Western Catchment Management Authority

Summary – Draft Catchment Plan

September 2005

Preamble

Western Catchment Plan
The Western Catchment Plan is a ten-year plan for improving and managing natural resources in the Catchment. It specifies how the Western Catchment Management Authority (WCMA) will direct the $19 million approved under the current three year investment strategy and direct future funding to manage the Catchment's natural resources (land, vegetation, rivers, groundwater and biodiversity).

The Plan specifies Catchment and Management Targets, which are used to measure the health of the Catchment. The targets take into account other plans that may affect the catchment, for example, local government planning.

Didn't the Catchment Management Committee develop a Blueprint?
Given the extensive work, community consultation and government accreditation of the Western Catchment Blueprint (2003), the WCMA Board has drawn from this document (which was developed without an allocated budget) as much as possible.

New legislation requires a more refined and targeted Plan. Each Catchment Management Authority has been allocated a specific budget for on-ground works to improve natural resources. The Western Catchment Plan is the next step in catchment planning, by making the Blueprint directions match the actual budget.

What's in the Western Catchment Plan?
Catchment Targets are drawn from the Blueprint while Management Targets are derived from combining many of the Blueprint's Management Targets. The targets give broad direction under which the WCMA will coordinate funding for a range of activities. A summary sheet of the Catchment Themes, Catchment Targets and Management Targets is included with this document.

The full Western Catchment Action Plan is currently being developed and will be available from CMA offices and on the website (www.western.cma.nsw.gov.au) when complete.

Why does the WCMA need your input?
Although based on the Blueprint, the WCMA wants to gain input to ensure the Plan is still consistent with what the community sees as being important. The WCMA recognises that the health of the Catchment is directly linked to the future sustainability of the environment and the local people who depend upon it.

Your views on the Plan can be provided by completing the community feedback form, attending a community forum (details provided in this package), by visiting your local CMA office or ringing freecall 1800 032 101.

THE WESTERN CATCHMENT OF NSW

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Vision And First Order Objectives

The Authority has evaluated the existing Vision Statement and First Order Objectives developed by the preceding Catchment Management Board and considers them still relevant to the current Plan. To this effect, the vision remains:

THE VISION

Dynamic, viable communities and enterprises support and sustain diverse natural environments and cultural values

The first order objectives from the Blueprint are similarly considered appropriate. They provide a statement of the community's values about the desired state and functioning of the area's natural resources.

Catchment Objective 1: Diverse values equitably reflected in the integrated management of natural resources for present and future communities.

Catchment Objective 2: Land and vegetation managed on a landscape basis to achieve an acceptable balance between environmental, productive, cultural and social values for present and future communities.

Catchment Objective 3: Native biological diversity is conserved and, where possible, improved in the Western Catchment.

Catchment Objective 4: Water resources supporting the environmental, productive, cultural and social values for present and future communities.

The Kelly Family survey a water storage at Bourke. Photo by Suzanne Mansell of Bourke.

Theme 1 - Land and Vegetation

Catchment Target 1

Quality and quantity of vegetation managed to maintain and/or improve designated cover capable of preventing soil erosion (ie: designated cover greater than or equal to 40%).

Catchment Target Benefit Statement

There has been positive change in land management of the Western Catchment over the last 50 years. The intent of this target is to ensure that this continues by assisting healthy functioning rangetypes that are productive, stable, resistant to erosive forces and to maintain biodiversity values across the Western Catchment. To achieve this desired outcome, designated ground cover must be maintained at or above specified levels. The catchment target identifies 40% designated ground cover as the minimum level across the catchment. However, 40% should not be construed as a level down to which ground cover can be utilised, at times when groundcover may be higher.

The components of designated ground cover varies across rangetypes, in accordance with what is considered to be an ideal mix of vegetation stratum and other cover components that ensures stable, healthy and productive rangetypes.

The Western Catchment Management Authority (WCMA) recognises that, for periods of time, cover levels may fall below 40%. Even so, the intent of the target is for early intervention to ensure that in the majority of cases cover levels do not fall below 40%. Early intervention would come in the form of controlling total grazing pressure or managing stubble residues. Agricultural production and economic information tangibly demonstrate that there are improved economic returns achieved from grazing at lower stocking rates. Restoration and rehabilitation of degraded native vegetation communities across the catchment and the re-establishment of perennial groundcover will be a key component of meeting the ground cover target.

Likewise the management and control of pest animals and weeds are essential for long term stability in the landscapes. Although the catchment target is principally concerned with long term maintenance of cover, it is recognised that cover levels will fall below the required levels due to natural forces and events such as fire, drought, flooding, wind-blasting and deliberate management actions such as controlled burning or ploughing. If and when these situations occur, support and assistance may be provided to land managers to maintain cover or to implement strategies to increase cover levels where appropriate. Programs implemented under this target will lead to increased land stability through increased vegetative groundcover. This, in turn, will have significant effects on water quality and salinity outcomes for the catchment by better run-off management.

1. Sustainable Agriculture Program

Management Target 1

Sustainable Agricultural Management practices carried out by 50% of landholders by 2015.

Note: Where practicable, land management issues and incentives will be administered through the Property Vegetation Plan Developer, subject to its limitations.

Agriculture, for the purposes of this target, includes broadscale grazing, and both irrigated and dryland farming.

Grazing

The condition of pastoral lands in the Western Catchment has improved over the last 50 years *(Condon 2002)*. To maintain the productivity and stability of these pastoral lands, grazing practices need to be implemented that ensure that the required cover levels and plant species diversity is maintained. The

voluntary adoption of industry-developed sustainable grazing practices will increase the amount of vegetative cover which will in turn reduce soil erosion, groundwater recharge, soil structural decline and enhance the habitat values for the pastoral lands. Simultaneously, improved cover levels will see an increase in plant biomass, palatable plant species composition, soil biological activity, water cycling with the soil profile and increase the probability of long term viability of the pastoral lands.

Dryland and Irrigated Farming

Old style, traditional farming practices may have resulted in a bare soil surface for up to nine months at a time. During this time the risk of soil movement through both wind and water erosion is greatly increased. It is widely recognised that the adoption of conservation farming practices such as stubble retention, reduced tillage, direct drilling, controlled traffic and chemical fallow will maintain groundcover at or above target levels. This, in turn, reduces the risk of soil movement through soil erosion, improves soil biological activity, soil carbon and nutrient status and minimises soil structural decline. In the irrigated farming areas additional activities relating to water use efficiency, irrigation design and recharge management will be addressed.

Reducing Salt Mobilisation Through Sustainable Agricultural Management

Naturally occurring salt in soil and salt that has accumulated in irrigated soils due to the application of saline water over time, can be mobilised by rising groundwater levels and end up in the river system. Inappropriate drainage of irrigation land and clearing of trees and other deep rooted perennial vegetation in dryland cropping and grazing areas can also contribute to this mobilisation.

Opportunities to improve land and water management systems exist in some parts of the catchment. This can prevent or reduce the movement of additional salt to river systems. It is intended that actions implemented under this target address salt mobilisation appropriately. The WCMA is aware that the irrigation industry is developing and using best practice codes.

2. Landscape Management Program

Management Target 2
Maintain and rehabilitate one million hectares of native pasture vegetation communities by 2015.

Note: Where practicable, land management issues and incentives will be administered through the Property Vegetation Plan Developer, subject to its limitations.

Invasive Scrub Prevention and Treatment

Invasive Scrub (woody weed species) can invade valuable grazing land, rendering it both unproductive and often unviable due to the costs of control. The impact on biodiversity values by the change in landscape from grasslands or open woodlands to dense shrub lands is also believed to be significant. The maintenance of the existing vegetation community in good condition, both for productive and habitat values is a prime aim of this program. The invasion of native scrub results from a combination of factors including inappropriate grazing systems and reduced frequency of fire. It is widely recognised that, due to economic factors, it is more cost effective to keep open areas open, rather than treat dense areas. Therefore the primary intent of this program is to prevent the further spread of invasive native scrub into open areas with only small amounts of investment allocated to reclaiming very scrubby areas. Retention and promotion of groundcover through this program will assist in the improvement of water quality and salinity management of run-off and deep drainage.

Land Rehabilitation

Land that has become degraded, either through various long-term processes or inappropriate management regimes, is unstable, susceptible to further degradation and has lowered production values. To return the natural values, land stability and production values to this land is the primary aim of this activity.

3. Pests Program

Management Target 3
No increase in the number of species or extent of pest weeds or animals above current levels and a reduction in impact of pest species.

Note: Where practicable, land management issues and incentives will be administered through the Property Vegetation Plan Developer, subject to its limitations.

Noxious or exotic weeds
Weed species, both noxious and exotic, can invade valuable grazing and agricultural land rendering it both unproductive and often unviable due to the costs of control. Infestations of weed species can also have serious implications for the ongoing management of livestock and grazing enterprises such as the poisoning of livestock and wool contamination. Weeds also have significant biodiversity implications, including out-competing desirable habitat and forage species and harbouring predators. They can form dense stands and alter balances between increaser and decreaser species.

Of particular interest is the expected insidious and persistent invasion of exotic prickly species such as prickly acacia down the south-flowing rivers and streams that flow to the Darling. Such species out-compete natives, provide harbour for feral fauna species and upset the ecological balance along riverine corridors. They also result in a higher net grazing pressure on remaining native species, resulting in bare soil surfaces, with higher runoff and greater turbidity.

It is acknowledged that to eradicate the area of noxious and exotic weeds infestation as it currently stands, may not be achievable or viable in the short term. While this program will be active in some pest reduction activities, the major emphasis for this program will be to target management to ensure no increase in the number of species or area of noxious or exotic weed infestation above current level.

Infestations of any 'Weeds of National Significance' will be given priority for treatment under this program. Currently there are known infestations of mesquite, Parkinsonia, prickly pear and parthenium weed in the catchment. There is also strong concern of the possible transport of prickly acacia into the catchment from Queensland. Specific control projects in sensitive habitat e.g. riparian lands or highly productive areas may also be implemented under this program.

Pest animals

Pest animal species, both native and exotic, can invade valuable grazing and agricultural land rendering it both unproductive and often unviable due to the costs of control. The infestation of pest animal species can also have serious implications for the ongoing management of livestock and grazing enterprises.

Pest animal species such as foxes and pigs, can have disastrous effects on biodiversity, primarily through either predation or competition. Competition can be for food or habitat, and its impact can be highest at times of most ecological stress, such as drought, when species are concentrated on drought refuges. Consequently, this is when damage can occur, usually to sensitive areas such as wetlands or hill systems at a time of highest vulnerability. Goats, pigs and rabbits in particular can be fierce competitors for habitat. Pest species can also denude the groundcover, which can become the catalyst for further self-perpetuating erosive processes and are prime point sources of sediment and faecal contamination of runoff.

It is acknowledged that to eradicate the area of all pest animal infestations as it currently stands, may not be achievable or viable in the short term. Examples of animals which can be pests in localised areas some of the time, may include, but are not limited to: rabbits, pigs, kangaroos, and goats. While this program will be active in some pest reduction activities, the major emphasis for this program will be to target pest management to ensure no increase in impacts of pest animals above current levels. Specific control projects in sensitive habitat, e.g. wetlands or highly productive areas may also be implemented under this program.
Note: Carp and other aquatic pests are addressed under the Aquatic Habitat area of this Investment Strategy.

Theme 2 - Rivers and Groundwater

Catchment Target 2

The Surface Water System Health Index Rating* and the Groundwater System Health Index Rating improved at 60 % of relevant monitoring sites and maintained at all other monitoring sites by 2015.

**To be consistent with Murray Darling Basin-wide Sustainable Rivers Audit processes.*

Catchment Target Benefit Statement

The Western Catchment community expects that their water resources will be managed for the long term to protect river and wetland ecosystems as well as to ensure that they are functional for town and homestead water supplies, stock watering, recreation, industrial use and irrigation. When combined, these objectives represent a clear community desire for healthy surface and groundwater systems.

The Western Catchment is not a discrete catchment on its own. Substantial rivers drain to it from Queensland and other areas of NSW and large areas of the Great Artesian Basin (GAB) occur outside its boundaries. The WCMA recognises that while much can be achieved by managing the water systems within the Board area, many of the outcomes for healthy water systems in the Western Catchment are dependent on upstream communities working to achieve similar outcomes in their catchments. The WCMA is committed to influencing these outside management processes to achieve a healthy water system for its community. The Board also recognises its responsibility to deliver similar levels of management to assist catchment communities adjoining the Western Catchment.

The health of water systems can be gauged by measuring a number of different water-related features as defined by the Murray Darling Basin Sustainable Rivers Audit. By using the audit for monitoring sites across the catchment we will know what the overall health of the water resource systems is and how it is changing over time.

The data and modelling capacity exists now to begin to build and use an effective index. The index will be expanded and refined as more data on a wider range of parameters and features becomes available over the time of the Catchment Plan.

The WCMA knows that the community is concerned that some water health features are not as good as they should be. It is aware that the water system has been adversely impacted on by many factors in the rivers and their catchments. It also knows that while there are opportunities to make significant improvements, change can sometimes be difficult and can take time.

The water system of the Western Catchment supports significant aquatic native biodiversity values. It is the intent of the Board that by achieving healthy water ecosystems through the management targets and actions in this Water section, those aquatic biodiversity values will be protected and enhanced.

This target is not designed to return the catchment to pre-development conditions as the Board believes that this is not achievable. However, we are using our improving knowledge of what healthy ecosystems need, to guide our planning and management actions. The extent to which we achieve healthy ecosystems is dependent on the level of trade off with social/economic health.

Given the Board's knowledge of what the community expects and what is achievable, the intent of the Board over the next ten years is to strive to achieve an improvement in the condition of our surface and groundwater systems by setting this catchment target for water.

4. Aquatic Habitat Program

Management Target 4
Habitat improvement actions implemented on 20% of identified priority areas of stream, floodplain, wetland and riparian areas by 2015.

Note: Where practicable, land management issues and incentives will be administered through the Property Vegetation Plan Developer, subject to its limitations.

Modification of Floodplain Structures
To maintain the health of a river and its floodplain, the river needs to break out of its banks and fill or reconnect billabongs and other wetlands. Inappropriately placed levees, channels, banks, raised roads and other structures on the floodplain can limit the frequency and amount of floodwaters reaching ecologically important and productive wetlands. Important floodplain grazing country can also be deprived of valuable beneficial flooding events when structures re-direct the natural flow of water. The Water Management Act 2000 provides for the preparation of statutory Floodplain Management Plans. Preliminary studies have been carried out in key areas of the Barwon-Darling floodplain to help guide floodplain management planning.

Riparian Zone Management
Healthy native vegetation, including trees, shrubs, grasses and water plants growing in the river and on the riverbanks, improve water quality and river health in general, as well as contributing important biodiversity values in their own right.

Riparian vegetation protects water bodies from pollution travelling overland in runoff and strengthens the river's banks against erosion. Insects that eat riparian vegetation are important food for fish. Trunks and branches from riparian vegetation that fall into the river provide important habitat for fish and other animals. Riparian vegetation also provides shade and dappling effect, camouflaging fish from predators. Riparian zones need to be specifically managed to protect and enhance their values. Degraded areas need to be repaired.

It should be noted that this program has the potential to deliver similar outcomes as the High Conservation Value Area (MT8) and Conservation Land Use (MT9) programs. Where overlap exists, determination will be made as to which program the activity best resides within. This program could be viewed as delivering aquatic or riparian elements of the two conservation programs.

In particular, this program will be used to protect threatened species habitat, where it has an aquatic perspective. This could include targeting habitat of known threatened species and addressing Priority Action Statements.

Protection and Rehabilitation of Fish and Threatened Aquatic Species Habitats
Pest fish species such as carp, redfin (English Perch) and Gambusia (mosquito fish) are already well established in the Western Catchment. Other pests, including Banded Grunter, are likely to have serious impacts on aquatic biodiversity but have not yet established within the catchment. Programs to address existing and potential impacts as well as to arrest the spread of pest fish species are important.

Essential feeding, breeding and sheltering sites for fish are provided by deep pools, well vegetated undercut banks, rock ledges, boulders, gravel beds, snags, reeds and weed beds, the floodplain and other wetlands. Many fish lay their eggs against the hard surfaces of boulders or gravel beds while others require the habitat complexity offered by snags which can also create slower flowing backwaters.

Instream vegetation, particularly aquatic plants, provides habitat for fish and aquatic organisms they feed on. It can provide migration corridors for some fish and its presence and quality can influence the success of recruitment.

Fish Passage
Native fish populations have been affected by many adverse influences in the Western Catchment. This management target is specifically aimed at addressing the high priority issues of restricted fish movement throughout the river system and general fish habitat in the catchment.

Weirs interrupt the river's flow, prevent fish from migrating to spawn and create still water habitats more suitable for introduced species such as carp and mosquito fish. There are a significant number of weirs on the Barwon-Darling River and related intersecting streams. The WCMA is aware that weirs in the catchment have been reviewed in terms of their essential use and potential for removal or adjustment under the State Weirs Review. It understands that while there are essential-use situations, opportunities exist to significantly improve the negative impacts of weirs on fish passage.

Catchment Target 4

Salinity in the Barwon-Darling at Wilcannia less than 800EC for 80% of the time as measured on a daily basis and less than 350EC for 50% of the time by the year 2015.

Catchment Target 5

Salt load in the Barwon-Darling at Wilcannia less than 530, 000 tonnes per year for 80% of the time and less than 160, 000 tonnes per year for 50% of the time by the year 2015.

Catchment Target Benefit Statement

Salinity is recognised as being a natural feature of Western Catchment waters but periods of higher salt concentration and overall salt loads have been increasing since settlement and intensified catchment development.

The Barwon-Darling River receives the majority of its salt load from the upper catchments. The health of the Barwon-Darling River is therefore highly dependent on those upper catchments meeting their salinity targets. Similarly, the health of the intersecting streams is dependent on Queensland actions. However, even when the targets in upstream catchments are met, there is a residual regional salinity problem that needs to be addressed in the Western Catchment, to protect important regional assets.

800 EC is recognised by the World Health Organisation as the desired upper limit for long term drinking-water sources. The NSW Salinity Strategy indicates that this level will be significantly exceeded in the near future unless management action is taken for the catchment.

The EC management target recommended to the state government by the WCMA for this issue recognises that for 20% of the time salinity may exceed 800EC. This will require contingency measures to be in place for these periods, to treat drinking water supplies or to provide alternative sources if drinking water supplies continue to exceed the desirable limit.

Measuring progress towards achieving the salinity targets will be based on continuously collected data assessed each year of the 10 year target period. The salinity catchment targets have been largely guided by the NSW Salinity Strategy. While native vegetation can play a role in water quality, it will be addressed in Land and Vegetation or Conservation Programs.

5. Water Quality and Salinity Program

Management Target 5

Water Quality and salinity levels meeting ANZECC drinking water and recreational use criteria* for greater than 95% of the time at key town use sites by 2015.

**This may entail developing regionally specific thresholds based on trends, as opposed to an across the board threshold limit, as specified in ANZEEC Guidelines*

Pollution

To ensure water is of a quality suitable for ecosystem protection and human uses, pollution inputs need to be known and managed so that they remain below levels impacting upon the riverine ecosystem.

Point sources of pollution can generally be identified and managed by regulation, with regulatory responsibilities specifically shared between the Department Of Environment and Conservation (DEC) and Local Government as defined by the Protection of the Environment Operations Act 1997. Opportunities also exist to ensure best management practices are adopted by resource users for minimal impacts.

Diffuse pollution is often difficult to identify from specific sites yet the cumulative impacts from large areas can be significant. Where pollution can be identified regulation can be applied. In specific instances, such as with pesticides, the use of the potentially polluting material is regulated.

Opportunities exist for those involved in activities that can result in diffuse pollution, to adopt best management practices to reduce the risks of potential impacts. The WCMA is aware that some resource user groups are already developing and using best practice codes.

Blue Green Algae Mitigation
Blue-green algae is recognised as naturally occurring in Western Catchment waters, but the frequency and length of troublesome blooms have increased in recent years.

Blue-green algae blooms impact on the aquatic environment and limit the human use of water. Algal blooms generally occur when the water is clear, nutrient rich and warm. During periods of low flow, weir pools often stratify providing a layer of clear, nutrient rich water, giving rise to ideal conditions for algae growth.

The Barwon-Darling River has significant lengths of weir pools along its course. Managing weir pools by means such as environmental flows to prevent stratification will reduce the occurrence of algal blooms for significant lengths of river.

Dilution Flows
The concentration of salt in still pools of water, such as weir pools, increases as water evaporates. To achieve the 800EC catchment target and to protect drinking water supplies in 80% of time, small flows of fresh water or larger flows of moderately saline water may periodically be desirable to flush out very saline pools of water. The rivers of the Western Catchment are unregulated and the use of flows for any particular purpose is dependant on implementing water sharing rules for the natural flow events that occur in the rivers. Contingency salinity dilution flows could potentially be provided for in Water Sharing Plans using water on an opportunity basis. Similar contingency flow sharing rules, as part of the endorsed Unregulated Flow Management Plan for the North West, have been successfully used in recent years to break up the development of blue green algae blooms. At times, these flows will complement each other delivering both reduced salinity and break up of blue green algae development conditions.

Intrusion Flows and Interception Schemes
When flow in a river remains at low levels, naturally occurring saline groundwater can seep into the river. These saline intrusions may contribute to an increase in the concentration of salt (EC) during low flow conditions, threatening human consumption and instream environmental values. While these flows may be natural, the frequency and duration can be potentially increased because of reductions in river heights caused by extraction. There are a number of sites where this might happen along the Barwon-Darling River but their full extent and relative contribution to the river salinity is not yet known.

The issue could potentially be managed by either increasing the length of time that higher instream river levels hold back the seepage or by diverting the seepage to evaporation basins or other disposal areas, thus, removing the salt flow from the river system.

6. Surface Water Management Program

Management Target 6
Water Sharing Plans implemented for all priority Streams by 2010.

Compliance with the Murray-Darling Basin Cap on Diversions in the Barwon-Darling
Riverine ecosystems have evolved with flow events that are life-cycle cues or opportunities to feed. Flows are also important in limiting the impacts of salinity and blue-green algae. The cumulative impact of regulation and water extraction in the Murray-Darling Basin has resulted in fewer and shorter flow events than would have otherwise occurred.

The WCMA is aware that measures to implement the Murray-Darling Basin Cap are being developed for the intersecting streams in Queensland and that DIPNR is developing a Cap Implementation Strategy and Water Sharing Plan for the Barwon-Darling River. Similarly, a Macro Water Sharing Plan is being developed for other streams in the catchment.

Water Sharing Plans
Cumulative impact of water extraction in the Murray-Darling Basin has resulted in changes in the frequency and duration of flow events resulting in fewer and shorter flow events.

Riverine ecosystems rely on specific flow events as reproductive cues or opportunities to feed. Reduced duration or frequency of flow events impacts on the success of breeding and juvenile growth, particularly of fish. Local extraction can also influence the frequency and duration of smaller flow events, which can impact on the wetting and drying of the river banks affecting supply of organic matter (food) to the river.

In NSW, Water Sharing Plans (under the Water Management Act) are the legal instruments for sharing water between the environment and various extractive uses, such as irrigation. The Plans set annual extraction limits and define the rules and conditions under which water can be extracted for various purposes. The Water Sharing Plan for the Barwon-Darling will also formalise the interim Unregulated Flow Management Plan for the North-West. This Plan has provided a mechanism to restrict water extraction in the rivers of the north-west of NSW following periods of low flow, to support riverine habitat and fish passage, and to suppress blue-green algae growth.

7. Groundwater Management Program

Management Target 7
Water Pressure Stabilised in key regions of the Great Artesian Basin, as defined by NSW Great Artesian Basin Advisory Committee, by 2015.

Uncapped bore systems and those that transport water via a network of open channels, waste groundwater. The cumulative impact reduces groundwater pressure for all users and impacts on natural environments supported by mound springs. Uncontrolled water on the surface has a number of detrimental effects, including upsetting ecological balances, providing free access to water for pest animal and plant species, making it impossible to control stock by water management and exacerbating land management problems such as scalding and erosion.

The WCMA will be support and seeks to enhance the Cap and Pipe Program as run by the Department of Infrastructure Planning and Natural Resources. The Authority will also address natural resource management issues associated with groundwater use such as mound springs and post piping land management.

Theme 3 - Biodiversity

Catchment Target 3a:

Ecological communities of high conservation value are adequately protected.

Catchment Target 3b:

In each of the other ecological communities, 12% of the area will be managed for conservation within 10 years of Catchment Plan approval and 25% within 25 years of Catchment Plan approval.

Catchment Target Benefit Statement

This target is based on two considerations. Firstly, ecological communities of high conservation value should be adequately protected. Secondly, conservation or improvement of biodiversity should be actively encouraged across the landscape as a whole. While it is accepted that pastoral land that is managed to maintain natural ground cover will contribute to conservation of biodiversity, the intention of the biodiversity objective will not be fully realised unless a substantial part of the landscape is primarily managed for conservation. Some species (called decreasers) will be disadvantaged even by otherwise conservative pastoral management.

National Parks, Nature Reserves and other public land will contribute to the biodiversity objective but these alone will not be sufficient because only a small portion of the total biodiversity can be conserved in such small areas. The objective will only be achieved if landholders are involved in agreements to protect communities of high conservation value and to ensure that biodiversity is conserved over the landscape as a whole. Such agreements may take various forms but all will be voluntary and will ensure that the economic viability of the landholder is not compromised. Grazing, while subject to management guidelines, would not necessarily be excluded from areas subject to these agreements and the provision of financial incentives will ensure that management for conservation represents a genuine alternative land use.

Some aspects of biodiversity conservation in aquatic communities have been addressed by the water management targets in general, and specifically by those relating to restoration and protection of fish and threatened species habitat and fish passage. However, conservation of aquatic communities more broadly (eg. wetlands) is included in this catchment target. It should be noted that this program has the potential to deliver similar outcomes as the Aquatic Habitat Program (MT4). Where overlap exists, determination will be made as to which program the activity best resides within. This program could be viewed as delivering terrestrial elements of the conservation programs.

Both the programs under this theme will be used to address threatened species under the Threatened Species Conservation Act, Priority Action Statements and Key Threatening Processes. Actions under these programs will also consider Matters for National Environmental Significance and Environment Protection and Biodiversity Conservation Act.

8. High Conservation Value Areas Program

Management Target 8

Ecological communities of high conservation value (including threatened species) are identified within three years of Catchment Plan approval and adequately protected throughout the catchment by negotiation with landholders, within eight years of Catchment Plan approval.

9. Conservation Land Use Program

Management Target 9
An ongoing program is established that allows landholders to incorporate lands managed for conservation as an alternative landuse and part of a viable enterprise, within two years of Catchment Plan approval.

Note: Where practicable, land management issues and incentives will be administered through the Property Vegetation Plan Developer, subject to its limitations.

The protection of ecological communities of high conservation value will proceed as a matter of priority. This will require identification of these communities and the development of a process for securing their protection based on negotiation with landholders.

Achieving the target for areas managed for conservation will require much more land to be under private conservation management than is contained in the public reserve system. One way this may occur is if landholders take up the incentives offered for entry into voluntary land use agreements.

Preference will be given to activities that demonstrate benefits for threatened species issues. Program actions will be developed with reference to, yet to be developed Priority Action Statements under the Threatened Species Conservation Act.

While the Plan contains provisions for addressing threatened species and biodiversity issues, it does not replace State agencies' key responsibility for these issues.

Theme 4 - Community

This theme addresses activities applicable across all of the Catchment Target areas. This includes issues such as Monitoring and Evaluation, the development and implementation of cultural heritage programs and capacity building. These activities do not appear under separate funding areas within the Investment Strategy but are key ingredients across the operational programs and are included here to identify their importance to the catchment community.

10. Cultural Heritage Program

Cultural Heritage Management
The implementation of the Catchment Plan (CP) will impact on the indigenous and non-indigenous cultural landscape and heritage values including social, historic, scientific and aesthetic values. To maintain and enhance the integrity of cultural heritage values in the Western Catchment in the context of sustainable natural resource management, this activity will develop a comprehensive package of cultural and heritage values pertinent to sustainable integrated natural resource management. This program will encourage the Aboriginal community to participate and contribute to sustained natural resource management in the context of preserving and enhancing cultural heritage values.

Management Target 10
Establish an Indigenous Natural Resource and Cultural Reference Group, within two years of Catchment Plan approval to formally coordinate the input of Aboriginal communities into natural resource management planning activities in the Western Catchment. *(MA 9A)*

Management Target 11
Develop and assist the implementation of a process for the documentation, evaluation and ownership of indigenous knowledge of sustainable land management and cultural values in the Western Catchment by 2009. *(MA 9b)*

11. Community Education and Support Program

This activity aims to provide the community with the capacity to achieve sustainable natural resource management skills through the establishment of an effective support mechanism that raises awareness, increases knowledge, motivation, engagement, commitment and confidence. This project will be limited to a maximum of 15% of program funding and will be used to provide support to the catchment community from both a facilitation and specialist technical basis. Cross border relationships with Regional Bodies in adjoining States (QLD. & SA) and adjoining CMAs in NSW will be supported under this program.

Management Targets for this part of the program have been adopted directly from NSW Natural Resources Commission draft Standards and Targets Recommendations.

Management Target 12
There is a continual increase in land managers' awareness, knowledge and skills in NRM and adoption of practices which improve natural resource outcomes.

Management Target 13
Land managers and other natural resource managers are actively engaged in collaborative action to improve the management of natural resources through the development and implementation of regionally relevant NRM.

Management Target 14
There is a continual increase in the willingness of land managers, other stakeholders and the community to partner NRM organisations to deliver natural resource outcomes.

12. Monitoring and Evaluation Program

While this program is a key component of the Plan a separate target has not been developed. The Monitoring and Evaluation Program will be the mechanism for reporting on all the targets included in the Plan. There will be a maximum of 5% program funding expended on Monitoring and Evaluation.

This activity will report to the Board, the catchment community and the State and Commonwealth Governments to allow management decisions to be made with better knowledge of costs and outputs. It will also provide accountability to funding bodies and the catchment community.

This project will carry out monitoring and evaluation of all projects in respect to budgeting efficiency and effectiveness and outcomes as they relate to Catchment and Management Targets. Note: This activity will provide the mechanisms for reporting program implementation, financial tracking and output achievements but will not entail monitoring of natural resource management outcomes. These outcomes will be monitored by the relevant agency however this project may compile information reports from data supplied by agencies.

Bibliography

Condon, Dick. 2002, *Out of the West*, The RMAP.

The Western Catchment Management Authority

The Western Catchment Management Authority is run by a Management Board, made up of six Western Division people, all of whom have extensive experience in natural resource management in the Western Catchment.

The Chairperson is Rory Treweeke and the Board Members are Max Hams, Sam Jeffries, Justin McClure, Jenny McLellan and Andrew Mosely.

The Western Catchment Management Authority can help local people by:

1. Making sure they have a say in what happens through the Catchment Plan;
2. Administering Incentive Funding for on-ground works and training that will improve natural resources in the Catchment;
3. Managing native vegetation; and
4. Undertaking and coordinating broad-scale projects that are essential for the health of the Catchment.

Western CMA Contacts

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