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Audit Report
Sydney Metropolitan
Catchment Management Authority

November 2009

Commissioned by the
Natural Resources Commission



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List of Acronyms

CAP	Catchment Action Plan
CMA	Catchment Management Authority
DECCW	Department of Environment, Climate Change and Water
LMD	Land Management Database
MER	Monitoring, Evaluation and Reporting
NRC	Natural Resources Commission
NRM	Natural Resource Management
NSW	New South Wales
PDP	Project Development Plan
SIMS	Sydney Catchment Information Management System
SMCMA	Sydney Metropolitan Catchment Management Authority



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 undertook seven of the thirteen audits. In 2009 the NRC contracted external consultants to complete the remaining six audits. The NRC contracted GHD to undertake the audit of the implementation of the CAP prepared by the Sydney Metropolitan Catchment Management Authority (CMA).

This Audit Report to the NRC contains the conclusions of the audit of the implementation of the Sydney Metropolitan CAP and the actions the GHD audit team suggest Sydney Metropolitan CMA Board take to improve CAP 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 the report.

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

- ▶ The audit conclusions and their significance; and
- ▶ How GHD 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 consolidated 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 CMAs. 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 CMA's 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.

To do this, the audit results 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 of these lines of inquiry, the GHD audit team assessed 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 considering 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 it 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 it 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.

GHD then assessed the CMA's performance against these expectations using information gained 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, GHD 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 Sydney Metropolitan CAP, including the NRC's expectations, the auditor's assessment of the Sydney Metropolitan CMA's performance against these expectations, and the actions the auditor suggest the CMA take to improve its performance. As noted above, the full audit conclusions and suggested actions for Sydney Metropolitan CMA are provided in Attachment 1.

It is acknowledged that the CMA is operating approximately two years behind the other 12 CMAs in the State owing to delays with its establishment. The Sydney Metropolitan CAP was recommended for approval by the NRC in June 2008 and the Minister endorsed the Sydney Metropolitan CAP in May 2009. It is also acknowledged that, unlike the other CMAs in NSW, Sydney Metropolitan CMA was directed by Government to specifically engage with local government in coordinated NRM, and its Board was appointed on this basis. These circumstances should be taken into account when reading the audit findings and suggested actions.



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 catchment. For example, its Board members and staff would be able to consistently explain the main natural resource assets in the catchment, 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 the assets. And they would agree on the options for action and how they 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.

The audit of Sydney Metropolitan CMA's implementation of the CAP found that:

- ▶ CMA project staff and stakeholders demonstrated a sound understanding of the characteristics of resilient landscapes for the region and the operational practices required to improve landscape resilience. However this understanding was varied and inconsistent.
- ▶ The CMA had not developed a comprehensive knowledge base to fully support its implementation of a resilience approach for the region, although the CMA had taken action to increase its knowledge base to assess and manage for resilience.
- ▶ The CMA did not have a consistent and systematic approach to identify priorities and rank investments across the region. The development of this capacity is contingent upon the availability of data identifying key assets and threats across the catchment, which had been identified as a major gap by the CMA.
- ▶ The CMA had previously attempted to implement a number of approaches to improve its capacity to rank investment options at the strategic level. The CMA had recommenced this process with the current development of its Program Logic.
- ▶ The CMA does not have clearly documented systems to support the integration of short and long term investment in its activities. At the time of the audit it had commenced the development of a Program Logic for each of the CAP themes, which it had proposed to use in concert with the proposed MER system as a means of ensuring short term investment decisions had logical links to long term strategies.
- ▶ The CMA had undertaken a number of activities that demonstrated the CMA understood the need to accommodate organisational changes and not lose focus on the long term objectives of the CAP.

The auditor suggests the Sydney Metropolitan CMA Board take a range of actions to address the issues identified by the audit so as to improve the extent to which its implementation of the CAP complies with the Standard. These actions include:

- ▶ Developing a common understanding of resilient landscapes relevant to the Sydney Metropolitan region and clearly document this so that it can be consistently communicated to all staff, stakeholders and the community.



- ▶ Continuing to develop a comprehensive knowledge base to support the implementation of a resilience approach for the region and a spatially based strategic planning prioritisation tool to support action planning and investment decisions.
- ▶ Prioritising the CAP targets to assist investment planning and decision making, taking into account best available knowledge.
- ▶ Continuing to develop the Program Logic as part of a strategic framework for the prioritisation and implementation of short and long term targets.
- ▶ Developing the MER strategy in a way that it can operate with the program logic to ensure short term investment decisions have logical links to long term strategies.

1.2.2 Delivering projects that contributed to improved landscape function

If a CMA is effectively delivering native 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.

The audit found that:

- ▶ Long-term project outcomes were well documented by the CMA including linking the project to the relevant State NRM, catchment and management targets.
- ▶ For all projects visited operational staff demonstrated a common understanding of short and long-term goals, realistic options for action and appropriate strategies for risk management, however this understanding was not as clearly articulated at a Board level.
- ▶ The projects visited demonstrated the CMA had successfully achieved most of the planned short-term project outputs and was contributing to improved resource condition at a project scale, across multiple targets.
- ▶ The CMA had attracted additional monetary and in-kind contributions for the projects visited, although the CMA had not documented all project benefits, and ongoing stakeholder commitments in its Project Service Contracts.
- ▶ The CMA had adequate systems in place to record progress towards and achievement of project outputs, however these had limitations in their ability to report across projects.
- ▶ The CMA did not have a system for monitoring, evaluating and reporting progress towards long term outcomes of projects. Monitoring actions are outlined in the CMA's Project Development Plans, but did not include how the information will be collected, interpreted and used.
- ▶ The CMA was seeking to appoint a suitable officer to develop a Monitoring, Evaluation and Reporting (MER) system to address this issue.



The auditor suggests the Sydney Metropolitan CMA Board take a range of actions to address these issues including:

- ▶ Improving understanding of long-term expected outcomes for projects by the CMA Board and senior staff to help promote CMA's goals and provide strategic leadership both internally and externally.
- ▶ Documenting all project benefits to better demonstrate the leverage that some of the projects are providing.
- ▶ Seeking to appoint a MER officer as a high priority, and developing a formal monitoring system for projects including documenting objectives, scale, method, responsibility, timeframes, data interpretation and evaluation.

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.

The audit found that:

- ▶ The CMA had a good understanding of the key community groups and others stakeholders it must work with in planning and undertaking work. It had developed a draft Community Engagement Strategy that documented approaches appropriate to different stakeholders, although it had not been finalised and endorsed by the Board and is not widely understood by staff in its current form.
- ▶ The CMA Board had not been actively involved in strategic planning for stakeholder engagement and capacity building and this poses a potential risk that strategic opportunities for stakeholder engagement and collaboration with key strategic partners, particularly the private sector, are not identified.
- ▶ The CMA had used a range of methods to engage with the community, including coordinating the Volunteer Coordinators Network, community forums, publication of a quarterly community newsletter, and organisation of field days and other activities.
- ▶ The CMA had not used systematic analysis and research to identify the capacity of community groups to assist in the delivery of NRM outcomes, or the potential costs and benefits of any such collaboration.
- ▶ The CMA had effectively implemented a range of communication approaches to communicate its messages and to receive feedback from the community. However, delays in receiving CAP approval had meant that the CMA had not actively promoted its CAP, so that the CMA's strategic goals are not well understood by stakeholder and the broader community.



- ▶ The CMA had developed strong relationships and was communicating effectively with key stakeholders at an operational level and its role as a regional NRM facilitator was clearly understood at this level. However the CMA's role has not been as well communicated within higher levels of local government and State agencies, and this presents a risk that the CMA is being less effective in influencing strategic planning in NRM in the region.
- ▶ The CMA had developed some mechanisms for feedback although it had identified a gap in the baseline information on community capacity, and needs to develop a mechanism to monitor and measure the effectiveness of community capacity building over time.

The auditor suggests the Sydney Metropolitan CMA Board take a range of actions to address these issues including:

- ▶ The CMA Board taking a more active role to build strategic partnerships more generally and specifically with the private sector to enhance an understanding by this sector of its impact on NRM, as well as to explore opportunities for support and sponsorship.
- ▶ Developing corporate engagement strategies, similar to that for Kurnell 2020, to identify other sources of funds available for key projects.
- ▶ Finalising the Community Engagement Strategy as a priority, and have it endorsed by the Board, and communicated to all staff.
- ▶ Developing a systematic approach to identify the capacity of community groups to assist in the delivery of NRM outcomes, or the potential costs and benefits of any such collaboration.
- ▶ Promoting the CAP and the CMA's role as a strategic NRM facilitator with all levels of local government, other stakeholders, and the broader community now that the CAP has been endorsed.
- ▶ Developing a mechanism to monitor and measure the effectiveness of community capacity building over time.

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 catchment, 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. And there would 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 an information management system that supports its adaptive management processes.

The audit found that:

- ▶ The CMA had not documented the application of adaptive management in its planning or business systems and as a result there is confusion about what constitutes adaptive management.



- ▶ The CMA had identified the need to develop an Adaptive Management Strategy but this had been delayed as a number of other documents identified as a basis for the development of an Adaptive Management Strategy such as the Program Logic, and Monitoring and Evaluation Strategy had not been completed.
- ▶ Despite the lack of formal processes the audit identified the CMA had implemented a number of initiatives that were likely to contribute to a more structured approach to adaptive management.
- ▶ The CMA had limited capacity to monitor and report on implementation of CAP targets due to the lack of appropriate information management systems and a co-ordinated approach to monitoring and evaluation.
- ▶ The CMA had developed a draft MER Framework to support the monitoring and evaluation of individual projects, State of the Catchment reporting and adaptive management. Further development of the framework had not progressed due to a lack of dedicated resources.
- ▶ The CMA had limited information management systems and internal documentation to support adaptive management processes. Data capture of monitoring and evaluation was conducted on a project basis. The current systems and processes did not support the interpretation and dissemination of the information.
- ▶ CMA did not have the ability to track changes in landscape function and opportunities for recording of and communicating new information.

The auditor suggests the Sydney Metropolitan CMA Board take a range of actions to address these issues including:

- ▶ Conducting training for CMA staff and the Board on how to apply adaptive learning principles and approaches.
- ▶ Developing and implementing a monitoring and evaluation strategy as a matter of priority to support data capture, progress to targets and implementation of adaptive management processes.
- ▶ Continuing to develop information management systems that support the capture of monitoring information across projects and can track changes at a landscape scale and support adaptive management.

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 Sydney Metropolitan region and CMA. As noted above, a summary of the CMA's response to suggested actions is 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. Therefore, the CMA cannot 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 it 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.

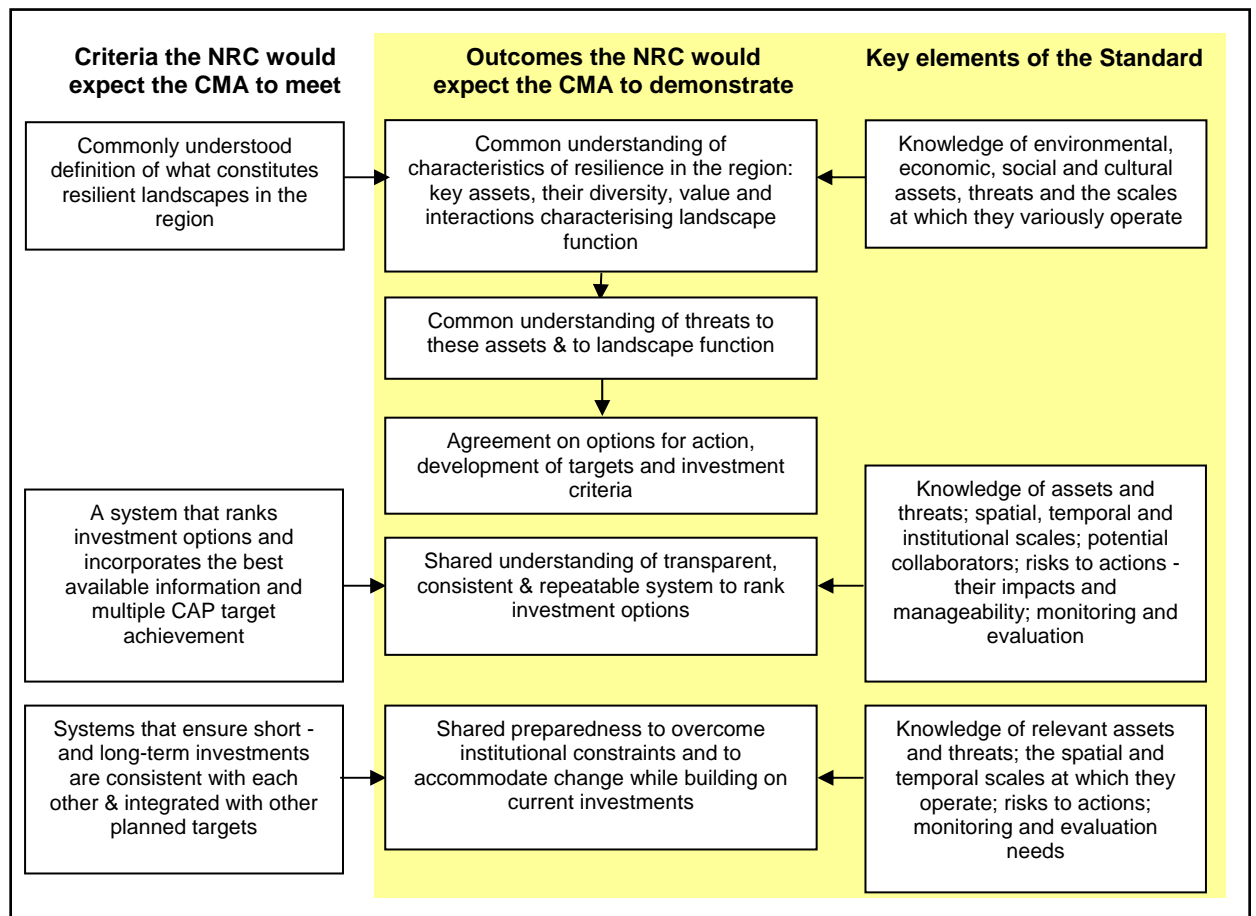
The NRC identified the elements of the Standard that are most relevant and important for meeting these criteria. The NRC also identified the behaviours and other outcomes we would expect the CMA to demonstrate if it is properly using these elements of the Standard, and thus meeting the criteria to a 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 we 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 we would expect the CMA to demonstrate if it is using these elements of the Standard are shown in the centre column.

Figure 1.1: The framework the auditor 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 of the implementation of the Sydney Metropolitan CAP 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”.¹ 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 region – 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 CMA's project staff and stakeholders demonstrated a good understanding of the characteristics of resilient landscapes for the region and the operational practices required to improve landscape resilience. However, the level of understanding varied between individuals and was not shared across the organisation.

The concept of resilience, and the need to improve the resilience of natural systems, is a key focus of the *Sydney Metropolitan CMA Catchment Action Plan (CAP)*. The CAP describes the complexity of managing natural resources in an urban region where the actions of multiple stakeholders and a diverse community need to be coordinated to achieve natural resource outcomes. The CAP outlines the CMA's important role as an NRM facilitator to guide and connect the activities of multiple players in the region to achieve agreed NRM outcomes.

The audit found that the CMA had not yet developed a comprehensive knowledge base to fully support its implementation of a resilience approach for the region – for example, it had not set about identifying key assets, threats and values for the Sydney Metropolitan region and the interaction between them. Without this, the CMA is at risk of investing in projects and activities that do not implement appropriate actions to enhance landscape resilience.

However, there was evidence that the CMA had taken several activities to increase its knowledge base and improve investment criteria to assess and manage for resilience. For example, the CMA had invested in investigations to identify and prioritise river and wetland assets that had contributed to an increased spatial understanding of assets and threats in the region.

The audit found that the CMA was limited in its ability to influence private landholders to protect natural systems due to the high demand for alternate land-use opportunities and development. This resulted in the focus of investment on public land managed by local government. In addition the often small size of remnant habitat on public land in the densely populated areas makes enhancing landscape resilience at these sites a significant challenge.

The investment criteria used for the Wetland Health Strategy and Wetland Prioritisation Technique demonstrated the CMA was developing a spatial knowledge base that identified the high conservation value sites in the region that supported planning efforts to improve biodiversity corridors and protection of these sites resulting in enhancing resilience of regional biophysical assets.

¹ NRC (2008) *Healthy landscapes and communities*. NRC, Sydney. Available at www.nrc.nsw.gov.au.



In respect to the Standard, the CMA:

- ▶ Could not demonstrate a common understanding of what constitutes a resilient landscape in the region (*Collection and use of knowledge and determination of scale*).
- ▶ Demonstrated it is investing in knowledge of its catchment assets and threats to support enhancing ecosystems in the Sydney Metropolitan CMA region (*Collection and use of knowledge*).

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 region, 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 Sydney Metropolitan CMA did not have a consistent and systematic approach to identify priorities and rank investments across the region. The CMA had focussed investment planning on the delivery of catchment and management targets that was generally based on individual themes and did not specifically promote multiple outcomes. The lack of a systematic approach to investment meant the CMA's planning and investment decisions had generally remained *ad hoc* and relied on active engagement of local stakeholders for project development in line with key actions of the CAP.

To date, the CMA's development of systems to rank investments had been slow due to the number and complexity of CAP targets and the lack of data identifying key assets and threats across the catchment. While a system was not in place the CMA had recognised the importance of investment in multiple outcome projects and was examining the use of spatially based tools to assist regional planning and prioritisation.

The audit found the CMA had previously attempted to implement a number of approaches to improve its capacity to rank investment options at the strategic level. For example, in 2007 the CMA had commenced developing a Strategic Road map to prioritise and integrate its CAP targets across the themes of land, water and biodiversity. The project was postponed when the CAP had to be revised. Then in 2008, the CMA began another approach that built on the previous work of the Strategic Roadmap, namely a Program Logic for its CAP targets which provides a more up to date approach and would align with the Caring For Our Country MERI Framework. Program logic captures the rationale behind the program, outlining the anticipated cause and effect relationships between program activities, outputs, intermediate outcomes and longer-term desired outcomes that would lead to better investment planning decisions.



Since 2007 the CMA had also invested in a knowledge base for its assets and threats through the development of a Waterway Health Strategy, Wetland Prioritisation Technique and Weed Management Strategy. These investigations provided up to date knowledge on the state of the catchment and would be used to support catchment planning processes and ranking of investment options to enhance resilience in the region (see Box 2.1 for more information). The delay in the procurement of detailed vegetation mapping had been an impediment to ongoing planning processes particularly as target areas for the CMA are mostly small pockets of remnant vegetation in an urban landscape.

In respect to the Standard, the CMA:

- ▶ Could not demonstrate a systematic approach to rank investments options (*knowledge of assets and threats scales of delivery, monitoring and evaluation*).
- ▶ Demonstrated it is investing in a series of strategic documents to identify key assets and threats across the region to build the capacity of the CMA to develop and implement consistent systems for ranking investments options (*Collection and Use of Knowledge and Determination of scale*).



Box 2.1: Prioritisation tools for Natural Assets in the Sydney Metropolitan region

One of the challenges faced by CMA's is the collection and use of robust information to inform the prioritisation of actions for improving resilience across their regions, within the bounds of available funding. Sydney Metropolitan CMA has identified knowledge gaps as one of the key constraints affecting its business, and has been working to fill specific gaps to assist with its prioritisation processes. Since 2007 the CMA has undertaken a number of important investigations that build the knowledge base of water and wetland assets. The Waterway Health Strategy and Wetland Prioritisation Technique for the Sydney Metro region were the result of the need to better understand the spatial scales of these key assets in the region.

The Waterway Health Strategy has prioritised the waterways across the region using three measures of condition geomorphic, riparian vegetation and social values. By using these three measures the CMA has been able to assess the condition of the rivers across the region and provide a baseline for further assessment at a later stage. The project also identified seven management categories based on the results of the geomorphic riparian condition assessments and the associate social values. These categories are being used to identify appropriate management activities and focus investment on priority river systems such as the O'Hares Creek catchment in the upper reaches of the Georges River Catchment, which is a Conservation/Protection priority due to the high values remnant vegetation in significant parts of the upper catchment.

The Wetland Prioritisation technique is part of Stage one in the development of a Wetland Management Strategy for the region. A desktop wetland prioritisation technique was developed to prioritise wetlands for rehabilitation. As part of the development of the technique eight Australian wetland assessment methods were reviewed to help develop a condition assessment method. None of the methods reviewed could assess all wetland types in the Sydney Region. A prioritisation technique was specifically developed for the region that considered biodiversity values, rareness / representativeness of the wetland type or landscape unit and consideration of threats when determining the conservation value of the wetlands. The method was trialled across significant wetlands in the region and resulted in a ranking of priorities for future investment.

As a result of the investigation the CMA has been able to assess the condition of these wetlands and provide detailed information for local government to be able to develop Plans of Management for wetlands in their area. This information is also providing sound base knowledge that is feeding into the CMA's development of a system to rank investment priorities.



2.3 Consistent short-term and long-term priorities

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 the CMA did not have clearly documented systems to support the integration of short and long term investment priorities across the region. At the strategic level investment planning had remained largely *ad hoc* and relied on guidance of operational staff to identify appropriate projects for investment. However, the CMA had commenced a process through the development of a Program Logic for each of the CAP themes. The CMA had proposed to use this approach in concert with the proposed MER system as a means of ensuring short term investment decisions had logical links to long term strategies.

The audit found that the CMA had accommodated changes in short term investment priorities and had not lost focus on the broader long term objectives of the CAP. For example, the CMA had changed program priorities for Botany Bay catchment to meet *Caring for Our Country* Business Plan requirements, which funded only water quality issues. The longer term targets of the catchment included biodiversity (e.g. Kurnell Peninsula sites). The CMA was seeking alternative funds for biodiversity protection in the Botany Bay catchment in order to meet its CAP targets.

The audit found that the CMA had clearly documented the expected long-term project outcomes within their Project Development Plans, including linking each project to the relevant State NRM, catchment and management targets. At the project scale most projects provide good links between short and long term goals, such as Kurnell 2020 (see Box 3.1 for more information). The project has adopted a long term planning approach with key stakeholders on the Kurnell Peninsula. Even though investment through to 2020 has not been secured, the Project Development Plan identified the key activities at different scales including management activities and engagement. The planning approach with this project has been designed to allow flexibility in annual implementation targets as part of the progression to long term goals.

Project site visits identified that stakeholders had been required to monitor and maintain works sites to support short term outputs (e.g. revegetation and weed management) as part of the progression to long term targets. The audit identified that where projects had been outsourced to public land managers (e.g. local government) CMA staff had visited project sites to ensure outputs had been delivered. Project reporting had identified that outputs were mapped spatially.

In respect to the Standard, the CMA:

- ▶ Could not demonstrate a process to support the integration of short and long term investment priorities. (*Collection and use of knowledge* and *Determination of scale*).
- ▶ Could demonstrate it had accommodated changes to investment and altered its focus to support long and short term investment priorities (*Collection and use of knowledge* and, *Determination of scale*).



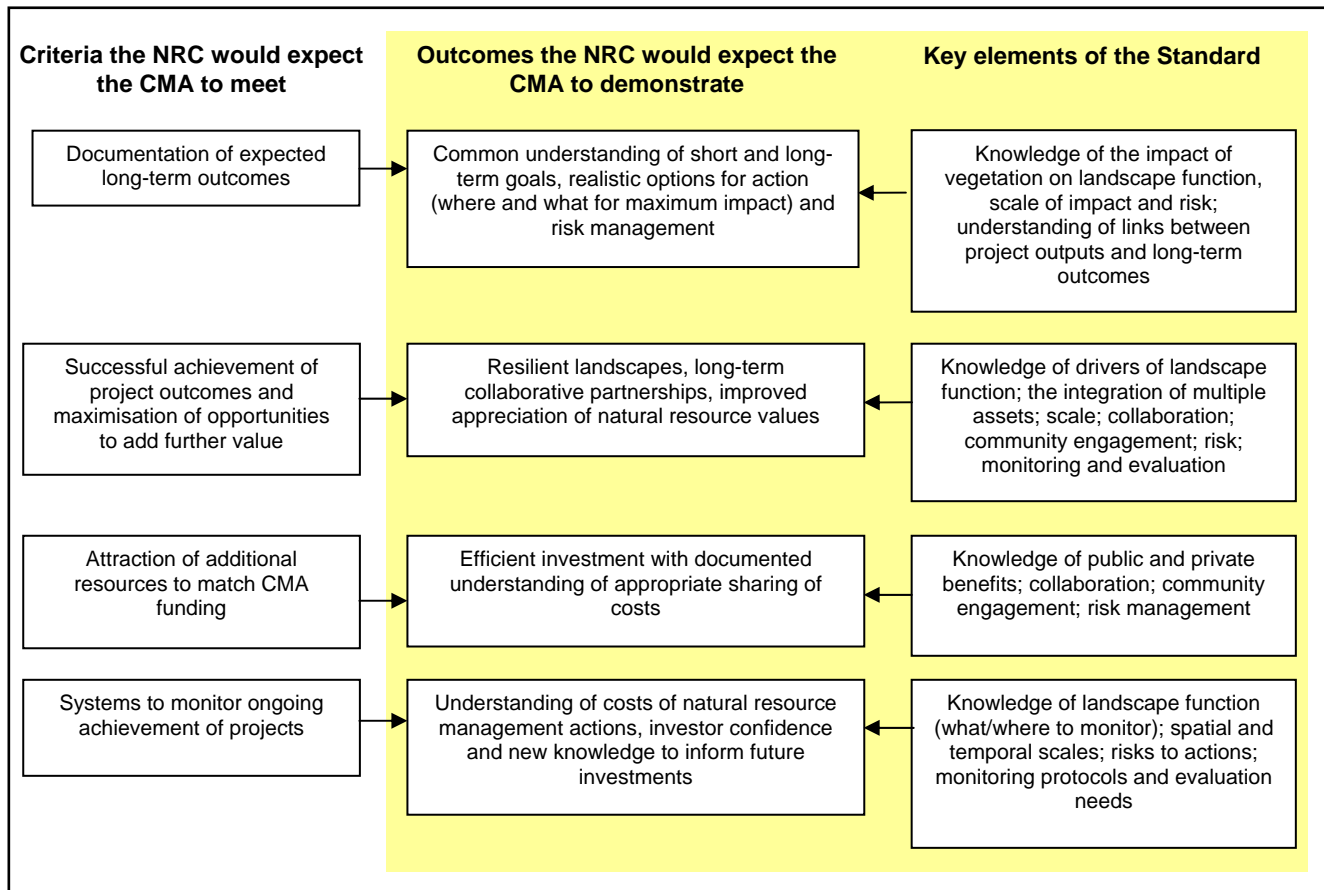
3. Delivering Projects that Contribute to Improved Landscape Function

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 regions 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, the audit team assessed whether they were meeting four criteria. These were that the CMA:

- ▶ Documented the expected long-term outcomes of the projects it invests in.
- ▶ Was successfully achieving short-term project outcomes, and maximising further opportunities to add value.
- ▶ Was attracting additional resources to match its funding in projects.
- ▶ Had 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 we would expect to see if the CMA is using those elements of the Standard. These are shown in Figure 3.1.

Figure 2.1: The framework the auditor 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 of the implementation of the Sydney Metropolitan CAP 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 CMA had clearly documented the expected long-term project outcomes within their Project Development Plans, including linking each project to the relevant State NRM, catchment and management targets.



For all projects visited operational staff and project partners demonstrated a common understanding of short and long-term goals and realistic options for action. Risks to achieving long term outcomes were generally understood by project staff and partners but risk management processes had not always been clearly documented and implemented. CMA staff had identified that the CMA had significant knowledge gaps, particularly with baseline environmental condition data. The CMA had done substantial work in recent times to fill these knowledge gaps, and had used best available knowledge to assist with project development and planning.

An understanding of project short and long-term goals was not as clearly articulated at a board level, which may limit the CMA Board's ability to promote the CMA's goals and achievements to strategic partners and stakeholders, as well as its ability to provide leadership with strategic planning and investment advice.

In respect to the Standard, the CMA:

- ▶ CMA staff demonstrated the use of available knowledge to document project importance and links to long term goals (*Collection and use of knowledge*).
- ▶ Demonstrated a good understanding of the logic relationship between projects and their expected long-term outcomes (*Determination of Scale*), although strategic level program logic is only now being documented.
- ▶ Could not demonstrate a consistent approach for the consideration of risk through the project planning and implementation process (*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 Sydney Metropolitan CMA had successfully achieved most of the planned short-term project outputs for the projects inspected. The inspected projects demonstrated sound logic linking project outputs and long term outcomes, and were contributing to improved resource condition at a project scale, across multiple targets. For example the O'Hares Creek project had closed and rehabilitated access tracks and was managing illegal access, contributing to protecting vegetation and water quality for the areas hanging swamps. However, while the CMA had recorded short term project outputs (e.g length of illegal track closed) that had been achieved in the project final reports, there was often not sufficient information to assess the achievement of the project's long term natural resource outcomes.

The use of experimental techniques on some projects demonstrated that the CMA had sought to improve the way in which natural resources are managed, although this research was not consistently documented. There was no systematic knowledge capture to support adaptive management. This may result in project learnings and outcomes of NRM adaptive management not being shared across the CMA and with stakeholders.



For three of the projects visited, the CMA had achieved additional outcomes that were not identified in the original project plan or documented in the project final reports. This was particularly evident in the area of enhanced community engagement and stakeholder relationships, although these benefits are often hard to measure. The Kurnell 2020 program provided a good example of the development of long-term collaborative partnerships by the CMA (see Box 3.1 for more information), that are often not possible to anticipate during the project planning phase.

In respect to the Standard, the CMA:

- ▶ Demonstrated it worked with partner and community networks to both identify and implement priority projects and improve appreciation of NRM outcomes (*Community engagement, Opportunities for Collaboration*).

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 Sydney Metropolitan CMA had attracted additional monetary and in-kind contributions for the projects visited. The value of additional resources varied between approximately 30-50% of the CMA's project investment for the projects visited.

The CMA recorded information on additional resources at the project level in the Project Services Contract as well as in the CMA system of project templates (Project Development Plan, Bi-Annual and Annual Progress Reports and Final Reports). However, the CMA had not documented all project benefits such as capacity building and specific knowledge gained, as many of these are difficult to measure and document, and could therefore not promote the full range of benefits from its projects.

In general, the CMA does not work with private landholders as most projects are on public land. For projects on public land, the CMA had encouraged in-kind contributions from its project partners.

In respect to the Standard, the CMA:

- ▶ Demonstrated it had attracted additional resources to its investments, and recorded data on the additional resources it attracts in its information management systems (*Opportunities for collaboration, Community engagement and Monitoring and Evaluation*).



Box 3.1: Collaboration and planning for long term project outcomes – Kurnell 2020

Natural resource management to improve landscape resilience is a long-term process, and yet CMAs and other natural resource management bodies are often constrained by short term funding cycles, and changing priorities of national and state funding agencies. While CMA's Catchment Action Plans set the long-term catchment targets, and short term management targets, it is often challenging to translate these targets into long term project goals. It is also important that CMAs build long term strategic partnerships and work with the community over a long timeframe if projects are to be successful, integrated and contribute to the NSW government goal of "promoting resilient landscapes that support the values of its communities". A good example of how to address these issues is the Sydney Metropolitan CMA's Kurnell 2020 project.

Kurnell 2020 is a long term multiple outcomes project contributing to the integrated ecological restoration of the Kurnell Peninsula, and is being lead by the CMA with the support of its program partners. Its vision is that by 2020 the degraded condition of the natural ecosystems on public and private lands on the Kurnell Peninsula will be improved. The project had focussed on the creation of bushland corridors and Endangered Ecological communities (Kurnell Dune Forest) across the Kurnell Peninsula to link Botany Bay National Park and the Ramsar wetlands at Towra Point. Coordinated onground works include bush regeneration, weed and pest species control, seed collection and revegetation. Partners delivering this project are DECCW-Water and Wetlands Unit, Sutherland Shire Council (SSC), the DECCW – Botany Bay National Park, the Department of Lands-Soil Conservation Service and La Perouse Local Aboriginal Land Council.

This CMA lead project has delivered community engagement, awareness and training outcomes for residents, local Aboriginal communities, and corporate and other community visitors to the peninsula. Over the longer term, the project is aiming to engage and develop partnerships with private land owners and industry on the Kurnell Peninsula, particularly as future opportunities arise (e.g. when mining and other leases expire) to restore these areas and further enhance landscape function. To facilitate this, the CMA has developed a program specific Corporate Engagement Plan.

The Kurnell 2020 project has adopted a long term planning approach with key stakeholders on the Kurnell Peninsula. While investment through to 2020 has not been secured for the project and current funding sources through the Australian government will end in June 2010, discussions with the CMA identified that the long term planning approach is being used to seek stakeholder and corporate contributions to support project implementation, through the Kurnell 2020 Corporate Engagement Plan.

**Photo: Bitou Bush control and rehabilitation of the dunes on the Kurnell Peninsula.
Photo looking south towards Cronulla**



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 CMA had adequate systems in place to record progress towards and achievement of project outputs in its project progress and final reports (e.g. Kurnell 2020; O'Hares Creek Upland Swamp Rehabilitation; Coastal NRM Plans – Mason Park Wetlands Estuarine Habitat Improvement Project), Sydney Catchment Information Management System (SIMS) and Land Management Database (LMD). However, while the CMA had collected specific information on project outputs, it did not have a system for monitoring, evaluating and reporting progress towards long term outcomes of projects such as changes in resource condition.



The Project Development Plans (PDPs) for the projects visited identified monitoring actions but the information provided was brief. The PDPs specified what the monitoring action would be (i.e. Photo points, monitor survival rate of seedlings) but did not include how monitoring data would be collected (i.e. timeframes, method, responsibility), interpreted and used. Review of project final reports found that monitoring information (such as before and after photos from monitoring points) had not been documented in all cases, (e.g. For the project final reports reviewed, photo monitoring was available for Kurnell 2020 and Mason Park, but not O'Hares Creek).

At the time of the audit, the CMA recognised that monitoring and evaluation was a key gap in its business and was seeking to appoint a Monitoring, Evaluation and Reporting (MER) officer to address this issue. The CMA considered that this would provide them with the necessary skills and resources to develop its monitoring and evaluation framework.

In respect to the Standard, the CMA:

- ▶ Could demonstrate success in most cases in tracking progress of project achievement (*Monitoring and evaluation*).
- ▶ Could not demonstrate a consistent approach to monitor and evaluate the long term natural resource outcomes of its projects, and hence the on-going benefit of its investments (*Monitoring and evaluation and Risk management*).



4. Community Engagement

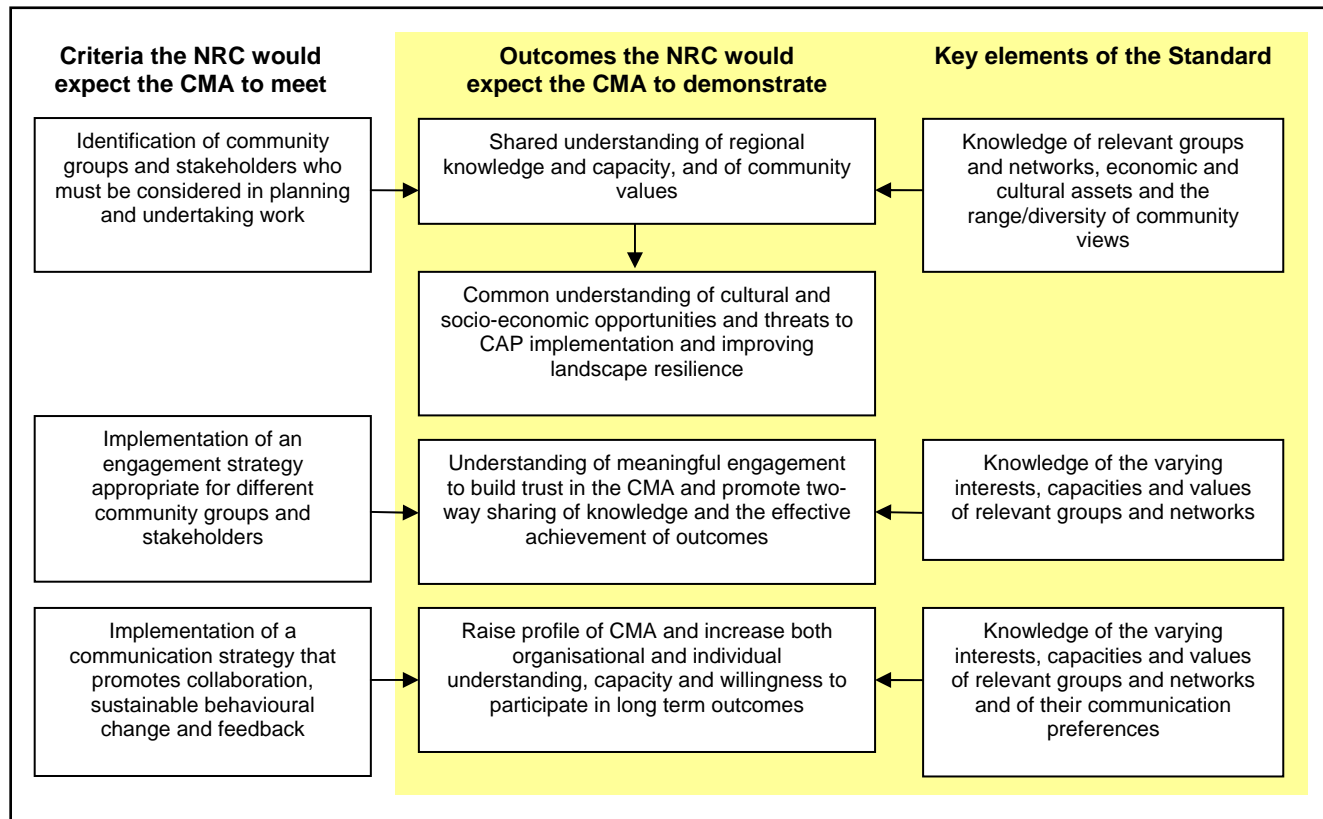
The NRC's third line of inquiry was whether the CMA is effectively engaging its communities. Given that 89 per cent of land in NSW is in private management, it is critical for CMAs to engage private landholders and other stakeholders who manage the natural resources on this land. This allows CMAs to 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. For the highly urbanised Sydney Metropolitan region the CMA's CAP outlines a key role of the CMA is connecting the work of NRM stakeholders across the region and working collaboratively with local government. This has led to a different focus on community engagement for this audit compared to the other less urban focussed CMAs.

To assess this line of inquiry, the auditor looked for evidence that the CMA:

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

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

Figure 3.1: The framework the auditor used to assess whether the CMA was effectively engaging its communities



The sections below discuss each criterion in more detail, including why it is important and what our 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 CMA had a good understanding of the key community groups and others stakeholders it must work with in planning and undertaking work. It had developed a draft Community Engagement Strategy that documented approaches appropriate to different stakeholders, although it had not been finalised and endorsed by the Board and is not widely understood by staff in its current form.



The CMA had also conducted a community survey in 2007 that identified the value of volunteer time being donated annually, which had increased by 7% between 2005 to 2007. Based on this information, the CMA has produced a map that shows the level of volunteer involvement across different parts of the catchment, and reflects the level of engagement in NRM. This is a useful indicator of the level of engagement across the region, as measured by volunteer hours, although does not provide information on community values that can then inform future engagement approaches.

The CMA identified local government as a key stakeholder and partner and relied on local government to deliver much of its NRM projects. There are 39 councils within the Sydney Metropolitan region, and to meaningfully engage with all councils the CMA had identified the need to work with collections of councils through groups referred to generically as 'catchment councils' such as the Georges River Combined Councils Committee (GRCCC), Cooks River Foreshores Working Group (CRFWG) and the Parramatta River Catchment Group (PRCG). The CMA also had an understanding of the multi-institutional and high profile strategic interests in the protection of natural resources in the Sydney Metropolitan region, and the challenge in establishing its role as a regional NRM facilitator. The CMA had effectively identified stakeholders and partners at an operational level, and established its role at this level.

Through networks such as the combined council groups, and Volunteer Coordinators Network, and Volunteer Survey, the CMA was also aware of the differing levels of capacity and resources of the local councils and other groups it funded, and worked at an appropriate scale to make the most of its limited staff and financial resources.

The CMA Board's experience in local government and business had the potential to assist the CMA in working within the political and institutional framework of the Sydney Metropolitan region. However, the CMA Board had not been actively involved in strategic planning for community engagement and capacity building and had left this task to the CMA staff at an operational level. This poses a potential risk that strategic opportunities for stakeholder engagement and collaboration opportunities with key strategic partners, including the private sector, are not being identified. As a result, opportunities to enhance an understanding by this sector of the private sector's impact on NRM, as well as opportunities for support and sponsorship may be missed.

In respect to the Standard, the CMA:

- ▶ Demonstrated a good understanding of community groups and stakeholders, and used this understanding to inform the development of its Community Engagement Strategy (*Community Engagement*).
- ▶ Demonstrated that it has collected knowledge to improve community engagement across the region (*Collection and Use of Knowledge*).

4.2 Appropriate engagement 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's staff demonstrated a good understanding of meaningful engagement with stakeholders and the community. This had resulted from the strong relationships that CMA staff had developed over many years working in the region prior to the formation of the CMA. It also identified the need for the CMA to work closely with Local Government to deliver projects on the ground, this is because the CMA does not have the resources to work directly with the broader community in the region, and Local Government are better placed to engage at a community level. The CMA had clearly understood where it can therefore be most effective in engaging with stakeholders to promote a coordinated approach to natural resource management across the region.

The CMA had developed a draft Community Engagement Strategy that demonstrated an understanding of approaches to engagement and described the key stakeholder groups the CMA needs to work with to achieve its goals. These approaches were demonstrated through a range of engagement mechanisms including a range of community networks, expert theme teams for stakeholder input during CAP development, the establishment of an Aboriginal Advisory Committee, regular community newsletters, community forums and information on the CMA website.

The CMA had also engaged with key community stakeholders through its annual Community Forum which brings together groups from across the catchment to share information. 104 community members representing over 50 different groups attended this forum in May 2009 and one of the key outputs was the collection of ideas around successful community engagement. This provided a good example of how the CMA is effectively and strategically engaging with its community (see Box 4.1 for more information).

While the CMA had a good understanding of its community based on the experience of its staff and had documented its approaches in its draft Community Engagement Strategy, the CMA had not used systematic analysis and research to identify the capacity of community groups to assist in the delivery of NRM outcomes, or the potential costs and benefits of any such collaboration.

In respect to the Standard, the CMA:

- ▶ Demonstrated a good understanding of community groups and stakeholders, and had used this understanding to inform the development of its Community Engagement Strategy (*Community Engagement*).
- ▶ Could not demonstrate that it had used systematic analysis and research to identify the capacity of community groups to deliver NRM outcomes and the potential costs and benefits of any such collaboration (*Collection and use of knowledge*).



4.3 Communication promoting collaboration, behavioural change and feedback

CMA's 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 CMA had implemented a range of communication approaches to communicate its messages and to receive feedback from the community, and was implementing these effectively. In practice, this ranged from communicating of CMA activities and how the community can be involved on the CMA website, hosting of field days and community forums, establishing an Aboriginal Consultative Committee and participating in 'combined council groups' through to active partnership with local government in developing and delivering projects.

The CMA, while operating in a complex institutional framework with multiple interests in NRM, had developed strong relationships and was communicating effectively with key stakeholders at an operational level. Its role as a regional NRM facilitator was clearly understood. A good example of this was the CMA's key role in the combined council groups, such as the Georges River Combined Councils Committee (GRCCC), Cooks River Foreshores Working Group (CRFWG), the Parramatta River Catchment Group (PRCG), where the CMA had been effective in coordinating natural resource management collectively with multiple councils and other stakeholders.

While stakeholders valued the CMA's regional NRM role, the audit found that delays in receiving CAP approval had meant that the CMA had not actively promoted its CAP, so that the CMA's strategic goals were not well understood by stakeholders and the broader community.

The audit found that the CMA's role had not been well communicated within higher levels of local government and State agencies, and this presents a risk that the CMA has been less effective in influencing strategic NRM planning in the region.

The CMA had established a place for general feedback on its website and undertaken some community survey to understand the level of community participation in NRM through volunteer effort. The CMA had identified that there was a gap in the baseline information on community capacity, and a mechanism to monitor and measure the effectiveness of community capacity building over time.

In respect to the Standard, the CMA:

- ▶ Demonstrated it had developed communication networks and tools with stakeholders and community groups to increase both individual and organisational understanding and capacity, and increase communities' willingness to participate in achieving NRM long-term outcomes (*Collection and use of knowledge* and *Community engagement*).
- ▶ Could not demonstrate that the CMA's role and strategic goals are well understood by stakeholder and the broader community, as the CMA CAP has only recently been endorsed (*Community engagement* and *Opportunities for collaboration*).



Box 4.1: Sharing Knowledge & Capacity Building – CMA Community Forums

A key challenge faced by the Sydney Metropolitan CMA is how to engage with its large and diverse community in a way that effectively uses its limited people and financial resources. The Sydney Metropolitan region has a population of over 3 million people, with 25% from culturally and linguistically diverse backgrounds and a high indigenous population. On the other hand, the CMA has only 12 recurrent staff positions, and a single office located in Parramatta. To manage these issues, the CMA has identified the importance of effectively engaging with its community through a range of networks and strategies, which it has been effectively implementing since its inception.

One effective method the CMA had employed to share knowledge and build capacity is hosting an annual Community Forum. Its last forum was held in May 2009 and was attended by 104 members of the community as well as CMA Board Members and the CEO of Landcare Australia Limited. This was the third annual Community Forum organised by the CMA. The Community Forum provides a good opportunity for the region's community groups to meet and share knowledge of their experiences in NRM. One output from the May 2009 Community Forum was the collection of ideas around success community engagement, titled: '101 Secrets for a Successful Volunteer Group', which has now been distributed more widely through the Volunteer Coordinator's Network that is coordinated by the CMA.

In 2009, for the first time, the CMA held the Sydney Metropolitan Regional Awards as part of the forum. The CMA sought nominations from community groups, schools and projects across Sydney for four different categories. The categories available were Aboriginal Environment Award, Education Environment Award, Community Group Environment Award, and the Urban Environmental Project Award. The awards provided another opportunity for the CMA to promote the work of communities across the region, share experiences and reward community efforts to protect and enhance natural values in the Sydney Metropolitan region.



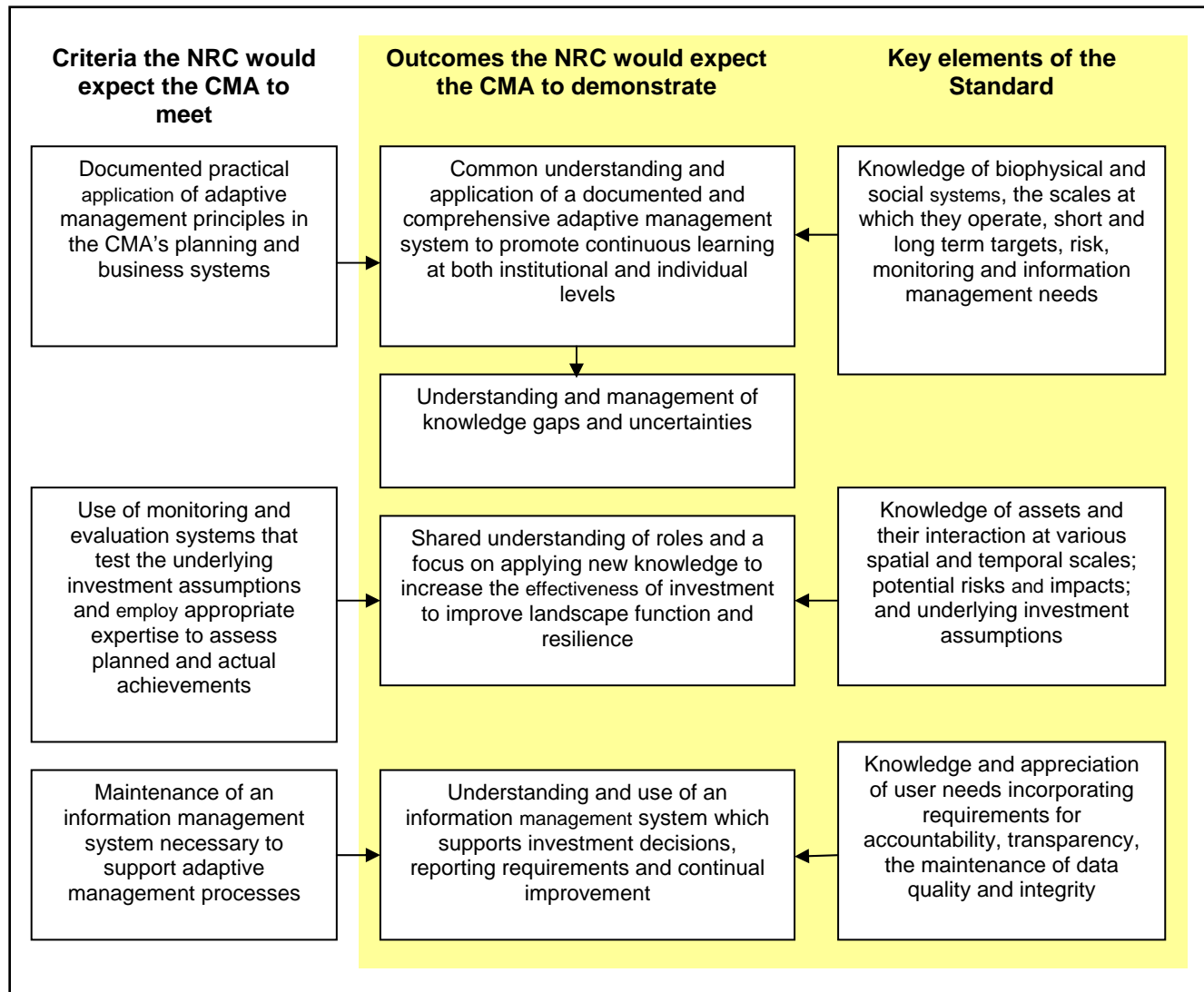
5. Effectively Using Adaptive Management

In the fourth line of inquiry, the auditor 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 used appropriate experts to assess planned and actual achievements; and
- ▶ Maintained information management systems necessary to support the adaptive management process.

Each of these criterion is shown in 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 4.1: The framework the auditor 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 the CMA had not documented the application of adaptive management in its planning or business systems and as a result there is confusion about what constitutes adaptive management. This had resulted in a perception by the CMA Board and Staff that some improvements to CMA systems and processes had been implemented through an adaptive management approach. The audit identified the CMA had not undertaken a structured, iterative 'learn by doing' approach across the key phases of adaptive management - plan, implement, audit and respond.

However, the CMA had identified the need to develop an Adaptive Management Strategy as a means to review, refocus and improve its management strategies and activities in the region. The development of the strategy had been delayed as a number of other documents such as the Strategic Roadmap (revised as Program Logic), and Monitoring and Evaluation Strategy had not yet been completed. These documents had been identified as a basis for the development of an Adaptive Management Strategy in the CAP.

Despite the lack of formal processes the audit identified the CMA had implemented a number of initiatives that were likely to contribute to a more structured approach to adaptive management. For example, the *Innovations in Ecological Restoration Forum* provided an opportunity for the bush regeneration industry to share their achievements and innovations to a wide audience that is likely to support adaptive management in the industry. As noted previously, some of the projects visited had used experimental techniques to test different NRM methods and demonstrated that the CMA and its project partners had sought to improve the way in which natural resources are managed, although this was not consistently documented. This may result in project learnings and outcomes of NRM adaptive management not being shared across the CMA and with stakeholders.

Another example of a more structured approach to adaptive management was the intention to use the outcomes of their recent waterway and wetland investigations and the vegetation mapping and fauna habitat assessments undertaken by the DECCW to further develop spatial prioritisation processes to support investment planning.

In respect of the Standard, the CMA:

- Could not demonstrate how adaptive management processes was used to support innovation and learning across the organisation and the region (*Collection and use of knowledge; Community Engagement, Opportunities for Collaboration; Information Management*).

5.2 Monitoring and evaluation system

To effectively apply adaptive management principles, CMA's 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 (for example, that the expected quantity of native grasses were planted, or that the expected length 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 or revegetation of a riparian zone resulted in improved water quality and riverine ecosystem health). In addition, it 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 the CMA had limited capacity to monitor and report on implementation of CAP targets due to the lack of appropriate information management systems and a co-ordinated approach to monitoring and evaluation.

The audit found that in late 2008 the CMA had developed a draft MER Framework to support the monitoring and evaluation of individual projects, State of the Catchment reporting and adaptive management. Further development of the framework had not progressed due to a lack of capacity.

Further development of the framework was dependent on the appointment of an MER Officer. At the time of the audit the CMA had commenced negotiations with a preferred candidate.

The audit identified that Project Development Plans (PDPs) recorded monitoring actions to be undertaken during the implementation of projects. The PDPs specified monitoring to be undertaken however review of project final reports found that information had not been recorded in all cases.

In respect to the Standard, the CMA:

- Could not demonstrate that it has robust systems and processes to support the capture of monitoring and evaluation information and inform adaptive management (*Collection and Use of Knowledge; Monitoring and Evaluation*).

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 Sydney Metropolitan CMA did not have well established information management systems and processes to support adaptive management.

The CMA had limited systems such as the SIMS and internal documentation to support adaptive management processes. Data capture of monitoring and evaluation is currently conducted on a project basis. The current systems and processes did not support the interpretation and utilisation of the information.

The CMA did not have the ability to track changes in landscape function and opportunities for capturing and utilising new knowledge. For example information collected as part of the waterways and wetland investigations were operated independently of each other and had not been integrated into existing management systems such as the Land Management Database which undermined the CMAs ability to inform investment decisions.

The audit found the CMA operated a number of different systems to support project delivery and existing investment. For example, systems such as SIMS provided a database to document and store information such as project contracts, Project Development Plans, and final reports. However, the system did not support overall management of information to track and record implementation of CAP targets.



In respect to the Standard, the CMA:

- ▶ Could not demonstrate the application of information management systems that are able to support the adaptation of management practices (*Collection and Use of Knowledge and Monitoring and Evaluation*).



Attachment 1

Conclusions, Suggested Actions and CMA Response



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

CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
Line of inquiry #1 - Has Sydney Metropolitan CMA effectively prioritised its investments to promote resilient landscapes that support the values of its communities?		
<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"> ▶ CMA project staff and stakeholders demonstrated a sound understanding of the characteristics of resilient landscapes for the region and the operational practices required to improve landscape resilience. However this understanding was varied and inconsistent. ▶ The CMA had not developed a comprehensive knowledge base to fully support its implementation of a resilience approach for the region, although the CMA had taken action to increase its knowledge base to assess and manage for resilience 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 1. Develop a common understanding of resilient landscapes relevant to the Sydney Metropolitan region and clearly document this so that it can be consistently communicated to all staff, stakeholders and the community. 2. Continue to develop a comprehensive knowledge base to support the implementation of a resilience approach for the region and a spatially based strategic planning prioritisation tool to support action planning and investment decisions. 	<ol style="list-style-type: none"> 1. The SMCMA agrees that a consistent definition of resilient landscapes will assist in achieving NSW's aspirational goal, and agrees with the suggested action. In order to ensure that the definition is relevant it will be necessary to involve SMCMA's partners, especially local government in developing that understanding. It is anticipated that such consultation will be completed by June 2010. 2. The SMCMA agrees with the suggested action. NRM is so new to urban Sydney that the lack of sufficient data about priority natural assets in the region has made spatially based strategic planning difficult. Accordingly, the SMCMA has been investing in projects for the collection of baseline data since its inception. This will continue so that strategic prioritisation of investment can continue to improve.



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
		<p>However, such prioritisation will be a time consuming and resource hungry process because it will depend on better understanding the environmental, economic, social and cultural values of the 39 Local Government Areas in the region. The need to continue to deliver short to medium term results for both funding bodies and the community will mean that a balanced incremental approach based on the knowledge of SMCMA staff and our partners will be required. While developing the knowledge base will be an ongoing process, the SMCMA will identify and use a range of prioritisation tools to complete this action by December 2010 as part of its strategic planning process to be undertaken in the next twelve months.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<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"> ▶ CMA did not have a consistent and systematic approach to identify priorities and rank investments across the region. The development of this capacity is contingent upon the availability of data identifying key assets and threats across the catchment. ▶ The CMA had previously attempted to implement a number of approaches to improve its capacity to rank investment options at the strategic level. The CMA had recommenced this process with the current development of its Program Logic. 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 3. Prioritise the CAP targets to assist investment planning and decision making, taking into account best available knowledge. 4. Continue to develop the Program Logic as part of a strategic framework for the implementation of short and long term targets. 	<ol style="list-style-type: none"> 3. The SMCMA agrees with the suggested action. Some prioritisation of CAP targets has already occurred in determining the achievement dates of the targets. There has not previously been any prioritisation of the E4 State targets which are reflected by CAP targets. However, this may occur in the current review of the State Plan by the NSW Government. Expected completion by September 2010. The biggest single barrier to prioritisation in the past has been the limitations in our knowledge of the location and /or value of the region's natural assets. The SMCMA is progressively building that knowledge in conjunction with agency and council partners. This in turn will improve our strategic decision making for funding priorities. In the intensely developed urban environment, almost all remaining natural assets are important and accordingly the SMCMA has used a wide range of criteria in determining how best to allocate funds. Funding body preferences will continue to have a large bearing on project delivery, but for Catchment Action NSW funding the SMCMA has greater control. Better baseline data, the Project Logic Pathway and Program Logic are now assisting the SMCMA to prioritise its CAP targets. 4. The SMCMA agrees with the suggested action. The SMCMA will continue with ongoing refinements over the period to June 2010.



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<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">▶ The CMA does not have clearly documented systems to support the integration of short and long term investment in its activities. At the time of the audit it had commenced the development of a Program Logic for each of the CAP themes, which it had proposed to use in concert with the proposed MER system as a means of ensuring short term investment decisions had logical links to long term strategies.▶ The CMA had undertaken a number of activities that demonstrated the CMA understood the need to accommodate organisational changes and not lose focus on the long term objectives of the CAP.	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none">5. Develop the MER strategy in a way that it can operate with the program logic to ensure short term investment decisions have logical links to long term strategies.	<ol style="list-style-type: none">5. The SMCMA agrees with the suggested action. <p>The SMCMA will complete this action by November 2010.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
Line of inquiry #2 – Have the Sydney Metropolitan CMA's vegetation projects contributed to improved landscape function?		
<p>Criteria 2.1: <i>whether the CMA has documented expected long-term project outcomes</i></p> <ul style="list-style-type: none"> ▶ Long-term project outcomes were well documented by the CMA including linking the project to the relevant State NRM, catchment and management targets. ▶ For all projects visited operational staff demonstrated a common understanding of short and long-term goals, realistic options for action and appropriate strategies for risk management, however this understanding was not as clearly articulated at a Board level. 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 6. Improve understanding of long-term expected outcomes for projects by the CMA Board and senior staff to help promote CMA's goals and provide strategic leadership both internally and externally. 	<ol style="list-style-type: none"> 6. The SMCMA does not agree that the Board are not aware of the intended long term outcomes from short term project goals. Nonetheless, it is intended to provide more staff presentations/case studies to the Board to improve the mutual understanding of all aspects of the organisation's activities. This will be an ongoing process starting at the December 2009 Board meeting and the SMCMA will complete this action by December 2010.
<p>Criteria 2.2 : <i>whether the CMA successfully achieves project outcomes, and maximised opportunities to add further value</i></p> <ul style="list-style-type: none"> ▶ The projects visited demonstrated the CMA had successfully achieved most of the planned short-term project outputs and was contributing to improved resource condition at a project scale, across multiple targets. 	<p>There are no suggested actions for this criterion.</p>	



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<p>Criteria 2.3 <i>whether the CMA's projects are attracting additional resources to match CMA funding</i></p> <ul style="list-style-type: none"> ▶ The CMA had attracted additional monetary and in-kind contributions for the projects visited, although the CMA had not documented all project benefits. 	<p>The auditor suggests that the CMA take the following actions:</p> <p>7. Where relevant, seek to document all project benefits to better demonstrate the leverage that some of the projects are providing.</p>	<p>7. The SMCMA agrees with the suggested action. The CMA notes that audit report has recognised that it is hard to quantify and document some benefits (Section 3.2). The CMA currently documents project benefits where they can be identified in Project Contracts and Final Reports.</p> <p>The SMCMA will complete this action by June 2010.</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"> ▶ The CMA had adequate systems in place to record progress towards and achievement of project outputs, however these had limitations in their ability to report across projects. ▶ The CMA did not have a system for monitoring, evaluating and reporting progress towards long term outcomes of projects. Monitoring actions are outlined in the CMA's Project Development Plans, but did not include how the information will be collected, interpreted and used. ▶ The CMA was seeking to appoint a suitable officer to develop a Monitoring, Evaluation and Reporting (MER) system to address this issue. 	<p>The auditor suggests that the CMA take the following actions:</p> <p>8. Seek to appoint an MER officer as a high priority. And develop a formal monitoring system for projects including documenting objectives, scale, method, responsibility, timeframes, data interpretation and evaluation.</p>	<p>8. The SMCMA agrees with the suggested action. The MER Officer commenced employment with the SMCMA on 2/11/2009.</p> <p>The SMCMA has already developed a draft MER Project Plan and draft MER Project Record which will contribute towards the MER Strategy. The MER Strategy will be completed by November 2010.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
Line of inquiry #3 - Has the Sydney Metropolitan CMA effectively engaged its communities?		
<p>Criteria 3.1 <i>whether the CMA has identified community groups and stakeholders it must consider in planning and undertaking work</i></p> <ul style="list-style-type: none"> ▶ The CMA had a good understanding of the key community groups and others stakeholders it must work with in planning and undertaking work. ▶ The CMA Board had not been actively involved in strategic planning for stakeholder engagement and capacity building and this poses a potential risk that strategic opportunities for stakeholder engagement and collaboration with key strategic partners, particularly the private sector, are not identified. 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 9. The CMA Board should take a more active role to build engage with the private sector to enhance an understanding by this sector of its impact on NRM, as well as to explore opportunities for support and sponsorship. 10. Review the corporate engagement strategy for Kurnell 2020 and evaluate whether similar communication strategies could be developed for other key projects. 	<ol style="list-style-type: none"> 9. The SMCMA will consider this suggested action as part of its current consideration of private sector engagement, expected to be completed by June 2010. If the Board supports the action, the SMCMA will implement it by June 2011. <p>Considerable preparation is required before developing partnerships with the private sector. The SMCMA's limited resources to date have focused on engagement with councils, Aboriginal land councils and community groups with most works undertaken on public or community land. As these partnerships mature and require less staff resourcing it is intended to pursue a more active role with the private sector. Large scale projects such as Kurnell 2020 have incorporated corporate engagement strategies which will be a basis for future engagement. Through the Kurnell 2020 project, the CMA is currently undertaking a review of sponsorship opportunities.</p> <p>It is likely to be two or three years before the SMCMA has sufficient capacity to build significant partnerships with the private sector except in terms of specific larger scale projects.</p> <ol style="list-style-type: none"> 10. The SMCMA will consider this suggested action. The Board has not yet agreed on private sector involvement, but is expected to determine its position by June 2010. If the Kurnell corporate engagement strategy is approved and is successful an evaluation would be undertaken by June 2012 once activities have been delivered under the strategy.



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<p>Criteria 3.2 <i>whether the CMA is implementing an engagement strategy appropriate for different community groups and stakeholders</i></p> <ul style="list-style-type: none"> ▶ The CMA had a draft Community Engagement Strategy that documented approaches appropriate to different stakeholders, although it is noted that this has not yet been finalised and endorsed by the Board and is not yet widely understood by staff in its current form. ▶ The CMA had used a range of methods to engage with the community, including coordinating the Volunteer Coordinators Network, community forums, publication of a quarterly community newsletter, and organisation of field days and other activities. ▶ The CMA had not used systematic analysis and research to identify the capacity of community groups to assist in the delivery of NRM outcomes, or the potential costs and benefits of any such collaboration. 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 11. Finalise the Community Engagement Strategy as a priority, and have it endorsed by the Board, and communicated to all staff. 12. Develop a systematic approach to identify the capacity of key partners to assist in the delivery of NRM outcomes, or the potential costs and benefits of any such collaboration. This should be developed at the scale appropriate for the CMA's role as a regional NRM facilitator. 	<ol style="list-style-type: none"> 11. The SMCMA agrees with the suggested action. The SMCMA intends to finalise and formally endorse Community Engagement Strategy by June 2010. 12. The SMCMA agrees with the suggested action, within resource limitations. The SMCMA already has a clear picture of the community's capacity to deliver NRM outcomes and uses this information in designing training courses and events. Those courses and events have been well received and provided positive feedback. Many of the councils in the region work with community groups. Consistent feedback shows that groups are interested in specific local issues and getting results. Councils, the SMCMA and others seeking to have their local communities benefit from such volunteer groups are best advised to provide assistance, which helps the group deliver. <p>Specific reference is made to the independent review of the SMCMA Community Program two years ago which specifically sought advice on how to position the Program to maximise engagement and funding opportunities.</p> <p>The SMCMA will develop its MER strategy by November 2010 which will address this action.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
		<p>However, the SMCMA sees limited value in undertaking new research aimed at identifying the capacity of community groups to deliver NRM outcomes and certainly does not see it as a priority for use of its limited funds. Regional facilitators and extension officers is an accepted method of community involvement based on the best available knowledge. While research to quantify the costs and benefits of such collaboration may be of value to the large Commonwealth or State government funding bodies, at the regional scale funds are better spent helping groups deliver practical NRM by improving their capacity.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<p>Criteria 3.3 <i>whether the CMA is implementing a communications strategy that promotes collaboration, sustainable behavioural change and feedback</i></p> <ul style="list-style-type: none"> ▶ The CMA had effectively implemented a range of communication approaches to communicate its messages and to receive feedback from the community, and was implementing these effectively. However, delays in receiving CAP approval had meant that the CMA had not actively promoted its CAP, so that the CMA's strategic goals are not well understood by stakeholder and the broader community. ▶ The CMA had developed strong relationships and was communicating effectively with key stakeholders at an operational level and its role as a regional NRM facilitator was clearly understood at this level. However the CMA's role has not been as well communicated within higher levels of local government and State agencies, and this presents a risk that the CMA is being less effective in influencing strategic planning in NRM in the region. ▶ The CMA had developed some mechanisms for feedback although it had identified a gap in the baseline information on community capacity, and needs to develop a mechanism to monitor and measure the effectiveness of community capacity building over time. 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 13. Promote the CAP and the CMA's role as a strategic NRM facilitator with all levels of local government, other stakeholders, and the broader community now that the CAP has been endorsed. 14. Develop a mechanism to monitor and measure the effectiveness of partner and community capacity building over time. This should be developed at the scale appropriate for the CMA's role as a regional NRM facilitator. 	<p>13. The SMCMA agrees with the suggested action. The CMA agrees on the importance of promoting the CAP especially to local government and intends to commence this process with the Chair and GM in early 2010. The SMCMA will complete this action by December 2010. The SMCMA considers that it has put in place a mechanism for engaging with higher levels of local government and State agencies. The Strategic Liaison Program includes a schedule for structured strategic meetings throughout the year on a quarterly basis. The first meeting was held in May, 2009 with the Department of Planning and has already paid dividends because the SMCMA has been invited to contribute to a range of planning documents and meetings. The involvement of the Chairman and Board members in those meetings has been crucial to the results achieved.</p> <p>14. The SMCMA disagrees with the suggested action because this is not within current funding capacity so the SMCMA would need DECCW to assist. This issue has not been effectively covered by the State of the Catchment Report to date. This could possibly be approached through a joint consultancy with DECCW, as it is potentially a significant use of resources. Nonetheless, the issue will be canvassed in the MER Strategy as it is developed. Notwithstanding this, the SMCMA monitors volunteer hours for NRM on-ground projects on a 2 year basis. We have developed and support a NRM training network and liaise with DECCW on content of their 2 year Environment Survey.</p> <p>Auditor's note: Given the CMA's role as a regional NRM facilitator, the CMA Board needs to assess the risk to delivery of NRM outcomes if it is not able to monitor the effectiveness of community and partner capacity building.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
Line of inquiry #4 - Has the Sydney Metropolitan 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"> ▶ CMA had not documented the application of adaptive management in its planning or business systems and as a result there is confusion about what constitutes adaptive management. ▶ The CMA had identified the need to develop an Adaptive Management Strategy but this had been delayed as a number of other documents identified as a basis for the development of an Adaptive Management Strategy such as the Program Logic, and Monitoring and Evaluation Strategy had not yet been completed. ▶ Despite the lack of formal processes the audit identified the CMA had implemented a number of initiatives that were likely to contribute to a more structured approach to adaptive management. 	<p>The auditor suggests that the CMA take the following actions:</p> <ol style="list-style-type: none"> 15. Conduct training for CMA staff and the Board on how to apply adaptive learning principles and approaches. 	<p>15. The SMCMA agrees with the suggested action. The SMCMA intends to commence Adaptive Management training in March 2010 and conduct further training as the MER Strategy is implemented. The SMCMA will complete this action by September 2011.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<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"> ▶ The CMA had limited capacity to monitor and report on implementation of CAP targets due to the lack of appropriate information management systems and a co-ordinated approach to monitoring and evaluation. ▶ The CMA had developed a draft Monitoring Evaluation and Reporting Framework to support the monitoring and evaluation of individual projects, State of the Catchment reporting and adaptive management. Further development of the framework had not progressed due to a lack of dedicated resources and the capacity of the CMA to further develop the framework for the region. 	<p>The auditor suggests that the CMA take the following actions:</p> <p>16. Develop and implement a monitoring and evaluation strategy as a matter of priority to support data capture, progress to targets and implementation of adaptive management processes.</p>	<p>16. The SMCMA agrees with the suggested action. The MER Officer commenced employment with the SMCMA on 2/11/2009. The SMCMA will complete this action by November 2010.</p>



CONCLUSION	SUGGESTED ACTIONS	CMA RESPONSE
<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"> ▶ The CMA had limited information management systems and internal documentation to support adaptive management processes, and data capture of monitoring and evaluation is currently conducted on a project basis. The current systems and processes did not support the interpretation and dissemination of the information. ▶ The CMA did not have the ability to track changes in landscape function and opportunities for recording of and communicating new information. 	<p>The auditor suggests that the CMA take the following actions:</p> <p>17. Continue to develop information management systems that support the capture of monitoring information across projects that can track changes at a landscape scale and support adaptive management.</p>	<p>17. The SMCMA agrees with the suggested action, within resource limitations and is continuing to develop its information systems. The SMCMA MER Strategy will be developed by November 2010 by which time there will be greater clarity regarding the State MER Strategy for 2010 to 2015. The SMCMA will implement this action by December 2011.</p> <p>The SMCMA and other CMAs have been waiting since their inception for State wide information management systems which can track changes at a landscape scale. It is the delay in providing such systems which has lead to CMAs setting up individual systems such as Hawkesbury Nepean Information Management System (HIMS) by Hawkesbury Nepean CMA adapted as SIMS in our region.</p> <p>Although the systems to support adaptive management may not yet be available, in a small authority such as SMCMA, most learnings are able to be communicated verbally and through reports so that adaptive management can and does occur as found by the audit. Any deficiency was only that the SMCMA was unable to demonstrate documentation of the adaptive management process.</p>



Attachment 2
About this Audit



Audit mandate

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.²

The NSW Government has adopted an aspirational goal to achieve resilient landscapes that support the values of its communities.³ 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.⁴ The NSW State Plan⁵ establishes the State-wide targets for natural resource management (NRM).

CMAs have developed CAPs that express how each specific region can contribute to the aspirational goal and the State-wide targets. The *Sydney Metropolitan Catchment Action Plan*⁶ identifies the key natural resource issues (or themes) that need to be managed in the region, including Biodiversity, Water, Land and Community. Within each of these themes, the CMA has identified:

- ▶ Catchment targets, for longer-term improvements in resource condition that will contribute to achievement of the State-wide targets.
- ▶ Management targets, which identify shorter-term investment priorities that will contribute to achievement of the resource condition targets.

Audit objective

This audit assessed the effectiveness of Sydney Metropolitan CMA in promoting resilient landscapes that support the values of its communities, within the scope of the CAP.

Sydney Metropolitan 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.

Lines of inquiry

In order to assess the effectiveness of CMA work, the NRC directed the audits to answer the following questions:

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 effectively engaging its communities?
4. Is the CMA effectively using adaptive management?

The NRC identified that these four key aspects of CMA work should strongly influence effectiveness in achieving resilient landscapes, and promote maximum improvement for Sydney Metropolitan CMA for this stage in their development.

² *Natural Resources Commission Act 2003, Section 13 (c)*

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

⁴ *Ibid.*

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

⁶ Sydney Metropolitan CMA, *Sydney Metropolitan Catchment Action Plan, 2009*



Audit criteria	<p>To help answer each line of inquiry, the NRC used the criteria identified below in Table 1, the audit plan summary.</p> <p>These criteria address:</p> <ul style="list-style-type: none">▶ 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. <p>The criteria were derived from the elements of each line of inquiry, and from the general criteria of the Standard and state-wide targets.</p> <p>The NSW Government adopted the <i>Standard for Quality Natural Resource Management</i> (the Standard), which identifies seven components that are commonly used to reach high quality natural resource decisions. CMAs must comply with the Standard⁷, using it as a quality assurance standard for all planning and implementation decisions.</p>
Audit scope	<p>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.</p> <p>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.</p> <p>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 NRC audit sought to audit the effectiveness of these contributions as they arise.</p>
Audit approach	<p>In August 2008, the audit team performed the following audit work:</p> <ul style="list-style-type: none">▶ 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 six projects. <p>At the close of the audit field work, the audit team shared preliminary observations with the CMA.</p>
Audit methodology	<p>To plan and conduct this audit, the audit team followed the methodologies set out in the <i>Framework for Auditing the Implementation of Catchment Action Plans</i>, NRC 2007.</p>
Acknowledgements	<p>The audit team gratefully acknowledges the cooperation and assistance provided by the Sydney Metropolitan CMA and landholders in the Sydney Metropolitan region. In particular we wish to thank Phillip Sansom, John Carse and Michele Bailey.</p>

⁷ Section 20 (c), *Catchment Management Authorities Act, 2003*



Table 1 Audit plan summary

Line of Inquiry 1	Is the CMA effectively prioritising its investments to promote resilient landscapes that support the values of its communities?
This line of inquiry was tested against the following criteria:	
Criterion 1.1	The CMA has a commonly understood definition of what constitutes resilient landscapes in their region.
Criterion 1.2	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.
Criterion 1.3	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.
Line of Inquiry 2	Are the CMA's vegetation projects contributing to improved landscape function?
This line of inquiry was tested against the following criteria:	
Criterion 2.1	The CMA has documented expected long-term project outcomes.
Criterion 2.2	The CMA is successfully achieving project outcomes, and maximising opportunities to add further value.
Criterion 2.3	The projects are attracting additional resources to match CMA funding.
Criterion 2.4	The CMA has a system to monitor ongoing achievements of projects.
Line of Inquiry 3	Is the CMA effectively engaging its communities?
This line of inquiry was tested against the following criteria:	
Criterion 3.1	The CMA has identified community groups and stakeholders it must consider in planning and undertaking work.
Criterion 3.2	The CMA is implementing an engagement strategy appropriate for different community groups and stakeholders.
Criterion 3.3	The CMA is implementing a communication strategy that promotes collaboration, sustainable behavioural change and feedback.
Line of Inquiry 4	Is the CMA effectively using adaptive management?
This line of inquiry was tested against the following criteria:	
Criterion 4.1	The CMA has documented the practical application of adaptive management principles in its planning and business systems.
Criterion 4.2	The CMA has monitoring and evaluation systems that test underlying investment assumptions and employ appropriate expertise to assess planned and actual achievement.
Criterion 4.3	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 Sydney Metropolitan region and Sydney Metropolitan 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 Sydney-Metropolitan CMA area of operation covers 1860 square kilometres of land and 440 square kilometres of ocean (CAP, pg 5.2). The region comprises the core of urban Sydney and its coastline. It includes the catchments of Sydney Harbour and the Parramatta Rive, Botany Bay, Georges River and Port Hacking. The region is home to approximately 3 million people and the highest population density in Australia (CAP, pg 1.5).

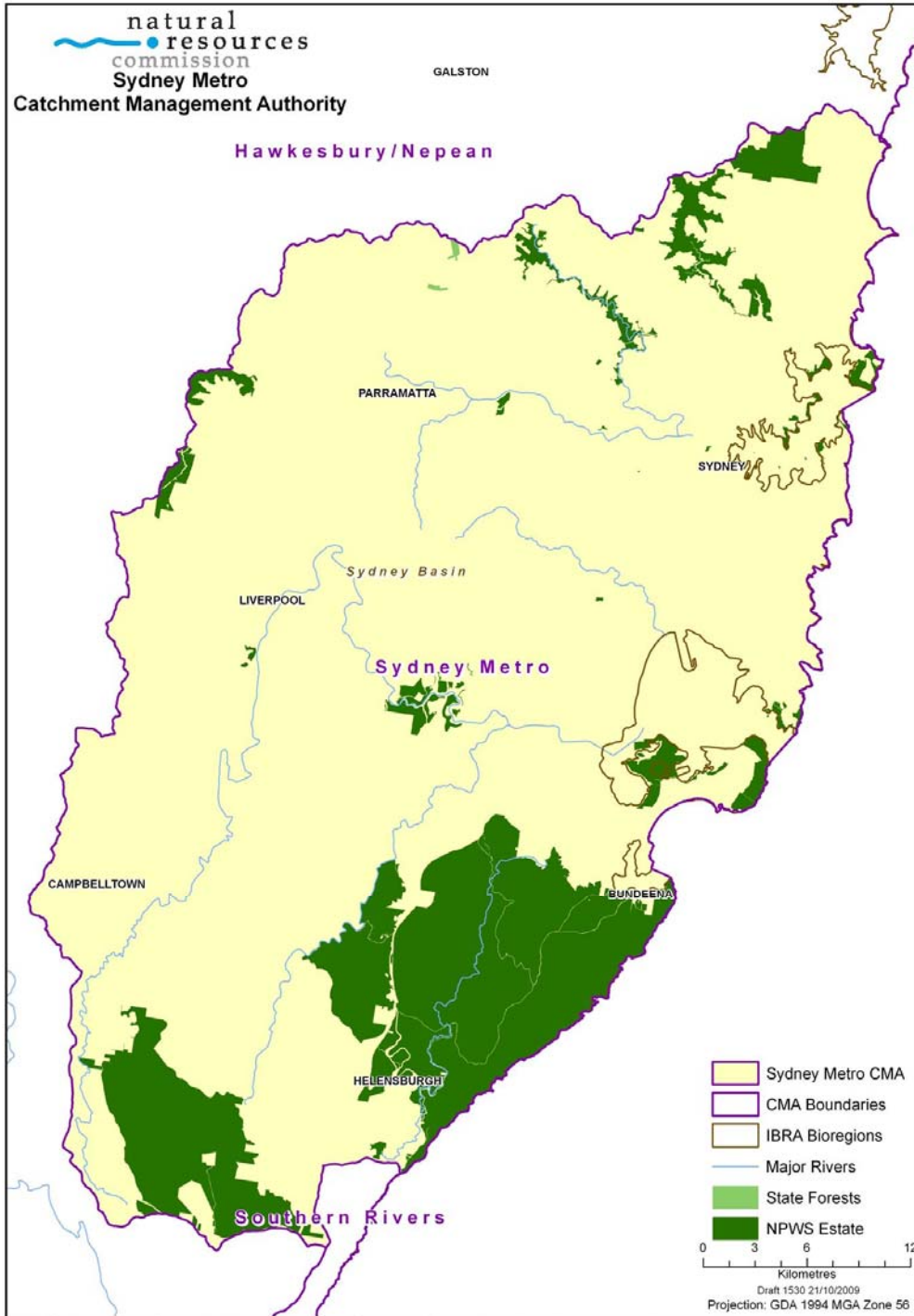
The map below shows the location of the Sydney Metropolitan region. The region features waterways and bushland of great natural significance. The value of the regions multiple ecological communities and cultural sites is recognised in national and international heritage conservation listings.

Native vegetation covers approximately 37% of the region but it is not evenly distributed. Approximately 42% of existing vegetation is within National Parks and other protected areas, primarily in the southern sections of the region and along its northern boundary (CAP. Pg 5.2). There are fragmented corridors of bushland extending across the urban area.

The Sydney Metropolitan region presents unique challenges for NRM including intensive industry and development, fragmentation and modification. The region is subject to ongoing and escalating impacts of a growing population and urban development.

The region has 39 local councils and its natural resources are of interest to the Commonwealth Government (eg Defence lands) and multiple State Government organisations, local Aboriginal land Councils as well as extensive networks of community organisations and businesses. This institutional landscape presents important challenges and opportunities to the Sydney Metropolitan CMA in its efforts to implement its statutory role of coordination and integration of NRM across the region. Namely, there is a high level of interest in the region's natural resources and multiple organisations that are involved in policy and decision-making.

The primary role of the Sydney Metropolitan CMA is to better connect the work of all NRM stakeholders in the region. The Sydney Metropolitan CMA has key responsibilities to set targets and priorities that provide a unifying direction for all natural resource managers, so that improved NRM for the region contributes to State-wide NRM targets. The CAP is the plan to guide theses responsibilities and has been endorsed by the Sydney Metropolitan CMA Board and the Minister. Ministerial endorsement was provided in June 2009.



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The CMA at a glance

The Sydney Metropolitan CMA only has one office, situated in Parramatta.

The Sydney Metropolitan CMA is governed by a Board of 7 directors, with a long background in local government.

In comparison with other CMAs, Sydney Metropolitan CMA is small with only 12 staff and has limited funding. The Sydney Metropolitan CMA Management Team comprises the General Manager/Operations Manager; Business Manager/Investment Coordinator; Regional NRM Facilitator; Catchment Officer Planning and 3 Place Managers.

The Sydney Metropolitan CMA is different from other CMAs in that its focus is on engagement and capacity building for project partners to deliver on-ground works rather than being delivered the CMA itself. The Sydney Metropolitan CMA's ability to facilitate improved natural resource outcomes across the region is dependent on attracting funding for programs and staff.

In the last financial year Sydney Metropolitan CMA invested in excess of \$ 3 M in natural resource management activities throughout the Sydney Metropolitan region. 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 investment⁸

Investment Period	Invested Amount (\$ mil) ⁹	Additional Resources (\$ mil) ¹⁰
2006/07	4.12	1.63
2007/08	2.58	2.63
2008/09	3.09	1.61

⁸ Figures provided by the CMA in response to the Draft Audit Report 20 September 2009.

⁹ The sum of Category 2 (NSW and Federal Government) and Category 3 (all other sources) funding including interest. This figure excludes Category 1 (recurrent expenditure) funding.

¹⁰ The methodology used by the CMA to estimate this amount is discussed in section 3.3 Attraction of Additional Resources.



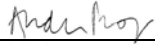



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