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AUDIT REPORT

LACHLAN  
CATCHMENT MANAGEMENT AUTHORITY

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Commission

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## List of acronyms

BoM	Board of Management
CAP	Catchment Action Plan
CMA	Catchment Management Authority
DPI	Department of Primary Industries
GRDC	Grains, Research and Development Corporation
GST	Goods and Services Tax
IID	Institute for International Development
INFFER	Investment Framework for Environmental Resources
LANRMG	Lachlan Aboriginal Natural Resource Management Group
LCMA	Lachlan Catchment Management Authority
LRARG	Lachlan Regional Aboriginal Reference Group
MERI	Monitoring, Evaluation, Reporting and Improvement
NAP	National Action Plan for Salinity and Water Quality
NHT	Natural Heritage Trust
NRC	Natural Resources Commission
NRM	Natural Resource Management
NSW	New South Wales
RLPB	Rural Lands Protection Boards
SARDI	South Australian Research and Development Institute

## Document Status

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## 1. INTRODUCTION

The Natural Resources Commission (NRC) has a statutory role to audit whether the state's 13 Catchment Action Plans (CAPs) are being implemented effectively – that is, in a way that complies with *the Standard for Quality Natural Resource Management* (the Standard) and will help achieve the state-wide targets.

In 2008, the NRC completed seven of the thirteen audits. In 2009 the NRC contracted external consultants to undertake the remaining six audits. The NRC contracted the Institute for International Development (IID) to undertake the audit of the implementation of the CAP prepared by the Lachlan Catchment Management Authority (CMA).

This Audit Report to the NRC contains the conclusions of the audit of the implementation of the Lachlan CAP and the actions that the audit team suggests that the Lachlan CMA Board take to improve this implementation. The full audit conclusions and suggested actions, and a summary of the CMA's response to the suggested actions, are included in Attachment 1 of this report.

The purpose of this report is to promote greater understanding of the Lachlan CMA's performance, and to guide the CMA Board in continued improvement. The report explains:

- the audit conclusions and their significance
- how auditors used the Standard in reaching the conclusions.

The NRC will use the conclusions, along with those of other audits and additional information, to inform a report to Government on progress in implementing CAPs and performance of the regional model

### 1.1 Focus of the audit

Although a range of government agencies have a role in implementing CAPs, the NRC focused its first audits on the actions of the 13 CMAs in NSW. This is because CMAs are the lead agencies responsible for implementing CAPs.

In addition, while state-wide and CMA-level monitoring and evaluation programs are being implemented, sufficient and consistent data from these programs were not available at the commencement of these audits. As a result, the NRC's initial audits were not able to test the contribution of CMA actions against accurate measurements of landscape-scale changes in natural resource condition that help achieve the state-wide targets. Instead, the audits focused on whether CMAs' planning, project implementation and other CAP-related activities, and the business systems that guide and support these activities, are reaching the quality benchmarks set by the Standard.

The audits focused on four lines of inquiry:

1. Is the CMA effectively prioritising its investments to promote resilient landscapes that support the values of its communities?
2. Are the CMA's vegetation projects contributing to improved landscape function?
3. Is the CMA actively engaging its communities?
4. Is the CMA effectively using adaptive management?

For each line of inquiry, the NRC required the audit team to assess not only whether the CMA is doing the activity, but whether it is doing it effectively – that is, by applying the most relevant elements of the Standard and achieving the required outcomes of the Standard. The NRC believes a CMA that is doing each of these four activities in a way that reaches the quality benchmarks set by the Standard has the greatest chance of achieving multiple NRM outcomes and making the highest possible contribution towards the state-wide targets.

Finally, in pursuing each of the four lines of inquiry, the audit team was required to focus on CMA projects that use vegetation to improve landscape function. It was not practical to look at all CMA programs and projects, given the timeframe for the audits. The NRC considers that focusing on vegetation-related projects was the best option, as in general these have most potential to contribute to multiple NRM targets across more than one biophysical theme (for example, improvements in river health, soil function and native species habitat).

## 1.2 Summary of audit findings

To conduct the audit, the NRC identified what an audit would expect to find if the CMA was doing each of the four activities listed above effectively. For each line of inquiry, the NRC identified three or four criteria they would expect the CMA to be meeting. The NRC also identified the elements of the Standard that are most relevant and important to that line of inquiry, and the CMA behaviours and other outcomes it would expect to find if the CMA is properly applying those elements of the Standard.

The audit team then assessed the CMA's performance against these expectations by interviewing a sample of CMA Board and staff members, landholders and other stakeholders; reviewing a range of CMA and public documents; and visiting projects.

Finally, the audit team identified the actions the CMA should take to improve its performance in implementing the CAP in compliance with the Standard.

The sections below summarise the audit findings for the Lachlan CAP, including the NRC's expectations, the audit team's assessment of Lachlan CMA's performance against these expectations, and the actions the audit team suggests the CMA take to improve its performance. As noted above, the full audit conclusions and suggested actions for Lachlan CMA are provided in Attachment 1.

### 1.2.1 Prioritising investments to promote resilient landscapes

If a CMA is effectively prioritising its investments to promote resilient landscapes that support the values of its communities, the NRC would expect to find that it has a commonly understood definition of what constitutes resilient landscapes in its region. For example, its Board members and staff would be able to consistently explain the main natural resource assets in the region, and the interactions that characterise healthy landscape function. They would know the main threats to the assets and landscape function, and the environmental, economic, social and cultural value the community places on those assets. In addition, they would also agree on the options for action and how these actions promote resilient landscapes.

The NRC would also expect to find that the CMA has a system for ranking investment options that uses a wide range of information about the assets and threats, and can identify the projects that will contribute to multiple NRM targets across more than one biophysical theme. This system would be transparent, consistent and repeatable. In addition, the NRC would expect to find that the CMA has a system to ensure

its short- and long-term investments are consistent with each other and with the catchment-level targets in the CAP.

Our audit of Lachlan CMA's implementation of the CAP found that:

- The CMA Board and senior staff demonstrated a broadly shared interpretation of resilience most frequently expressed as 'sustainability'. However, the CMA had not clearly documented its understanding of 'sustainability' or 'resilient' landscapes in its CAP and other planning documents. Differences in individual Board and staff members' assessments of the relevant importance of aspects of landscape function were starting to generate concerns among CMA Board and staff that agreed options for action may not be appropriate.
- The CMA had a system that ranked investment options and elements of the system incorporated the best available information and multiple CAP target achievement. However, this system consisted of a series of interlocking processes that were not clearly documented nor fully understood by all Board members and staff.
- The CMA had developed systems to ensure short and long-term investments were consistent with each other and integrated with other planned targets but these systems were not yet sufficiently advanced to systematically inform planning.

The audit team suggests that the Lachlan CMA Board take a range of actions to address the issues identified by the audit and so improve the extent to which its implementation of the CAP complies with the Standard. These actions include:

- Using its review of the CAP to clearly document a definition of resilient landscapes to strengthen consistency and confidence in its prioritisation system and more strongly promote the region's longer term priorities to its investors and communities.
- Reviewing and clearly documenting its existing prioritisation system.

### 1.2.2 Delivering projects that contributed to improved landscape function

If a CMA is effectively delivering vegetation projects that contribute to improved landscape function, the NRC would expect its Board and staff to have a common understanding of how the short-term outcomes of its projects are expected to lead to long-term improvements in natural resource condition, and that the expected long-term outcomes are documented. The NRC would also expect to find that its projects are achieving the expected short-term outcomes, and that the CMA has a system for identifying opportunities to further leverage the experience of its project partners to add value to the initial projects.

In addition, the NRC would expect to find that the CMA is attracting additional funding and in-kind contributions to match government investments in projects, and that it has systems in place to monitor and evaluate project outcomes over time.

Our audit of Lachlan CMA's implementation of the CAP found that:

- The staff and landholders had a common understanding of how project outputs and management actions contributed to long-term outcomes and CAP targets. However, these linkages were not clearly documented in project contracts inspected.
- The CMA had successfully achieved robust project outputs and these had strong logic linkages to long-term outcomes. Observed changes in management practices and resource condition indicated that achievement of long-term outcomes was likely.

- The CMA had sought opportunities to add further value to its investment, by encouraging project applications that involved multiple neighbouring properties and working with landholders in project design to build in multiple environmental benefits.
- The CMA had attracted additional resources from landholders and project collaborators, including both monetary and in-kind investments. However, while the estimated value of additional investment had been recorded, evidence indicated that the CMA's system of collating and recording this information had consistently underestimated the value of the additional resources attracted.
- The CMA had developed a comprehensive MERI Framework and draft MERI Project Plan and had implemented parts of the Framework. However, further work was required to improve reporting on project outputs and outcomes in the short to medium term.

The audit team suggests that the Lachlan CMA Board take a range of actions to address the issues identified by the audit and so improve the extent to which its implementation of the CAP complies with the Standard. These actions include:

- Reviewing project document templates to ensure that project plans and contracts clearly describe the linkages between the expected long-term outcomes of both the CMA and landholders and the management actions required to achieve them.
- Reviewing a selection of completed projects to quantify actual inputs and developing an evaluation methodology that could be used to more accurately estimate additional resources contributed by stakeholders.
- Reviewing the compliance inspection process to strengthen the independent verification of outputs.

### 1.2.3 Effectively engaging its communities

If a CMA is effectively engaging its communities, the NRC would expect it to have identified the key community groups and stakeholders it should consider in planning and undertaking its work. The NRC would expect its Board and staff to have a shared understanding of these groups, including their knowledge, capacity and values, and the socio-economic and cultural opportunities and threats they pose to the successful implementation of the CAP.

In addition, the NRC would expect the CMA to be implementing an appropriate engagement strategy for each key group in its community, which is designed to build trust in the CMA, promote two-way knowledge sharing, and ultimately achieve outcomes. The CMA would also be implementing a communication strategy that promotes collaboration, sustainable behavioural change and feedback. These strategies would be based on its knowledge of the interests, capacities and values of each group, and their communication preferences.

Our audit of Lachlan CMA's implementation of the CAP found that:

- The CMA Board and staff demonstrated a good understanding of its community groups and stakeholders and there was a shared understanding within the CMA of differences across the catchment in terms of community capacity and willingness to engage.
- The CMA's position statement: "*Together We're Making a Difference*", reflected the CMA's values and its belief that community engagement is the primary mechanism for delivering improved NRM outcomes. The CMA was implementing engagement strategies at the strategic, regional and local level and had taken innovative approaches to engage with its community and collaborators.



- The CMA had effective communication with its community groups and stakeholders, which had raised the profile of the CMA and increased understanding, capacity and willingness to participate in activities aimed at achieving long-term NRM outcomes. The CMA had established a Communications and Marketing team to oversee the implementation of strategies that guided communication, marketing, promotion and engagement at the strategic, regional and project level. However, how these strategies linked together was not transparent or documented which could limit the practical application of these strategies by staff.

The audit team suggests that the Lachlan CMA Board take a range of actions to address the issues identified by the audit and so improve the extent to which its implementation of the CAP complies with the Standard. These actions include:

- Using its review of the CAP to engage new stakeholders, incorporate new knowledge from benchmarking studies, and gain feedback from the community about what has and hasn't worked to date.
- Reviewing and documenting the linkages between existing communication, marketing, promotion and engagement strategies so that they can be effectively translated into actions by all CMA staff.

#### 1.2.4 Effectively using adaptive management

If a CMA is effectively using adaptive management, the NRC would expect it to have documented how it will apply the principles of adaptive management in its planning and business systems. The NRC would expect its Board and staff to be able to explain how the CMA uses adaptive management to promote continuous learning at both an individual and institutional level. They would also be able to explain the key knowledge gaps and uncertainties related to the assets and threats in the region, and how the CMA manages these.

In addition, the NRC would expect the CMA to use monitoring and evaluation systems that test the assumptions underlying its investments in improving landscape function and resilience, and use appropriate experts to assess the planned and actual outcomes of these investments. There would also be an organisational focus on applying new knowledge (gained from monitoring and evaluation or other sources) to increase the effectiveness of investments. Finally, the NRC would expect the CMA to have and maintain information management systems that support its adaptive management processes.

Our audit of Lachlan CMA's implementation of the CAP found that:

- The CMA's Board and staff had a good understanding of adaptive management, these principles were well documented and examples of adaptive management were identified.
- Despite the strength of the CMA's documented systems, there were weaknesses and inconsistencies in the implementation of these systems and it was unclear how several significant risks were being monitored and managed.
- The CMA had developed and had begun to implement a comprehensive MERI Framework including a range of monitoring activities designed to promote improved understanding of landscape function and measure response to management actions. However, while significant progress was being made, the MERI system was not yet able to provide sufficient evaluated information to systematically influence planning.

- The CMA demonstrated well-developed capacity in some areas of information management including spatial analysis. However, there were still areas of inadequacy and this was recognised by both the Board and staff.

The audit team suggests that the Lachlan CMA Board take a range of actions to address the issues identified by the audit and so improve the extent to which its implementation of the CAP complies with the Standard. These actions include:

- Fully implementing its Risk Management Procedure to ensure consistent risk management at all levels of the CMA.
- Finalising and implementing a robust internal audit plan. An internal audit of experimental projects would enhance the CMA's ability to quantify and manage its risks while documenting the lessons to be learned.
- Documenting the existing information management system and developing a strategy for ongoing improvement that focuses investment in priority areas.

### 1.3 Structure of the report

The rest of this report explains the audit conclusions and how the audit team used the Standard in reaching those conclusions in more detail. It is structured around each of the four lines of inquiry as follows:

- Chapter 2 describes the audit team's assessment of whether the CMA is effectively prioritising its investments to promote resilient landscapes that support the values of its communities
- Chapter 3 focuses on whether the CMA's vegetation projects are contributing to improved landscape function
- Chapter 4 discusses the audit team's assessment of whether the CMA is effectively engaging its communities
- Chapter 5 looks at whether the CMA is effectively using adaptive management.

The attachments provide the full audit conclusions, suggested actions, more detailed information about the audit, and an overview of the context for the audit conclusions including a summary of the key features of the Lachlan region and CMA. As noted above, a summary of the CMA's response to suggested actions has been provided in Attachment 1.

## 2. PRIORITISING INVESTMENTS TO PROMOTE RESILIENT LANDSCAPES

The audit's first line of inquiry was to assess whether the CMA is effectively prioritising its investments to promote resilient landscapes that support the values of its communities. This line of inquiry focused on planning – the first step in the adaptive management cycle. Its aim was to assess whether the CMA had established the knowledge, understanding, systems and procedures required to undertake this step effectively, in line with the Standard.

Although the CAP itself documents the priorities in the region, the NRC recommended approval of each CAP on the basis that the CMA would continue to improve the plan's quality and potential to contribute to the state-wide targets. The CMA cannot therefore, simply spend its funds in line with the CAP. Rather, it needs to continue to apply the Standard in implementing the CAP. This will enable it to continually refine its investment priorities as its knowledge of the landscapes and communities in its region improves, and its understanding of best-practice NRM evolves.

The NRC identified three criteria that they would expect a CMA to meet in order to effectively prioritise its investments in compliance with the Standard. These criteria include that the CMA had:

- a commonly understood definition of what constituted resilient landscapes in its region
- a system for ranking investment options that took account of factors such as scientific and local knowledge; socio-economic information; community and investor preferences; potential for partners to contribute matching funds or in-kind support, and potential to achieve maximum outcomes, for example, by contributing to multiple NRM targets across more than one biophysical theme
- a system that ensured that its short- and long-term investment priorities were consistent with each other, and with the catchment-level targets in the CAP.

The NRC identified the elements of the Standard that are most relevant and important for meeting these criteria. The NRC also identified the behaviours and other outcomes they would expect the CMA to demonstrate if it is properly using these elements of the Standard, and thus meeting the criteria to a level of quality consistent with the Standard.

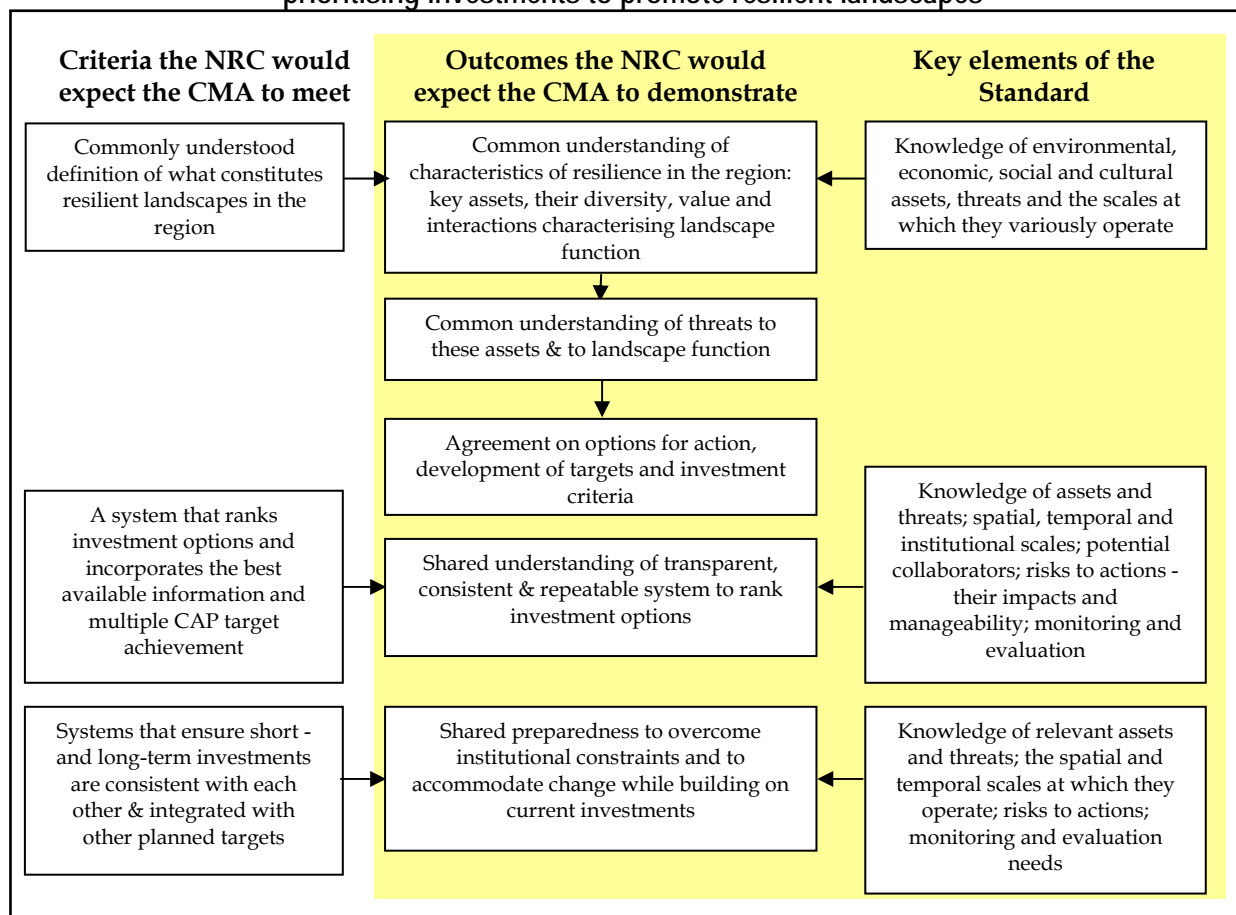
For example, if the CMA is meeting the first criterion (having a commonly understood definition of what constitutes resilient landscapes in its region) in a way that complies with the Standard, the NRC would expect it to be collecting and using the best available knowledge on the natural resource assets and threats in its region and on the economic, social and cultural values its community places on those assets. The NRC would also expect it to be considering the scales at which the assets and threats operate, and determining the optimal scale at which to manage them to achieve multiple NRM benefits and integrated outcomes.

As a result, the NRC would expect to find that its Board members and staff can consistently explain the main natural resource assets in the region, and the interactions that characterise healthy landscape function. The NRC would also expect them to understand the main threats to the assets and landscape function, and the environmental, economic, social and cultural value the community places on the assets. In addition, they would agree on the options for action to address the threats and maintain or improve the quality of the assets, and the criteria for deciding the actions in which the CMA should invest.

Figure 2.1 provides an overview of this assessment framework. The criteria the NRC would expect the CMA to meet are shown in the left hand column, the most relevant and important elements of the Standard

for meeting these criteria are in the right hand column, and the behaviours and other outcomes the NRC would expect the CMA to demonstrate if it is using these elements of the Standard are shown in the centre column.

**Figure 2.1: The framework the audit team used to assess whether the CMA was effectively prioritising investments to promote resilient landscapes**



The sections below discuss each criterion, including why it is important and what the audit found in relation to it.

## 2.1 Commonly understood definition of resilient landscapes

NSW's aspirational goal for natural resource management is resilient landscapes – that is, “landscapes that are ecologically sustainable, function effectively and support the environmental, economic, social and cultural values of our communities”. At its simplest, a CMA's role is to coordinate investment to improve NRM across its region and deliver outcomes that make the greatest possible contribution to the achievement of this goal. To do this, the CMA must have a commonly understood definition of what constitutes resilient landscapes in its catchment – its Board and staff members need a consistent understanding of what the goal means for the particular landscapes and communities in its region.

The audit found that the Lachlan CMA Board and senior staff demonstrated a broadly shared interpretation of resilience most frequently expressed as ‘sustainability’. There was a strongly shared focus on ensuring the landscape could withstand adverse conditions or ‘shocks’ and strong agreement around the need for changed community attitudes that would in turn lead to better management practices. The Lachlan CAP

had established a vision of "Inspiring our community to work together for improved management of our natural resources and to build a sustainable future" and the CMA was projecting this vision through strong community engagement.

Site inspections and interviews with stakeholders confirmed that the strategy to promote and support change in community attitudes was working well and the CMA was educating landholders and promoting progress towards improved management practices that would improve resilience.

The CMA demonstrated that it had used its knowledge of the environmental and socio-cultural assets in the catchment and the threats to these assets to build an understanding of landscape function in the region. The CMA had also taken steps to continue to refine its knowledge. In 2007, as part of a review of its Investment Strategy, the CMA undertook a spatial analysis to identify priority areas for future investment, with a particular focus around conservation values relating to native vegetation and threatened species.

The CMA had not clearly documented its understanding of 'sustainability' or 'resilient' landscapes in its CAP and other planning documents. The absence of a Board endorsed definition meant there were differences in individual Board and staff members' assessments of the relevant importance of aspects of landscape function, particularly as new knowledge was obtained. There was evidence that these differences were starting to generate concerns among the CMA Board and staff that agreed options for action may not be appropriate.

In respect to the Standard, the CMA:

- had demonstrated it had used knowledge of assets and threats to the catchment to build an understanding of landscape function (*Collection and use of knowledge*)
- could not demonstrate it had documented its understanding of landscape function and resilience in a way that would promote agreement on options for action, development of targets and investment criteria (*Information management*).

## 2.2 A system for ranking investment options

Our knowledge of biophysical and natural systems is incomplete and evolving. People's interactions with natural systems are also dynamic, and community values evolve over time. Because of this, CMAs need to continually seek out improvements in knowledge and adjust their focus accordingly. Their systems for ranking their investment options need to use a wide range of information – such as scientific and local information on the assets and threats in the catchment, as well as information on the values the community places on the assets, and on potential collaborators and their capacity.

In addition, CMAs have received limited government investment and have an enormous amount to achieve if we are to realise the goal of resilient landscapes. This means they need to invest these funds in ways that will make the greatest possible contribution towards as many catchment-level and state-wide targets as possible. To do this, they need a system for ranking investment options that takes account of the options' potential to contribute to multiple targets.

The audit found that the CMA had a system that ranked investment options and elements of the system incorporated the best available information and multiple CAP target achievement. The system applied external expertise, spatial analysis and community values to identify priority areas for investment.

The CMA's business model promoted targeted education and training to build community capacity well in advance of delivery of on ground works (see 4.2). When investment funds became available, the CMA then targeted engaged stakeholders in priority investment areas to implement on ground works projects (see Box 2.1). This strategy helped to promote the rapid delivery of comprehensive projects through stakeholders that had already developed a relationship with the CMA and understood the importance of changed management actions.

The processes used to develop projects in priority areas utilised a range of tools, expert panels and staff experience to meet investor preferences. These processes incorporated knowledge of assets and threats, considered spatial, temporal and institutional scales and integrated management actions to promote multiple outcomes.

However, these processes were particularly complex, not always clearly documented and not always fully understood at all levels of the organisation. Consequently they largely relied upon the expertise of responsible staff for the quality of implementation. CMA staff also acknowledged that the system was not yet consistently incorporating feedback from the monitoring and evaluation system and that this may also be limiting its effectiveness.

In respect to the Standard, the CMA:

- demonstrated it had incorporated available knowledge of assets, threats and spatial priorities, including community capacity for assessing individual projects (*Collection and use of knowledge, Determination of scale, Community engagement*)
- could not demonstrate it had consistently applied a repeatable system to allocate its investments between targets, programs and projects to achieve the region's priority NRM outcomes (*Collection and use of knowledge, Determination of scale and Risk management*).

### Box 2.1: Addressing Priority Issues through Targeted Investment

*A project on the upper Lachlan River demonstrated how the CMA had identified priority areas for investment and then implemented on ground works by targeting already engaged landholders.*

The Lachlan CMA's business model promoted targeted education and training to engage the local community and build understanding of the key natural resource management issues facing the catchment, well in advance of delivery of on ground works. This approach positioned the CMA to be able to target investment in priority areas through landholders with sufficient capacity to support the adoption of new techniques.

The Mac Perch program provided an example of how the CMA had used this approach. This program was designed to preserve and enhance the habitat of the Macquarie Perch, an endangered species of freshwater fish. It was based on knowledge from a study conducted by the DPI Inland Fisheries group that identified surviving populations of the Macquarie Perch in the Abercrombie and Lachlan rivers above the Wyangala dam.

Priority was given to works in the upper catchment on the assumption that once fish populations in these areas reached a sustainable level they could repopulate downstream reaches of the river over time.



*(Left: Riparian zone on the upper Lachlan River demonstrating limited extent of remaining native vegetation)*

The CMA therefore decided to actively target land holders along these priority stretches of the river to:

- protect the banks through fencing to exclude stock,
- reduce erosion through improved management practices, and
- encourage the development of habitat waterholes through the enhancement of snags and promotion of turbulence.

In order for this program to deliver long term outcomes participating landholders would need to implement and maintain changed management practices that could initially result in a loss of grazing area and significant cost. To maximise the potential for success the CMA identified landholders in the priority area that had already undertaken education and training programs and had demonstrated an interest in implementing changed management practices. CMA staff then worked closely with the targeted landholders to develop projects that delivered benefits to the landholder while meeting the CMA's selection criteria. For example, fencing to protect the riparian zone was designed to promote more efficient management of stock and improved pasture resilience while also conserving riparian vegetation and protecting riverbanks from erosion.



*(Right: Riparian zone highlighting extensive groundcover as a result of exclusion of stock)*

A project inspected during the audit was designed to improve water quality in the Lachlan by reducing erosion. It was also designed to facilitate rotational grazing through the construction of fencing and the provision of off stream water points. This project had protected 28.5 kilometres of river and set aside more than 400 ha of the riparian zone for conservation and revegetation.

While the CMA met 95% of the material cost the landholder had contributed significant labour to the project and had undertaken to relinquish riverbank grazing areas and implement long term changes to management practices. The landholder also acknowledged the role of CMA training programs in promoting changed management practices and was highlighting these programs and practices to neighbouring farmers.

## 2.3 Systems that ensure consistent short and long-term investments

The time lapse between changes to the management of natural resources and the improvement in the function of natural systems can be significant. In the interim much can change, and CMAs need to accommodate this change without losing focus on the long-term objectives of their region's CAP. To do this, CMAs need systems to help them adaptively manage towards long-term targets as they learn what works and what doesn't, and as the environmental, economic, social and cultural landscapes around them change.

The audit found that the Lachlan CMA had developed systems to ensure short and long-term investments were consistent with each other and the CMA's investments were being driven by the long-term catchment-level targets for its region.

The CMA's business model and prioritisation system promoted a shared preparedness to overcome institutional constraints and to accommodate change while building on current investments. The CMA had conducted a comprehensive review of its investment strategy in 2007 that enhanced its understanding of assets and threats and improved its ability to target investment in priority areas. Furthermore, the focus on providing advisory services strongly supported the ability of stakeholders to design projects that contributed toward achievement of CAP targets.

However, the implementation of the CMA's MERI system had not yet progressed to the point where there was sufficient new information to systematically inform planning. Progress reporting was still focussed on outputs and consequently there was a need to rely on staff competence and feedback from the community to confirm priorities were appropriate.

The further development of its business systems, particularly prioritisation, MERI and information management as suggested in the relevant sections of the report, would strengthen the CMA's ability to ensure short and long-term investments are consistent with each other and integrated with other planned targets.

In respect to the Standard, the CMA:

- demonstrated that it had evaluated and adapted its short-term investments to promote integrated long-term outcomes (*Collection and use of knowledge, Determination of scale and Monitoring and evaluation*)
- could not demonstrate that monitoring and evaluation of outputs and outcomes had been consistently used to inform planning (*Monitoring and evaluation and Information management*).



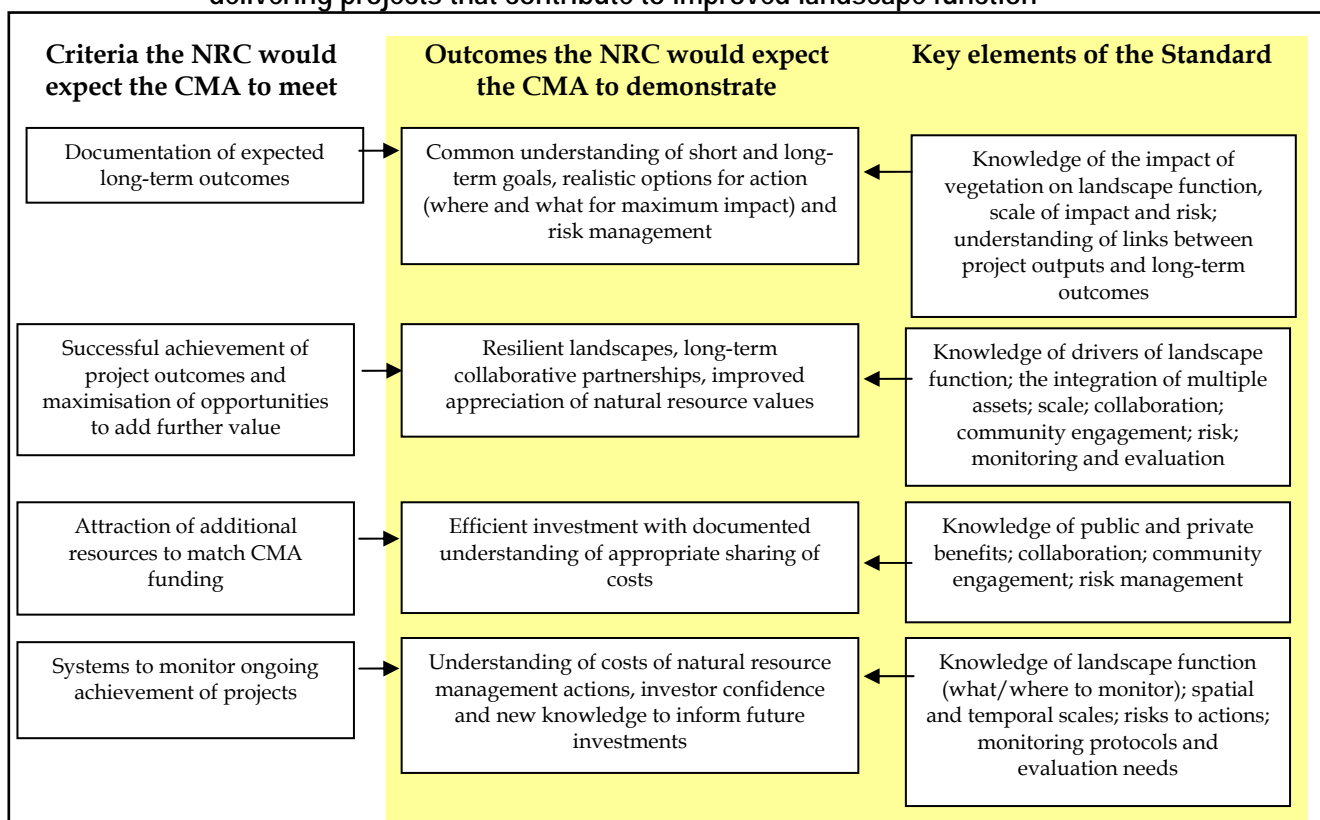
### 3. DELIVERING PROJECTS THAT CONTRIBUTE TO IMPROVED LANDSCAPE FUNCTION

The audit's second line of inquiry assessed whether the CMA's vegetation projects are contributing to improved landscape function. CMAs should promote short-term improvements in the management of natural resources in their catchments that will contribute to long-term improvements in natural resource condition. To understand whether they are pursuing this aim in a way that meets the quality benchmarks set by the Standard, we assessed whether they were meeting four criteria. These were that the CMA:

- documents the expected long-term outcomes of projects it invests in
- is successfully achieving short-term project outcomes, and maximising further opportunities to add value
- is attracting additional resources to match its funding in projects
- has a system to monitor achievement of ongoing project outcomes.

As for all lines of inquiry, the NRC also identified the elements of the Standard that are most relevant to meeting these criteria effectively, and the behaviours and other outcomes the NRC would expect to see if the CMA is using those elements of the Standard. These are shown in Figure 3.1.

**Figure 3.1: The framework the audit team used to assess whether the CMA was effectively delivering projects that contribute to improved landscape function**



The sections below discuss each criterion, including why it is important and what the audit found in relation to it.

### 3.1 Documentation of expected long-term outcomes

Natural resource management is a long-term process, and it can take many years to achieve intended improvements in landscape function. In addition, our knowledge of natural systems and best practice in managing them continues to evolve, so natural resource managers need to continually adapt their actions to take account of new knowledge. The documentation of projects' expected long-term outcomes is important to help ensure projects stay on track over time. For example, it can help landholders and CMA field staff in continually managing towards those outcomes in the longer term as circumstances change.

The audit found that the Lachlan CMA had documented expected long-term outcomes in the CAP and other planning documents and that these were consistent with each other. There was a common understanding between CMA staff and landholders of how project outputs and management actions contributed to long-term outcomes and CAP targets.

However, these linkages were not clearly documented in the project contracts inspected during the audit. Achievement of long term outcomes required landholders to maintain changed management practices well beyond the receipt of final contract payment. Therefore clearly documenting these linkages in all project contracts would help to ensure that management actions are maintained over time.

Most of the projects examined contributed to more than one CAP theme, which indicated that the CMA was mindful of maximising environmental benefits at the project scale. The CMA had also considered the importance of scale in improving landscape function and had encouraged project applications involving multiple neighbouring properties.

In respect to the Standard, the CMA:

- demonstrated that staff and landholders understood the logical relationships between project outputs, management actions and the long-term expected outcomes (*Determination of scale, Community engagement*)
- could not demonstrate it had clearly documented linkages between project outcomes and required management actions in project contracts (*Risk management*).

### 3.2 Successful achievement of project outcomes

CMAs' projects need to successfully achieve short-term changes in the way natural resources are managed in their region to maintain credibility with their communities, and create confidence in their investors. However, as CMAs often engage with their communities on the community's terms (at least initially), they also need to seek opportunities to add greater value to the projects proposed by landholders or other stakeholders.

The audit found that the Lachlan CMA had successfully achieved robust project outputs in all projects inspected. The logic linkages between outputs, management actions and long-term outcomes were sound and had been implemented in line with project contracts.

Demonstrated changes in management practices and some changes in resource condition were also observed. The success of native vegetation and controlled grazing projects on the Lachlan slopes was also being recognised by participants and CMA collaborators in these areas. These observable short term

outcomes combined with the strong logic linkages indicated that achievement of long-term outcomes was likely.

The CMA had also capitalised on opportunities to add further value. CMA staff had worked closely with landholders in the project design phase to build in multiple environmental benefits and strengthen project outcomes. In one project inspected the CMA had facilitated collaboration between neighbouring landholders to deliver multiple outcomes at a larger scale. (see Box 3.1).

In respect to the Standard the CMA:

- demonstrated sound project assumptions and had worked with landholders to strengthen project outcomes and maximise value (*Determination of scale, Community engagement and Opportunities for collaboration*).

### Box 3.1: Maximising Project Outcomes Through Collaboration

*By establishing collaborative partnerships and strengthening the capacity of their communities, CMAs can influence how the natural resources on private land are managed and maximise the effectiveness of government investment in NRM.*

A project in the Upper Bland Catchment demonstrated how the CMA had worked closely with landholders across property boundaries to improve water quality, vegetation and soil condition at a larger spatial scale and to maximise results.

A landholder in the Upper Bland catchment had observed degrading conditions on his property as a result of sheet and gully erosion. Originating from cropping country the landholder was unsure of the best course



of action and therefore enrolled in a grazing improvement program. Following this training the landholder discussed the problems on his property with neighbouring landholders and CMA staff and concluded that, in order to protect the gullies from further erosion and sustain an income from the land, a fundamental change was needed to the management practices on his property.

*(Left: Minimum till cultivation and fencing to exclude stock from areas managed for conservation are being used to reduce erosion)*

The CMA worked with the landholder to develop a viable project. The CMA considered the property to be representative of many others in the Upper Bland catchment, where inappropriate land management practices had resulted in reduced water quality downstream. Further the CMA recognised that success in a project of this nature would have demonstrable benefits to other landholders in the area.

The CMA and landholder agreed that improvements could be maximised and applied on a sub-catchment scale by changing management practices on both sides of the gullies (i.e. across property boundaries). Two neighbouring farmers were therefore engaged and the CMA helped all three landholders to develop

and implement a program of works, which included the fencing off of an area of endangered woodlands. Increasing the scale of the project also reduced the cost to each farmer.

Drought and various other factors had caused delays to the works so that at the time of inspection resource condition change was only slight. However, the landholders had since enrolled in conservation farming and grazing peer discussion groups and therefore continued to learn about their landscape and the positive effects of changed management practices. They had also communicated to other landholders their positive experience of working collaboratively with each other and the CMA.

### 3.3 Attraction of additional resources

To make the most of the small amount of funding CMAs have to invest in their regions, they need to look for opportunities to attract matching funding. They also need to encourage private landholders to make ongoing in-kind contributions, as this promotes resource stewardship and can increase the likelihood of landholders remaining committed to the success of the project over time.

The audit found that the CMA had attracted additional resources from landholders and project collaborators, including both monetary and in-kind investments. The amount of additional resources attracted against investment as reported by the CMA is shown in Table 3.1 in Attachment 3. The CMA's Incentive Guidelines documented the basis of calculations and appropriate cost-sharing and this was supported by information contained in project contracts.

The CMA had recorded the value of additional resources in its Contracts Database. However, these figures reflected what had been negotiated in the initial contracts rather than what had actually been contributed over the project period. All landholders interviewed provided evidence that their inputs exceeded what had been initially negotiated. This suggested that the CMA's system of collating and recording this information had consistently underestimated the value of the additional resources the CMA had attracted.

In respect to the Standard, the CMA:

- demonstrated it had attracted additional resources to its investments and promoted community awareness of appropriate cost sharing (*Opportunities for collaboration and Community engagement*)
- could not demonstrate it had accurately collated and recorded the extent of the additional resources it had attracted (*Monitoring and evaluation and Information management*).

### 3.4 A system to track ongoing achievement of projects

Long-term projects to encourage resource stewardship need monitoring – particularly given the significant time lapses between investments and resulting improvements in resource condition, the gaps in our understanding of how to manage dynamic natural systems, and the unavoidable flux in social, economic and climatic conditions. Investors require reliable information that short-term targets have been met, and progress towards longer term objectives is being made.

The audit found that the Lachlan CMA had developed a comprehensive MERI Framework and draft MERI Project Plan to drive monitoring and evaluation. The CMA had implemented parts of the Framework and

implementation was progressing. However, there was a shared understanding within the CMA that further work was required to improve reporting on project outputs and outcomes in the short to medium term.

While the project files documented the monitoring required during and after the CMA's involvement in the project, reporting was based on the outputs agreed to in the contract milestones rather than a consistent verification of what had been achieved on the ground.

In the projects inspected, the CMA had made payments in advance of contracted milestones to meet Net Cost of Service requirements when projects were delayed for various reasons. The reasons for these delays were often related to drought or adverse weather conditions preventing completion but the CMA did have projects that had been delayed by more than a year. These delays in completion combined with the reporting on contracted milestones reduced the CMA's ability to accurately measure the extent to which projects had contributed to long-term goals and the effectiveness of its investments.

The CMA was aware that its approach had inherent risks and it had commenced a series of inspections to validate the extent of outputs delivered. However, the audit found that the inspection process was typically being undertaken by the project officer responsible for provision of advisory services and project delivery and consequently was not sufficiently independent to ensure robust accountability and transparency.

In respect to the Standard, the CMA:

- demonstrated it was implementing a comprehensive MERI system to monitor and report on project outputs (*Monitoring and evaluation*)
- could not yet demonstrate it was fully evaluating the effectiveness of its investments (*Monitoring and evaluation and Risk management*).

## 4. COMMUNITY ENGAGEMENT

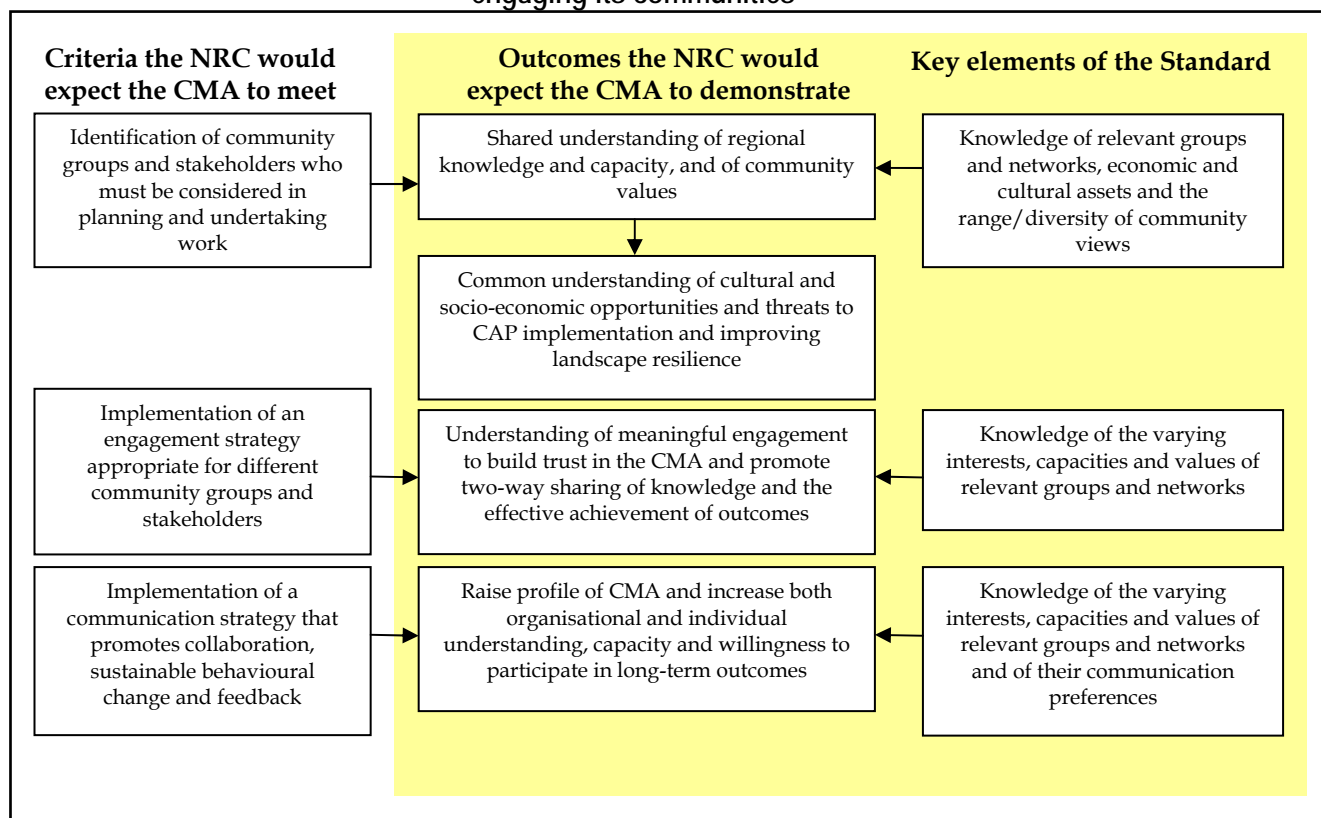
The audit's third line of inquiry was whether the CMA is effectively engaging its communities. Given that 89 per cent of land in NSW is in private management, it is critical for CMAs to engage private landholders and other stakeholders who manage the natural resources on this land. This allows CMAs to access the local knowledge of their communities, and understand the values placed on the natural resource assets in their region. It also enables them to influence how natural resources on private land are managed, and to maximise the effectiveness of government investment in NRM by establishing collaborative partnerships with landholders and other stakeholders, and strengthening the capacity of their communities.

The NRC identified three criteria that a CMA would be expected to meet in order to effectively engage its communities in compliance with the Standard. These criteria include that the CMA:

- has identified the community groups and stakeholders it must consider in planning and undertaking its work
- is implementing engagement strategies appropriate for different community groups and stakeholders
- is implementing a communications strategy that promotes collaboration, sustainable behaviour change and feedback.

Each of these criteria is shown on Figure 4.1, along with the key elements of the Standard for meeting it effectively, and the CMA behaviour and other outcomes the NRC would expect to see if the CMA was using those elements of the Standard.

**Figure 4.1: The framework the audit team used to assess whether the CMA was effectively engaging its communities**



The sections below discuss each criterion, including why it is important and what the audit found in relation to it.

#### 4.1 Identification and analysis of community groups and stakeholders

A CMA's logical first step in engaging the community is to identify the key community groups and other stakeholders it must consider in planning and undertaking its work. To be effective, it also needs to understand these groups – for example, what they know about the natural resource assets and threats in the region, what is important to them, and to what extent they have the capacity to participate in NRM designed to improve landscape function. In addition, it needs to understand how these groups might present opportunities or pose threats to its ability to effectively implement the CAP and meet the catchment-level targets in the CAP. Developing and maintaining this kind of understanding requires systematic research and analysis.

The audit found that the Lachlan CMA Board and staff demonstrated a good understanding of its community groups and stakeholders. From the outset, the CMA Board drove the CMA's approach to identify and engage key stakeholders, such as Landcare groups, the Aboriginal community and local councils. However, the Board and managers were aware that some stakeholders might have been overlooked to date.

The CMA had documented the key community groups and stakeholders in a number of strategic and operational documents, including, but not limited to the CAP, the Strategic Management Plan and the Strategic Marketing Plan. However, how these documents linked to one another was not always clear.

The CMA had a number of contact databases, including one in each of the 10 CMA offices. The CMA had recognised the risks and limitations around having a decentralised system and was undertaking work to consolidate the information into one database and make it accessible to all staff through the CMA intranet.

The CMA Board and staff had a common understanding of community attitudes, capacity and values and that these differed across the catchment. The CMA had developed a number of processes, such as reference groups and benchmarking studies, to maintain this understanding over time.

The CMA had effectively involved the community in its CAP planning process through workshops, community forums and stakeholder reference groups. There was a common understanding that this process would be repeated when the CAP is reviewed.

In respect to the Standard, the CMA:

- demonstrated a good understanding of community groups and stakeholders across the catchment and their capacity to engage in NRM (*Collection and Use of Knowledge, Determination of Scale*)
- demonstrated it had processes in place to maintain this understanding over time (*Collection and use of Knowledge and Information management*).

#### 4.2 Appropriate engagement strategies for different community groups and stakeholders

Most regions of NSW include a variety of communities, community groups and other stakeholders, which the CMA should consider in planning and undertaking its work. These groups have different knowledge

and capacity for NRM, and value the region's natural resources in different ways. For example, they might include rural communities, farmers and graziers, urban communities, Landcare groups, mining companies, tourism operators, local councils, relevant government agencies and other government institutions.

To effectively engage these diverse groups, a CMA needs to use its understanding of each group to develop an appropriate strategy for productive engagement. This requires strategic thinking, risk management and processes to identify and fill knowledge gaps.

The audit found that the CMA had an understanding of meaningful engagement and that this was reflected in a number of strategies that were being implemented at strategic, regional and project levels.

The CMA's position statement: "*Together We're Making a Difference*", was a true reflection of the CMA's values and its belief that community engagement is the primary mechanism for delivering improved NRM outcomes in the Lachlan catchment. There was a common understanding across the CMA that improved landscape and community resilience would come about by promoting and supporting change through training and knowledge sharing, rather than just dispensing funds.

The CMA had taken innovative approaches to engage with its community and collaborators in ways that promoted two-way sharing of knowledge and the effective achievement of outcomes. This was particularly evident in its engagement with the Aboriginal community through the Lachlan Aboriginal Natural Resource Management Group (LANRMG) (see Box 4.1); with industry through the Local Cowal Conservation Centre, with local government through Natural Resource Development Plans, and with other NRM agencies including State Water and DPI through the Lake Brewster project (see Box 5.1). This was also evident in the CMA's decision to locate staff in 10 offices across the catchment to engage with the local community and share knowledge.

However, the various strategies had been developed over time and the linkages between these were neither fully clear nor well documented.

In respect to the Standard, the CMA:

- demonstrated it had engaged with a wide range of community groups and stakeholders and taken innovative approaches to collaborating with partners in NRM (*Community engagement, Opportunities for Collaboration*)
- demonstrated it had strategies in place to meaningfully engage and promote two-way sharing of knowledge and the effective achievement of outcomes (*Collection and use of knowledge, Determination of Scale*).

#### Box 4.1: Engaged Aboriginal communities deliver improved NRM outcomes and reconnect with country.

*CMAs need to effectively engage communities to bring about NRM change. This includes understanding the values they place on natural resource assets in the region. They need sophisticated approaches to communicate, engage and collaborate with key community groups to promote two-way sharing of knowledge, build community capacity and achieve long-term outcomes for functioning landscapes and communities in the region.*

The Lachlan CMA has made significant progress in engaging with the Aboriginal communities in its



catchment. This engagement has attracted additional funding, delivered improved NRM outcomes and provided a way for Aboriginal people to reconnect to country. This progress is not only acknowledged by the CMA Board and staff, but also highly acclaimed by the Aboriginal groups themselves and CMA collaborators.

The CMA Board directed the CMA to be pro-active in its engagement with the Aboriginal community. The CMA's Catchment Officer for Aboriginal Communities visited each Aboriginal group in the Lachlan catchment to inform them about the CMA, map their areas of interest and explain how the CMA could support them. Contact was also made with land councils and traditional owners.

Each community then selected two representatives, one male and one female, to be part of the Lachlan Regional Aboriginal Reference Group (LRARG) of the CMA. The male and female representation was a conscious strategy to ensure the group had the capacity to address issues that were gender sensitive. The LRARG included representatives from 14 communities through the Lachlan catchment and provided input to the CAP in which Aboriginal engagement is targeted within the People and Community Theme and the Water Theme (cultural water).

In 2007 the LRARG unanimously decided that the most culturally appropriate method for empowering Aboriginal people within the Lachlan CMA region to participate in NRM was to establish and support an independent Aboriginal Corporation. In response to this, and with support from the CMA Board, the Lachlan Aboriginal Natural Resource Management Group (LANRMG) was formed. This corporation partners with the CMA to give advice and direction and empowers the various nations, clans, organisations and individuals in the region to access funding to undertake NRM activities. At the request of the LANRMG Board, members do not receive a sitting fee. In return the CMA Board agreed to invest the money saved into the LANRMG-LCMA Aboriginal Scholarship Program, which provides an annual payment of \$5000 per student and 4 weeks employment with the CMA.

In partnership with the CMA, the LANRMG has been successful in seven bids for funds for NRM works, including Australian Government Caring For Our Country bids in the Lachlan catchment. In the last twelve months, projects undertaken between LANRMG and the CMA have employed 23 Aboriginal people. In 2006/7 \$1.4 million was invested on-ground through the CMA's cultural heritage program. These activities have stimulated economic activity within both Aboriginal and wider communities and built community capacity. Projects have included cultural heritage surveys and preservation of cultural artefacts at Lake Brewster, willow removal programs along the Lachlan River and the establishment of a traditional place for the people of the Muri through consultation with the local council and the RLPB.

Aboriginal communities consider that becoming involved in NRM and traditional land care practices will enable them to reconnect with the landscape while encouraging younger members to learn and employ traditional practices, such as tree carving.

The CMA continues to partner with the LANRMG in its bids for additional NRM funding by providing scientific expertise, assistance with preparation of bids and project management skills. In this way the CMA helps to further build capacity while attracting additional investment and fostering long-term NRM outcomes.

### 4.3 Communication promoting collaboration, behavioural change and feedback

CMAs are also required to lead their diverse communities in understanding natural resource management. To do this, they need sophisticated approaches to communicating their messages, and for hearing and responding to the messages sent by communities. To capture the attention of diverse stakeholders such as Aboriginal communities, landholders, industry sectors, and urban and environmental organisations, their communication strategies need to reflect the varied values of their communities. This broad focus also helps to attract the widest possible funding and support across the region.

The audit found that the Lachlan CMA had a range of sophisticated approaches to facilitate two-way communication with its communities. Formal mechanisms of communication included Board representation on reference groups, working closely with collaborators through project steering groups and management committees, hosting an annual NRM awards program, and providing feedback forms to event participants and landholders. The CMA had recognised the need to improve its website and resources had been allocated to develop it into an effective communication tool with the community.

The CMA also had informal mechanisms of communicating externally, such as Board members speaking with their local communities, using advocates within the community to communicate with peers, holding 'thank you' evenings on a district by district basis, and by regionally locating staff so they could hear and respond to messages from their local communities.

These mechanisms had collectively raised the profile of the CMA and increased understanding, capacity and willingness to participate in activities aimed at achieving long term NRM outcomes. However, the Board and staff were aware that the CMA might have only heard from community groups and stakeholders that were already engaged with the CMA.

The CMA had a Communications and Marketing team to drive marketing internally and externally and to oversee all CMA communications to ensure a consistent message and standard. The CMA had strategies to guide communication, marketing, promotion and engagement at the strategic, regional and project level. However, how these strategies linked together was not always transparent or clearly documented and this could limit the practical application of these documents by staff.

In respect to the Standard, the CMA:

- demonstrated it had formal and informal mechanisms in place to communicate with community groups and stakeholders to raise its profile and to increase understanding, capacity and willingness to participate in NRM outcomes (*Collection and Use of Knowledge, Community engagement, Opportunities for Collaboration*).

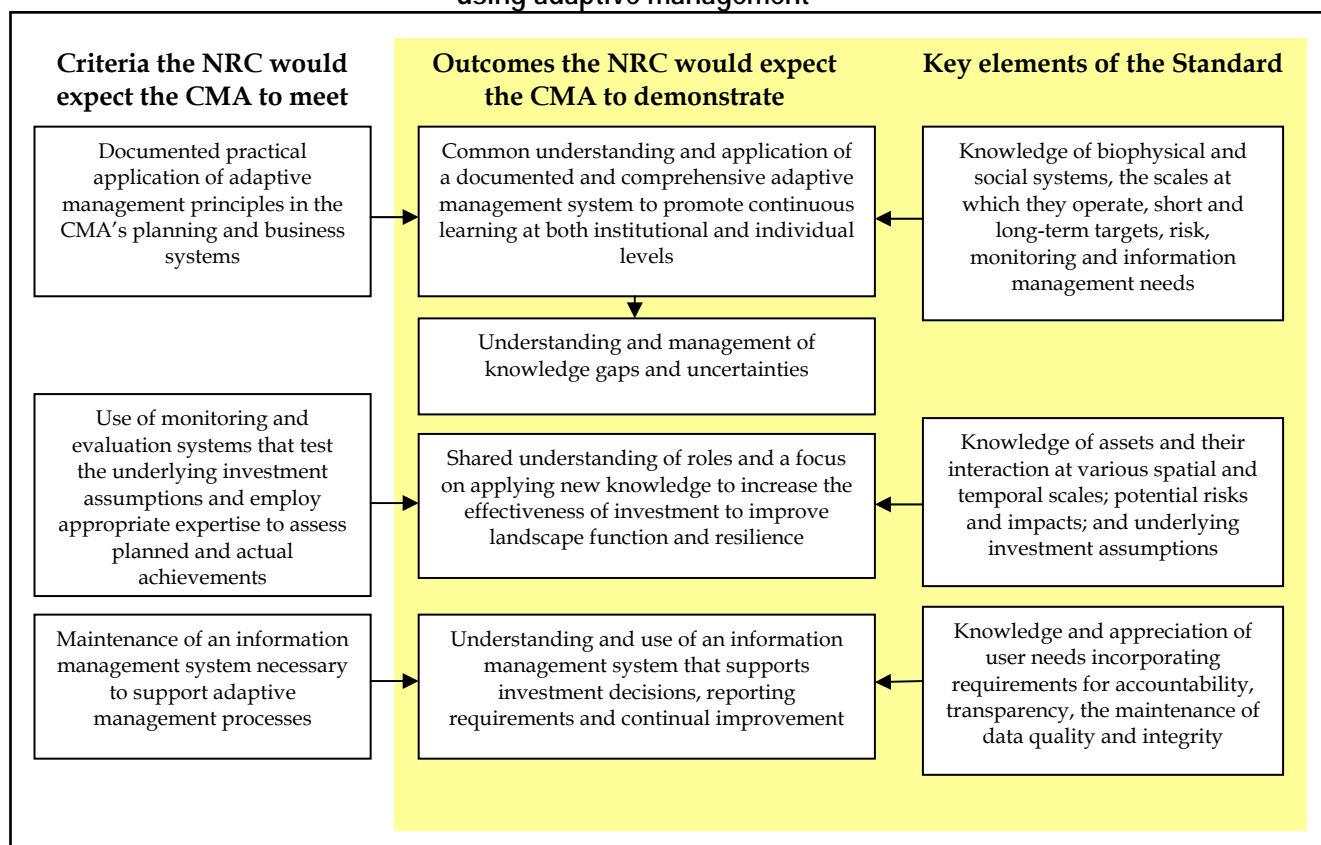
## 5. EFFECTIVELY USING ADAPTIVE MANAGEMENT

The audit's fourth line of inquiry assessed whether the CMA was effectively using adaptive management. It looked at whether the CMA:

- had documented the practical application of adaptive management principles to its planning and business systems
- had monitoring and evaluation systems that test its underlying investment assumptions and use appropriate experts to assess planned and actual achievements
- maintained information management systems necessary to support the adaptive management process.

Each criterion is shown on Figure 5.1, together with the elements of the Standard that are most relevant to meeting it effectively, and the CMA behaviour and other outcomes the NRC would expect to see if the CMA is using these elements of the Standard.

**Figure 5.1: The framework the audit team used to assess whether the CMA was effectively using adaptive management**



The sections below discuss each criterion in more detail, including why it is important and what the audit found in relation to it.

## 5.1 Adaptive management principles in planning and business systems

Adaptive management is 'learning by doing'. It is a structured, iterative process of decision-making that is intended to gradually reduce uncertainty and improve performance through monitoring, evaluation and response. It adds transparency and accountability to decision-making and the allocation of resources, while providing a framework for learning and ongoing improvement.

At a practical level, it is important that CMAs document, within their planning and business systems, how staff can apply adaptive management principles. This will help ensure their staff and collaborators can readily apply those principles in the many, diverse circumstances in which they work.

The audit found that Lachlan CMA's Board and staff had a good understanding of adaptive management and these principles were documented in various places including the CAP, the MERI Framework and the Risk Management Policy and Procedure.

Examples of adaptive management were identified in site inspections and interviews and the CMA's internal review of the Investment Strategy 2007. The Lake Brewster trial wetland demonstrated practical application of active adaptive management (see Box 5.1).

Despite the strength of the CMA's documented systems, there were examples of weaknesses and inconsistencies in their implementation. It was unclear how several significant risks were being monitored and managed. For example, the CMA had not clearly quantified or documented the risks associated with either making project payments in advance of contracted milestones or the significant investment in an experimental project. There were widely differing perspectives among Board members and staff as to the extent of these risks. The Risk Assessment 2007 had only considered business risks and applied risk thresholds that were inconsistent with both the Risk Management Policy and Procedure and Board members views of risk consequence.

The Board had maintained an Audit and Finance sub-committee but the internal audit process was immature and the internal audit plan incorporated in the Risk Assessment 2007 had not yet been implemented. While strong consideration of the Standard was evident in the design of risk and monitoring and evaluation systems, conscious application of the Standard in the implementation of these systems was not as evident.

In respect to the Standard, the CMA:

- demonstrated that it had applied some elements of the Standard to drive adaptive management – for example, conducting reviews of its investment strategy (*Monitoring and evaluation*) and clearly documenting its risk management system and MERI Framework (*Risk management, Monitoring and evaluation*)
- could not demonstrate that it had consistently implemented a CMA-wide approach to drive continual improvement throughout the organisation (*all components of the Standard*).

### Box 5.1: Active Adaptive Management – Trialling Wetland Revegetation

*One of the key challenges CMAs face is dealing with uncertainty about the effectiveness of their management actions when making decisions. Uncertainties exist at different scales, for example, from whether investment in a threatened species at a particular site will increase its chance of survival in the long-term, to whether a change in the CMA's business approach is likely to improve its chances of achieving the targets in the CAP. Adaptive management is a powerful approach that CMAs need to use to meet this challenge.*

The Lake Brewster water efficiency project is a \$12.5 million State Water Corporation project that aims to improve Lake Brewster as a re-regulating storage on the Lachlan River in NSW.<sup>1</sup> It incorporated a trial project that tested the ability of wetlands to revegetate and demonstrated achievement of improved outcomes through active adaptive management.

The project is a joint initiative between regional natural resource managers, water delivery managers and water users on the Lachlan River. The project aims to enhance security and reliability of water access in the Lachlan catchment and at the same time provide environmental benefits for Lake Brewster and the downstream riverine ecosystem. The project involves dividing Lake Brewster into an inlet wetland, 2 lake cells and outlet wetlands.

The Lachlan CMA's contribution to the project is focussed on preserving the cultural heritage and restoring and revegetating the wetland areas. Both the inflow and outflow wetlands have been previously leased to adjacent landholders and heavily grazed over many years. While grazing had ceased the project partners



held significant concerns that when water eventually returns to Lake Brewster there will be insufficient seed stock in the wetlands to produce regeneration.

*(Left: Heavily grazed Lake Brewster wetland awaiting flooding and revegetation)*

In an example of active adaptive management the project partners constructed a 'trial wetland' in the bed of the lake and populated it with sediment samples taken from a wide range of lake bed sites. The monitoring and evaluation of the results of this trial will contribute to the knowledge of native species in the area and assist the project partners to develop a revegetation strategy for the entire wetland area when water is returned and the wetlands are flooded. The knowledge from this trial should enhance the likelihood that the project will achieve significant natural resource outcomes.

The trial involved expertise drawn from the project partners, external consultants and the South Australian Research and Development Institute (SARDI). Results from the trial to date have been encouraging with an impressive range of wetland vegetation regenerating from the sediment samples despite carp also becoming well established in the trial pond.

<sup>1</sup> Funding of \$7.5 million from the Australian Government Water Fund, \$2.5 million from State Water Corporation funding and \$2.5 million from the Lachlan CMA has been contributed to the project. The project is part of the Australian Governments \$105 million NSW Rivers Environmental Restoration Package (source: <http://www.environment.gov.au/water/policy-programs/water-smart/projects/nsw11.html>)  
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## 5.2 Monitoring and evaluation system

To effectively apply adaptive management principles, CMAs' programs need to be designed and delivered in ways that facilitate structured learning. For example, investment programs need to record what changes to defined indicators are expected to result from the management actions within the program. Only then can CMAs undertake quantitative monitoring of these actions, and evaluate how successful they were in producing the expected changes.

It is not enough for a CMA to monitor and evaluate whether its projects have delivered the expected outputs (eg, that the expected quantity of native grasses were planted, or that the expected kilometres of fencing was installed). It also needs to test whether or not the assumptions about how each management action would lead to changes in landscape function were correct and so resulted in these changes (for example whether fencing and revegetation of a riparian zone resulted in improved water quality and riverine ecosystem health). In addition, the CMA needs to use experts with appropriate skills and knowledge in assessing its planned and actual results. This will allow it to apply new knowledge – gained from the monitoring and evaluation process and other sources – to increase the effectiveness of ongoing and future projects in improving landscape function and resilience.

The audit found that the Lachlan CMA understood the important function that monitoring and evaluation plays in adaptive management and it had developed a comprehensive MERI Framework and draft MERI Project Plan to drive the monitoring and evaluation of its activities over the 2008-11 Investment Strategy period. The CMA was also collaborating with agencies, landholders and community groups to acquire a wide range of scientific knowledge that would better inform project design and CMA-wide decision making.

A range of monitoring activities designed to promote improved understanding of landscape function and measure response to management actions were being implemented by the CMA. These included:

- sampling of 80 vegetation projects for base line purposes in collaboration with Greening Australia,
- supporting Water Watch, a state program for community based water quality monitoring,
- supporting the bench marking of conservation farming practices, such as no or minimum till, in collaboration with the Grains Council (now GRDC),
- supporting biodiversity monitoring through community based activities such as bird surveys,
- participating in the BRS community attitudes survey series.

The CMA had also conducted workshops and promoted participation in web based monitoring systems to gain feedback on the impact of investments on landscape function and to promote adaptive learning by participants and it was evident that the CMA frequently evaluated the results of these feedback processes. While significant progress was being made in implementing the MERI framework, CMA staff indicated that inadequate time had elapsed for sufficient evaluated information to be available to systematically influence planning. The monitoring of risks was also a notable gap in the MERI framework.

In respect to the Standard, the CMA:

- demonstrated that it had established a comprehensive framework and had commenced implementing a consistent approach to monitoring and evaluating the effectiveness of its investments (*Monitoring and evaluation, Collection and use of knowledge and Risk management*).

### 5.3 Information management systems that support adaptive management

CMAs need relatively sophisticated information management systems to support adaptive management. For example, these systems need to keep track of the changes in landscape function expected as a result of the management actions within a project and provide ready access to this and other necessary information when the project is being evaluated and decisions on improving its effectiveness are being made. These systems also need to keep track of new knowledge that is derived from the monitoring and evaluation process and other sources, so this can be used in making decisions.

The audit found that the Lachlan CMA had demonstrated well-developed capacity in some areas of information management. The application of spatial analysis to identify priority areas for investment was a particular strength and this information was readily accessible by management and staff. The Board was confident that they received adequate information to support decision making.

However, it was recognised across the CMA that there were areas where improvement was needed before the systems could adequately support adaptive management. There were significant gaps in some areas and duplication of data in others and this generated inconsistencies and increased the amount of data maintenance required. The CMA's website was very limited and did not adequately support its self defined role as a leader and change manager in NRM.

The existing system was neither well defined nor documented and there was no overarching strategy for improvement. This meant it was difficult to target those areas of the system where investment would generate the most significant results.

In respect to the Standard, the CMA:

- demonstrated it had developed elements of good information management systems that met some of the needs of the CMA (*Monitoring and evaluation and Information management*)
- could not demonstrate that it had a clear strategy for continued improvement of its information system, and the quality and integrity of the data (*Information management*).

## Attachment 1 Conclusions, suggested actions and CMA response

This Section provides a table summarising conclusions of the audit of the implementation of the Lachlan CAP, the actions the audit team suggested the CMA take to improve this implementation and a summary of the Lachlan CMA's response to the suggested actions. The CMA Board is expected to monitor the completion of these actions and the NRC may review these activities in future audit work.

Conclusion	Suggested actions	CMA response
<ul style="list-style-type: none"> <li>▪ Line of inquiry #1 – Has Lachlan CMA effectively prioritised its investments to promote resilient landscapes that support the values of its communities?</li> </ul>		
<p>Criteria 1.1: <i>whether the CMA had a commonly understood definition of what constitutes resilient landscapes in their region</i></p> <ul style="list-style-type: none"> <li>▪ The CMA Board and senior staff demonstrated a broadly shared interpretation of resilience most frequently expressed as 'sustainability'.</li> <li>▪ The CMA demonstrated that it had used its knowledge of the environmental and socio-cultural assets in the catchment and the threats to these assets to build an understanding of landscape function in the region.</li> <li>▪ The CMA had not clearly documented its understanding of 'sustainability' or 'resilient' landscapes in its CAP and other planning documents.</li> <li>▪ There were differences in individual Board and staff members' assessments of the relevant importance of aspects of landscape function, particularly as new knowledge was obtained.</li> </ul>	<p>The audit team suggests that the CMA take the following action:</p> <ol style="list-style-type: none"> <li>1. Use its review of the CAP to clearly document a definition of resilient landscapes to strengthen consistency and confidence in its prioritisation system and more strongly promote the region's longer term priorities to its investors and communities.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action.</p> <p>The CMA will review current planning documents to develop a working definition of "resilient landscapes" to underpin continual improvement in its prioritisation systems. This is occurring to some degree with the trialling of the Investment Framework for Environmental Resources (INFFER) process.</p> <p>As the NRC and Minister are reviewing the process for CAP review, there is uncertainty when the review of the CAP will occur.</p> <p>The Lachlan CMA will undertake this action in preparation for the CAP review and complete it by <b>March 2010</b>.</p>



Conclusion	Suggested actions	CMA response
<ul style="list-style-type: none"> <li>These differences were starting to generate concerns among the CMA Board and staff that agreed options for action may not be appropriate.</li> </ul>		
<p>Criteria 1.2: <i>whether the CMA had a system that ranked investment options, which incorporated the best available information and multiple CAP target achievement</i></p> <ul style="list-style-type: none"> <li>The CMA had a system that ranked investment options and elements of the system incorporated the best available information and multiple CAP target achievement. The system considered knowledge of assets and threats; spatial, temporal and institutional scales; potential collaborators; risks to actions and their impacts and manageability at various points. However, this system consisted of a series of interlocking processes that were not clearly documented nor fully understood by all Board members and staff.</li> </ul>	<p>The audit team suggests that the CMA take the following action:</p> <ol style="list-style-type: none"> <li>Review and clearly document its existing prioritisation system.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action.</p> <p>The CMA notes that elements of the prioritisation systems used within Themes were documented in the Investment Strategy Reviews. The site level prioritisation system used for the majority of projects (ESR) is documented in the Funding Manual.</p> <p>The LCMA will undertake to review and clearly document its approach to prioritising between Themes and produce a summary document describing how these three levels of prioritisation integrate. The CMA will also hold an internal workshop for all CMA staff and Board to clearly explain the prioritisation system.</p> <p>The Lachlan CMA will complete these actions by <b>February 2010</b>.</p>
<p>Criteria 1.3: <i>whether the CMA had a system that ensures short and long-term investment priorities are consistent with each other and integrated with other planned NRM targets</i></p> <ul style="list-style-type: none"> <li>The CMA had developed systems to ensure short and long-term investments were consistent with each other and integrated with other planned targets but these systems were not yet sufficiently advanced to systematically inform planning.</li> </ul>	<p>There are no suggested actions for this criterion.</p>	

Conclusion	Suggested actions	CMA response
<ul style="list-style-type: none"><li>Further development of its business systems, particularly prioritisation, MERI and information management would strengthen the CMA's ability to ensure short and long-term investments are consistent with each other and integrated with other planned targets.</li></ul>		

Conclusion	Suggested actions	CMA response
Line of inquiry #2 – Have the Lachlan CMA's vegetation projects contributed to improved landscape function?		
<p>Criteria 2.1: <i>whether the CMA had documented expected long-term project outcomes</i></p> <ul style="list-style-type: none"> <li>▪ The CMA had documented expected long-term outcomes in the CAP and other planning documents. The staff and landholders had a common understanding of how project outputs and management actions contributed to longer-term outcomes and CAP targets.</li> <li>▪ However, these linkages were not clearly documented in project contracts inspected. Given that many of the long term outcomes require action by the landholder post final payment, there is a risk that projects may not stay on track.</li> <li>▪ The CMA had considered the importance of scale and the contribution of projects to multiple CAP themes in its project selection process.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>3. Review project document templates to ensure that project plans and contracts clearly describe the linkages between the expected long-term outcomes of both the CMA and landholders and the management actions required to achieve them.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action.</p> <p>The CMA notes that current and past Landholder Agreement templates list the overall objectives of each Program that a landholder is participating in and they list the management actions required to be maintained.</p> <p>The CMA has identified the obligation on landholders to maintain management actions as an ongoing risk and has strategies to overcome this by developing close client relationships with landholders to build capacity and motivate compliance.</p> <p>The CMA acknowledges that the landholders' long term objectives are not noted and the linkages between expected long term objectives and the required management actions could be more clearly described.</p> <p>The CMA will use its regular review of incentives contracts to upgrade the Landholder Agreement templates to increase the emphasis placed on these long term objectives and linkages to management actions. Staff training programs will also emphasise the need for staff to clearly explain to all landholders the relationships between their contracted works, the longer term outcomes and the contribution of these</p>

Conclusion	Suggested actions	CMA response
		<p>towards resilient landscapes.</p> <p>The Lachlan CMA will complete these actions by <b>December 2009</b>.</p>
<p>Criteria 2.2: <i>whether the CMA successfully achieved project outcomes, and maximised opportunities to add further value</i></p> <ul style="list-style-type: none"> <li>▪ The CMA had successfully achieved robust project outputs and these had strong logic linkages to long-term outcomes. Demonstrated changes in management practices and some changes in resource condition were also observed. Together these indicated that achievement of long term outcomes was likely.</li> <li>▪ The CMA demonstrated it had maximised opportunities to add further value, working closely with landholders to strengthen project outcomes.</li> </ul>	<p>There are no suggested actions for this criterion.</p>	
<p>Criteria 2.3: <i>whether the CMA's projects were attracting additional resources to match CMA funding</i></p> <ul style="list-style-type: none"> <li>▪ The CMA had attracted additional resources from landholders and project collaborators and recorded the value in its Contracts Database.</li> <li>▪ However, the CMA had recorded what had been negotiated rather than what had actually been contributed and was found to have consistently underestimated the value of additional input.</li> <li>▪ The CMA had documented appropriate cost sharing in the Incentive Guidelines and project contracts.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>4. Revise its final project inspection process to ensure actual inputs are more accurately quantified.</li> </ol>	<p>The Lachlan CMA agrees with the <i>intent</i> of the suggested action.</p> <p>The CMA notes that an evaluation of a selection of projects over time (beyond the time period of the project) is being carried out as each of the CMAs programs undergo their major evaluations (The CMA is currently evaluating its Conservation Farming Program). It is considered that while this might not provide the landholder contribution figure immediately it is likely to produce a more accurate figure since a significant proportion of the landholders contribution can come well after the</p>

Conclusion	Suggested actions	CMA response
		<p>"works" phase of a project is completed.</p> <p>The CMA will revise its final inspection process to ensure that all contributions made by landholders to on-ground works are recorded by staff and mapped within the original GIS map attached to the agreement.</p> <p>The Lachlan CMA will complete these actions by <b>December 2009</b>.</p>
<p>Criteria 2.4: <i>whether the CMA had a system to monitor ongoing achievement of project.</i></p> <ul style="list-style-type: none"> <li>▪ The CMA had developed a comprehensive MERI Framework and draft MERI Project Plan for monitoring and evaluation and at the time of the audit had implemented parts of the Framework.</li> <li>▪ The CMA had reported on outputs agreed in the contract milestones rather than what had been achieved on the ground.</li> <li>▪ The CMA had made payment upfront to projects that had been subsequently delayed by factors outside the CMA's control. These delays combined with a lack of verification of project outcomes had reduced the CMA's ability to demonstrate effectiveness of investment.</li> <li>▪ The CMA had commenced a series of compliance inspections to address the risks inherent in its approach to date. However, the inspection process was not fully independent.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>5. Review the compliance inspection process to strengthen the independence of the verification of outputs.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action.</p> <p>The Audit and Risk Committee will review current practices and provide a report on any recommended changes.</p> <p>The CMA notes that its Funding Manual clearly details an inspection process to verify that specified works have been carried out in accordance with landholder agreements. The MERI Unit of the CMA undertake internal desk audits on a set proportion of completed final inspections to ensure that this process is followed.</p> <p>The fact that final inspections had not yet been done for the completed projects inspected during the audit may have adversely reflected on the effectiveness of the approved process.</p> <p>This issue has been considered in the past by the LCMA and the concept of separate "compliance</p>

Conclusion	Suggested actions	CMA response
		<p>teams" was rejected as it was in contradiction to our client services ethic of building relationships and capacity with participating landholders and on a cost benefit aspect was thought to be unnecessary. Notwithstanding this the LCMA understands the point at issue and the current process will be reviewed by the Audit and Risk Committee.</p> <p>The Lachlan CMA will complete these actions by <b>April 2010</b>.</p>

Conclusion	Suggested actions	CMA response
Line of inquiry #3 - Has the Lachlan CMA effectively engaged its communities?		
<p>Criteria 3.1: <i>whether the CMA had identified community groups and stakeholders it must consider in planning and undertaking work</i></p> <ul style="list-style-type: none"> <li>▪ The CMA has documented the key community groups and stakeholders it must consider in planning and undertaking its work at the strategic, operational and local levels. However, it is not clear how these various documents are linked or fit together.</li> <li>▪ The CMA Board and staff had a shared understanding of regional knowledge and community capacity and there were a number of processes to ensure this is maintained over time.</li> <li>▪ There was a common understanding both within the CMA and its stakeholders of the important role of the community in implementing the CAP and delivering improved NRM outcomes.</li> <li>▪ While the CMA had systematic approaches in place to develop and maintain these understandings (such as reference groups and benchmarking studies), the CMA would benefit from using the upcoming CAP review as an opportunity to reflect on progress to date and engage new stakeholders.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>6. Use its review of the CAP and consolidation of existing contact databases to identify any gaps in community groups and stakeholders engaged to date and update documentation that identifies community groups and stakeholders so that linkages between them are clear to new stakeholders and staff.</li> <li>7. Use its review of the CAP to engage new stakeholders, incorporate new knowledge from the two benchmarking studies, and to get feedback from the community about what has and hasn't worked to date.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>June 2010</b>.</p> <p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>June 2010</b></p>

Conclusion	Suggested actions	CMA response
<p>Criteria 3.2: <i>whether the CMA was implementing an engagement strategy appropriate for different community groups and stakeholders</i></p> <ul style="list-style-type: none"> <li>▪ The CMA had an understanding of meaningful engagement and this was reflected in a number of strategies that were being effectively implemented at strategic, regional and project levels. However, the link between these strategies was neither clear nor documented.</li> <li>▪ The CMA's position statement "<i>Together We're Making a Difference</i>" reflected the CMA's belief that community engagement is the primary mechanism for delivering improved NRM outcomes in the Lachlan catchment.</li> <li>▪ There was a common understanding across the CMA that improved landscape and community resilience would come about by promoting and supporting change through training and knowledge sharing, rather than dispensing funds. The CMA had taken innovative approaches to engage with its community and collaborators in a way that promoted two-way sharing of knowledge and the effective achievement of outcomes.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>8. Update existing community engagement strategies to clearly document the linkages between them and capture learnings so that this is transparent to new and existing staff in all CMA offices.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action.</p> <p>LCMA will complete this action by <b>June 2010</b></p>



Conclusion	Suggested actions	CMA response
<p>Criteria 3.3: <i>whether the CMA was implementing a communications strategy that promotes collaboration, sustainable behavioural change and feedback</i></p> <ul style="list-style-type: none"> <li>▪ The audit found that the CMA had a range of sophisticated approaches, both formal and informal, to facilitate two-way communication with its communities and these mechanisms had collectively raised the profile of the CMA and increased understanding, capacity and willingness to participate in activities aimed at achieving long-term NRM outcomes.</li> <li>▪ The Board and staff were aware that there is a risk that the CMA might have only heard from community groups and stakeholders that were already engaged with the CMA.</li> <li>▪ The CMA had a Communications and Marketing team to drive marketing internally and externally and to oversee all CMA communications to ensure a consistent message and standard. The CMA had strategies to guide communication, marketing, promotion and engagement at the strategic, regional and project level. However, how these strategies linked together was not transparent or documented and this could limit the practical application of these documents by staff.</li> <li>▪ The CMA had recognised the need to improve its website and resources had been allocated to develop it into an effective communication tool with the community.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>9. Review and document the linkages between existing communication, marketing, and promotion strategies so that they can be effectively translated into actions by all CMA staff.</li> <li>10. Formalise and integrate internal feedback processes with the MERI system and the CMA intranet to ensure key learnings are captured across teams and offices.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>June 2010</b>.</p> <p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>June 2010</b>.</p>

Conclusion	Suggested actions	CMA response
Line of inquiry #4 - Has the Lachlan CMA effectively used adaptive management?		
<p>Criteria 4.1: <i>whether the CMA had documented the practical application of adaptive management principles in its planning and business system</i></p> <ul style="list-style-type: none"> <li>▪ The CMA had documented practical application of adaptive management principles in its planning and business systems including the CAP, risk management and monitoring and evaluation systems. However there was evidence of significant gaps in the practical application of these principles.</li> <li>▪ The internal audit function was immature, limiting the CMA's ability to quantify and manage risks.</li> </ul>	<p>The audit team suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> <li>11. Fully implement its Risk Management Policy and Procedure 290708 to ensure consistent risk management at all levels of the CMA.</li> <li>12. Finalise and implement a robust internal audit plan. An internal audit of experimental projects would enhance the CMA's ability to quantify and manage its risks while documenting the lessons to be learned from these projects.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>December 2009</b>.</p> <p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>December 2009</b>.</p>
<p>Criteria 4.2: <i>whether the CMA had monitoring and evaluation systems that test underlying investment assumptions and employ appropriate expertise to assess planned and actual achievement</i></p> <ul style="list-style-type: none"> <li>▪ The CMA understood the important function that monitoring and evaluation plays in adaptive management</li> <li>▪ The CMA had developed a comprehensive MERI Framework and draft MERI Project Plan to drive the strategic and operational use of monitoring and evaluation. The CMA was also collaborating with agencies, landholders and community groups to acquire a wide range of scientific knowledge that would better inform project design and CMA-wide decision making.</li> <li>▪ However, while significant progress had been made the system was not yet able to provide sufficient evaluated information to systematically influence planning and the monitoring of risks</li> </ul>	<p>The audit team suggests that the CMA take the following action:</p> <ol style="list-style-type: none"> <li>13. Update the MERI Framework and MERI Project Plan to include linkages to the Risk Management System and then finalise and implement the plan.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action. LCMA will complete this action by <b>June 2010</b>.</p>

Conclusion	Suggested actions	CMA response
was a notable gap in the MERI framework.		
<p>Criteria 4.3: <i>whether the CMA maintained an information management system necessary to support adaptive management</i></p> <ul style="list-style-type: none"> <li>The CMA had developed elements of an information management system necessary to support adaptive management processes however there were still areas of inadequacy. A strategic approach is required to focus resources on the elements of the system that most urgently require improvement.</li> </ul>	<p>The audit team suggests that the CMA take the following action:</p> <ol style="list-style-type: none"> <li>14. Document the existing information management system, including linkages and data flows, and develop a strategy for ongoing improvement that focuses investment in priority areas.</li> </ol>	<p>The Lachlan CMA agrees with the suggested action.</p> <p>The CMA notes that this action has already been identified in current strategic plan.</p> <p>LCMA will complete this action by <b>June 2010</b>.</p>

## Attachment 2      About this audit

<b>Audit mandate</b>	<p>The NRC is required to undertake audits of the effectiveness of the implementation of catchment action plans (CAPs) in achieving compliance with those State-wide standards and targets as it considers appropriate.<sup>2</sup></p> <p>The NRC contracted the Institute for International Development (IID) to undertake the audit of the implementation of the CAP prepared by the Lachlan Catchment Management Authority (CMA). The NRC also contracted IID to undertake the audits of Namoi CMA and Murrumbidgee CMA.</p> <p>The NSW Government has adopted an aspirational goal to achieve resilient landscapes that support the values of its communities.<sup>3</sup> It intends to achieve this by encouraging natural resource managers, such as each Catchment Management Authority (CMA), to make high quality decisions, focused through a coherent set of targets.<sup>4</sup> The NSW State Plan<sup>5</sup> establishes the State-wide targets for natural resource management (NRM).</p> <p>CMAs have developed CAPs that express how each specific region can contribute to the aspirational goal and the State-wide targets. The <i>Lachlan Catchment Action Plan</i><sup>6</sup> identifies the key natural resource issues (or themes) that need to be managed in the region, including Biodiversity and Native Vegetation; Water and Aquatic Ecosystems; Land Management and People and Community. Within each of these themes, the CMA has identified:</p> <ul style="list-style-type: none"><li>▪ catchment targets, for longer-term improvements in resource condition that will contribute to achievement of the State-wide targets</li><li>▪ management targets, which identify shorter-term investment priorities that will contribute to achievement of the resource condition targets.</li></ul>
<b>Audit objective</b>	<p>This audit assessed the effectiveness of Lachlan CMA in promoting resilient landscapes that support the values of its communities, within the scope of the CAP.</p> <p>Lachlan CMA is now implementing the CAP, through a mix of programs and projects that simultaneously contribute to more than one management target, and more than one resource condition target. Many of these integrated programs and projects use vegetation to enhance landscape function, to lead to the aspirational goal of resilience.</p>
<b>Lines of inquiry</b>	<p>In order to assess the effectiveness of CMA work, the NRC directed the audits to answer the following questions:</p> <ul style="list-style-type: none"><li>▪ Is the CMA effectively prioritising its investments to promote resilient landscapes that support the values of its communities?</li><li>▪ Are the CMA's vegetation projects contributing to improved landscape function?</li><li>▪ Is the CMA effectively engaging its communities?</li><li>▪ Is the CMA effectively using adaptive management?</li></ul> <p>The NRC identified that these four key aspects of CMA work should strongly influence effectiveness in achieving resilient landscapes, and promote maximum improvement for Lachlan CMA for this stage in their development.</p>
<b>Audit criteria</b>	<p>To help answer each line of inquiry, the NRC formulated the criteria identified below in Table 1, the audit plan summary.</p> <p>These criteria address:</p>

<sup>2</sup> *Natural Resources Commission Act 2003, Section 13 (c)*

<sup>3</sup> As recommended by the NRC in *Recommendations – State-wide standard and targets, September 2005*.

<sup>4</sup> *Ibid.*

<sup>5</sup> See Priority E4 in, NSW Government (2006) *A new direction for NSW, NSW Government State Plan*, November 2006

<sup>6</sup> Lachlan CMA, *Lachlan Catchment Action Plan, 2006*

- expected documentation of the particular key aspect of CMA work
- expected implementation of plans and decisions
- expected evaluation and reporting of the performance of the CMA work.

The criteria were derived from the elements of each line of inquiry, and from the general criteria of the Standard and state-wide targets.

The NSW Government adopted the *Standard for Quality Natural Resource Management* (the Standard), which identifies seven components that are commonly used to reach high quality natural resource decisions. CMAs must comply with the Standard<sup>7</sup>, using it as a quality assurance standard for all planning and implementation decisions.

### **Audit scope**

As a sample of the entire range of NRM investments, the audit work was focused on CMA programs and projects that use vegetation to improve landscape function.

The NRC considered this to be the appropriate focus as vegetation remains a key tool for CMAs to use to achieve integrated NRM outcomes. This is due to a number of factors, including the lack of certainty in the management framework for other aspects of NRM such as water.

As most NRM programs and projects contribute to more than one NRM target, the NRC expects audited projects to also contribute to other targeted outcomes, such as river health and threatened species. The audit sought to audit the effectiveness of these contributions as they arise.

### **Audit approach**

In June 2009, the audit team performed the following audit work:

- interviewing a number of CMA Board and staff members, landholders and stakeholders external to the CMA
- reviewing a range of CMA and public documents
- visiting multiple sites on five projects.

At the close of the audit field work, the audit team shared preliminary observations with the CMA.

### **Audit methodology**

To plan and conduct this audit, the audit team followed the methodologies set out in the *Framework for Auditing the Implementation of Catchment Action Plans*, NRC 2007.

### **Acknowledgements**

The audit team gratefully acknowledges the cooperation and assistance provided by the Lachlan CMA and landholders in the Lachlan region. In particular we wish to thank the Lachlan CMA Board, the General Manager (Mr Chris Glennon), the Catchment Coordinator for Resource Planning, Corporate Services and Performance Improvement (Mr Guy Geeves) and the Catchment Officer for Aboriginal Communities (Mr Russell Hill).

**Table 1. Audit plan summary**

<b>Line of Inquiry 1</b>	<b>Is the CMA effectively prioritising its investments to promote resilient landscapes that support the values of its communities?</b>
This line of inquiry was tested against the following criteria:	
<b>Criterion 1.1</b>	The CMA has a commonly understood definition of what constitutes resilient landscapes in their region.
<b>Criterion 1.2</b>	The CMA has a system that ranks investment options, which incorporates factors including scientific and local knowledge, socio-economic information, community and investor preferences, leverage of investment and multiple CAP target achievement.
<b>Criterion 1.3</b>	The CMA has a system that ensures short and long-term investment priorities are consistent with each other and integrated with other planned NRM targets.
<b>Line of Inquiry 2</b>	<b>Are the CMA's vegetation projects contributing to improved landscape function?</b>
This line of inquiry was tested against the following criteria:	
<b>Criterion 2.1</b>	The CMA has documented expected long-term project outcomes.
<b>Criterion 2.2</b>	The CMA is successfully achieving project outcomes, and maximising opportunities to add further value.
<b>Criterion 2.3</b>	The projects are attracting additional resources to match CMA funding.
<b>Criterion 2.4</b>	The CMA has a system to monitor ongoing achievements of projects.
<b>Line of Inquiry 3</b>	<b>Is the CMA effectively engaging its communities?</b>
This line of inquiry was tested against the following criteria:	
<b>Criterion 3.1</b>	The CMA has identified community groups and stakeholders it must consider in planning and undertaking work.
<b>Criterion 3.2</b>	The CMA is implementing an engagement strategy appropriate for different community groups and stakeholders.
<b>Criterion 3.3</b>	The CMA is implementing a communication strategy that promotes collaboration, sustainable behavioural change and feedback.
<b>Line of Inquiry 4</b>	<b>Is the CMA effectively using adaptive management?</b>
This line of inquiry was tested against the following criteria:	
<b>Criterion 4.1</b>	The CMA has documented the practical application of adaptive management principles in its planning and business systems.
<b>Criterion 4.2</b>	The CMA has monitoring and evaluation systems that test underlying investment assumptions and employ appropriate expertise to assess planned and actual achievement.
<b>Criterion 4.3</b>	The CMA maintains an information management system necessary to support adaptive management processes.

## Attachment 3      The CMA and its region

CMA's have a challenging task to encourage communities across their particular regions to improve how they manage natural resources on private land for the benefit of the landholders, the broader community and future generations.

This section provides context for the audit by summarising key features of the Lachlan region and Lachlan CMA. This context is important in considering both the way in which a CMA's effectiveness should be assessed and the options for improving that effectiveness.

### The region at a glance

The Lachlan CMA area of operation covers 84 700 square kilometres.<sup>8</sup> It extends from Oxley and Ivanhoe in the west, to Crookwell in the east, and from Temora in the south, to the north of Mount Hope (Figure A3.1).

The broad vegetation types of the Lachlan catchment include forests, woodlands, mallee, riverine communities, shrublands, heaths and grasslands.<sup>9</sup>

The waterways of the Lachlan catchment are unique in the Murray Darling Basin as the Lachlan River terminates in wetlands and effluent (diverging creeks) in the lower part of the catchment. This terminal system features wetlands of national significance including Lake Cowal, the Booligal wetlands and the Great Cumbung Swamp.<sup>10</sup> Major tributaries of the Lachlan include the Abercrombie, Boorowa, Belubula and Crookwell Rivers.<sup>11</sup>

The catchment's main infrastructure is Wyangala Dam, which has a capacity of 1,220,000 megalitres. It is the major water storage on the Lachlan River and is located at the junction of the Lachlan and Abercrombie rivers approximately 50 km upstream of Cowra. It is used to regulate supply of water to the downstream irrigation industry. Other important water storages include Carcoar Dam, Lake Cargelligo and Lake Brewster.<sup>12</sup>

The Lachlan landscape varies markedly from east to west and forms three general divisions: tablelands, slopes, and plains. The geological formations throughout the catchment are quite complex and have a significant impact on salinity. The soil types throughout the catchment vary considerably ranging from very robust, durable soils to very fragile soils, naturally acidic and sodic soils. This variability requires effective management for erosion control, nutrient and salinity management.<sup>13</sup>

Major environmental threats to the health of natural resources in the catchment are dryland salinity, declining surface water quality, declining health and abundance of native vegetation, loss of biodiversity, degradation of riparian and wetland ecosystems and deterioration of soils.<sup>14</sup>

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<sup>8</sup> Lachlan CMA 2008, *Lachlan Catchment Management Authority Annual Report 2007/08*

<sup>9</sup> Lachlan CMA 2008, *Lachlan Action Plan Summary 2006-2016*

<sup>10</sup> *Ibid*

<sup>11</sup> see footnote 8

<sup>12</sup> Lachlan CMA website, <http://www.lachlan.cma.nsw.gov.au/>, accessed 9 July 2009

<sup>13</sup> see footnote 8

<sup>14</sup> *Ibid*

Approximately 100,000 people live in the catchment, which includes the towns of Crookwell, Cowra, Young, Forbes, Parkes, Condoblin, West Wyalong and Hillston.

The Lachlan catchment is home to eight different traditional Aboriginal nations and falls predominantly within the Wiradjuri Aboriginal nation. To traditional owners, the rivers were very important routes, providing not only food, water and shelter, but also a route for trade and communication. In the region, 85% of culturally significant sites are located within 150 metres of a river course.<sup>15</sup>

Agriculture is a significant industry in the region, producing 14% of NSW agricultural production.<sup>16</sup> Approximately 22% of the catchment population is employed in the natural resource sector. Dryland cereal production is the major agricultural enterprise on the slopes and near plains. This is frequently associated with fat lamb, cattle and wool production. Grazing-based industries, wool, sheep meat and cattle are the main activities on the tablelands and western plains. The prolonged drought has severely impacted on agricultural production and the catchment's economic health.<sup>17</sup>

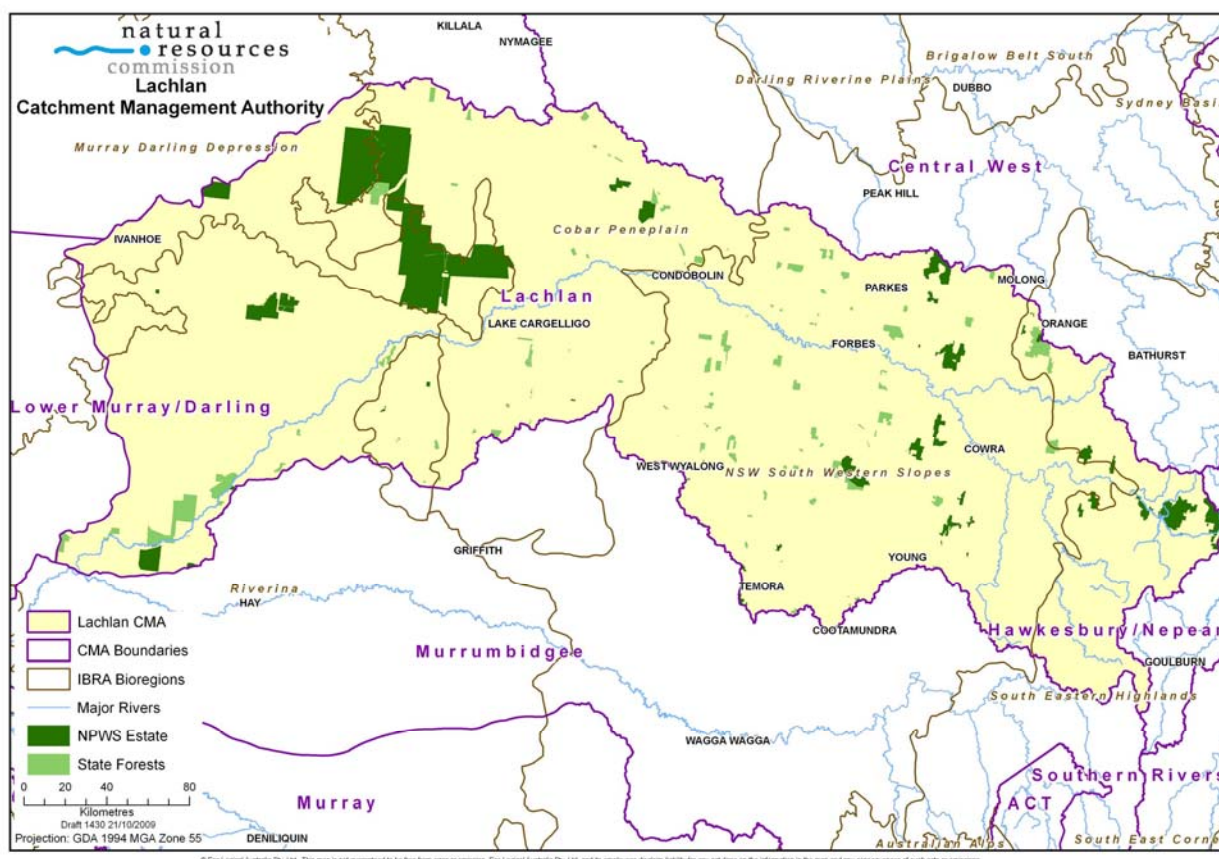


Figure A3.1: Lachlan region<sup>18</sup>

### The CMA at a glance

The head office of the Lachlan CMA is situated in Forbes and there are also offices located in Boorowa, Condobolin, Cowra, Grenfell, Hillston, Parkes, Temora, West Wyalong and Young.

<sup>15</sup> Lachlan CMA 2008, *Lachlan Catchment Management Authority Annual Report 2007/08*

<sup>16</sup> Lachlan CMA 2008, *Lachlan Catchment Management Authority Annual Report 2007/08*

<sup>17</sup> Lachlan CMA 2008, *Lachlan Action Plan Summary 2006-2016*

<sup>18</sup> Map of region provided by the NRC



At the time of the audit, the Board consisted of Robert Gledhill (Chair) and six Board members. Board committees include an Audit and Finance sub-committee. The Board receives input from the Lachlan Local Government Reference Group (comprising representatives from all 25 Local Government Authorities in the catchment), the Lachlan Aboriginal Natural Resource Management Group (LANRMG) and the Lachlan Landcare Working Group. In 2007 the Lachlan CMA was announced the winner of the Australian Government Landcare NRM Region Award for NSW.

The CMA management team comprises the General Manager, Business Manager and two managers: Sustainable Ecosystems and Advisory Services and Partnerships, Training and Advisory Services.

In 2007/08 Lachlan CMA invested in excess of \$11mil in grants and subsidies in on-ground improvements. The CMA delivered these targeted investments in on ground activities through strong collaborative partnerships with agencies, local government, corporations and the community.

The amount of additional resources attracted against investment as reported by the CMA is shown in Table A3.1.

**Table A3.1 Additional resources matched against investment**

Investment Period	Invested Amount (\$ mil) <sup>19</sup>	Additional Resources (\$ mil) <sup>20</sup>
2006/07	7.7	4.2 <sup>21</sup>
2007/08	11.437	10.073 <sup>22</sup>
2008/09	3.069	4.409 <sup>23</sup>

<sup>19</sup> The sum of Category 2 (NSW and Federal Government) and Category 3 (all other sources) funding. This figure excludes Category 1 (recurrent expenditure) funding.

<sup>20</sup> methodology used by the CMA to estimate this amount is discussed in section 3.3 Attraction of Additional Resources.

<sup>21</sup> Lachlan CMA Annual Report 06/07 Page 11

<sup>22</sup> Provided by CMA from contract database

<sup>23</sup> *Ibid*