



TAMWORTH REGIONAL COUNCIL
Inaugural Comprehensive
State of the Environment Report
2004 - 2005



TAMWORTH REGIONAL COUNCIL

INAUGURAL COMPREHENSIVE

STATE OF THE ENVIRONMENT REPORT 2004-2005

TABLE OF CONTENTS

MAYOR'S MESSAGE	13
EXECUTIVE SUMMARY	15
1.0 INTRODUCTION	18
1.1 Tamworth Regional Council	18
1.2 State of the Environment Reporting	20
1.3 Ecologically Sustainable Development	22
1.4 Conclusion	23
2.0 LAND	24
2.1 Land - Introduction	24
STATE	
2.2 Geology	24
2.2.1 New England Fold Belt	27
2.2.2 Tertiary Rocks	28
2.2.3 Quaternary Sediments	29
2.2.4 Geological Routes	29
2.3 Soil Landscapes	29
2.4 Climate	31
2.4.1 Barraba	31
2.4.2 Manilla	32
2.4.3 Tamworth	32
2.4.4 Nundle	33
2.5 Population	34
2.6 Community Profile	35
2.7 Land Availability	38
PRESSURE	
2.8 Population Trends, Rates and Patterns of Growth	38
2.9 Development	39
2.10 On-site Sewage Management	40
RESPONSE	
2.11 Environmental Planning Instruments	41
2.12 Tamworth 2002 Urban Development Strategy	41
2.13 New Development Control Plans	41
2.14 Hills Plain LEP, DCP and S94 Plan	42
2.15 Section 94 Plan	43
2.16 BASIX	44
2.17 Bush Fire Prone Land Mapping	44
2.18 Stormwater, Erosion and Sediment Control	45
2.19 Floodplain Management	45
2.20 Namoi Catchment Management Authority and Local Government Group	46

2.21	Landcare.....	46
2.22	Salinity.....	49
2.23	Septic Safe.....	51
2.24	Contaminated Land.....	53
3.0	WATER.....	54
3.1	Water – Introduction.....	54
	STATE	
3.2	Streamflow.....	54
3.3	River Health and Water Quality.....	60
3.4	pH.....	61
3.5	Electrical Conductivity (Salinity).....	61
3.6	Turbidity.....	62
3.7	Nutrients.....	62
3.8	Water Supply Schemes.....	64
	3.8.1 Attunga Water Supply.....	64
	3.8.2 Barraba Water Supply.....	64
	3.8.3 Bendemeer Water Supply.....	64
	3.8.4 Manilla Water Supply.....	64
	3.8.5 Nundle Water Supply.....	65
	3.8.6 Tamworth Water Supply (including Kootingal & Moonbi).....	65
	3.8.7 Other Villages (currently no water supply).....	65
3.9	Dam Water Supply Levels.....	65
3.10	Dam Upgrades.....	67
3.11	Wastewater (Sewerage) Schemes.....	68
	3.11.1 Barraba, Manilla and Kootingal.....	68
	3.11.2 Tamworth.....	68
	3.11.3 Other Villages (Currently No Wastewater System).....	68
	PRESSURE	
3.12	Demand for Water Consumption.....	69
3.13	Water Consumption.....	70
	RESPONSE	
3.14	Integrated Water Cycle Management.....	71
3.15	Interim Strategy for Urban Water Efficiency.....	72
3.16	Water Restrictions.....	72
3.17	Water and Sewage Augmentations.....	72
3.18	Sewage Treatment Upgrades.....	73
3.19	Kootingal Sewerage Treatment Works Effluent Irrigated Tree Plantation.....	73
3.20	Riverine Corridor Management.....	73
3.21	Namoi River Styles Report.....	73
3.22	Rivercare, Fisheries and Habitat.....	74
	3.22.1 Endangered Species.....	74
	3.22.2 Endangered Fish Populations.....	74
	3.22.3 Endangered Aquatic Ecological Communities.....	74
	3.22.4 Vulnerable Fish Species.....	74
	3.22.5 Key Threatening Processes.....	74
	3.22.6 Significant Fish Habitats.....	75
	3.22.7 Number of Fishways.....	75
	3.22.8 Number of Potential Road Crossing Barriers to Fish.....	75
	3.22.9 Permits Issued Under Part 7 of the Fisheries Management Act.....	75
	3.22.10 Compliance under Part 7 of the Fisheries Management Act.....	75
	3.22.11 Alien or Introduced Species.....	75
3.23	Fisheries Habitat Grant.....	75
3.24	Water Week.....	77
3.25	Water Wise.....	77

4.0	AIR	78
4.1	Air – Introduction	78
	STATE	
4.2	Climate Change	79
4.3	NSW's Air Quality	79
4.4	Tamworth Region's Air Quality	79
	PRESSURE	
4.5	Enhanced Greenhouse Effect	81
4.5.1	Ozone Thinning	81
4.5.2	Ozone Depleting Substances	81
4.5.3	Agricultural Stock	81
4.5.4	Vegetation Clearing	81
4.5.5	Landfill Gases	82
4.5.6	Local Atmosphere	82
4.6	Air Quality	84
4.6.1	Diffuse Air Pollutants	84
4.6.2	Licensed Air Emissions	84
4.6.3	Airport Emissions	84
4.6.4	Sewage Treatment Plants	85
4.6.5	Solid Fuel Stoves and Heaters	85
4.7	Electricity Consumption	85
4.8	Transportation and Fuel Consumption	88
4.9	Complaints	89
	RESPONSE	
4.10	The Kyoto Protocol	90
4.11	Mandatory Renewable Energy Target	90
4.12	The Green Vehicle Guide	90
4.13	National Greenhouse Strategy	90
4.14	National Environment Protection Measure	91
4.15	NSW Greenhouse Strategy	91
4.15.1	Temperature	92
4.15.2	Rainfall	92
4.15.3	Sea Level Rise	92
4.15.4	Strategies	92
4.16	NSW Air Quality	93
4.17	Green Power	94
4.18	Greenfleet	94
4.19	Cycleways	95
4.20	Tamworth Air Quality Monitoring Station	95
4.21	Cities for Climate Protection (CCP)	96
4.22	Australian Greenhouse Office Grant	97
4.23	BASIX	99
4.24	Actions to Help the Atmosphere	100
5.0	BIODIVERSITY	102
5.1	Biodiversity – Introductio	102
5.1.1	What is Biodiversity?	102
5.1.2	Why Conserve Biodiversity?	102
5.1.3	The Values of Biodiversity	103
	STATE	
5.2	Bioregions	103
5.2.1	Introduction	103
5.2.2	Tamworth Region's Biodiversity	104
5.3	Threatened Species	106
5.3.1	Threats to Biodiversity	106
5.3.2	Local Threatened Species, Populations and Communities	107
5.3.2.1	Fauna	107

	5.3.2.2	Case Study: Regent Honeyeater.....	111
	5.3.2.3	Flora.....	111
	5.3.2.4	Case Study: <i>Boronia ruppia</i>	114
	5.3.2.5	Endangered Populations and Ecological Communities.....	114
5.4		National Parks and Nature Reserves	115
	5.4.1	National Parks.....	115
	5.4.1.1	Mount Kaputar National Park	116
	5.4.1.2	Warrabah National Park	118
	5.4.1.3	Ben Halls Gap National Park.....	118
	5.4.2	Nature Reserves	119
	5.4.2.1	Back River Nature Reserve	119
	5.4.2.2	Ironbark Nature Reserve	119
	5.4.2.3	Linton Nature Reserve	119
	5.4.2.4	Melville Range Nature Reserve.....	119
	5.4.2.5	Tomalla Nature Reserve	119
	5.4.2.6	Wallabadah Nature Reserve	119
	5.4.2.7	Watsons Creek Nature Reserve.....	119
	5.4.3	Community Conservation Reserves	119
	5.4.3.1	Dowe Community Conservation Reserve.....	119
	5.4.3.2	Somerton Community Conservation Reserve.....	119
	5.4.4	Total Area of NPWS Estate	120
	5.4.5	Other Crown Lands or Reserves with Conservation Significance	120
5.5		State Forests	121
5.6		Travelling Stock Reserves	123
5.7		Council Parks and Reserves.....	124
		PRESSURE	
5.8		Threatening Processes	124
	5.8.1	Threats to Biodiversity	124
	5.8.2	Key Threatening Processes.....	125
5.9		Pest Animal Species	126
5.10		Weeds	126
5.11		Bushfires.....	127
		RESPONSE	
5.12		International, National and Local Initiatives to Conserve Biodiversity	128
	5.12.1	International Initiatives	128
	5.12.2	National Initiatives	128
	5.12.3	NSW Initiatives.....	129
	5.12.4	Local Government Role	131
5.13		Tamworth Regional Biodiversity Study.....	133
5.14		Threatened Species Recovery Planning	134
5.15		Namoi Catchment Management Authority and Local Government Group	136
5.16		Roadside Management Committee.....	137
5.17		Bushfire Management	137
	5.17.1	Introduction	137
	5.17.2	Brigades.....	137
	5.17.3	Relationship with Council.....	139
	5.17.4	Land Management and Community Consultation.....	140
	5.17.5	Public Education	140
	5.17.6	Hazard Reduction and Permits 2004-2005.....	141
	5.17.7	Incidents/Call Outs.....	141
5.18		Pest Animal Management	142
	5.18.1	Case Study: Common Myna.....	143
5.19		Weed Management.....	143
5.20		NIWAC.....	144
5.21		Botanic Garden, Marsupial Park and other Parks.....	145
	5.21.1	Botanic Garden.....	145
	5.21.2	Marsupial Park.....	145

5.21.3	Other Parks.....	146
5.22	Greening Plans	147
5.23	Greenhands.....	147
5.23.1	History	147
5.23.2	Reinvigoration.....	149
5.23.3	Manilla Planting Day	149
5.24	Tidy Towns Committees.....	150
5.24.1	Keep Australia Beautiful Awards 2004.....	151
5.24.2	Local Community Tidy Town Awards	151
5.24.3	Community Participation.....	151
5.24.4	Keep Australia Beautiful Tidy Town Launch	152
5.25	Proposed Effluent Reuse Farm Flora, Fauna and Conservation Subcommittee	152
5.26	National Tree Day and School Tree Day.....	152
5.26.1	Introduction	152
5.26.2	Objectives	153
5.26.3	Public Plantings and Community Groups	153
5.26.4	Schools	155
5.26.5	National Tree Day Conclusion	156
5.27	Street Tree Masterplan	157
5.28	Bird Routes	158
5.29	Grassy Box Woodlands Management	159
5.29.1	Winton Cemetery	159
5.29.2	Friends of Klori.....	159
5.30	WIRES.....	159
5.31	Other Environmental Plans, Projects and Community Involvement	160
6.0	WASTE	161
6.1	Waste – Introduction	161
	STATE	
6.2	Tamworth Region’s Waste	161
	PRESSURE	
6.3	Disposal to Landfill.....	164
6.4	Projected Lifespan of Each Landfill	164
	RESPONSE	
6.5	National Packaging Covenant	165
6.6	The NSW Waste Avoidance and Resource Recovery Strategy	166
6.7	Northern Inland Regional Waste	167
6.7.1	Vision	167
6.7.2	Objectives	167
6.7.3	Key Issues	168
6.8	Tamworth Regional Council Initiatives	169
6.8.1	Kerbside Recycling.....	169
6.8.2	Green, Timber and Wood Waste	169
6.8.3	Construction and Demolition Waste.....	170
6.8.4	Other Waste Diversion.....	170
6.8.5	Waste Reduction Activities	172
6.8.6	Waste Reduction Highlights.....	172
6.9	Benefits of Recycling.....	173
6.9.1	An Overview.....	173
6.9.2	The Study.....	174
6.9.3	Greenhouse	174
6.9.4	Energy.....	174
6.9.5	Water	174
6.9.6	The Benefits.....	175
6.9.7	Tamworth Regional Council.....	175

7.0	NOISE	177
	7.1 Noise – Introduction	177
	STATE	
	7.2 Types of Noise	177
	7.2.1 Neighbourhood Noise	177
	7.2.2 Rural Noise	178
	7.2.3 Industrial Noise	178
	PRESSURE	
	7.3 Noise Complaints.....	178
	RESPONSE	
	7.4 Legal Framework for Noise Control.....	179
	7.5 Roles and Responsibilities in Noise Control	180
	7.6 Spectrum of Noise control.....	181
	7.7 Companion Animals.....	182
	7.8 Noise Control.....	183
	7.8.1 Controlling Noise.....	183
	7.8.2 Noise Abatement Orders	183
	7.8.3 Preventing Neighbourhood Noise.....	184
	7.8.4 When Noise Annoys	184
	7.8.5 Talk to People.....	184
	7.8.6 Contact a Community Justice Centre	184
	7.8.7 Contact Your Local Council	184
	7.8.8 Seek a noise abatement order.....	185
	7.8.9 When the noise is a 'one off' problem.....	185
	7.8.10 On-the-spot fines	185
	7.8.11 Common types of noise	185
	7.8.11.1 Noisy alarms	185
	7.8.11.2 Noise from pubs and clubs	186
	7.8.11.3 Industrial Noise	186
8.0	ABORIGINAL HERITAGE	187
	8.1 The Importance of Aboriginal Heritage.....	187
	STATE	
	8.2 Indigenous Australia	187
	8.3 The History of the Aboriginal People around the Tamworth Region	188
	PRESSURE	
	8.4 Indigenous People Today	188
	8.5 Aboriginal Sites, Structures and Landscapes	189
	8.6 Legislation.....	190
	RESPONSE	
	8.7 Office of Indigenous Policy Coordination.....	192
	8.7.1 Collaboration.....	192
	8.7.2 Regional need.....	192
	8.7.3 Flexibility	193
	8.7.4 Accountability.....	193
	8.7.5 Leadership	193
	8.8 Indigenous Coordination Centres.....	194
	8.9 Department of Aboriginal Affairs	194
	8.9.1 Community Development	195
	8.9.2 Policies.....	195
	8.9.3 Researching Family History	196
	8.10 Kamilaroi Regional Council.....	196
	8.11 Namoi Catchment Management Authority.....	196
	8.12 Gamilaraay Resource Use Project.....	197
	8.13 Celebrating Aboriginal Culture	197

9.0	NON-ABORIGINAL HERITAGE	200
9.1	Non-Aboriginal Heritage.....	200
	STATE	
9.2	Brief History of the Tamworth Region.....	200
	9.2.1 Tamworth.....	200
	9.2.2 Barraba	201
	9.2.3 Manilla.....	202
	9.2.4 Nundle	203
	9.2.5 Bendemeer	204
9.3	Heritage Listed Items	205
	PRESSURE	
9.4	Development.....	206
	RESPONSE	
9.5	Community Based Heritage Study	206
9.6	Local Heritage Fund.....	206
9.7	The Tamworth Regional Heritage Advisory Service	207
9.8	Future Work	208
10.0	MANAGEMENT PLANS	209
10.1	Environmental Management Documents.....	209
10.2	Management Plan 2005-2008	210
10.3	Integrated Management System and Environment Policy	211
10.4	Corporate Plan.....	212
10.5	Regional Biodiversity Study.....	212
10.6	Greening Plans	212
10.7	Greenhouse Reduction Plan	213
10.8	Conclusion.....	213
11.0	CONCLUSION - SUSTAINABILITY	214
	REFERENCES (by Section heading)	215
1.0	Introduction.....	215
2.0	Land	215
3.0	Water.....	215
4.0	Air.....	216
5.0	Biodiversity	216
6.0	Waste.....	217
7.0	Noise.....	217
8.0	Aboriginal Heritage.....	217
9.0	Non-Aboriginal Heritage	218
10.0	Management Plans.....	218
	APPENDICES	219
Appendix 1	Water Wise	219
Appendix 2	Nandewar Vertebrates	221
Appendix 3	Vegetation List	230
Appendix 4	ROTAP Codings	234
Appendix 5	Declared Noxious Weeds.....	235

LIST OF FIGURES

Figure 2.1	Barraba average and monthly rainfall 2004-2005.....	31
Figure 2.2	Manilla average and monthly rainfall 2004-2005.....	32
Figure 2.3	Tamworth average rainfall and monthly rainfall 2003-2004 and 2004-2005.....	33
Figure 2.4	Nundle monthly rainfall 2003-2004 and 2004-2005.....	33
Figure 2.5	City of Tamworth population trends.....	38
Figure 2.6	Parry, Manilla, Barraba and Nundle population trends.....	39
Figure 2.7	New house under construction at Moore Creek.....	40
Figure 2.8	Field day participants.....	47
Figure 2.9	Landowner discussing grass covers.....	48
Figure 2.10	Longyard datalogger records in metres below ground level.....	50
Figure 3.1	MacDonald River flow at Woolbrook.....	55
Figure 3.2	MacDonald River flow at Retreat.....	55
Figure 3.3	Peel River flow at Taroona.....	56
Figure 3.4	Peel River flow at Paradise, Tamworth.....	56
Figure 3.5	Peel River flow at Carrol Gap.....	57
Figure 3.6	Goonoo Goonoo Creek flow at Meadows Lane.....	57
Figure 3.7	Ironbark Creek flow at Woodsreef.....	58
Figure 3.8	Manilla River flow at Black Spring.....	58
Figure 3.9	Manilla River flow at Brabri.....	59
Figure 3.10	Namoi River flow at Manilla.....	59
Figure 3.11	Chaffey, Keepit and Split Rock Dam levels.....	66
Figure 3.12	Dungowan Dam levels.....	67
Figure 3.13	Chaffey Dam.....	69
Figure 3.14	Highest, lowest and average monthly water consumption from Calala Water Treatment Plant.....	70
Figure 3.15	Total volumes of water distributed per year from Calala water treatment plant.....	71
Figure 3.16	Murray Cod.....	74
Figure 3.17	Fish Habitat sign erected beside Peel River in Tamworth.....	76
Figure 3.18	Bicentennial Park, Tamworth.....	77
Figure 4.1	Tamworth from Oxley Lookout.....	80
Figure 4.2	Electricity consumption in Ray Walsh House, Tamworth.....	86
Figure 4.3	Ray Walsh House, Tamworth.....	86
Figure 4.4	Barraba Office.....	98
Figure 4.5	Manilla Office.....	99
Figure 4.6	View from the Hanging Rock near Nundle.....	101
Figure 5.1	Regent Honeyeater.....	111
Figure 5.2	Boronia rupii.....	114
Figure 5.3	Rural Fire Service regional structure.....	139
Figure 5.4	Location of Rural Fire Service brigades.....	140
Figure 5.5	Rural Fire Service responses.....	141
Figure 5.6	Common Myna.....	143
Figure 5.7	Oxley Park.....	146
Figure 5.8	Kootingal Greening Plan site.....	147
Figure 5.9	Green Hands volunteers beside Manilla RFS tanker.....	150
Figure 5.10	National Tree Day planters at Daruka.....	154
Figure 5.11	Moonbi Nature Reserve.....	154
Figure 5.12	Bird Routes leaflet for former Tamworth City and Parry Shire.....	158
Figure 6.1	Barraba landfill before upgrade.....	162
Figure 6.2	Bins and crates used for city domestic waste collection service.....	163
Figure 6.3	A remediated section of landfill site –Forest Road landfill, Tamworth.....	165
Figure 6.4	Map of NIRW area and member councils.....	168
Figure 6.5	Greenwaste being shredded before processing into mulch / composite.....	170

Figure 6.6	Clean concrete stockpiled before being crushed to make quality gravel which is used to build local roads	171
Figure 6.7	Metal waste stockpiled awaiting crushing and bailing before being transported offsite	172
Figure 6.8	Artwork by Simon Kolokotas titled 'Crusty Crab'	173
Figure 8.1	Aboriginal leader, Bob Faulkner beside a scarred tree in Moonbi Ranges.....	189
Figure 8.2	Axe quarry at Daruka	192
Figure 8.3	Participants in the street parade near Viaduct Park.....	198
Figure 8.4	Dancers at family activities in Bicentennial Park.....	199
Figure 9.1	Historic bank building in Manilla	203
Figure 9.2	Historic timber bridge at Bendemeer	204
Figure 9.3	Barraba Showground Pavilion.....	205
Figure 9.4	Upper Street house, Tamworth	207
Figure 10.1	"Moffat Wagon" at Duri.....	213

LIST OF TABLES

Table 2.1	Recent and average rainfall for Barraba, Manilla, Nundle, Tamworth and Woolbrook.....	34
Table 2.2	Population centres (City, towns and villages)	34
Table 2.3	Statistical local area (SLA) population summary	35
Table 2.4	Number and value of Development Applications.....	39
Table 2.5	Water table levels in metres near Longyard Golf Course	51
Table 2.6	Electricity conductivity (m/s) results near Longyard Golf Course	51
Table 3.1	Water quality test sites	60
Table 3.2	Monthly pH readings at various sites.....	61
Table 3.3	Monthly E.C. readings at various sites	61
Table 3.4	Monthly turbidity readings at various sites.....	62
Table 3.5	Monthly Nitrogen readings at various sites.....	62
Table 3.6	Monthly Phosphorus readings at various sites	63
Table 3.7	Monthly Nitrogen to Phosphorus ratios at various sites	63
Table 3.8	Dungowan and Chaffey Dam capacities and levels.....	66
Table 3.9	Towns and villages annual water consumption	69
Table 3.10	Number of residential connection services by each town water supply system at the end of June 2004 and end of June 2005	70
Table 4.1	Human health and environmental impacts of atmospheric pollutants Tamworth Regional Council estimated fuel consumption.....	82
Table 4.2	Electricity consumption at selected sites	87
Table 4.3	Tamworth Regional Council estimated fuel consumption	89
Table 4.4	Tamworth Regional Council pollution complaints	89
Table 4.5	EPA pollution line complaints by year	89
Table 4.6	DEC air quality monitoring data.....	96
Table 4.7	Cities for Climate Protection Milestones.....	97
Table 5.1	Values of biodiversity	103
Table 5.2	Threatened species summary	107
Table 5.3	Threatened fauna	108
Table 5.4	Threatened flora.....	112
Table 5.5	Endangered populations and ecological communities	114
Table 5.6	Area of conservation reserves.....	120
Table 5.7	Key threatening processes.....	125
Table 5.8	Planning and policy links to biodiversity	129
Table 5.9	Details of fire permits issued	141

Table 5.10	Community planting sites for National Tree Day in 2004 and 2005	155
Table 5.11	Schools participation in Tree Day 2004 and 2005	156
Table 5.12	National Tree Day results.....	157
Table 5.13	National Tree Day summary 2004 and 2005	157
Table 6.1	Number of garbage services	162
Table 6.2	Material disposed to landfill.....	164
Table 6.3	Tamworth kerbside recycling figures	169
Table 6.4	Green, timber and wood waste	169
Table 6.5	Construction and demolition waste.....	170
Table 6.6	Other material recycling, waste programs or services	171
Table 7.1	Noise complaints received by Council.....	179
Table 7.2	The Noise Management Spectrum.....	181
Table 8.1	Number and type of aboriginal sites	191

LIST OF MAPS

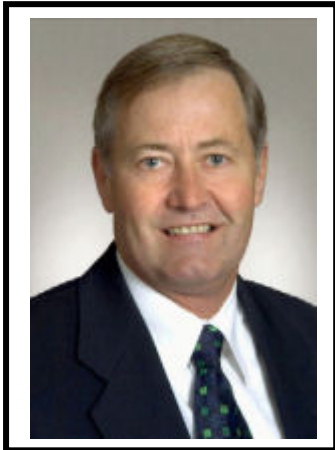
MAP 1.1	Local Government Area	19
MAP 2.1	Satellite Image	25
MAP 2.2	Geology	26
MAP 2.3	Topography.....	30
MAP 5.1	Nandewar Bioregion	105
MAP 5.2	Location of national parks, nature reserves, community conservation reserves, state forests and state parks	117
MAP 5.3	Key Habitats	135
MAP 5.4	Wildlife Corridors.....	138

All maps prepared by Tamworth Region Council GIS Section except
Nandewar Bioregion by RACAC

ACKNOWLEDGEMENTS AND CONTRIBUTORS

This Comprehensive State of the Environment Report has been made possible through the assistance of a range of Australian and State Government Departments and Authorities, various community groups (in particular Landcare and environmental groups) and private individuals. These are generally acknowledged as sources in the References Section. A number of Tamworth Regional Council staff have been particularly supportive of the SoE process contributing major sections of the report. The generous assistance of all the contributors is gratefully appreciated

Geoff Mitchell
Editor



MAYOR'S MESSAGE

Environmental management is a key role of Tamworth Regional Council. Recent economic growth has led to the suggestion that this region has the potential to be “the country's top rural powerhouse”. Consequently, it is imperative that we achieve the optimum results for our community by embracing best practice environmental management strategies.

This aim encourages Council to identify local environmental issues, implement strategies for reducing any adverse environmental impacts and to provide for the community to become more sustainable.

This first Comprehensive State of the Environment Report for the new Tamworth Regional Council reports on the activities of Council, industry and the community that have an impact on the environment. The Report also makes recommendations for actions to improve environmental management, sustainability and quality of life.

Since the amalgamation in March 2004, our increased size and population allow us to have greater influence over our future. Council welcomes this responsibility. We will ensure that the communities we create today will become more attractive and productive places for those who will live in them tomorrow.

Council needs to integrate its social, economic and environmental responsibilities to provide a real difference between how key issues were addressed in the past and the way we manage the future.

While politicians and the media are talking about sustainability our Council is committed to getting past talking and to develop effective strategies that make the practice of sustainability an integral part of everything we do. We need to establish sustainability benchmarks to create a culture of excellence in sustainable practices and integrate it into all of our decision making processes.

Our approach to a sustainable future should complement the way we respond to the community's right not only to be informed but to participate in decision making processes. Council is committed to moving beyond telling the community about our activities to asking them to contribute wherever possible. Council is moving to a partnership approach of involving each of the communities that make up our region in the policy decisions which affect them.

While a sustainable approach may initially cost more financially, over time it will cost less to be sustainable. These 'costs' are far more than just financial and include the quality of the air, land and water we need to sustain life itself.

The development of sustainable practices and reporting needs to be a corporate priority. Council should develop key sustainability principles which –

- 1 deliver a sustainable quality of life,
- 2 conserve the region's natural resources,
- 3 protect biodiversity,
- 4 minimise air, land and water pollution,
- 5 reduce waste committed to landfill.

This commitment to sustainable development is defined and discussed in this Report. Council aims to ensure that our developments, products and services have minimal adverse effects on the environment, the community and the economy of our region. We can then move beyond this impact mitigation philosophy to adopting practices which add value to the environment, community life and the economy.

This represents the triple bottom line of social, economic and environmental responsibility. Reporting in this style can focus the entire organisation not only on performance but also on our commitment to sustainability.

This State of the Environment Report forms an important part of Council's 2004-2005 Annual Report. It will help Council to ensure the best use, conservation and enhancement of the community's resources. In this way the ecological processes on which life depends are maintained and our quality of life can be increased.

James Treloar
Mayor
Tamworth Regional Council
November 2005

Executive Summary

Local government plays a major role in the environmental management of the region with responsibilities for natural resource management, water supply, waste, garbage and recycling services along with stormwater and floodplain management. Each year Council must prepare a State of the Environment Report (SoE) under the Local Government Act 1993 and the Local Government (General) Regulation 2005. The report provides information on features of the local environment to increase awareness of environmental issues, provide early warning signs of potential problems and report on the effectiveness of policies and programs. The SoE also provides a public record of the activities of government, industry and the community in protecting and restoring the environment. It can be used as a reference document as well as an educational or promotional tool for the benefit of maintaining and enhancing the environment of the region.

The 2004/2005 SoE is the first comprehensive report covering the new Tamworth Regional Council area and was presented to the Department of Local Government in November 2005. The report provides updated information on the ten reporting areas specified in the Act, as well as highlighting currently available information, data and management of these areas by both Council and the community.

Land - Council processed 1214 Development Applications worth around \$160 million with 321 of these applications for new dwellings and 564 for residential property renovations or additions. Two new Development Control Plans (DCP) were prepared to cover telecommunications facilities and the Warwick Road area of South Tamworth.

Council resolved to prepare a Regional Development Strategy, Regional Biodiversity Study and new Local Environmental Plan to cover the whole Council area. Funding assistance for this major project came from the former Department of Infrastructure, Planning and Natural Resources (DIPNR).

Council along with the other councils in the catchment has developed a relationship with the Namoi Catchment Management Authority (CMA) to participate in joint natural resource management projects. This work will be through the Namoi Local Government Group and involve both land and water management. The Namoi CMA is currently preparing the Catchment Action Plan with major programs involving people, landscapes, salinity, groundwater, riverine ecosystems and native plants and animals.

Water - The Department of Infrastructure, Planning and Natural Resources (DIPNR) continued to measure streamflow and monitor water quality in the major rivers and creeks across the region and the Namoi CMA developed programs to protect the riverine corridors.

The level of Tamworth's two water supply dams decreased significantly during the year. Dungowan Dam decreased from 82% at the end of June 2004 to 60% at the end of June 2005. The much larger Chaffey Dam decreased from 46.5% to 41% during the same period. Water restrictions continued during the year and were tightened in May for Bendemeer and Manilla when water supplies were at critical levels.

Council now operates seven water supply schemes and four waste water schemes across the region. Plans are being developed to improve a number of these but the proposed Sewage Augmentation

and Effluent Reuse Scheme for Tamworth continues to be delayed due to changes in State government programs.

Details of endangered fish populations, vulnerable fish species, endangered aquatic ecological communities, key threatening processes and significant fish habitats under the *Fisheries Management Act* 1994 were provided by the Department of Primary Industry - Fisheries along with details of introduced species and fish habitat grants. Council successfully completed a fish habitat restoration project on the Peel River.

Air - Air quality is not usually a problem in the Tamworth region. Council continued its participation in the Cities for Climate Protection (CCP) Program. The Greenhouse Reduction Plan was adopted in May 2003 and several activities, mainly investigative were completed in 2004/2005. A grant from the Australian Greenhouse Office funded an energy audit of Council offices in Barraba and Manilla. The audits revealed a number of potential energy and financial savings and as a result the lighting was upgraded at both offices creating a better environment for staff and visitors.

Biodiversity – Biodiversity is defined as “the variety of life forms, the different plants, animals and ecosystems” that surround us. The SoE contained a comprehensive list of threatened flora and fauna, endangered populations, endangered ecological communities and key threatening processes under the *Threatened Species Conservation Act* 1995 provided by the Department of Environment and Conservation (DEC) - National Parks and Wildlife Service (NPWS).

There are 25 bird, 2 frog, 14 mammal, 3 reptile and 30 plant species found in the region which are listed as threatened under either State or Commonwealth legislation. A number of endangered ecological communities, particularly grassy box woodlands, can also be found in the region. Only 1.8% of the Council area is permanently protected in conservation reserves such as national park or nature reserve. Many areas of remnant vegetation including some areas of crown land, State forest, travelling stock routes and naturally vegetated road reserves have high nature conservation value.

Other issues, relating to the natural environment, discussed in the SoE include progress with the Kootingal and Tamworth Greening Plans, the proposed effluent reuse farm, flora, fauna and conservation sub-committee, the Regional Botanic Garden, the Green Hands project with Hurstville Council, Bird Routes, Friends of Klori and the successful expansion of National Tree Day and Schools Tree Day.

Waste - The SoE provides details of Council's waste management which now includes 13 waste management facilities. Council has developed a consistent level of service and operational performance across all rural landfills. Improvements have been made to many of these facilities since the amalgamation including major upgrades of the larger landfills at Barraba, Kootingal, Manilla and Nundle.

The introduction of a 240 litre green lid, wheeled bin for green waste, collected fortnightly in Tamworth, resulted in around 3,200 tonnes of greenwaste being collected and processed for reuse. This was a major contributor to a significant reduction in domestic waste generated per household.

Statistics are provided in the SoE for all facets of waste management including kerbside recycling, green, timber and wood waste, construction and demolition material, metal, chemicals, tyres, chemicals, drumMuster and refrigeration units. While the removal of all the materials from landfill

dramatically increases the lifespan of landfill facilities, Council continues its review of future waste management options.

Council continued to be an active member of the Northern Inland Regional Waste (NIRW) group. During 2004/2005 NIRW sought and received significant funding from Federal and State government agencies to assist with regional waste management. This funding allowed the continued employment of the program co-ordinator appointed to oversee the NIRW group projects including an active program in waste education to promote the “reduce, reuse, recycle” message.

Noise - Zoning of activities within Tamworth Region helps to confine noisy industry to industrial areas. However with people living close together in urban areas, there are always situations where domestic noise, particularly barking dogs, raises complaints from neighbours. The 348 complaints received regarding barking dogs represented more than 25% of all the complaints received during the year.

Aboriginal Heritage - The importance of Aboriginal heritage, the history of the local Aboriginal people and regional activities to celebrate Aboriginal culture are discussed in the SoE. NAIDOC Week was again a highlight of the year with increased participation and support from Council and the community. The street parade was followed by a family day at Bicentennial Park which featured performing artists and lunch.

Non Aboriginal Heritage - Over the past twelve months, both existing and new initiatives have been developed for the ongoing management of heritage items and issues within the Tamworth Regional Local Government Area. The successful Tamworth Regional Heritage Advisory Service and the Tamworth Regional Heritage Assistance Fund have both been maintained and expanded to encompass the new Council area.

Several hundred items are listed in local environmental plans and community heritage studies from the five former councils. No additional items were listed during 2004/2005.

Ecological Sustainability - In recent years country councils such as Tamworth Regional have faced increasing community expectations to provide better infrastructure and community facilities. With an increased rating base, decreasing government financial support, and a stable population, the challenge for Council and the community is to manage the development of the region in a socially, economically and environmentally sustainable manner for the benefit of current and future generations.

The SoE Report shows that Council has a strong commitment to natural resource management and reducing Council and the community's impact on the environment. However while considerable progress has been made through the adoption and implementation of new projects and procedures since the amalgamation in March 2004, Council is committed to further improvements which can still be made

1.0 INTRODUCTION

1.1 TAMWORTH REGIONAL COUNCIL

On Wednesday 17 March 2004, a Proclamation was declared in the NSW Government Gazette:-

- (a) Dissolving the former Councils of Barraba Shire, Manilla Shire, Nundle Shire, Parry Shire and Tamworth City, and
- (b) Creating a new Local Government Area and a new Local Government entity now known as the Tamworth Regional Council. See Map 1.1.

The Tamworth Regional Council incorporates:

- ◆ Two thirds of the Barraba Shire Council area (south of the Nandewar Range including the town of Barraba);
- ◆ The whole of the Manilla Shire Council area;
- ◆ The whole of the Nundle Shire Council area;
- ◆ The majority of the Parry Shire Council area (excluding some 588 square kms involving the township of Werris Creek and the village of Currabubula);
- ◆ The whole of the Tamworth City Council area.

The creation of the Regional Council brings together five former council areas that have their own unique environment, history and attractions but also have close community ties and associations.

The Council covers some 9,655 square kilometres and has an estimated population of 54,226 people. The area known as Mount Lindsay was recently added to the Council area. The major business centre is Tamworth but there are some 22 other centres and villages within the new boundaries.

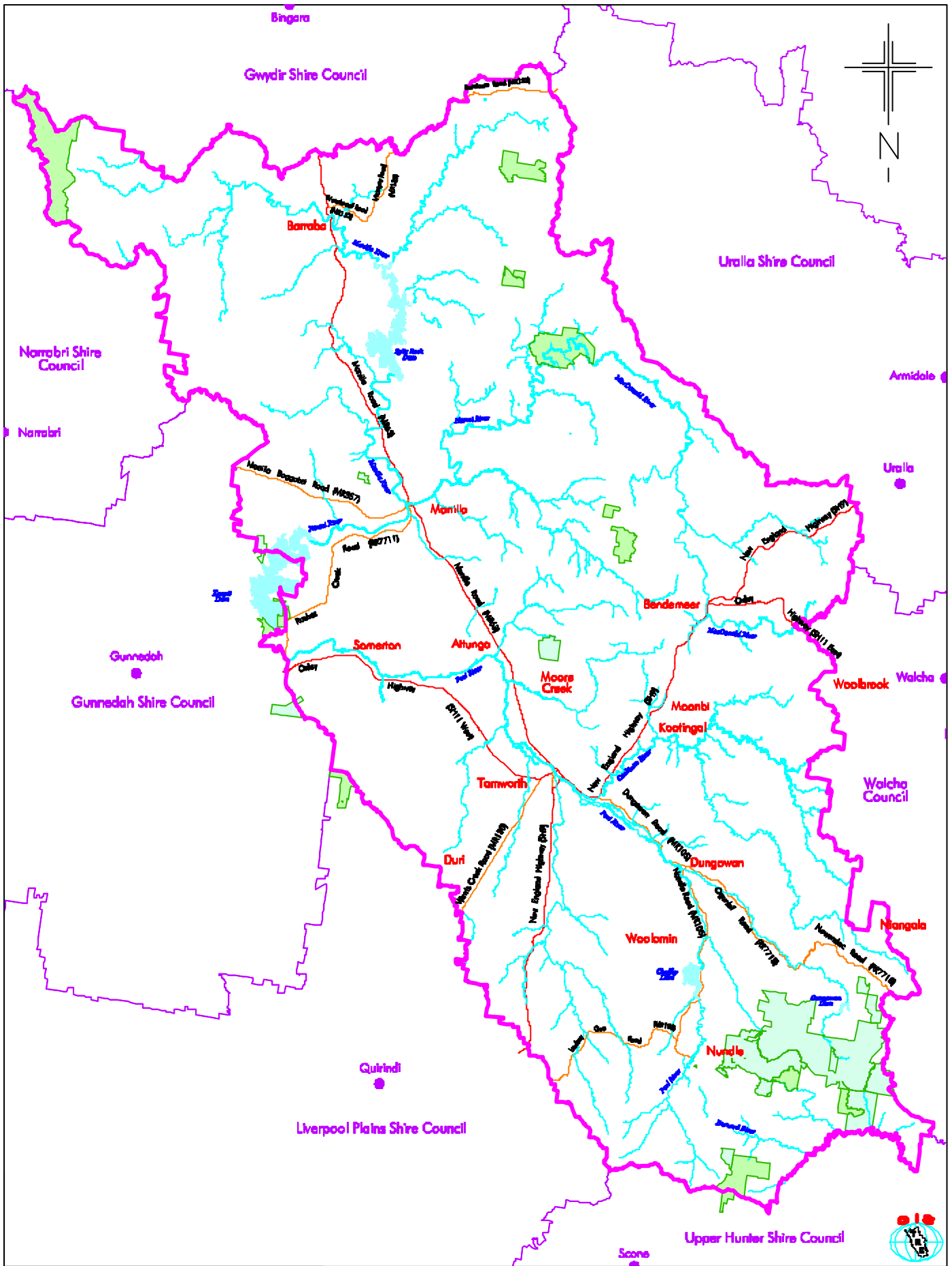
The Tamworth Regional Council boasts the best of both worlds with NSW leading rural City surrounded by some of the richest agricultural country in the nation – beef, sheep, poultry, fish, summer and winter crops, cotton, dairying, eggs, fruit, vegetables and vineyards.

The region is also known for its intensive animal production including cattle feedlots, poultry for egg and meat production and piggeries. The district is now the largest poultry producer in NSW.

Many of these agricultural sectors supply large local processing plants including major national and international companies. Regional agricultural services include three abattoirs and internationally successful flour, grain bi-products, malt and dairy manufacturing operations.

In recent years the region has hosted an extraordinary growth of boutique agricultural activities including olives, vines, nuts, berries, specialised game fowl, fish farming, goats, alpacas and buffalo.

One of the fastest growing agricultural sectors is the hobby farm market. These are generally less than 40 hectares and are often run as small but productive farms that service specialised monthly markets held locally or in larger centres including Newcastle, Sydney and Brisbane.



MAP 1.1 - LOCAL GOVERNMENT AREA

PRODUCED BY TAMWORTH REGIONAL COUNCIL GIS - October 2005

It is estimated that over 307,000 hectares of land is devoted to agricultural production with the gross value of production estimated at over \$75 million. The farmland contrasts with productive native and planted forests linked by remnants of naturally vegetated steeper country some of which is protected as national parks or nature reserves.

The diversity of these industries, tourist attractions and remnant native vegetation bring to the new regional council a new responsibility in management and infrastructure planning on a much wider scale.

1.2 STATE OF THE ENVIRONMENT REPORTING

Section 8 of the Local Government Act 1993 lists a Council's Charter, one aspect of which is:

- ♦ To properly manage, develop, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development.

The service functions of Councils that have an impact on the environment include the provision, management and operation of:

- ♦ environmental conservation, protection and improvement services and facilities,
- ♦ waste removal, treatment and disposal services and facilities,
- ♦ energy production, supply and conservation,
- ♦ water, sewerage, drainage works and facilities,
- ♦ stormwater drainage and flood prevention, protection and mitigation services and facilities,
- ♦ fire prevention, protection and mitigation services and facilities,
- ♦ land and property development,
- ♦ provision and development of roads,
- ♦ community education.

Council also has an impact on environmental management through its control over planning and development processes and its involvement in regional programs such as Northern Inland Regional Waste group and the Namoi Catchment Management Authority Local Government Group.

State of the Environment reports are produced by member nations of the Organisation for Economic Co-operation and Development (OECD), including Australia, which produced its first report in 1985. The first New South Wales State of the Environment Report was released in October 1993. New South Wales Councils have been reporting on the State of the Environment of their respective local government areas since 1993.

The Environmental Guidelines 1999 produced by the Department of Local Government state that State of Environment Reports can:

- ♦ provide decision-makers with regular, scientifically sound information about the condition of the environment;
- ♦ report on the effectiveness of policies and programs developed in response to environmental change;
- ♦ assess progress towards achieving environmental standards and targets and ecological sustainability;
- ♦ provide input into development of long term, ecologically sustainable social and economic policies;
- ♦ identify current and emerging environmental issues and gaps in knowledge and data collection;

- ♦ raise community awareness and understanding about the local environment and the contribution individuals make to environmental problems through use of resources such as energy, water, and production of waste.

Under the Local Government Act 1993 and section 38 of the Local Government (General) Regulation 1999, Council is required to prepare a Comprehensive State of the Environment Report for the year ending after each election of the councillors. This report provides Council with a sound, reliable and up to date basis for environmental management, increases awareness of environmental issues, provides early warning signs of potential problems and reports on the effectiveness of current policies and programs. It must also identify where information and responses are lacking. The Comprehensive State of the Environment Report is required to identify and apply appropriate environmental indicators for each of the environmental sectors using the pressure-state response model.

The Local Government (General) Regulation 1999 defines an environmental indicator as: "An aspect of the natural world or built environment that can be monitored to provide information on environmental conditions and trends. Environmental indicators include physical, chemical, biological and socio-economic measures of the environment (such as measurements of contaminants in soil, of the health of fish species and of the number of motor vehicles per household) that can be used to assess natural resources and environmental quality."

The pressure–state–response model means a model for reporting on environmental sectors in which:

- (a) the pressure component identifies and describes the pressure that human activities put on their immediate environment and their natural surroundings;
- (b) the state component identifies and describes the current and projected state of the environment; and
- (c) the response component identifies and describes the response of Councils, government agencies industry and communities to the pressures on, and State of, the Environment.

The 2004/2005 SoE is the first comprehensive report for the new Tamworth Regional Council area and was presented to the Department of Local Government in November 2005. This report refers to the Tamworth Regional Council (See Map 1) and the period 1 July 2004 to 30 June 2005.

Section 428(2)(c) of the Act requires that an annual report address the eight environmental sectors of land, air, water, biodiversity, waste, noise, Aboriginal heritage and non-Aboriginal heritage. These matters should be discussed with particular reference to management plans relating to the environment, special Council projects relating to the environment and the environmental impact of Council activities.

As discussed each section of the report (where relevant) is divided into –

- ♦ the name of the section eg Biodiversity,
- ♦ an introduction,
- ♦ then the current *STATE* of the environment for that section including the issues and how the issues may be changing,
- ♦ the *PRESSURE* that the environment is under including driving forces/causes/pressures, and
- ♦ the Council and community's *RESPONSE* to these issues including policies, plans, projects and how effective are the responses.

1.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

State of the Environment Reports are inextricably linked to the concept of Ecologically Sustainable Development. The Local Government Amendment (Ecologically Sustainable Development) Act 1997 commenced on 1 January 1998. The amending Act introduced the principles of ecologically sustainable development (ESD) into local government activities in NSW.

ESD is defined as using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life now and in the future can be increased.

Ecologically Sustainable Development can be achieved through the implementation of the following principles and programs:

- (a) The precautionary principle: namely that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

- (i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
 - (ii) (ii) An assessment of the risk-weighted consequences of various options.
- (b) Inter-generational equity: namely that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
 - (c) Conservation of biological diversity and ecological integrity: namely that conservation of biological diversity and ecological integrity should be a fundamental consideration.
 - (d) Improved valuation, pricing and incentive mechanisms: namely that environmental factors should be included in the valuation of assets and services, such as:
 - (i) Polluter pays - that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,
 - (ii) The user of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of waste.
 - (iii) Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

Maintenance of sustainability involves efficient and equitable use of resources and proper management of pollution and waste. Sustainability can only be achieved with the co-operation of all sectors of the community at the local, regional, national and global levels.

The application of ESD principles in local government requires full integration of ecological considerations into the development of community goals, economic policies and decision-making in every sphere of activity.

Tamworth Regional Council faces the challenge of progressing towards ecologically sustainable development through the identification of environmental impacts and the implementation of measures that will reduce these impacts. Such measures are determined as a consequence of SoE reporting and its integration with management planning.

1.4 CONCLUSION

This report shows that Council has a strong commitment to reducing its environmental impact. However, whilst considerable progress has been made in this area through adoption and implementation of new projects and procedures since the last SoE Reports, further improvements can still be made. This report discusses initiatives that can be taken by Council to further the progress towards ecological sustainability. Future projects that could be undertaken by Council that could either –

- 1 contribute to improved environmental reporting or
- 2 improve our ecological sustainability.

are discussed in each section.

STATE – the issues

PRESSURE – the driving forces

RESPONSE - the policies, plans and actions