ICIN Indigenous Carbon Industry Network

Abridged Report: Parts 1-3

Aerial burning, Kimberley Land Council

Mapping the Opportunities for Indigenous Carbon in Australia

Identifying opportunities and barriers to Indigenous participation in the Emissions Reduction Fund

September 2022

Prepared by the Indigenous Carbon Industry Network

Table of Contents

List of maps **4**

List of Tables **5**

Acknowledgements **6**

About the authors 6

Disclaimer 6

Executive Summary **7**

Key Recommendations **11**

Recommendation 1. Expand the application of ERF methods within the Indigenous estate **11**

a. Expansion of the Savanna Fire Management Methods 11

b. Appropriate development of the Integrated Farm Management Method 11

c. Expanding the Blue Carbon Method beyond the Agricultural Zone 11

Recommendation 2. Build capability in Indigenous organisations **12**

Recommendation 3. Targeted method and organisational engagement **13**

a. Fine scale spatial analysis in the Agricultural (east and west) Zones 13

b. Human Induced Regeneration Method in the Rangelands (west) Zone 13

c. Supporting projects in the Savanna and Desert Zones 13

Recommendation 4. Incentivise engagement with Indigenous organisations and build negotiation capability **14**

Recommendation 5. Highlight the premium value of Indigenous carbon **14**

Recommendation 6. Engage in emerging environmental markets **15**

Introduction **16**

Part 1: Requirements to participate in the Emissions Reduction Fund **17**

Eligibility requirements under the ERF **17**

Key capabilities for participation in the ERF **24**

Governance and Risk management 24

Organisational management 25

Financial management 25

Information and data management 25

People management 26

Summary **27**

PART 2: Mapping the Indigenous Estate and Indigenous Carbon Rights **28**

Process for developing maps **28**

Developing Map 1: The Indigenous estate **29**
Developing Map 2: Indigenous carbon rights **30**
Summary **32**
PART 3: Carbon Opportunities on the Indigenous Estate **33**
Classifying Carbon Method Zones **34**
Identifying existing carbon method opportunities (national) **35**
Method Snapshots: ERF opportunities on the Indigenous estate **39**
Method snapshot: Savanna Fire Management 39
Method Snapshot: Beef Herd Management 42
Method Snapshot: Storing carbon in the soil 43
Method Snapshot: Let forests regrow 47
Method Snapshot: Protecting existing forests 50
Method Snapshot: Forest planting 52
Method Snapshot: Forest Harvest 54
Method Snapshot: Blue Carbon 57
Regional snapshots: ERF opportunities on the Indigenous estate **58**
Regional Snapshot: Savanna Zone 59
Regional Snapshot: Desert Zone 60
Regional Snapshot: Rangelands (east) Zone 61
Regional Snapshot: Rangelands (west) Zone 62
Regional Snapshot: Agricultural (east) Zone 63
Regional Snapshot: Agricultural (west) Zone **64**
National Overview: ERF Activities and Indigenous Rights **65**
Intersection of the Indigenous Estate with Carbon Method Zones 67
Summary of carbon method opportunities on the Indigenous estate **68**
Appendix 1: The Indigenous estate and Indigenous carbon rights maps **70**
Step 1: Identifying the base/platform dataset **70**
Step 2: Adding supplementary data layers **70**
Step 3: Finalising Map 1: The Indigenous estate **73**
Step 4: Reclassifying for carbon purposes **74**
Creative Commons Attribution-NonCommercial 4.0 International **77**
Appendix 2: References **81**

List of maps

Map 1: The Indigenous Estate 30
Map 2: Indigenous Carbon Rights 32
Map 3: Carbon Method Zones 34
Map 4: All Active ERF projects (by land sector Activity) displayed over Carbon Method Zones 35
Map 5: Active ERF projects (by land sector Activity) which have had ACCUs issued to date 37
Map 6: Active ERF projects (by land sector Activity) which have not had ACCUs issued to date 37
Map 7: Revoked ERF projects where ACCUs had been issued prior to revocation 38
Map 8: Active Savanna Fire Management projects within the Savanna Carbon Method Zone 39
Map 9: Late fire frequency (20yrs) for areas of the Indigenous estate (Class 1) without a project 40
Map 10: All active ERF Soil Carbon projects 43
Map 11: Soil Carbon default carbon values estimated from the activity of stubble retention 45
Map 12: Soil Carbon default carbon values est. from the activity of sustainable intensification 45
Map 13: Soil carbon default carbon values estimated from the activity of conversion to pasture 46
Map 14: All active ERF 'Let native forests regrow' projects (HIR and regrowth) 48
Map 15: Active ERF 'Let native forests regrow' projects (HIR and regrowth) which have had ACCUs issued to date 49
Map 16: All active ERF 'Protect existing forests' projects (avoided deforestation/clearing) 50
Map 17: All active ERF Forest Planting projects 52
Map 18: All active ERF Forest Harvest projects 54
Map 19: National Plantation Inventory (NPI) Regions, overlaid on top of the Agricultural (east and west) Carbon Method Zones 55
Map 20: Regional Snapshot – Savanna Carbon Method Zone 59
Map 21: Regional Snapshot - Desert Carbon Method Zone 60
Map 22: Regional Snapshot – Rangelands (east) Zone 61
Map 23: Regional Snapshot – Rangelands (west) Carbon Method Zone 62
Map 24: Regional Snapshot – Agricultural (east) Carbon Method Zone 63
Map 25: Regional Snapshot - Agricultural (west) Carbon Method Zone 64
Map 26: National overview - all active ERF projects displayed on the Indigenous Carbon Rights map 65
Map 27: National overview - active ERF projects which have ACCUs issued to date (Feb 2022) displayed on the Indigenous Carbon Rights map 66
Map 28: Area of land that is in the Indigenous estate (as per Fig.5 Jacobsen et al. 2020) 72
Map 29: Area of land that is in the Indigenous estate (as per Fig.5 Jacobsen et al. 2020) with additional datasets as identified by this report 72

List of Tables

Table 1: Summary of eligibility requirements under the Emission Reduction Fund 18

Table 2: Classification of Indigenous land and carbon interests 31

Table 3: Outputs from intersecting Map 1: The Indigenous Estate with Map 3: Carbon Method Zones 67

Table 4: Data layers and classification used in creating the Indigenous carbon rights map 77

Acknowledgements

The authors acknowledge the Traditional Owners of Country throughout Australia and their continuing connection to land, sea, and community. We pay our respects to them and their cultures, and to the Elders both past, present, and emerging.

Thank you to the Indigenous Land and Sea Corporation and the Kimberley Land Council for their contributions.

This report has relied extensively on publicly available datasets. All the data sources are acknowledged within this report. In particular, the authors wish to acknowledge the Clean Energy Regulator (CER), the National Native Title Tribunal, the Indigenous Land and Sea Corporation, the Emissions Reduction Fund (ERF) Environmental Datasets, and the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), who collectively provided most of the data.

Data analysis and carbon project figures relied upon in these maps were correct on 28 February 2022. Please refer to the Emissions Reduction Fund Project Register on the Clean Energy Regulator website for the very latest carbon project figures.

About the authors

Polly Grace is a consultant lawyer and strategic advisor with extensive experience working in environmental and climate change law, native title law, the carbon industry and Indigenous policy issues. Polly's experience in the carbon industry spans more than 10 years and includes all aspects of the industry, including legislative and policy development as well as project start-up and operation.

Jarrad Holmes, PEC Consultants (People, Environment, Carbon), has over 20 years' experience working in a range of Natural Resource Management (NRM) sectors across regional Australia including Indigenous corporations, conservation Non-government Organisations (NGOs), the Australian Government, the pastoral industry, and in environmental education. Jarrad first became involved in community carbon projects and carbon method design in 2008 and brings a diversity of skills across science, policy, and on-ground community land management disciplines.

Disclaimer

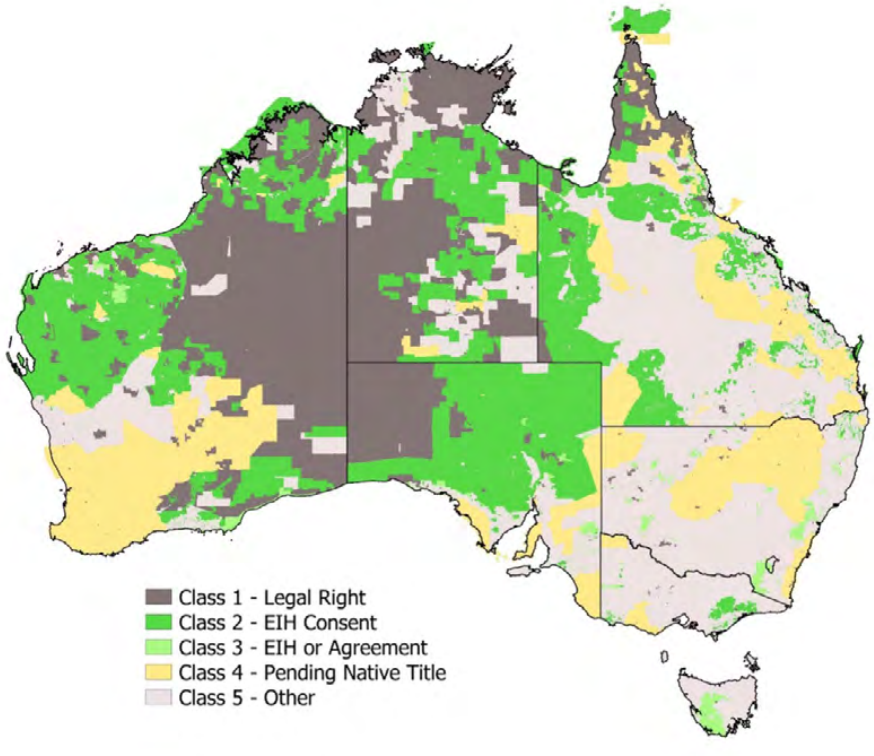
Executive Summary


Wayne in chopper, Balanggarra Aboriginal Corporation

Carbon projects offer an opportunity for Indigenous organisations to leverage independent finance, while supporting beneficial environmental, social, economic, and cultural outcomes for people and communities. However, despite the significance of this opportunity, uptake of Emissions Reduction Fund (ERF) projects by Indigenous groups has been largely confined to Savanna Fire Management projects in Northern Australia.

In this report we use geographic analysis to identify where suitable ERF projects could be pursued by Indigenous groups, combined with a desktop identification of eligibility and capability requirements for participation in the ERF to identify the main barriers and immediate opportunities for increasing Indigenous participation in the ERF.

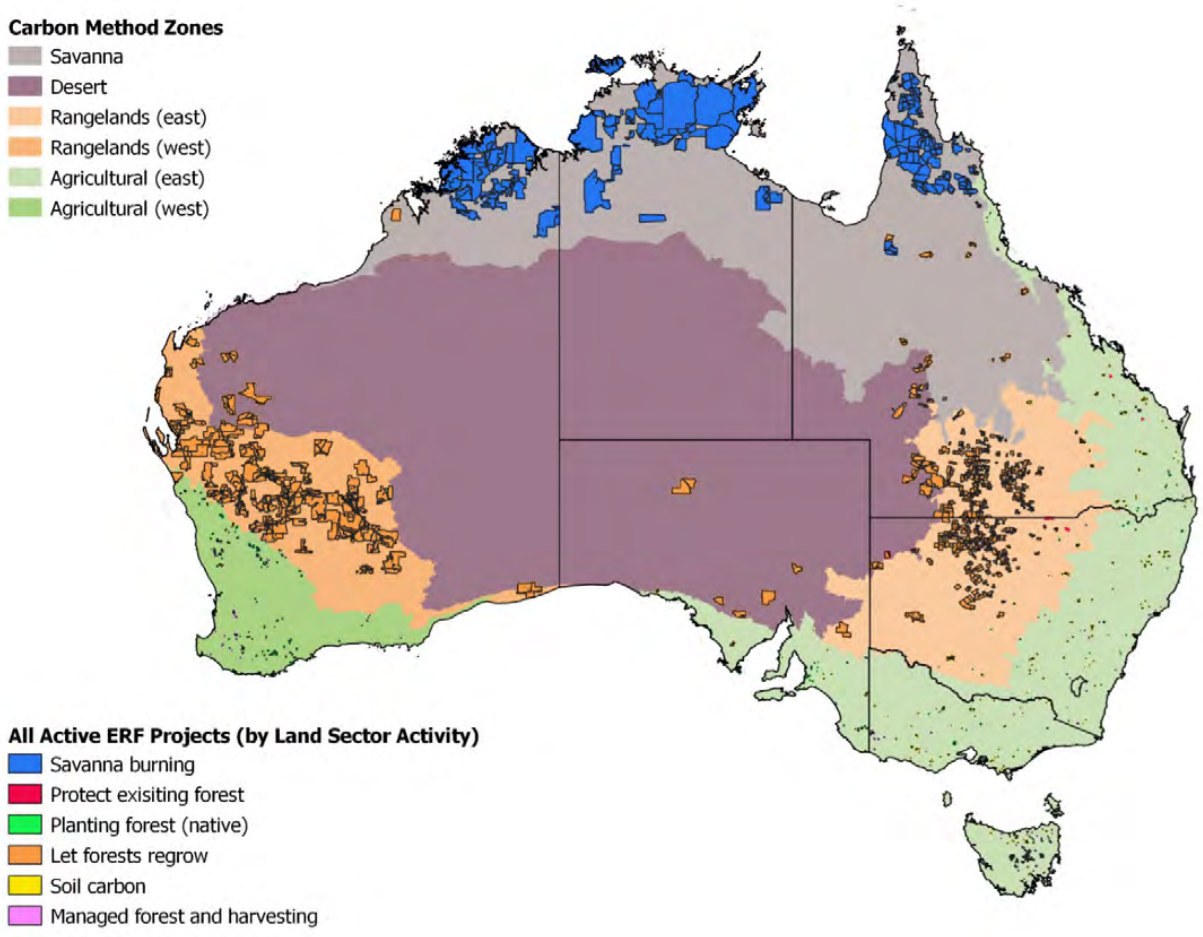
The *Indigenous carbon rights* map shows the potential scope of the carbon opportunity for Indigenous organisations, classifying Indigenous interests according to the rights that they provide under the ERF.



Map: Indigenous carbon rights

Class 1 rights are areas where Indigenous people would have a legal right (possibly shared legal right in some instances) to undertake a carbon project, and based on our analysis, cover over 27% of Australia. Class 2 and 3 rights are areas where Indigenous people would have an eligible interest under the ERF, and therefore a seat at the table or right to negotiate in relation to any carbon project. These rights cover a further 28% of Australia. Areas classified as Class 4 or Class 5 do not necessarily have any existing formal rights in relation to carbon projects.

The *All active land sector ERF projects* map shows the distribution of all existing land sector ERF projects across Australia in relation to 'Carbon Method Zones'.[1]



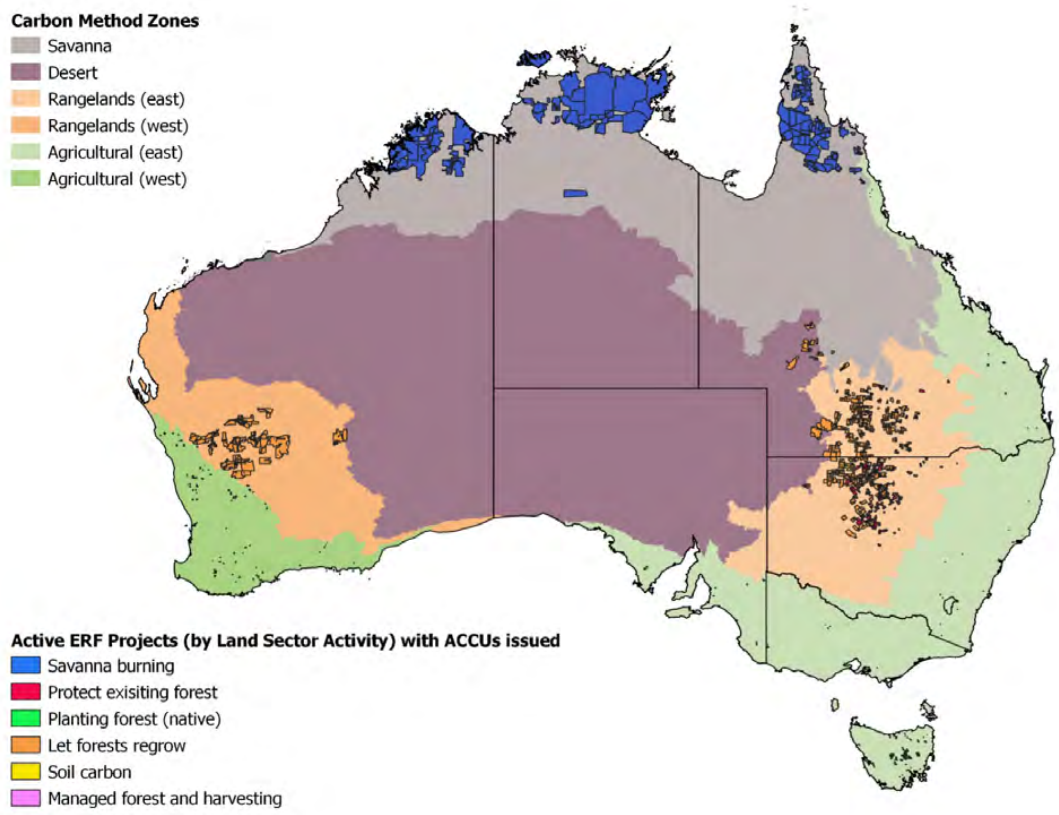
Map: All Active land sector ERF projects

Interestingly, despite the extent of Class 1, 2 and 3 rights across 55% of Australia, of 852 active land sector ERF projects less than 4% are Indigenous owned, and almost 90% of Indigenous Class 1 lands remain without a registered ERF project. The reasons for the disparity between Indigenous land interests and number of Indigenous carbon projects are multiple. However, the main barrier is a lack of suitable ERF methods for large areas of the Indigenous estate.

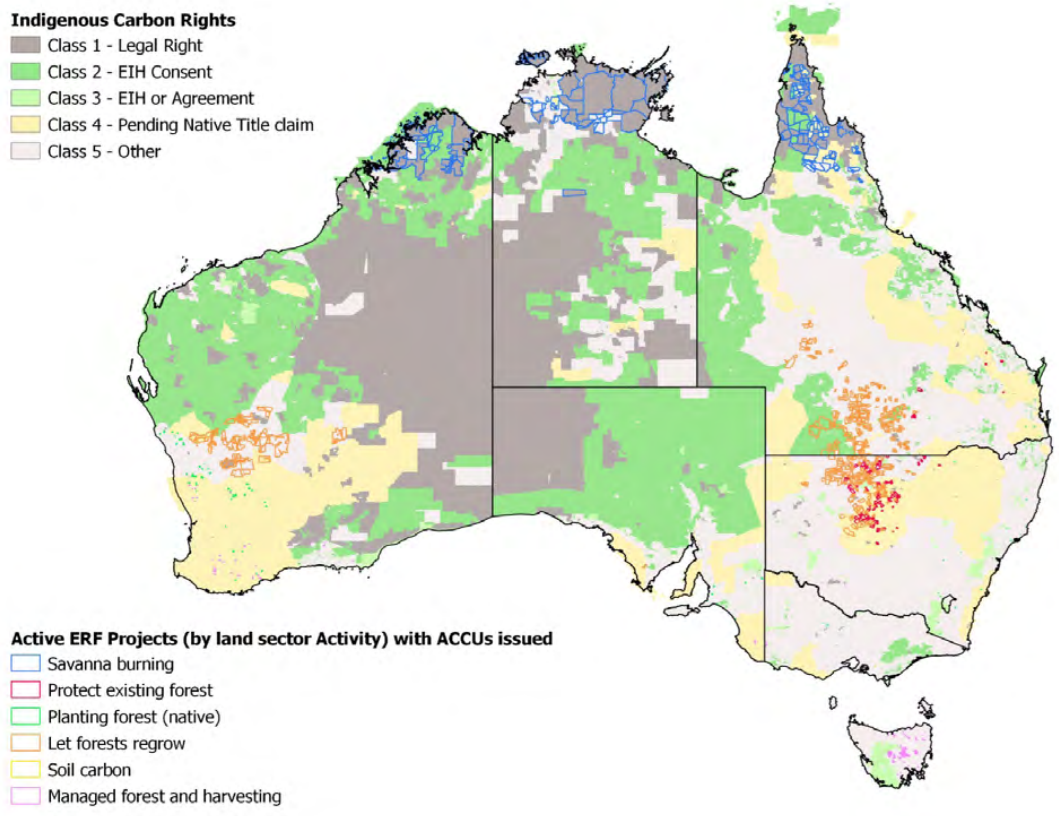
The *Active land sector ERF projects that have had ACCUs issued* map displays all active ERF projects that have been issued Australian Carbon Credit Units (ACCUs). Compare this to the previous map, which includes carbon projects where no ACCUs have been issued. As can be seen, functioning carbon projects across Australia are generally restricted to certain limited Zones.

The *Active land sector projects that have ACCUs issued overlayed with Indigenous carbon rights* map overlays active projects with the *Indigenous carbon rights map,* demonstrating that most areas where Indigenous people have strong land interests (Class 1 lands) fall outside of the Zones suitable for carbon projects. The exception to this is Savanna Fire Management.

[1] In this report, the term Carbon Method Zone is used to describe certain biophysical regions or geographies and is explained in more depth in Part 3.



Map: Active land sector ERF projects that have had ACCUs issued



Map: Active land sector ERF projects that have ACCUs issued overlayed with Indigenous carbon rights

These maps provide a visual representation of the significant geographic challenge for Indigenous people of identifying areas where Indigenous land interests overlap with an ERF method.

Of lands where Indigenous people would hold a legal right to undertake a carbon project (Class 1 lands) 95% fall within the Savanna or Desert Zones, with the Desert largely devoid of any suitable ERF Methods and the Savanna largely confined to the Savanna Fire Management Method only. Conversely, the Zone with the greatest number and variety of applicable ERF Methods is the Agricultural Zone on the east and west coast of Australia. Revealingly, while high in ERF potential, Indigenous people hold legal rights to undertake carbon projects in less than 5% of these agricultural areas.

It is important to note that in areas where Indigenous lands do intersect with suitable ERF Methods, like the Savanna Zone, the uptake by Indigenous organisations can be high; approximately 50% of Class 1 lands eligible under the Savanna Fire Management have an active ERF project registered.

Compounding these geographical challenges, Indigenous organisations face additional barriers to ERF participation, including low levels of institutional capacity, lack of access to appropriate information and resources, low levels of relevant (carbon) expertise and limited financial resources.

With appropriate support to overcome these barriers, there are several opportunities to increase Indigenous participation in the ERF. This report has identified the following Key Recommendations as pathways to increase Indigenous engagement in the ERF.

Rivercamp, Balanggarra Aboriginal Corporation

Key Recommendations

Recommendation 1. Expand the application of ERF methods within the Indigenous estate

As already noted, despite having extensive land interests across Australia, there is a concerningly low level of intersection between strong Indigenous land interests, and suitable ERF methods. Most areas where Indigenous people hold a legal right to undertake a carbon project, have no suitable ERF method (Savanna >600mm is an exception). Conversely, the areas of high ERF opportunity have relatively limited recognised Indigenous rights and interests.

It is important to remember that the carbon potential of a particular landscape will always be dictated by environmental factors which means, for example, that the Desert Zone may never have the same carbon potential per hectare as other Zones. There are nonetheless several immediate opportunities to expand the application of ERF methods into larger areas of the Indigenous estate. In addition, it is recommended that the Australian Government and CER continue to monitor scientific developments for any new opportunities to expand ERF coverage into these underrepresented Zones.

a. Expansion of the Savanna Fire Management Methods

Extending the Savanna Fire Management Methods to additional carbon pools and vegetation types and lowering the rainfall boundary to include the frequently burnt areas of the northern desert, would increase the total area of Indigenous owned or managed lands (Class 1 lands) covered by the Methods by more than 50%.[2]

b. Appropriate development of the Integrated Farm Management Method

The proposed Integrated Farm Management Method (currently under development) represents a significant opportunity to increase Indigenous access to the ERF, if developed appropriately. In particular, the new method must be applicable and suited to all environs across Australia, including the Desert and the Savanna. This could be achieved by accounting for all increases in sequestration (by human intervention) across the entire spectrum of vegetation cover, rather than restricting the method only to those areas that transition from a non-forested to forested state as per the existing Human Induced Regeneration (HIR) Method.

Currently, approximately 95% of Indigenous Class 1 lands in the Savanna and Desert Zones are excluded from participating in the HIR Method due to these forest threshold and transition criteria. Excluding this requirement from the new Integrated Farm Management Method is therefore key to unlocking the eligibility of Indigenous lands. In addition, the carbon accounting approach used must allow for remote sensing approaches (along with Government funding support for research to develop such approaches) if the vast and remote areas of Australia's Savanna and Deserts Zones are to be included.

c. Expanding the Blue Carbon Method beyond the Agricultural Zone

The limited suite of eligible activities under the Blue Carbon Method means its application is largely confined to high-intensity agricultural regions – areas where legally recognised Indigenous interests are generally quite limited. Expanding the Blue Carbon Method to include new and additional eligible activities that are more suited to areas within or immediately adjacent to the Indigenous estate will be important if this activity is to be relevant to most coastal Indigenous land holders.

[2] Note this is an indicative estimate only, figures depend on final boundary and eligible vegetation types.

Recommendation 2. Build capability in Indigenous organisations

As already noted, despite having extensive land interests across Australia, there is a concerningly low level of intersection between strong Indigenous land interests, and suitable ERF methods. Most areas where Indigenous people hold a legal right to undertake a carbon project, have no suitable ERF method (Savanna >600mm is an exception). Conversely, the areas of high ERF opportunity have relatively limited recognised Indigenous rights and interests.

This report identifies some of the key capabilities for organisations to participate in the ERF, including organisational, financial, workforce and data management. It also considers what barriers Indigenous organisations face in meeting ERF eligibility requirements, such as limited financial or institutional capacity, access to independent and accessible information, and market competition.

Building these capabilities, and overcoming these barriers, would be some of most valuable investments in increasing Indigenous participation in the ERF. Investment in good governance and institutional capacity will not only lead to more Indigenous owned carbon projects but can strengthen Indigenous engagement across the entire scheme with better understanding of consent requirements, stronger engagement in method development and design, or improved partnership opportunities.

Once the carbon opportunity for a particular organisation is understood, Indigenous organisations need to assess their capabilities identified in Part 1 of this report, as well as the barriers preventing them from accessing ERF opportunities, and then developing a plan for addressing these. Governments and support organisations should look for opportunities to assist Indigenous organisations to build these capabilities.

Examples of how this assistance can be best provided to support Indigenous autonomy include, the Australian Government's Indigenous Carbon Farming Fund (concluded), which supported the Kimberley Land Council and National Indigenous Land and Sea Management Alliance to undertake targeted outreach activities, directly supporting the establishment of some of the early Indigenous owned carbon projects. Similarly, the Queensland Government's Land Restoration Fund has enabled Indigenous organisations to directly access funding for project start-up and to undertake crucial consultation activities. The ICIN also plays an information and advocacy role for existing and emerging Indigenous projects, demonstrating the important role of independent advisors and advocates.

The focus should be on building the capability and capacity within Indigenous organisations, including through ensuring access to independent and objective advice where required. One of the challenges for Indigenous organisations is the competitiveness and complexity of the industry and its stakeholders, with Indigenous organisations frequently being provided 'advice' by actors with strong vested interests. Supporting Indigenous organisations to recognise these risks, access independent advice and make appropriately informed decisions is a crucial part of building organisational capability.

Mimal Rangers, ALFA NT Pre-Season Fire Meeting 2021

Recommendation 3. Targeted method and organisational engagement

This report undertook a national and regional level analysis of opportunities for Indigenous engagement in the ERF. This analysis, while coarse, has helped to identify some areas where further fine-scale analysis and targeted engagement with affected Indigenous organisations may be of value, as listed below.

As identified, targeted engagement needs to be implemented through means that strengthen the autonomy and capabilities of Indigenous organisations. Any initiative needs to be examined through a critical lens of whether it will increase Indigenous engagement in the industry, or instead directly or indirectly bolster the role of intermediary organisations. This is not to say that external expertise should not be valued and drawn upon where required, but simply caution had to whether there may be conflicting interests at play.

a. Fine scale spatial analysis in the Agricultural (east and west) Zones

One area for further targeted engagement is in the Agricultural (east and west) Zones. There are a suite of ERF Methods (Soil, Forest Planting, Forest Harvest) that are largely confined to the most productive or agricultural regions of Australia.

In these regions Indigenous ownership or control of land is relatively limited, however at an aggregated scale and with increases in carbon price, may present a suitable opportunity for some organisations. Working with relevant Indigenous organisations in this area to undertake further fine scale analysis may help support increased Indigenous engagement in carbon projects in these regions.

b. Human Induced Regeneration Method in the Rangelands (west) Zone

A further opportunity is in the Western Australian Rangelands, where there is a significant intersection of strong Indigenous land interests with a suitable method (HIR Method). Based on analysis in this report, this area represents the most significant potential for Indigenous owned carbon projects outside of the Savanna zone.

Targeted engagement with Indigenous organisations in this Zone, including through fine-scale feasibility analysis, as well as investment in building institutional capacity and organisational understanding of the ERF will help to unlock opportunities. The capabilities identified in Part 1 of the report, and any barriers, may provide a useful tool in traffic-lighting organisational readiness and targeting assistance.

c. Supporting projects in the Savanna and Desert Zones

To unlock the opportunities arising from new or updated Methods (discussed in Recommendation 1), Indigenous organisations will require targeted support and engagement. Using the maps and analysis provided in this report, it is possible to identify and prioritise the Indigenous organisations who will most immediately benefit from these new opportunities, for example, groups in the Northern Tanami who may benefit from a Savanna Fire Management Method extension.

Experience demonstrates that early and ongoing engagement, as well as start-up support, is crucial to the success of Indigenous owned projects. While there has been strong uptake of the Savanna Fire Management Method across the Savanna Zone, approximately 50% of suitable Indigenous owned lands are yet to take up this opportunity, representing a significant potential for increasing Indigenous engagement in the ERF.

Focused engagement with relevant Indigenous organisations in these areas, such as Eastern Cape York, to understand what barriers may be preventing project uptake will be a useful first step in developing a strategy to unlock these opportunities. The capabilities identified in Part 1, as well as the barriers, could be used to help prioritise support.

Recommendation 4. Incentivise engagement with Indigenous organisations and build negotiation capability

Carbon projects that directly empower Indigenous people are highly valued on the carbon market. Therefore, in addition to rights and equality considerations, there is a strong business case for strengthening Indigenous involvement in non Indigenous owned carbon projects.

In areas of Australia where Indigenous people do not have strong land rights and interests, carbon related opportunities for Indigenous organisations are usually confined to the provision of contract services or the ability to negotiate partnerships or other outcomes. The Regional Snapshots provided in Part 3 of the report present information on what methods/activities are most suitable to different Zones, highlighting what skill sets and contract services would be most appropriate.

There are many different pathways and arrangements for increased Indigenous involvement in carbon projects and significant scope to negotiate arrangements that best suits the individual circumstances, strengths, and aspirations of individual Indigenous organisations. The main barriers will be the appetite of non-Indigenous people to engage in discussions to put in place these types of arrangements, and the capability of the Indigenous organisation to negotiate the outcome they desire, or even identify what the best outcome is.

While the strong demand in the carbon market for Indigenous produced ACCUs may help to overcome the first of these barriers, the second will require targeted and long-term support to build the capabilities identified in Part 1 of the report, as well as the barriers. Knowing where and how to engage can also be a major challenge.

For some areas, land councils might provide a good starting point for engagement. For others, it might be engaging with the local ranger program or aboriginal corporation. Where ranger programs don't exist, supporting the establishment of a local work team could be an option. Helping both Indigenous and non-Indigenous organisations to identify these opportunities is itself an important steppingstone in unlocking increased Indigenous engagement.

Recommendation 5. Highlight the premium value of Indigenous carbon

The success of many Indigenous carbon projects will depend on the price at which they are able to sell their ACCUs. Continuing to improve the recognition and premium value placed on Indigenous carbon projects will help increase the viability of marginal carbon projects, as well as provide a potential negotiating point for organisations wishing to start their own carbon project but lacking the carbon rights and interests to do so.

Arafura Swamp Rangers (Photo: David Hancock)

Recommendation 6. Engage in emerging environmental markets

A major finding of this report is that 72% of lands where Indigenous groups would hold strong carbon rights (Class 1) in Australia occur in the Desert Zone, which is a region that is presently largely devoid of any suitable ERF methods. While investment should be made to increase the coverage of ERF methods in this area, as described in Recommendation 1, it is unlikely that this will result in the whole area being covered by an ERF method.

This highlights the importance of other emerging (non-carbon) environmental markets to the Indigenous estate, such as the proposed National Biodiversity Stewardship scheme. Expanding the proposed scheme (or other appropriate national framework) beyond the agricultural regions to ensure Indigenous organisations can access this opportunity is crucial to avoid duplicating the geographic disadvantage faced by Indigenous people in accessing the ERF.

Proactive engagement by Indigenous organisations in the design and implementation of environmental markets will be key to ensuring they are both relevant and applicable to Indigenous lands and Indigenous land management activities.

Laynhapuy Rangers in 2013 (Photo: ILSC)

ICIN CEO Anna Boustead presenting, ALFA NT Pre-Season Fire Meeting, Maningrida 2021

Introduction

This report is a technical document which has been prepared for the Indigenous Carbon Industry Network (ICIN) to analyse existing and prospective opportunities for Indigenous organisations to participate in the Australian Government's Emissions Reduction Fund (ERF).

Data analysis of carbon project figures relied upon in these maps were correct on 28 February 2022. Please refer to the Emissions Reduction Fund Project Register on the Clean Energy Regulator's website for the very latest carbon project figures. Please note that some methods, such as the Human Induced Regeneration (HIR) method, have seen a spike in project registration, with an additional 32 HIR vegetation projects registered after the analysis to inform this report was undertaken. The rapid increase in the rate of new project registered highlights the rapid 'carbon rush' occurring in Australia and serves to further underscore the recommendations of this report.

The analysis undertaken in this report includes geographic and spatial analysis of Indigenous carbon rights at a national level, as well as desktop identification of key eligibility and capability requirements for organisations to participate in the ERF.

The information provided in this report is of a technical nature and assumes a working knowledge of the ERF. The report is intended to complement existing information and resources, providing the ICIN with additional analysis to inform discussions with Indigenous organisations and policy makers considering opportunities and barriers to Indigenous participation in the ERF.

Part 1 of the report identifies some of the key organisational requirements to participate in the ERF, including eligibility requirements under the ERF and recommended capabilities for organisations wishing to undertake an ERF project. Part 2 and Part 3 of the report provide a summary of the spatial analysis undertaken for this report, identifying the intersection between the Indigenous estate and ERF methods.

The authors wish to acknowledge that the maps presented in this analysis do not depict the full extent of Indigenous interests across Australia. For the purposes of this report, we have identified Indigenous interests through the narrow lens of legal mechanisms for Indigenous engagement in the carbon market. However, we note that all areas of country, including those not identified within the Indigenous estate maps presented in this document, still maintain Indigenous interests and connections. Indeed, the Indigenous estate extends over the entirety of Australia, and has never been ceded or extinguished.

The Full Report includes Parts 4 and 5, not included in this abridged report. If you are a part of an ICIN Member organisation and would like a copy of the Full Report, please contact ICIN by email CEO@icin.org.au. Indigenous organisations that are not yet members of ICIN are welcome to join us as an Associate Member for access to this and other useful resources.

Part 1: Requirements to participate in the Emissions Reduction Fund

The Emissions Reduction Fund (ERF) has been a fundamental part of the Australian Government response to climate change over the past ten years and is the main carbon market operating across Australia. The ERF provides rules for developing and operating carbon projects and earning Australian Carbon Credit Units (ACCUs). Holders of ACCUs may then choose to sell these to the Australian Government (under the ERF), or to buyers in the voluntary carbon market.

This Part identifies the main organisational requirements to participate in the ERF, from both a regulatory and operational perspective. This includes ERF specific eligibility criteria as well as capability and capacity requirements. Part 3 provides a more detailed consideration of method specific eligibility requirements.

For many Indigenous organisations, the requirements for participation in the ERF can seem overwhelming, which may result in either inaction or a decision to allow another organisation to progress a project rather than be Indigenous led. While it is important that carbon projects are properly planned and considered, Indigenous organisations should be assured that these requirements are not insurmountable and, with the right assistance, Indigenous owned carbon projects can succeed, as evidenced by the 35 Indigenous owned and managed ERF projects.

Eligibility requirements under the ERF

The ERF places certain requirements on organisations seeking to participate in the scheme. While these requirements apply to all project proponents, they may present some unique considerations for Indigenous organisations. Table 1 summarises the main requirements to participate in the ERF as well as some of the considerations for Indigenous organisations. In addition to these general ERF requirements, individual methods may contain further requirements that will impact on an organisations ability to participate. Part 3 sets out some of these method specific requirements.

Please note that this, and the information provided in Part 3, is a high-level summary only and is not an exhaustive list of all ERF or method requirements. More detailed information on individual methods is available on the Clean Energy Regulator's website, where links to methodology determination can be found as well.

Rangers, Warddeken Land Management (Photo: Alex Ernst Batman)

Table 1: Summary of eligibility requirements under the Emissions Reduction Fund

Requirement	Explanation	Considerations for Indigenous organisations	Map reference
Fit and Proper Person	The owner of the project has the capability, capacity, and good character to run the project. This includes consideration of: • A person's past compliance with certain laws, especially about: ◦ Dishonesty ◦ Running a business ◦ Environmental protection and ◦ Work health and safety • Whether they are solvent.	An organisation wanting to register a carbon project should be in good business order. This might mean: • Not in receivership or administration. • Having the capacity (staff and time) to run a project, or the ability (and finances) to outsource these requirements. • Having the capability (knowledge or expertise) to run a project, or the ability (and finances) to outsource relevant requirements. When planning a project, it is a good idea to think about who should own the project and look at different options for project governance to best support the outcomes you want.	N/A
Australian Federal Police check	One of the requirements to participate in the ERF is to pass an Australian Federal Police check, including providing 100 points of identification. If a corporation (as opposed to individual) is the project proponent, this requirement applies to all Directors of the corporation.	An Australian Federal Police check for these purposes focuses on white collar crime, e.g. fraud. The high threshold of identification required to undertake these checks can sometimes provide a barrier to some individuals who might not have enough original identification documents. It can be useful to think through who will need to meet these requirements and whether that can be done.	N/A

Requirement	Explanation	Considerations for Indigenous organisations	Map reference
	This requirement also applies to the people nominated as representatives for the Australian National Registry of Emissions Units (ANREU) account.[3]		
Legal Right	The ERF does not create any new legal rights. Someone wanting to do a carbon project must look to existing rights, interests, and laws to see if they have the legal right to do the activity and run the carbon project.	Establishing the legal right to do a carbon project on Indigenous land can be complicated, and costly – more so than for non-Indigenous land. This is due to complicated land interests and intersecting legal rights. Many Indigenous organisations (particularly outside of Northern Australia) may only have limited legal recognition of their land interests. While this can make it more difficult to undertake a carbon project, it is still possible, and organisations have other options such as working in partnership or agreement with the legally recognised landowner. Generally, organisations will need a lawyer to provide advice on legal right requirements. Indigenous organisations should factor in the cost and time involved in obtaining this legal advice when planning a project.	Legal right is identified as 'Class 1' in *Map 2: Indigenous Carbon Rights.*

[3] Under the ERF, all carbon credits are received into an ANREU account. It operates similarly to an online bank account, enabling transfer of ACCUs. The Project Proponent must nominate at least one individual who is authorised to access and make transactions in this account.

Requirement	Explanation	Considerations for Indigenous organisations	Map reference
Eligible Interest Holder consent	The ERF identifies certain individuals/organisations as Eligible Interest Holders. They must be asked if they provide consent to a carbon project. If they say no, the project cannot proceed. The ERF sets out who is an eligible interest holder, based on the land interest. An ERF project can be registered prior to having all eligible interest holder consents, but it cannot earn any ACCUs until all consents have been provided.	Registered Native Title Body Corporates (RNTBC) (for both exclusive and non-exclusive possession native title areas) are eligible interest holders in relation to any carbon project on their native title land. Therefore, where a carbon project occurs on native title land, the relevant RNTBC has the right to give (or withhold) consent. Importantly, this is an absolute right of veto. RNTBCs can say 'no' to the project and this means the project cannot proceed. Native title holders are in a very strong position in relation to carbon projects on native title lands. They should carefully think through: • Whether and how the carbon project aligns with their aspirations for management of country. • Whether they agree with the proposed governance structure of the carbon project. • What benefits or outcomes they would like to see from the carbon project (if any). Consent must also be properly informed and freely given.[4] RNTBCs should think through whether they have all the information they need to understand what is being requested and may want to take the time to get independent advice prior to deciding whether or not to consent.	Class 2 and Class 3 in *Map 2: Indigenous Carbon Rights*.

[4] For further information, see the ICIN guide to seeking free prior and informed consent of Indigenous groups to carbon projects https://www.icin.org.au/resources.

Requirement	Explanation	Considerations for Indigenous organisations	Map reference
		Consent, if given, cannot later be withdrawn throughout the duration of the project (often 25 years). Where granted, consent might be provided directly by the RNTBC, or following a consultation process with affected native title holders. Consent may be given in the form of the CER template consent agreement or through an Indigenous Land Use Agreement (ILUA). The process and form of consent will depend on the type of carbon project, the affected native title rights and interests and potentially the rule book (and powers) of the RNTBC. For projects where the RNTBC is the project owner, the RNTBC will need to get consent from any other identified eligible interest holders. For example, this could be a pastoralist, or, depending on the land tenure, it might be the Crown (State or Territory government). Eligible interest holders may try to use their consent rights to put additional conditions and requirements on the operation of the carbon project or other matters, in exchange for giving that consent. Carbon projects provide an important opportunity for Indigenous land organisations to access economic opportunities and all parties should work together to minimise any additional barriers to Indigenous participation, including – where applicable – the relevant State and Territory governments.	

Requirement	Explanation	Considerations for Indigenous organisations	Map reference
Project is new and 'additional'	Project would not happen anyway, without the ERF. Some individual methods, including Savanna Fire Management Methods, contain further detail on meeting the 'newness' requirement.	The main consideration in meeting the newness requirement is to be aware of timing – planning when to start undertaking project activities and making sure steps have been taken to register the carbon project with the CER before then.[5]	N/A
Legal and regulatory approvals	ERF project registration does not remove requirements to obtain approvals under local, state, or federal regulations or laws. If a project requires regulatory approvals or permits, these must be obtained prior to commencing the project or the relevant activity. For example, in some jurisdictions, Savanna Fire Management projects might be required to get a permit to undertake burning from the relevant authority. Demonstrating that these permits are in place is part of reporting obligations.	Native title project owners should be cautious where state or territory governments may be using this requirement to place additional burdens on projects and ensure any requirements are equitably applied to all ERF participants. It may be prudent to seek legal advice. For projects occurring on native title lands, if the approval creates any new rights or obligations, the Future Act provisions of the *Native Title Act 1993* (Cth) may be relevant, resulting in additional processes and requirements that must be met.	N/A
Monitoring, reporting and record keeping	Projects need to begin monitoring, in line with the relevant method, from the start of the project activity, and continue until the project ends (is revoked) or they are otherwise advised by the CER (which may be up to, or longer than, 25 years). Records must be kept for at least seven years from the date of creation of the record.	Organisations should plan and implement monitoring and record keeping procedures, including quality control and quality assurance processes from the start of the project, and have a plan for how these will be continued in the long-term. These may be checked during project audits.	N/A

[5] The list of what constitutes starting a project can be found in the Carbon Credits *(Carbon Farming Initiative) Act 2011*, section 27.

Requirement	Explanation	Considerations for Indigenous organisations	Map reference
Applicable method	The ERF gives ACCUs to activities that either reduce the amount of polluting greenhouse gases going into the air (emissions avoidance) or absorb greenhouse gases out of the air (sequestration). The type of activity must be one that is approved by the CER through a published methodology.	For most Indigenous organisations to access carbon opportunities there needs to be an intersection of Indigenous land interests, an applicable ERF method, and Indigenous land management capability.	The maps presented in Part 3 indicate what Methods are most suitable to different regions of Australia.
Permanence Obligations (sequestration projects only)	Carbon stored in vegetation and soils can be released back into the atmosphere by man-made or natural events, thereby reversing the benefit of the sequestration project. For this reason, all sequestration projects are subject to permanence obligations. A permanence obligation means the carbon stored by a project must be maintained for the chosen period, which can be 20, 25 or 100 years depending on the method. All sequestration projects are required to provide the CER with an explanation of actions they have taken or will take to protect the carbon stored for the permanence period. This is known as a permanence plan.	Sequestration projects affect what can and cannot be done on country for the entire permanence period (20, 25 or 100 years). Breach of these obligations can result in financial or even criminal penalties. It is important to plan how to manage this long term commitment and risks. For example, if the organisation running the project regularly changes Directors (such as a RNTBC), how will it ensure the new Directors remain committed to the project? Or if the costs of carrying out the activity increases, or the price of carbon decreases, how will it ensure it has the financial ability to keep undertaking the project? Undertaking financial, business and risk management planning can help to identify and manage the risks associated with sequestration projects.	N/A

Thamarrurr Development Corporation

Key capabilities for participation in the ERF

In addition to the eligibility requirements set out in Table 1, access to the ERF is also affected by practical capability and capacity requirements.

It is useful to think of a carbon project like running a business. Many of the capabilities listed are the types of skills needed to successfully operate any business. However, there are some aspects of carbon projects which make them quite unique from other businesses. We have described the requirements specifically as they relate to carbon businesses.

Governance and risk management

Carbon projects require long term planning and decision-making and effective identification and management of risks. For example, when planning a carbon business, an organisation should consider:

- The duration of the crediting period (generally 7 or 25 years depending on the method).
- The duration of any carbon sales contracts
- For sequestration projects, the duration of the permanence period (20, 25 or 100 years depending on the method).

Because carbon projects generally involve a change in how land is managed, it is important to plan how that change will be implemented and managed for the duration of the carbon project.

Carbon projects carry certain risks. For example, there are financial risks that the price of ACCUs could reduce, or that a project may earn less (or no) ACCUs in some years. There are compliance risks that the organisation may be found in breach of the ERF if the carbon project is not run properly.

For example, the minimum operating period for a sequestration project is usually 25 years. If a decision is made to change the land use (or cancel the project) before this time is elapsed, ACCUs equivalent to the total number issued to the project need to be handed-back to the CER. Failure to do this can result in financial penalties.

Successful operation of a carbon project requires good governance and sound risk management. Good governance should mean that long-term decisions, such as implementing a carbon sequestration project, can be made with confidence, knowing that all affected parties agree, or even if not, respect the decision-making process and its outcomes.

Sound risk management means that all known risks have been identified, and a strategy developed and implemented to manage these. The ability to confidently implement a risk management strategy relies on good information management, workforce (staff) management and financial management.

Organisational management

Managing a carbon project can be quite complex, involving things such as management of on-ground staff and activities, multi-year financial management and planning, managing administrative requirements of the carbon project or managing any consultants that have engaged to undertake parts of the project, and managing corporate sales and marketing. Having a strategic plan will help evaluate whether or not a carbon project fits within the organisational vision and purpose.

Strong organisational management, including business literacy, strategic planning, procurement and contract management, project management, and good internal procedures and data management are important capabilities are required. Carbon projects may also involve procuring a range of services, such as legal advice, financial advice or engaging a carbon advisor.

Financial management

Carbon projects require both financial literacy and liquidity. All carbon projects involve some level of start-up costs, and generally, some type of financial investment will be required prior to the project receiving any financial return. Having 'liquidity' (money in the bank) can help meet these costs, as well as any unexpected future outlays for the project.

Having a strong understanding of financial management is an important aspect of running a carbon project. Organisations need to have a sound understanding of how much their start-up and ongoing operating costs will be, and plan for how to meet these, particularly in bad years, when the projects may earn no money or even operate at a loss.

For example, for Savanna Fire Management projects, the annual operating costs, such as helicopter hire, can be quite high. The project will incur these costs even in bad fire years, where late season fires could result in the project earning no income at all.

Other more basic financial requirements for running a carbon project include having a bank account in which to receive project funds and completing financial reports or tax returns.

Information and data management

While carbon projects involve doing activities on the ground, like savanna fire management, there is also a large administrative component to carbon projects. This requires computer literacy and good information and data management systems.

Anyone who is nominated as a contact person for the carbon project, including ANREU account holders, should have a minimum level of computer literacy. The nominated as a contact person must be able to access and respond to emails, navigate websites, and undertake online transactions (similar to internet banking).

Carbon methods have very specific monitoring, reporting and record-keeping requirements, and records must be kept for seven years after they have been created. This means, for example, that record keeping obligations might still be in place 32 years after an organisation starts a project.

Having systems and processes in place to collect and store this information, including backing up files, and quality assurance and control procedures is important. This is something that auditors will check when a project undergoes an audit.

People management

A carbon project can involve many different people. Land managers may be responsible for implementing on ground activities, such as fencing or burning; other staff or contractors might be responsible for collecting information and reporting to the CER and engaging and liaising with auditors; and still other staff or contractors might be involved in negotiating sales agreements or discussing media requests.

Everyone is likely to face some increase in their workload because of the carbon project. Managing staff and contractors, including ensuring staff can be retained or relevant expertise engaged is essential to the successful operation of a carbon project.

The late Mr Rioli facilitating a workshop with Tiwi landholders

Summary

This Part identified some of the main eligibility requirements of the ERF and its methods, and how these may apply to Indigenous organisations, as well as identifying some of the main capabilities for operating a carbon project.

Some of the main considerations arising from ERF eligibility requirements include:

- Having the skills and capacity to satisfy the fit and proper person test.
- Meeting identification requirements to undertake an Australian Federal Police check.
- Being able to demonstrate or negotiate the legal right to undertake a project and paying for expert advice to support this.
- The cost and process involved in obtaining (or providing) eligible interest holder consent.
- Having a method applicable to the land area, and whether it aligns with land management aspirations.
- For sequestration projects, having a plan for maintaining the project and meeting permanence obligations in the long term.

Five key capabilities for organisations wishing to operate carbon projects, were identified, including:

- Good governance and risk management
- Organisational management
- Financial management
- Information and data management, and
- Workforce management.

While these requirements can seem onerous, the success of Australia's Indigenous carbon industry demonstrates that with the right support, they are not only achievable, but can be a catalyst for significant organisational growth and innovation.

Wunambal Gaambera Fire Walk, Credit: Wunambal Gaambera AC

PART 2: Mapping the Indigenous Estate and Indigenous Carbon Rights

This Part identifies at a national scale the potential rights and interests of Indigenous people in relation to carbon projects through developing a series of maps.

Process for developing maps

Surprisingly, there is no publicly available up-to-date map that identifies where Indigenous people have legally recognised rights and interests across Australia. The first step was therefore to create a map which identified where Indigenous people have ownership, management responsibilities, access or other rights and interests in land. This is referred to in this report as the 'Indigenous estate'.

Once the Indigenous estate had been identified, the next step was to identify what rights – in relation to carbon projects – these Indigenous land interests could give rise to. To achieve this, the Indigenous estate map was reclassified based on the legal mechanisms for potential Indigenous engagement in the carbon market (legal right, eligible interest, and/or other formal recognition of interest). The resulting map *(Map 2: Indigenous Carbon Rights)* identifies the types of rights and interests that Indigenous people may have in carbon projects based on the location.

Map 2 identifies potential rights and interests over the whole of Australia; however, it does not consider the existence of an Emissions Reduction Fund (ERF) method or carbon project. In this way, it shows the maximum potential extent of Indigenous rights in relation to carbon projects, but if no ERF method is suitable to the area, these rights may never be enlivened. Refinement of these maps to areas where carbon methods exist is undertaken in Part 3 of this report, which provides guidance to Indigenous landholders as to what Methods may be most suited to the regions of Australia.

The datasets used to develop the maps in this report are considered reasonable for the current use. However, while attempts have been made to ensure accuracy, an analysis at this scale and resolution does have limitations and will undoubtedly contain some errors. Some important things to note are:

- The Indigenous estate map (and all subsequent maps) have been developed based on legally recognised rights and interests as relevant to carbon projects. The authors acknowledge that Indigenous land interests are much broader than what is presented in these maps, recognising that the Indigenous estate extends over the entirety of Australia, and that sovereignty has not been ceded.
- Areas where native title has been determined as being 'extinguished' or 'does not exist' are not displayed in any of the maps presented in this report.
- The datasets in this report have been developed based primarily on publicly available spatial datasets. These datasets can sometimes be incomplete, outdated, contain errors, be attributed differently and at times can contradict each other.
- The 'ABARES layer' in this report is reliant on the accuracy and currency of data presented in the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) report, *Australia's Indigenous forest estate* (2020) (Jacobsen *et al*, 2020), which itself is reliant on third-party data providers. It is not uncommon for there to be some discrepancies or errors in such large and diverse datasets. Most data used in the ABARES layer was current as of 2016. However, the ABARES dataset identifies three Cape York properties as being 'Indigenous managed', along with some Unallocated Crown Land in the Kimberley region as being 'Indigenous owned, managed and special rights', which we believe are mistakes which result in minor errors to figures presented in Part 3 of this report.

- The ERF project mapping layer is current as of February 2022, all other data layers used in this report are current as of September 2021.
- As this analysis is undertaken at the continental scale, we have used a systematic, objective process to define the Indigenous estate based on publicly available data. We are aware that we may therefore miss some parcels of land that do not neatly fit within our criteria but where there may be carbon related opportunities for Indigenous people (for example, through private partnership or other contractual arrangement).
- Details around legal right and eligible interest holder consent are complex and based on individual property interests and/or other specific circumstances which must be assessed on a case-by-case basis. The analysis in this report is a coarse analysis based on tenure and management attributes obtained from a variety of public datasets and may overlook or misrepresent some interests.
- Indigenous organisations should not make any legal, commercial, or native title decisions based on these maps. Independent, project specific legal and technical (and potentially financial) advice should be sought before registering a carbon project.

Developing Map 1: The Indigenous estate

Map 1: The Indigenous Estate identifies land that is formally recognised as having Indigenous interests.

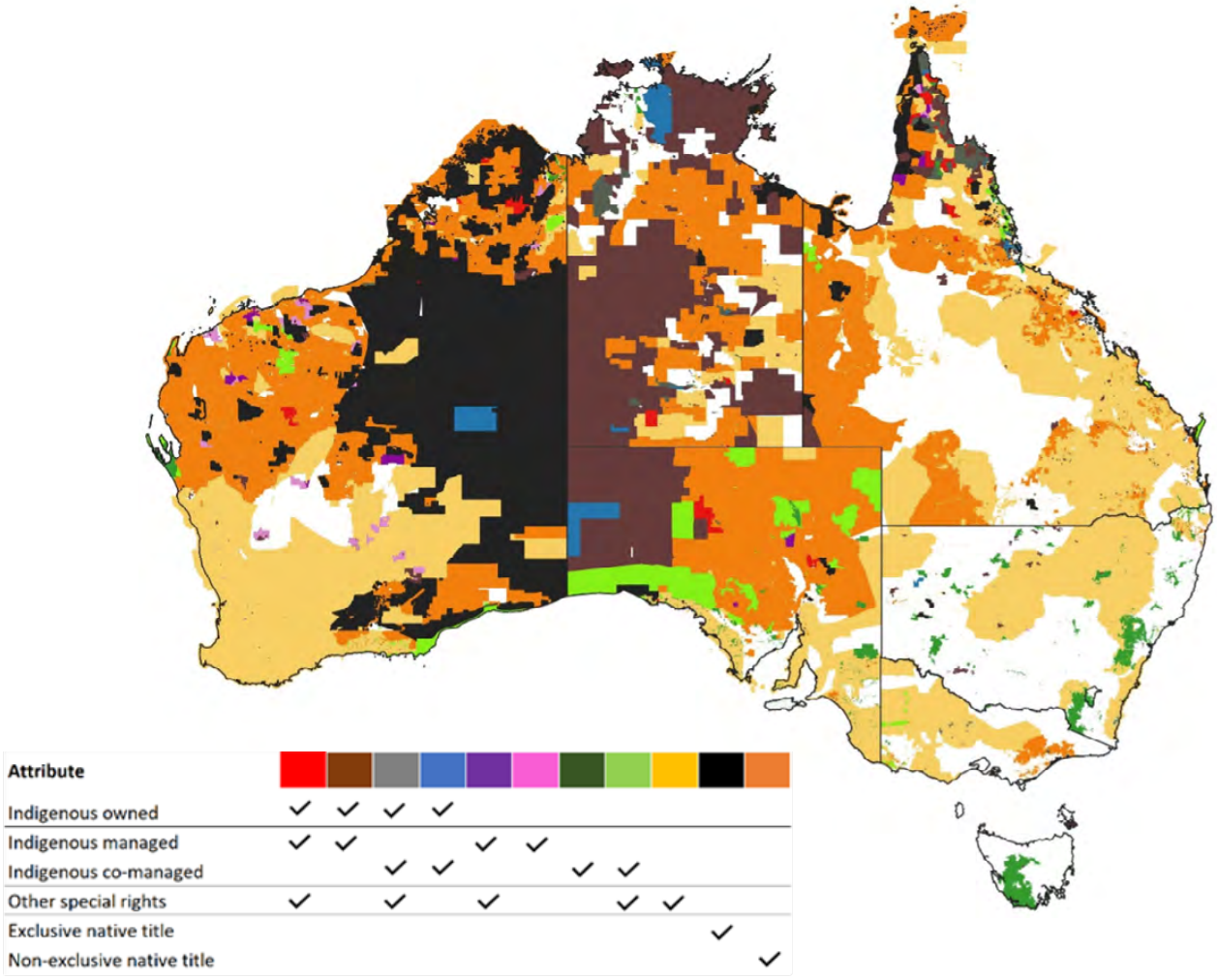
This map has been developed by building upon existing datasets, predominantly, the publicly available ABARES data, with updated and new data added where required.

This Map largely uses the same classification as the ABARES layer. The exception to this is in relation to the classification of native title rights, which ABARES have classified as 'other special rights', but we classify as their own discrete categories. The resulting six land interest classifications (with 11 combinations) presented in Map 1 are:

1. Indigenous owned
2. Indigenous managed
3. Indigenous co-managed
4. Other special rights
5. Exclusive possession native title
6. Non-exclusive possession native title.

More detail on the process, the data layers and the classification system used can be found in Appendix 1.

Jawoyn Rangers presenting, ALFA NT Pre-season Fire Meeting, 2021



Map 1: The Indigenous Estate

Developing Map 2: Indigenous carbon rights

Map 2: Indigenous Carbon Rights identifies the formal mechanisms by which Indigenous people could potentially engage in the carbon market under the ERF (provided that an ERF Method was suitable to the area) based on their land interest.

Carbon projects under the ERF affect Indigenous rights and interests in several ways, depending on the type of Indigenous land interest and the type of involvement in the carbon project. It is common that Indigenous people or organisations have multiple and overlapping rights in relation to carbon projects. The main types of Indigenous carbon rights are:

- Legal right to operate a carbon project (or provide permission to someone else to operate the project).
- Eligible interest in a carbon project.
- Affected native title rights or interest.

Having rights in relation to a carbon project gives Indigenous organisations a seat at the table to negotiate the type of project or outcome that works for them. Map 2 has been classified to reflect the formal mechanisms by which Indigenous people could potentially engage in the carbon market under the ERF. Indigenous rights have been grouped into five classes based on the relative 'strength' of that right in relation to carbon projects

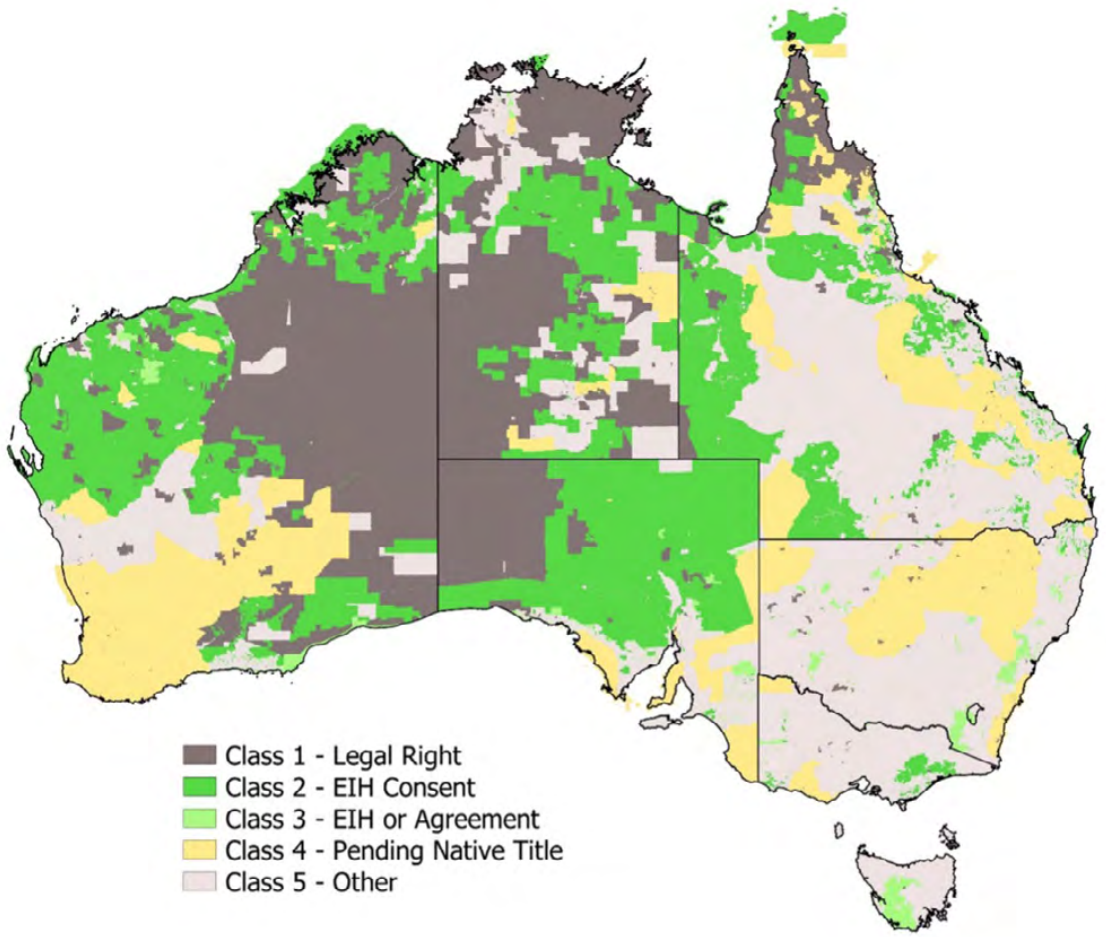
according to the framework presented in *Table 2: Classification of Indigenous land and carbon interests.* Each parcel of land is only assigned one class, that being the highest class identified for that land.

As stated, *Map 2: Indigenous Carbon Rights*, overrepresents the area where Indigenous people can engage in the carbon market. Engagement in a carbon project also requires the availability of a suitable ERF Method. There are large areas (particularly central Australia) where no ERF Methods exist, or they are very limited in applicability. Part 3 of this report intersects Map 2 with areas where suitable ERF Methods apply, to produce a series of maps identifying carbon opportunities on the Indigenous estate.

More detail on the process, the data layers and the classification system used can be found in Appendix 1. Of note is that the 'other special rights' layer used in Map 1 was not included in the creation of the Map 2 for reasons outlined in Appendix 1.

Class Description	Class number	Applicable tenure or interest
Indigenous people hold the legal right to undertake the carbon project or are likely to be able to obtain the legal right (this could include shared legal right). Indigenous people are also likely to hold an Eligible Interest according to the ERF.	**1**	Exclusive possession native title Indigenous owned land (including jointly managed parks with underlying Indigenous tenure) or land held by others for Indigenous purposes
Indigenous people are likely to be an Eligible Interest Holder under the ERF. For this Class, legal right to undertake a project might be established but should not be assumed. For co-managed parks, some other formal agreement may be required.	**2**	Non-exclusive possession native title
	3	Joint/co-managed parks where Indigenous people do not own the underlying tenure
Indigenous people have future/emerging rights that may give rise to a legal right or eligible interest in the future or position them to negotiate certain rights or benefits from a carbon project.	**4**	Pending native title claims
This Class consists of areas where Indigenous peoples' rights are currently not formally recognised in law/formal agreements	**5**	Other – all remaining areas

Table 2: Classification of Indigenous land and carbon interests



Map 2: Indigenous Carbon Rights

Summary

This Part of the report explains how the initial maps used in this report have been developed, with more detailed technical information contained in Appendix 1.

This Part presents two maps.

- *Map 1: The Indigenous estate* - showing areas where it is formally recognised that Indigenous people have ownership, management responsibilities, access or other rights and interests in land.
- *Map 2: Indigenous carbon rights* – identifying the mechanism or right which Indigenous people would have in relation to carbon projects, based on land interests.

While Map 2 identifies rights across Australia, it should not be viewed in isolation, as the exercise of these rights depends on the existence of a carbon project, or an applicable or suitable ERF method.

Part 3 looks at what methods can be applied in different regions of Australia, overlaying this with the Indigenous estate and carbon rights maps to identify where Indigenous interests and ERF opportunities may arise.

PART 3: Carbon Opportunities on the Indigenous Estate

This Part provides an overview of carbon opportunities on the Indigenous estate through the following four steps:

- Carbon Method Zones are identified to create six separate regional boundaries within which carbon opportunities can be assessed.
- Carbon method opportunities at the national level are examined by looking at where existing carbon projects are located across the country.
- A series of Method Snapshots, which seek to identify and summarise carbon opportunities on the Indigenous estate, are provided, method by method.
- A region-by-region approach, looking at existing and future opportunities for Indigenous carbon projects is set out for each of the Carbon Method Zones.

While various products exist that provide background on Emissions Reduction Fund (ERF) Methods, there is currently no known general product available to Indigenous organisations that assists with the identification of where (geographically) a Method would be suitable. This is largely due to the difficulty in identifying areas of suitability without site specific knowledge and/or a site visit (to determine current and past land use, current vegetation cover, individual project costs etcetera). It does mean however, that Indigenous landowners are unclear as to what Methods could feasibly be applied to their country to generate ACCUs, or how to even start narrowing in and identifying this.

It is beyond the scope of this report to assess the suitability and abatement potential of every ERF Method against every piece of Indigenous tenure. To progress knowledge of opportunities and barriers for Indigenous participation in the ERF, this report applies a regional approach to analyse carbon opportunities, finding a mid-way point between site specific information and broad national information.

In relation to the approaches used to generate the information presented in this Part of the report, please note:

- Unless otherwise stated, figures are in relation to 'Active' projects. Active means projects that are registered, including those that are yet to be issued ACCUs. 'Revoked' projects are excluded.

Aerial burning, North Australian Indigenous Land and Sea Management Alliance (NAILSMA)

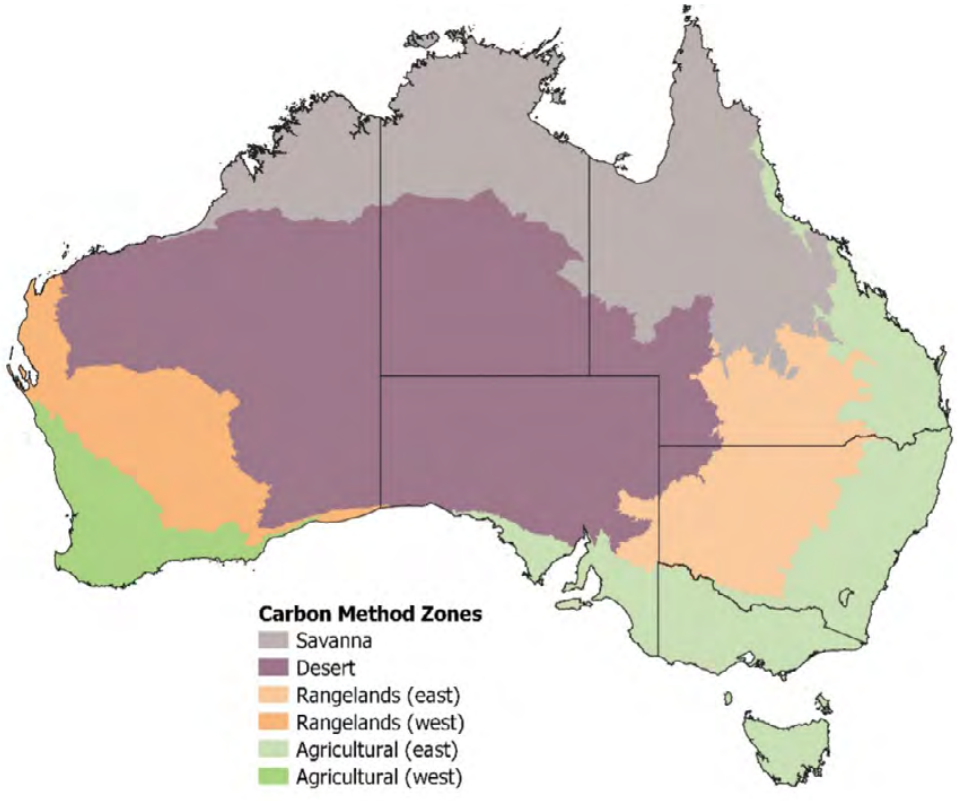
- Information is based on the CER publicly available excel data and spatial files current as of February 2022.
- Numbers of projects should be used as a guide only; some minor errors are created due to the processing (some projects straddle Zones and get counted twice).
- The identification of Indigenous projects is based on information published on the ICIN website.
- Any figures in reference to a Method are inclusive of all superseded versions of that Method.
- In the Method Snapshots, Carbon Method Zones are shaded on the maps to identify the areas where most projects have been registered to date.

Classifying Carbon Method Zones

The first step in analysing carbon opportunities across the Indigenous estate is to identify appropriate regional boundaries. For this report, country has been classified into Carbon Method Zones, based on IBRA 7 subregional boundaries.[6]

The four broad Carbon Method Zones are Savanna, Desert, Rangelands and Agricultural. Subregions are attributed based on broad land use (for example, Rangelands), climatic conditions and an assessment of the ERF project register. Both the Rangelands and Agricultural Zones are divided into east and west, resulting in six Zones in total, as set out in *Map 3: Carbon Method Zones.*

Our analysis of active ERF projects indicates that for most ERF Methods, the majority (85-90%+) of projects are located within only one Zone. Whilst Zones do not always equate to the applicable Methods applicable, this approach does provide a useful guide to Indigenous organisations on what Methods are most likely to be suitable for further assessment on their country. We acknowledge that there will be some exceptions and outliers.



Map 3: Carbon Method Zones

[6] Australian Government Department of Agriculture, Water and the Environment (2020).

Identifying existing carbon method opportunities (national)

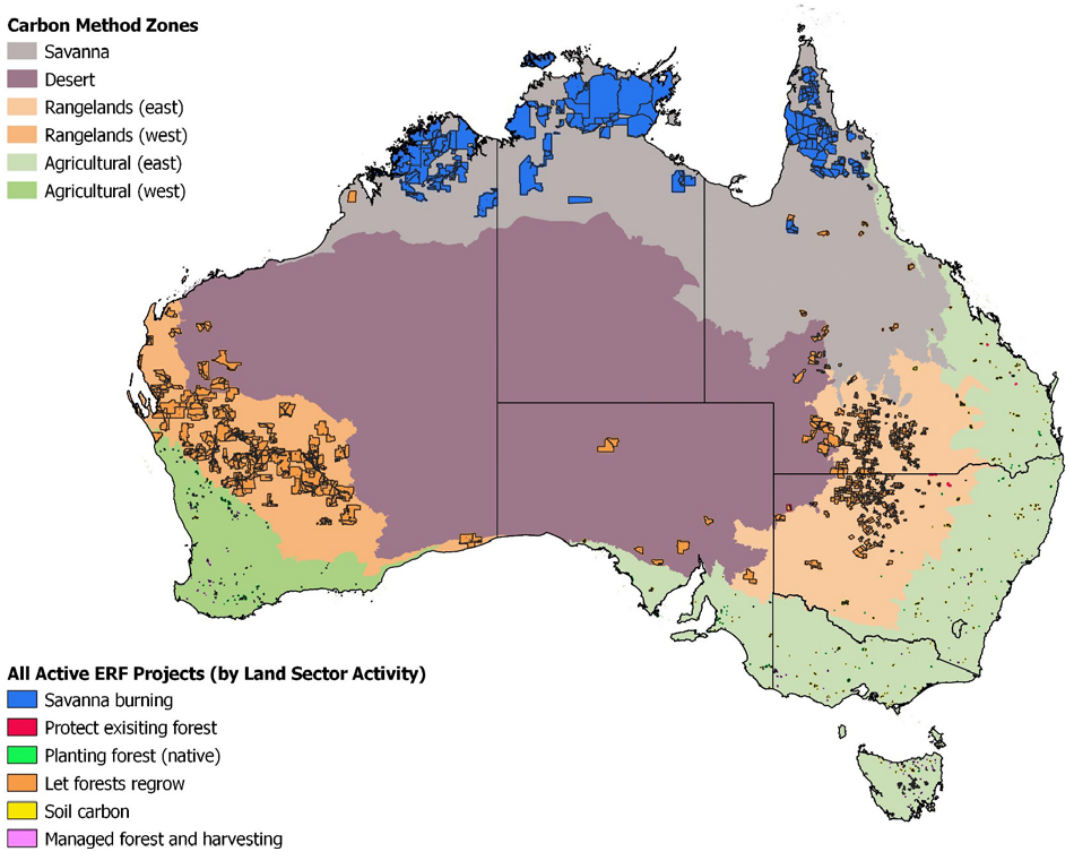
To identify carbon opportunities across the Indigenous estate, the next step is to identify what methods are most applicable to Indigenous land management, and then to consider what areas, within each Zone are most suitable.

The Methods considered in this report are limited to existing (as of March 2022)[7] land sector Methods that align with the following eight activities:

- Savanna Fire Management
- Beef Herd Management
- Storing Carbon in the Soil
- Let the forests regrow
- Protecting existing forests
- Forest Planting
- Forest Harvest
- Blue Carbon

To identify the most suitable areas for a particular Method, the report uses past and current project registrations and whether projects within a certain area have been issued with ACCUs.

Map 4 shows active ERF projects. From this map, it is apparent that most projects under an ERF Method naturally aggregate in similar geographies, highlighting the regions (Zones) that are most suitable to each method.[8]



Map 4: All Active ERF projects (by land sector Activity) displayed over Carbon Method Zones

[7] While new and revised methods will become available in the future and may present significant opportunities for Indigenous organisations (for example Integrated Farm Management) it is not possible to fully assess these opportunities at this time. Opportunities outside of the ERF are not explored in this report.
[8] Note that some projects are very small in area which makes it difficult to present information at the national scale.

One challenge in using existing project registration to guide identification of suitable project areas, is the validity of the assumption that projects have been registered on country that is most suitable to that Method and will result in the generation of ACCUs.

Overtime, and particularly if there is an increase in the carbon price, we may see an increase in project registrations in less suitable or more marginal areas.

Further, for many ERF Methods, it's up to the proponent to assess the suitability, eligibility and viability of a project and the CER will review and accept a project registration based on the proponent's assessment (providing all other requirements are met). It is therefore possible that projects are accepted for registration on areas of country where a project may never be able to generate an ACCU or are marginal at best.

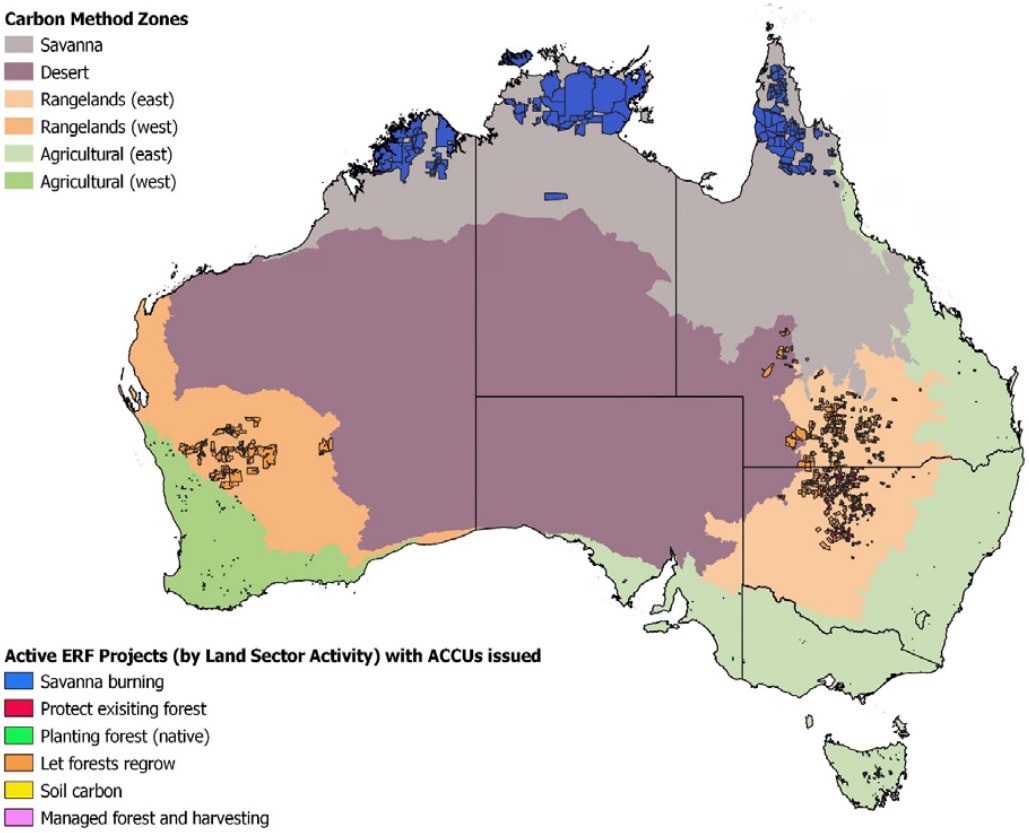
The CSIRO LOOC-C tool[9] is a useful tool for giving a guide to potential abatement with some rudimentary suitability analysis, although it still lacks a 'ground-truthing' element for what is occurring on the area of land now. Therefore, it is possible to generate an abatement forecast for an area which may not be suitable for a project at all.

To help guide where Methods are most suitable, it is also useful to consider what projects have and have not been issued ACCUs to date. There are many reasons why a project may not yet have been issued ACCUs. Factors may include how recent the Method became available or the project was registered, whether project reports have been submitted, inability to obtain eligible interest holder consents, poor management performance, a change in circumstances, or realisation that the project area is not viable.

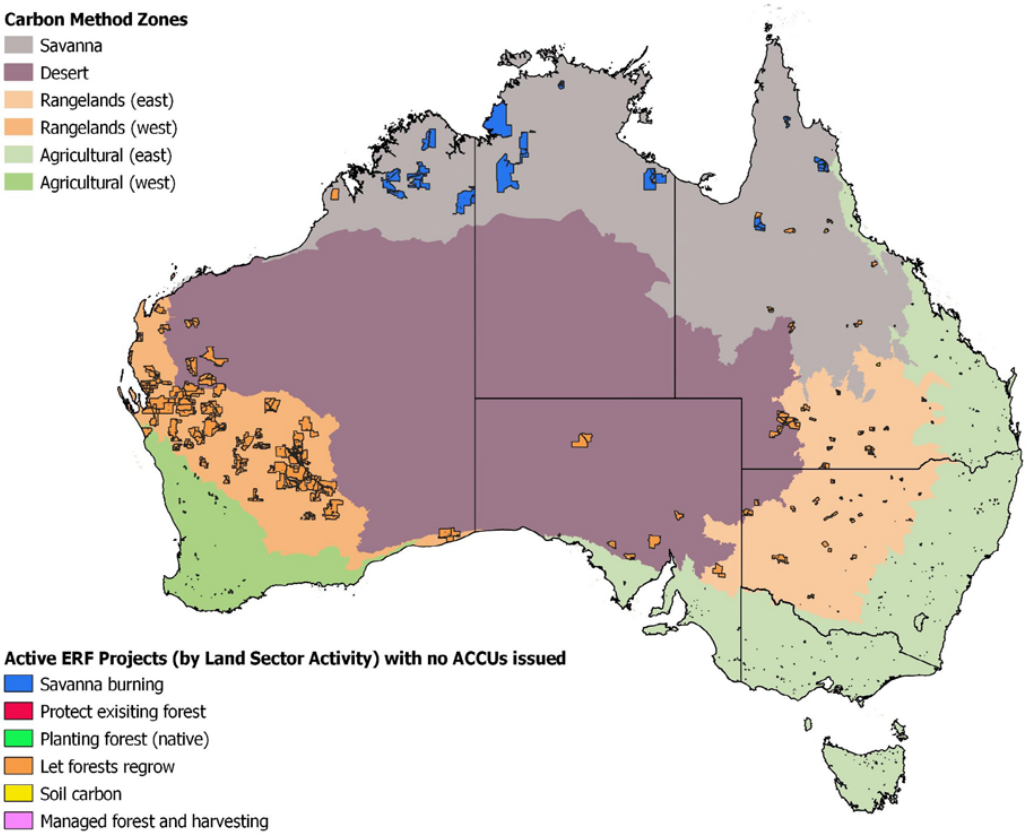
Map 5 identifies land sector projects which have been issued ACCUs and Map 6 shows active ERF project that are registered but have not been issued any ACCUs. This comparison reveals that less than 50% of the approximately 850 active land sector ERF projects have generated ACCUs to date, with Soil Carbon projects having the lowest percentage, with only one of 229 active projects having been issued an ACCU as of February 2022.

[9] See https://looc-c.farm

Judburra National Park traditional owners fire management planning



Map 5: Active ERF projects (by land sector Activity) which have had ACCUs issued to date (Feb 2022) displayed over Carbon Method Zones

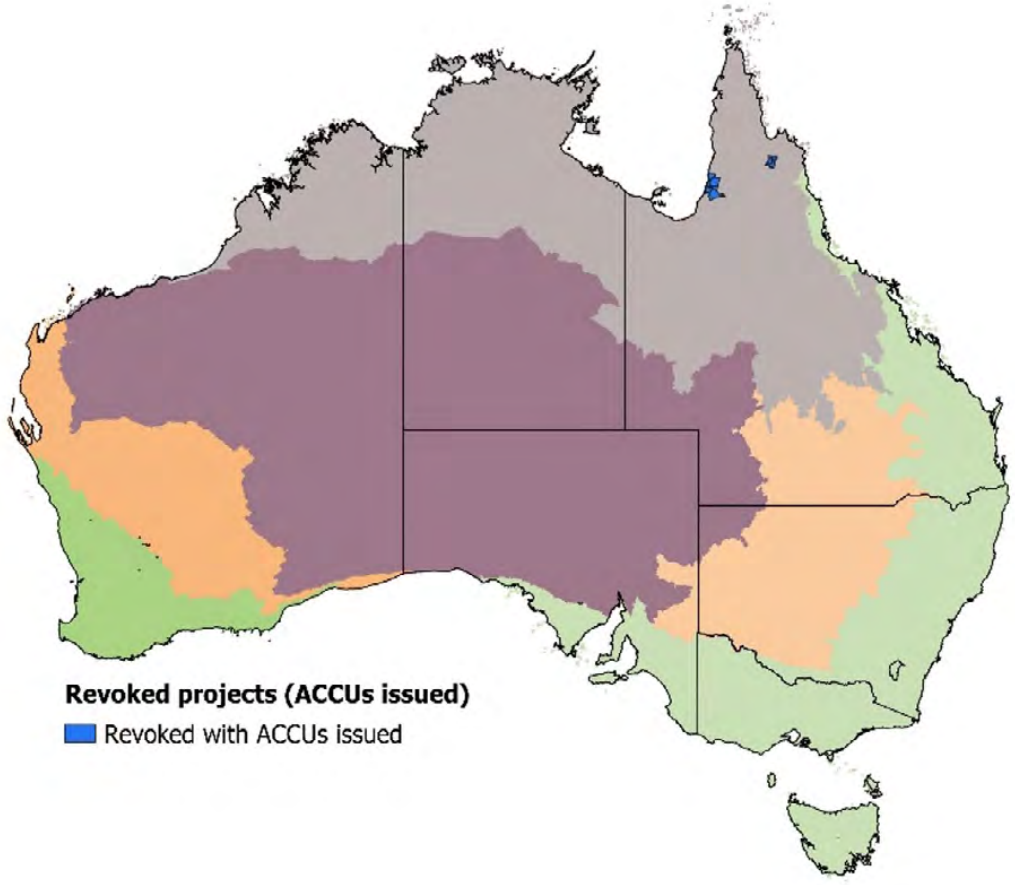


*Map 6: Active ERF projects (by land sector Activity) which **have not** had ACCUs issued to date (Feb 2022) displayed over Carbon Method Zones*

Another useful consideration in determining where a carbon project is suitable is to consider where projects have been 'revoked' (cancelled/terminated). Projects may be revoked by the proponent for a variety of reason including a change in circumstance, inability to obtain consents or the inability to deliver the management required. In addition to revocation by the proponent, projects can also be revoked by the CER.

A map of all revoked projects is considered of limited value as many revoked projects have since been re-registered with a different proponent (or a different Method). However, it is very useful to be able to identify projects that have been revoked after ACCUs have been issued for the project, as the area cannot be re-registered in the future even with a different proponent (the area cannot re-enter the ERF).

There are seven ERF projects that have been revoked after an ACCU has been issued. These projects include lands with determined non-exclusive native title (Cape York) and lands with a pending native title claim (Cape York and southwest WA). It's important for Indigenous landowners to be aware of the significance of projects being revoked post ACCU issuance in their regions, as this may prevent Indigenous people from accessing carbon opportunities in the future.



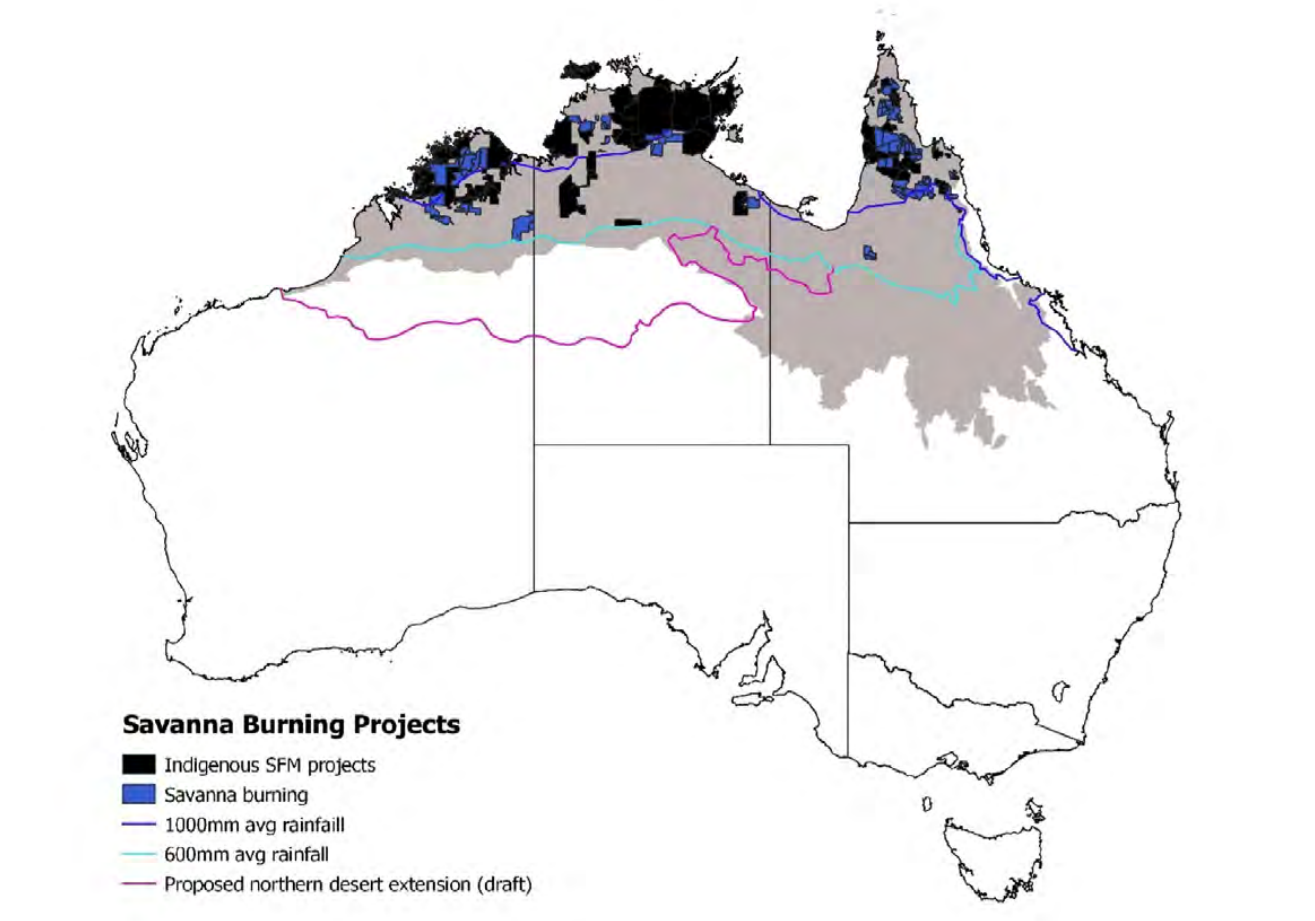
Map 7: Revoked ERF projects where ACCUs had been issued prior to revocation

Method Snapshots: ERF opportunities on the Indigenous estate

The following tables provide a snapshot of what Method opportunities are available for the eight land sector activities described in the previous section. They are not intended as a comprehensive description of all relevant information for a particular activity or Method.

Method Snapshots have been developed as a simple format for presenting information gained from spatial analysis of Indigenous ERF opportunities. It is recommended they are used to complement and fill gaps in existing factsheets and resources.

Method snapshot: Savanna Fire Management	
Applicable Zone/s	Savanna Zone, but only above 600mm average rainfall, not applicable elsewhere.

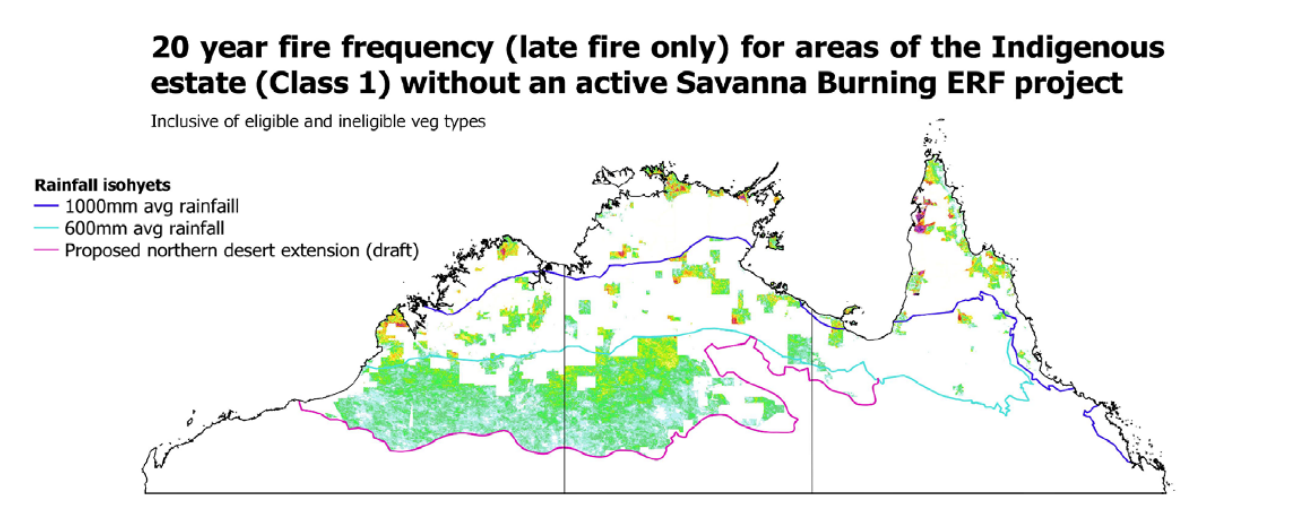


Map 8: Active Savanna Fire Management project, identifying both Indigenous and non-indigenous owned projects, within the Savanna Carbon Method Zone

Current Methods	*Carbon Credits (Carbon Farming Initiative—Savanna Fire Management— Emissions Avoidance) Methodology Determination 2018.* *Carbon Credits (Carbon Farming Initiative—Savanna Fire Management—Sequestration and Emissions Avoidance) Methodology Determination 2018.*

Method snapshot: Savanna Fire Management	
Old Methods	*Carbon Credits (Carbon Farming Initiative) (Reduction of Greenhouse Gas Emissions through Early Dry Season Savanna Burning - 1.1) Methodology Determination 2013* *Carbon Credits (Carbon Farming Initiative - Emissions Abatement through Savanna Fire Management) Methodology Determination 2015*
Future Methods	*Savanna Fire Management 2023 Emissions Avoidance (in development)* *Savanna Fire Management 2023 Emissions Avoidance and Sequestration (incl. Living Biomass) (in development)*
Activities	The Savanna Fire Management Methods suit organisations in Northern Australia who have an interest in reducing the frequency and size of fires, particularly reducing late dry season wildfires, through implementing traditional fire management practices.
Key eligibility and/or viability considerations	Area receives more than 600mm average annual rainfall Project needs to include eligible vegetation types Areas of the weed Gamba Grass are excluded from the project area Compatible with most savanna/rangeland land uses (incl. Indigenous, conservation and pastoral) except intensive agriculture, horticulture and/or forestry.
Other important considerations	All the Savanna Fire Management Methods credit a reduction in the amount of fire occurring in the project compared to a business-as-usual scenario. If you have had little fire over the last 10-15 years on your project area, or you plan to increase fire across your project area (for example to reduce woody thickening) then these Methods are not for you. If you plan to increase fire in some areas or vegetation types, then that could be incorporated into the boundary design of your project. The frequency of fire, particularly late dry season fire, provides a good indication of where there is an opportunity to reduce fire and emissions. Map 9, below, highlights areas for further investigation of abatement potential on the areas of Indigenous estate (Class 1 lands only) without a current ERF project. The significance to the Indigenous estate of the expansion of the method into areas below the 600mm rainfall isohyet (through future methods currently under development) is clearly visible in this map. Note: Abatement potential is partly determined by vegetation type, which is not incorporated in this map.

Method snapshot: Savanna Fire Management



Map 9: Late fire frequency (20yrs) for areas of the Indigenous estate (Class 1) currently without an active SFM project

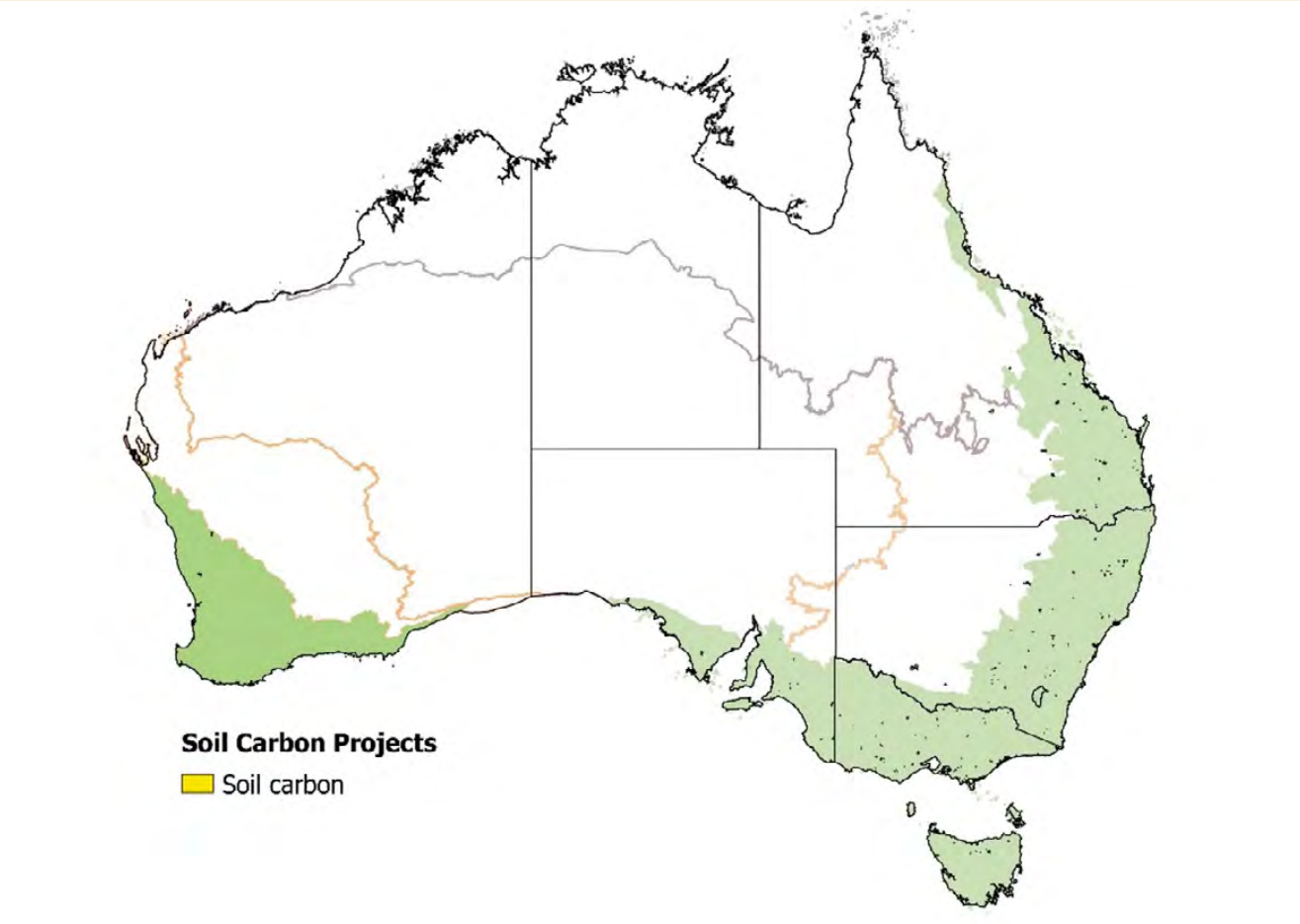
Crediting period	25 years (including for Emissions Avoidance only Savanna Fire Management Methods)
Active registered projects	Total number of projects registered: 80 Total number of ACCUs issued to date: 9,978,851 Number of Indigenous projects: 34 Number of Indigenous ACCUS issued to date: 7,286, 387
Data sources	Rainfall isohyets: Dept. of Industry, Science, Energy and Resources (DISER). Downloaded 9/09/2021 https://www.industry.gov.au/regulations-and-standards/methods-for-the-emissions-reduction-fund/savanna-fire-management-emissions-avoidance-method ERF Project register and shapefile: CER. Downloaded Feb 2022 https://data.gov.au/data/dataset/erf_project_mapping Creative Commons Attribution 3.0 Australia (CC BY 3.0 AU) 20-year fire history TIFF (late fire only): North Australian Fire Information (NAFI). Downloaded Sept 2021. https://firenorth.org.au/nafi3/

Method Snapshot: Beef Herd Management	
Applicable Zone/s	Applicable to all Zones but requires a significant herd size to be viable
Current Methods	*Carbon Credits (Carbon Farming Initiative – Beef Cattle Herd Management) Methodology Determination 2015*
Old Methods	N/A
Future Methods	Managing livestock (Cattle) to improve productivity and efficiency. This method would suit Indigenous pastoralists responsible for large cattle herds (15,000+) who are looking to improve herd productivity and have access to historical data on the liveweight of their herd. The types of management activities eligible under this method include providing feed supplements to increase cattle growth, establishing higher quality pastures, improving genetics, or culling unproductive animals.
Other important considerations	Projects using this Method are not area-based, meaning the proponents must track the herd over time irrespective if the cattle are transported to another property. Therefore, existing registered projects cannot be displayed on a map. This Method is about production efficiency and not about reducing cattle numbers. If an organisation wanted to remove feral cattle from their area (mustering, culling) alone it would not be an eligible activity under this Method but may be possible under HIR, discussed below.
Crediting period	7 years. A crediting period extension review is currently underway by the ERAC.
Active	Total number of Beef Herd projects registered: 5 Total number of Beef Herd ACCUs issued to date: 506,136
Registered projects	Number of Indigenous projects: 1 (voluntarily revoked) Number of Beef Herd Indigenous ACCUs issued to date: Zero Note: Only three Beef Herd projects have ever been issued ACCUs, these being some of the largest cattle produces in Australia each with herd sizes in excess of 200,000 – 300,000 head.[10] The Indigenous Land and Sea Corporation (ILSC) registered a project which has since been voluntarily revoked. Organisations considering this Method may wish to contact the ILSC for insight into their lessons learnt from that project.
Data sources	ERF Project register and shapefile: CER. Downloaded Feb 2022 https://data.gov.au/data/dataset/erf_project_mapping CC BY 3.0 AU
Note: As this is not an area-based Method/project, no mapping of existing or potential projects is possible	

[10] For example, Paraway Pastoral Company, the project with the smallest herd size that has been issued ACCUs to date, advertises on their website that they manage in excess of 200,000 head.

Method Snapshot: Storing carbon in the soil

Applicable Zone/s	Opportunity is primarily in the Agricultural (east) Zone where 216 of the 229 active projects are registered. Some opportunities may exist in the Agricultural (west) Zone, the Rangelands (east) Zone and possibly in some areas of the Savanna Zone (Cape York and Western Top End of the NT).

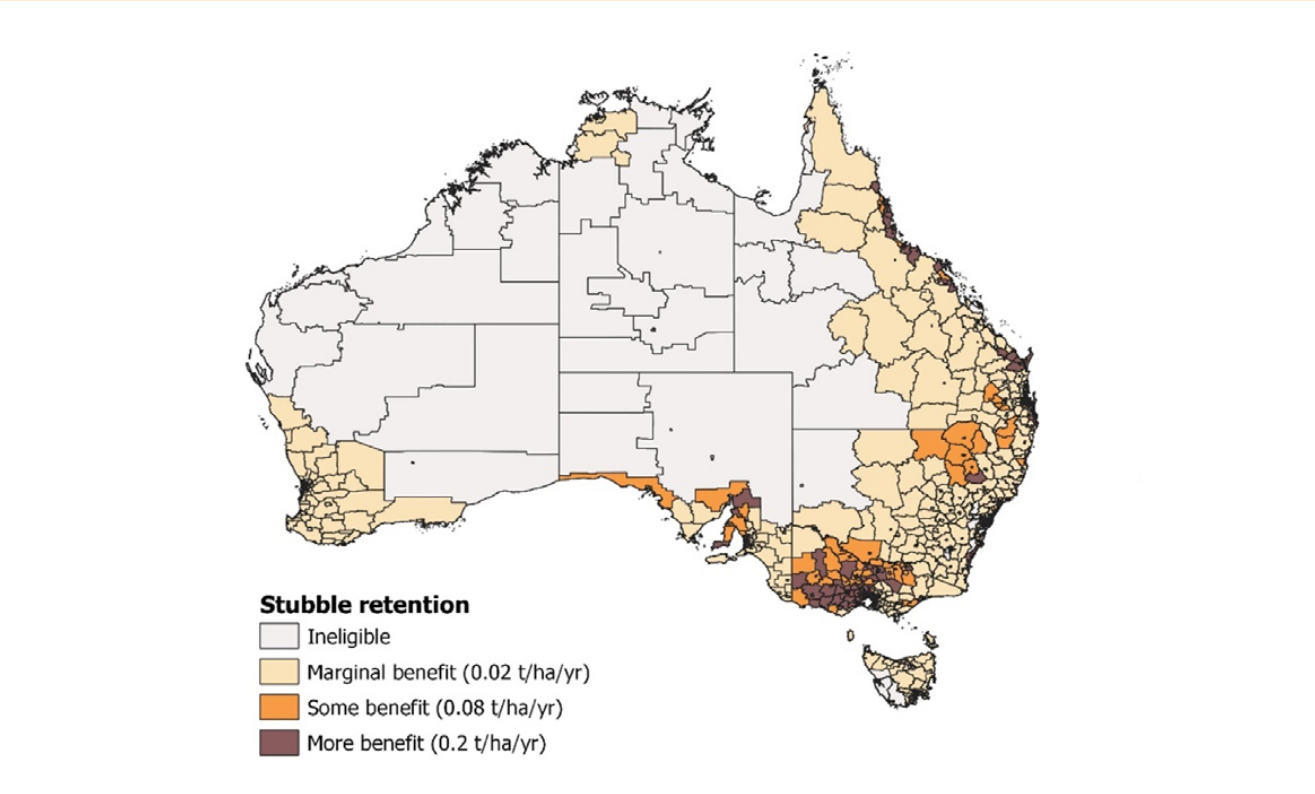


Map 10: All active ERF Soil Carbon projects. The majority of soil projects are registered in the Agricultural (east and west) Carbon Method Zones (displayed).

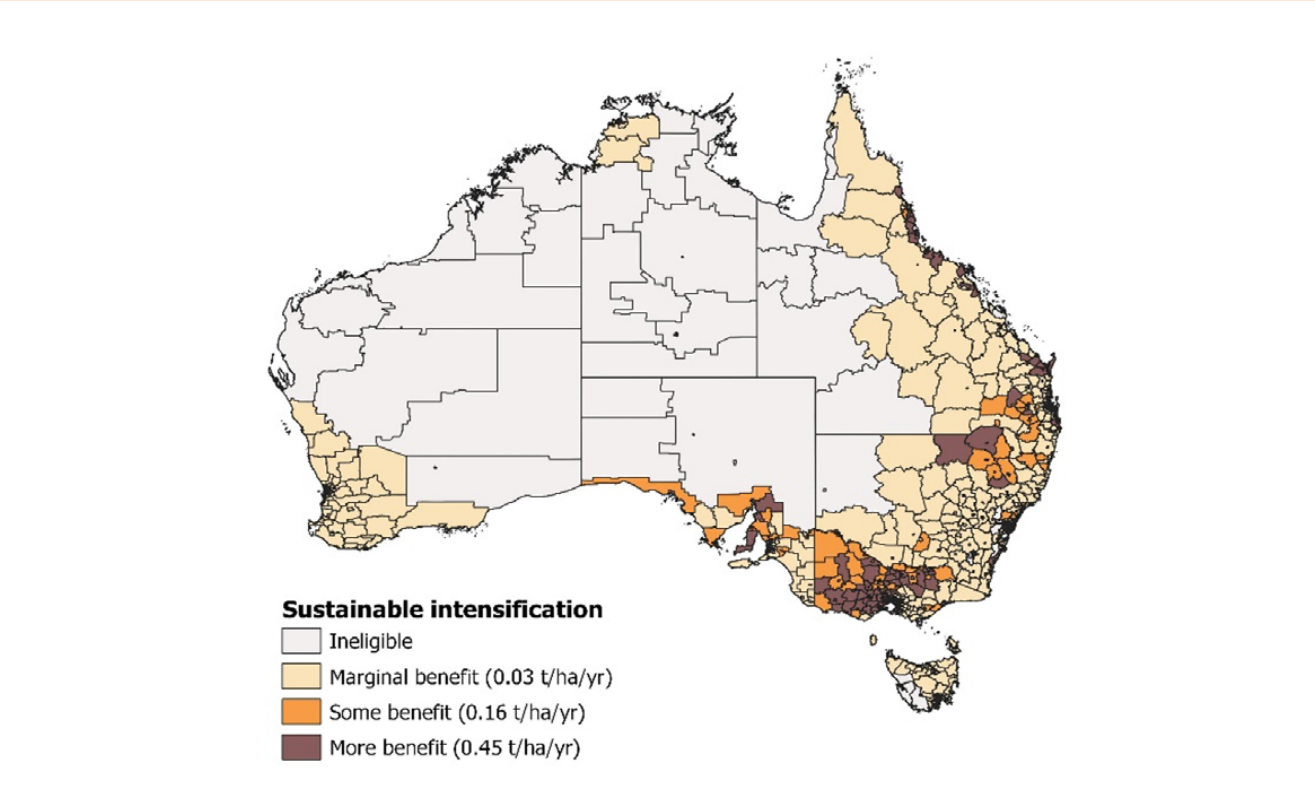
Current Methods	*Carbon Credits (Carbon Farming Initiative—Estimation of Soil Organic Carbon Sequestration using Measurement and Models) Methodology Determination 2021*
Old Methods	*Carbon Credits (Carbon Farming Initiative—Measurement of Soil Carbon Sequestration in Agricultural Systems) Methodology Determination 2018* *Carbon Credits (Carbon Farming Initiative—Estimating Sequestration of Carbon in Soil Using Default Values) Methodology Determination 2015* *Carbon Credits (Carbon Farming Initiative) (Sequestering Carbon in Soils in Grazing Systems) Methodology Determination 2014*

Method Snapshot: Storing carbon in the soil	
Future Methods	The Integrated Farm Management Method (under development 2022) may extend the reach of soil carbon opportunities (carbon pools, activities) although it will still largely be mostly suitable to agricultural regions.
Activities	The Soil carbon Methods involve doing new management practices to increase the amount of carbon stored in the soil on grazing and cropping agricultural lands. Activities include (but are not limited to): • Applying nutrients, lime, or gypsum to improve soil health. • Establishing and maintaining a pasture where there was previously no pasture (cropland or bare fallow). • Altering stocking rate, duration, or intensity of grazing • Retaining stubble after crop is harvested (no till harvesting).
Eligibility and/ or viability considerations	The maps provide guidance as to the level of abatement possible under one of the soil methods (Default Values 2015) and the suitable areas. One of the major barriers to uptake of the soil carbon methods is the expense involved in meeting some of the measurement and monitoring requirements. It is expected that the 2021 soil carbon method should improve uptake due to reduced cost/ time associated with project reporting.
Other important considerations	When registering a project, a 25 or 100-year permanence period can be chosen during which carbon stored by the project must be maintained (sequestration project)
Crediting period	25 years for all soil Methods
Active registered projects	Total number of Soil carbon projects registered: 229 Total number of ACCUs issued to date: 1,904 Number of Indigenous projects: 0 Only 1 soil carbon project has ever been issued ACCUs, being a 120ha property in Victoria. Of the 229 active projects, 95% are in the Agricultural (east) Zone.
The following maps are provided by the Australian Government. These maps highlight that the areas which may benefit from a soil carbon project are largely found within the Agricultural Zones, eastern Australia in particular.	

Method Snapshot: Storing carbon in the soil

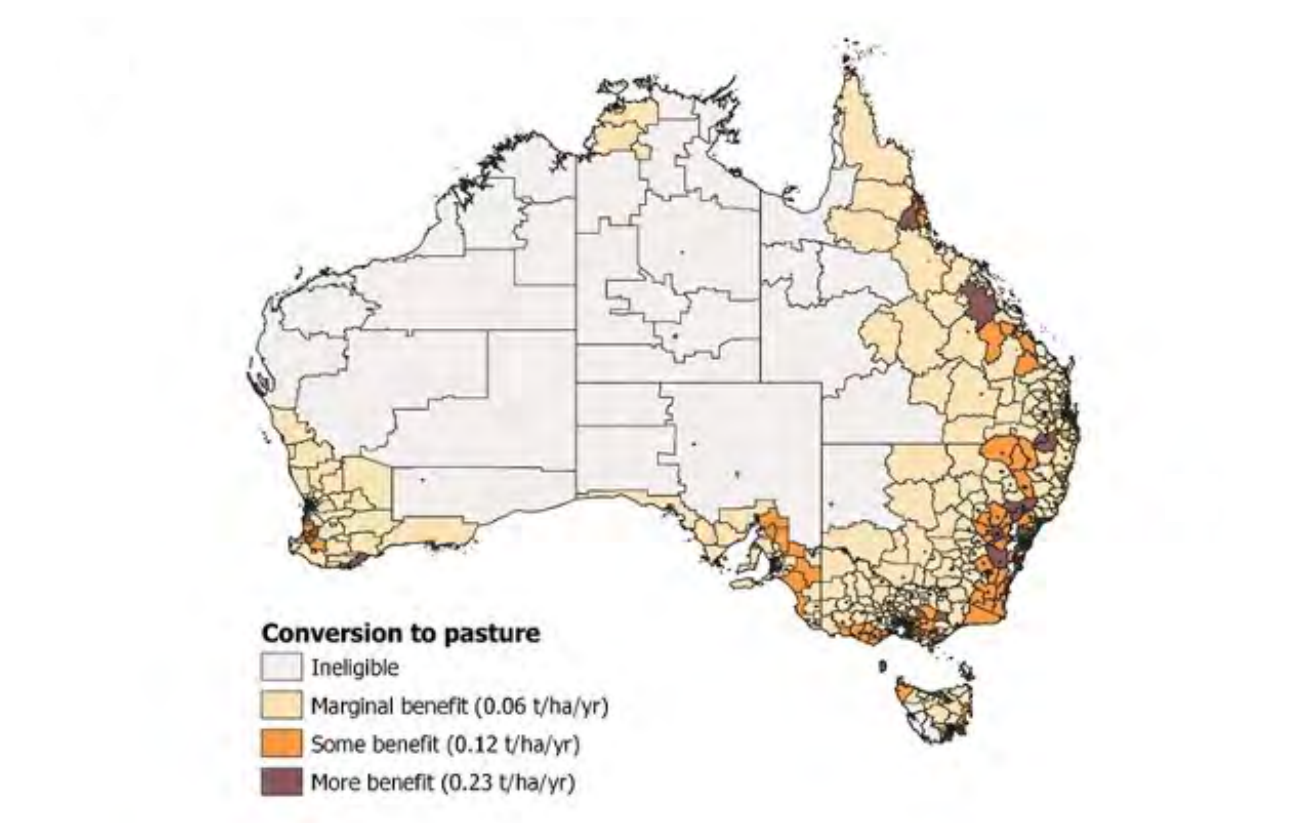


Map 11: Soil Carbon default carbon values estimated from the activity of stubble retention.



Map 12: Soil Carbon default carbon values estimated from the activity of sustainable intensification.

Method Snapshot: Storing carbon in the soil



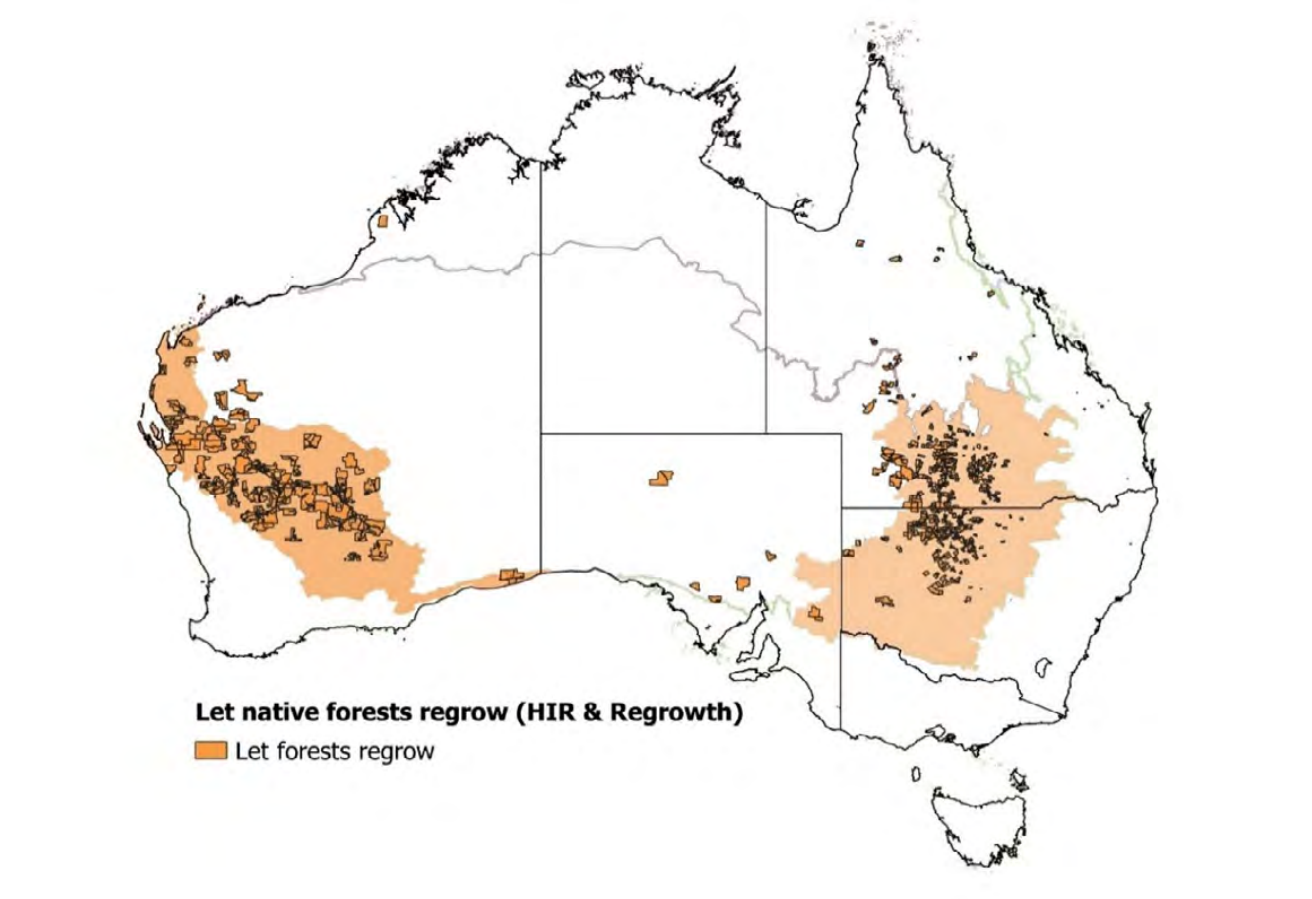
Map 13: Soil carbon default carbon values estimated from the activity of conversion to pasture.

Data sources	ERF Project register and shapefile: CER. Downloaded Feb 2022. https://data.gov.au/data/dataset/erf_project_mapping CC BY 3.0 AU Conversion to pasture, stubble retention and sustainable intensification default soil carbon sequestration rates for projects using the *Carbon Credits (Carbon Farming Initiative—Estimating Sequestration of Carbon in Soil Using Default Values) Methodology Determination 2015.* Data courtesy of Data.gov.au (ERF environmental data). Downloaded 09/09/2021 https://data.gov.au/data/dataset/emissions-reduction-fund-environmental-data Creative Commons Attribution 4.0 International (CC BY 4.0)

Method Snapshot: Let forests regrow	
Applicable Zone/s	Predominately the Rangeland Zones (both east and west) with some potential in other Zones across Australia.
Current Methods	*Carbon Credits (Carbon Farming Initiative) (Human-Induced Regeneration of a Permanent Even-Aged Native Forest—1.1) Methodology Determination 2013 (as amended) (referred to as the HIR Method)* *Carbon Credits (Carbon Farming Initiative) (Native Forest from Managed Regrowth) Methodology Determination 2013 (referred to as the Managed Regrowth Method)*
Data sources	N/A Amended
Future Methods	The developing Integrated Farm Management Method may have implications for both/either of these activities/methods.
Activities	These Methods are about allowing land to naturally regrow back into forests by removing the suppressing agents like grazing (no direct seeding or planting is permitted). These projects would suit organisations who want to restore the land by changing the management of land areas that currently have grazing, cropping or weeds and feral animals stopping forests from growing back naturally, or permanently ceasing mechanical or chemical destruction, or suppression, of native regrowth. In northern Australia, where fire plays a significant role in vegetation structure, consideration will need to be given to whether removing a stressor (like grazing) will result in more or less vegetation transitioning into forest (as potentially less grazing may lead to more fuel, leading to hotter fires, leading to less forest). The main difference between the two Methods is that HIR is for land where regrowth of trees has been suppressed by agricultural activities, while the Managed Regrowth Method is for land that has been actively cleared for grazing.
Eligibility and/ or viability considerations	One of the main requirements for these projects is that the land area must have the potential to be a forest (20% canopy cover, trees greater than 2m tall) but not currently have a forest growing. The area needs to transition from 'unforested' to 'forested land'. If your area already meets the 'forest' definition, then you would not generate ACCUs under these Methods. The same applies to arid areas that may never reach 'forest' cover. If your area has no potential to ever reach 'forest cover' or is already at that forest threshold before a project starts – this method is not for you. The CER leaves it to the proponents to decide for themselves if the area will ever transition from unforested to forested at the time of project registration. You can register a project on any land, but when it comes to project reporting you won't be issued ACCUs unless you are creating a new forest. This is one reason why some projects get registered but never generate ACCUs.

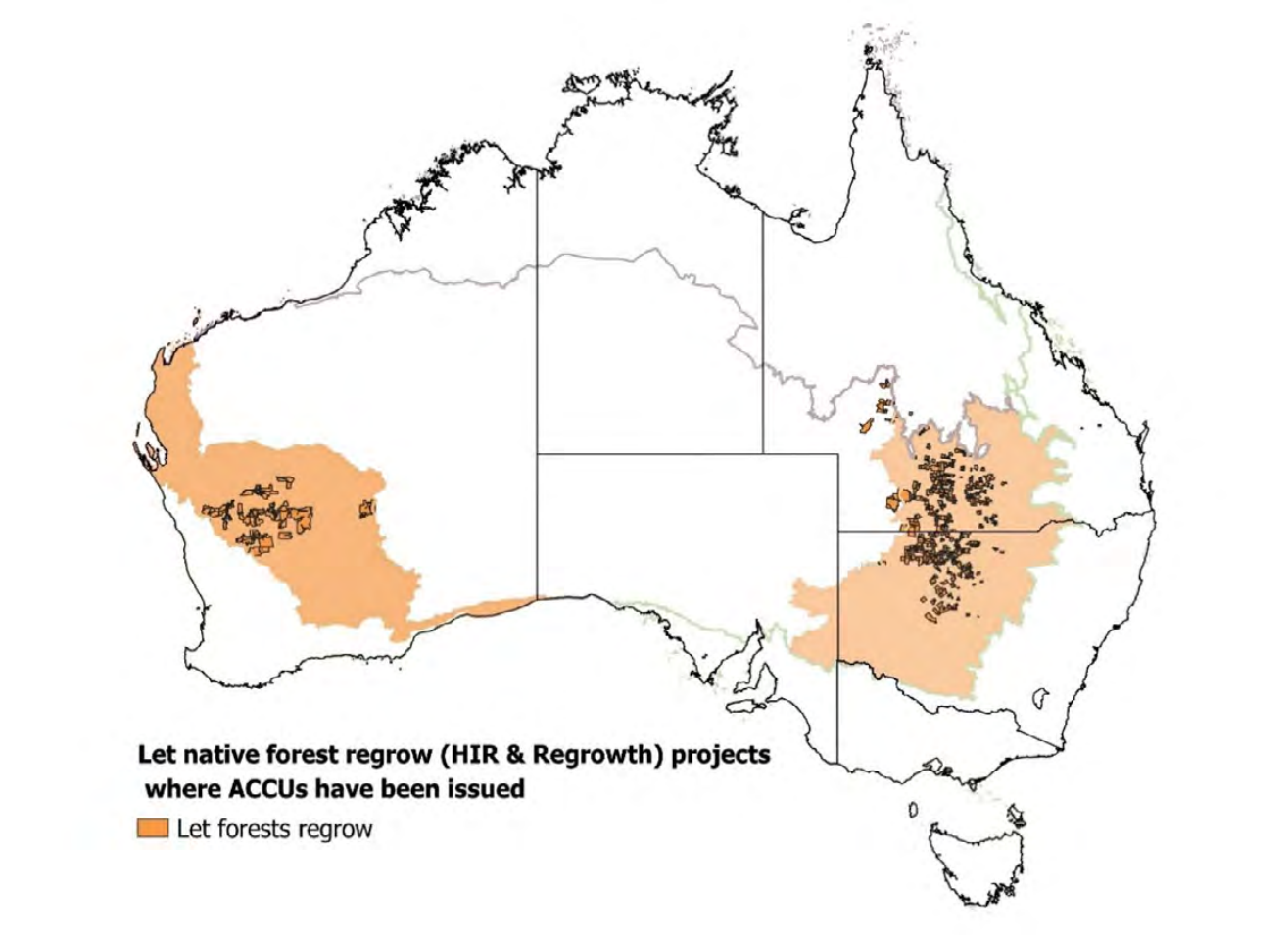
Method Snapshot: Let forests regrow

Other important considerations	When registering a project, a 25 or 100 year permanence period can be chosen during which carbon stored by the project must be maintained (sequestration project). Under these methods, you can't plant seeds or seedlings, trees must grow back naturally. You need to consider whether the trees will come back by themselves. If there are no trees at all in the area, it is unlikely a project will succeed because there is no ability for trees to self-seed. A project could be registered but no ACCUs will be generated.
Crediting period	25 years
Active registered projects	Total number of projects: 363 Total number of ACCUs issued to date: 32, 887, 735 Number of Indigenous projects: 3 (1 has been issued ACCUs to date) Collectively, there are 238 projects that have been issued ACCUs to date. Of these, 97% (229) of the projects are registered in the Rangeland (east and west) Zones, with a few additional projects in close proximity (in the Agricultural, Savanna and Desert Zones).



Map 14: All active ERF 'Let native forests regrow' projects (HIR and regrowth). Most projects are registered in the Rangelands (east and west) Carbon Method Zones (displayed).

Method Snapshot: Let forests regrow



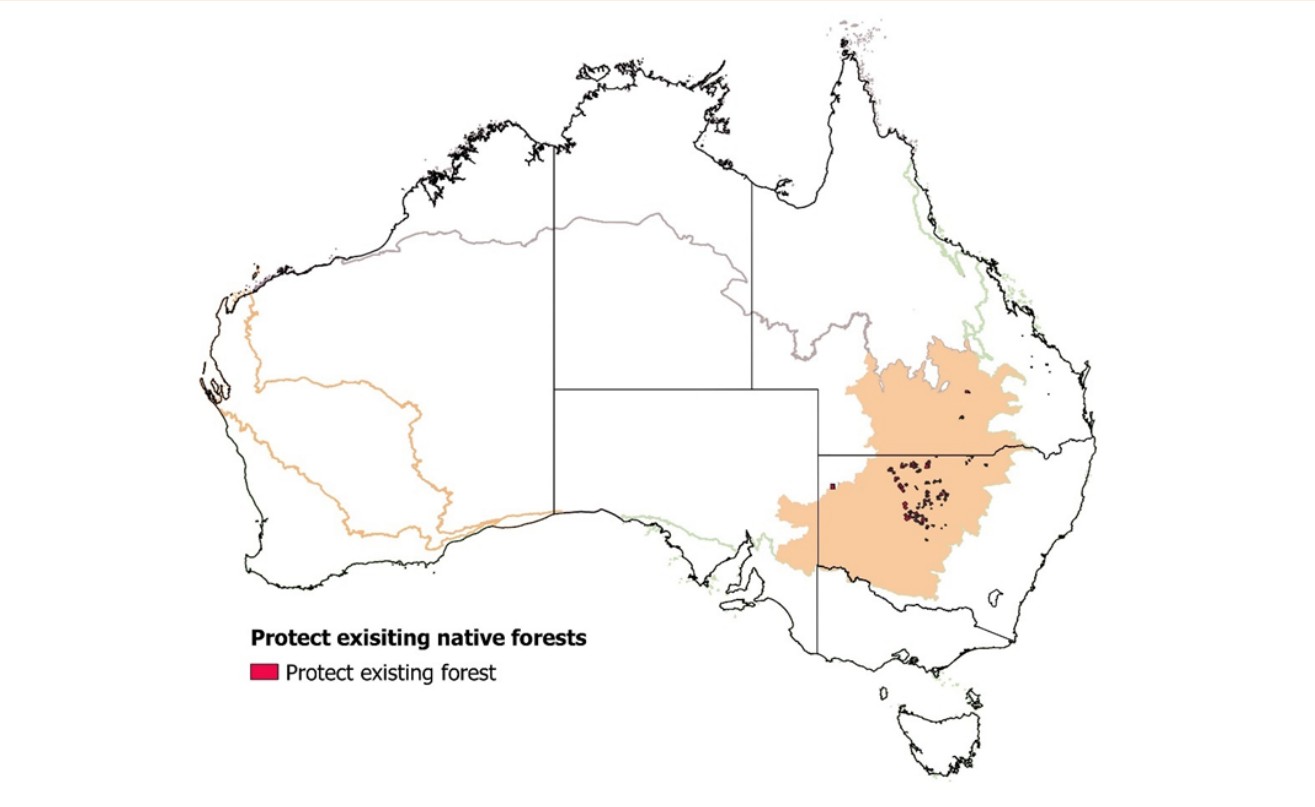
Map 15: Active ERF 'Let native forests regrow' projects (HIR and regrowth) which have had ACCUs issued to date (Feb 2022). 97% of these projects are registered in the Rangelands (east and west) Carbon Method Zones (displayed).

Data sources	ERF Project register and shapefile: CER. Downloaded Feb 2022 https://data.gov.au/data/dataset/erf_project_mapping CC BY 3.0 AU

Please note: A heatmap demonstrating HIR potential opportunity was beyond the scope of this project. However, given the overlap of the method with Class 1 or Class 2 Indigenous estate, potential interactions with the developing SFM Methods (which will include a living biomass component), combined with the risk of project developers overstating the method potential (i.e., whether or not projects will ever meet the forest threshold), this may be a valuable area for future investment. We understand this work has been partially progressed for some areas of Australia.

Method Snapshot: Protecting existing forests

Applicable Zone/s	There are two methods within this activity. Projects registered under the Avoided Deforestation Method are all located within the Rangeland (east) Zone and all within NSW. Projects registered under the Avoided Clearing of Native Regrowth Method are all located in QLD, both in the Agricultural (east) Zone and Rangeland (east) Zone.



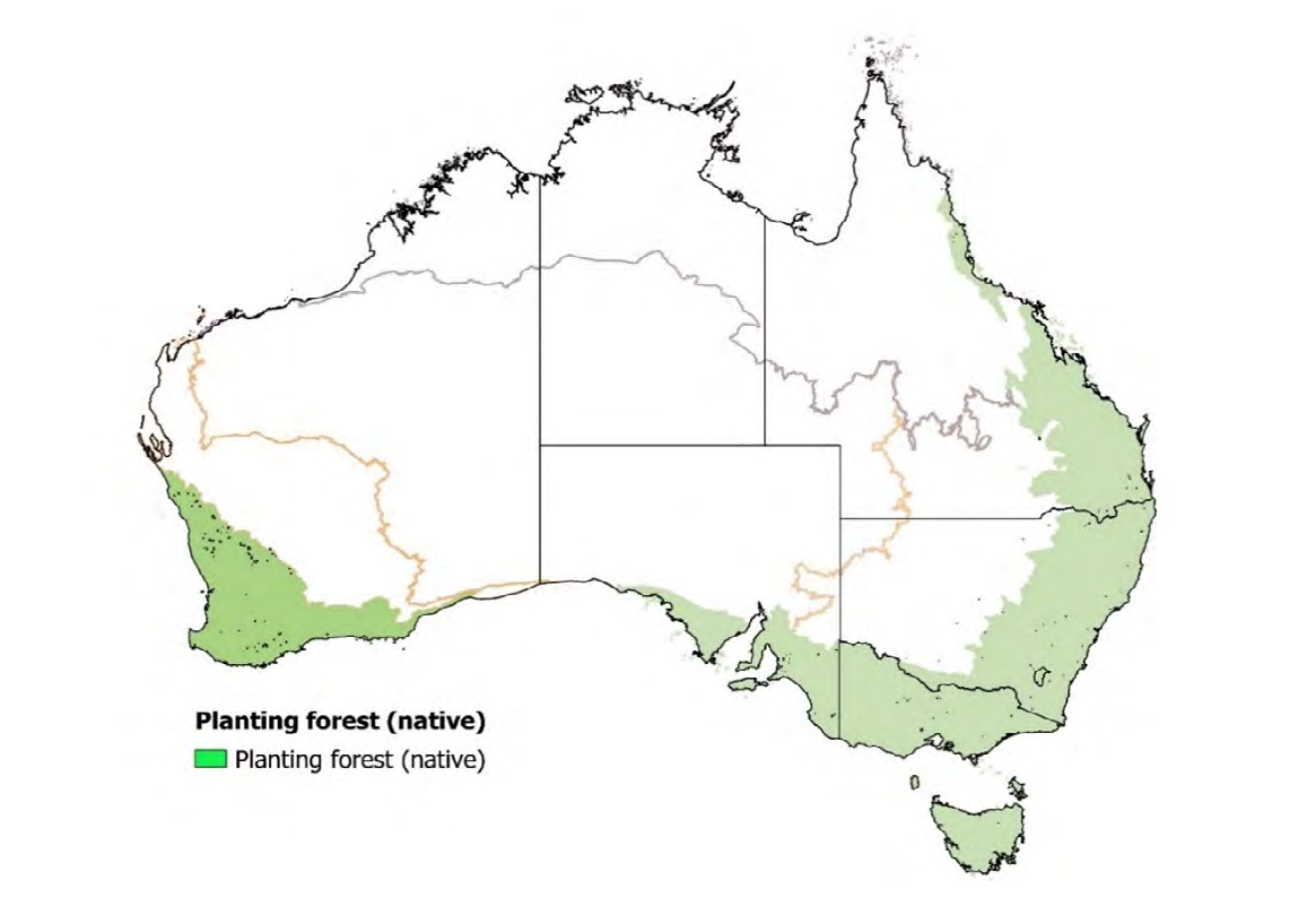
Map 16: All active ERF 'Protect existing forests' projects (avoided deforestation/clearing). The majority of projects are registered in the Rangelands (east) Carbon Method Zone (displayed).

Current Methods	*Carbon Credits (Carbon Farming Initiative—Avoided Deforestation 1.1) Methodology Determination 2015.* *Carbon Credits (Carbon Farming Initiative—Avoided Clearing of Native Regrowth) Methodology Determination 2015.*
Old Methods	*Carbon Credits (Carbon Farming Initiative) (Avoided Deforestation) Methodology Determination 2013*
Future Methods	None known.
Activities	An avoided deforestation or clearing project would suit Indigenous landholders who have existing forests, and a right to clear those forests, but decide they want to manage the land to keep the forest intact and protected.

Method Snapshot: Protecting existing forests	
Eligibility and/ or viability considerations	Avoided deforestation: These projects protect the native forest from being deforested (cleared) and the land from being converted to an agricultural system, but only where a clearing permit was issued before 1 July 2010. *The practical implication of these eligibility requirements is that only land clearing approvals known as an Invasive Native Scrub Property Vegetation Plan (INS PVP) issued almost exclusively in the Western District of NSW are eligible under the method.* Avoided clearing of native regrowth: These projects avoid clearing of native forest that is permitted to be cleared on land that has historically been subject to clearing (where there is unrestricted clearing permitted on the land). The land must have been cleared at least twice in the past, including in the last 7 years (or 5 years if property has changed hands). It must also have been used for grazing or cropping after each clearing event, before having a native forest uniformly regenerating on the area. If the land has never been cleared, or is not regenerating, it is ineligible under this method. Evidence of the land's clearing history, regeneration history and land use history are required. *The practical implication of these eligibility requirements is that the Method only applies in Queensland.* Under these methods, you must have a land area which has existing intact trees and forest growing on the land. The landowner must also have a permit or consent from the relevant authority to clear that forest, and must decide not to clear the land, but instead to leave the existing forest intact, for at least 25 and up to 100 years. Over this time, the landowner may be required to do some management to keep the forest healthy, such as managing feral animals or fire risk.
Other important considerations	When registering a project, a 25 or 100 year permanence period can be chosen during which carbon stored by the project must be maintained (sequestration project).
Crediting period	25 years
Active registered projects	Total number of protecting existing forest projects: 71 Total number of ACCUs issued to date: 23, 262, 709 Number of Indigenous projects: Zero The majority (66 of 71) projects registered under these methods have been issued ACCUs. Property sizes tend to be quite large, with the smallest project issued ACCUs being 10.5km^2 in size.
Data sources	ERF Project register and shapefile: CER. Downloaded 09/09/2021 https://data.gov.au/data/dataset/erf_project_mapping CC BY 3.0 AU.

Method Snapshot: Forest planting

Applicable Zone/s	Predominately (>85% active projects) projects occur in the Agricultural Zone (both east and west), with a few Rangeland (east) projects and 1 project in the Savanna Zone.



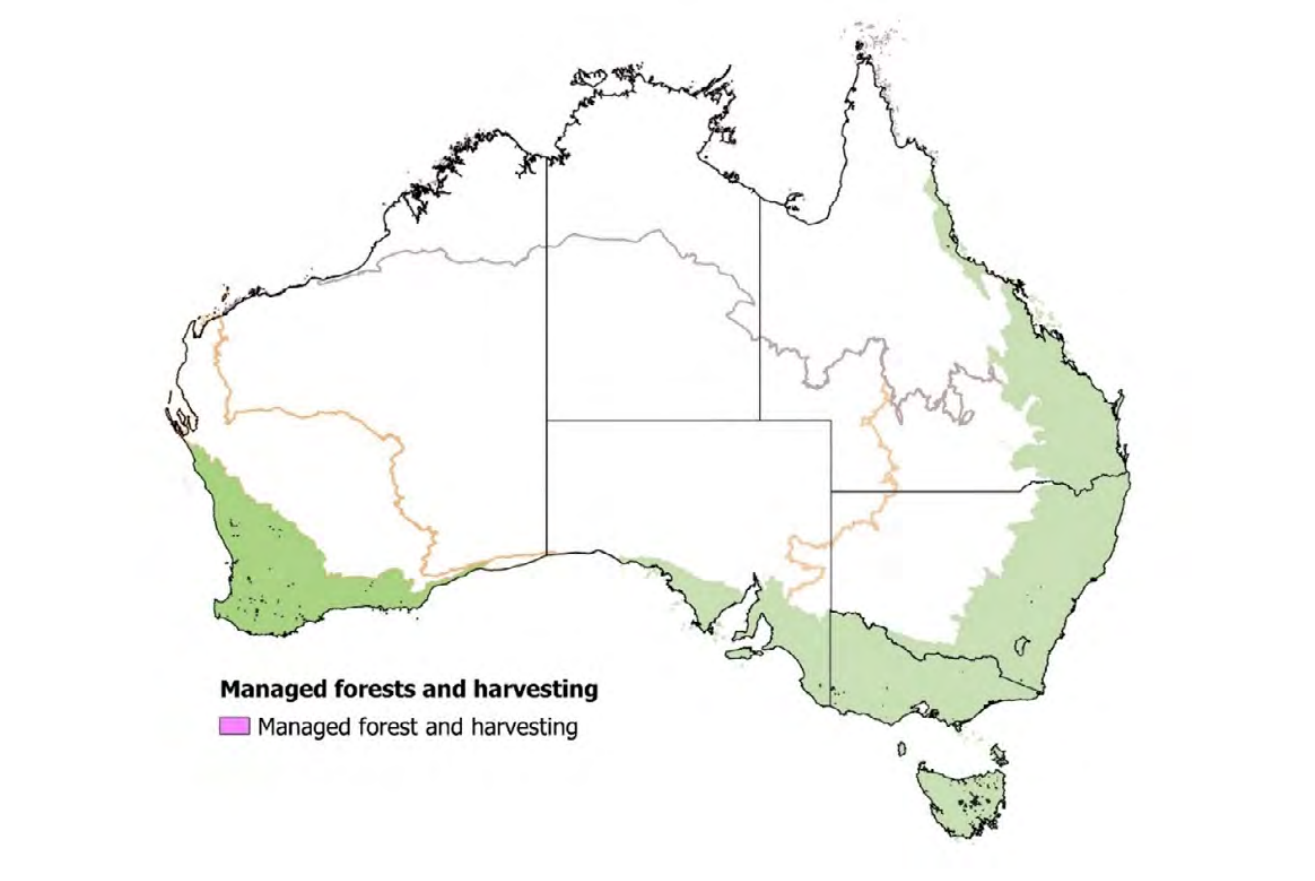
Map 17: All active ERF Forest Planting projects. Over 85% of these projects are registered in the Agricultural (east and west) Carbon Method Zones (displayed).

Current Methods	*Carbon Credits (Carbon Farming Initiative - Reforestation and Afforestation 2.0) Methodology Determination 2015* *Carbon Credits (Carbon Farming Initiative) (Reforestation by Environmental or Mallee Plantings - FullCAM) Methodology Determination 2014*
Old Methods	*Carbon Credits (Carbon Farming Initiative) (Reforestation and Afforestation - 1.2) Methodology Determination 2013* *Carbon Credits (Carbon Farming Initiative) (Reforestation and Afforestation) Methodology Determination 2013* *Carbon Credits (Carbon Farming Initiative) (Quantifying Carbon Sequestration by Permanent Mallee Plantings using the Reforestation Modelling Tool) Methodology Determination 2013* *Carbon Farming (Quantifying Carbon Sequestration by Permanent Environmental Plantings of Native Species using the CFI Reforestation Modelling Tool) Methodology Determination 2012*

Method Snapshot: Forest planting	
Future Methods	The Integrated Farm Management Method (under development 2022) may have implications for these methods, particularly in regard to accounting for the soil carbon pool changes as a result of plantings.
Activities	Forest planting projects support landowners to plant seeds or seedlings, in rows or randomly, for the purpose of establishing a forest on land that has either been cleared or used for cropping or grazing, or clear of forest cover, for at least the last five years before the project is undertaken.
Eligibility and/ or viability considerations	The trees must be able to grow and become a forest (greater than 20% canopy cover, greater than 2m tall) which does restrict the Methods to certain environmental conditions. These methods will limit your ability to harvest wood from the forest. If you want to harvest the forest (and then replant again) in the future, please refer to the Farm Forestry Method discussed further below. The choice of the two methods will depend on the land use prior to planting, as well as the approach to monitoring. The Afforestation/Reforestation Method requires taking measurements of trees as they grow, whereas the Environmental Plantings Method uses the FullCAM model, and is therefore much simpler to run.
Other important considerations	When registering a project, a 25- or 100-year permanence period can be chosen during which carbon stored by the project must be maintained (sequestration project). The Methods allow harvest of seeds and fruit for personal use; however, it is so far untested whether Indigenous people could harvest for commercial use (where it can be established that such commercial use is 'traditional').
Other important considerations	25 years
Active registered projects	Total number of Forest planting projects: 67 Total number of ACCUs issued to date: 2, 070, 825 Number of Indigenous projects under either Method: Zero There are 30 projects issued ACCUs to date, almost all of the projects (with two exceptions) issued ACCUs to date are 20ha in size or larger.
Data sources	ERF Project register and shapefile: CER. Downloaded Feb 2022 https://data.gov.au/data/dataset/erf_project_mapping CC BY 3.0 AU.

Method Snapshot: Forest Harvest

Applicable Zone/s	All existing projects occur within the Agricultural Zones (east and west).

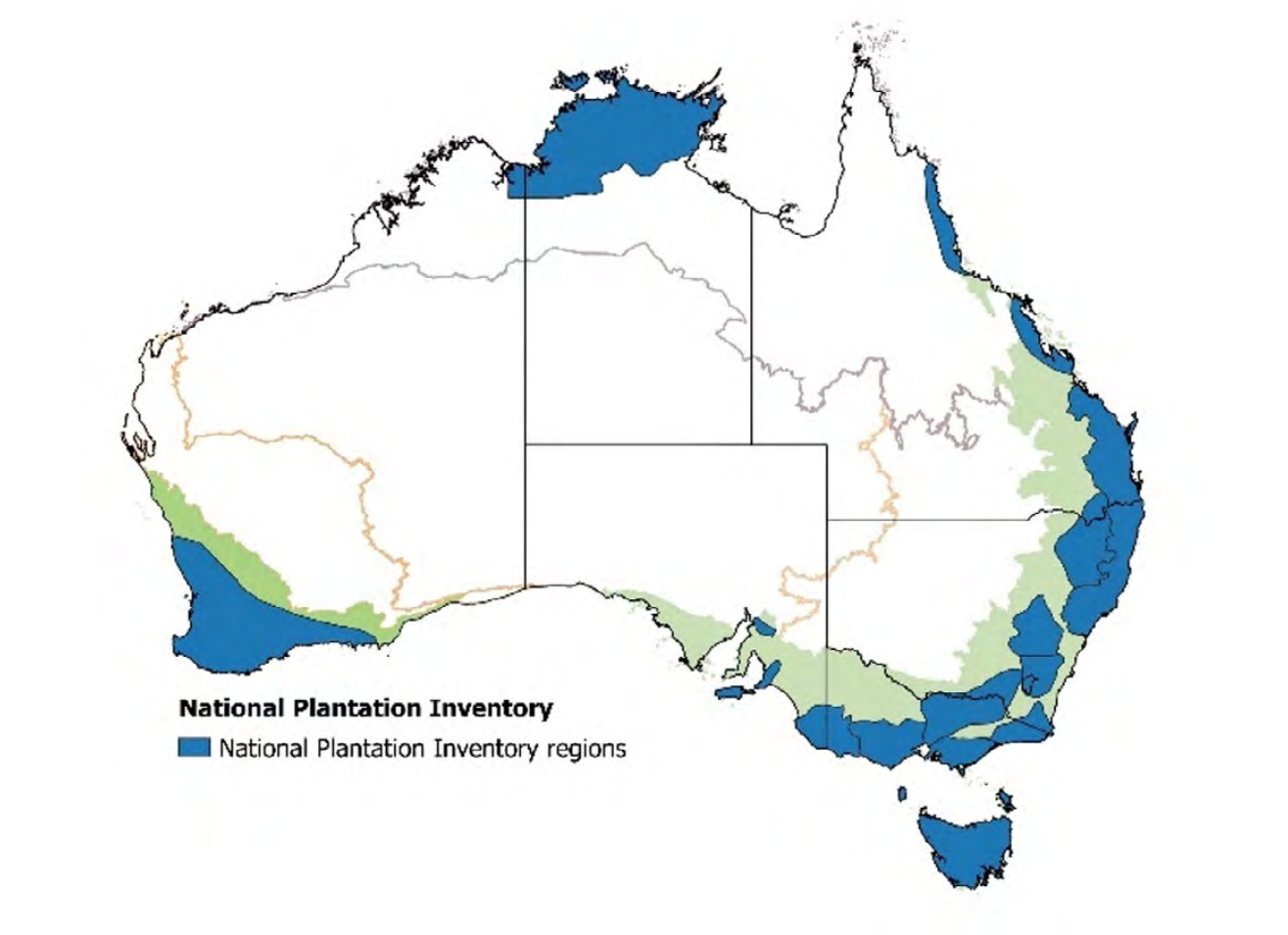


Map 18: All active ERF Forest Harvest projects occur within the Agricultural (east and west) Carbon Method Zones (displayed).

Current Methods	*Carbon Credits (Carbon Farming Initiative—Plantation Forestry) Methodology Determination 2022* *Carbon Credits (Carbon Farming Initiative— Measurement Based methods for New Farm Forestry Plantations) Methodology Determination 2014.*
Old Methods	*Carbon Credits (Carbon Farming Initiative—Plantation Forestry) Methodology Determination 2017.* Method for improved forest management: Conversion from logged to protected forest (the VCS method). *The designated verified carbon standard method was open to projects that were registered under the VCS before the Carbon Farming Initiative Amendment Act 2014* commenced and applied to be registered under the ERF before 30 June 2015
Future Methods	None known

Method Snapshot: Forest Harvest

Activities	Establishing a new plantation forest or changing the management of an existing plantation (from short to long rotations). The 2022 plantation forestry method introduced two new activities to retain land under forest in circumstances where it would have otherwise been converted to non-forested land.
Eligibility and/ or viability considerations	Farm Forestry: For at least five years before project commencement, the area must have included land used for grazing or cropping, or land that was fallow between grazing or cropping. Trees can be native or non-native and be grown as either permanent plantings (no harvest - native) or in harvest plantations. In a permanent planting project, commercial harvesting of the trees is not permitted. In a harvest plantation, harvesting is allowed but you need to replant the trees after harvest. There are also some additional criteria and rules around rainfall and what % or total area of a farm a project can be registered on. Plantation Forestry: There are a variety of eligibility considerations depending on what activity is being undertaken. Some of the activities require the project to be within or close to a National Plantation Inventory (NPI) region (see map below).



Map 19: National Plantation Inventory (NPI) Regions, overlaid on top of the Agricultural (east and west) Carbon Method Zones (displayed). Some Plantation Forestry activities have requirements for the project to be in or near a NPI

Method Snapshot: Forest Harvest	
Other important considerations	When registering a project, a 25 or 100-year permanence period can be chosen during which carbon stored by the project must be maintained (sequestration project).
Crediting period	25 years
Active registered projects	Total number of Managed/harvested forest projects: 41 Total number of ACCUs issued to date: 1,198,275 Number of Indigenous projects under either Method: Zero
Active registered projects	ERF Project register and shapefile: CER. Downloaded 09/09/2021 https://data.gov.au/data/dataset/erf_project_mapping CC BY 3.0 AU National Plantation Inventory: NPI Regions 2016 – Shapefile, ABARES, Downloaded 09/09/21 DAWE. https://www.awe.gov.au/abares/forestsaustralia/forest-data-maps-and-tools/spatial-data/australias-plantations CC BY 4.0

Method Snapshot: Blue Carbon	
Applicable Zone/s	Current eligible activities would mostly restrict the Method to the Agricultural regions (east and west) where there are significantly modified environments (barriers that restricted tidal movements).
Current Methods	*Carbon Farming Initiative— Tidal Restoration of Blue Carbon Ecosystems Methodology Determination 2022*
Old Methods	N/A
Future Methods	Potential updates in the future to include additional activities.
Activities	The first blue carbon method under the ERF is about reintroducing tidal flows to areas that have been drained (for example by sea walls, bunds, cane drains or other devices that restrict tidal flows). This method looks at the impact of reintroducing tidal flows on saltmarshes and mangroves. In the future, there are likely to be more blue carbon methods, which might consider other coastal ecosystems or other types of activities.
Eligibility	Land is eligible for inclusion in a Blue Carbon project if: 1) During the 7 years prior to your project application a tidal restriction mechanism has been in place that has excluded or restricted tidal flows from the land, and by removing or modifying the tidal restriction mechanism/s, the land will be impacted by tidal inundation; or, 2) During the 7 years prior to your project application, a tidal restriction mechanism has been in place that would exclude or restrict tidal flow from the land during the project's 25-yar crediting period, and by removing or modifying the tidal restriction mechanism/s, the land will be impacted by tidal inundation during the crediting period. There are some ineligible project types, for example if the illegal draining of a wetland or illegal clearing of a native forest has occurred.
Other important considerations	When registering a project, a 25 or 100 year permanence period can be chosen during which carbon stored by the project must be maintained (sequestration project). Projects applying this Method have the potential to flood or partially flood land areas, which may result in the shifting of tidal boundaries. Organisations should consider the potential implications of this for native title (both existing and claimed) within the project area and neighbouring areas.
Crediting period	25 years
Active registered projects	N/A – Zero, the Method has only been active since Jan 2022.

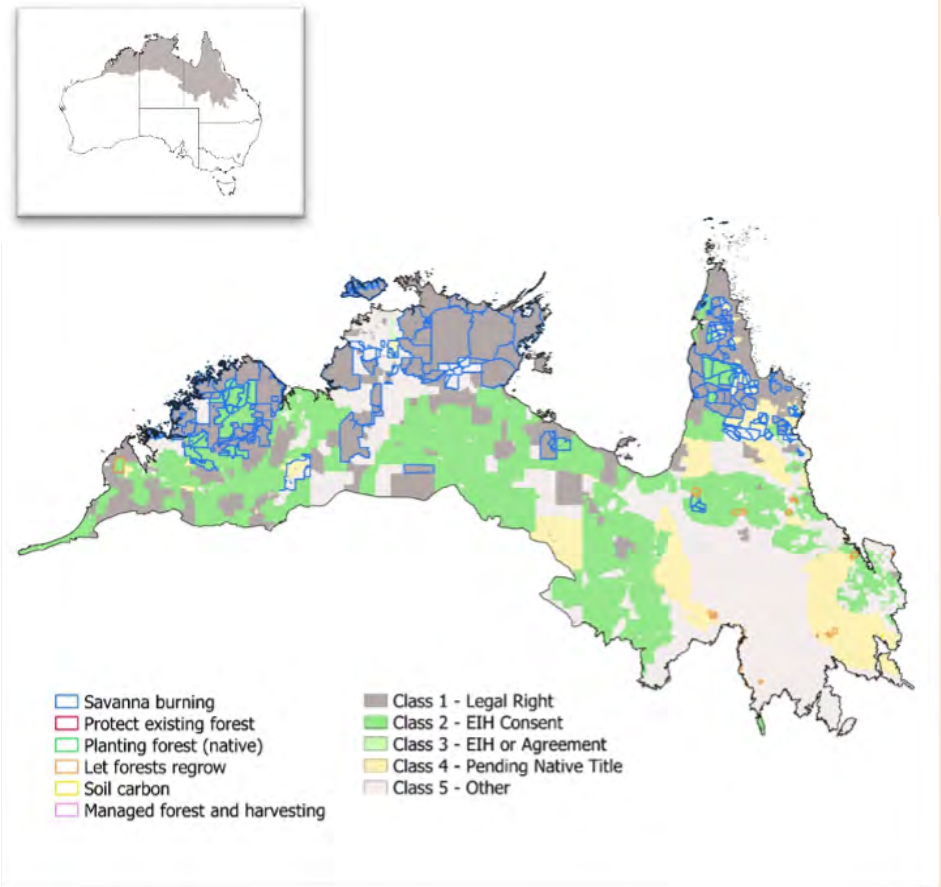
Regional snapshots: ERF opportunities on the Indigenous estate

This section further builds on the above analysis, summarising existing and prospective carbon opportunities within each of the six Carbon Method Zones

As stated earlier, for many methods it is difficult to identify opportunities without site specific knowledge and/or a site visit (to determine current and past land use, current vegetation cover etc). This report applies a regional approach to analyse carbon opportunities, finding a mid-way point between site specific information and broad national information. Our analysis indicates that most methods are relatively constrained to particular geographies (or Zones). This regional approach will hopefully allow Indigenous organisations to gain a better understanding of what the most suitable opportunities are through looking at existing activity in their region.

One limitation of undertaking a national and regional assessment of opportunities is in regard to scale, particularly the smaller land parcel sizes located in the agricultural regions of Australia. We acknowledge in this report that our approach is better suited to the larger rangeland and savanna parcels of land which are easier to depict on maps. For Indigenous organisations with land interests in the agricultural regions, this report will provide some guidance as to the methods most suitable in your area although further finer scale, site specific analysis is of higher relevance than for Indigenous organisations in other regions.

Regional Snapshot: Savanna Zone



Map 20: Regional Snapshot – Savanna Carbon Method Zone.

Indigenous rights and interests: Very strong rights and interests, >60% of Zone is Class 1 or Class 2 land interests.

Existing ERF opportunities: The activity that is most applicable to this Zone is Savanna Fire Management (80 projects). The Indigenous WALFA and CALFA projects are ranked 1st and 2nd in total volume of ACCUs issued to date for individual projects in Australia across all land sector Methods.

There are some Forest Planting (1 active project, 14ha), Let the forests regrow (15 of which 1 is an Indigenous owned project) and Storing Carbon in Soil (2 in southeast of Zone) projects, however, no ACCUs have been issued to date for any projects other than Savanna Fire Management.

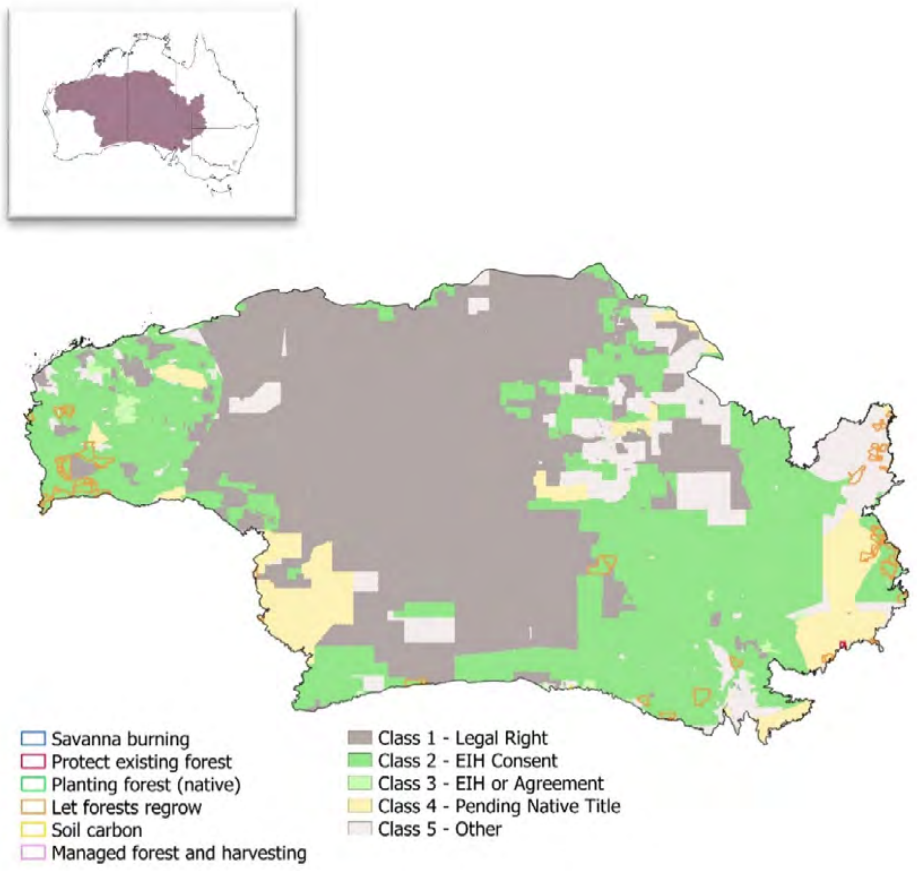
Beef Herd method would be applicable for large operations.

Approx. 50% of Class 1 lands have an Active ERF project in this Zone. Opportunities include exploring these Methods on remaining Class 1, 2 or 3 lands.

Prospective opportunities: Inclusion of living biomass in Savanna Burning will significantly increase ACCUs, and possibly improve uptake in the lower rainfall regions (600-1000mm). The developing Integrated Farm Management Method may be applicable. Blue Carbon may be applicable in future if additional activities are included in the Method (currently restricted to highly modified environments with tidal restrictions).

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Savanna	Area (Km²)	502,618	637,437	2,319	199,228	540,711	1,882,313
	% zone	27%	34%	0.1%	11%	29%	100%

Regional Snapshot: Desert Zone



Map 21: Regional Snapshot - Desert Carbon Method Zone

Indigenous rights and interests: Very strong rights and interests, >80% of Zone is Class 1 or Class 2 interests. 72% of all Class 1 lands in Australia are found within this Zone.

Existing ERF opportunities: While there are strong Indigenous rights in this zone, and the Class 1 lands in this Zone represent 20% of the Australian land mass, there are minimal ERF opportunities due to limited Method suitability.

There are 36 active HIR projects (6 with ACCUs issued to date) all of which are on the periphery of the Desert Zone.

Other existing activities include Storing Carbon in the Soil (1 project) and Protecting Existing Forests (1 project).

The Beef Herd method is also applicable for large operations.

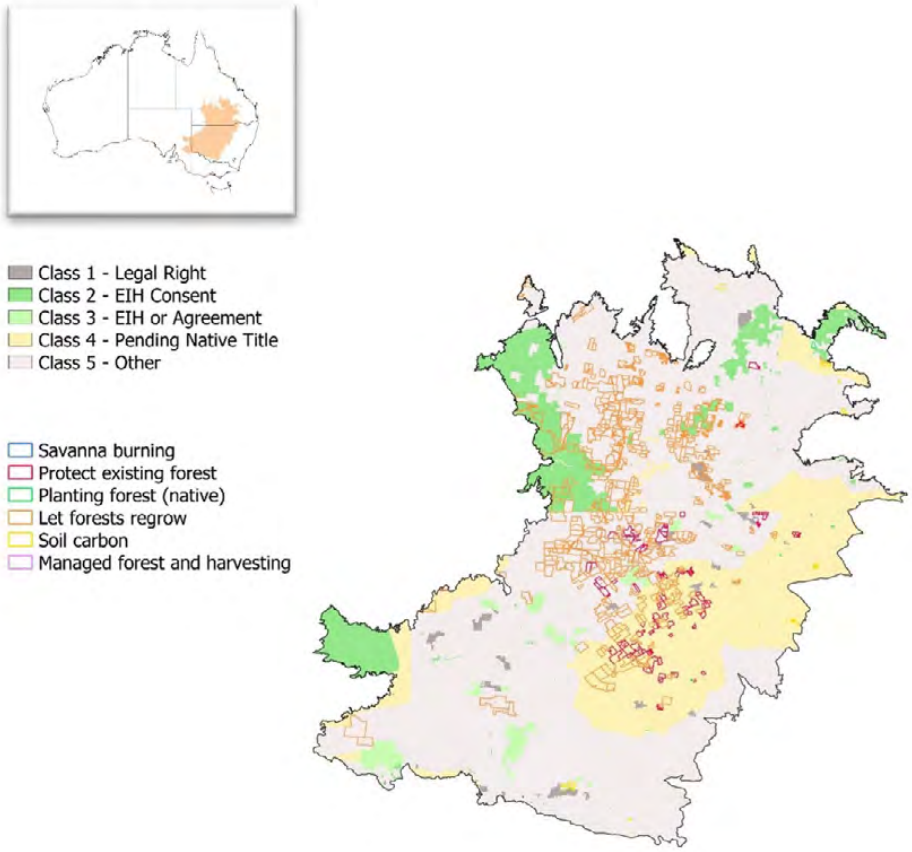
Prospective opportunities: Extending the Savanna Fire Management Method boundary further south to include the frequently burnt regions of the northern desert would be significant.

Developing Integrated Farm Management Method may be applicable if it can be applied to all carbon pools and the forest threshold criteria that applies to the HIR Methodology was not applicable.

Biodiversity markets are a priority given the strong Indigenous rights and interests in the Zone and current limited carbon opportunities.

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Desert	Area (Km^2)	1,500,950	1,070,719	15,507	218,683	328,668	3,134,526
	% zone	27%	34%	0.5%	7%	10%	100%

Regional Snapshot: Rangelands (east) Zone



Map 22: Regional Snapshot – Rangelands (east) Zone

Indigenous rights and interests: Some Class 1, 2 and 3 lands, although the majority is Class 4 and 5. Most active ERF projects have been registered on Class 5 lands to date.

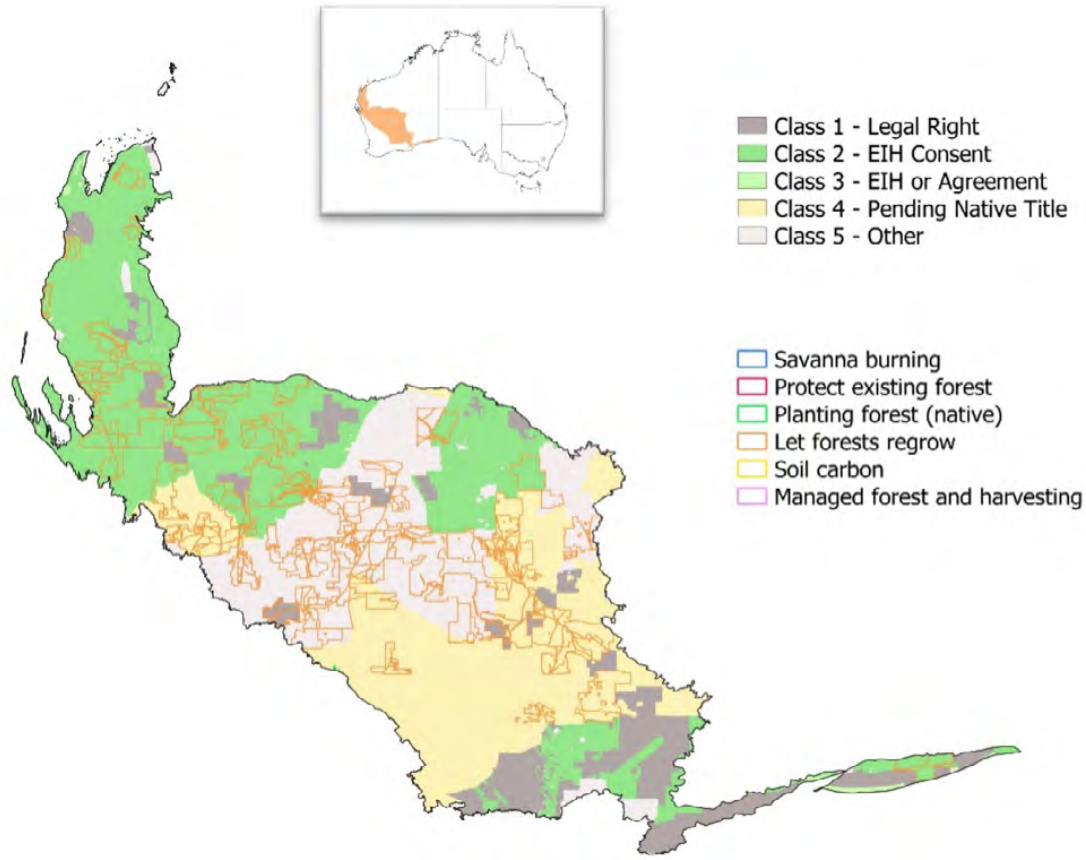
Existing ERF opportunities: This Zone is primarily suited to the activities of Protecting existing forests (65 projects) and Let forests regrow (243 projects). Other existing activities include Storing Carbon in the Soil (9 projects) and Forest Planting (8 projects).

Although Class 1 lands make up only 1% of the Zone, the land area is still >7000km^2 which is a sizeable estate. There is an opportunity to work with Indigenous organisations in this zone to undertake finer scale assessment to identify where exactly opportunities may exist.

Prospective opportunities: The developing Integrated Farm Management Method may be applicable, increasing the viability of some projects, or potentially expanding the area suitable for an ERF method.

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Rangelands (east)	Area (Km^2)	7,167	65,881	12,804	163,736	488,179	737,767
	% zone	1%	9%	2%	22%	66%	100%

Regional Snapshot: Rangelands (west) Zone



Map 23: Regional Snapshot – Rangelands (west) Carbon Method Zone

Indigenous rights and interests: Strong indigenous rights and interests, 48% of Zone is Class 1 or Class 2.

Existing ERF opportunities: 81 of the 84 active projects in this Zone fall within the activity Let Forests Regrow (HIR projects). The 3 remaining projects are Forest Plantings on the boundary with the Agricultural (west) zone.

Projects to date have been registered on Class 2, Class 4 and Class 5 Indigenous lands.

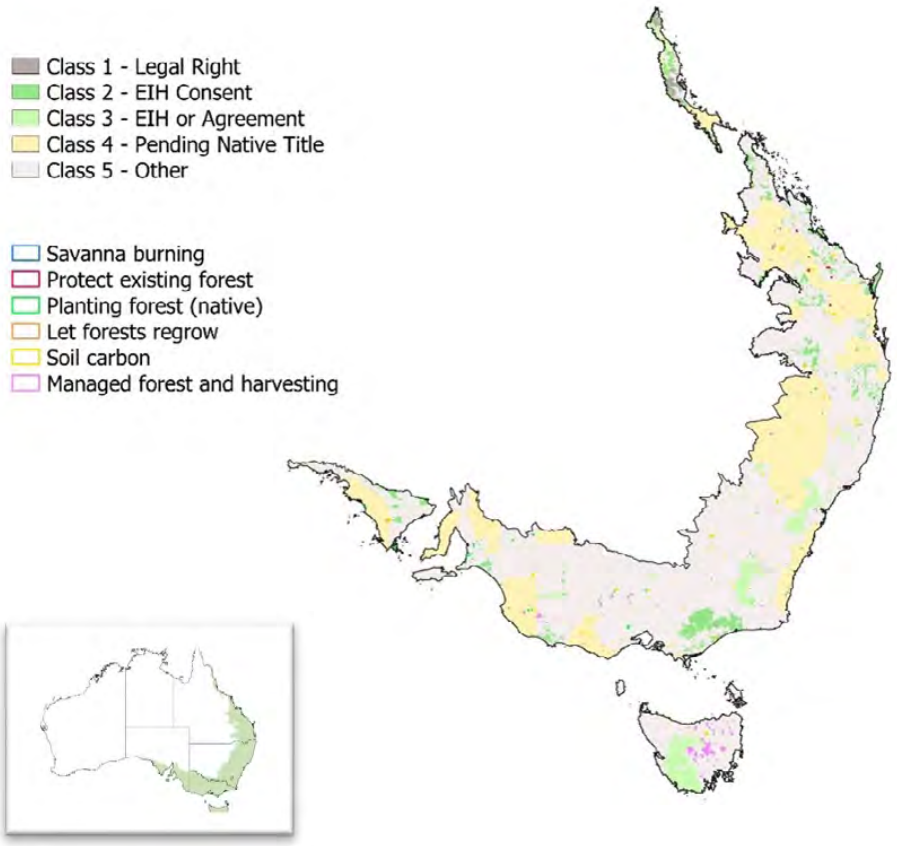
There are two indigenous HIR projects registered on Class 1 lands, one of which has been issued ACCUs to date.

Assessing/supporting Indigenous HIR projects on Class 1 lands is considered a priority given what appears to be a strong intersection of ERF Method suitability and Indigenous owned lands (the most significant intersection across Australia outside of the savanna region).

Prospective opportunities: The developing Integrated Farm Management Method may be applicable, increasing the viability of some projects, or potentially expanding the area suitable for an ERF method.

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Rangelands (west)	Area (Km²)	66,396	201,888	2,230	156,471	129,347	556,332
	% zone	12%	36%	0.4%	28%	23%	100%

Regional Snapshot: Agricultural (east) Zone



Map 24: Regional Snapshot – Agricultural (east) Carbon Method Zone.

Indigenous rights and interests: Similar to the Rangeland (east) and Agricultural (west) Zones, the majority (90%) of the Indigenous estate in this Zone is Class 4 and 5. A proportion of the Class 1-3 is jointly managed parks estate where agriculture-based Methods are not likely to be suitable in most instances.

Existing ERF opportunities: Existing ERF activities are varied and relatively extensive, with a mix of Storing Carbon in Soil (215), Protecting existing forests (6), Let forests regrow (16), Forest Planting (44), and Forest Harvest (29) activities within this Zone.

There are several Forest Planting projects on the NSW National Parks and Wildlife estate, which could provide some opportunities for Indigenous organisations.

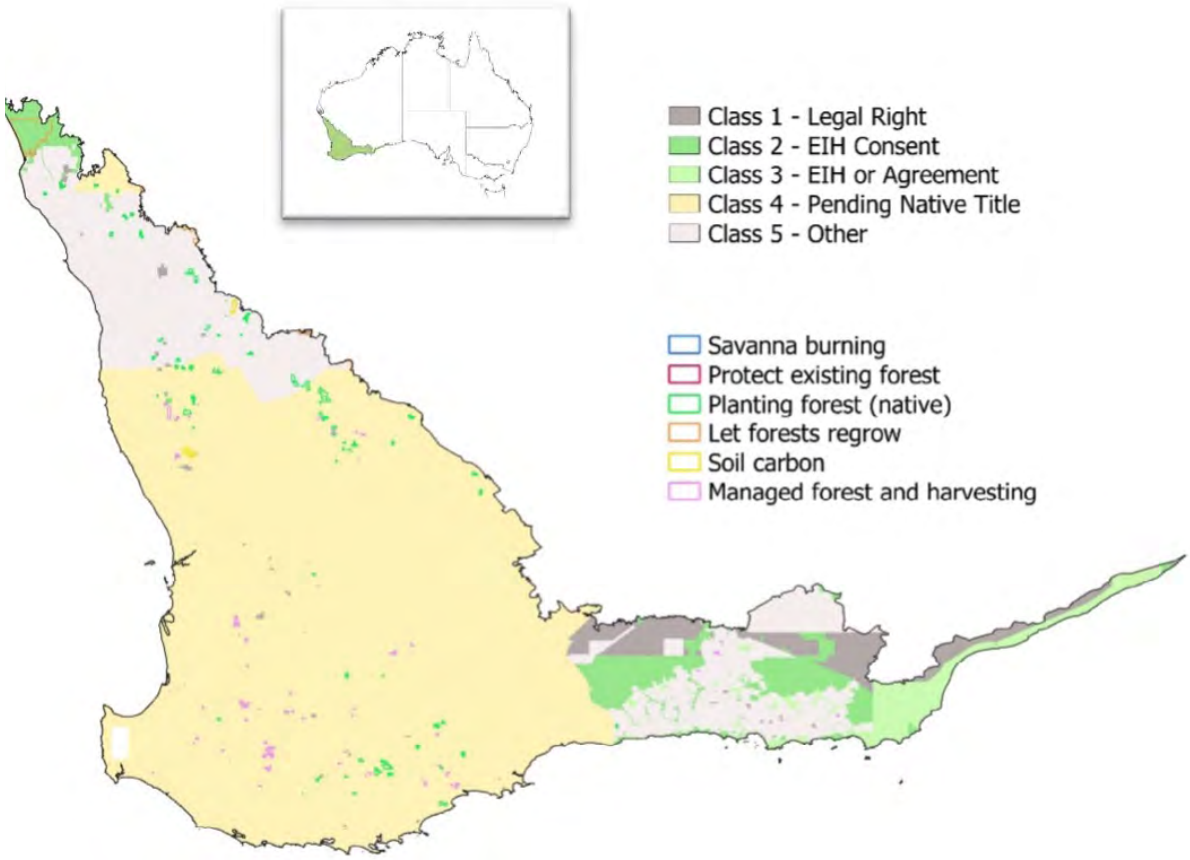
The new Blue Carbon Method may also present some opportunities.

Prospective opportunities: Developing Integrated Farm Management Method may be applicable.

While Indigenous ownership of land is relatively limited outside of the jointly managed parks estate, there are some large coastal native title claims pending which may unlock future opportunities.

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Agricultural (east)	Area (Km^2)	10,273	47,511	45,848	285,220	689,175	1,078,026
	% zone	1%	4%	4%	26%	64%	100%

Regional Snapshot: Agricultural (west) Zone



Map 25: Regional Snapshot - Agricultural (west) Carbon Method Zone

Indigenous rights and interests: Similar to the Agricultural (east) Zone, the majority (88%) of the Indigenous estate in this Zone is Class 4 and 5. A very high percentage (69%) of this Zone has pending native title claims.

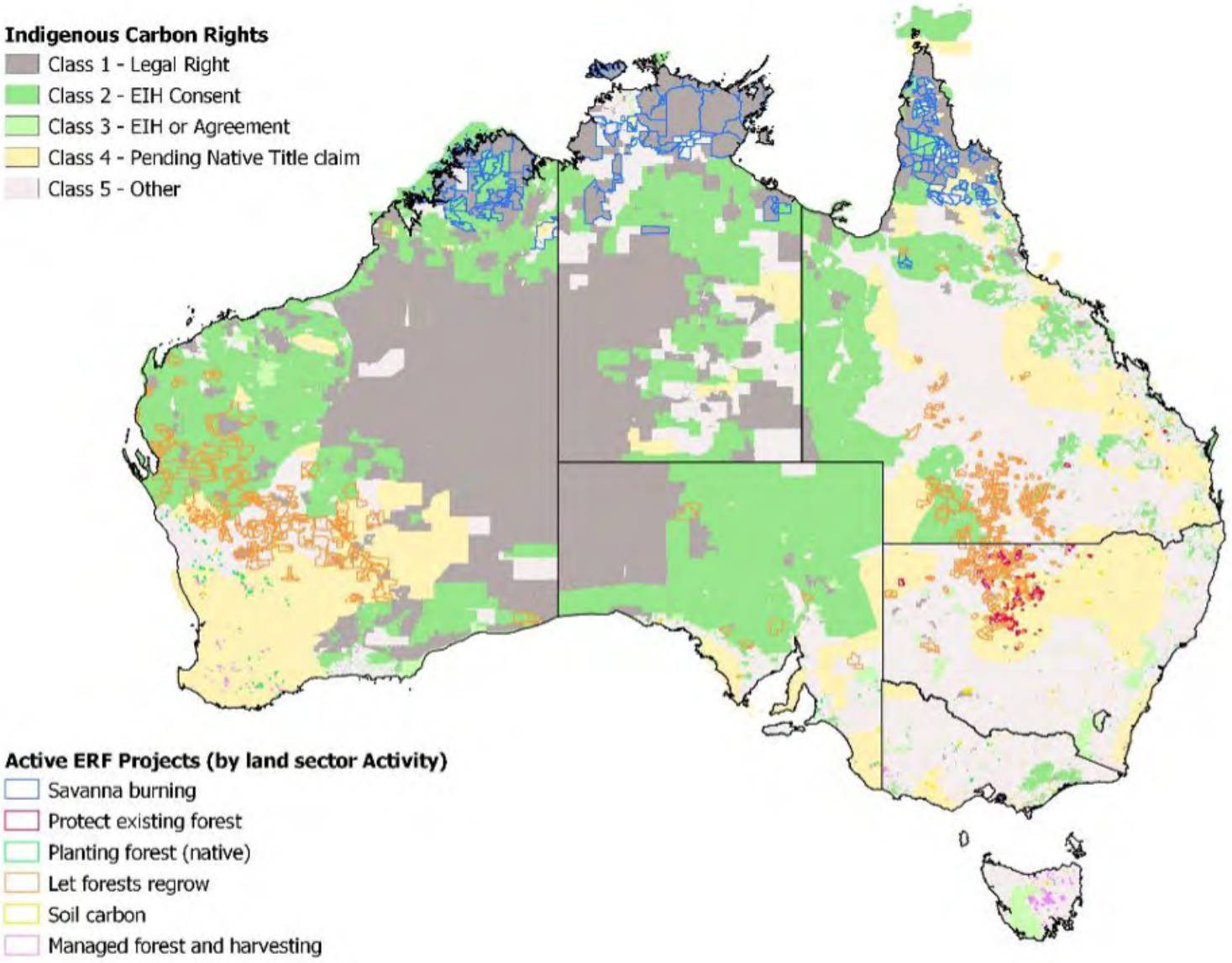
Existing ERF opportunities: In this Zone the opportunities are centred on Forest Planting (19 projects) and Forest Harvest (13 projects). Some activities to Store Carbon in Soil (3 projects) and Let Forests Regrow (7 projects) exist, but all of these are on the boundary or overlapping the Rangelands (east) Zone (all in the far north of this Zone).

Prospective opportunities: Native title claimants may seek to undertake some forward planning and explore the suitability of projects across their native title claims.

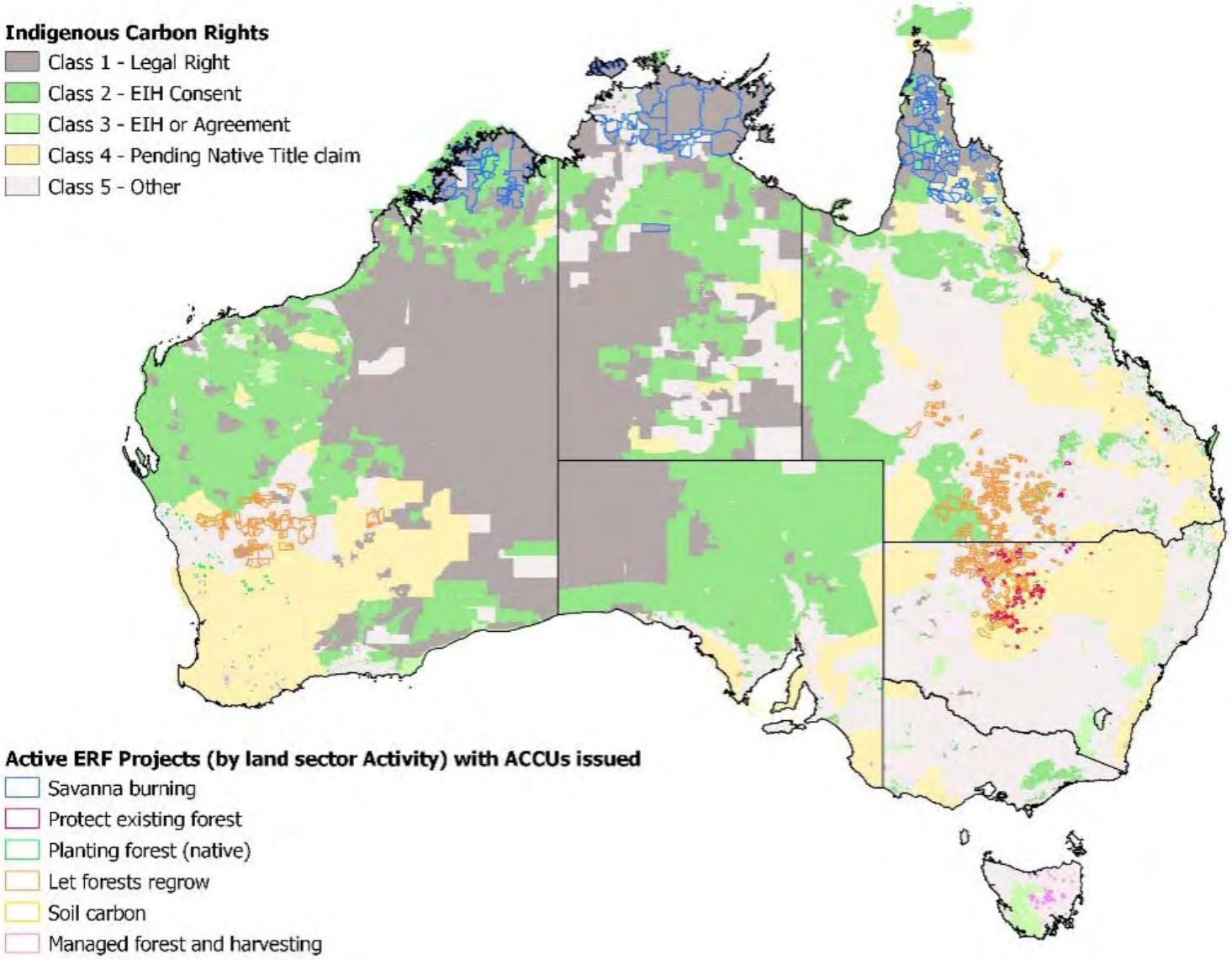
The developing Integrated Farm Management Method may be applicable

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Agricultural (west)	Area (Km^2)	11,295	14,784	8,525	205,834	358,115	298,552
	% zone	4%	5%	3%	69%	19%	100%

National Overview: ERF Activities and Indigenous Rights



Map 26: National overview - all active ERF projects displayed on the Indigenous Carbon Rights map



Map 27: National overview - active ERF projects which have ACCUs issued to date (Feb 2022) displayed on the Indigenous Carbon Rights map

Intersection of the Indigenous Estate with Carbon Method Zones

Table 3: Outputs from intersecting Map 1: The Indigenous Estate with Map 3: Carbon Method Zones

Zone	Description	Class 1 Legal Right	Class 2 EIH (Native Title)	Class 3 EIH (Agreement)	Class 4 Native Title Claim	Class 5 Other alternatives	Zone Total
Savanna	Area (Km²)	502,618	637,437	2,319	199,228	540,711	1,882,313
	% zone total	27% [1]	34%	0.1%	11%	29%	100%
	% national Class total	24% [2]	31%	3%	16%	24%	
	% total national land area	7% [3]	8%	0.03%	3%	7%	24% [4]
Desert	Area (Km²)	1,500,950	1,070,719	15,507	218,683	328,668	3,134,526
	% zone total	48%	34%	0.5%	7%	10%	100%
	% national Class total	72%	53%	18%	18%	15%	
	% total national land area	20%	14%	0.2%	3%	4%	41%
Rangelands (east)	Area (Km²)	7,167	65,881	12,804	163,736	488,179	737,767
	% zone total	1%	9%	2%	22%	66%	100%
	% national Class total	0.3%	3%	15%	13%	22%	
	% total national land area	0.1%	1%	0.2%	2%	6%	10%
Rangelands (west)	Area (Km²)	66,396	201,888	2,230	156,471	129,347	556,332
	% zone total	12%	36%	0.4%	28%	23%	100%
	% national Class total	3%	10%	3%	13%	6%	
	% total national land area	1%	3%	0.0%	2%	2%	7%
Agricultural (east)	Area (Km²)	10,273	47,511	45,848	285,220	689,175	1,078,026
	% zone total	1%	4%	4%	26%	64%	100%
	% national Class total	0.5%	2%	53%	23%	31%	
	% total national land area	0.1%	1%	1%	4%	9%	14%
Agricultural (west)	Area (Km²)	11,295	14,784	8,525	205,834	58,115	298,552
	% zone total	4%	5%	3%	69%	19%	100%
	% national Class total	1%	1%	10%	17%	3%	
	% total national land area	0.1%	0.2%	0.1%	3%	1%	4%
All	Total area (Km2)	2,098,699	2,038,220	87,233	1,229,170	2,234,195	7,687,517
	% of national land area	27%	27%	1%	16%	29%	100%

Note:

[1] 27% of the Savanna Zone is identified as having indigenous legal right (Class 1)

[2] 24% of land identified as having Indigenous legal right (Class 1) across Australia is in the Savanna Zone

[3] The land identified as having indigenous legal right (Class 1) in the Savanna Zone represents 7% of the entire Australian land mass.

[4] The Savanna Zone represents 24% of the Australian land mass

Summary of carbon method opportunities on the Indigenous estate

Indigenous people have interests that would give rise to a legal right to register a carbon project on lands representing 27% of Australia (2.1 million km2). The lands where these interests arise are primarily located within the Desert (72%) and Savanna (24%) regions of Australia. Collectively, these two regions account for 96% of the Indigenous Class 1 lands across Australia. Class 2 lands (where Indigenous people would hold eligible interests in carbon project) represent an additional 2 million km2 and are similarly primarily (84%) located within the Desert and Savanna regions.

Despite there being strong Indigenous rights, there are relatively few ERF Methods that are suitable to broad uptake in the Savanna and Desert regions. The most suitable Methods are the Savanna Fire Management Methods, with approximately 50% of eligible Indigenous lands having a registered ERF project, and the isolated /patchy opportunities from the HIR Method.

The Rangelands (west) region also has a significant area of Class 1 (> 66,000 km2) and Class 2 (>200,000 km2) lands, which collectively equate to 50% of the region. The Method most suited to this region is the HIR Method, accounting for 81 of the 84 existing registered ERF projects in the region. Interestingly, only 2 projects have been registered on Class 1 lands in the region, with 1 of these issued ACCUs to date. Given the intersection of strong Indigenous rights and a suitable method, this region represents the most significant potential for Indigenous owned carbon projects outside of the Savanna zone.

There are a suite of ERF Methods (Soil, Forest Planting, Forest Harvest) that are largely confined to the most productive or agricultural regions of Australia. In these regions Indigenous ownership or control of land is relatively limited. The Agricultural (east and west) and Rangelands (east) regions collectively have 2% of the Class 1 and 6% of Class 2 lands across Australia. Due to the national/regional spatial scale of this report it is difficult to identify what opportunities may exist with current ERF Methods in the Class 1 or 2 lands within regions, although it is anticipated there will be some opportunities such as tree planting projects. Working with relevant Indigenous organisations in this area to undertake further fine scale analysis may help support increased Indigenous engagement in carbon projects in these regions.

In summary, existing opportunities on areas of strong Indigenous rights and interests (Class 1, 2 or 3) are primarily:

- Savanna Fire Management, particularly new projects in the 600-1000mm rainfall zone, as well as transitioning existing emissions avoidance projects to sequestration in the Savanna Zone.
- HIR Method in the Rangelands (west) Zone of WA.
- Tree Planting and/or Blue Carbon in the Agricultural (east and west) Zones (but requiring finer scale assessment).

In addition, Indigenous engagement in the ERF could be increased through the following changes/updates to current ERF Methods:

- Extending the Savanna Fire Management Methods to additional carbon pools, vegetation types, and lowering the rainfall boundary to include the frequently burnt areas of the northern desert. Map 9 identifies the proposed northern desert extension area (draft). This extension would effectively increase the total area of Class 1 lands where the Savanna Fire Management Methods could be applied by >50%.[11]

[11] Note this is an indicative estimate only, figures depend on final boundary and eligible vegetation types.

- Ensuring that the developing Integrated Farm Management Method is suited to all environs across Australia, including the Desert and the Savanna. This could be achieved by accounting for increases in sequestration along the entire spectrum of vegetation by not requiring a project to transition from non-forested to forested as is the case with the HIR Method. This requirement in the HIR Method essentially excludes 96% of the Indigenous Class 1 lands from engaging in the HIR Method as the Desert and Savanna Zones are largely incapable of transitioning from one state to another. Carbon accounting in an Integrated Farm Management Method that is applicable to the vast and remote regions of the Savanna and Desert would benefit from on-going investment in developing remote sensing approaches to measuring biomass change.[12]
- Expanding the Blue Carbon Method to include new and additional eligible activities that are more suited to areas within the Indigenous estate will be important if this activity is to be relevant to Indigenous land holders.

In areas of Australia where Indigenous people do not have strong land rights and interests, carbon related opportunities are most likely confined to the provision of contract services or the ability to negotiate partnerships or other outcomes. The information provided in this report can be used to help refine or target what those services (or negotiations) might be for the Methods most suitable to particular areas.

Further improving the recognition and premium value placed on Indigenous carbon projects will also help increase the viability of marginal carbon projects, as well as a potential negotiating point for organisations wishing to start their own or become otherwise involved in a carbon project but lacking the carbon rights and interests to do so.

Finally, one major finding of this report is that 72% of Class 1 lands in Australia occur in the Desert Zone, which is a region that is presently largely devoid of any suitable carbon methods. This highlights the importance of other emerging (non-carbon) environmental markets to the Indigenous estate, such as the proposed National Biodiversity Stewardship scheme. It is worth noting that currently 92% of Australia is not covered by an active ERF project. It is important both that emerging environmental markets are applicable to Indigenous lands and are de-coupled from carbon (though this should not prevent them complementing carbon projects where possible) as there are many places on the Indigenous estate where carbon projects are not currently well suited, yet there are many important environmental values that need protecting.

[12] Note the Australian Government are currently funding a relevant CSIRO project which does include some field calibration sites in most savanna and some desert bioregions, but it is unclear if this these regions will be included in the developing Integrated Farm Management Method. For the desert, a remote sensing approach is vital to the success and accessibility of the method.

Appendix 1: The Indigenous estate and Indigenous carbon rights maps

This appendix provides further information on the methods used to develop Map 1 and Map 2 supplementing the information provided in Part 2 of this report.

Step 1: Identifying the base/platform dataset

Map 1: The Indigenous Estate has been developed by building upon existing datasets which identify Indigenous land interests.

The publicly available Australia's Indigenous forest estate (2020)[13] dataset has been used as the base layer. This layer was developed by the ABARES. For more than a decade, ABARES has been collating and presenting data on Australia's Indigenous estate for both forested and non-forested lands. Desktop analysis identified that this was the most up-to-date and comprehensive identification of Indigenous interests. Another key reason for using the ABARES data was that the GIS compatible data is publicly available for download for further analysis and refinement.[14] The ABARES reports, and associated datasets have been of invaluable assistance in compiling this dataset, particularly:

- Jacobsen *et.al* (2020) ABARES technical report, *Australia's Indigenous land and forest estate: separate reporting of estate categories*
- Dillion *et.al* (2015) ABARES technical report, *Development of the Australia's Indigenous forest estate (2013) dataset*[15]

Step 2: Adding supplementary data layers

Whilst the Jacobsen *et al.* (2020) data layer is a valuable resource, there are some limitations and uncertainties with the data, including:

- Despite the recency of the technical report, the data layers are only current to June 2016.
- Uncertainty regarding what data sources (described as 'various') and methodology is used to create the 'Other special rights' data layer in the ABARES layer.
- The classification of Indigenous land into four categories (Indigenous owned, Indigenous managed, Indigenous co-managed, and Other special rights) by ABARES raises some concerns, regarding the treatment of exclusive possession native title rights as 'other special rights', which overlooks the strength of this important Indigenous land interest.
- The data was collated by ABARES for a different purpose; hence some additional layers are required for the purposes of this report and subsequent applications of the data layer.

Therefore, the second step in developing *Map 1: The Indigenous Estat*e was an update and expansion upon the Jacobsen *et.al* (2020) data where changes had occurred since June 2016, or where there were additional data layers that were considered relevant.

[13] Jacobsen et. al 2020

[14] The original source/input datasets are not available via the ABARES site, only the re-classified/aggregated layer

[15] Datasets available at: https://www.agriculture.gov.au/abares/forestsaustralia/forest-data-maps-and-tools/spatial-data/indigenous-forest, https://creativecommons.org/licenses/by/4.0/

Rather than sourcing every individual input layer (which was beyond the scope and resources of this report with more than 26 original data sources used by Jacobsen *et al.* (2020)), this Report took the approach of using the consolidated ABARES layer and building on top of that layer with the following supplementary datasets:

Publicly available layers

- Determined exclusive possession native title
- Determined non-exclusive possession native title
- Registered native title claims
- Indigenous co-managed areas (CAPAD 2020 with Governance identified as 'Jointly managed') (captures parks missing from other joint management datasets)
- Active Indigenous Land Use Agreements
- Indigenous Land Interests (QLD)

Not publicly available layers

- Indigenous ERF projects (registered)[16]
- Indigenous held land or land held by government for Indigenous purposes (ILSC layer)
- Additional WA DBCA Parks and reserves (Pila Reserve (co-vested in 2020) (Report developed layer)

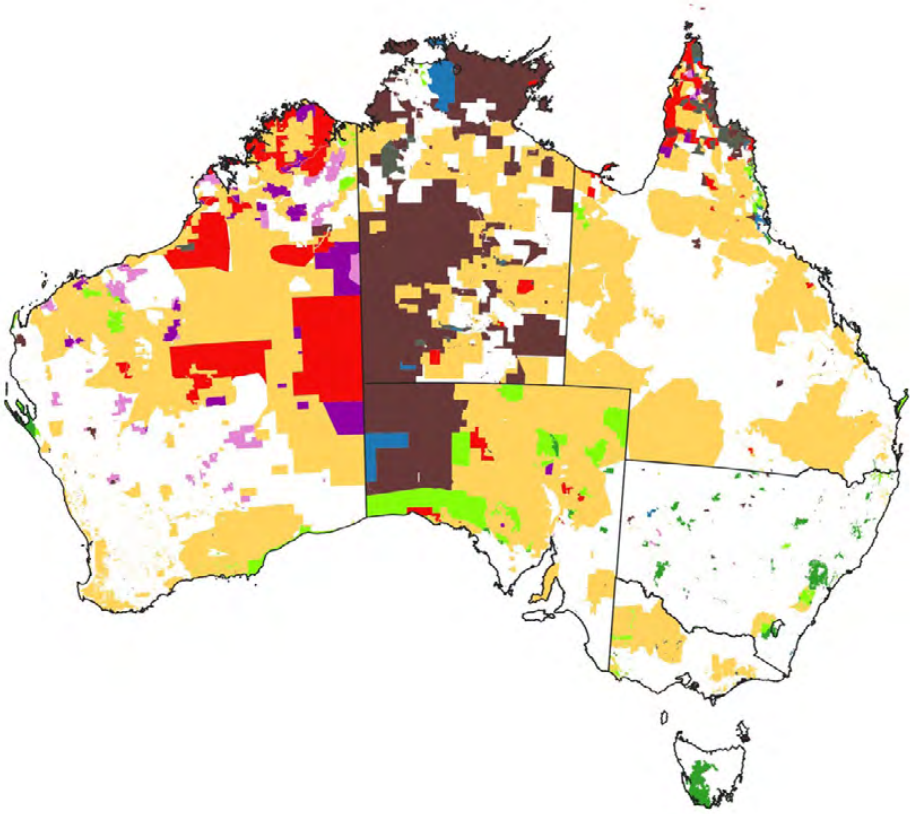
The updates to the ABARES map that result from the addition of these supplementary datasets can be seen by comparing the two maps on the following page.

For the purposes of this Report, the current Indigenous Protected Areas layer and the ILSC 'Lands acquired or granted though the ILSC land acquisition activities' datasets were assessed but not added to the dataset, as they didn't add any additional areas not already captured by other layers included in the analysis.

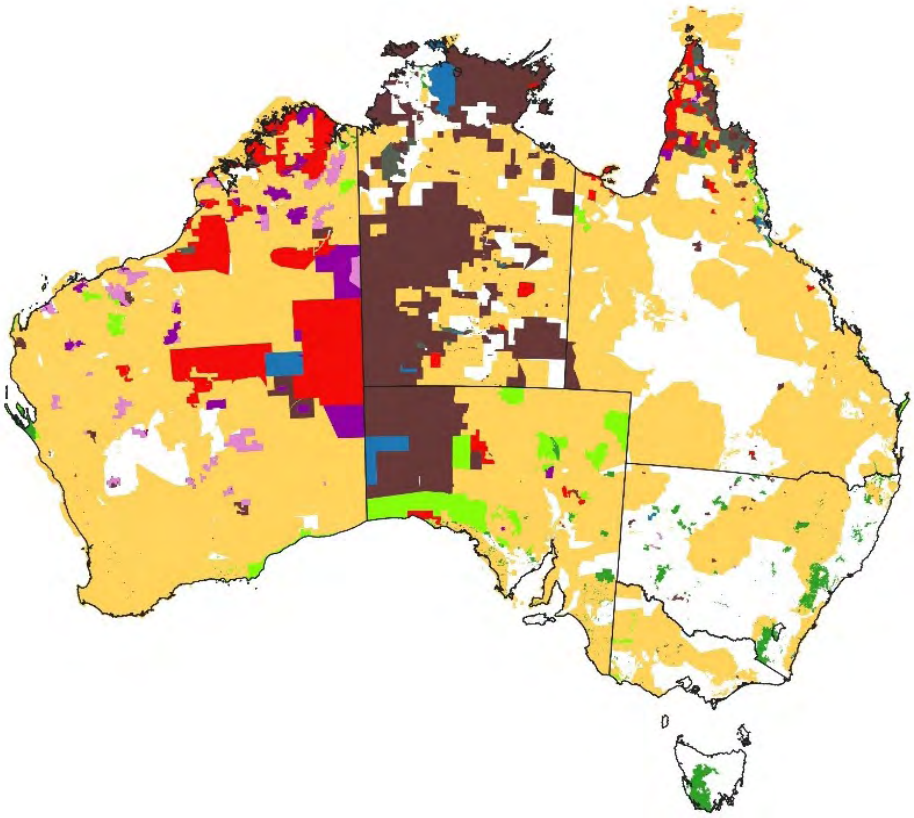
Where possible, the additional data has been classified (coloured) using the same criteria as Jacobsen *et al.* (2020) for comparative purposes. This does not represent an endorsement by the authors of these ABARES classifications and we specifically note our concerns in relation to the treatment of exclusive possession native title.

There is some variance in the colour coding from Jacobsen *et al.* (2020) due to the available attributes within some of the additional datasets, notably the 'Indigenous land interest – QLD' dataset (where it is not identified whether the Indigenous owned land is co-managed or not, hence it is being identified as Indigenous owned (brown) but it may be jointly/co-managed (and therefore would be coded green if consistent with Jacobsen *et al.* 2020)). Additional information on the datasets and colour coding used is provided in Table 4 below.

[16] Indigenous projects were identified by ICIN from publicly available information.



Map 28: Area of land that is in the Indigenous estate by separate Indigenous estate attributes (as per Fig.5 Jacobsen et al. 2020)



Map 29: Area of land that is in the Indigenous estate, by separate Indigenous estate attributes (as per Fig.5 Jacobsen et al. 2020) with additional datasets as identified by this report. As much as possible the same classification (colour coding) system has been used as per Jacobsen et al. 2020

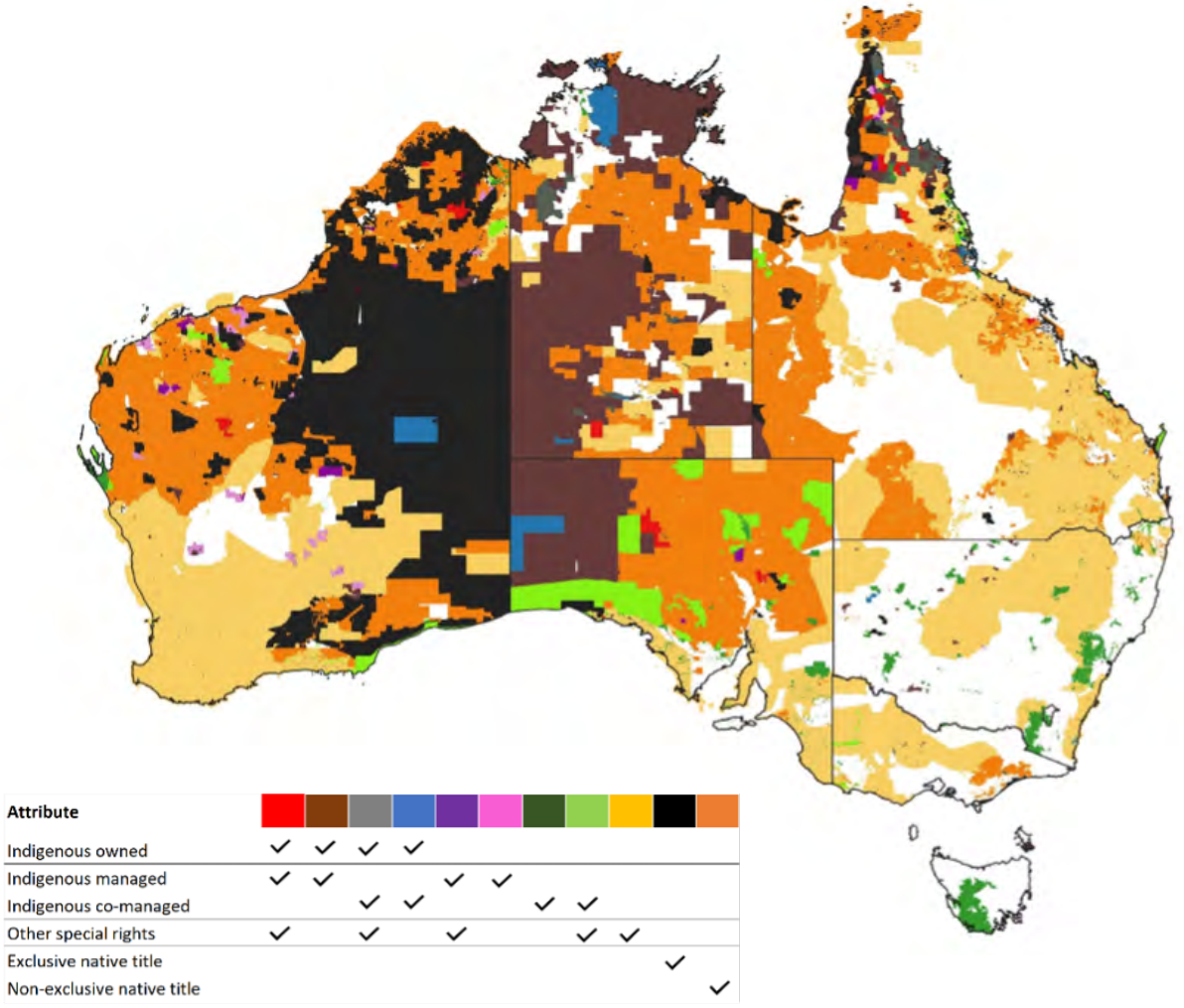
Step 3: Finalising Map 1: The Indigenous estate

As noted earlier, the authors have concerns with the treatment of native title rights in Jacobsen *et al.* (2020), where this important Indigenous land interest is identified only as 'Other special rights'.

In Map 1, we present native title layers as their own separate attribute classes, these being:

- Where exclusive possession native title has been determined – these areas are coloured black and sit 'on-top' of all other layers in the dataset
- Where non-exclusive native title has been determined – these areas are coloured orange and sit 'on-top' of the 'other special rights' layer but underneath all other layers. This means that not all areas where non-exclusive native title has been determined are visible in Map 1.

The resulting *Map 1: The Indigenous Estate* provides a layer current as of September 2021 that identifies where Indigenous interests are formally recognised across the Australian continent.



Map 1: *The Indigenous estate.* Area of land that is in the Indigenous estate, by separate Indigenous estate attributes (as per Fig.5 Jacobsen *et al.* 2020 (ABARES)) but with additional new/updated datasets as identified by the report. As much as possible the same classification system has been used as Jacobsen et al. (2020). Where exclusive possession native title and non-exclusive native title rights have been determined they are presented as their own discreet category (i.e., not grouped under the 'other special rights' category).

Step 4: Reclassifying for carbon purposes

Map 1: *The Indigenous Estate* was then reclassified according to the process outlined to reflect the formal mechanisms by which Indigenous people could potentially engage in the carbon market under the ERF, resulting in Map 2: *Indigenous Carbon Rights.*

All parcels of land were attributed to one of five classes according to the framework in Table 2 (see Part 2 of this report). Each parcel of land is only assigned one class, that being the 'highest' class identified for that parcel.

The process of reclassification also involved the following additional elements:

- Removal of the 'Other special rights' layer used in Jacobsen *et al.* (2020) (as unknown what datasets were used to create this layer), as well as the removal of the active ILUA data layer. The classification of active ILUA areas is complex and would require an assessment on a case-by-case basis. ILUAs co-exist with the rights of multiple other users and may provide limited opportunity for carbon related projects, depending on their individual terms. The ILUA data layer was excluded as many ILUAs are unrelated to existing/ potential carbon rights.
- A simplified process was introduced to classify joint or co-managed areas. The classification of areas under joint or co-management is complex given the vast array of different arrangements that exist (different tenure arrangements, joint management agreements, ILUAs, management plans etcetera can differ between States and Territories, and all have implications on who may hold the legal right to operate a carbon project). The process used in the creation of *Map 2: Indigenous Carbon Rights,* was:
    - Where a publicly available dataset identifies the jointly/co-managed parks' underlying tenure as Indigenous owned, the parcel is classified as Class 1.
    - Parcels identified in a publicly available dataset as being jointly/co-managed, where the underlying tenure is not identified as being Indigenous owned, are classified as Class 3.

The final list of datasets that were used to create *Map 2: Indigenous Carbon Rights* are listed below. More details on the individual datasets that were used to create the consolidated ABARES dataset are listed further in Table 4.

Legal right (Class 1)

- Classifications from the ABARES 2020 dataset
    - Indigenous owned and managed
    - Indigenous owned and managed and other special rights
    - Indigenous owned and co-managed
    - Indigenous owned and co-managed and other special rights
    - Indigenous managed
    - Indigenous managed and other special rights
- Exclusive possession native title (National Native Title Tribunal)
- Indigenous ERF registered projects (CER, modified by ICIN)
- Indigenous held land or land held by government for Indigenous purposes (Indigenous Land and Sea Corporation)
- Indigenous land interests in QLD - multiple types (QLD Dept. of Resources)
- DBCA - Legislated Lands and Waters (DBCA-011) (WA Dept. of Biodiversity, Conservation and Attractions – layer used to ID recent jointly vested parks missing from ABARES and CAPAD datasets).

EIH Consent (Class 2)

- Non-exclusive possession native title (National Native Title Tribunal)

EIH Consent (Class 3)

- Classifications from the ABARES 2020 dataset
    - Indigenous co-managed
    - Indigenous co-managed and other special rights
- Collaborative Australian Protected Areas Database (CAPAD) 2020 - Terrestrial (where attribute of value is 'Governance ID' as 'Jointly managed') (Australian Department of Agriculture, Water and the Environment).

Pending rights (Class 4)

- Register of native title claims (where attribute of value is 'accepted for registration' and 'active') (National Native Title Tribunal)
- Please note that the ninth classification used by ABARES 2020, that of 'other special rights' was not included in this dataset.

Other (Class 5)

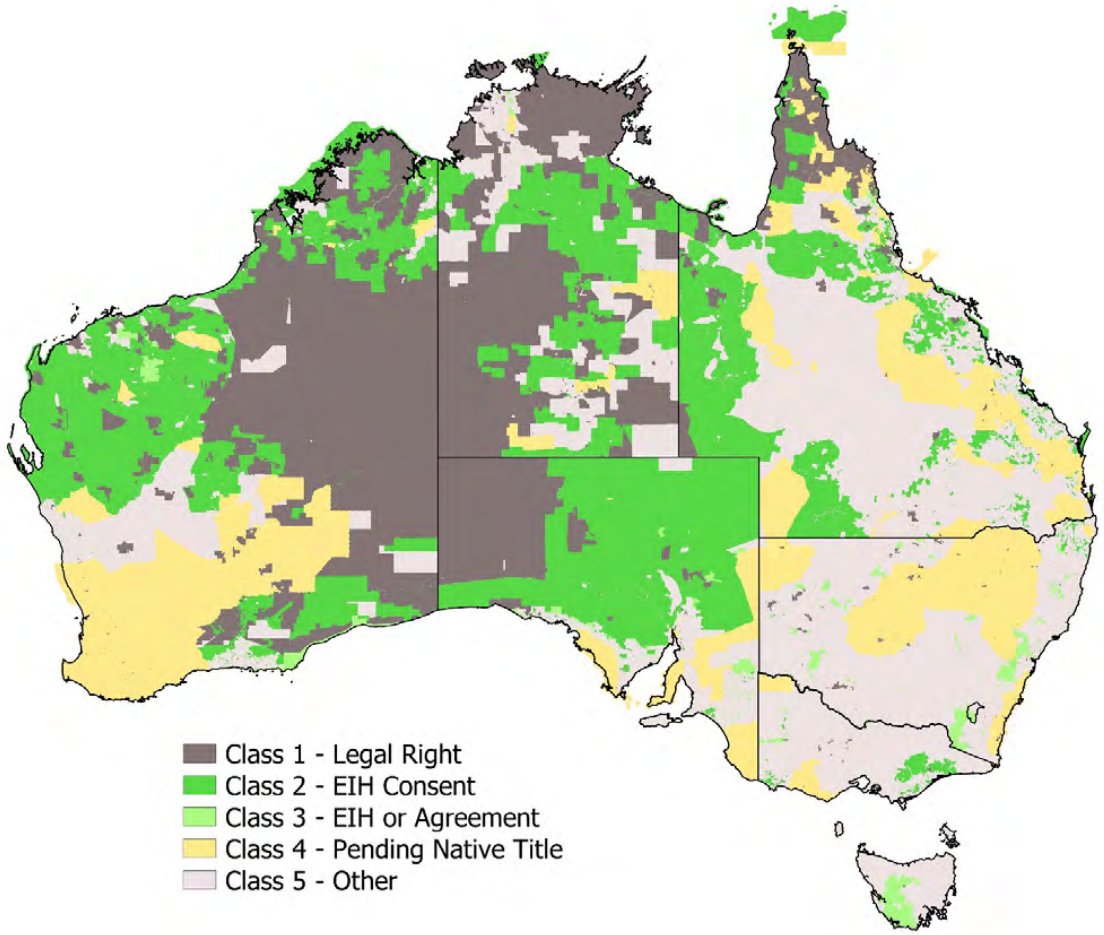
- All parcels not included in any of the above listed categories.

This classification process produced Map 2. This is an up-to-date layer that identifies the formal mechanisms by which Indigenous people could potentially engage in the carbon market under the ERF (providing that an ERF Method was applicable to the area).

Map 2: Indigenous Carbon Rights over represents the area where Indigenous people can engage in the carbon market, because it does not distinguish between areas which do or do not have a suitable ERF method. There are large areas (particularly central Australia) where no ERF Methods are well suited for broad application.

Map 2: Indigenous Carbon Rights (replicated below) is similar to, but noticeably different, from the original data presented by Jacobsen et al. (2020). This is primarily because of the way data has been classified for different purposes. A key difference is that the ABARES dataset is predominately classified on tenure ownership, while Map 2 is classified on land management and decision-making responsibilities, and how they relate to engaging in the carbon market under the ERF.

An example of this different classification is Jacobsen *et al.* (2020) which identifies an Indigenous owned pastoral property as being government owned and Indigenous managed (mid-level rights – coloured purple), whereas this report classifies the same parcel as Class 1 (with the strongest form of Indigenous rights). This is because the land is held by Indigenous people who make the management decisions for the property and would most likely either hold the legal right to register a carbon project, or would likely be able to obtain the legal right if requested from the relevant Government Authority.



Map 2: Indigenous Carbon Rights. Identifying the formal mechanisms by which Indigenous people could potentially engage in the carbon market under the ERF (provided that an ERF Method was suitable to the area).

Table 4: Data layers and classification used in creating the Indigenous carbon rights map

Indigenous Carbon Rights map						Jacobsen *et al.* (2020)	
Class	**Carbon Classification and colour code**	**Datasource**	**Source Agency**	**Data Licence**	**new or updated layer**	**Indig DESC and colour code**	**With 'other special rights' overlay applied**
1	Indigenous Legal Right	Exclusive possession native title determined	National Native Title Tribunal	Creative Commons Attribution 4.0 International (CC BY 4.0)	New		
1	Indigenous Legal Right	Indigenous ERF projects (reg.) (ICIN identified)	CER / ICIN	Creative Commons Attribution 3.0 Australia (CC BY 3.0 AU)	New		
1	Indigenous Legal Right	Indigenous held land or land held by government for Indigenous purposes (ILSC)	Indigenous Land and Sea Corporation	ILSC - ICIN data agreement	New		
1	Indigenous Legal Right	NSW Aboriginal Land Council lands	NSW Land Registry Services	CC BY 4.0	ABARES		
1	Indigenous Legal Right	NT Aboriginal Lands Trust lands	NT Department of Infrastructure, Planning and Logistics	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Queensland Deed of Grant in Trust	Queensland Department of Natural Resources, Mines and Energy (DNRME)	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Queensland Aboriginal and Torres Strait Islander land trusts	Queensland DNRME	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Indigenous Land Interests - QLD	QLD Dept. of Resources	CC BY 4.0	New		

Indigenous Carbon Rights map						Jacobsen *et al.* (2020)	
Class	**Carbon Classification and colour code**	**Datasource**	**Source Agency**	**Data Licence**	**new or updated layer**	**Indig DESC and colour code**	**With 'other special rights' overlay applied**
1	Indigenous Legal Right	SA Aboriginal Land Trust, Aṉangu Pitjantjatjara Yankunytjatjara (APY) and Maralinga Tjarutja lands	Land Services SA (formerly SA Land Services Group)	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Victoria Indigenous owned lands	Victoria Department of Environment, Land, Water and Planning (DELWP)	CC BY 4.0	ABARES		
1	Indigenous Legal Right	WA Freehold Aboriginal Community held	WA Land Information Authority, trading as Landgate	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Indigenous owned Commonwealth national parks (CAPAD 2016)	Australian Government Department of Agriculture, Water and the Environment	CC BY 4.0	ABARES		
1	Indigenous Legal Right	NSW Aboriginal-owned parks with lease-back agreements	NSW Department of Environment, Energy and Science	CC BY 4.0	ABARES		
1	Indigenous Legal Right	NT Indigenous freehold parks with joint-management governance	NT Department of Tourism, Sport and Culture	CC BY 4.0	ABARES		

Indigenous Carbon Rights map						Jacobsen *et al.* (2020)	
Class	**Carbon Classification and colour code**	**Datasource**	**Source Agency**	**Data Licence**	**new or updated layer**	**Indig DESC and colour code**	**With 'other special rights' overlay applied**
1	Indigenous Legal Right	Qld Aboriginal and Torres Strait Islander land trusts: co managed conservation reserves	Queensland DNRME	CC BY 4.0	ABARES		
1	Indigenous Legal Right	SA Aboriginal-owned co-managed parks	Land Services SA (formerly SA Land Services Group)	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Vic. Indigenous owned co-managed conservation reserves	Victorian Government DELWP	CC BY 4.0	ABARES		
1	Indigenous Legal Right	WA Indigenous owned co-managed national parks	WA Department of Biodiversity, Conservation and Attractions	CC BY 4.0	ABARES		
1	Indigenous Legal Right	Additional WA Indigenous owned co-managed national parks - Pila (co-vested 2020)	WA Department of Biodiversity, Conservation and Attractions	Creative Commons Attribution-NonCommercial 4.0 International	ABARES		
1	Indigenous Legal Right	NSW Aboriginal Land Council Indigenous managed lands	NSW Land Registry Services	CC BY 4.0	ABARES		
1	Indigenous Legal Right	SA Aboriginal Land Trust lands with Crown land tenure	Land Services SA (formerly SA Land Services Group)	CC BY 4.0	ABARES		

Indigenous Carbon Rights map						Jacobsen *et al.* (2020)	
Class	**Carbon Classification and colour code**	**Datasource**	**Source Agency**	**Data Licence**	**new or updated layer**	**Indig DESC and colour code**	**With 'other special rights' overlay applied**
1	Indigenous Legal Right	WA Aboriginal Lands Trust	WA Department of Aboriginal Affairs	CC BY 4.0	ABARES		
1	Indigenous Legal Right	WA Indigenous pastoral leases	WA Land Information Authority, trading as Landgate	CC BY 4.0	ABARES		
2	EIH Consent or agreement	Non-exclusive possession native title	National Native Title Tribunal	CC BY 4.0	New		
3	EIH Consent or agreement	World Heritage areas with Indigenous advisory committees	Australian Government Department of Agriculture, Water and the Environment	CC BY 4.0	ABARES		
3	EIH Consent or agreement	Other government owned co-managed nature conservation reserves	Various state and territory government conservation agencies	CC BY 4.0	ABARES		
3	EIH Consent or agreement	Indigenous co-managed areas (CAPAD 2020, Governance ID as Jointly managed)	Commonwealth Department of Agriculture, Water and the Environment	CC BY 3.0 AU	Updated		
4	Pending Native title	Register of native title claims	National Native Title Tribunal	CC BY 4.0	New		

Appendix 2: References

ABARES (2020), Lineage of the development of the *Australia's Indigenous forest estate (2020)* dataset, available from: https://www.awe.gov.au/sites/default/files/documents/Australias_Indigenous_forest_estate_2020_Lineage.pdf

Department of Agriculture, Water and the Environment (2020), Interim Biogeographic Regionalisation for Australia (Subregions - States and Territories) v. 7 (IBRA) [ESRI shapefile] https://www.environment.gov.au/fed/catalog/search/resource/details.page?uuid=%7B1273FBE2-F266-4F3F-895D-C1E45D77CAF5%7D Sourced Oct 2021.

Department of Agriculture, Water and the Environment (2013), Australian Rangeland Boundaries, Australian Collaborative Rangeland Information System (ACRIS) [ESRI shapefile] https://www.environment.gov.au/fed/catalog/search/resource/details.page?uuid=%7B24A903F2-9B7D-4421-A199-B92218524666%7D Sourced Oct 2021.

Dillon R, Jeyasingham J, Eades S and Read S (2015), Development of the Australia's *Indigenous forest estate (2013) dataset.* ABARES Research Report 15.6, Canberra.

Jacobsen R, Howell C and Read SM (2020), *Australia's Indigenous land and forest estate: separate reporting of Indigenous ownership, management and other special rights,* ABARES Technical Report 20.15, Canberra, DOI: doi.org/10.25814/bqr0-4m20. CC BY 4.0.

Head Office: 1/5 Goyder Rd, Parap NT 0820
Mobile: 0417 989 577 (Anna Boustead, CEO)
Email: ceo@icin.org.au

ICIN Indigenous Carbon Industry Network