



**GOULBURN  
BROKEN**  
CATCHMENT  
MANAGEMENT  
AUTHORITY



# FROM THE GROUND UP

Integrating agricultural and environmental practices to improve farm production and biodiversity

## WHY FROM THE GROUND UP?

*"It costs 50% more to rebuild in the wake of a disaster than to build in a way that can withstand the shock."*

- Rockefeller Foundation Resilient Cities

*From the Ground Up* project (the project) works with landholders by listening to their needs and delivering events and on-farm demonstrations to increase their capacity and knowledge. The project values evidence-based approaches and promotes data collection to help farmers make more informed land management decisions.

The project focuses on providing stories "for farmers by farmers" highlighting how responsible management of natural resources maintains or improves the profitability of land.

Climate change means farmers need to adapt their farming practices to improve the resilience of the ecosystems on which they depend. The project aims to build landholder knowledge about the risks and options for change when dealing with climatic anomalies. It will embed practices and approaches about farming for dry conditions and understanding water availability, including adaptation possibilities for irrigation systems.

The project team is working with organisations and individuals who are committed to a functioning and productive region to promote local demonstrations of practice change and build resilience within the landscape, communities and the region.

*This project is supported by the Goulburn Broken CMA through funding by the Australian Government's National Landcare Program.*



# WHAT IS THE PROJECT?

Within the Goulburn Broken region, hillslope erosion, soil acidification and soil carbon are listed as priorities of national significance. The project aims to help farmers address these issues, recognising soils are the building blocks of a healthy functioning landscape and that looking after this critical asset is the key to moving to a low carbon economy.

The project recognises farming systems are changing due to human induced climate anomalies. The International Panel of Climate Change concludes that human activities and influence have led to an increase in carbon dioxide - the main cause of the oceans and atmosphere warming since the mid-20th century. Telling this evidence-based story and relating it to how farmers can adapt to change will be the project's challenge during the next four years.

Protecting and improving native vegetation and biodiversity on farms will be critical to repairing the landscape and supporting productivity. The project will provide practical information on how farmers can integrate native vegetation into productive systems, be part of a future that balances their farms' economic security with environmental management and contributes to thriving, liveable communities.

# HOW WILL THE PROJECT BE DELIVERED?

Seventeen community and industry projects will be delivered across the Goulburn Broken region to address the following issues:



## SOIL CARBON

1. Goulburn Broken CMA is working with local Landcare and producer groups to host workshops on 'Boosting soil carbon on farm'
  - What is soil carbon?
  - How do you increase carbon in your soil?
2. Upper Goulburn Landcare Network and Goulburn Murray Landcare Network are hosting 'Growing regenerative farming systems', based on courses to assist farmers and landholders to improve the management of their property by understanding their farming system.
3. Irrigated Cropping Council is demonstrating 'Increasing soil carbon to ameliorate compaction in irrigated soils' - a project relevant to soils under pivot irrigation systems.
4. Riverine Plains Inc is 'Evaluating plant-based opportunities to increase soil carbon in cropping systems' by measuring different soil amendments that may directly increase soil carbon in cropping situations.
5. Hughes Creek Catchment Collaborative, through 'Landholder assessment and modelling of soil carbon profiles in the Hughes Creek Catchment', will describe how to assess farm soil profiles and through farmer-expert discussions around management history and soil potential will develop decision-making for soil carbon management.

*Photo: A demonstration trial investigating the impacts of multi-species cover cropping (right) on soil health compared to conventional hay crops (left) will be continued as part of the project.*





## SOIL ACIDITY

6. Goulburn Broken CMA is hosting 'Managing soil acidity and lime decision-making on farm' workshops with Agriculture Victoria:
  - Using lime for surface soil acidity.
  - Understanding sub-surface soil acidity and implications for production.
  - What is the impact of Climate Change on soil acidity?
  - What are the best cultivars to cope with Climate Change and soil acidity?
  - What are the passive approaches to changing soil acidity?
7. Maize Association Australia is demonstrating 'Managing sub-surface irrigation system impacts on soil acidity' within a cropping system.
8. South West Goulburn Landcare Network is 'Validating and managing grazing effects on soil nutrients on farm' within a dryland farming systems through precision soil testing and mapping.
9. Agriculture Victoria is hosting 'Service provider forums' within the Goulburn Broken irrigation region of to build the capacity of agronomists and advisors.

**Photo:** A capital application of lime has been applied to raise the soil pH of this pasture paddock.

## HILLSLOPE EROSION

10. Goulburn Broken CMA is hosting 'Hillslope erosion management' workshops with Agriculture Victoria focussing on:
  - Management and fencing strategies to reduce hillslope erosion.
  - Alternative species to cope with low fertility hills.
  - Growing grass for the summer.
  - Structural ideas to reduce erosion on steep slopes.
  - Management of feral and native grazing pressure on 'rested' pastures.
11. Strathbogie Ranges Conservation Management Network is producing a series of videos titled 'Production of their land.'
12. Up2Us Landcare Alliance is developing production options for landholders on small acreage through demonstrations and field days through its 'Inspiring small farms to grow big ideas' project.

**Photo:** Field day participants discussing management options for gully erosion sites.



## NATIVE VEGETATION AND BIODIVERSITY

13. Goulburn Broken CMA and local Landcare networks are investing in 'Increasing vegetation and biodiversity on farm' workshops such as:
  - Management and maintenance of native grasses in a productive system.
  - Supporting pollinators for tree crops.
  - Multiple benefits of native vegetation for shade and shelter.
  - Farming systems that support Nature at Work.
  - IPM – Integrated Pest Management.
14. Vic No Till Farmers Association is supporting 'Farmers helping farmers' through a pollinator plot trial demonstrating integrated pest management and the benefits of increasing numbers of pollinating insects to production.
15. Greta Valley Landcare Group is upskilling their landholders through the project 'Putting our heads together' that focuses on different options for shade and shelter in a paddock.

*Photo: A corridor of native vegetation has been established to provide shade and shelter for livestock, and habitat and connectivity for native plants and animals.*



## CLIMATE CHANGE ADAPTATION

16. Goulburn Broken CMA will host 'Showcasing adaptation to climate change' workshops focussing on:
  - Climate conversations by Farmers for Farmers.
  - Influencing a low carbon future.
  - Climate change adaptation and behaviour modification.
  - Managing resources to secure resilience/adapt to climate change.
17. University of Melbourne at Dookie is demonstrating the value of 'Indigenous crops in a changing climate' that hopes to provide evidence-based data around the nutrition of Indigenous foods and increasing agricultural pathways for Indigenous students.

*Photo: The Gecko Clan Landcare Network established weather stations at each of their trial sites to understand the impacts of different land management practices and soil water availability.*