Appendix L

Regional Ecosystems In Protected Areas

Regional Ecosystems In Protected Areas.

Table L-1 Regional Ecosystems in Protected Areas

Catchment area		Protected areas in catchment		
RE number	Hectares	RE number	Hectares	%
11.1.1	358.3	11.1.1	66.6	18.58
11.1.1/11.1.2/11.1.2	333.7	11.1.1/11.1.2/11.1.2	140.0	41.97
11.1.1/11.1.2/11.1.4	80.7	11.1.1/11.1.2/11.1.4	56.8	70.43
11.1.2/11.1.1/11.1.4/11.1.2	831.5	11.1.2/11.1.1/11.1.4/11.1.2	429.6	51.67
11.1.2/11.1.2	285.4	11.1.2/11.1.2	243.1	85.18
11.1.2/11.1.2/11.1.4	116.4	11.1.2/11.1.2/11.1.4	16.2	13.88
11.1.3/11.1.1/11.3.27	2279.4	11.1.3/11.1.1/11.3.27	1088.1	47.74
11.1.3/11.3.7/11.3.25b	624.4	11.1.3/11.3.7/11.3.25b	8.8	1.41
11.1.3/11.3.9/11.3.13	114.3	11.1.3/11.3.9/11.3.13	72.8	63.74
11.1.4	2238.6	11.1.4	1473.3	65.81
11.2.5	1271.4	11.2.5	238.5	18.76
11.3.25/11.3.25b	1409.8	11.3.25/11.3.25b	12.6	0.90
11.3.25b	6361.8	11.3.25b	258.9	4.07
11.3.27	389.8	11.3.27	111.1	28.50
11.3.30	15006.0	11.3.30	0.4	0.00
11.3.35	19562.6	11.3.35	140.2	0.72
11.3.35/11.3.4/11.3.25b	2200.0	11.3.35/11.3.4/11.3.25b	439.9	19.99
11.3.9/11.3.12/11.3.30	1200.7	11.3.9/11.3.12/11.3.30	11.1	0.92
11.12.1	2405.3	11.12.1	317.3	13.19
11.12.13/11.12.14	375.4	11.12.13/11.12.14	256.4	68.31
11.12.4	540.6	11.12.4	458.1	84.74
11.12.9	1942.0	11.12.9	1558.3	80.24
11.1.1/11.1.2/11.1.2/11.1.4	35.0	11.1.1/11.1.2/11.1.2/11.1.4	35.0	100.00
11.1.1/11.1.4	618.3	11.1.1/11.1.4	617.0	99.78
11.1.2/11.1.1	17.8	11.1.2/11.1.1	17.8	100.00
11.1.2/11.1.2/11.1.1	10.9	11.1.2/11.1.2/11.1.1	10.9	100.00
11.1.4/11.1.2	163.6	11.1.4/11.1.2	162.5	99.32
11.12.13a	2045.9	11.12.13a	2045.1	99.96
11.12.18	227.1	11.12.18	226.8	99.85
7.12.13	1448.8	7.12.13	1448.8	100.00
7.12.14	546.3	7.12.14	546.3	100.00
7.12.21	79.4	7.12.21	79.4	100.00
7.12.35	441.7	7.12.35	441.7	100.00
7.12.36	142.0	7.12.36	141.5	99.677
11.1.2	247.7	11.1.2	235.9	95.26
11.2.1	35.8	11.2.1	35.0	97.85
11.12.13/11.12.9/11.12.4/11.12.14	964.0	11.12.13/11.12.9/11.12.4/11.12.14	942.5	97.77
11.12.13b	6055.2	11.12.13b	5891.1	97.29
		Cleared	*9.0*	
Total catchment area (hectares)	**72649.6**	**Total (ha) of RE area protected**	**20284.7**	**or 27.9%**

Table L-2 Regional ecosystems in protected areas

RE type	NCAP	OC
Individual	16	5
In associations only	5	4

RE type	NCAP dominant	OC dominant
Associations	10	2

Appendix M

Regional Ecosystems And Conservation Status Classification

Regional Ecosystems And Conservation Status Classification

Recent vegetation mapping has been undertaken by the Queensland Herbarium to produce the 1:100,000 series of Regional Ecosystem maps. Mapping units are defined by biogeographic regions (bioregions) Bioregions "are based on broad landscape patterns that reflect the major structural geologies and climate as well as major changes in floristic and faunistic assemblages" (Sattler and Williams 1999, p.1/4). The Haughton River catchment is part of the Brigalow Belt (North) and the Einasleigh Uplands bioregions as described by Sattler and Williams (1999). Regional ecosystems have been mapped and described for each bioregion. The regional ecosystem maps continue to be updated as more detail is added and new regional ecosystems are discovered.

The Brigalow Belt is a large bioregion and has been subdivided into 36 sub regions or provinces based on similarities in patterns associated with the geology and geomorphology of the areas. Similarly the Einasleigh Uplands have been divided into provinces. The Haughton is in the Townsville Plains province of the Brigalow Belt bioregion and the Broken River province of the Einasleigh Uplands bioregion. Parts of the Reid River and upper Haughton catchment are classified as having Einasleigh Uplands regional ecosystems. In addition there are some regional ecosystems of the Wet Tropics bioregion in the Mt Elliott section of Bowling Green Bay National Park.

The conservation status of the various regional ecosystems has been determined by estimating the previous extent of regional ecosystems and then calculating the area of remnant vegetation as a percentage of the original area.

The conservation status of a regional ecosystem is generally defined as:

- **Endangered** - if less than 10% of its original extent remains intact across the bioregion, or its distribution has contracted to less than 10% of its original range
- **Of concern (OC)** - if 10—30% remains intact
- **No concern at present (NCAP)** - if more than 30% remains intact

The condition of the regional ecosystem, the extent of its distribution and the area of its original extent further define the conservation status. Some regional ecosystems are relatively small in area or are confined to a narrow range of conditions making them more susceptible to threatening processes and therefore of a higher conservation status than would apply based purely on the remaining extent.

Endangered and of concern regional ecosystems are considered collectively, as threatened i.e. their long term viability is not assured.

Appendix N

Regional Visions and Objectives

Regional Visions and Objectives

The following are *visions and objectives* for key regional groups in the Burdekin area.

Visions

Burdekin Dry Tropics Group (BDTG)

"To provide a high quality of life for current and future generations, through the maintenance of viable natural ecosystems and the development of economically sustainable production and urban systems"

Burdekin Bowen Integrated Floodplain Advisory Committee (BBIFMAC)

"To manage natural resources to ensure social well being, primary production and ecological sustainability…"

Townsville Thuringowa Landcare Association (TTLC)

"Achieving ecologically sustainable use of our land, water and biological resources" and "Protecting nature irrespective of its financial values for human populations"

BRIG

"…will be a diverse, productive, healthy region that supports a positive and prosperous community"

Sources

- **BDTG** = Burdekin Dry Tropics Group Inc., *Burdekin Dry Tropics Regional Strategy for Community Based Natural Resource Management*, Natural Heritage Trust and Department of Natural Resources and Mines
- **BBIFMAC** = Burdekin-Bowen Integrated Floodplain Advisory Committee September 2000, *A Community Based Natural Resource Management Strategy for the Burdekin-Bowen Floodplain Sub-Region*, Burdekin-Bowen Integrated Floodplain Advisory Committee
- **TTLC** = Townsville-Thuringowa Landcare Association Inc. December 2001, *A Community Plan for Natural Resource Management in Townsville-Thuringowa*, Townsville-Thuringowa Landcare Association Inc.
- **BRIG** = Herbert, S. and Rickert, A., *Burdekin Rangelands Subregional Strategy*, Qld DPI

Objectives

Burdekin Dry Tropics Group (BDTG)

Catchment Management and Awareness
- A community that is aware of and committed to "whole-of-region" sustainable natural resource management

Water Management and Quality
- Threats to water quality identified and mapped
- Optimum water quality restored and maintained throughout the region

Vegetation Management
- Effective and equitable vegetation management across the region
- A viable range of vegetation communities maintained across the region

Habitat and Biodiversity Protection
- A region with a protected range of healthy habitats that maintain viable native flora and fauna populations

Pest Management
- Effective integrated pest management throughout the region

Soil Conservation
- The region's soil resources protected and rehabilitated, through best practice salinity and erosion control measures

Coastal and Marine Area Management
- The region's unique marine and coastal resources protected and promoted across the region

Social and Economic Issues
- A viable regional community proactively managing its future

Burdekin Bowen Integrated Floodplain Advisory Committee (BBIFMAC)

- Maintain sustainable and healthy floodplain and coastal wetlands
- Adequate allocations of water to meet agricultural, urban, industrial and environmental needs
- Maintain and improve where possible viable fish habitats
- Ensure adequate water quality and quantity for irrigation
- Reduce the potential for negative impacts of irrigation on soil resources
- Maintain or improve aquifer health
- Reduce negative impact of flooding
- Maintain physical integrity of water courses
- Minimise impacts associated with the disturbance of potential Acid Sulphate Soils
- Maintain quality of water for domestic use
- Maintain and improve remnant native vegetation
- Revegetate appropriate areas
- Promote multi functional landscape benefits of trees
- Maintain and improve viable wildlife habitats
- Practical mechanisms for pest control
- Best management practice throughout the area
- Address all natural resource and production threats
- Plan for potential impacts of sea level rise
- Ensure development is ecologically sustainable
- Responsible waste management
- Diversify
- Enhanced community well being
- Intergenerational equity
- Sound natural resource management as a base for a strong and diverse economy

Townsville Thuringowa Landcare Association (TTLC)

Whole of catchment approach
- Adoption of catchment units for sustainable NRM
- Catchment based information and monitoring system
- Committed involvement from all interest groups in ICM

Land, vegetation and wildlife
- Better understanding of natural systems and processes
- Best management practice for vegetation and habitat
- Rehabilitate degraded areas and especially those susceptible to erosion
- Strengthen [community] programs supporting sustainable rural industries

Water, wetlands and waterways
- Ensure water quality and quantity is protected for all uses
- Protection and management of significant and representative wetlands
- Protection and repair of riparian areas
- Maintenance of environmental flows
- Reduction in harmful runoff reaching receiving waters
- Increased water use efficiency

Coastal and Marine environments
- Encourage and support coastal planning processes
- Facilitate indigenous involvement in NRM and planning
- Protection of significant coastal and marine sites, including cultural sites
- Improved management practices, both on the coast & upstream, to reduce adverse impacts of human activities
- Increased awareness of issues associated with modification of coastal zones
- Risk management plan for acid sulphate soil disturbance
- Review of legislation to ensure adequate protection of fragile coastal zone habitats
- Responsible use of marine resources

Environmental quality
- Pollution control through best practice
- Improved sustainability of production technologies
- Waste reduction
- Sustainable waste disposal systems
- Improved community attitude to waste generation and disposal
- Development of renewable energy sources
- Climate sensitive designing
- Transport rationalisation

Community involvement and education
- Improved community awareness, understanding and involvement in sustainable NRM
- Improved communications between the community and other natural resource managers
- Better coordination of natural resource initiatives
- Greater involvement of industry and commercial enterprises in NRM
- Greater involvement of schools in NRM through learning activities and hands on projects
- Improved access to relevant natural resource information including guidelines and practical manuals
- Adoption of local species policy for landscaping
- Production of educational materials and programs for all sectors of the community

BRIG

Land management for sustainable production

- Restore and maintain productive capacity of grazing lands
- Balance of native vegetation and appropriate pasture
- Ecologically sustainable and economically viable land use and development
- Improved management and rehabilitation of mine sites

Land management for maintenance of biodiversity

- A balance between development and conservation to retain the biological diversity of the Rangelands
- Land management based on a sound knowledge base
- An informed community that is aware of, and active in maintaining, the biodiversity values of the Rangelands

Management of water resources

- Non-degraded aquatic and wetland environments, with appropriate water quality and flows maintained or improved
- Equitable and efficient water allocation and use
- Decrease in down-stream impacts through ICM

Social and economic factors

- Increased community access to and understanding of information for decision making
- Broad stakeholder involvement in NRM, planning and implementation
- Diverse and viable communities and industries
- Increased awareness of policy makers and the wider community of economic factors affecting NRM

Discussion of Visions & Objectives & Catchment Approach

The Burdekin Dry Tropics Group recognises the importance of natural resource management based on natural management units. "Catchment management and awareness at the regional level is one of the keys to sustainable natural resource management". Natural resource management is made difficult by conceived constraints associated with arbitrary boundaries.

One of the high priority natural resource management issues for the Burdekin Dry Tropics is "Awareness and involvement of community in catchment management activities" (BDT p.10)

The overarching objective of the Burdekin Dry Tropics Group for catchment management is "A community that is aware of and committed to "whole-of-region" sustainable natural resource management" (BDT p.11).

One of the high priority key strategies of BBIFMAC is to "Establish catchment management groups for drainage basins within the sub-region" (BB p.20). The establishment of the Haughton River Catchment Coordinating Committee will see the fulfillment of one of the implementation milestones of the BBIFMAC strategy and add to a performance benchmark (BB p.41).

The Townsville Thuringowa natural resource management plan places emphasis on a catchment approach to natural resource management with the first strategy area devoted to a "Whole-of-catchment" approach which gives recognition to "the natural connection between ecosystem and landscape processes". One of the very high priority objectives of the plan is "the adoption of a framework of natural catchment units for integrated planning and sustainable management of natural resources" (TT pp.7-10).

Appendix H of the Townsville Thuringowa plan provides an example action plan for the whole of catchment approach with the 2005 target being "A sub regional framework for "whole-of-catchment" approach in planning and management, with clear regional links where relevant, is endorsed by local and state authorities and by all relevant stakeholders" (TT p. 67).

Proposed catchment management units are listed in Appendix J of the Townsville Thuringowa plan. Parts of the Haughton River catchment are included in three of the proposed catchment management units:

- 10 Reid River
- 11 Woodstock, and
- 13 Bowling Green Bay (TT p.70)

One of the issues in the Burdekin Rangelands is the "need for an integrated catchment management approach to water management in the region" with the broad objective of a "decrease in the down-stream affects of land use by utilizing Integrated Catchment Management principles" (RL p.44).

The main community based regional and sub regional natural resource management plans recognise the need for an integrated catchment management approach to achieve sustainable natural resource use. The Haughton River catchment is wholly within the Burdekin Dry Tropics Region and partly within all of the sub regions.