Department of
Primary Industries and
Regional Development

GOVERNMENT OF
WESTERN AUSTRALIA

Protect
Grow
Innovate

Western Australian Carbon Farming and Land Restoration Program

Co-benefits Standard

Contents

1. Overview of the Co-benefits Standard

1.1 What are the co-benefits?

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

Projects are selected for the Western Australian Carbon Farming and Land Restoration Program (CF-LRP) based on their potential to deliver carbon sequestration and one or more of the following five priority co-benefits:

1.2 Using the Co-benefit Standard

Applicants to the CF-LRP can choose a combination of co-benefit categories.

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

- The co-benefits eligible for consideration when a project is assessed for participation in the CF-LRP.
- Evidence, data and information sources for an application and progress reports.
- Approaches to monitoring and reporting for the funding assessment process.

Co-benefits Portal

The Co-benefits Portal is an online mapping tool that uses GIS mapping and publicly available data to demonstrate co-benefit applicability. (Appendix A Datasets)

- Identifies co-benefits that may apply to an area or project
- Can be used to create co-benefit maps for an application to the CF-LRP to show where each co-benefit will appear on the site (Appendix B – Co-benefits mapping examples).

1.3 Monitoring and reporting of the co-benefits

The approach to monitoring and reporting should be considered at the planning stage of a project. Applicants can seek advice to develop appropriate monitoring and reporting methods that reflect the project's complexity and funding request.

Things to consider:

1.	**What** specific factors will demonstrate improvement?
2.	**How** will the factor/s be measured? What method or equipment is required? **How** will the data or information be 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 emerging natural capital frameworks and stewardship programs so that data can be used in the future. Some examples include:

- Nature Repair Market - the Australian Government passed the Nature Repair Bill 2023. It will enable landowners to receive private finance to protect and restore nature on their land. The bill establishes a market for biodiversity certificates regulated by the Clean Energy Regulator (CER) and traded in a way that is similar to Australian Carbon Credit Units (ACCUs).
- Perth NRM's Natural Capital Accounting.
- Agriculture Biodiversity Stewardship - 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 lists independent advisors who can assist with various stages of a carbon farming project from planning to implementation.

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

The directory has contact details and areas of specialty along with questions to ask before engaging a provider.

2. CF-LRP Priority co-benefits

2.1 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) Biodiversity value of revegetation

The project area includes:

- complex vegetation structure and composition (multi-species)
- rare or otherwise significant species or threatened species.

2) Proximity to high biodiversity area or assets

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

- existing conservation areas[1]
- threatened and priority flora or fauna species, and/or threatened ecological communities[2]
- conservation covenants.

3) Landscape connectivity

The project implements:

- landscape corridors – builds 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
- riparian corridors – improve the condition of vegetation along watercourses (e.g., riparian areas, lakes, swamps, wetlands).

[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 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.

Resources for biodiversity and conservation co-benefits

These resources can be used to develop a measurement and monitoring plan. Local land care and Natural Resource Management groups (NRM) can also 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.
- 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.
- River Restoration manual is a series of guidelines on the nature, rehabilitation and long-term management of WA waterways.
- A Guide to Preparing Revegetation Plans for Clearing Permits.

2.2 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:

1) Resilience of agricultural practices

The project demonstrates one or more of the following:

- Increases resilience[3] of agricultural practices directly or through microclimate influence by increasing:
  - Biomass yield as plant growth (tonnes/ha crop/pasture/tree yield/cover crops)
  - Profit as input costs/yield ratio (livestock, fibre, crop)
- Provides annual and/or perennial fodder, minimises feed gap, and/or shelter options on high-risk agricultural land[4].

2) Agricultural productivity

The project improves low productivity or high-risk agricultural land.

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] 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

These resources can be used to develop a measurement and monitoring plan for the selected co-benefit categories:

- Shelter belt impact on productivity or Tree Windbreaks for the Wheatbelt
- Timing of nitrogen application (video)
- Nitrogen and biomass (video)
- Crop grazing as a tool to improve livestock productivity and whole farm profitability
- Benefits of managing pastures to reduce sheep methane emissions

2.3 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:

1) Soil health

The project demonstrates one or more improvements in:

- nutrient use efficiency
- input use efficiency
- soil microbiome health and/or activity such as soil phosphorus bioavailability, soil oxygen levels, fungal to bacterial ratios, respiration
- plant available water and rainfall use efficiency
- soil parameters such as pH, CEC, soil strength, aggregation, compaction.

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.

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.

Resources for soil health co-benefits

These resources can be used to develop a measurement and monitoring plan for the selected co-benefit categories:

- Whole farm nutrient mapping (WFNM)

- Tools and systems for assessing soil health
- Managing soil organic carbon on Western Australian farms
- Managing soil organic matter: a practical guide
- How microbes can, and cannot, be used to assess soil health
- Soil quality factsheets
- Western Australian Soil Health Strategy 2021-2031
- Cooperative Research Centre (CRC) for High Performance Soils
- Strategic windbreaks for erosion control (Lake Bryde case study).

2.4 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.

Salinity response

The project must be in proximity to priority landscapes, priority flora or fauna, and/or threatened ecological communities at risk from salinity[5] and:

- Prevent the further degradation of land currently affected by salinity.
- Reduce the likelihood of priority landscapes from becoming affected by salinity.
- Improve the productivity of land by reducing salinity impacts.

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).
- Piezometer readings, if installed.

Resources for salinity mitigation co-benefits

These resources can be used to develop a measurement and monitoring plan for the selected co-benefit categories:

- Measuring soil salinity
- Assessing saline areas in Western Australia
- Plants that grow on salt affected land in Australia – SALT deck cards
- Saltbush plus understorey pastures for managing dryland salinity in WA.

[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

2.5 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 engage with Aboriginal people on the project – through potential partnerships and joint business models
- acknowledge and promote the connection of Aboriginal people to the land.
- free, prior, and informed consent for land-based projects
- promote recognition of Aboriginal cultural values
- respect intellectual property rights.

There are four co-benefit categories:

1) **Aboriginal project ownership**

   The project involves Aboriginal leadership or participation, through project ownership or partnership models.

2) **Aboriginal land tenure**

   The project presents an opportunity to involve tenure owned, leased, or managed by an Aboriginal organisation. There is also potential for land acquisition or transfer of ownership to an Aboriginal organisation as part of the project outcomes.

3) **Aboriginal economic opportunities**

   The project provides economic opportunities to Aboriginal people such as:

   - contributing to the development and capacity building of Aboriginal businesses and organisations, including ranger programs
   - providing Aboriginal employment opportunities
   - providing recognised training opportunities for Aboriginal people
   - collaborating with/provide broader opportunities for Aboriginal community.

4) **Alignment to Aboriginal cultural values**

   The project achieves one or more of the following:

   - aligns with and promotes 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)
   - contributes to the identification, protection, or restoration of Aboriginal heritage sites
   - contributes to local or regional cultural mapping.

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

- contracts, MOUs, or other agreements with Aboriginal owned and run businesses
- leasing arrangements with Aboriginal landholders
- reports detailing employment and/or training opportunities for Aboriginal people (e.g., including evidence of certifications).

Resources for Aboriginal economic and cultural co-benefits

Applicants can use the links below for guidance on Aboriginal co-benefits and relevant Aboriginal organisations:

- Aboriginal Economic Development - Setting up for Success: Carbon Farming Guide
- Indigenous Carbon Industry Network – Mapping Opportunities Submission
- Indigenous Carbon Industry Network – Indigenous Carbon Projects Guide
- Indigenous Carbon Industry Network – Seeking Free, Prior and Informed Consent
- Office of the Registrar of Indigenous Corporations (ORIC webpage)
- Associations Online
- WA Government Aboriginal Cultural Heritage Inquiry System

For further guidance, contact the DPIRD Aboriginal Economic Development team by email: aed@dpird.wa.gov.au

Appendix A - Datasets

Datasets available through the Co-benefits Portal include:

Biodiversity and conservation:

- threatened and priority fauna
- threatened and priority flora
- 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:

- waterlogging risk
- water repellence risk
- land capability
  - Annual horticulture
  - Dryland cropping
  - Grazing
  - Perennial horticulture
  - Vineyards.

Salinity mitigation:

- 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
- Land Monitor Salinity Extent (2018)
- dryland salinity.

Soil health:

- water erosion risk
- wind erosion risk.

Aboriginal economic and cultural opportunities:

- Aboriginal heritage places
- Aboriginal Lands Trust Estate.

Appendix B – Co-benefits mapping examples

Co-benefits maps can be created with the Co-benefits Portal and used in applications. See Appendix A for available datasets.

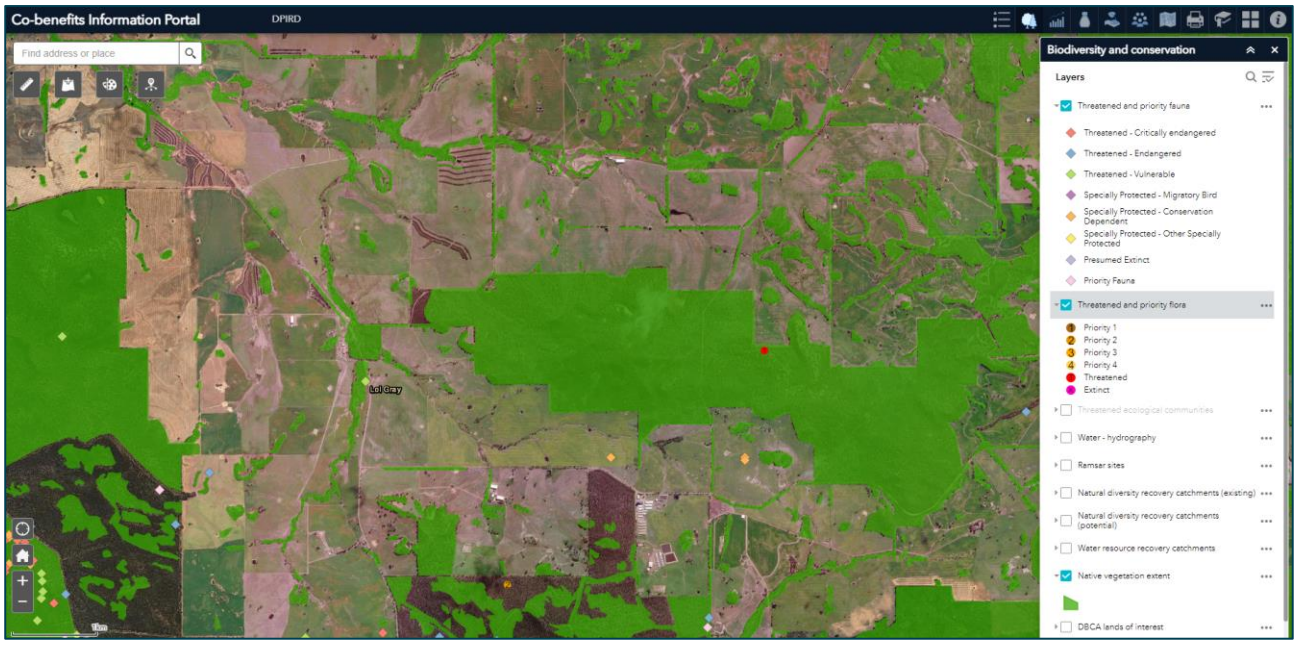

Figure 1. Co-benefits Portal example showing threatened and priority flora and fauna and native vegetation extent.

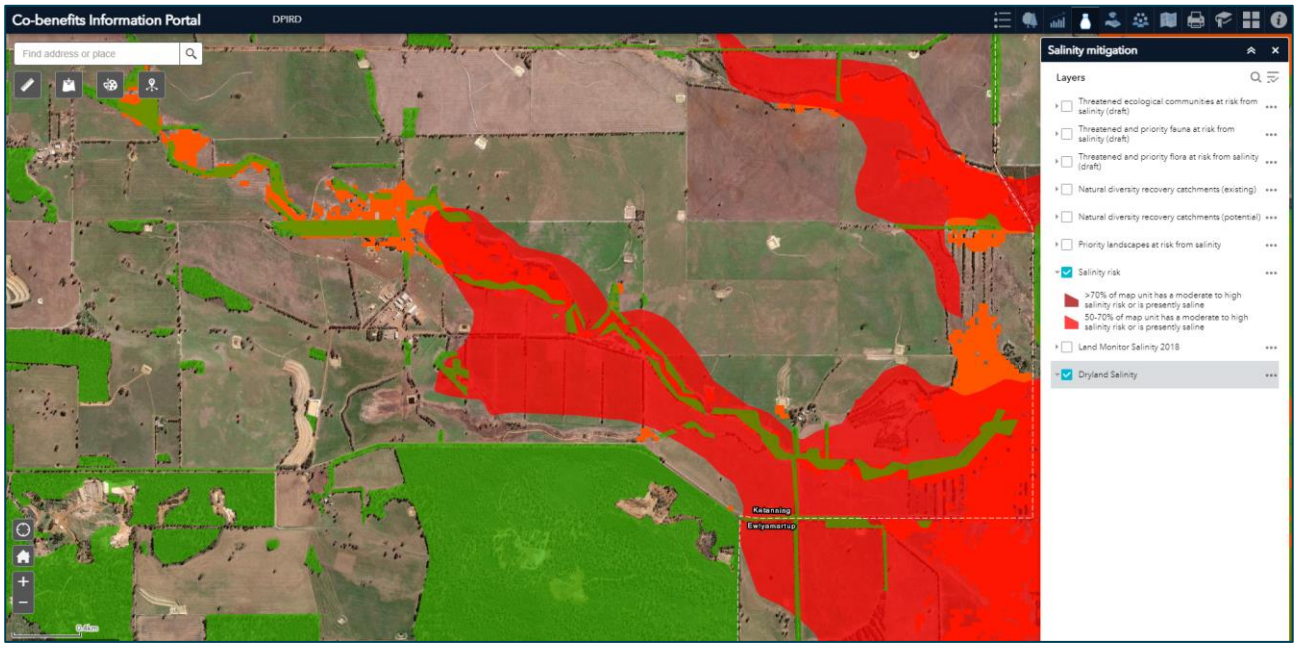

Figure 2. Co-benefits Portal example showing salinity risk, dryland salinity and native vegetation extent.

Co-benefits Portal user guide give hints and tips for using Co-benefits Portal.

Appendix C - 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.