State of the catchments 2010

Capacity to manage natural resources

Sydney Metropolitan region

State Plan target

There is an increase in the capacity of natural resource managers to contribute to regionally relevant natural resource management (NRM).

Background

The capacity to manage natural resources depends on a number of factors, such as the accessibility of resources, capability and expertise of natural resource managers and the institutional and policy environment in which the managers operate. Such factors are important when assessing capacity and identifying what enables and constrains effective NRM.

A livelihood framework of five capitals (Ellis 2000) provides a framework for understanding these factors. National indicators of adaptive capacity (Nelson et al. 2010a, b) lack relevance at a community level; as such, they cannot effectively aid in triggering a change in local management practices or livelihood activities.

To ensure regional relevance, a participatory workshop approach was taken with participants drawn from pre-existing networks of natural resource managers, where available.

A detailed technical report describes the methods used to derive the information contained in this report. At the time of publication of the *State of the catchments (SOC) 2010* reports, the technical reports were being prepared for public release. When complete, they will be available on the DECCW website: www.environment.nsw.gov.au/publications/reporting.htm.

Note: All data on natural resource condition, pressures and management activity included in this SOC report, as well as the technical report, was collected up to January 2009.

In consultation with the Sydney Metropolitan Catchment Management Authority (CMA), a workshop was held in the region to assess the capacity of land managers to contribute to regionally relevant NRM. Workshop participants included one Sydney Metropolitan Catchment Management Authority (CMA) staff member and a member from each of the following groups:

- Southern Sydney Regional Organisation of Councils

- Parramatta City Council

- NSW Local Government and Shires Association

- Sydney Coastal Councils Group

- Wolli Creek Preservation Society

- Hunter–Central Rivers CMA

- Canterbury Council.

The group attempted to represent NRM networks across the Sydney Metropolitan region; however, the substantial diversity of the region was acknowledged.

Map of the catchment

Sydney Metropolitan
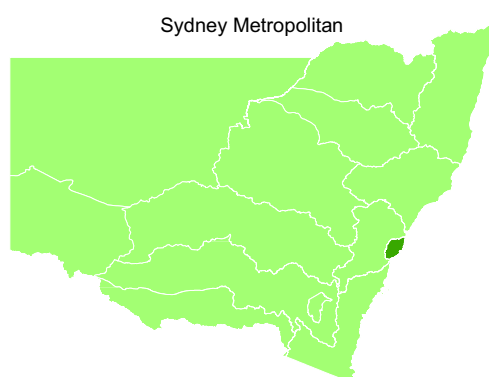
Assessment

Due to the large number and diversity of natural resource managers in the Sydney basin and the complexity of NRM in the region, the workshop only focused on the functional capacity of regional NRM networks. This focus, and time constraints of participants, made it necessary to discuss only the influences of *human* and *social* capital.

Participants rated indicators of *human* and *social* capital on a scale of 0 to 5, according to the degree to which it supported NRM action in the region. A score of 0 indicated the support of the NRM was 'very low' and action was a high priority; a score of 3 indicated support of NRM could be improved and monitoring was required; and a score of 5 indicated that NRM support was 'very high' and no immediate action was necessary. Scores for each indicator were then combined to find an average for each capital.
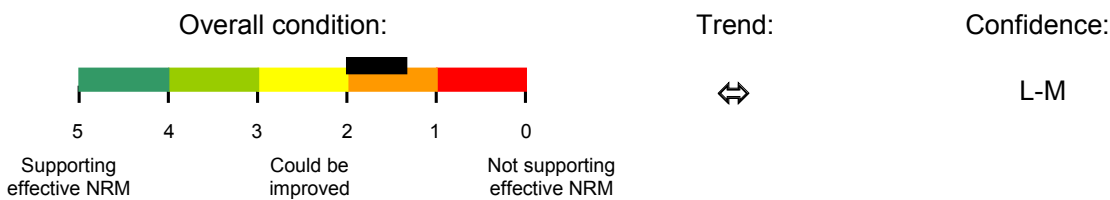
Table 1 identified action priorities for *human* and *social* indicators of capital. Table 2 outlines the pressures on the various condition indicators identified for the region.

Table 1   Action priorities for the Sydney Metropolitan region

Indicator	Collective action priorities
Human Capital (the skills, health and education that contribute to the capacity to manage natural resources)	
Proven commitment of local and state government staff to NRM	Formalise staff commitment to NRM via accountability structures such as NRM-related key performance indicators (KPIs) for all relevant staff, which could then be included in job descriptions and as performance targets. Such KPIs should be included in the accountability of council general managers, who drive agendas at a senior management level and thus can shift the culture of organisations to embrace NRM as a core business. Formalised NRM accountability would need to be supported by professional development programs that provide staff with relevant and detailed NRM skills and knowledge.
Proven commitment of elected representatives to NRM	Provide succinct short courses and seminars aimed at developing the ability of elected representatives to support NRM-related action. Participants suggested that training should focus more on governance rather than technical issues.
Proven commitment to NRM within the community	Ongoing engagement with communities needs to be fostered by non-government organisations, CMAs and other groups including local government, in order to build awareness and deliberative processes of community participation in planning NRM. Support CMAs, community-based groups and local champions (both volunteers and professionals) to engage the broader community.
Social Capital (the family and community support available, and networks through which ideas and opportunities are accessed)	
Integration of planning processes that affect NRM	Develop greater clarity about the relationship between NRM goals and broader societal goals to encourage organisations to set up processes for integrating NRM expertise into planning. Support the CMA in working across silos and organisations to connect communities, business, councils and state government agencies. Re-examine current funding arrangements as funding cycles constrain CMA ability to proactively contribute to effective integration. Longer-term funding would enable more strategic activities, as well as encourage councils and other organisations to build partnerships with the CMA and undertake better conceived projects over longer timeframes.
Linkage to research and training organisations	Strengthen links between councils and research and training organisations, to improve the credibility of NRM interventions and project planning, and generate better NRM outcomes. Leading councils are currently developing these linkages and research outputs are often applied by other councils. Sharing of research between councils provides a basis for collaboration, especially between individuals within councils. There is a need for science that integrates different information into forms that can be used across different contexts.

Shared understanding of local NRM issues	Build a shared local vision of NRM through developing local, shared priorities for action and thereby reinvigorate participation in NRM. Councils and the CMA could develop focal points for community engagement and action that would define NRM for a locale and could help to develop a collective sense of responsibility for improving NRM outcomes. Such 'visions' should be revisited and redefined on a regular basis, thus becoming a dynamic process rather than a static plan.
Expanding networks of champions across organisations (community and government)	Support existing NRM networks to find and support emerging champions. The CMA is particularly well positioned to support bridging and facilitation of the development of the NRM network.

Table 2   Pressures on condition indicators in the Sydney Metropolitan region

Overall condition: Trend: Confidence:

| 5 | 4 | 3 | 2 | 1 | 0 |

Supporting effective NRM   Could be improved   Not supporting effective NRM

⇔

L-M

█ = indicates overall condition

Indicator	Condition	Trend	Pressure/Importance of indicator
Human Capital (the skills, health and education that contribute to the capacity to manage natural resources)			
Proven commitment of local and state government staff to NRM	🟥	↔	Proven by a lack of consideration of NRM in planning and works rather than through policy. Capacity to embrace NRM precepts is limited by time constraints on project managers and limited knowledge of the diverse issues that may relate to the management and implementation of a major works project ('tunnel vision'). NRM champions within organisations often are not effectively supported or are actively discouraged, as NRM is not seen as core business.
Proven commitment of elected representatives to NRM	🟨	↔	General lack of commitment of elected representatives to NRM. Elected representatives viewed as being driven largely by the interests of their constituencies, and informed through the reports and advice provided by staff. The way the interests of the community drive political agendas may mean that intervention is more important in disadvantaged areas to ensure that NRM is properly prioritised (eg in accordance with strategic plans and policies).

Indicator	Condition	Trend	Pressure/Importance of indicator
Proven commitment to NRM within the community		↑	Building the commitment of the community to NRM was seen as a high priority for action. Cultural, economic and lifestyle issues contribute to lack of interest or enthusiasm for NRM within the Sydney Metropolitan area. For example, increased workforce participation has resulted in less time for other activities. Although volunteerism in NRM has increased or, at worst, remained relatively stable, rates of NRM awareness and commitment are still low and were regarded by participants as critical to building political and institutional momentum for NRM.
Social Capital (the family and community support available, and networks through which ideas and opportunities are accessed)			
Integration of planning processes that affect NRM		?	Decision-making and planning often occur between teams, departments and organisations, in silos with poor connection. Although relationships between local government and the CMA were described as highly varied, they are more integrated in Sydney than in regional areas and many project managers do consult with a range of experts and stakeholders in order to improve NRM outcomes. Greater integration in planning through improved institutional linkages, both between and within organisations, should be a priority. This will avoid poorly developed and implemented projects, which often result in adverse NRM outcomes.
Linkage to research and training organisations		↑	Developing context-specific understanding of NRM issues is important for prompting action. However, there is often a shortage of appropriate research, information or processes that professionals can use, modify or incorporate into their own activities. Participants suggested that research conducted by some of the more progressive councils had facilitated other councils' understanding of issues and potential responses. Applicable research and training connected through appropriate channels can change management.
Shared understanding of local NRM issues		↔	While there is a common set of interests and values motivating NRM action, there is inconsistent understanding of what NRM means in both professional circles and the community. Environmental issues have an increasingly high profile; however, knowledge within the broader community trails awareness. Building a shared vision of NRM was considered a positive step to consolidating future planning and action.

Indicator	Condition	Trend	Pressure/Importance of indicator
Expanding networks of champions across organisations (community and government)		?	NRM is often achieved through networked action of individuals across organisations. Champions drive such action through information exchange and shaping institutional commitments. Having well networked champions provides connectivity across organisations and facilitates sharing of ideas and resources, as well as providing a support network for future champions and reducing the risk of burn out.

Condition		Trend		Data confidence	
	Very good	↑	Improving	H	High
	Good	↔	No change	M	Medium
	Fair	↓	Declining	L	Low
	Poor	?	Unknown		
	Very poor				
	No data				

Management activity

New South Wales government agencies and CMAs are actively involved in building aspects of adaptive capacity through numerous programs; such programs include CMA community engagement strategies and CMA and NSW agency training in NRM practice change.

State level

State level activities include:

Capacity building

- developing a state-wide Aboriginal land and NRM Action Plan 'Healthy Country – Healthy Communities'. This will assist in developing clear policies, principles and tools to improve socio-economic outcomes for Aboriginal people through enhanced capacity to participate in land management and NRM

- measuring the increase in the capacity of Aboriginal communities to contribute to regionally relevant NRM. This will be guided by the State Government's *Two Ways Together* strategy that assists in building Aboriginal community resilience

- DECCW is facilitating the delivery of enhanced decision-support tools to CMAs for targeting NRM actions at both catchment and property levels

- DECCW is augmenting CMAs' capacity to monitor and report on the condition of natural resources, socio-economic outcomes and community capacity by developing a monitoring, evaluation and reporting system to track progress against the state-wide NRM targets

- coordinating NSW Waterwatch, a national community water quality monitoring network that encourages all Australians to become active in protecting their waterways.

Education

- Industry & Investment NSW land management and property planning courses. See www.dpi.nsw.gov.au/agriculture/profarm/courses.

Regional level

The Sydney Metropolitan CMA is undertaking the following activities in relation to the NRM capacity target:

- analysing 20 catchment councils, to assess capacity and commitment to policy implementation and the engagement of culturally and linguistically diverse communities

- developing an ethnic partnership project

- producing a Bushcare Geographic Information System map for volunteers

- providing indigenous community support through the establishment of an active network of Aboriginal people engaged in on-ground NRM, and partnership and capacity building work with a major council catchment group (comprising 13 councils)

- indigenous heritage mapping

- facilitating regional partnerships

- including Aboriginal cultural heritage values in at least two Sydney Metropolitan CMA or council projects, with Aboriginal involvement in the implementation of the projects

- facilitating and managing the delivery of three or more 'Caring for Country' workshops for organisations involved in NRM in the area.

Local level

Various significant work is carried out at a local level:

- Conservation Volunteers Australia provides NRM capacity building and training and does on-ground works

- National Parks Association provides volunteers for on-ground works including monitoring of marine species, and has adopted an advocacy role

- Local Government and Shires Association is involved in land-use planning, provides sustainability NRM training for councillors and rewards councils that best exemplify NRM

- restoration industry is responsible for the 'Restoring Biodiversity' forum

- Sydney Environmental Educators Inc. is involved in network and capacity building for environmental educators

- Ethnic Communities Sustainable Living Project and Ethnic Communities Council initiative with DECCW

- NSW Nature Conservation Council raises awareness about NRM and climate change issues eg fire management, marine conservation, biodiversity

- NSW Nature Conservation Council and Landcare Australia provide environmental advocacy and education

- Parramatta River Councils Group provides information on the Parramatta River and catchment actions.

Further reading

Brown PR, Nelson R, Jacobs B, Kokic P, Tracey J, Ahmed M & DeVoil P (in press), Enabling natural resource managers to self-assess their adaptive capacity, *Agricultural Systems.*

Ellis F (2000), *Rural Livelihoods and Diversity in Developing Countries*, Oxford University Press, Oxford, UK.

Jacobs B & Leith P (in press), Adaptive capacity for climate change: principles for public sector managers, *Public Administration Today*.

Nelson R, Kokic P, Crimp S, Meinke H & Howden M (2010a), The vulnerability of Australian rural communities to climate variability and change: Part I – Conceptualising and measuring vulnerability, *Environmental Science & Policy* 13: 8-17.

Nelson R, Kokic P, Crimp S, Martin P, Meinke H, Howden M, Devoil P & Nidumolu U (2010b), The vulnerability of Australian rural communities to climate variability and change: Part II – Integrating impacts with adaptive capacity, *Environmental Science & Policy* 13:18-27.