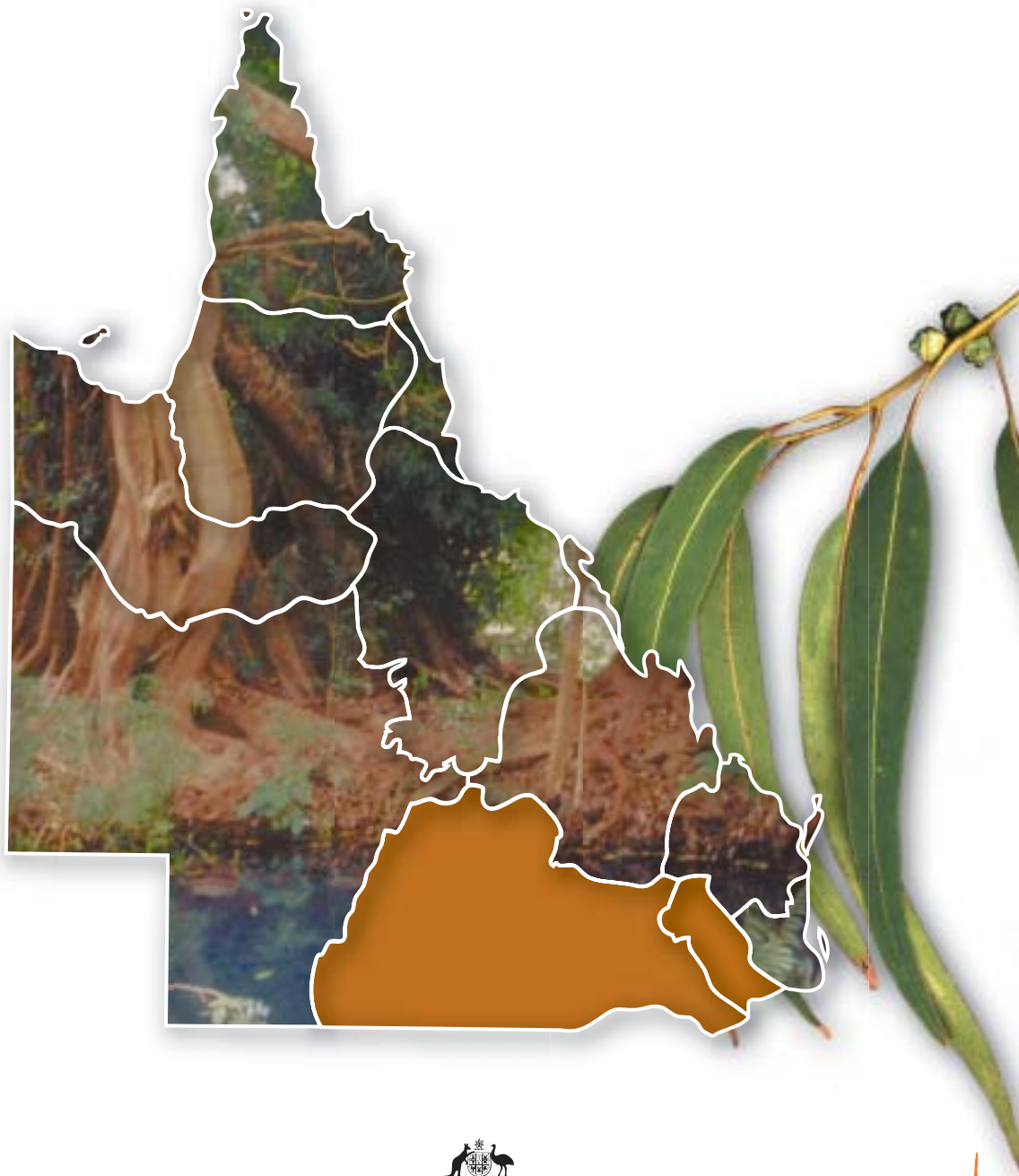


BUSHCARE SUPPORT 2003

Native Vegetation Management

A needs analysis of regional service delivery in Queensland - Murray Darling Basin including Condamine Alliance

growing the future together



QUEENSLAND MURRAY DARLING BASIN INCLUDING CONDAMINE ALLIANCE

Regional context

Almost 25 per cent of the Murray–Darling Basin lies north of the Queensland–New South Wales border. The Queensland portion constitutes about 15 per cent of the State of Queensland and covering 260,000 square kilometres. The Queensland Murray Darling Basin (also referred to as the Basin) stretches 850 kilometres from east to west and up to 500 kilometres from north to south.

Its major river systems include the McIntyre Border Rivers, the Condamine–Balonne, Warrego and Paroo rivers. The region is rich in cultural and natural assets (e.g. the Bunya Mountains National Park; the rich black soil plains; and the Paroo River floodplains, which include the Currawinya National Park).

The Queensland Murray Darling Basin Catchments are home to an estimated 225,000 people who live in 27 different local government areas. The health of the economy and social fabric of this population depends on the health of the basin’s natural resources. Agricultural and pastoral production is worth \$620 million each year, which is about 15 per cent of the annual gross regional product of \$4,170 million. Other economic activities, many directly reliant on primary production, include government services (worth \$720m a year), wholesale and retail trade (\$614m), business services (\$545m) and manufacturing (\$410m) (Gibson Associates, August 1997, “Economic Strategies for Queensland’s Southern Inland”).

This region of the Murray–Darling Basin will continue to depend on natural resources for development. However, there is evidence of environmental change, which has the community of the basin concerned, that human activity maybe threatening the health of this rich and beautiful area. The people who live in the basin also recognise that activities in the Queensland Murray Darling Basin affect downstream communities.

Key statistics

Approximately \$50 million in 1998/99 and \$102 million in 2000/01 of funds have been invested in natural resource management activities in Queensland’s Murray–Darling Catchments. Landholders, government (Federal, State and local) and other industries undertake significant investment. This includes approximately 40 Natural Heritage Trust projects in the last 12 months.

Key challenges in the region

Social and cultural

- limited opportunities for sharing people’s visions for integrated resource management across the region;
- lack of understanding about different cultural and social beliefs;
- stress in difficult times;
- resistance to change;
- management conflicts arising from differences in how resources are used and managed;
- effects of demographic changes in the population;
- effects of distance; and
- levels of education and training.

Institutional

- absence of appropriate institutional models for integrated resource management;
- need for more flexible structures in government;
- policies and institutional arrangements which do not fully recognise natural resource limitations and unsustainable demands;
- different strategies and management regimes which may conflict with each other;
- availability and delivery of government support services for the community (extension services); and
- poor legislative support.

Technical

- inadequate knowledge of ecology and the resource base;
- lack of baseline data on the condition of natural resources;
- inadequate knowledge of sustainable management practices and enterprises; and
- poor understanding of climatic variability.

Economic

- impact on the region of wider economic conditions; and
- costs of environmental degradation.

Assistance and training

- achieving a coherent understanding of ecology and the natural resource base;
- gathering of baseline data on the condition of natural resources and in particular vegetation assessments;
- understanding and education on benefits of nature conservation/vegetation retention to sustainable management practices and enterprises; and
- providing basic training in vegetation identification, management and revegetation techniques.

Key Vegetation Issues

The extent of remnant vegetation coverage in the Queensland Murray Darling Basin varies geographically. Heavily cleared areas are mainly in eastern parts of the Basin while western areas retain largely remnant vegetation. More than 45 per cent of all clearing in Queensland since 1997 has occurred in the Queensland Murray Darling Basin and it is the most extensively cleared basin in the State. It now faces considerable threat from habitat fragmentation, salinity and declining water quality as land clearing and subsequent land development change ecological and landscape characteristics.

The extent of land clearing has increased in the last decade and experience in southern Australia suggests that this will reduce the area of habitat for woodland birds such as grey-crowned babbler, apostlebirds, speckled warblers, hooded robins and crested bellbirds (Eddie 2000).

The Queensland Herbarium records (Herbreccs Database June 2001) for the QMBD show Flora taxa status as per the following table.

Status	No.	% of Native Taxa
Extinct	1	<1%
Endangered	22	<1%
Vulnerable	53	2%
Rare	95	3%
Common	3144	95%
Total Native Taxa	3315	100%
Introduced	597	

The break up across Queensland Murray Darling Basin catchments of endangered, vulnerable and rare flora species to total species is:

- Border Rivers 50 per cent;
- Condamine 40 per cent;
- Maranoa-Balonne 30 per cent; and
- Warrego-Paroo 19 per cent.

Although six draft recovery plans for threatened flora species in the Queensland Murray Darling Basin were drafted in 1995, none have been formally implemented. The plans will be revised and are likely to focus on threatened species or ecosystems in a particular area, for example, endangered grasslands on the eastern Darling Downs.

Potential threatening processes for biodiversity are listed below. The impact of these processes varies across the Queensland Murray Darling Basin .

Some processes that threaten biodiversity:	
1. Broadscale clearing	13. Declining water quality
2. Introduced species	14. Increasing turbidity, nutrients and pesticides
3. Overgrazing	15. Trapping/collecting
4. Altered fire regimes	16. Introduced predators
5. Altered water flows	17. Draining wetlands
6. Cultivation/cropping	18. Climate change
7. Habitat fragmentation	19. Chemical pollution
8. Tree decline and or lack of regeneration	20. Thinning trees
9. Invasive native species	21. Forestry operations
10. Feral animals	22. Diseases
11. Urbanisation	23. Mining disturbance
12. Environmental weeds	24. Removing fallen timber

There are 16 recovery plans in preparation or implementation for endangered and vulnerable species found in the Queensland Murray Darling Basin (see Lundie-Jenkins 2000 and World Wide Fund for Nature Environment Australia manual of *Rare and Threatened Species and Plant Communities of the Mulga Lands.*).

The Queensland Murray Darling Basin has over five per cent of its total area protected in state-owned reserves such as National Parks, State Forests, Stock Routes and camping reserves. The protection of these areas does not adequately represent the diversity and richness of wildlife occurring in the Basin. Retention of other areas through voluntary partnerships has been encouraged in the Basin. Voluntary nature conservation covenants (Nature Refuges) have been established on seven properties in the Basin to protect endangered or rare wildlife such as the Darling Downs Jewel Butterfly. Voluntary conservation agreements (Land for Wildlife) have been developed to encourage and assist landholders to provide habitat for wildlife and there are 54 Land for Wildlife agreements in the Queensland Murray Darling Basin covering more than 4,400 hectares.

Devolved grants programs have also been operating which provide funding to increase on-farm nature conservation. Examples include:

- Through the Natural Heritage Trust funded Bushcare program, Greening Australia has negotiated 300 voluntary agreements covering 60,000 hectares in the Condamine, Maranoa Balonne and Border Rivers catchments and provided support for on-ground works linked to management agreements;
- The Murray Darling Basin 2001 Fish Habitats program has rehabilitated riverine vegetation at 19 sites;
- The Riverreach program provided funding for a further 25 community based riverine rehabilitation projects including \$540,000 in grants for riverine planning and on-ground works which highlighted riverine rehabilitation and management techniques in the region; and
- The Balancing Production with Nature Conservation project accelerates on-farm nature conservation in line with the objectives of the South-west Natural Resource Management Strategy to manage land in accordance with its capacity and to maintain and restore biodiversity; this project has funded 16 projects protecting some 29,000 hectares.

Nature conservation is increasingly being incorporated into projects with incentives designed to increase adoption of improved land management practices, for example, the North-east Downs Landcare Group Natural Heritage Trust project Achieving Best Practice Agricultural Landscapes.

Another approach (QPWS Habitat Case Studies Natural Heritage Trust 97-2654) has been to develop case studies on how aspects of nature conservation can be retained under different land use regimes while developing or maintaining an economically viable enterprise. Studies on seven properties in the south-west covered aspects such as sustainability using and retaining timber, riparian areas, wetlands and shadelines, and feral animal control. Case studies in the shires of Tara, Murilla and Booringa linked production gains with nature conservation through property planning to incorporate remnant and regrowth vegetation.

The Birds Australia 'Birds on Farms' survey (to assess whether the work by organisations such as Landcare was increasing birds in rural landscapes) has sites in the Queensland Murray Darling Basin.

Key documents

Queensland Murray Darling Regional Natural Resource Management Plan Draft Version 2 March 2003.

Catchment Strategies for Condamine, Maranoa-Balonne, Border Rivers and South-west Natural Resource Management.

Local sub-catchment action plans.

Boulter, S., Wilson, B., Westrup, J., Anderson, E., Turner, E. and Scanlan, J. (2000) *Native Vegetation Management in Queensland - Background, Science and Values* (DNR : Brisbane).

NRandM (2002) *Land Cover Change in the Queensland Murray Darling Basin 1999-2001*, Natural Resource Sciences report July 2002.

Accad, A., Neldner, J., Wilson, B. and Neihus, R. (2001) *Remnant vegetation in Queensland: analysis of preclearing, remnant 1997-99 regional ecosystem information*. Queensland Herbarium, EPA.

Macintyre, S., Mclvor, J. and Heard, K. (2002) *Managing and conserving grassy woodlands*. CSIRO Publishing.

Dorracott, K., Voller, P. and Lawrie, B. (1998) *Balancing Production with Nature Conservation, Case studies from southern inland Queensland* EPA Brisbane.

Regional resources and infrastructure

Existing resources and infrastructure

Service	No.	Description/Comment
Seed Supply Services Seedbanks Collectors	3 40	There is a reasonable level of local provenance seed supply in the region with at least three specific seed holding facilities that include data management of seed resources and stocks. This is presently being beefed up with two current Natural Heritage Trust projects. The opportunity exists in assisting with training in Identification, collection and volunteer coordination.
Technical advice – veg management and nature conservation	12	This number includes consultants and groups (some Landcare) that provide training and advice on vegetation issues. Most only specialise in specific areas of vegetation. There are real opportunities in this area for more coherent and comprehensive advice.
Nurseries (native for re-vegetation primarily)	12	There are approximately five, middle to large-sized nurseries in the region and approximately seven, small sized nurseries all of which deal specifically in native plants for revegetation. Between all these and other conventional commercial nurseries, the region has a full capacity for current needs. This may change but some of the above nurseries have a capacity to increase output rapidly. All of the above mentioned specialist native nurseries grow predominantly tube stock and grow to order using local provenance seed. In summary, the region is well supplied with numbers and quality of plants required at this stage.
Planting contractors	4	There are very few planting contractors with only four in the region that could be considered “serious”. This is due largely to the main issues being retention rather than re-establishment. This may well become another significant area of opportunity.
Weed control	21	An area of expertise that is well catered for.
Vegetation Management Training Providers	8	There are eight organisations/individuals in the region who specifically provide vegetation management training. Many of these are focussed on specialist elements and large opportunities exist for both general and specific veg management and related training.

Services that may need to be addressed

- Plant Supply - There are approximately five, middle to large sized, nurseries in the region and approximately seven small sized nurseries all of which deal specifically in native plants for revegetation. Between all these and other conventional commercial nurseries, the region has a full capacity for current needs. This may change but some of the above nurseries have a capacity to increase output rapidly. All the above-mentioned specialist native nurseries grow predominantly tube stock and grow to order using local provenance seed. In summary, the region is well supplied with numbers and quality of plants required at this stage.
- Technical/Operational Expertise - The region is fortunate to have retained a high level of skilled people, particularly in the field of Nature Conservation and Vegetation Management. At the same time there is a lack of skilled people on the "ground" undertaking basic plant ID, propagation and growing training.
- Commercial Organisations/Individuals - 140 Landcare and sub-catchment groups in South-west Queensland involving around 5,000 farming families. The major Catchment groups, Condamine Catchment Management Association, Border Rivers Catchment Management Association, Maranoa Balonne Catchment Management Association and South-west Natural Resource Management Group which incorporates the Bulloo Catchment.
- Direct seeding infrastructure - Minimal. Trials have been and are being undertaken with some limited success.
- Vegetation management training opportunities exist mainly in providing basic plant ID, propagation and vegetation growing training type of training along with data management training which is also in short supply. Vegetation monitoring is a key area where training is in short supply and could easily be seized upon due to demand.

In addition the main opportunities exist in training and supply of environmental services/revegetation services both of which are specialist areas that current organisations in the region do not have the capacity to deliver to meet demand.

Key gaps and recommendations

Data access

No coherent and accessible data management control at a regional level.

Recommendation

1. An organisation of biophysical natural resource management data at a regional level is undertaken and made available to all users.

Expert training

There is only minimal expert training on whole of landscape management and integrated vegetation management/nature conservation methodologies and skills.

Recommendation

2. Targeted and rigorous training opportunities are regularly provided for the community and other natural resource management staff which focus on whole of landscape processes and specific revegetation techniques.

On-ground labour

There is only minimal availability of services to swiftly deploy on-ground expertise and labour to re-vegetation sites.

Recommendation

3. Ability made for a dedicated revegetation/conservation team to be placed in the region.

Volunteer support

Lack of support and co-ordination of volunteers (particularly urban)

Recommendation

4. A dedicated program and funding be instigated to support and co-ordinate volunteers who can have a major impact on providing services to urban and rural communities in Bushcare related activities.

Access to technical expertise

Inadequate and often inaccessible technical expertise

Recommendation

5. More resources need to be provided to ensure ongoing existence and increased access to expert and quality vegetation management/nature conservation advice

Key contacts

Position	Name	email
QMDC Strategic Planning Officer	Geoff Penton	g.penton@landcare.org.au
Regional Vegetation Officer DNRandM	Peter Voller	peter.voller@nrm.qld.gov.au
Biodiversity Planning Officer EPA	Darren Fielder	Darren.fielder@env.qld.gov.au
Regional Manager South-west QLD GAQ	Steve Cupitt	Steve.cuppit@nrm.qld.gov.au
Bushcare officer Toowoomba City Council	Veronica Newbury	v.newbury@toowoomba.qld.gov.au
Regional Bushcare facilitator	Bruce Lawrie	Bruce.lawrie@env.qld.gov.au
Regional Bushcare Support officer QMD	James McKee	james@landcare.org.au
Regional Landcare facilitator	Rod Kerr	kerrfamily@cnet.com.au