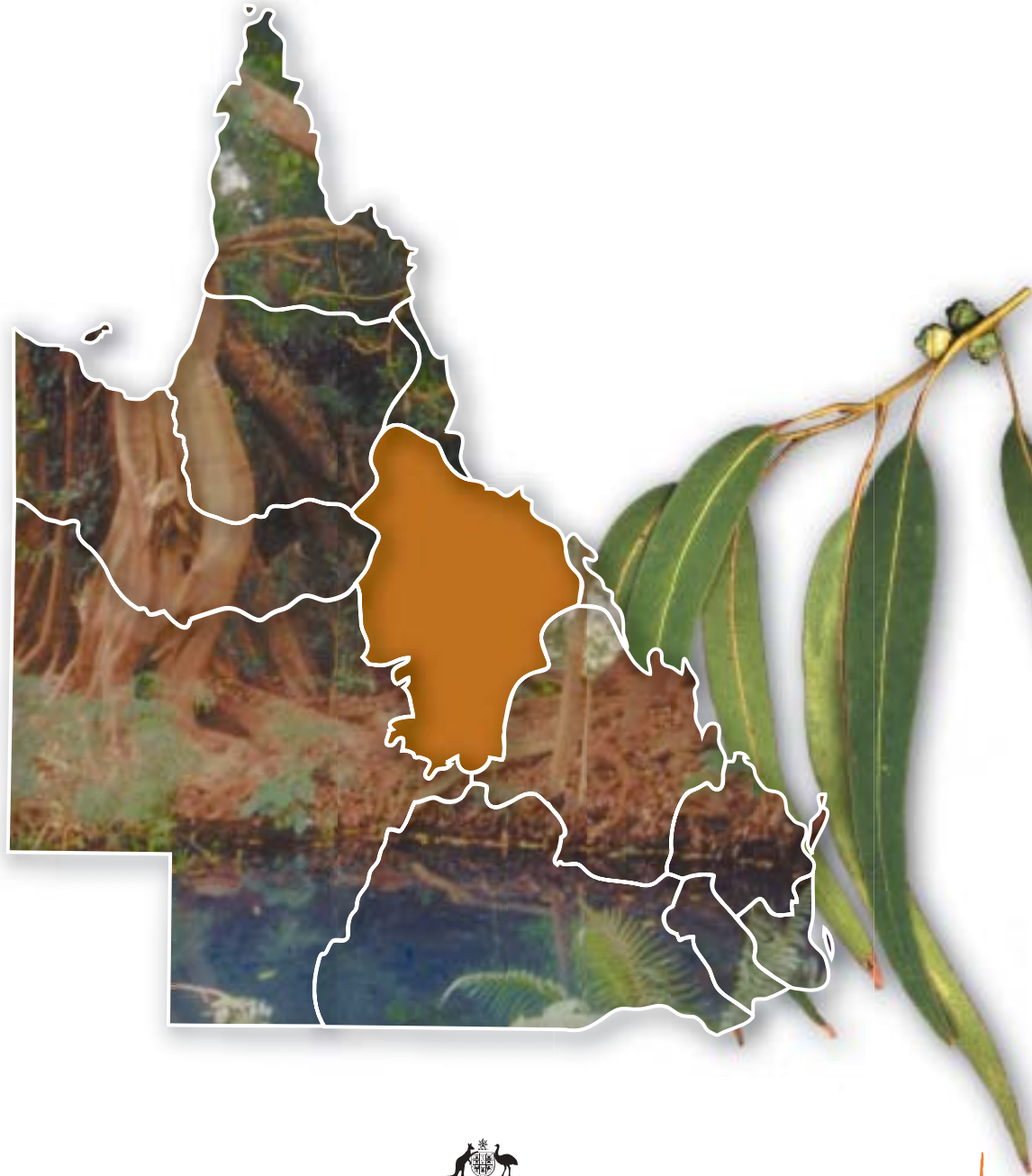


## BUSHCARE SUPPORT 2003

# *Native Vegetation Management*

*A needs analysis of regional service delivery in  
Queensland - Burdekin*

growing the future together



# BURDEKIN DRY TROPICS

## Regional context

The Burdekin natural resource management region encompasses over eight per cent of the state of Queensland and is based upon the Burdekin River catchment and the Townsville, Thuringowa and Bowen Shires. The region covers an area of approximately 140,000 square kilometres or an area nearly twice the size of Tasmania.

The climate ranges from being tropical sub-humid on the coast to semi-arid in the western interior. The climate is dominated by wet summers and dry winters with marked yearly variability. In most parts of the catchment rainfall is less than the evaporation and transpiration rates.

Principal cities and towns within the region include Townsville, Ayr, Bowen, Charters Towers, Greenvale, Pentland and Alpha. Population is approximately 200,000 people with over 130,000 of these based in the Townsville and Thuringowa region

The region encompasses the Northern Brigalow Belt, Einasleigh uplands, Desert Uplands and Wet Tropics bioregions. Vegetation communities are correspondingly diverse and include rainforests, wetlands, mixed eucalypt woodlands, vine thickets and savanna grasslands.

Region administration and community organisations include:

- 12 local government areas - Townsville, Thuringowa, Burdekin, Bowen, Mirani, Nebo, Belyando, Jericho, Charters Towers, Dalrymple, Ethridge and Herberton shires;
- 2 regional natural resource management bodies - Burdekin Dry Tropics Board (BDTG) and the Desert Uplands Build up and Development Strategy Committee (DUBDSC);
- 4 sub-regional natural resource management bodies;
  - Natural Resource and Environment Forum (NaREF), Townsville and Thuringowa;
  - Bowen Burdekin Integrated Floodplain Management Advisory Committee (BBIFMAC), Lower Burdekin and Bowen;
  - Burdekin Rangelands Implementation Group (BRIG), Upper Burdekin Rangelands; and
  - Belyando Suttor Implementation Group (BSIG), Belyando Suttor;
- Community organisations including Landcare, Coastcare, Waterwatch and Bushcare groups, World Wildlife Fund for Nature (World Wide Fund for Nature), North Queensland Conservation Council, Wildlife Preservation Society Queensland, Greening Australia, Conservation Volunteers Australia, Nature Conservancy, wildlife care groups and other conservation based organisations;
- River Improvement Trusts cover the Don, Lower Burdekin and Haughton rivers;
- State and Federal Government Agencies and authorities, including the Great Barrier Reef Marine Park Authority; and
- Research Institutions including CSIRO, Australian Institute Of Marine Studies (AIMS), Australian Centre for Tropical Freshwater Research (ACTFR), James Cook University (JCU); and Savanna Cooperative Research Centre, Reef Cooperative Research Centre.

Much of the government administration, university and research institutions are based in Townsville and operate throughout Northern Australia. Townsville is the largest city in Northern Australia and contains major port facilities, defence bases and training areas, and light and heavy industry.

## Principal Landuse

The majority (99 per cent) of the Burdekin catchment is classified as rural and consists of;

- extensive cattle grazing;
- intensive agriculture, predominately irrigated sugar cane;
- small crops;
- mining, gold and coal;
- defence training areas;
- terrestrial conservation areas, RAMSAR, marine parks and world heritage areas; and
- urban, predominately around Townsville and Thuringowa and larger regional centres.

Most of the land in the upper catchments is leasehold with the coastal areas being predominately freehold.

## Key statistics

The Burdekin Region is covered by two Natural Heritage Trust administrative regions Northern and Western. In total 73 projects were funded from six programs during the life of Natural Heritage Trust (Phase One). Project types included single site specific projects, devolved grants, multi site projects, inventory, co-ordination and monitoring projects. Some projects were funded from multiple programs these were sorted by major funding source.

Organisation	Programs					
	Landcare	Bushcare	Rivercare	Waterwatch	Wetlands	Fishcare
Landcare and Community	23	4		1	1	2
Agency	11	5				
Shire Council	2	3				1
Rivertrust			5			
University	1					
Industry group		2				
School		1				
Regional Body	5	2				
Indigenous		3				
Total	42	21	5	1	1	3

## Key vegetation issues

### *Natural Resource Management Challenges*

Most of the bioregions within the region have over 50 per cent native vegetation cover. However significant fragmentation and clearing of native vegetation has occurred in the Belyando-Suttor catchment. Fragmentation is also evident within the lower Burdekin, Bowen-Broken catchment and coastal areas of Townsville. Up to 90 per cent of native vegetation communities are not represented in conservation areas with less than two per cent of regional ecosystems in the Belyando-Suttor, Upper Burdekin and the Bowen-Broken represented in conservation areas.

In consultation with regional stakeholders and from experiences of Bushcare Support, a range of issues has been identified. These are listed in five main areas below.

### *Planning:*

- Lack of a strategic approach to identifying and managing regional ecosystems and priority habitat and conservation areas on a regional, landscape and property level. Existing mapping is often inaccurate and out of date;
- No uniformity in planning and data systems;
- local governments are being given more responsibility under Integrated Planning Act for managing natural resources but can lack the appropriate natural resource management skills needed to make informed planning decisions. Many also lack by-laws to protect native vegetation; and
- Vegetation management legislation is inadequate. For example, under the Vegetation Management Act the definition of vegetation doesn't include grasses and forbs as vegetation. Fines and rehabilitation orders are too lenient.

### *On-ground management:*

- Skilled labour is not always available to undertake works. Local permanent skilled teams are required to undertake natural resource management works;
- Inappropriate fire regimes have led to tree thickening, changes in make up of regional ecosystems and invasion of exotic weeds;
- Fire management regimes have changed over time as a result of droughts, perceived increasing variability of climate and wildfire experiences;
- Species diversity for plantings are not always available;
- Nature refuges need to be incorporated into property management plans. Past fauna sanctuaries need to be revisited and incorporated into nature refuge system;
- Feral pig damage to fenced regenerating riparian areas is undoing work of landholders in spelling these areas for stabilisation, regeneration, biodiversity and water quality outcomes; and
- Total grazing pressure of native and domestic animals is difficult to manage. Decreased ground cover through the loss of native grasses and forbs, reduces competition and provides conditions suited to weed invasion and establishment of native woody vegetation leading to thickening of habitats.

### *Knowledge building:*

- There is little awareness of indigenous cultural resource management issues and what is known isn't readily available;
- Biodiversity is perceived as a threat by some landholders even when they are managing for biodiversity by default;
- Regional ecosystem mapping is not understood by landholders and not linked to other classification systems (e.g. soils and land capability mapping);

- Perceptions within broader community, that all graziers are tree clearing, causes anguish and mistrust amongst landholders undertaking appropriate management;
- Links between water quality and vegetation management are not being recognised;
- Decline in extension services has resulted in existing information not getting out to land managers and owners; and
- Communication between regional networks needs to be improved. The size of region can make communication between networks difficult.

*Research:*

- Information on fauna is largely unknown. Data collected and held by EPA from the 70's and 80's is not freely accessible;
- Soils mapping isn't uniform or doesn't exist;
- Insufficient long term monitoring has been established. In addition, little assistance is available to landholders to assist with and ensure consistency of monitoring; and
- More hard science is needed to provide a clearer picture on management issues.

*Other:*

- Climatic variability can make it difficult to manage consistently;
- Assessment of the economics of land clearing and management needs to be undertaken to assist management decisions;
- Conflicting messages exist across and within State Agencies;
- No expertise and little experience with direct seeding techniques;
- Grazing management systems don't adequately address biodiversity management issues;
- Accessible and user friendly data/infobase required to access a range of natural resource management information and data; and
- Systems of scaled incentives and other delivery systems for incentives need to be investigated and trialled (e.g. devolved grants, auctions etc).

## **Regional Responses**

The last five years has seen a real turn around in the support for whole of community integrated natural resource management in the Burdekin Dry Tropics natural resource management region. This has resulted from an increase in community involvement in activities, the desire to improve the management of its natural resources, a realisation of the need to manage strategically, and increased support from State and Federal Agencies that have previously not seen the Burdekin as a priority.

Regionally the Burdekin Dry Tropics Board and four sub-regional natural resource management bodies have been established to coordinate a strategic approach to addressing priority natural resource management issues that will lead to improved on-ground outcomes for the whole community. Three of the sub-regions have developed sub-regional natural resource management plans. A regional plan and a sub-regional plan for the Belyando-Suttor region are currently being developed with foundation funding from National Action Plan for Salinity and Water Quality (NAPSWQ).

The rangelands and desert uplands areas of the region have been the better organised with the establishment of over 20 Landcare groups under the umbrella and leadership of the Dalrymple Landcare Committee (DLC). This committee has acted as a de-facto Catchment Coordinating committee in the Dalrymple shire and has initiated such programs as the Burdekin Rangelands to Reef initiative in partnership with Queensland Department of Primary Industries.

Burdekin Rangelands to Reef initiative has been the largest and most successful whole of community initiative to date and has had access to funding of \$3 million over three years provided by the Queensland Department of Primary Industries for community natural resource management projects. Projects must address environmental, social and economic issues within their proposals and lead to an improvement in the sustainable management of the Burdekin Catchment.

The Desert Uplands region organised on a bioregional basis and established the Desert Uplands Build-up and Development Strategy Committee (DUBDSC). Successes of the group are now being threatened due to reorganising of boundaries along catchments as required under NAPSWQ and the splitting of this region between the Burdekin Dry Tropics Board and the Desert Channels committee.

### **Key documents**

Roth C. et al, 2002, *Overview of Key Natural Resource Management Issues in the Burdekin Catchment with Particular reference to Water Quality and Salinity*, CSIRO Land and Water.

Greiner R. et al, 2003, *Natural Resource Management in the Burdekin Dry Tropics: social and economic issues*, CSIRO Sustainable Ecosystems.

Desert Uplands Build-up and Development Strategy Committee, 1999, *Natural Resource Management Plan*

Perry T. et al, 2002, *Dryland Component: Northern Brigalow Belt-Priorities for Vegetation Protection*, Queensland Environmental Protection Agency.

Blackman et al, 2002 *Wetland component: Northern Brigalow Belt-Priorities for Vegetation Protection*, Queensland Environmental Protection Agency.

Herbert S. et al, 2002 *Burdekin Rangelands Sub regional Strategy: Managing our Natural Resources*, Queensland Department of Primary Industries.

BBIFMAC, 1999, *Burdekin Bowen Floodplain Community Based Natural Resource Management Strategy*.

Townsville and Thuringowa Landcare Association, 2001, *A community plan for Natural Resource Management in Townsville – Thuringowa*.

QDCILGPS, 2000, *Townsville and Thuringowa Strategy Plan*.

BDTG, 1999, *Draft Burdekin Dry Tropics Interim Regional Strategy for Natural Resource Management*.

## Regional resources and infrastructure

### Existing resources and infrastructure

Service	No.	Description/Comment
Program, legislative and technical natural resource management support: including water quality, vegetation management, habitat restoration, grazing management	27	Approximately 25 extension staff and companies currently operate in the region of these ten are State Agency core funded with 13 being publicly funded with four fee for service companies identified
Indigenous plant supply	6	Three community based Two commercial One council nursery
Seedbanks	1	Community based
Seed collection	1	One community organisation focussed on seed collection. All nurseries indicated above collect seed for their own propagation purposes. Some Landcare groups have investigated grass seed harvesting.
Training providers	4	Four training organisations have been identified can provide training in Conservation and land management practices.

### Current provision issues

The major issue for vegetation management within the region is management of large areas of native vegetation currently under extensive grazing regimes. There is a need for expertise in management of all vegetation including regeneration and rehabilitation within intensive and extensive agricultural systems.

The availability of local provenance tube-stock and seed is currently an issue in intensive agricultural and urban rehabilitation projects. The capacity to provide tubestock and seed needs to be greatly increased if existing small-scale actions are to continue and expand. Particular expertise is required in collection and direct seeding of native grasses to rehabilitate exotic grasslands and scalds in grazing areas.

With the focus of future works being more strategic in priority locations, relying upon volunteers and landholders may restrict large-scale works, due to the sparse population throughout the region. Dedicated teams of permanent skilled workers will be needed to deliver and to assist landholders in meeting expected outcomes. Relying upon employment schemes and short-term trainees doesn't build capacity within the region and requires identification of new staff and re-skilling of participants every six months.

#### *Technical Advice*

Currently just under half of all extension officers in the region are publicly funded and will be lost to the region from June 2003. In a time of increasing demand for information and services from the community, this needs to be rectified. In particular, technical support positions are required that will service specific industries or issues (e.g. grazing industry or pasture rehabilitation and monitoring).

## **Gaps and recommendations**

### **Regional ecosystem mapping**

Inaccurate regional ecosystems mapping, and poor data on priority habitat and conservation areas has led to lack of faith and misunderstanding in vegetation management planning processes and confusion amongst land managers and owners making management decisions.

Good work has been undertaken throughout the desert uplands and the upper six provinces of the Brigalow Belt North to identify priority areas. This work needs to be extended to cover the whole region.

#### *Recommendation*

1. Complete and revise existing regional ecosystem mapping and undertake assessments to determine priority habitat, conservation areas, and corridors and fauna species present throughout the region. Regional ecosystem reference sites need be established as part of this process to act as a standard for management practices.

### **Extension networks**

Government extension services are continuing to decline at a time when landholders are being asked to make changes necessary to improve management.

Networks that do exist cover large regions and are stretched. Half of all extension networks are publicly funded and will cease post June 2003.

#### *Recommendation*

2. Existing extension networks need to be maintained and expanded to provided services demanded by the community. This needs to be undertaken and managed by the regional natural resource management body and address priority needs.

### **Access to data and information**

Access to information and data is currently inconsistent and spread amongst agencies, research institutions, community groups, landholders and industry. As a result it is difficult to access or even to know of its exists.

#### *Recommendation*

3. An accessible information and data network needs to be established to enable whole of community access to information necessary to make informed decisions regarding natural resource management

### **Indigenous needs**

Indigenous cultural resource management issues are largely unknown in the broader community. Indigenous needs have to be integrated into natural resource management planning and management activities.

#### *Recommendation*

4. Identification and support of indigenous cultural resource management needs and incorporation of these into planning and management activities where appropriate.

### **Fire management**

Fire is largely seen as a threat by many landholders and as result is rarely used. This has changed from past years when fire was used to manage pastures and to control weeds. Consequences of not using fire is thickening of woody plants, and increase in weed infestations.

#### *Recommendation*

5. Appropriate fire management regimes be determined for different vegetation communities within the region, incorporating production needs where appropriate.

## Key contacts

The list below is of people directly contacted during the collation of this summary many others have contributed through discussions and involvement in vegetation management in the region.

Organisation	Contacts
Department of Natural Resources and Mines	Michael McDougall (Planning Coordinator –Vegetation Management)
Queensland Environmental Protection Agency	Tim Perry (Senior Research Officer) Brett Galloway (Regional Extension officer) Rebecca Clear (Bushcare facilitator)
Queensland Herbarium	Janet Kemp (Principal botanist) Chris Kahler-Botanist
Queensland Department of Primary Industries	Bob Shepherd (Senior extension officer) Bridget McCallum (Extension officer - environmental management)
Dalrymple Landcare Committee	Marie Vitelli (Landcare Coordinator)
Tropical Urban Production and Landcare group	Ally Lankaster (Project officer)
Tropical Urban Production and Landcare group	Dr Con Lokkers