Dryland Landscape Strategy

2009 – 2011

The Goulburn Broken Catchment Management Authority acknowledges the traditional owners of land in the Goulburn Broken Catchment, the Yorta Yorta and Taungurung Nations. The Authority strongly respects the rich culture and intrinsic connection the traditional owners have to the land.

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Strategy Approach
A range of different strategy approaches were researched and analysed to assist with the development of this document. This Dryland Landscape Strategy embodies the Twelve Quality Principles that are advocated by the Australian Business Excellence Framework. Further information about the Framework can be found at www.decs.sa.gov.au/quality/files/links/Australian_Business_Excell.doc.

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INTRODUCTION

The Goulburn Broken dryland offers a rich diversity of landscapes. It holds tremendous value for tourism, recreation, agriculture, and nature conservation. Its proximity to Melbourne has seen the southern part of the dryland undergo a population and development boom, whilst the north has seen a largely stable population continue to focus on dryland agriculture. We have made progress in facilitating the management of natural resources in the Goulburn Broken dryland, but it has become apparent that we need to do more and do it better.

There is a growing acceptance that current rates of positive land use change are insufficient to stop the decline of catchment health and that new approaches are needed. There are a number of drivers that are also significantly influencing how the catchment's natural resources are managed – in particular climate change, demographic changes and water security. This document outlines a new way forward for natural resource management in the Goulburn Broken dryland. It articulates a vision for the future of the dryland, then outlines what we are going to do to achieve this vision.

The strategic priorities and actions outlined in this strategy have been designed to maximise integration between Catchment Management Authority programs, capture synergies and provide multiple outcomes. They have also been designed to ensure we protect the catchments most important assets with a view to making significant and positive change at a landscape scale. We will be making applications to both State and Federal funding bodies to support the successful implementation of the strategic priorities and actions. Funding will be required over a minimum 5 year time frame.

As today's catchment managers, we have a responsibility to future generations to pass on a catchment that is in better condition than when we inherited it. A catchment that has secured the future of its natural assets, supports sustainable land use, resilient communities, and a catchment that is able to adapt to the impacts of climate change. This strategy takes us a step closer in meeting this responsibility.

Dr Huw Davies
Chair
Goulburn Broken Catchment Management Authority

SCOPE

The landscape of the Goulburn Broken dryland is changing rapidly[1]. Climate change, water security, demographic trends, oil and energy supply, social changes, industry and economic trends, government policies and changing demand from shifting land uses, are all contributing to this changing landscape. At the same time, whilst our significant endeavours over the last few decades have substantially reduced the rate of environmental degradation, the health of the catchment (biodiversity, waterways) is still in decline.

The challenge for the Goulburn Broken Catchment Management Authority (GB CMA), other natural resource management agencies, and regional people is to clearly understand our interdependent social and ecological systems so that we know when to strengthen a system's resilience and when to adjust to a changed or changing system.

The Dryland Landscape Strategy (DLS) promotes a shift to a new, integrated approach in the dryland part of the Goulburn Broken Catchment. It outlines a vision for the future and aims to get bigger benefits from investment at a reduced cost. The DLS builds on a significant body of research, policy, implementation and strategy work that has already been undertaken in the catchment.

The DLS heralds a change in our emphasis from a threat based approach (pest plants and animals, salinity) to focussing our efforts on protecting the catchments most important natural assets.

In preparing this document the GB CMA examined strategic approaches used in both the corporate and government sectors. Whilst this strategy outlines the goals and targets we want to achieve, this DLS has purposely focussed on process. We want to ensure our processes are right and that we employ continual improvement to reach our goals. Getting the processes right will ensure that the right stakeholders are brought together (for example, through joint project planning), to resolve trade offs and identify synergies in real time, not just once, but each and every time.

This document has been prepared by the GB CMA in conjunction with regional stakeholders and the community. The intention of this document is to identify what is needed from a regional perspective so that local communities and individuals can be supported to contribute to state, national and international priorities. The document will contribute significantly to the development of the GB CMA's Regional Catchment Strategy (RCS), and will be used by the GB CMA to direct its investment and activities.

This document introduces six Strategic Directions that outline our focus for the next three years. We will still maintain a focus on Regional Catchment Targets (RCTs) and continue to report against these, and we will still deliver against these RCTs through the CMA's key programs (Refer to Appendix 1 for a full list of RCTs). However, over time, we will review all of our activities to assess how they are contributing to these new Strategic Directions.

Given the important role the Goulburn Broken dryland plays in maintaining water quantity and quality, and the critical importance of the region for biodiversity, this new approach in the dryland, matched with sufficient funding, will ensure the future resilience of natural resources in the region.

[1] In this document, dryland is defined as the whole of the Goulburn Broken catchment, excluding the Shepparton Irrigation Region.

NATURAL RESOURCE MANAGEMENT IN VICTORIA

The State of Victoria's Natural Resources

The Victorian Catchment Management Council's independent assessment of Victoria's catchment condition, the Catchment Condition Report 2007, stated that Victoria's land and water resources are variable in condition and subject to a range of ongoing and new pressures. In fragmented landscapes, the condition is moderate to poor and declining, or at risk of decline. This is a consequence of long standing pressures of threats that result from inappropriate land use and poor land management practices, such as soil erosion, salinity and pest plants and animals degrading our natural infrastructure. The report also stated that it expected new and emerging pressures and trends such as climate change and socio-economic and demographic changes across the State will have a significant influence on catchment health.

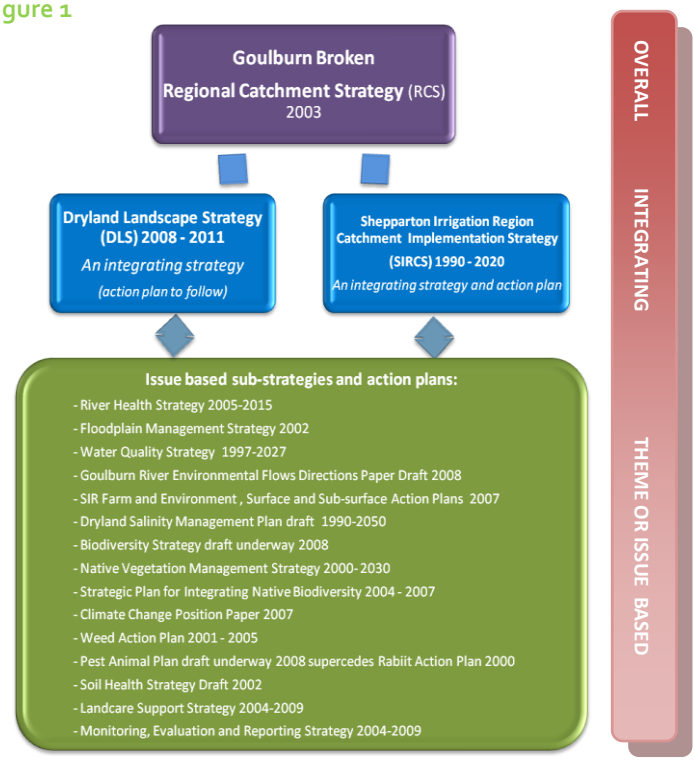
Natural Resource Management Policy

There are six levels of Natural Resource Management (NRM) policy that govern the activities of the GB CMA.

1. International policies and agreements. Whilst these generally do not play a major role in the GB CMA's activities, issues such as climate change are global problems, and the GB CMA may need to implement global policy directives at a local level.
2. Australian Government environmental policies i.e. *Caring for Our Country*.
3. Victorian Government environmental policies, i.e. *Our Environment, Our Future Framework, Sustainability Action Statement*.
4. Victorian Statewide Strategies - high-level issue-based strategies (e.g. biodiversity, pest plants and animals, native vegetation).
5. The GB CMA's Regional Catchment Strategy (RCS) that addresses the requirements of state and national policies and strategies with other identified regional NRM priorities in a practical and relevant plan.
6. Under each RCS a series of sub-strategies and action plans, which focus on translating RCS requirements into on-ground actions. (See Figure 1 for explanation of the relationship between strategies in the Goulburn Broken Catchment).

This Strategy captures the thinking and ideas that will be finally documented in the 2009 RCS.

Figure 1



New Thinking in NRM

Over the last 5 years, there has been a considerable evolution of ideas related to NRM. This DLS has considered much of this new thinking and attempts to apply it to the GB CMA's NRM approach. These new ideas include:

- Our Water Our Future White Paper
- International Panel on Climate Change (IPCC) Fourth Assessment Report
- Climate Change White Paper
- Land and Biodiversity At A Time Of Climate Change White Paper
- State NRM Strategies (including the Northern Region Sustainable Water Strategy)
- Caring for Our Country
- Land Asset-Based Approach Framework
- Ecosystem Services Concept
- Multiple Outcome Projects
- Market Based Instruments
- Use of Environmental Duty of Care
- Indigenous Engagement
- Victorian Local Sustainability Accord
- CMA Statement of Obligations
- Private Investment
- Resilience Thinking.

ABOUT THE GOULBURN BROKEN DRYLAND

The Catchment

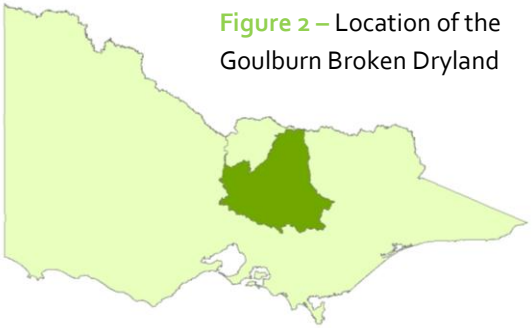


Figure 2 – Location of the Goulburn Broken Dryland

The Goulburn Broken dryland is located in north eastern Victoria (See Figure 2). The dryland covers an area of 1.8 million hectares and boasts a wide diversity of landscapes, from mountainous snow covered alps, moist montane forests, dry sclerophyll forests, granitic outcrops, gentle sloping plains, Box woodlands and Red Gum floodplains.

Thirty five percent (660,000 hectares) of native vegetation remains in the Goulburn Broken dryland, providing habitat for a unique range of native fauna (including 431 vertebrate species). There are approximately 40,000 kilometres of waterways in the dryland and the area supports approximately 40,000 hectares of wetlands.

Rainfall varies substantially across the Goulburn Broken dryland. The high country in the south east experiences cool winters with persistent snow and an average annual rainfall greater than 1600 mm. Rainfall decreases northward and in the far north west of the catchment is less than 450 mm per year. The Goulburn catchment produces on average 1.8 ML/ha/yr while the drier Broken catchment produces 0.42 ML/ha/yr.

Terrain varies from the high ranges with an altitude greater than 1200m in the south, to the Murray Plain with an altitude of around 100m. The northern half of the catchment is relatively flat.

It is this variety of environments and striking landscapes that makes the catchment such a valuable recreation resource. From gourmet food and wine tours, bush walking, water skiing, snow skiing, house boats, horse riding, B&B's and four wheel driving, there is a recreational opportunity to suit most people within the catchment. Its proximity to Melbourne also makes the Goulburn Broken dryland extremely accessible to a huge population base.

The dryland supports an extremely diverse range of agricultural pursuits and industries including horticulture, mixed farming, grazing, cropping, horse breeding as well as niche industries such as organic food production. It is this diversity of landscape and enterprises, and its central location and proximity to Melbourne and major transport routes such as the Hume Highway, which provides the Goulburn Broken dryland with a strong competitive advantage.

The Catchment's People

More than 78,000 people make their home in the Goulburn Broken dryland, of these, 31,000 are based in rural areas. The remainder are spread between the regional centres of Benalla, Mansfield, Seymour, Euroa, Kilmore, Nagambie, Rushworth, Yarrawonga, Alexandra and Yea. There is significant population turnover within the catchment. In 2006, 31% of residents had not been resident in the catchment 5 years earlier.

The southern border of the catchment is on the outskirts of Melbourne. This proximity to Melbourne has attracted significant 'tree change' and commuter populations and has resulted in an increasing number of lifestyle properties and population increases for many towns.

The northern part of the dryland is characterised by an agricultural focus. The profile of rural landholders is ageing. This is a consequence of a reduced numbers of family farms being handed down to younger generations, as well as new residents in rural areas also being older. Where population growth is slow, rates of new housing development remain significant, and it is evident that non-urban housing is an important component of growth. New residents generally have higher incomes, higher levels of employment and are employed in urban-focussed employment sectors.

Given the amenity values of the catchment, and the recent social trend of 'tree change' the catchment has attracted a significant new population base and there has been a significant increase in 'lifestyle landholders' now managing land within the catchment.

NATURAL RESOURCE MANAGEMENT IN THE GOULBURN BROKEN CATCHMENT

A History of NRM in the GB CMA

In 1990 the Goulburn Broken Dryland Salinity Management Plan was released. This was the first integrated landuse plan released for the area that made specific reference to environmental concerns, and was developed and driven by the community.

The GB CMA was formed in 1997 and a Regional Catchment Strategy (RCS) was developed in 1997. An updated RCS was produced in 2003, and the next update of the RCS will be produced in 2009. A range of sub-strategies have also been developed and reviewed.

Catchment Condition

An assessment of progress against long-term targets for various areas of investment is included in Appendix 2. Also included is an assessment of the condition of the catchment in terms of these 'investment areas'. These assessments show varying degrees of progress and condition and force us to confront challenging questions such as:

- Are our socio-ecological systems (Refer to Appendix 3) sufficiently resilient to withstand a shock?
- Are our systems close to a threshold (or tipping point into a completely different state)?
- Is it better to accept that our systems are changing and work with that?
- What interventions can or should be made to build resilience?

Drivers of Change

Significant changes are occurring to the landscape of the Goulburn Broken catchment. This reflects changing demand from shifting landuses and competition for land for various purposes. Changes in the way land is being used in the catchment (or may be used in the future) are being driven by a range of issues, including:

- **Climate change:** a potential permanent change in rainfall patterns may significantly change the types of agriculture that can be undertaken in the catchment. As a catchment community we need to work on modifying the landscape so that flora and fauna can adapt to these changes, if possible.
- **Energy:** changes associated with petrol price increases and the search for alternatives to oil and coal may, again, change agricultural practices and crops, and even changes in rural/urban living preferences.
- **Water:** the security of supply and how it is shared amongst users, is already the subject of intense debate and substantial reform. However, for the first time since the major water storages were built in the 1950s and 1960s, there is real concern about meeting critical human needs in parts of the Murray Darling Basin, and recurring zero allocations to irrigators. This could dramatically affect land use, land value and the structure of rural communities and industries.
- **Demographic trends:** the region, including the rural areas, are characterised by declining 'full time' agricultural activity and an increasing level of non-agricultural employment. The ageing profile of the region is driven both by a loss of younger people and the older profile of new residents.
- **Industry and economic trends**: these include a greater diversity of enterprises being undertaken, increased interest in integrated farm forestry, productive land being used for non-productive purposes (housing), variability in the terms of trade and commodity prices, technological developments, new or emerging markets and the increasing scale of farm businesses.
- **Government policy:** a range of Government policies have the potential to impact on how land is used in the catchment. Current policy areas under consideration include: Duty of Care, Land and Biodiversity White Paper, Water policy decisions and Ecosystem Services.
- **Recreation:** the close proximity of the catchment to Melbourne is likely to increase recreation demands. Conflicts can arise between recreational users, and land degradation can be a consequence, however recreation and tourism also offers significant opportunities for the catchment community.

These drivers are having and will continue to have a dramatic impact on the environmental health of the region. The challenge is to build resilient socio-ecological systems that can cope with these ongoing changing demands.

ABOUT THE GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

Our Governance

The GB CMA was established in 1997 (under the *Catchment and Land Protection Act, 1994*) as the peak natural resource management body in the catchment to develop and oversee the implementation of the Regional Catchment Strategy.

The structure of the GB CMA is designed to maximise community involvement in decision making, and includes the following:

1. The Board. The Board is directly responsible for the development of the strategic direction for land and water management in the Region. It sets priorities, evaluates the effectiveness of outcomes, monitors the external and internal environment and identifies opportunities.

2. The Implementation Committee. This is the conduit for local community input, and is responsible for the development of detailed work programs, integrating issues based programs, and the oversight of on-ground program delivery for specific issues or sub-catchments.

3. The Staff. The staff support the Board and ICs, oversee development, implement programs and liaise with the community, government and other NRM organisations.

The GB CMA's role in strategy development is to lead and coordinate a community driven regional response to natural resource management issues.

What We Do

The GB CMA works to ensure best practice NRM methods are used by all land managers, be they private or public, to ensure land and water resources are protected and enhanced as well as improving the region's environmental quality and productive capacity in a sustainable manner. The GB CMA works with its catchment partners, including Goulburn-Murray Water, Goulburn Valley Water, Local Government, the Department of Sustainability and Environment, the Department of Primary Industries, Landcare and other community environmental groups, to implement the Regional Catchment Strategy.

How We Operate

The Goulburn Broken Catchment Management Authority:

- Is flexible and able to respond quickly to changing circumstances. It can quickly capitalise on opportunities and it can achieve a high level of integration.
- Has a significant degree of community input through the Board and the IC's. The GB CMA works with its partners to assist the community to identify priorities and allocate funds.
- Undertakes activities that are aimed towards meeting a range of biophysical targets.
- Operates largely in an agricultural landscape, with most of its works implemented by third parties. Investment in works is shared between Government and private landholders.

A VISION FOR THE FUTURE

The DLS vision for 2050 developed with regional stakeholders is:

Healthy environment, strong communities

By 2050 the Goulburn Broken dryland will be a more resilient landscape. It will be a mosaic of land uses including production, amenity, lifestyle and conservation and combinations of these. People will appreciate this diversity of land uses and will connect with, understand and value their local environment and work together effectively to protect it.

Vegetation and waterways on all private and public land will be recognised as an important part of the landscape. Landholders will see themselves as stewards of ecosystems that provide valuable services such as clean water, habitat for native biodiversity and primary produce. Landholders will be respected for their skills in managing the natural ecosystems and their production from them. Sustainable and vibrant regional communities will appreciate the link between the natural environment and the productivity of the region.

Natural ecological systems will have been maintained in some areas and restored in others, recognising that some areas of the landscape need to be managed to minimise ecological damage while other areas need to be managed to maximise ecological outcomes. Sacrifices may have been made in order to make the best gains overall. Future generations will be able to choose from this diversity of land uses and a range of natural resource management outcomes.

We want to achieve

- Natural asset conservation
- Resilient communities
- Growth and diversity of Investment
- Climate change adaptation
- Sustainable land use

Vision of the Goulburn Broken Dryland 2050

Current Goulburn Broken Dryland:

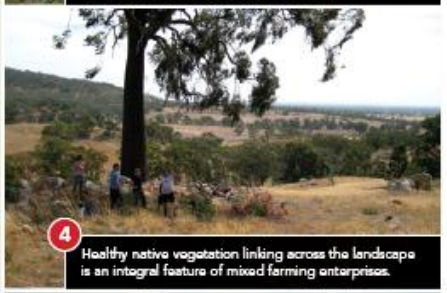
1 Regenerating native vegetation with mature remnant trees and a good cover and diversity of native grasses.

2 Healthy waterways in the upper catchment.

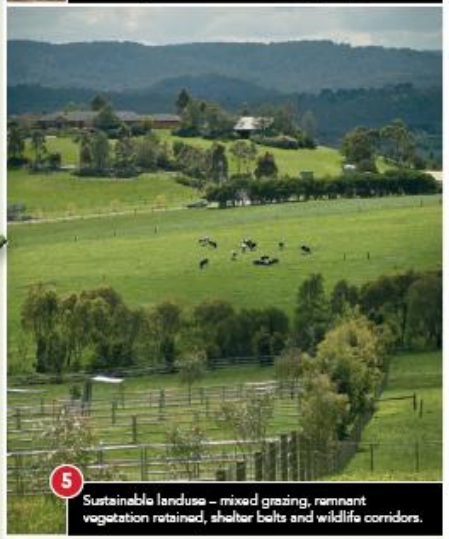
Note: These pictures are an interpretive view of the current and possible future catchment. They are not actual representations of the catchment and they are not to scale.

GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

3 Healthy waterways in the mid catchment.



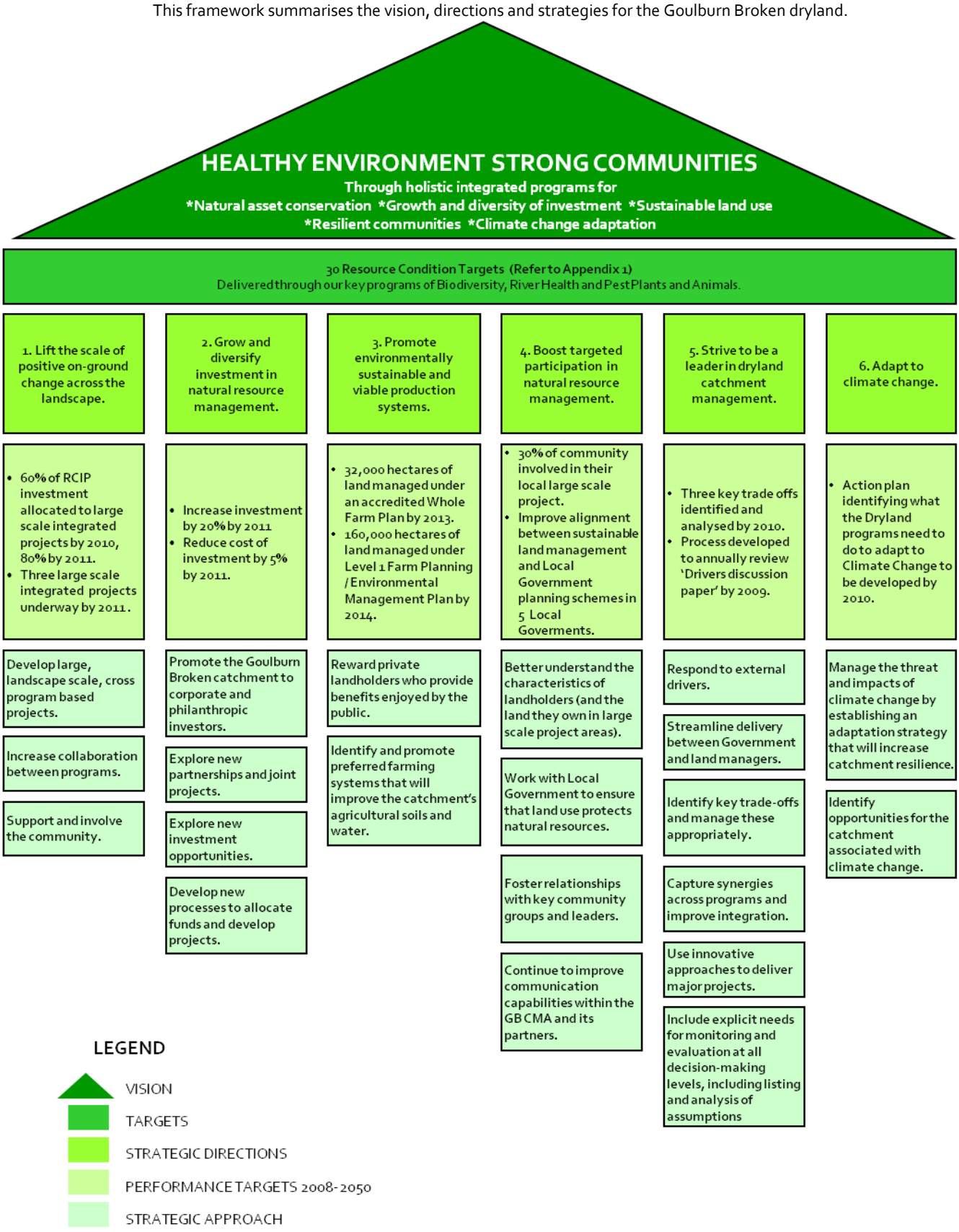
4 Healthy native vegetation linking across the landscape is an integral feature of mixed farming enterprises.



5 Sustainable landuse – mixed grazing, remnant vegetation retained, shelter belts and wildlife corridors.

STRATEGIC FRAMEWORK

This framework summarises the vision, directions and strategies for the Goulburn Broken dryland.



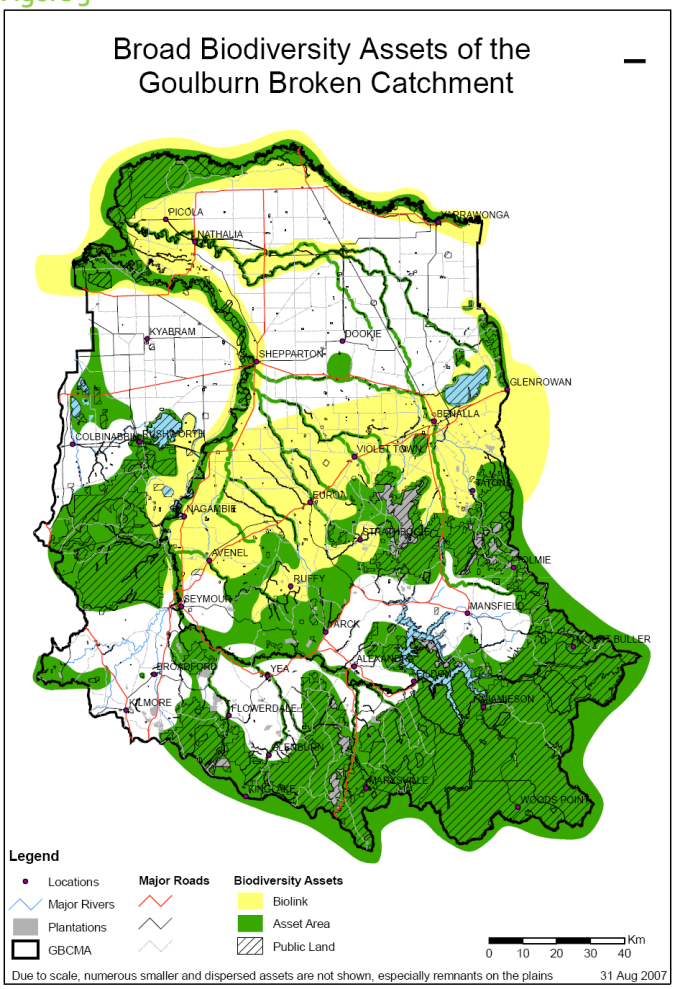
Strategic Direction 1 — Lift the Scale of Positive On-Ground Change Across the Landscape

To achieve landscape scale change, we will focus our effort and investment on large scale, integrated, targeted projects. These projects will be developed by identifying priority areas within the catchment i.e sites that contain our most valuable natural assets, are threatened, and are geographically located to provide the greatest NRM gains (in terms of climate change adaptation and improving resilience). We will then identify the landholders who we need to deal with and use the appropriate 'tools' to achieve the desired on-ground change.

This approach will involve the various GB CMA programs (river health, salinity, biodiversity) developing projects collaboratively to deliver large scale multiple outcomes. We will look at establishing significant new partnerships (for example, with organisations such as Bush Heritage), and building on current partnerships (for example, with organisations such as Trust for Nature) to achieve these outcomes and we will work closely with the community to ensure success.

An example of such a project is the proposed 'Granite to Goulburn Biolink Project'. Recent asset mapping completed by the GB CMA's Biodiversity Team (and key stakeholders) identified that a series of Biolinks (Refer to Appendix 3 for definition) linking the Strathbogie Ranges with the Goulburn River, running along waterways through the middle of the catchment, would be a crucial strategic approach to assist in waterway health, fauna movement through the landscape, increased vegetation cover, and allowing species and ecosystems to adapt to climate change. Refer to Figure 3.

Figure 3



Other possible projects include:

- Other Biolink projects such as between the Warby Ranges and the Broken River (incorporating Lake Mokoan), along the Goulburn River (Mountains to the Murray), Mt Piper Biolink and between the Box-Ironbark Forests from Seymour to Chiltern.
- Goulburn-Murray Interconnector.
- Rehabilitation of the Lower Goulburn Floodplain (whilst this area is not actually located in the Goulburn Broken Dryland, it is a significant area of non-irrigated land, and provides significant scope for coordinated investment and multiple outcomes.

Performance Targets

- 60% of Region al Catchment Plan Investment Plan dryland investment allocated to large scale, integrated, targeted projects by 2010, 80% by 2011.
- Three large scale, integrated and targeted projects to be underway by 2011.

Tasks
Strategic Approach 1.1 Develop large, landscape scale, cross program based, targeted projects (eg. Biolink Project).
1.1.1 Run an internal planning process to identify key strategic, high priority, large scale projects within the Goulburn Broken dryland.
1.1.2 Develop project and action plans for each proposed project (that include assessment of current condition of project sites).
Strategic Approach 1.2 Increase collaboration between GB CMA programs
1.2.1 Draw on resources from across GB CMA programs to identify project leaders and teams.
1.2.2 Develop annual funding priorities from a large scale project perspective (not a program perspective).
Strategic Approach 1.3 Involve the community in the large scale projects and support them as they adapt to this new approach.
1.3.1 Develop strong relationships with existing community groups in large scale project areas i.e. Landcare groups.
1.3.2 Support existing community-driven projects that fulfil this goal.
1.3.3 Promote focussed/consolidated community group activity.
1.3.4 Establish community input opportunities in large scale project areas to ensure the community is informed of and involved in decisions regarding the identification and implementation of the large scale projects.

Example Project Plan

Title:	**Granite to Goulburn Biolink**
Objective:	To protect and enhance significant environmental assets located within the Granite to Goulburn Biolink region (between the Strathbogie Ranges and the Goulburn River, stretching between Longwood and Violet Town), and build on these assets to create refuge and connectivity within this landscape.
Outputs:	X Hectares of vegetation protected. X Hectares of vegetation enhanced. Creek restoration works completed at X sites. X Hectares of biodiversity plantings.
Approach:	Each creek catchment will be a focus of activity for a 12 to 24 month period.

Sub Projects:	**Creightons Creek Biolink**
Approach:	High value assets within this creek catchment will be specifically targeted. Extension information provided and incentives will be made available. Landholder liaison will be undertaken in partnership with Landcare Groups and other community based groups. Options for attracting carbon funding through larger scale planting will be explored.
Major Assets Targeted:	X Hectare remnant veg site on X Road X Hectare remnant veg site on X Road X km Creek between X and X Roads
Policy Tools:	An analysis of the area will be completed to determine what the best mix of policy tools should be to get maximum participation from landholders. Possible policy tools used will be incentives, extension and market based instruments. Opportunities for use of private investment (including carbon offset funding) will also be explored.
Project Management:	This project will be jointly managed by the GB CMA Biodiversity Program and GB CMA Waterways Program.

Who is involved:	GB CMA Biodiversity, Waterways, Pest Plant and Animal & Salinity staff, DPI Program Leaders & Catchment Management Officers, DSE biodiversity staff, Trust for Nature, Local Government.
Principal Investor:	DSE River Health Program
Other Beneficiaries:	DSE Biodiversity Program

Sub Projects:	**Hughes Creek Biolink**
Approach:	High value assets within this creek catchment will be specifically targeted. Extension information provided and incentives will be made available. Landholder liaison will be undertaken in partnership with Landcare Groups and other community based groups. Options for attracting carbon funding through larger scale planting will be explored.
Major Assets Targeted:	X Hectare remnant veg site on X Road X Hectare remnant veg site on X Road X km Creek between X and X Roads
Policy Tools:	An analysis of the area will be completed to determine what the best mix of policy tools should be to get maximum participation from landholders. Possible policy tools used will be incentives, extension and market based instruments. Opportunities for use of private investment (including carbon offset funding) will also be explored).
Project Management:	This project will be jointly managed by the GB CMA Biodiversity Program and GB CMA Waterways Program.
Who is involved:	GB CMA Biodiversity, Waterways, Pest Plant and Animal & Salinity staff, DPI Program Leaders & Catchment Management Officers, DSE biodiversity staff, Trust for Nature, Local Government.
Principal Investor:	DSE River Health Program
Other Beneficiaries:	DSE Biodiversity Program

Example Project Schedule

Asset/Priority Area	Size	$	2009	2010	2011	2012	2013
Granite to Goulburn Biolink							
Creightons Creek Biolink							
Hughes Creek Biolink							
Sevens Creek Biolink							
Castle Creek Biolink							
Burnt Creek Biolink							

Strategic Direction 2 — Grow and Diversify Investment in Natural Resource Management

To achieve our vision for the catchment, and ensure the long term sustainability of the Goulburn Broken dryland, we will seek additional investment.

We will aim to grow the financial resources available to the GB CMA by investigating new opportunities within the private sector (including corporate investment and philanthropic donations) and by building new investment products that will appeal to these potential investors. In pursuing this, the GB CMA will be seeking investment that is sufficiently large to warrant the investment in obtaining it. It is planned that this funding will provide greater ability to innovate, will allow us to take calculated risks (including long-term risks), will build capacity and will give us flexibility around the timing of projects.

At the same time we will continue to improve efficiency within the organisation so we are able to deliver on-ground outcomes at the best possible price (whilst still maintaining appropriate organisational transparency, probity and an appropriate level of community engagement and participation).

We will also continue to foster relationships with current investors to ensure our base level of funding is maintained or improved.

Performance Targets

- Increase private investment by 20% by 2011.
- Reduce administrative costs of investment by 5% by 2011.

Tasks
Strategic Approach 2.1 Promote the Goulburn Broken catchment to corporate and philanthropic investors.
2.1.1 Complete an analysis of potential corporate and philanthropic funding sources to determine who they are, what projects may appeal to them, and what products we will need to present to them.
2.1.2 Identify potential sites and activities within the catchment that will appeal to philanthropic and corporate investors, and develop project plans (link with Strategic Direction No. 1).
2.1.3. Develop a prospectus that outlines investment opportunities in the catchment.
2.1.4 Package a number of investment opportunities – include fully costed details on requirements, outcomes, benefits etc. Utilise marketing strategies that maximise investor appeal (i.e. brand projects using natural assets or iconic species such as woodland birds, squirrel gliders, platypus etc).
2.1.5 Identify potential corporate and philanthropic investors, and promote these investment opportunities to them.
2.1.6 Investigate creating a new foundation to accept philanthropic or bequeathed funds, or investigate linking with an existing foundation.
2.1.7 Develop new processes to allocate investment and develop projects.
Strategic Approach 2.2 Explore new partnerships and joint projects.
2.2.1 Consider the expansion of the Drought Employment Program through a partnership with the Department of Human Services to improve training and employment prospects for people whilst implementing environmental works.
2.2.2 Explore opportunities for new partnerships with industry, Local Government etc.
Strategic Approach 2.3 Explore new investment opportunities.
2.3.1 Identify and explore alternative investment opportunities for the catchment, for example native vegetation offsets, carbon offset markets.
Strategic Approach 2.4 Develop new processes to allocate funds and develop projects.
2.4.1 Work with Program Managers and staff to further improve integration between CMA programs

Strategic Direction 3 — Promote Environmentally Sustainable and Viable Production Systems

Our farming systems are changing more rapidly than at any other time in history. There will be pressure within the catchment to meet growing global demand for food, fuel and fibre. The Terms of Trade for agricultural commodities continues to be volatile; however recent increases in grain prices may result in more land being cropped, thus putting greater pressure on land within the catchment. Technologies are offering new opportunities for food producers; however consumers are becoming more discerning about food quality, the environmental credentials of food and animal welfare issues. Increasing oil prices have led to significant increases in farm inputs such as fertilisers, pesticides and fuel.

Some farms within the catchment have increased in scale and production to meet these new challenges, whilst others have focussed on niche crops or specialised growing systems (eg. organics).

On top of the pressures placed on farmers in a rapidly evolving agricultural sector, private landholders are also responsible for managing a significant proportion of the catchments remaining biodiversity. There are increasing opportunities for private landholders to be rewarded for taking good care of their land, particularly when they are providing public benefits (for example clean water or biodiversity conservation). Development of the 'Duty of Care' concept (Refer to Appendix 3 for definition) may also create opportunities for some.

There may also be opportunities for the GB CMA to foster relationships with industry bodies and the tourism industry to also encourage more sustainable practices and assist in caring for our catchment. Local Government also has a critical role to play in delivering on this strategic direction, particularly through the improved alignment of RCS's and Local Government Planning Schemes. The use of Whole Farm Plans can help to increase farm profitability and sustainability while improving landscape and catchment outcomes.

To achieve our vision for the dryland and ensure its resilience, we will promote sustainability and viability within these rapidly changing sectors, and with this diverse range of partners.

Performance Targets

- In 4 years, 32,000 hectares (out of a total of 1,120,000 hectares) of land managed under an accredited Whole Farm Plan.
- In 4 years, 160,000 hectares of land managed under Level 1 Farm Planning/Environmental Management Plan.

Tasks
Strategic Approach 3.1 Reward private landholders who provide benefits enjoyed by the public.
3.1.1 Further develop the concept of Duty of Care and Stewardship and promote the concept to the community to ensure it is understood and accepted by the community.
Strategic Approach 3.2 Identify and promote preferred farming systems that will improve the catchment's soils, native vegetation and water.
3.2.1 Strengthen the farm planning program by improving linkages with farm business elements (explore better involvement of Rural Financial Councillors).
3.2.2 Establish a network of properties exhibiting excellence in sustainable land management and utilise these properties as part of Whole Farm Planning courses.
3.2.3 Encourage landholders to improve soil health, increase carbon sequestration, improve biodiversity outcomes and minimise erosion, through the implementation of alternative cropping and pasture management practices, including the use of indigenous perennial plants and strategic grazing. Develop best management practice sites/properties where these activities are occurring to assist with extension activities.
3.2.4 Develop a community based soil health monitoring program.
3.2.5 Investigate opportunities to partner with research organisations.

Strategic Direction 4 — Boost Targeted Participation in Natural Resource Management

We will identify and consult with the landholders we need to work with (landholders managing natural assets in priority areas). We will work to understand who our potential clients are, find out what their needs and responses might be, and work together with them to develop tools to them that will suit their situation. Whilst establishing large scale projects in priority areas, we will focus on understanding the current and potential clients in these areas. We will also identify other key groups where targeted action will have the greatest rewards (for example: Local Government, schools etc).

Performance Targets

- 30% of local community involved (participated) in their large scale projects.
- Improve alignment between sustainable land management and Local Government Planning Schemes in five dryland Local Governments.

Tasks
Strategic Approach 4.1 Better understand the characteristics of landholders (and the land they own) in priority areas.
4.1.1 Consult with landholders (and key community groups such as Landcare) in our priority areas to identify barriers to participation.
4.1.2 Work with landholders (and key community groups such as Landcare) to design programs that are responsive to the needs of landholders and communities in our priority areas. Develop appropriate tools to assist them to complete NRM works.
4.1.3 Consult with the landholders and community organisations (such as Landcare) we need to work with – direct contact, farm visits etc.
Strategic Approach 4.2 Work with Local Government to ensure that land use adequately protects natural resources.
4.2.1 Consider (and implement where appropriate) the recommendations included in the Report 'DLS/RCS and Landuse Planning Outline'.
4.2.2 Consider recommendations on Local Government listed in the 2002 Report 'Landscape Change in the Goulburn Broken Catchment'.
4.2.3 Work with Local Government to encourage the use of Whole Farm Plans (that adequately address NRM) for all planning applications in farming and rural living zones.
4.2.4 Work with Local Government to improve alignment between the GB CMA's Regional Catchment Strategy and Local Government planning schemes.
4.2.5 Work with Local Government to ensure NRM issues are considered adequately in planning future developments (housing, industry, agriculture) that may be needed to cater for population increases.
4.2.6 Work with Local Government to ensure appropriate use of overlay provisions to benefit NRM.
Strategic Approach 4.3 Foster relationships with key community leaders and community groups.
4.3.1 Identify current and potential community leaders (and influencers) in large scale project areas through discussions with Implementation Committee's, Local Government, Landcare Groups and networks and other industry bodies/groups.
4.3.2 Establish strong relationships with community leaders and ensure they are briefed on, and where possible involved in, decisions regarding the implementation of projects in areas where they live.
4.3.3 Ensure Landcare Groups and other community groups are kept informed of projects and involved whenever possible.
Strategic Approach 4.4 Continue to improve communication capabilities within the GB CMA and its partners.
4.4.1 Review all current communications occurring in the Goulburn Broken dryland.
4.4.2 Develop new or update current communication strategy for the dryland.
4.4.3 Ensure staff and Implementation Committee members have the appropriate communication skills and provide training to maintain or improve skill levels.

Strategic Direction 5 — Strive to be a Leader in Dryland Catchment Management

The GB CMA takes its responsibility as a catchment manager very seriously. That's why the GB CMA will strive for excellence in all aspects of its business. We will carefully consider the latest innovations, trends, technologies and approaches, and be in the position to react to this information promptly and appropriately. To do this we will increase our responsiveness and build up flexibility within the organisation.

We will continue to build a good understanding of the drivers of change that are affecting us (for example, climate change, demographic and social trends, technological developments, industry trends, policy changes etc), by reaffirming current partnerships (with the community, agencies, and Local Government) and forming new ones (for example, with industry).

Once we identify new information, we will build the capacity within the organisation to determine the importance and relevance of this information, then, where appropriate, adapt our strategies, programs and methods of delivery in response to these changes. We will then work with the catchment community to communicate these changes to them and ensure they are equipped to apply innovative practices to natural resource management.

We will increase efficiency within the organisation, improve integration between programs, implement excellent project management standards, improve the way we delivery services, develop new partnerships within and across jurisdictions and invest in monitoring and evaluation.

Performance Targets

- Establish a biennial survey of clients, investors, partners to rate the performance of the GB CMA in the dryland.
- High rating in performance achieved in performance survey.
- Partnerships established with research organisations.

Tasks
Strategic Approach 5.1 Respond to external drivers.
5.1.1 Involve IC members, industry bodies and other external groups to assist us in identifying future trends, drivers and pressures that will impact on NRM and the GB CMA, and develop an appropriate response.
5.1.2 Annually publish a 'scan' of current and potential future drivers that includes an analysis of their impacts on NRM and the GB CMA .
5.1.3 Develop a process to ensure the results of the drivers 'scan' are integrated (where appropriate) into GB CMA strategies, sub strategies, programs and funding applications.
Strategic Approach 5.2 Streamline delivery between government and land manager.
5.2.1 Investigate and implement service delivery improvements.
Strategic Approach 5.3 Identify key trade-offs and manage these appropriately.
5.3.1 Identify key trade offs within each large scale project, and use a transparent policy approaches to make decisions (particularly in relation to the impact of revegetation on water yield).
Strategic Approach 5.4 Capture synergies across programs and improve integration.
5.4.1 Sub-strategies to be updated to incorporate large scale, integrated project approach.
Strategic Approach 5.5 Use innovative approaches to deliver.
5.5.1 Use an investment tool to identify priority sites within large scale project areas.
5.5.2 Continue to promote programs that maximise natural regeneration of native vegetation (i.e. Bush Returns), focus on (resilient) sites that will suit this approach, and where appropriate, utilise tools such as inundation to achieve natural regeneration.
5.5.3 Investigate leasing/buyback approaches to achieve land use change when appropriate.
5.5.4 Implement recommendations from Vegetation Incentive Analysis Report 2008, and consider the recommendations of other recent reports (for example Green Graze).
5.5.5 Consider the latest research findings in the use and implementation of Market Based Instruments,

extension and facilitation techniques etc.
Strategic Approach 5.7 Include explicit needs for monitoring and evaluation at all decision-making levels, including listing and analysing assumptions.
5.7.1 Co-ordinate, monitor, evaluate and report on the outcomes from funding programs such as Caring for Our Country via Implementation Committees and catchment-wide programs as appropriate.
5.7.2 Develop consistent approaches across all disciplines for reporting on outputs, threats managed and outcomes achieved.

Strategic Direction 6 — Adapt to Climate Change

Climate change presents a new kind of challenge. It is very likely that the impacts of climate change in the future will be serious and significant. More variable weather patterns will increase the stresses on many ecosystems and threaten ecological function, often in ways we cannot predict. Our ecosystems capacity to adapt to a changing climate has been significantly reduced because our landscapes have become highly fragmented.

The GB CMA will play a leading role in ensuring the environmental assets of the catchment are able to adapt to climate change by improving catchment resilience.

Performance Targets

- Development of report that outlines the impact of climate change on the resource base of the dryland.

Tasks
Strategic Approach 6.1 Manage the threat and impacts of climate change by establishing an adaptation strategy that will increase catchment resilience.
6.1.1 Undertake a Dryland Climate Change Risk and Vulnerability Assessment.
6.1.2 As part of a broader GB CMA Action Plan, identify ways to address adaptation to climate change and use this information to identify large scale projects. This action plan should take into consideration learnings from studies undertaken locally and in other areas (including North East, North Central, West Gippsland and the Irrigation Futures Project).
6.1.3 Enhance the regions resilience, adaptability and transformability to climate change through the implementation of the large scale projects and addressing climate change through other GB CMA sub-strategies and action plans.
6.1.4 Support regional Greenhouse Gas (GHG) abatement initiatives and provide input into a regional greenhouse gas inventory, including understanding agriculture's contribution.
Strategic Approach 6.2 Identify opportunities for the catchment associated with climate change
6.2.1 Liaise with carbon sequesters/brokers to encourage activity that is biodiversity and NRM positive (eg biodiverse revegetation in identified strategic locations).
6.2.2 Identify research opportunities and engage with research institutions to gain a better understanding of climate change opportunities and threats.
6.2.3 Investigate soil carbon baseline measurements and soil carbon sequestration opportunities in the dryland (including increases in native perennial vegetation cover).

LEARNING FROM THE PAST: PLANNING FOR THE FUTURE

Successful adaptive management systems rely on information from monitoring and evaluation to feedback clearly into decision-making processes. The GB CMA provides guidance for any natural resource management issue in its Monitoring, Evaluation and Reporting Strategy for the Goulburn Broken Catchment (2004). It also highlights the importance of developing a common language and standardised information between different disciplines so that integrated decision-making can be improved.

The Catchment's communities have been adapting approaches to match changing knowledge and circumstances for two decades. Several natural resource management strategies and plans have been developed, implemented and revised. This DLS includes the most comprehensive collated list of actions for integrating natural resource management issues in the Goulburn Broken dryland.

Actions in this DLS will be monitored, evaluated and reported back to the dryland Implementation Committees and the Board, with recommendations for changes and additions. One of the key actions is to document and test assumptions that link the outputs (or 'works actions') with the outcomes (or 'resource condition changes).

The DLS will be reviewed in 2012 and will be renewed as appropriate.

Element	Evaluation report to		Timeframe	Comments/Actions
	Board	IC		
Vision	Y	Y	10+ years	Identify long-term indicators for "healthy environment" and "strong communities".
Strategic directions	Y	Y	Annual	Measure progress against strategic directions using performance targets (listed under strategic directions).
Strategic approaches	Y	Y	2012	*Assumed that actions contribute to strategic approaches.* Assess progress qualitatively against each strategic direction.
Actions	N	Y	Annual	Assess progress qualitatively against each action.

APPENDIX 1 – REGIONAL CATCHMENT TARGETS

National Framework		Resource Condition Target
Matter for Target	**Indicator Heading**	
1 Land Salinity	Area of land threatened by shallow or rising water tables	1.1 Save 1,500 ha of foothills and river valleys of highland areas from salinisation by 2050.
		1.2 Manage 30,000 ha of salinised land in the riverine plain of the Dryland by 2100.
		1.3 Manage 120,000 ha of land with high water tables in the riverine plain of the Dryland by 2100.
		1.4 Protect 286,000 ha of land from surface water accessions in the SIR by 2020.
2 Surface Water Salinity in freshwater aquatic environments	In-stream salinity	2.1 Maintain increases to salinity levels of the River Murray at Morgan from the SIR at or below 17.0 ECs by 2020 .
		2.2 Salinity concentrations of River Murray resulting from groundwater disposal to be kept within acceptable limits by only disposing when flows are sufficiently high.
		2.3 Maintain increases to salinity levels of the River Murray at Morgan from the Goulburn Broken Dryland at or below 1.3 ECs by 2050.
3 Soil Condition	Soil Condition	3 No targets set. Do we need to set?
4 Native Vegetation Communities' Integrity	Native vegetation extent and distribution	4.1 Maintain extent of all native vegetation types at 1999 levels in keeping with the goal of 'net gain' listed in Victoria's Biodiversity Strategy 1997.
		4.2 Increase the cover of all endangered and applicable vulnerable EVCs to at least 15% of their pre-European vegetation cover by 2030.
	Native vegetation condition	4.3 Improve the quality of 90% of existing (2000) native vegetation by 10% by 2030.
5 Significant native species and ecological communities	Selected significant native species & ecological communities extent and conservation status	5.1 Increase 2002 conservation status of 80% threatened flora and 60% of threatened fauna by 2030.
6 Inland Aquatic Ecosystems Integrity (Rivers and other Wetlands)	River condition	6.1 Maintain condition of all high value rivers.
		6.2 Maintain condition of all ecologically healthy rivers.
		6.3 Improve condition of all near ecologically healthy rivers.
		6.4 Improve condition of 20% of streams in moderate, poor or very poor condition.
	Wetland ecosystem extent and distribution	6.5 Maintain extent of all wetland types at 2003 levels where the extent (area and number) has declined since European settlement.
	Wetland ecosystem condition	6.6 Improve condition of 70% of wetlands by 2030, using 2003 as the benchmark for condition.
7 Nutrients in Aquatic Environments	Nitrogen in aquatic environments	Not appropriate to set: watching brief only.
	Phosphorus in aquatic environments	7.1 Reduce potential phosphorus loads by 65% by 2016 by reducing phosphorus loads from:
		7.1.1 irrigation drains by 50%
		7.1.2 dryland and diffuse sources by 20%
		7.1.3 wastewater management facilities by 80%
		7.1.4 urban stormwater
		7.1.5 intensive agricultural industries and local water quality issues
8 Turbidity/ suspended particulate matter in aquatic environments	Turbidity/suspended solids	Monitoring only.
9 Ecologically significant invasive species	Selected ecologically significant vertebrate invasive species extent and impact	9.1 Reduced impact of foxes and wild dogs on livestock industries and native fauna.
		9.2 Increase area declared "rabbit free" by 100% by when?
	Selected ecologically significant invasive vegetation species extent and impact	9.3 Contain or where possible, eradicate, 100% of known satellite infestations of Regional Priority Weeds.
		9.4 Contain or where possible, eradicate, 95% of Regional Priority Weeds in priority project areas.
		9.5 Contain or where possible, eradicate, 100% of New and Emerging Weeds.
		9.6 Eradicate 100% of State Prohibited Weeds infestations.

APPENDIX 2 – CATCHMENT CONDITION TABLE (Long Term Progress)

Investment area	Catchment condition* change			
	1990**	2008	Certainty of ratings	Comments
The Environment				
1 SIR salinity: watertables and River Murray salinity	Poor	Good	Medium	Very large investment in water-use efficiency since 1990 means system can better withstand a run of wet years. Major investment in Foodbowl Modernisation project in next few years will improve condition in terms of salinity further.
2 Dryland salinity: watertables and River Murray salinity	Poor	Satisfactory	Low	Impact of record decade-long dry period on land salinisation and river salinity has dwarfed the impact of human intervention with reduced rainfall levels reversing the rising watertable trend in much of the upland areas. However, in the riverine plains there is a mixed response: some areas show continued rising trends in groundwater levels and other areas are falling in response to increased groundwater use, at least locally. This affects the confidence we have in targets we have set. Work is underway at regional and Australian Government levels, through the MDBC, to define targets in light of likely climate change and an extended dry climatic phase.
3 Environmental flows and water supply	Poor	Very poor	Medium	Stress on systems from decade long dry period since 1997 has highlighted vulnerability of systems. Dramatically increased water-use efficiencies in some sectors have been countered by reduced availability. Proposed increases in Environmental Water Reserve will improve resilience. There has been increased planning for the lower inflows under expected drier conditions.
4 Riparian and instream habitat and channel form	Poor	Satisfactory	Medium	Extensive works programs have improved state of system for terrestrial and aquatic species and contributed to improved water quality.
5 Water quality (nutrients) in rivers and streams	Very poor	Satisfactory	High	Became an issue in early 1990s. Installation of major wastewater treatment facilities, better managed irrigation (including reuse dams) and waterways revegetation means that the whole of catchment system has dramatically reduced phosphorus loads and reduced risk of algal blooms.
6 Biodiversity	Poor	Poor	Medium	Many systems that support biodiversity are vulnerable to changing state. Habitat loss and fragmentation threatens the viability of many ecosystems.
7 Climate change	Poor	Poor	Low	Not considered a major issue in 1990 even though it probably was. Recent dry years have stretched many systems to the limits but people have learnt to adapt. Although we accept that climate change is a reality, we do not know how much of this extremely dry phase is due to a fundamental shift in climate and how much is due to climate variability.
8 Flood protection	Very poor	Poor	Medium	Built environment in better state with improved pre-development planning and flood response systems. Natural environment better placed to receive floodwater, however large opportunities remain uncaptured.
9 Pest plants and pest animals	Poor	Poor	Medium	Terrestrial and aquatic environments remain vulnerable to new and emerging weeds. Better understanding of what and how to target now, although capacity to deliver changes has declined in some areas.
The Business				
A Corporate and statutory operations	Poor	Satisfactory	Medium	Advent of CMAs in 1997 rationalised institutional arrangements.
B Our people	Satisfactory	Satisfactory	Medium	Skills, experience and continuity of regional natural resource management staff remain at high levels. GB CMA processes for managing staff compliance issues, staff succession, and balancing age, gender etc are well established.
C Planning and responding	Poor	Satisfactory	Medium	Strategies and implementation approaches developed for many issues, such as integrated catchment management, water quality, biodiversity, floodplain management, river health management. Positioned to rapidly respond to emerging issues.
D Knowledge	Poor	Satisfactory	Medium	Knowledge base in many areas now far exceeds capacity to apply it. Developing system resilience approach is likely next phase.
E Relationships, partnerships and community capacity	Poor	Poor	Low	Constant focus for effort. Knowledge systems of agency-landowner relationships in the Catchment has improved and this is resulting in better targeting, although capacity of landowners to deliver change has declined in many areas because of drought. Challenge emerging in western world since 1990 is rapid turnover of staff in all jurisdictions. Corporate memory at all levels is a major issue. Better information systems being built to inform new staff quickly so they can more readily respond to needs.
F Our environmental footprint	Very poor	Poor	Low	Environmental concern became mainstream in the early 1990s. Since then, there has been dramatic growth in awareness of how we can improve our everyday practices and behaviours to reduce impacts. There is still significant room for improvement. The inclusion of this issue as an investment area in this year's Annual Report reflects the growth in its importance for organisations.

* Ratings consider evidence of resource condition, resilience, adaptability and transformability of the Catchment related to the investment area such as indicators of resource condition, social and economic health and catchment management systems. Further background on Catchment condition is in the 'Understanding progress and ratings' section of the full Annual Report.

Categories	Catchment condition
	Very poor
	Poor
	Satisfactory
	Good to excellent

Certainty of rating
Very low
Low
Medium
High

**Ratings for 1990 have been determined using our understanding in 2008 of what the situation was like in 1990. 1990 is an appropriate reference year because it was about this time that integrated catchment management was born.

APPENDIX 3 - GLOSSARY

Amenity - A feature that increases attractiveness or value, especially of a piece of real estate or a geographic location.

Natural Assets - The biophysical elements of the environment which are valued for the services they provide.

Biolink - a landscape supporting a mosaic of land-uses (including agriculture), with large, well-connected areas of vegetation that provide habitat for flora and fauna into the future.

Carbon Offset - Any human activity that deliberately removes carbon dioxide from the atmosphere or avoids carbon dioxide emissions.

Duty of Care - where a landholder has a legal obligation to take all reasonable and practicable steps to avoid causing foreseeable harm to their land (of which biodiversity is a significant part).

Ecosystem Services - The role played by organisms in creating a healthy environment for human beings, from production of oxygen to soil formation and maintenance of water quality.

Lifestyle – in the context of land ie 'lifestyle property', lifestyle refers to property that offers a way of life or a style of living that reflects the attitudes and values of a person or group.

Market-Based Instrument (MBIs) - A policy instrument that uses price to provide an incentive to achieve environmental outcomes. MBIS seek to address market failure of negative externalities by incorporating the external cost of activities through taxes or charges, or by creating property right and facilitating the establishment of a proxy market for environmental services.

Native Vegetation Offset - Any works or other actions to make reparation for the loss of native vegetation arising from its removal or destruction (no net-loss). The offset must be permanent and ongoing, and linked to a specific clearing site.

Natural Resource Management (NRM) - Is the management of any activity that uses, develops or conserves our natural resources.

Regional Catchment Targets (RCT) – Are used to measure the change in condition of natural assets.

Remnant Vegetation - Indigenous vegetation that has not been cleared, modified or replanted.

Resilience - The ability of an ecosystem to withstand and recover from environmental stresses and disturbances.

Socio-ecological systems – are complex, integrated systems in which humans are part of nature.

Stewardship - The term Land Stewardship may relate to a particular land management ethic, to a program or to a practice. In the context of this project, it includes implementing a range of (integrated) activities that seek to ensure sustainable natural resource management.

Sustainable Use - The use of resources in a way and at a rate that does not lead to the long term decline of biological diversity, thereby maintaining their potential to meet the needs and aspirations of present and future generations.

Trade-off - A decision to take an action which will result in the loss or compromise of some other objectives. The full consequences of the decision should be understood before it is made.