla.com.au/login/eaccess?elink=nYSmUGSKcks3sEqaSwSx

MLA have also produced a booklet titled 'Biodiversity in the paddock' with a focus on native pastures and aims to 'help livestock producers assess alternative approaches to biodiversity management in native pastures' https://publications.mla.com.au/login/eaccess?elink=0nSaUgSJcDsesA8zIrSe

MLA also provides tips for managing biodiversity on-farm, including the following factsheet titled 'Encouraging biodiversity benefits' https://publications.mla.com.au/login/eaccess?elink=yzSxUXSNcYsjseLpFpS8

3. The Atlas of Living Australia provides land managers with accessible open source biodiversity data https://www.ala.org.au/about-ala/

4. The Australia State of the Environment website includes information about the importance of biodiversity, including its global and national importance. It points to the key role that biodiversity plays in providing 'numerous and irreplaceable services to the Australian community', including to agriculture https://soe.environment.gov.au/theme/biodiversity/topic/2016/importance-biodiversity

5. The Queensland Government has published 6 'regrowth benefit management guidelines' for Brigalow; Eucalypt open-forests; Eucalypt Woodlands; Mulga; Rainforests; and, Wet sclerophyll forest these can be accessed at https://www.publications.qld.gov.au/dataset/regrowth-benefits-mgmt

6. Agriculture Victoria provides information about 'Biodiversity in Agriculture' including the 'Ecologically Sustainable Agriculture Initiative' which was undertaken to explore ways of protecting biodiversity and maintaining economic viability. This page also links to other biodiversity initiatives in Victoria http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/lwm_biodiversity

7. The NSW Biodiversity Conservation Trust website provides useful information such as 'what is biodiversity and why is it important?' https://www.bct.nsw.gov.au/what-biodiversity-and-why-it-important

8. The National Environmental Research Program (Northern Australia Hub) have produced a brochure 'Biodiversity conservation by pastoralists and graziers' summarising research they have undertaken https://nesplandscapes.edu.au/wp-content/uploads/2015/09/1.2_fact_sheet_-_biodiversity_conservation_web.pdf

9. The Australian Farm Institute published a report in 2020 titled 'Recognising on-farm biodiversity management' it can be accessed at https://nff.org.au/wp-content/uploads/2020/11/Recognising-on-farm-biodiversity-management_AFI_Aug2020.pdf

10. The Sustainable Farms website provides a wealth of research-based information supporting the management of natural assets on farms. This includes practical approaches towards supporting on-farm biodiversity https://www.sustainablefarms.org.au/on-the-farm/biodiversity/

11. The FutureBeef website www.futurebeef.com.au has information on grazing management and projects related to riparian restoration and erosion control.

Attachment C

Environmental Credentials for Australian Grass-fed Beef: Biodiversity Stewardship Theme

Reviewer comments

Reviewer	Comment	Action
Steve Banney	Will all the measurements and diagnostics remain private and confidential? Important for landholders to understand how this information will be treated.	This note has been added to the design brief.
	Various suggestions made to be added to the 'practices' section of the design brief	All suggestions were accepted and included in the design brief
	Ground truthing by the landholder is essential and this should be clearly stated so the landholder understands this upfront.	Noted and a comment added to the design brief about this comment. The Australian Farm Biodiversity Certification Scheme includes a site visit/ground truthing step, but MLA have made the decision that the Environmental Credentials for Australian Grass-fed Beef project will be online only.
Steven Bray	I acknowledge the property vegetation score relative to the regional vegetation 'average' score is a good starting point. However caution will be required due to: • Different property sizes, which will impact past development, and probably % area developed • Different mix of land types on neighbouring properties, which will impact past development and likely % area developed • Small areas retained/protected of important biodiversity function may or may not be more important than large areas of lower importance (who will judge these comparisons). • Between region fairness (will 10% retention in a Victorian region equal 30% retention in a Qld region - is this fair)	This comment is noted by the design brief authors. As it is relevant to the vegetation condition scoring approach used under the Australian Farm Biodiversity Certification Scheme (which is currently in the consultation/design phase), these comments will be considered in the context of that scheme and in the final approach used to determine vegetation condition scoring assessment.

Reviewer	Comment	Action
	• Land use will be important in the developed area (how does native pasture grazing with some regrowth compare with cropping in regards to supporting biodiversity at the property scale) • Much of Queensland grazing land already has high remnant veg cover. Is a property with 70% remnant veg much worse from a biodiversity situation than the regional average at say 80% remnant veg. Might need some upper thresholds e.g. if property >60% already Gold class, even if regional average is higher)	
	A number of suggestions for the 'practices' section were received: • Regrowth retention (and slowing regrowth clearing cycles – long clearing cycles are better) • Regrowth retention to link remnant areas, linking ridges to riparian areas, linking land types • Native forest practice/harvesting is selective and follows code • Maintaining ground cover and pasture biomass. • Dedicating areas for biodiversity and managing appropriately • Actively offset impacts (or set aside other areas for recovery) if development is required in an area (eg building a dam)	These suggestions have been incorporated into the design brief.
	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	Noted: reviewer comment added to design brief

Reviewer	Comment	Action
	continuous improvement (e.g. ground cover improvement over the last 10 years) but also future improvement from a low base.	