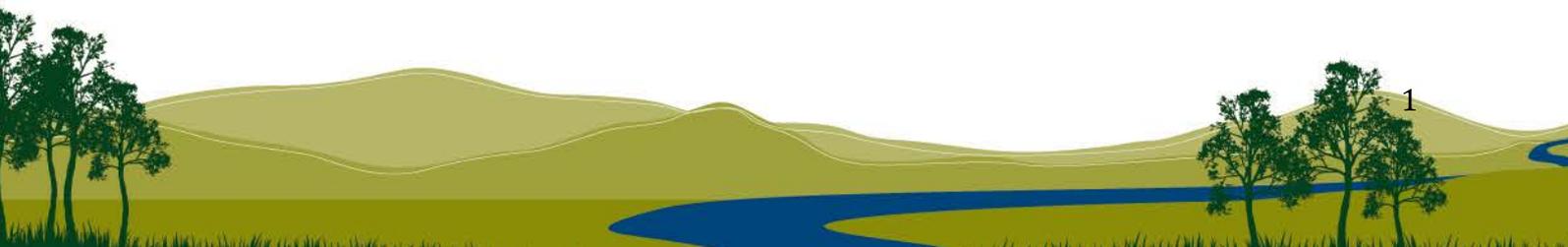


Agricultural Competitiveness White Paper Submission - IP358
Goulburn Broken Catchment Management Authority
Submitted 17 April 2014

Goulburn Broken Catchment Management Authority

Submission to Australian Government: *Agricultural Competitiveness White Paper*

Final Version as at 11 April 2014



Approval history

Version	Date	Who	What
1.0	4/4/14	C Sexton	Drafted for comment
1.1	6/4/14	C Norman	Provided to Board
1.2	10/4/14	C Sexton/ C Norman	Formatting and additions Included Board feedback
Final	11/4/14	C Norman	Approved for submission

Introduction

The Goulburn Broken Catchment Management Authority (CMA) welcomes the opportunity to provide a submission to provide recommendations to the Agricultural Competitiveness White Paper. In particular, the Goulburn Broken CMA welcomes the Australian Government's intention to develop long-term agricultural policies to ensure Australia's agriculture sector remains a significant contributor to the economy and to local communities.

The Goulburn Broken Catchment contributes significantly to the economic, social and environmental characteristics of Victoria and Australia. Sustainable agriculture, food production and processing underpins the region's economy with a gross value of agriculture production of \$1.77 billion (2011 figure), being approximately 15% of Victoria's total agricultural production. Primary production and manufacturing (especially food processing) accounts for about 22 per cent of the 90,000 plus jobs in the Goulburn Broken economy. Water inflows to the Catchment are 3,559 gigalitres per year, or about 11 per cent of the total annual inflows to the Murray-Darling Basin (Murray Darling Basin Authority 2010) and have significant economic, environmental and social importance both within and downstream of the Catchment providing high quality water for productive purposes.

Sustainable agriculture and profitable farm production within the region is underpinned by a proud history of community involvement and volunteerism in natural resource management, for example some of the earliest Landcare Groups in Australia were formed within the Catchment in 1987. The regional community also typically invests (through cost-share plus in-kind) up to \$5 for every \$1 of government funding in natural resource management in the Catchment.

Programs being led by the Goulburn Broken CMA are resulting in tangible outcomes for the region, leading to benefits for the environment as well as local food producers. For example, the on-farm irrigation efficiency program (referred to as the Farm Water Program) has resulted in 52 GL of water being saved to date by the region's irrigators with at least half transferred to the Australian or State governments for environmental purposes and the remaining savings being reapplied on farms to increase productivity. The Farm Water Program has generated an average benefit:cost ratio of around 1.7. Benefits to the region's farmers include significant increases in production (for grazing properties yield increases of between 0.4 – 2 tDM/ha), as well as time and labour savings when irrigating, and a higher value of production per megalitre of water used.

Building on this strong history of community-led natural resource management planning, the Goulburn Broken Regional Catchment Strategy (RCS) 2013-2019 has recently been developed in partnership with the Catchment community to set the priorities and targets for directing the Catchment's resources over the next six years towards achieving economic, environmental and social benefits. This Strategy will be underpinned by Local Plans and investment processes that are simple and targeted to regional and local priorities driving sustainable agricultural practices and a clean and green image for the region.

Summary of recommendations:

The White Paper is a most timely and welcome recognition by the Federal Government of the challenges and opportunities facing the agricultural sector in Australia.

The submission of the Goulburn Broken CMA makes the following recommendations.

Policy:

1. Foreign capital is required to realise Australia's agricultural potential. However, government may also wish to consider the issue of affordability regimes to encourage local ownership amongst the younger generation.
2. Strong consideration needs to be made regarding appropriate land tenures and agricultural practices, particularly for intensive systems such as dairies or piggeries, based on an understanding of land capability.
3. Assisting the younger generation to enter farming will lead to increased productivity through a greater adoption of modern technologies, innovative approaches to automation and precision agriculture, increased energy efficiencies, and lowering the workforce required on farm.
4. Carryover of water entitlements has allowed irrigators to plan with confidence and should be further explored. This recommendation should be further developed through increased understanding of water markets (including the increased availability of temporary trade from the environmental water reserve) and climate change.
5. Consolidating investment in regions to deliver large-scale integrated local projects should be supported. For example, on-farm irrigation efficiency improvements led by the Goulburn Broken CMA from Government funding, which currently equates to over \$205 million has led to significant on-farm productivity gains (including yield increases of between 0.4 – 2 tDM/ha on grazing properties), as well as environmental water benefits across the Goulburn Murray Irrigation District in northern Victoria. This approach is ensuring the benefits from the \$2 billion Government-funded implementation of irrigation delivery system improvements through the Goulburn Murray Water Connections Program are maximised.

Climate Change:

6. With the potential effects of Climate Change and significant climatic events affecting agricultural enterprises in many different ways, it is important to continue to support mitigation and adaption activities. This will ensure innovation in the agricultural industry and planning for food security is undertaken providing economic and social stability. An ongoing commitment from government is required to continue to invest in appropriate land and water management planning.

Regional Promotion:

7. The promotion of the Goulburn Broken region as a clean and green producer of quality food and fibre to international markets. The Goulburn Broken CMA, along with many regional stakeholders, can demonstrate our region's drive for sustainable production of food and fibre through consistently high water quality, healthy soils and resilient ecosystems. This proactive approach is critical to ensure market access and opening up new opportunities for regionally grown food and fibre.
8. That Federal Government funding lines be developed for the injection of approximately \$120 million of funds to complete salinity and waterlogging protection (across the remaining 123,000ha) of the modernised irrigation area of the Goulburn Broken Catchment.

Support for Community NRM and Industry Groups:

9. Ongoing support for community NRM groups, including Landcare, as they are key influencers and doers in the region's drive for sustainable agriculture. In the Goulburn Broken Catchment there are 96 Landcare groups, 7 Landcare Networks and 5 Conservation Management Network's that work in the interface between Natural Resource Management (NRM) and farm production. These groups are leading the way in agricultural innovation and undertake significant work in reducing pest plants and animal impacts and soil erosion as well as protecting soil health, waterways, riparian vegetation and remnants that contribute to sustainable farming.
10. Support Industry Groups who advocate for the region's issues and priorities, and assist in delivering information, research and development opportunities to its members. These groups, such as Dairy Discussion Groups, BestWool/BestLamb and Better Beef are in a significant position to influence and drive profitable and efficient agricultural enterprises, grow skills capability, promote their respective industry and through this increase their industry capacity to produce. Support for these organisations is critical to maintain this capacity, especially with shrinking Government investment in public extension.

Agricultural Education and Extension:

11. A specific funding stream be established by Federal and State Government (investors) to develop the capacity of all regional NRM bodies (Catchment Management Authorities in Victoria) to provide and facilitate sustainable agricultural extension services that can have measurable outcomes and demonstrable practice change amongst food and fibre producers.
12. A recommitment by Government to investing in land and water management research and development. This includes understanding dynamic farming systems and approaches to sustaining healthy soils and water in a climatically challenged environment.

- 13.** Review state of the art capability building programs for the agricultural sector, incorporating structured training and mentoring programs.

Background

The Goulburn Broken Catchment in brief

The Goulburn Broken community is based around rural service towns, tourism, farming (including smaller enterprises) and lifestyle properties that are often in commuting distance to Melbourne-based jobs and services. The Catchment has around 94 Landcare and Land Management groups, involving over 5,000 volunteers as well as five Conservation Management Networks that currently have over 1,300 members. Industry based producer groups are also active in the area including BestWool/BestLamb, Better Beef and the Dairy Industry Focus Farm program.

The Goulburn Broken Catchment covers 2.4 million hectares, extending north from near the outskirts of Melbourne to the River Murray on the border with New South Wales (see Figure 1). The Catchment boasts a diversity of landscapes, including seasonally snow-covered alps, forests, granitic outcrops, gentle sloping plains, box woodlands and red gum floodplains.

The Catchment is significant within the Murray-Darling Basin because:

- Its two major river basins, the Goulburn and the Broken, cover two per cent of the Murray-Darling Basin, or about 10.5 per cent of Victoria.
- The inflows to the Catchment contribute 3,559 gigalitres per year, or about 11 per cent of the total annual inflows to the Murray-Darling Basin (Murray Darling Basin Authority 2010).

Land and soil across the Catchment is a fundamental part of the natural environment, supporting ecosystems and the lifestyles and livelihoods of the Catchment's communities. Sustainable agriculture is an important feature of the region, with most land in the Catchment privately owned, including 1.4 million hectares used for dryland agriculture and 270,000 hectares for irrigated agriculture.

Sustainable agriculture, food production and processing underpins the region's economy. Livestock, dairy, fruit, vegetable, grape and other food production and processing industries contribute to the region's \$15.2 billion gross regional output (2009 figures) with the gross value of agriculture production in the Catchment being \$1.77 billion or 15% of the State's total production (2011 figures). Primary production and manufacturing (especially food processing) accounts for about 22 per cent of the 90,000 plus jobs in the Goulburn Broken economy.

Prolonged drought, low water allocations, dairy and horticulture industry restructure, the high Australian dollar, and other pressures related to the global financial crisis and increased competition have impacted on the Catchment's primary industries. Despite these challenges, the gross value of agricultural production increased by almost 50 per cent between 2009-10 and 2010-11. These trends demonstrate the important role the Goulburn Broken region plays in ensuring innovative, competitive and resilient food production into the future, providing important jobs and investment within the regional economy.

Other economically important industries include building construction and trade, tourism, utilities, transport and communications. Nature-based and cultural heritage tourism and recreation are important employers throughout the Catchment, in particular along the River Murray, the snowfields, historic towns and wineries. The number of people employed in the tourism and recreational services sectors has grown by almost 20 per cent between 2001 and 2011.

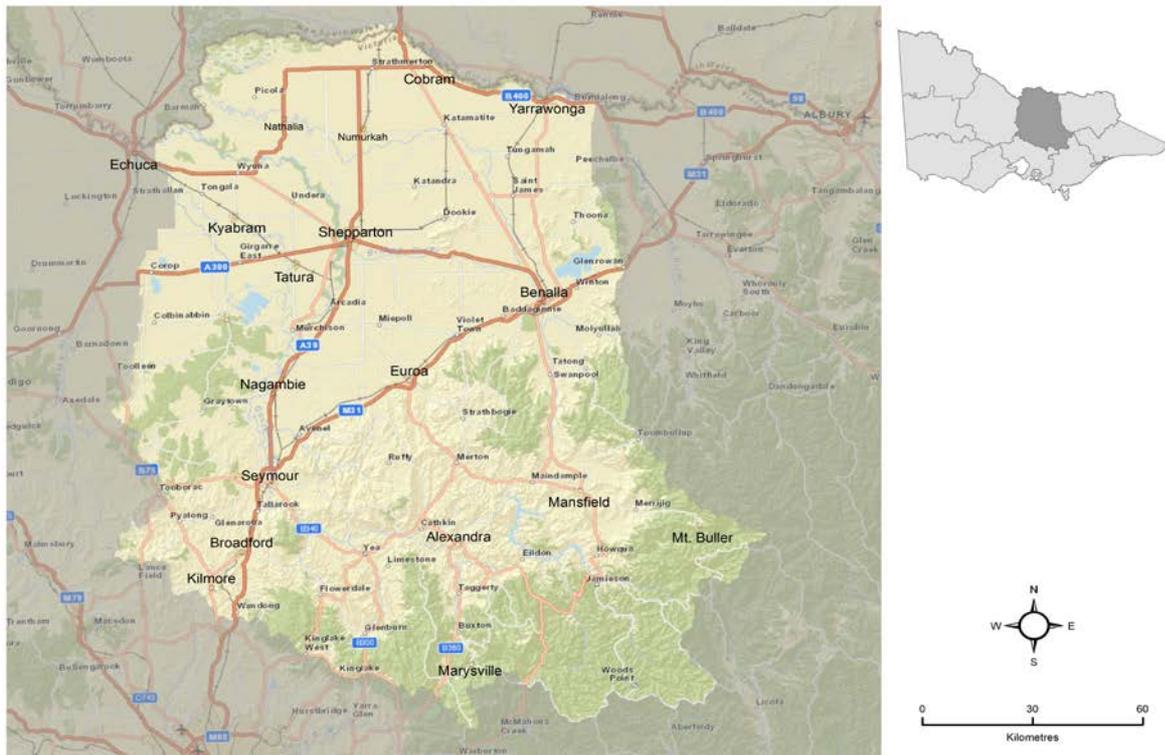


Figure 1: The Goulburn Broken Catchment

Submission and recommendations

Policy

During 2011 and 2012, the Goulburn Broken CMA led the development of the Goulburn Broken Regional Catchment Strategy (RCS) 2013-2019. Working with many stakeholders and the Catchment community, the RCS sets the priorities and targets for directing the Catchment's resources over the next six years towards achieving environmental, social and economic benefits.

The Goulburn Broken RCS recognises the importance of policy that leads to achieving long term sustainability and productivity for the region. An increasing issue across all communities including the agricultural community is the increasing age of farmers and land managers. The Australian Bureau of Statistics 2012, indicating that as of 2011 more than 25% of Australia's farmers are over the age of 65 and that between 1981 and 2011 the proportion of farmers aged less than 35 years fell from 28% to just 13% (Australian Social Trends, ABS, Dec 2012).

Many factors impact on younger Australians taking up farming including land prices and low incomes compared with other vocations. Education at all levels also remains a factor with many schools not offering agricultural and environmental courses in their curriculums. It is critical that a career in agriculture provides a level of confidence and satisfaction for new participants, particularly if we are to attract the next generation into farming.

Water policy and the flexibility associated with this policy has allowed irrigators to plan for future years with confidence and a degree of flexibility to adapt to any unforeseeable occurrences. However, climate change is likely to impact on timing and amount of rainfall, as well as the frequency of extreme events such as frost and hail, and this needs to be considered in a policy sense so that adaptation to changes in water regimes by farmers, as well as the effects on the environment can be managed with confidence.

While the modernisation of farm irrigation has had many benefits, an increase in resources to improve the health of the land through enhanced drainage, revegetation and wetland management is required to compliment the gains made through modernisation and promote the clean and green image of the region. Current incentive projects delivered by the Goulburn Broken CMA continue to be over-subscribed by farmers who are aware of the increased production values provided by ecosystem services, such as shelter, high water quality, soil improvements and pollination. Maintaining policies and a funding stream that ensures that incentive programs are available to assist farmers in enhancing natural assets is critical as these activities are difficult for farmers to undertake without financial incentives due to the ever reducing margins they face.

Investment in regions to deliver local integrated projects and works drive multiple benefits and optimise Government investment. The Goulburn Broken CMA is leading the implementation of significant on-farm irrigation efficiency improvements from Government

funding, which currently equates to over \$205 million (and delivered under the auspices of the Farm Water Program). The Goulburn Broken CMA is also supporting the Government-funded implementation of irrigation delivery system improvements through the Goulburn Murray Water Connections Program. Through this funding, the Goulburn Broken CMA and its partners are achieving the following outcomes:

- Significant increases in production (up to 2 tDM/ha improvements in grazing pasture systems) and time and labour savings when using efficient irrigating practices. There is a high demand globally for existing agricultural food products e.g. milk products that can now be produced more efficiently in the region.
- Increased opportunity for new crop types in the region, including the potential for an expanded vegetable industry which requires the precision delivery of irrigation water resulting in a higher value of production per megalitre of water used. Global demand for different crops can be met with this precision, enabling producers to grow crops more suited to international demand.
- Irrigators maximising the benefit of a modernised supply system achieved through the Goulburn Murray Water connections program.
- Increased resilience for the environment and farmers in the face of climate change and proposed Murray Darling Basin Plan water recovery targets.
- On-farm investment stimulated after years of drought and then floods which increases sustainability of farms and the confidence of regional communities.
- Increases in farm production from innovation and precision technologies being managed in a way that does not negatively impact the land and water resources within the region or downstream, providing the ultimate win:win.

Recommendations:

- 1. Foreign capital is required to realise Australia's agricultural potential. However, government may also wish to consider the issue of affordability regimes to encourage local ownership amongst the younger generation.***
- 2. Strong consideration needs to be made regarding appropriate land tenures and agricultural practices, particularly for intensive systems such as dairies or piggeries, based on an understanding of land capability.***
- 3. Assisting the younger generation to enter farming will lead to increased productivity through a greater adoption of modern technologies, innovative approaches to automation and precision agriculture, increased energy efficiencies, and lowering the workforce required on farm.***
- 4. Carryover of water entitlements has allowed irrigators to plan for future years with confidence and should be further explored. This recommendation should be further developed through increased understanding of water markets (including the increased availability of temporary trade from the environmental water reserve) and climate change.***

- 5. Consolidating investment in regions to deliver large-scale integrated local projects should be supported. For example, on-farm irrigation efficiency improvements led by the Goulburn Broken CMA from Government funding, which currently equates to over \$205 million has led to significant on-farm productivity gains (including yield increases of between 0.4 – 2 tDM/ha on grazing properties), as well as environmental water benefits across the Goulburn Murray Irrigation District in northern Victoria. This approach is ensuring the benefits from the \$2 billion Government-funded implementation of irrigation delivery system improvements through the Goulburn Murray Water Connections Program are maximised.***

Climate Change

The impacts of a changing climate on Australia's and the Goulburn Broken Catchment's natural assets, its agriculture and its community present significant threats and opportunities. The Goulburn Broken CMA is committed to being proactive in identifying adaptation responses to mitigate any threats, and at the same time work to identify opportunities for the CMA and the Catchment. The Goulburn Broken CMA is currently developing a tool through the Regional NRM Planning for Climate Change Stream 1 Program that will identify areas for climate change adaptation actions. This adaptive tool could be used to determine where investment of resources is required to allow for adaptation by communities and/or where policy could change or adapt to assist communities to change.

In order to remain leaders in global agriculture and planning for future food security and demand, investment in innovation and activities that support education, mitigation and adaptation activities are imperative to ensuring our region's community is well placed to deal with a variety of issues and conditions caused by climate change. Climate change adaptation activities should be well entrenched in farming models and plans, however we are constantly finding many producers are reactive, not proactive. Investment in education and practices that lead to low input, improved grazing regimes, modern technology, reduction in chemical dependence, water efficiency, and new and emerging innovative practices such as 'Pasture Cropping' must be at the forefront of any policy and support tools. All levels of government and private enterprise are needed to support increase production and lower costs. These factors are what will contribute to increases in food production under an increasingly variable climate.

Recommendation:

- 6. With the potential effects of Climate Change and significant climatic events affecting agricultural enterprises in many different ways, it is important to continue to support mitigation and adaptation activities. This will ensure innovation in the agricultural industry and planning for food security is undertaken providing economic and social stability. An ongoing commitment from government is required to continue to invest in appropriate land and water management planning.***

Regional Promotion

Promotion of regional knowledge, learning's and successes are important to a region's reputation and story. The Goulburn Broken Catchment is a clean and green producer of quality food and fibre locally and internationally and promotion to these markets is imperative to the success and maintenance of the regions production. The Goulburn Broken CMA, along with our many stakeholder partners, can demonstrate the region's commitment to the sustainable production of food and fibre to such markets. It is assumed that this will in turn add to the much needed returns at the 'farm gate' given the right promotion nationally.

There are a number of Goulburn Broken CMA initiatives that could be promoted nationally and internationally to increase the potential for investment from markets driven by learned consumers, such as:

Environmental:

- More water is available to protect and restore river health through the irrigation modernisation process and establishment of an environmental water reserve. Strategies need to be put in place to ensure that in relatively dry years, environmental flows are not compromised but transparent water markets are established to allow the use of this water reserve for consumptive purposes when the environment does not require it.
- The ability to deliver water to high-value wetlands is being enhanced through the modernised irrigation delivery system and needs to continue.
- More efficient water delivery systems reduce groundwater accessions and nutrient run-off and help address re-emerging salinity and water table issues, although the need remains for drainage to mitigate these risks. However, with further wet years salinity could again become a significant risk to this region. The monitoring of water tables needs to be continued and strategies/policies put in place to mitigate risks before salinity re-emerges as a high impact issue.
- The Goulburn Broken CMA leads the way in promoting the value and importance of the provision of ecosystem services as essential to farm production. There is a need to increase the opportunities for farming enterprises to consider and undertake natural resource management planning and actions to increase the sustainability and profitability of farms through the provision of ecosystem services. This can be achieved through the protection of existing remnants and paddock trees, revegetation, soil health promotion and ongoing research to improve our understanding of the role of biodiversity in productive systems. While many farmers participate in current activities, it is essential that incentives to farmers to increase their natural capital are provided which in turn allows farmers to realise the value of natural systems. This should lead to resilient farming landscapes that are able to adapt to changing conditions, climates, practices and production systems and adapt to changing markets.

Regional Development:

- With a benefit: cost ratio of 1.34 (and an overall benefit: cost ratio approaching 1.7 for the whole Farm Water Program), the latest \$100 million tranche of funding administered through the Farm Water Program is estimated to generate at least:
 - \$28 million a year in economic benefits across the region;
 - 355 jobs; and
 - Significant social and environmental benefits and a boost in industry confidence and co-investment with farmers.
- Increased flow rates onto farm and improved irrigation technology has allowed more precision irrigation to meet crop requirements, reduce labour inputs, and stimulate new opportunities, which collectively are delivering increases in productivity.
- High quality water is achieved through Goulburn Broken CMA led activities such as revegetation of riparian habitat and the broader agricultural landscape (which reduces runoff, increases soil and water health), and other activities such as effluent management. The continuation of these activities is essential if farmers are to continue to be able to access clean water and maintain productive food and fibre.
- Increased diversity in cropping has allowed new markets to be explored.
- The recently announced *Goulburn Valley Fruit Growing Industry Roadmap* for the fruit industry along with other initiatives has led to increased security and long-term confidence for regional horticulture businesses.
- The announcement of the Tatura Department of Environment and Primary Industries (DEPI) site as the centre for excellence for horticultural research has provided confidence in the industry.
- Milk Companies have seen demand exceed capacity during the first half of the 2013/14 year. This has demonstrated the confidence in the region as one of the real growth industries. Terminology like “moving from mining to dining” as the next Australian export explosion will be underpinned by dairy exports to Asia to meet the rising demand where the Australian product is seen as being safe and of high quality. Thirty percent (30 %) increased demand is expected over the next few years and should see the market respond with renewed interest in our dairy industry. However, this could result in increased prices for irrigation land, further reducing the ability of young farmers to access land and continue ‘family’ farms. This is likely to result in farm sizes increasing and greater reliance on foreign investment. This could make it either more difficult or easier to engage with these farmers to ensure that they are aware of the importance of sustainable farming practices and the economic benefits such an approach delivers. Policies and strategies need to be put in place that ensure that farms are being managed sustainably and have access to resources to grow opportunities and maintain the clean and green reputation.
- Sustainable farming systems are critically important to meet this new demand profile.

The continuation of programs that provide protection for the modernised irrigation region in northern Victoria from the risk of rising water tables, salinization and waterlogging, where natural drainage is restricted, is critical to ensure the increased production trend continues.

Strategies have been developed by the Goulburn Broken CMA and are in place with detailed planning for on-ground infrastructure activities through drainage and shallow groundwater pumping to address these issues and the increased risk of salinization of land across the irrigation parts of the Goulburn Broken Catchment. These are now in jeopardy as Government at all levels has stepped back from funding these critical activities and infrastructure.

Recommendations:

- 7. The promotion of the Goulburn Broken region as a clean and green producer of quality food and fibre to international markets. The Goulburn Broken CMA, along with many regional stakeholders, can demonstrate our region's drive for sustainable production of food and fibre through consistently high water quality, healthy soils and resilient ecosystems. This proactive approach is critical to ensure market access and opening up new opportunities for regionally grown food and fibre.**
- 8. That Federal Government funding lines be developed for the injection of approximately \$120 million of funds to complete salinity and waterlogging protection (across the remaining 123,000ha) of the modernised irrigation area of the Goulburn Broken Catchment.**

Support for Community Natural Resource Management (NRM) Groups and Industry Groups

Landcare first started in the Goulburn Broken Catchment in 1987.

There are currently around 94 Landcare and Land Management groups across the Catchment (see Figure 2) involving over 5,000 volunteers. Landcare activities address issues to improve productivity as well as natural resource management and include issues such as soil health, soil stability, sustainable agriculture, pest plant and animals, revegetation, water quality, threatened species,

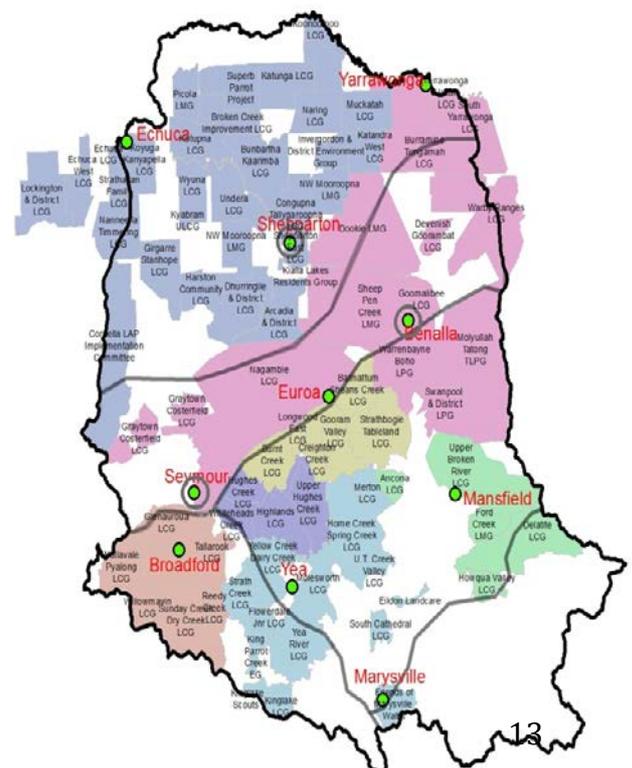


Figure 2: Landcare Groups of the Goulburn Broken Catchment

and wetland protection. Across the Catchment, Landcare actively raises public awareness and engages the broader community in sustainable agriculture and natural resource management within the catchment.

In 2003 the first of now 5 Conservation Management Networks (CMNs) was established within the Goulburn Broken Catchment. The Broken Boosey CMN was established through legislation as a result of the Box Ironbark Forests and Woodlands Investigation by the Environment Conservation Council (2001). The five CMNs across the Goulburn Broken Catchment currently have over 1,300 members.

The Catchment is advantaged by having many Landcare, Conservation Management, Friends of, Sustainable Farming, Environment Groups and Networks all operating in the Goulburn Broken region. Collectively we now title all of these groups as “Community Natural Resource Management” Groups or “Community NRM Groups” for short. The Goulburn Broken CMA does not delineate nor favour any of these groups over the other.

The works and activities of community NRM groups strongly contributes to the management of natural resources within the Goulburn Broken region and significantly assists in the delivery of the Goulburn Broken Regional Catchment Strategy. Landcare and Land Management groups, Landcare networks, CMNs, and Sustainable Farming Groups are currently supported by 8.7 (FTE) facilitators and coordinators employed by the Community NRM networks to assist and maximize the volunteer effort.

The majority of these members are our region’s farmers and land managers. Over time, an emphasis and interest from these groups has strongly moved towards a sustainable agriculture theme as these group members are the prime influencers and doers in the region’s agriculture. For example, the Gecko CLaN (Landcare Network) has been very successful in leading innovation in the region with 5 years of trialing and promoting ‘Pasture Cropping’, the use of native grasses and improved grazing management systems and grain and graze. These groups are keen to improve their practices and have the local networks to support and drive good information which may ultimately lead to better NRM and more sustainable on-farm activity. Support of these activities through investment in initiatives, grants and Landcare support is imperative to increasing knowledge, trials and uptake of practices that lead to agricultural efficiencies, innovation, increased production, and improved knowledge and skills. All of these approaches result in benefits to agricultural industries’ production, risk mitigation, adaptability and competitiveness.

Importantly, the region’s (primary and commodity) industry groups also play a major role in the region’s agriculture. They represent and have contact with those producers that do not have a link to any community NRM group. Industry groups, such as Dairy Discussion Groups, Best Wool/Best Lamb and Better Beef Groups, collect the region's issues and priorities, and assist in delivering information, research and development opportunities to its members. These groups are in a significant position to influence and drive profitable and efficient agricultural enterprises, grow skills capability, promote their respective industry and through this increase their industry’s capacity to grow production.

Recommendations:

- 9. Ongoing support for community NRM groups, including Landcare, as they are key influencers and doers in the region's drive for sustainable agriculture. In the Goulburn Broken Catchment there are 96 Landcare groups, 7 Landcare Networks and 5 Conservation Management Network's that work in the interface between Natural Resource Management (NRM) and farm production. These groups are leading the way in agricultural innovation and undertake significant work in reducing pest plants and animal impacts and soil erosion as well as protecting soil health, waterways, riparian vegetation and remnants that contribute to sustainable farming.**
- 10. Support Industry Groups who advocate for the region's issues and priorities, and assist in delivering information, research and development opportunities to its members. These groups, such as Dairy Discussion Groups, BestWool/BestLamb and Better Beef are in a significant position to influence and drive profitable and efficient agricultural enterprises, grow skills capability, promote their respective industry and through this increase their industry capacity to produce. Support for these organisations is critical to maintain this capacity, especially with shrinking Government investment in public extension.**

[Agricultural Education and Extension](#)

The terms of reference for the White Paper include:

"The efficiency and competitiveness of inputs to the agriculture value chain - such as skills, training, education and human capital, research and development.."

The Future Agricultural Workforce:

Skills, training and education in agriculture is primarily provided by the University, TAFE and VET sectors for school leavers and youth especially in view of the ageing agricultural workforce.

The 1990 McColl review of agricultural education and training highlighted the declining capacity of providers to meet the demands for skilled professionals in agriculture at all levels. More recent reviews in Victoria, NSW and SA and the Senate Rural and Regional Affairs Committee have demonstrated that the gap between supply and demand has widened.

Of the 39 Australian Universities only 9-12* now offer courses that have a primary focus on agriculture compared to 23 Universities a decade ago. (*depending on interpretation of primary focus).

Some 300 tertiary students graduate in agriculture (not including those where agriculture is only a component of environmental/NRM programs), yet estimates of the professional agricultural workforce required are in the order of ten times that number.

Over the past decade a number of agricultural colleges have closed or have headed in other directions. Others that were established as colleges to provide agricultural production and farm management training and which are now university campuses, have seen their focus "diluted" as enrolments declined and other programs were given priority, eg. Hawkesbury, Orange, Gatton.

There has been some resurgence of interest amongst the current agricultural tertiary providers (and in some cases non-traditional providers) in the opportunities that may arise from the "Global Food Security" and "Food Bowl of Asia" messages that have developed in recent years. The majority of this interest however is not related to productive agriculture, but appears to be more directed to agribusiness, food science, international marketing and other areas of the agriculture value chain.

School leavers and their career advisors remain unconvinced that productive agriculture is a worthy and rewarding career pathway.

The Current Agricultural Workforce:

Developing the knowledge and skills of the current agricultural workforce provides an accelerated and more cost effective means of improving Australia's productive and competitive agriculture sector. Current farmers are already producing food and fibre, and gaining knowledge and experience in the skills required.

In the past, agricultural extension was an appreciated and well regarded profession. Some universities had "outreach" programs that provided both extension and research opportunities. Most agricultural colleges had farms, some universities had field stations eg. Mt Derrimut, Badgerys Creek, some had rural extension services eg. UNE, and agencies like CSIRO had numerous field research stations eg. Chiswick, Gilruth Plains, Ginninderra. A number of institutions offered structured short courses of some 3-5 days (some "in residence") where current farmers could learn from specialists and, most importantly, learn from each other. The profession of farm consulting also developed quite rapidly in the 1960s and 70s.

These programs were complimented and enhanced by government extension services eg agriculture, soil conservation, specific agricultural industries and extension officers developed a close relationship with the farming community. Information and experience was captured, analyzed and shared amongst the participants.

Most of these extension services and activities have gradually declined or been terminated. Virtually all of the extension officers of that era have retired or passed on and much of their knowledge has gone with them. There are more than a few instances where the corporate knowledge (the files and field notes of forty or fifty years) was consigned to the "dumpster" when an office moved or closed.

In more recent years the extension role has been taken up by the commercial agricultural supply sector and farmer-instigated groups, such as the Birchip Cropping Group and Southern Farming Systems. Despite some State Government Departments of Agriculture/Primary Industries being substantially down-sized or merged with environment/NRM departments, various forms of agricultural extension services have been maintained but these have been

primarily confined to field days and discussion groups especially in times of uncertainty or natural crisis eg. drought and rabbit plagues.

However, in the last 10 -15 years there has been a resurgence and renewal of interest in agricultural extension especially utilizing on-line delivery eg. ProFARM and more specific interest groups eg. EverGraze, BestLamb/Best Wool. Government agencies, NRM organizations and industry groups have continued to offer field days, farm walks and one-day workshops but the professional model of agricultural extension has yet to return.

Should CMAs/Regional NRM Bodies have a role in Agricultural Extension?:

A priority strategic direction for the National NRM Chairs Working Group (2013) states: "Strengthen the role of regional NRM organisations in the planning and delivery of sustainable agriculture programs to support Australia's food and fibre production".

All NRM bodies have a role in sustainable agriculture to varying degrees; some quite minor whilst others like Goulburn Broken CMA which has the greatest amount of its funding and output relating to sustainable irrigation renewal and increased production efficiency.

The Federal Government's new National Landcare Programme "*..places landcare back at the centre of our land management programs.*"

A key objective of the new Local Land Services structure in NSW is to "*..provide and facilitate education and training in agricultural production, natural resource management and emergency management*"

Presentations at the 2014 National NRM Knowledge Conference workshop (Launceston, 18 March) to develop the National NRMs Sustainable Agriculture Position Paper included:

- "NRM Extension - Enabling Sustainability". Report on The National Extension Framework Australia for the National CEOs Forum.
- "Beyond Soil Care in the Goulburn Broken Catchment".
- "Property Planning in the Border Rivers Gwydir CMA".

These speakers (and others) demonstrated that, while large group activities were useful, real and effective practice change in sustainable agriculture is dependent on an extension process that focuses on a one-on-one, or a very small group (5-8) participatory process and ideally should include an on-going educational component rather than be delivered as a one-off exercise.

In NSW, the eleven NRMs (Local Land Services) have a very clear extension objective in their charter as the extension function of the NSW DPI has been transferred to them. NRMs in other States have, to widely varying degrees, regionally located community engagement/liason officers some of whom have a defined extension role either as a deliverer and/or as a facilitator with other delivery partners.

Other opportunities in this space which Government can support are the development of formal accredited training programs, as well as less formal mentoring programs. There are increasing numbers of leadership programs across all sectors of the workforce and while program like the Nuffield Australia Farming Scholars have been very successful in the agricultural sector, new programs should be investigated for different segments of the Australian farming workforce. These opportunities would benefit from a mentoring program where the increasingly aging farmers have the opportunity to pass their knowledge and skills to the younger generation. As in all mentoring programs, the benefits are two-way and the older farmers will derive new skills from listening and sharing ideas associated with innovative technologies and emerging markets.

Recommendations:

- 11. A specific funding stream be established by Federal and State Government (investors) to develop the capacity of all regional NRM bodies (Catchment Management Authorities in Victoria) to provide and facilitate sustainable agricultural extension services that can have measurable outcomes and demonstrable practice change amongst food and fibre producers.***
- 12. A recommitment by Government to investing in land and water management research and development. This includes understanding dynamic farming systems and approaches to sustaining healthy soils and water in a climatically challenged environment.***
- 13. Review state of the art capability building programs for the agricultural sector, incorporating structured training and mentoring programs.***