



Department of
Primary Industries and
Regional Development

*We're working for
Western Australia.*

Western Australian Carbon Farming and Land Restoration Program Co-benefits Standard 2022-2023

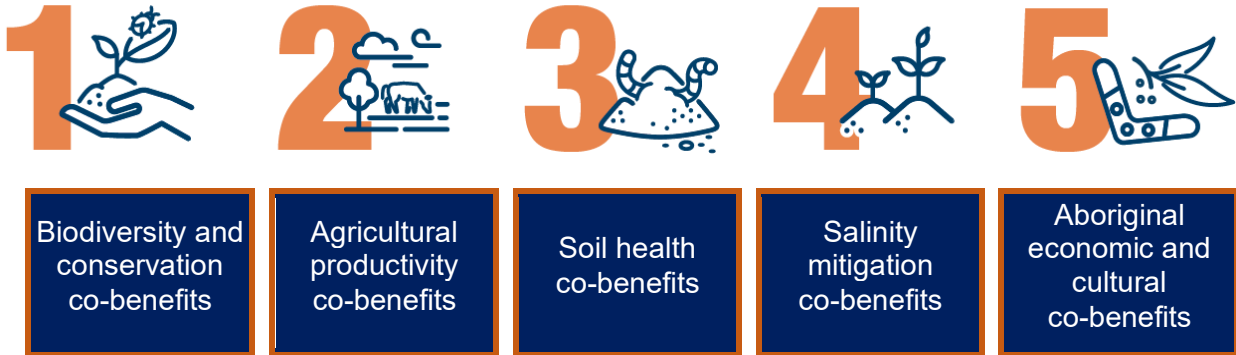


Overview of the Co-benefits Standard

What are the Co-benefits?

Co-benefits are the additional, positive outcomes of a carbon farming project's activities. These add value to the carbon sequestered by vegetation and soil.

The Carbon Farming and Land Restoration Program (CF-LRP) selects projects based on their potential to deliver both carbon sequestration and one or more of these five priority co-benefits:



Using the Co-benefit Standard

Applicants to the CF-LRP can choose any combination of co-benefit categories using any number of criteria suited to their project.

The Co-benefits Standard guides the development of project proposals and a strong evidence base for the delivery of the co-benefits. It details:

- the co-benefits eligible for consideration when a project is assessed for participation in the CF-LRP
- examples of evidence, data and information sources that can be referenced in an application and future progress reports; and
- approaches to monitoring and reporting which forms part of the assessment process when selecting projects for funding.

Co-benefits Information Portal

The online [Co-benefits Information Portal](#) can help applicants identify the co-benefits that may apply to their project.

It allows the applicant to use GIS mapping and publicly available data from a wide variety of sources (Appendix 2). It can be used to demonstrate co-benefit eligibility along with other resources and on-ground evidence.

The Portal can also be used to create site plans to demonstrate where the project activities are undertaken. See Appendix 1.



Other resources being used should be referenced and uploaded with the application.

Monitoring and reporting of the co-benefits

The Co-benefit Standard provides guidance for each of the five co-benefits.

The approach to monitoring and reporting should be considered at the planning stage. Applicants should seek advice to develop appropriate monitoring and reporting methods that reflect the proponent's experience, project complexity and funding request (Tier 1, 2 or 3).

Hint: keep it simple and use a table:

1. **What** specific factors need to be measured to demonstrate improvement?
2. **How** will the factor/s be measured? Which method or equipment is required? How will the data or information be stored or shared?
3. **When** does it need to be measured to best demonstrate change (how frequently, which season)?
4. **Who** will do the monitoring?

While independent verification of co-benefits is not required, applicants should consider aligning the project with natural capital frameworks and stewardship programs so that data gathered can be used in the future. Some examples include:

- Perth NRM's [Natural Capital Accounting](#)
- [Ecological Outcome Verification](#) standard for farmers interested in the Land to Market program developed by Savory Global
- [Agriculture Biodiversity Stewardship Package](#) - the Australian Government is developing a range of market mechanisms to enable farmers to be rewarded for their biodiversity land care and conservation outcomes.
- [Accounting for Nature](#) has developed methods with detailed measurement and reporting requirements for specific environmental assets.

Service Provider Directory



DPIRD's [service provider directory](#) contains a list of independent advisors that may be able to assist with your carbon farming project.

These advisors offer a range of expertise, from carbon project development, soil technicians, and environmental consultants.



To assist applicants pick the provider that is right for them, the directory contains a list of qualifications and questions to consider before engaging a provider.

Note: The information resources provided in this document are a guide only. Other resources may be more suitable for the project, and new resources may become available over time.

CF-LRP Priority Co-benefits



Biodiversity and conservation co-benefits

Guiding principles

The CF-LRP seeks to maximise the environmental outcomes of carbon farming projects, guided by the following principles:

- Maintain or improve the biodiversity value.
- Revegetate areas with the greatest conservation outcomes.

There are three categories:

1.1 Biodiversity value of revegetation

The project area includes:

- a) Complex vegetation structure and composition (multi-species)
- b) Rare or otherwise significant species or threatened species

1.2 Proximity to high biodiversity area or assets

The project area adjoins, contains, or is within one or more of the following:

- a) Existing conservation areas¹
- b) Threatened and priority flora or fauna species, and/or threatened ecological communities²
- c) Conservation covenants.

1.3 Landscape connectivity

The project implements:

- a) Landscape corridors – build linkages by connecting remnant vegetation including the planting of local vegetation corridors of appropriate width, structure and composition, the buffering of remnant vegetation, and creating new ‘block’ plantings; and/or
- b) Riparian corridors – improve the condition of vegetation along watercourses (e.g., riparian areas, lakes, swamps, wetlands)

Biodiversity and conservation co-benefits only apply to vegetation projects.

Soil biodiversity is a criterion for the soil health co-benefit.

Resources for biodiversity and conservation co-benefits

These resources can be used to develop a measurement and monitoring plan to demonstrate how the selected co-benefit categories will be delivered.

Local land care and natural resource management groups (NRM) can assist.

- [Dandjoo](#) - WA's whole-of-state biodiversity data platform - data sourced from government, industry, and research providers.
- [Florabase](#) is a database of Western Australian flora with scientific information including descriptions, maps, images, and conservation status (DBCA website)
- [Native Vegetation Handbook Series](#) are handbooks based on local government areas that identify environmental values such as landscape, soil, and vegetation units/systems. Documents locally occurring plant species by vegetation unit. (DPIRD website)
- [River Restoration manual](#) (DWER webpage)
- [A Guide to Preparing Revegetation Plans for Clearing Permits](#) (DWER report)

¹ Co-benefits Portal: ‘DBCA legislated lands and waters’, ‘Natural diversity recovery catchments (existing)’, ‘Natural diversity recovery catchments (potential)’, ‘Water resource recovery catchments’ and the ‘Ramsar sites’ layers.

² Co-benefits Portal: ‘Threatened and priority flora’, ‘Threatened and priority flora’, ‘Threatened ecological communities’ layers

Examples of monitoring and reporting for biodiversity and conservation co-benefits



- List of plant species and planting/seeding design (e.g., species mapped to soil unit, orders with nurseries and seed suppliers) demonstrating provenance and/or species diversity.
- Results from independent assessment of revegetation value.
- Documentation (e.g., independent ecological assessment and/or surveys, government agency reports or tools) that confirm rare and/or threatened flora or fauna species have increased in density, diversity, or occurrence.
- Photographic evidence and/or satellite imagery of vegetation growth.
- Photographic evidence of fauna presence
- Documentation of fauna surveys (species type and abundance) at consistent location and time of year.



Agricultural productivity co-benefits

Guiding principles

The CF-LRP seeks to support agricultural productivity outcomes, guided by the following principles:

- Build resilience and enable adaptability to changing climate pressures across the agricultural landscape
- Preserve high-value agricultural land

There are two categories:

2.1 Resilience of agricultural practices

The project demonstrates one or more of the following:

- a) Increases resilience³ of agricultural practices directly or through microclimate influence by increasing:
 - i. Biomass yield as plant growth (tonnes/ha crop/pasture/tree yield/cover crops)
 - ii. Profit as input costs/yield ratio (livestock, fibre, crop)
- b) Provides annual and/or perennial fodder, minimises feed gap, and/or shelter options on high-risk agricultural land⁴

2.2 Agricultural productivity

The project improves low productivity or high-risk agricultural land

³ For the purposes of the CF-LRP, 'resilience' is defined as 'the ability of agricultural/farm systems to recover from shocks and stresses caused by changing climate pressures and adapt in order to continue and grow'.

⁴ Co-benefits Portal: 'Land capability' layers

Resources for agricultural productivity co-benefits

Applicants can use the resources below to develop a measurement and monitoring plan that demonstrates how the selected co-benefit categories will be delivered by their project.

- [Shelter belt impact on productivity](#) (RIRDC report)
- [Timing of nitrogen application](#) (Dairy Australia video)
- [Nitrogen and biomass](#) (GRDC video)
- [Crop grazing as a tool to improve livestock productivity and whole farm profitability](#) (GRDC report)
- [Benefits of managing pastures to reduce sheep methane emissions](#) (DPIRD webpage)

Examples of monitoring and reporting for agricultural productivity co-benefits

- Satellite and/or photographic imagery demonstrating growth of pasture and foraging shrub options.
- List of species composition of project (e.g., contracts with seed suppliers, nurseries), demonstrating use of species targeted to remediate areas of low production
- Stubble retention measurements.
- Economic data or results from an independent assessment that demonstrate agricultural practices have improved.
- Production and yield data as used for annual farm business review.



3 Soil health co-benefits

Guiding principles

The CF-LRP seeks to support carbon farming projects that contribute to improved soil quality, guided by the following principles:

- Preserve topsoil and prevent further degradation
- Increase the amount of soil organic carbon sequestered in soils
- Reduce the risk of wind and water erosion

There are two categories:

3.1 Soil health

The project demonstrates one or more improvements in:

- a) Nutrient use efficiency
- b) Input use efficiency
- c) Soil microbiome health and/or activity such as soil phosphorus bioavailability, soil oxygen levels, fungal to bacterial ratios, respiration
- d) Plant available water and rainfall use efficiency
- e) Soil parameters such as pH, CEC, soil strength, aggregation, compaction

3.2 Soil erosion response

The project is in proximity to an erosion risk area and reduces soil erosion risk by increasing the surface area of groundcover and ensuring it remains above the baseline

Resources for soil health co-benefits

These resources can be used to develop a measurement and monitoring plan to demonstrate how the selected co-benefit categories will be delivered.

- [Whole farm nutrient mapping \(WFNM\)](#) (DPIRD webpage) DPIRD encourages nutrient use efficiency mapping to understand baselines and identify strategies for improvement
- [Tools and systems for assessing soil health](#), (Agriculture Victoria webpage)
- [Managing Soil Organic Matter: A Practical Guide](#), (GRDC report)
- [How microbes can, and cannot, be used to assess soil health](#) (ScienceDirect report)
- [Soil quality factsheets](#) (Soil Quality webpage)
- [Western Australian Soil Health Strategy 2021-2031](#) (DPIRD report)
- [Cooperative Research Centre for High Performance Soils](#) (Soil CRC webpage)
- [Strategic windbreaks for erosion control](#) (Sustainable Agriculture flyer)

Examples of monitoring and reporting for soil health co-benefits

- Results from independent assessment (e.g., indicating improvement in soil health beyond the baseline, reduction in soil erosion risk).
- Documentation demonstrating a whole farm nutrient mapping process has been implemented
- Documentation demonstrating input use efficiency improvement (e.g., reduced fertiliser and use of phosphates)
- Photographic evidence and annual land use journal monitoring
- Satellite imagery demonstrating increase in groundcover has occurred
- Laboratory results demonstrating presence and abundance of soil biota
- Documentation demonstrating increased plant available water and rainfall use efficiency



Salinity mitigation co-benefits

Guiding principles

The CF-LRP seeks to support the salinity mitigation outcomes of carbon farming projects, guided by the following principles:

- Prevent further degradation of salt-affected land
- Improve the productivity of salt-affected land

There is one salinity mitigation co-benefit category, as outlined below.

4.1 Salinity response

The project must be in proximity to priority landscapes, priority flora or fauna, and/or threatened ecological communities at risk from salinity⁵ and;

- a) Prevents the further degradation of land currently affected by salinity
- b) Reduces the likelihood of priority landscapes from becoming affected by salinity
- c) Improves the productivity of land by reducing salinity impacts

Resources for salinity mitigation co-benefits

These resources can be used to develop a measurement and monitoring plan to demonstrate how the selected co-benefit categories will be delivered.

- [Measuring soil salinity](#) (DPIRD webpage)
- [Assessing saline areas in Western Australia](#) (DPIRD webpage)
- [Plants that grow on salt affected land in Australia – SALT deck cards](#) (DPIRD webpage)

Examples of monitoring and reporting for salinity mitigation co-benefits

- Estimates or measurement of the location, extent, and severity of salinity. Methods include:
 - mapping the location, extent, and severity of salinity
 - mapping the apparent electrical conductivity of soil using an electromagnetic induction (EM) device
 - Biomass (normalised difference vegetation index) mapping using satellite imagery
- Evidence of actions taken to protect the ameliorated land (e.g., fencing of fodder bush to enable stock management).



Aboriginal economic and cultural co-benefits

Guiding principles

The CF-LRP seeks projects that provide co-benefits for Aboriginal economic and cultural opportunities, guided by the following principles:

- Encourage proponents to provide roles for Aboriginal people in the project
- Acknowledge and promote the connection of Aboriginal people to the land
- Promote recognition of Aboriginal cultural values

⁵ Co-benefits Portal: 'Priority landscapes at risk from salinity', 'Threatened and priority fauna at risk from salinity', and 'Threatened ecological communities at risk from salinity' data layers

There are four co-benefit categories:

5.1 Aboriginal ownership

The project involves direct participation by Aboriginal people. Either the project owners are Aboriginal people, project partners are Aboriginal people, or the project directly allows access to Country.

5.2 Aboriginal land

The project takes place on Aboriginal land, including land under management.

5.3 Aboriginal economic opportunities

The project provides economic opportunities to Aboriginal people:

- a) Contribute to the development of Aboriginal businesses
- b) Provide local Aboriginal employment opportunities
- c) Provide recognised training opportunities for Aboriginal people
- d) Collaborate with/provide opportunities for an Aboriginal Controlled Community Organisation

5.4 Alignment to Aboriginal cultural values

The project achieves one or more of the following:

- a) Align with and promote Aboriginal cultural values (e.g., restoration of land, reconnection to land, handing down of traditional knowledge, protection of sites of significance, or other Aboriginal cultural values)
- b) Contribute to the identification, protection, or restoration of Aboriginal heritage sites
- c) Contribute to local or regional cultural mapping

How Aboriginal economic and cultural co-benefits may be recorded may differ from community to community. DPIRD has a commitment to ensuring that Aboriginal voices guide the development of this reporting model and shape the material that either directly or indirectly affects them.

Resources for Aboriginal economic and cultural co-benefits

Applicants can use the resources below to learn how Aboriginal co-benefits might apply to their project.

- Local Aboriginal groups and organisations
- [Office of the Registrar of Indigenous Corporations](#) (ORIC webpage)
- [DPIRD's Aboriginal Economic Development Team](#) (DPIRD webpage)
- [Native Title Vision](#) (National Native Title Tribunal mapping service)
- [Aboriginal Heritage Inquiry System](#) (DPLH webpage)

Examples of monitoring and reporting for Aboriginal economic and cultural co-benefits

- Contracts, MOUs, or other agreements with Aboriginal owned and run businesses.
- Evidence the project has provided employment and/or training opportunities for Aboriginal people (e.g., certifications).
- Evidence of cultural benefits from Aboriginal people working on country.



Appendix 1 Site map example

Site maps can be created with the [Co-benefits Portal](#). Below shows biodiversity co-benefits.



Appendix 2 Datasets

Datasets available through the [Co-benefits Information Portal](#) include

Biodiversity and conservation:

- Threatened and priority fauna
- Threatened and priority flora
- Threatened ecological communities
- Water – hydrography
- Ramsar sites
- Natural diversity recovery catchments (existing and potential)
- Water resource recovery catchments
- Native vegetation extent
- DBCA lands of interest
- DBCA legislated lands and waters

Agricultural productivity datasets available in the Portal include:

- Waterlogging risk
- Water repellence risk
- Average height above valley floor
- Land capability
 - Annual horticulture
 - Perennial horticulture
 - Dryland cropping
 - Grazing
 - Vineyards

Agricultural productivity datasets available in the Portal include:

- Water erosion risk
- Wind erosion risk

Salinity mitigation datasets available in the Portal include:

- Threatened ecological communities, priority flora and fauna at risk from salinity
- Natural diversity recovery catchments (existing and potential)
- Priority landscapes at risk from salinity
- Salinity risk
- Average height above valley floor
- Mapped as saline (1987 and 1995)

Aboriginal economic and cultural opportunities datasets available in the Portal include:

- Aboriginal heritage places
- Aboriginal Lands Trust Estate

Appendix 3 Glossary

Applicant: the person or party responsible for carrying out the project. The applicant has the legal right to carry out and control the project. The project applicant can be a single person, multiple people, or an organisation.

Biodiversity: the variability among living organisms and the ecosystems of which those organisms are a part and includes diversity within native species and between native species, diversity of ecosystems, and diversity of other biodiversity components.

Biodiversity component: native species, habitats, ecological communities, genes, ecosystems, and ecological processes.

Carbon farming: management activities that sequester (store) carbon in vegetation and soil.

Conservation: preservation and protection of biodiversity and biodiversity components, including maintenance and restoration.

Corridors: areas of vegetation that allow animals to travel from one patch of native vegetation to another. Corridors are generally considered to be linear strips of remnant vegetation or revegetation which directly connect patches of native vegetation to one another and may exist at farm scale, regional scale, or catchment scale.

Native vegetation: plants endemic to Western Australia, including trees, shrubs, herbs, and grasses. Native vegetation provides habitat for plants and animals and delivers a range of ecosystem services.

Natural Resource Management (NRM) Groups: NRM groups are community based, associations that work with stakeholders including range of farmers, communities, land carers and non-government organisations to deliver outcomes for environmental, sustainable agriculture / industries and indigenous land management.

Productivity: the quantity of output produced with a given quantity of inputs. Improving productivity on farms allows farmers to produce more output (e.g., crops) using fewer inputs (e.g., fertiliser), contributing to business profitability.

Resilience: the ability of natural systems to absorb and recover from shocks and stresses and continue to grow despite them.

Revegetation: the re-establishment of endemic native vegetation in degraded areas, e.g., forming a corridor between two important ecosystems, or re-establishing vegetation in areas of low representation.

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