



Gatton Shire Biodiversity Strategy

*A best-practice biodiversity conservation strategy for the Shire of Gatton,
South-East Queensland.*

*Prepared by Bruce Boyes on behalf of the Lockyer Watershed Management
Association (LWMA) Inc - Lockyer Landcare Group.*

*This project has been funded by the Natural Heritage Trust Bushcare Program
and Gatton Shire Council.*



Gatton Shire Biodiversity Strategy



*A best-practice biodiversity conservation strategy for the
Shire of Gatton, South-East Queensland.*

*Prepared by Bruce Boyes on behalf of the Lockyer
Watershed Management Association (LWMA) Inc -
Lockyer Landcare Group.*

*This project has been funded by the Natural Heritage Trust Bushcare Program
and Gatton Shire Council.*

Published by the Lockyer Watershed Management Association (LWMA) Inc.-
Lockyer Landcare Group, PO Box 61, Forest Hill, Q, 4342.



© Bruce Boyes and LWMA - Lockyer Landcare, 2000.

The information contained in this report may be copied or reproduced for study, research information or educational purposes, subject to the inclusion of an acknowledgement of the source.

Publication data:

Boyes, B. (2000). *Gatton Shire Biodiversity Strategy*. Lockyer Watershed Management Association (LWMA) Inc.- Lockyer Landcare Group, Forest Hill.

This project was supported by the Bushcare Program of the Natural Heritage Trust, Gatton Shire Council and the Lockyer Catchment Centre.

Disclaimer:

The Lockyer Watershed Management Association (LWMA) Inc.- Lockyer Landcare Group and Bruce Boyes disclaim all liability for any error, loss or consequence which may arise from the use of this publication. Statements made in this publication do not necessarily reflect the policies of the Lockyer Watershed Management Association (LWMA) Inc.- Lockyer Landcare Group or any other organisation, group, association, government agency, or individual.

Cover photo:

The Helidon Hills is a large area of continuous native vegetation in the north of Gatton Shire, and features a large number of threatened species. Photograph by Andrew Davidson, Lockyer Catchment Centre.

Contents

Executive Summary	1
1. Introduction.....	5
1.1 The Gatton Shire Vegetation Assessment and Conservation Project.....	5
1.2 The Gatton Shire Biodiversity Strategy.....	6
1.3 Development of the Gatton Shire Biodiversity Strategy.....	7
1.4 Content and structure of this report	9
2. The biodiversity values of Gatton Shire.....	11
2.1 The native vegetation of Gatton Shire	11
2.1.1 Conservation significance of the Helidon Hills	12
2.1.2 Conservation significance of the remainder of Gatton Shire	12
2.1.3 What does the “conservation status” mean?.....	14
2.1.4 Why do we need to conserve our natural values?	14
2.2 Threats to the conservation values of Gatton Shire.....	16
2.2.1 Clearance	16
2.2.2 The effects of past clearance	18
2.2.3 The invasion of exotic flora species	19
2.2.4 Inappropriate fire regimes	21
2.2.5 Feral animals	23
2.2.6 Habitat modification from grazing and timber harvesting.....	23
2.2.7 Lack of conservation data	24
2.2.8 Lack of conservation awareness.....	24
2.2.9 Other threats	24
2.3 Protected areas in Gatton Shire.....	24
2.3.1 What is a protected area?	24
2.3.2 Existing protected areas	25
2.3.3 Proposed protected areas	25
2.3.4 Other protection mechanisms	26
3. Achieving successful biodiversity conservation outcomes	29
3.1 The win-win approach	29
3.1.1 The essence of the win-win approach	31
3.1.2 Making the right decisions	31
3.1.3 Acquisition versus private ownership	32
3.1.4 Encouraging biodiversity conservation on private land.....	33

3.2	A coordinated framework for biodiversity conservation.....	35
3.2.1	Why have a coordinated framework?.....	35
3.2.2	The Lockyer Catchment Biodiversity Conservation Framework	36
3.3	Recovery planning partnerships	36
3.3.1	The recovery planning process.....	36
3.3.2	A successful recovery planning program	38
3.3.3	New approaches to recovery planning	38
3.3.4	The regional recovery initiative	39
3.3.5	Decision support systems	40
3.4	Best-practice biodiversity conservation actions	40
3.4.1	A best-practice model.....	40
3.4.2	Applying the best practice model in Gatton Shire	41
3.4.3	Development of biodiversity conservation mechanisms for Gatton Shire.....	41
4.	Recommended biodiversity conservation actions.....	45
4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.....	45
4.1.1	The implementation process.....	45
4.1.2	Coordinating the implementation process	46
4.1.3	Role of the Biodiversity Sub-Committee	48
4.1.4	Role of the Lockyer Catchment Biodiversity Recovery Plan	49
4.1.5	The benefits of embracing Regional Recovery Planning	49
4.1.6	Evaluation and monitoring	50
4.1.7	Recommended actions.....	50
4.2	Property-Right Conservation Agreements (PRCA's)	51
4.2.1	Conservation on private land.....	51
4.2.2	Voluntary Conservation Agreements (VCAs)	52
4.2.3	Expanding VCAs to include property rights	52
4.2.4	Structure of Property-Right Conservation Agreements (PRCAs).....	53
4.2.5	Implementing a PRCA program.....	55
4.2.6	Recommended actions.....	56
4.3	Alternative land-uses	56
4.3.1	Tourism enterprises	57
4.3.2	New farming opportunities.....	59
4.3.3	Farm forestry	61
4.3.4	Recommended reading	61
4.3.5	Recommended actions.....	62
4.4	Land for Wildlife	64
4.4.1	A non-binding program.....	64
4.4.2	Recommended actions.....	64
4.5	Alternative approaches to development	64
4.5.1	The disadvantages of rural residential development	65
4.5.2	Innovative win-win approaches to rural residential development.....	65
4.5.3	Implementing alternative approaches to subdivision in Gatton Shire.....	66
4.5.4	Offsets and performance/assurance bonds	67
4.5.5	Recommended actions.....	68

4.6	Habitat restoration and management	68
4.6.1	The management of exotic flora and feral animals	68
4.6.2	Sustainable management of grazing and timber harvesting.....	69
4.6.3	Re-establishing areas of native vegetation	69
4.6.4	Recommended actions.....	70
4.7	Incentives	70
4.7.1	Transition incentives	71
4.7.2	Conservation agreement incentives.....	71
4.7.3	Relief from local government rates and State land taxes	72
4.7.4	Devolved-grant programs.....	74
4.7.5	Recommended actions.....	75
4.8	Planning Scheme provisions	76
4.8.1	Current provisions	76
4.8.2	Incorporating cooperative approaches.....	76
4.8.3	Recommended actions.....	77
4.9	Managing publicly owned land	77
4.9.1	Land managed by Gatton Shire Council	77
4.9.2	Integrating biodiversity conservation into Council management activities	78
4.9.3	Land managed by other agencies	79
4.9.4	Recommended actions.....	79
4.10	Managing environmental risks	80
4.10.1	Fire management	81
4.10.2	Floodplain and water management.....	82
4.10.3	Recommended actions.....	82
4.11	Managing infrastructure provision and related activities.....	83
4.11.1	Queensland Government infrastructure provision	83
4.11.2	Gatton Shire Council infrastructure provision and related activities	84
4.11.3	Sandstone mining	85
4.11.4	Other extractive industries	85
4.11.5	Recommended actions.....	86
4.12	Biodiversity data.....	87
4.12.1	The current situation.....	87
4.12.2	Acquiring additional data	87
4.12.3	Recommended actions.....	88
4.13	Education and awareness	88
4.13.1	The current situation.....	88
4.13.2	Developing a biodiversity education and awareness program	88
4.13.3	Implementing a biodiversity education and awareness program	89
4.13.4	Recommended actions.....	91
4.14	Property management planning.....	92
4.14.1	Futureprofit.....	92
4.14.2	Recommended actions.....	93

4.15 Resources.....	93
4.15.1 Financial resources	93
4.15.2 Human resources	94
4.15.3 Recommended actions.....	95
Appendix A - Regional strategy linkages	99
Appendix B - Summary of recommended actions.....	107

Executive Summary

Gatton Shire has one of the largest proportions of remnant native vegetation of any local government area in South-East Queensland, with much of this native vegetation having high biodiversity values. The survival of the significant biodiversity of Gatton Shire is at risk from a range of threats. However, innovative win-win solutions are available that will result in *both* wins for biodiversity *and* wins for the landholders and community of Gatton Shire.

Biodiversity values

The biodiversity values of Gatton Shire include:

- Some of the largest areas of continuous bushland left in South-East Queensland.
- Areas of high biodiversity.
- Areas with distinctive flora and fauna.
- A large number of rare and threatened flora and fauna species.
- High levels of endemism, that is, large numbers of species that are found only in this area.
- Large numbers of species that are outside their normal range.

Threats to biodiversity

Threats to the biodiversity of Gatton Shire include:

- *Clearance*. Approximately 35% of the native vegetation in Gatton Shire has been cleared, primarily for farming. Most of this clearance was carried out prior to the 1960's. The level of vegetation clearance has dropped dramatically in recent decades, to the point where Gatton Shire now has one of the lowest clearing rates in South-East Queensland. Although current clearing rates are very low, the clearance that is occurring is likely to be having a detrimental impact, including the probable destruction of threatened species habitat and threatened ecosystems. Most of the current clearance is the result of rural residential development, not farming activities.
- *The effects of past clearance*. Biodiversity can continue to decline long after clearance has stopped. Although native vegetation clearance in Gatton Shire is now minimal, the biodiversity of Gatton Shire is continuing to decline as a result of the effects of past clearance.
- *The invasion of exotic flora species*. The invasion of exotic flora species into native vegetation areas is arguably the biggest threat to the biodiversity of Gatton Shire. "Exotic" species are species that are not native to Australia. The exotic flora species posing the greatest threat include lantana (*Lantana camara*) and madeira vine (*Anredera cordifolia*).
- *Inappropriate fire regimes*. The natural fire regime for much of the native vegetation of Gatton Shire was infrequent wildfire events. Many native vegetation areas are now being burnt every few years, posing a major threat to biodiversity.
- *Feral animals*. Feral animal species (including feral pigs, feral cats, feral dogs, wild deer and wild horses) are causing a comparatively small amount of damage to the biodiversity of Gatton Shire.

- *Habitat modification from grazing and timber harvesting.* The habitat modification caused by grazing is making a comparatively small contribution to biodiversity decline in Gatton Shire. The habitat modification caused by timber harvesting is also contributing to biodiversity decline in Gatton Shire. Most of the timber harvesters operating in Gatton Shire are attempting to manage their activities sustainably, but there is also a small minority of timber harvesters whose activities are having significant negative impacts on biodiversity.
- *Lack of conservation data.* A lack of detailed biodiversity data has hindered biodiversity conservation decision-making in Gatton Shire. The current *Gatton Shire Vegetation Survey* will significantly improve the available data, but there will still be serious information gaps.
- *Lack of conservation awareness.* Many of the residents of Gatton Shire are not aware of the significant biodiversity of the area or the cooperative win-win approaches that can be implemented to conserve this biodiversity. This lack of awareness is leading to uninformed decisions that are impacting negatively on both biodiversity and landholders.
- *Other threats.* Other potential threats include *Phytophthora cinnamomi*, a fungus that has caused large amounts of damage to native vegetation in other parts of Australia.

The *Gatton Shire Biodiversity Strategy* identifies recommended biodiversity conservation *strategies* and *actions* for mitigating the threats to the significant biodiversity of Gatton Shire. Implementing these strategies and actions will lead to biodiversity conservation *mechanisms* being put in place.

Recommended biodiversity conservation strategies

The implementation of four strategies can lead to successful biodiversity conservation outcomes in Gatton Shire. These strategies are:

- *The highly effective win-win approach.* This results in wins for biodiversity conservation and wins for the rights and needs of landholders.
- *A biodiversity conservation framework.* This provides a structure for implementing the win-win approach.
- *Innovative recovery planning partnerships.* These partnerships are the centrepiece of the biodiversity conservation framework.
- *Best-practice biodiversity conservation actions.* Through these actions, the biodiversity conservation framework and its partnerships will deliver the win-win outcomes.

Recommended biodiversity conservation actions

The strategies can be realised through the following actions:

- *The Lockyer Catchment Biodiversity Recovery Planning Partnership.* This partnership is bringing together landholders, community groups, Councils and government agencies to cooperatively coordinate the effective implementation of a biodiversity conservation program in Gatton Shire.
- *Property-Right Conservation Agreements (PRCAs).* Win-win outcomes can be achieved through the utilisation of Property-Right Conservation Agreements (PRCAs), which provide both land-use security and also for the conservation of natural values.
- *Alternative land-uses.* While PRCAs will suit many landholders, some landholders have indicated that their traditional farming pursuits are no longer viable. Securing these pursuits

through PRCAs will not help these landholders with their conservation efforts. Win-win outcomes can be achieved by assisting these landholders to establish alternative land-uses that benefit both conservation and the economic needs of the landholders.

- *Land for Wildlife.* Some landholders have concerns about entering into binding conservation agreements. The 'Land for Wildlife' initiative provides a win-win outcome in this situation by providing both conservation assistance to landholders and a mechanism that is not legally binding.
- *Alternative approaches to development.* To facilitate the protection of biodiversity values, the Gatton Shire Planning Scheme review should consider: the impact of the current supply of zoned rural residential land on native vegetation; the impact of any proposed redistribution of supply on native vegetation; the protection of Good Quality Agricultural Land (GQAL); subdivision as a possible option for non-GQAL farmland that is not economically viable; and the benefits of innovative approaches to rural residential development (group-title development, multiple-occupancy development and conservation subdivision).
- *Habitat restoration and management.* Management programs should be implemented to mitigate the threat posed by exotic flora species and feral animals, and revegetation programs should be implemented to mitigate the effects of past clearance. Sustainable management programs should be implemented to mitigate the habitat modification caused by grazing and timber production.
- *Incentives.* Local government rate and State land tax relief and management assistance funding should be given to conservation agreement landholders in Gatton Shire. To facilitate this, funding from the State or Commonwealth Governments will be needed. Further devolved-grant programs should also be implemented.
- *Planning Scheme provisions.* The current Gatton Shire Planning Scheme Review project and the new Lockyer Catchment Biodiversity Recovery Partnership offer Gatton Shire Council the opportunity to incorporate win-win cooperative incentive-based approaches into the Planning Scheme and associated policies.
- *Managing publicly owned land.* The management regimes for areas of public land managed by Council (including roadsides and unmade roads, public parks and cemeteries) can be easily modified so that there is a win-win outcome for both biodiversity conservation and the continued use and management of these areas. Biodiversity management planning is also needed for areas of public land managed by the Queensland Government.
- *Managing environmental risks.* Win-win outcomes can be achieved by integrating biodiversity conservation into the management of environmental risks, in particular fire management and floodplain management.
- *Managing infrastructure provision and related activities.* Infrastructure provision and related activities should be carefully managed to achieve win-win outcomes for both biodiversity conservation and infrastructure provision. In particular, the biodiversity impacts of powerline construction, gravel extraction and sandstone mining should be mitigated.
- *Biodiversity data.* The *Gatton Shire Vegetation Survey* will significantly improve the biodiversity data for Gatton Shire. However, more data is needed to provide an adequate basis for biodiversity decision making.
- *Education and awareness.* Biodiversity conservation education and awareness programs should be implemented for rural landholders, urban residents and conservation decision-

makers (Councillors and Council staff and the Management Committees of Landcare and Catchment Management).

- *Property management planning.* The Department of Primary Industries (DPI) “Futureprofit” property management planning program is the key process for translating the actions of the *Gatton Shire Biodiversity Strategy* into property-level actions. Funding should be sought for the wide implementation of Futureprofit property management planning programs in Gatton Shire
- *Resources.* Financial and human resources are needed for the successful implementation of a biodiversity conservation program in Gatton Shire. To provide these resources, State and Commonwealth funding assistance will be required.

1. Introduction

What is the Gatton Shire Biodiversity Strategy? This chapter discusses:

- 1. The Gatton Shire Vegetation Assessment and Conservation Project. The Gatton Shire Biodiversity Strategy is a component of this project.*
- 2. Links between the Gatton Shire Biodiversity Strategy and other levels of biodiversity planning.*
- 3. The best-practice native vegetation management approaches that have guided the development of the Gatton Shire Biodiversity Strategy.*
- 4. The content and structure of this report.*

1.1 The Gatton Shire Vegetation Assessment and Conservation Project

The *Gatton Shire Biodiversity Strategy* is a component of the Gatton Shire Vegetation Assessment and Conservation Project. The Lockyer Watershed Management Association (LWMA) Inc. - Lockyer Landcare Group has received funding from the Natural Heritage Trust (NHT) and Gatton Shire Council to carry out this project.

The Gatton Shire Vegetation Assessment and Conservation Project is addressing:

- Inadequacy of information on nature conservation and ecological values for strategic land-use planning purposes.
- Conservation of native vegetation on private land through cooperative measures.
- Integration of conservation and economics in rural production systems.

The Project has two components:

<i>Gatton Shire Vegetation Survey component</i>
<ul style="list-style-type: none">• Mapping the vegetation of Gatton Shire at 1:25,000 scale.• Identifying areas of nature conservation significance in Gatton Shire.

<i>Gatton Shire Biodiversity Strategy component</i>
<ul style="list-style-type: none">• Determining appropriate planning controls and cooperative arrangements to protect areas identified as having nature conservation values.• Marketing the findings of the assessment to the community to engender an ethic of nature conservation.

The *Gatton Shire Vegetation Survey* component is being carried out by Mr. Paul Grimshaw of the Queensland Environmental Protection Agency (EPA). LWMA - Lockyer Landcare has entered into an arrangement with EPA in order to secure Paul's services, in recognition of his unparalleled knowledge of the vegetation of Gatton Shire and his proven professionalism in delivering project outcomes. The *Gatton Shire Vegetation Survey* should be completed by February 2000.

The *Gatton Shire Biodiversity Strategy* component is the subject of this report.

The Gatton Shire Vegetation Assessment and Conservation Project follows in a long list of successful nature conservation achievements by LWMA - Lockyer Landcare. Established in 1981, LWMA - Lockyer Landcare was Queensland's very first Landcare and Catchment Management group and one of the first in Australia.

Over the years, the group has successfully promoted the conservation of dry rainforest and brigalow scrub remnants in the Lockyer Catchment. These vegetation communities are now recognised as threatened regional ecosystems by the Queensland Environmental Protection Agency (EPA). Successes include the Berlin Scrub Nature Refuge, which was Queensland's first Nature Refuge; the Dwyer's Scrub Conservation Park; and the conservation of three small dry rainforest remnants - Nelson's, Welk's and a "Touch of Paradise".

The Vegetation Project Sub-Committee (VPSC) of LWMA - Lockyer Landcare cares for Nelson's, Welk's and a "Touch of Paradise". As well as directly benefiting the remnants, the conservation actions carried out by the VPSC assist in promoting biodiversity conservation and native vegetation management to other landholders with dry rainforest. The three remnants are also used to trial weed management techniques.

The VPSC also hosts regular educational visits to remnant vegetation areas on private properties throughout the Lockyer Catchment, and the Education Subcommittee of LWMA - Lockyer Landcare operates the highly successful "Lockyer Discovery Tours" program. Lockyer Discovery Tours promotes Landcare principles to groups from the local area, Queensland, interstate and overseas.

LWMA - Lockyer Landcare has mapped the native vegetation of Laidley Shire and linked the mapping to the Laidley Shire Planning Scheme.

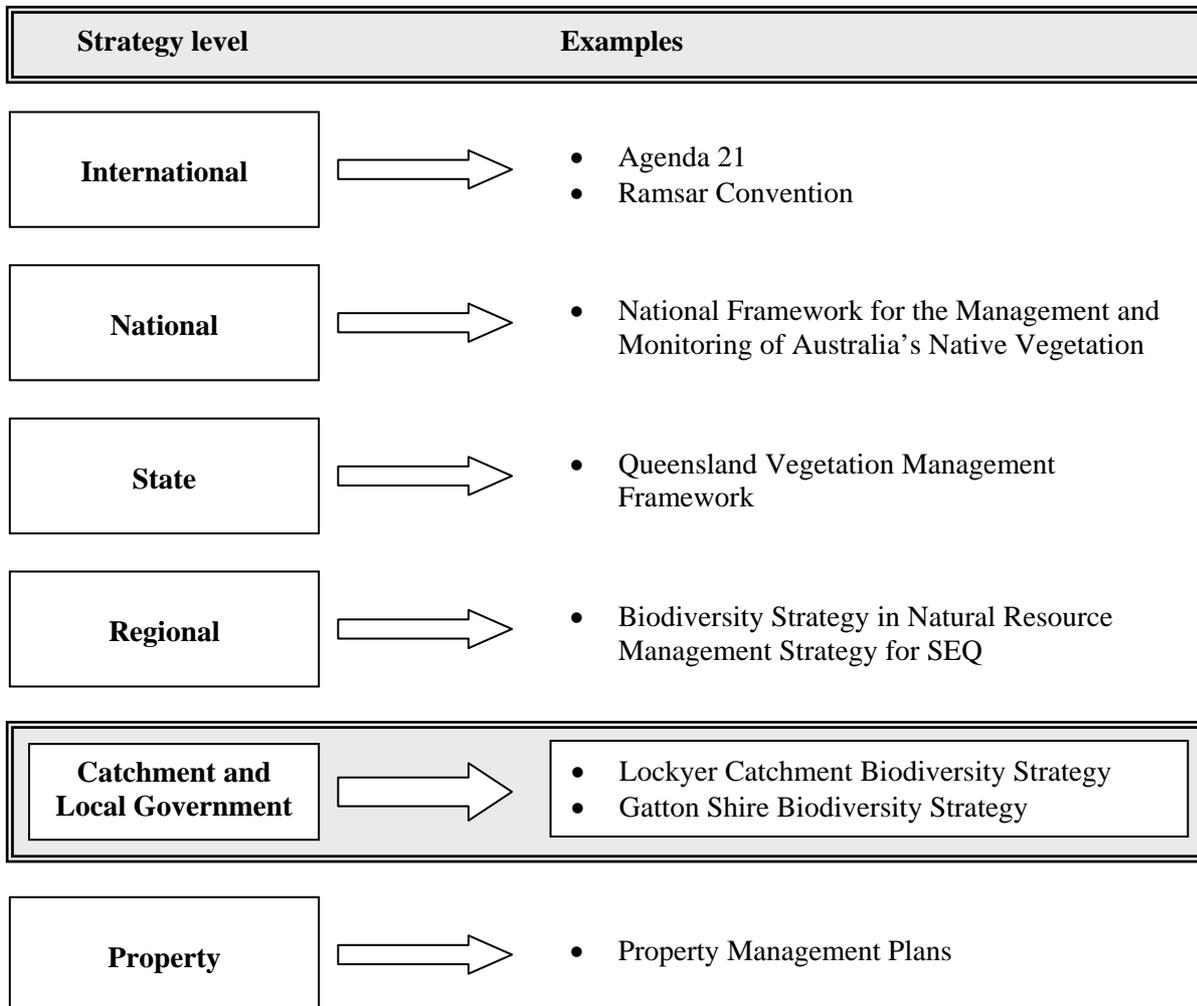
The Lockyer Catchment Centre has provided office facilities and administrative support for the preparation of the *Gatton Shire Biodiversity Strategy*. The Lockyer Catchment Centre also provides much-needed support and assistance to other LWMA - Lockyer Landcare projects.

1.2 The Gatton Shire Biodiversity Strategy

The *Gatton Shire Biodiversity Strategy* links South-East Queensland region biodiversity planning to on-ground biodiversity conservation at individual property level. Figure 1.1 on the next page shows the linkages between the *Gatton Shire Biodiversity Strategy* and other levels of biodiversity planning¹.

The *Gatton Shire Biodiversity Strategy* includes a “Lockyer Catchment Biodiversity Conservation Framework”. The inclusion of this framework facilitates the easy addition of specific conservation actions for other Lockyer Catchment local governments, transforming the *Gatton Shire Biodiversity Strategy* into a full Lockyer Catchment Biodiversity Strategy.

Figure 1.1 - Links between catchment and local government biodiversity planning and other levels of biodiversity planning



1.3 Development of the Gatton Shire Biodiversity Strategy

The *Gatton Shire Biodiversity Strategy* has been developed from, and is consistent with, the best-practice native vegetation management approaches detailed in the following reports and policy documents:

- Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*. Draft 14/7/99. (Available from the Natural Heritage Trust Hotline, 1800 803 772).

- Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra. (Available from Environment Australia: Biodiversity Group, 02 6274 1111).
- Binning, C. and Young, M. (1999). *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation*. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/99, Environment Australia, Canberra. (Available from Environment Australia: Biodiversity Group, 02 6274 1111).
- Binning, C. and Young, M. (1999). *Conservation Hindered: The impact of local government rates and State land taxes on the conservation of native vegetation*. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 3/99, Environment Australia, Canberra. (Available from Environment Australia: Biodiversity Group, 02 6274 1111).
- Boyes, B. (ed) (1999). *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature 1998 South-East Queensland Rainforest Recovery Conference. WWF, Sydney. (Available from WWF Brisbane, 07 3229 3194).
- Boyes, B., Pope, S., & Mortimer, M. (1998). *Sustainable Management of the Helidon Hills - Draft Management Plan*. WESROC². (Available from Gatton Shire Council, 07 5462 4000).
- Cripps, E., Binning, C. and Young, M. (1999). *Opportunity Denied: Review of the legislative ability of local government to conserve native vegetation*. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 2/99, Environment Australia, Canberra. (Available from Environment Australia: Biodiversity Group, 02 6274 1111).
- Gardner, M. (1998). *Fire Management Plan - Helidon Hills*. The University of Queensland Gatton Campus and Gatton Shire Council. (Available from Gatton Shire Council, 07 5462 4000).
- National Natural Resource Management Task Force (1999). *Managing Natural Resources in Rural Australia for a Sustainable Future. A discussion paper for developing a national policy*. Agriculture, Fisheries and Forestry - Australia. (Available from Agriculture, Fisheries and Forestry - Australia, 1800 026 222).
- SEQ Regional Strategy Group (1999). *Draft Natural Resources Management Strategy SEQ*. Department of Natural Resources. (Available from the Regional Strategy Coordinator, Department of Natural Resources, 07 3884 5327).

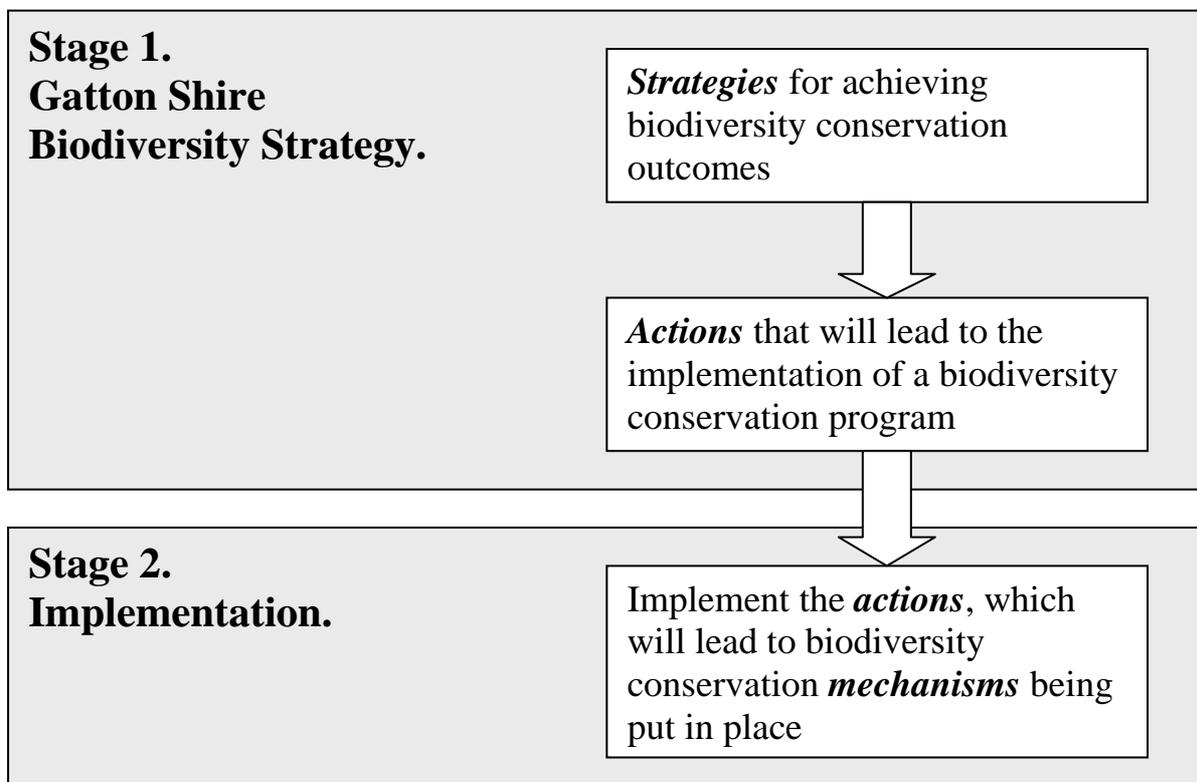
Copies of these documents can be viewed at the Lockyer Catchment Centre (Ph. 07 5465 4400) or can be obtained by contacting the telephone numbers given. LWMA - Lockyer Landcare recommends that four of the reports be read in conjunction with the *Gatton Shire Biodiversity Strategy*:

- *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*.
- *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation*.
- *Rainforest Recovery for the New Millennium*.
- *Draft Natural Resources Management Strategy SEQ*.

1.4 Content and structure of this report

This report has been prepared as a user-friendly guide to achieving biodiversity conservation outcomes in Gatton Shire. It is designed to be useful to all sectors of the Gatton Shire community, including Councillors, Council staff, landholders and community groups. The report also provides an innovative model strategy that has wide application in other areas. The *Gatton Shire Biodiversity Strategy* is the first stage in the implementation of the biodiversity conservation program for Gatton Shire. The *Gatton Shire Biodiversity Strategy* identifies recommended biodiversity conservation “strategies” and “actions” for Gatton Shire. Implementing these strategies and actions will lead to biodiversity conservation “mechanisms” being put in place. The implementation process is shown in Figure 1.2 below.

Figure 1.2 - Implementing a biodiversity conservation program in Gatton Shire



The *Gatton Shire Biodiversity Strategy* has four chapters and two appendices:

Chapter 1 (this chapter):

- Section 1.1 introduces the Gatton Shire Vegetation Assessment and Conservation Project. The *Gatton Shire Biodiversity Strategy* is a component of this project.
- Section 1.2 shows how the *Gatton Shire Biodiversity Strategy* links with other levels of biodiversity planning.
- Section 1.3 highlights the best-practice native vegetation management approaches that have guided the development of the *Gatton Shire Biodiversity Strategy*.
- Section 1.4 (this section) introduces the content and structure of this report.

Chapter 2 overviews the biodiversity values of Gatton Shire:

- Section 2.1 discusses the biodiversity values of Gatton Shire and why we need to conserve them.
- Section 2.2 alerts to the threats faced by those biodiversity values.
- Section 2.3 details the existing and proposed areas for the protection of those values.

Chapter 3 introduces four strategies for achieving biodiversity conservation outcomes:

- Section 3.1 introduces the highly effective “win-win approach”. This results in wins for biodiversity conservation and wins for the rights and needs of landholders.
- Section 3.2 establishes a “biodiversity conservation framework” for implementing the win-win approach.
- Section 3.3 profiles innovative “recovery planning” partnerships. These partnerships are the centrepiece of the biodiversity conservation framework.
- Section 3.4 develops best-practice conservation actions. Through these actions, the biodiversity conservation framework and its partnerships will deliver the win-win outcomes.

Chapter 4 details recommended conservation actions for Gatton Shire:

- Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning partnership.
- Section 4.2 - Property-Right Conservation Agreements (PRCAs).
- Section 4.3 - Alternative land-uses.
- Section 4.4 - Land for wildlife.
- Section 4.5 - Alternative approaches to development.
- Section 4.6 - Habitat restoration and management.
- Section 4.7 - Incentives.
- Section 4.8 - Planning Scheme provisions.
- Section 4.9 - Managing publicly owned land.
- Section 4.10 - Managing environmental risks.
- Section 4.11 - Managing infrastructure provision and related activities.
- Section 4.12 - Biodiversity data.
- Section 4.13 - Education and awareness.
- Section 4.14 - Property management planning.
- Section 4.15 - Resources.

Appendix A shows how the recommended actions of the *Gatton Shire Biodiversity Strategy* link to the actions of the *Draft Natural Resources Management Strategy SEQ*.

Appendix B features a summary of the recommended actions.

References and Notes - Chapter 1

¹ Figure 1.1 is based on Figure 1 “Links between regional planning and other levels of planning”, p. 10 in SEQ Regional Strategy Group (1999). *Draft Natural Resources Management Strategy SEQ*. Department of Natural Resources.

² WESROC is the Western Sub-Regional Organisation of Councils, comprising the Local Governments of Ipswich, Toowoomba, Boonah, Laidley, Gatton and Esk.

2. The biodiversity values of Gatton Shire

What are the biodiversity values of Gatton Shire? This Chapter discusses:

- 1. The biodiversity of Gatton Shire and why it is important.*
- 2. Threats to the survival of that biodiversity.*
- 3. Existing and proposed biodiversity conservation areas.*

2.1 The native vegetation of Gatton Shire

Q. Does Gatton Shire have areas of significant native vegetation?

A. Yes. Gatton Shire has one of the largest proportions of remnant vegetation in South-East Queensland, with much of this vegetation having very high biodiversity significance.

The impression gained from driving through Gatton Shire along the Warrego Highway, or by visiting towns like Gatton and Grantham, is that Gatton Shire consists only of the high-quality alluvial cropland that is seen in these areas. However, these rich fertile farmlands actually comprise only a small proportion of the land area of Gatton Shire, concealing the fact that Gatton Shire actually has one of the largest proportions of remnant native vegetation of any Local Government area in South-East Queensland. The Department of Natural Resources report *Land Cover Change in South-East Queensland 1988-1997*¹ reveals that, of the 22 Local Government areas studied, Gatton Shire has the fifth highest proportion of woody vegetation cover, just behind several coastal Councils that are known as “green” areas. In 1995, 64.9% of Gatton Shire was woody vegetation cover, behind Noosa 68.2%, Maroochy 68.2%, Redland 67.9% and Caloundra 65.0%.

The 64.9% woody vegetation cover proportion translates into an area of approximately 100,000 hectares. About three-quarters of this vegetation area is privately owned.

Gatton Shire’s large area of native vegetation has very high biodiversity significance:

- Some of the largest areas of continuous bushland left in South-East Queensland.
- Areas of high biodiversity.
- Areas with distinctive flora and fauna.
- A large number of rare and threatened flora and fauna species.
- High levels of endemism, that is, large numbers of species that are found only in this area.
- Large numbers of species that are outside their normal range.

2.1.1 Conservation significance of the Helidon Hills

As part of the WESROC Sustainable Management of the Helidon Hills Project, vegetation mapping and assessment of the Helidon Hills was carried out at a scale of 1:25,000. The Helidon Hills is a large area (approximately 35,000 hectares) of mostly continuous bushland in the north of Gatton Shire. The vegetation mapping revealed a large number of significant species, which are listed in Tables 2.1 to 2.4.

2.1.2 Conservation significance of the remainder of Gatton Shire

The *Gatton Shire Vegetation Survey* (see Section 1.1) is extending the 1:25,000 scale Helidon Hills vegetation mapping and assessment to the remainder of Gatton Shire. From what is already known about the remainder of Gatton Shire, the *Gatton Shire Vegetation Survey* is expected to reveal further areas with high significance. Some of the known values are listed in Table 2.5.

Table 2.1 - Threatened fauna species, Helidon Hills

Threatened fauna species	Details, conservation status under the Queensland Nature Conservation Act
Collared Delma (<i>Delma torquata</i>).	Vulnerable (V).
Red Goshawk (<i>Erythrorhynchus radiatus</i>).	Endangered (E).
Glossy Black Cockatoo (<i>Calyptorhynchus lathami</i>).	Vulnerable (V).
Powerful Owl (<i>Ninox strenua</i>).	Vulnerable (V).
Brush tailed Rock Wallaby (<i>Petrogale penicillata</i>).	Vulnerable (V).

Table 2.2 - Threatened Flora Species, Helidon Hills

Threatened Flora Species	Details, conservation status under the Queensland Nature Conservation Act
<i>Caustis blakei</i> subsp. <i>macrantha</i> .	Endemic to Helidon Hills and nearby Perseverance Dam area, Pending (P) Vulnerable (V).
<i>Eucalyptus taurina</i> .	Endemic to Helidon Hills and nearby Crows Nest area, Pending (P) Vulnerable (V).
<i>Grevillea quadricauda</i> .	Endemic to Helidon Hills and nearby Flagstone Creek area, Pending (P) Vulnerable (V).
<i>Grevillea singuliflora</i> .	Rare (R).
<i>Paspalidium grandispiculatum</i> .	Endemic to Helidon Hills, Vulnerable (V).
<i>Phebalium obtusifolium</i> .	Endemic to Helidon Hills and nearby Crows Nest area, Vulnerable (V).

Table 2.3 - Other significant fauna species, Helidon Hills

Other significant fauna species: <i>Phascolarctos cinereus</i> (Koala).
--

Table 2.4 - Other significant flora species, Helidon Hills

Other significant flora species	Details
<i>Angophora woodsiana</i> , <i>Corymbia gummifera</i> , <i>Corymbia henryi</i> , <i>Echinostephia aculeata</i> , <i>Eucalyptus planchoniana</i> , <i>Hibbertia salicifolia</i> , <i>Gahnia clarkei</i> , <i>Melastoma affine</i> , <i>Xylomelum salicinum</i> .	Species with coastal affinities (including species normally found in coastal wallum vegetation communities).
<i>Acacia buxifolia</i> subsp. <i>pubiflora</i> , <i>Acacia leichhardtii</i> , <i>Allocasuarina inophloia</i> , <i>Aotus subglauca</i> var. <i>filiformis</i> , <i>Eucalyptus baileyana</i> , <i>Genoplesium filiforme</i> , <i>Gompholobium foliolosum</i> , <i>Kennedia procurrens</i> , <i>Leptospermum lamellatum</i> , <i>Leucopogon biflorus</i> , <i>Lysicarpus angustifolius</i> , <i>Mirbelia speciosa</i> subsp. <i>ringrosei</i> .	Western species, including species normally found in sandstone vegetation communities further inland.
<i>Rubus probus</i>	Helidon Hills has disjunct southern population.
<i>Syncarpia verecunda</i>	Recently identified species known from only a few locations is South-East Queensland including the Helidon Hills.
<i>Triplarina bancroftii</i> .	Helidon Hills is the southern limit of this species. Other populations considerably further north in the Burnett district.
<i>Bertya</i> sp. (Helidon Hills G. Leiper AQ 457013).	Possible disjunct population. Subject to further investigation.
<i>Hovea</i> sp. (Mt. French P. Grimshaw + G36).	Possible disjunct population. Subject to further investigation.
<i>Poranthera</i> sp. (Mt. Ballow G. Leiper AQ 502886).	Possible disjunct population. Subject to further investigation.

Table 2.5 - Some of the known conservation values, remainder of Gatton Shire

<p>Threatened fauna includes:</p> <ul style="list-style-type: none"> • Brush tailed Rock Wallaby (<i>Petrogale penicillata</i>). Vulnerable (V). • Glossy Black Cockatoo (<i>Calyptorhynchus lathami</i>). Vulnerable (V).
<p>Threatened flora includes:</p> <ul style="list-style-type: none"> • Splendid boronia (<i>Boronia splendida</i>). Vulnerable (V) or Rare (R) status anticipated. • Yarraman ironbark (<i>Eucalyptus melanoleuca</i>). Rare (R).
<p>Threatened ecosystems include:</p> <ul style="list-style-type: none"> • Regional ecosystem 12.9/10.6 - brigalow forest. Endangered. • Regional ecosystem 12.9/10.15 - low microphyll rainforest. Of-concern.
<p>Other significant flora species include:</p> <ul style="list-style-type: none"> • Bakers mallee (<i>Eucalyptus bakeri</i>). • Spinafex (<i>Triodia</i> sp.). • <i>Mentha grandiflora</i> (a native mint). • <i>Callitris glaucophylla</i> (a cypress). • <i>Acacia bakeri</i> subsp. <i>diphylla</i> (a wattle). • <i>Acacia montana</i> (a wattle).

2.1.3 What does the “conservation status” mean?

Past clearance of the bushland in Gatton Shire and ongoing degradation has brought many native plants, animals and ecosystems to the brink of extinction.

Tables 2.1 to 2.5 show that much of the vegetation in Gatton Shire provides habitat for “endangered”, “vulnerable” and “rare” flora and fauna, and that areas of the vegetation itself are also “endangered” and “of-concern”.

What do these terms mean?

- *Endangered species* are in imminent danger of extinction unless urgent conservation actions are carried out.
- *Vulnerable species* will soon become endangered if they are not protected.
- *Rare species* are in very low numbers, and can become endangered or vulnerable if steps are not taken to look after them.
- *Endangered ecosystems* are natural species assemblages where less than 10% of the original area remains, that is, where more than 90% has been cleared.
- *Of-concern ecosystems* are natural species assemblages where 10-30% remains.

Collectively, endangered, vulnerable and rare species and endangered and of-concern ecosystems are referred to as “threatened species and ecosystems”.

Endangered, vulnerable and rare species are “listed” under the Queensland *Nature Conservation Act 1992*. This Act specifies various protective measures for listed species. Many of the endangered, vulnerable and rare species in Gatton Shire are already listed. Some of the species are “pending”, which means that they are being assessed for listing. Endangered and of-concern ecosystems cannot be listed under this Act.

The new Queensland *Vegetation Management Act*, passed by the Queensland Parliament in December 1999, will restrict the clearing of threatened ecosystems and other high nature conservation value areas. The Queensland *Vegetation Management Act* will operate through “Regional Vegetation Management Plans”. It is anticipated that a range of cooperative conservation mechanisms, including conservation incentives, will be implemented in conjunction with the clearing restrictions.

Endangered and vulnerable species can also be listed under the Commonwealth *Endangered Species Protection (ESP) Act 1992*. Listing under the ESP Act affords a level of protection for the species, and facilitates access to Commonwealth funding to assist with the conservation of the species. Several Gatton Shire species are listed under the ESP Act. Endangered and of-concern ecosystems can also now be listed under the ESP Act. The ESP Act will be superceded in mid-2000 by the new *Environment Protection and Biodiversity Conservation (EPBC) Act*. The EPBC Act replaces a range of existing legislation, and includes a range of measures that will strengthen the legislative protection for threatened species and ecosystems.

2.1.4 Why do we need to conserve our natural values?

The native vegetation of Gatton Shire is an important part of Australia's “biodiversity”. Biodiversity² is short for “biological diversity”, and means the total variety of all plants,

animals, micro-organisms and the ecosystems that they make up. With more plant species than Europe and Asia combined, Australia is described as being “mega-diverse”. South-East Queensland is one of several high-diversity regions within Australia, with Gatton Shire featuring a significant component of South-East Queensland's biodiversity.

Biodiversity can be considered at four levels - species diversity, ecosystem diversity, genetic diversity³ and landscape diversity⁴:

- *Species diversity.* A “species” is a group of individuals that can interbreed to produce fertile offspring. A very high proportion of Australian species are found in their natural state nowhere else on earth. Species that are found in a particular locality, and nowhere else on earth, are described as being “endemic” to that locality. Table 2.2 shows that Gatton Shire has a large number of “endemic” plant species that are found nowhere else on earth except the locations given in the table.
- *Ecosystem diversity.* An “ecosystem” includes all the different species in a particular environment from the biggest tree to the tiniest micro-organism, and their interactions with each other and the non-living parts of their environment (such as soil and water). The earth is made up of a huge variety of environments, from oceans, lakes and swamps to deserts, icecaps and rainforests. Within each broad environment are a myriad of localised ecosystems developed by geographical features, microclimates, and elements of the ecosystem itself. The Queensland Environmental Protection Agency (EPA) has recently completed a major overview of Queensland's ecosystems, titled *The Conservation Status of Queensland's Bioregional Ecosystems*⁵. Over 1,000 ecosystems are identified, with several of the ecosystems found in Gatton Shire classified as “endangered” or “of-concern”. Two of these threatened ecosystems were listed in Table 2.5. “Ecosystems” are often called “vegetation communities”, or sometimes just “communities”.
- *Genetic diversity.* Individuals within a species have inherited a wide range of genetic variation that makes each one unique. These subtle differences enable the species to adapt to changes in the environment such as changing climate and changing availability of food sources. Table 2.4 shows that Gatton Shire has a large number of plant species that are normally found in other areas. The “disjunct” populations of these species in Gatton Shire are adapted to a different environment, which increases the survival chances of the species. These disjunct species populations are a very important part of the biodiversity of Gatton Shire.
- *Landscape diversity.* Across the landscape there are identifiable “bioregions” featuring distinctive assemblages of ecosystems. The Lockyer Catchment is located in the “South-East Queensland Bioregion” which extends north-south from Gladstone to the New South Wales border and east-west from the coast to the Fassifern, Lockyer and Burnett districts. Toowoomba is located in the “Brigalow Belt Bioregion” which covers a large area extending north to Townsville and west to St. George and Alpha. Within each “bioregion” there are identifiable “provinces”. Gatton Shire features parts of the “Scenic Rim Province” and “Moreton Basin Province”, as well as tiny portions of three other provinces.

Gatton Shire's highly significant biodiversity provides many benefits, including:

- *Clean water.* Maintaining vegetation in the uplands provides clean runoff. It also helps to control salinity levels in alluvial cropping areas by preventing salt leaching from upland rock stratas. Maintaining vegetation in the lowlands also helps to control salinity by reducing water table depths.
- *Clean air.* Vegetation recycles carbon dioxide into oxygen.

- *Erosion and landslip control.* Vegetation stabilises our hillsides and creekbanks, preventing soil loss through erosion and landslips.
- *Building materials.* Forests in the uplands are an important source of hardwood building timber.
- *Habitat for predator species.* Habitat for birds, frogs and insects that prey on crop pests. Encouraging these predator species through habitat retention provides natural pest control, which improves farm profitability.
- *Habitat for pollinator species.* Habitat for birds and insects that pollinate crops.
- *Windbreaks and shelterbelts.* Protection for crops and grazing lands from drying winds, and shade areas for stock.
- *Species suitable for new crops.* A host of wildflower, bushfood, and essential oil plants with potential as new viable local crops. One local wildflower species has already been successfully brought into commercial production.
- *Tourism and recreation potential.* Natural areas with high scenic values, including rugged gorges, waterfalls, and impressive rainforest. Many landholders have started to capitalise on the natural values of the area through tourism ventures.
- *Resources for ongoing human survival.* Throughout the ages, the human species has had to adapt to major environmental changes, for example, ice ages. Access to a vast range of native species has meant that humans have been able to cope with major changes through the development of new food, fibre and shelter resources. Retaining natural areas is essential for human survival into the future.

2.2 Threats to the conservation values of Gatton Shire

Q. Are the conservation values of Gatton Shire safe?

A. No. Threats to the highly significant conservation values of Gatton Shire include clearance, the effects of past clearance, the invasion of exotic flora species, inappropriate fire regimes, feral animals, a lack of conservation data, and a lack of conservation awareness.

2.2.1 Clearance

Past clearance

Approximately 35% of the native vegetation in Gatton Shire has been cleared, primarily for farming. Most of this clearance was carried out prior to the 1960's. This extent of clearance is comparatively low, and not what would typically be expected in a major farming area like the Lockyer Valley. As was revealed in Section 2.1, Gatton Shire actually has the fifth highest proportion of woody vegetation cover of all the Local Governments in South-East Queensland.

Most of the past vegetation clearance in Gatton Shire has occurred on the alluvial flats in central areas of the Shire and on the hills and mountains in the south of the Shire. The following native vegetation areas remain:

- A large area of mostly continuous native vegetation in north of the Shire. This area is known as the Helidon Hills.
- A large area of mostly continuous native vegetation in the south-east corner of the Shire. This vegetation is mostly within the Glen Rock Regional Park.
- A fragmented vegetation mosaic in the upper Ma Ma Creek and upper Flagstone Creek catchments in the south-west of the Shire.
- A fragmented vegetation mosaic in the Murphy's Creek area in the north-west of the Shire.
- Almost no native vegetation on the alluvial flats.

The past vegetation clearance that has occurred in parts of Gatton Shire is reflected in the "endangered" and "of-concern" conservation status for several of the Lockyer Catchment bioregional ecosystems. For example:

- Regional ecosystem 12.3.3 - forest red gum woodland. Of-concern.
- Regional ecosystem 12.8.21 - semi-evergreen vine thicket. Of-concern.
- Regional ecosystem 12.9/10.6 - brigalow forest. Endangered.
- Regional ecosystem 12.9/10.15 - low microphyll rainforest. Of-concern.

Current clearance

The level of vegetation clearance in Gatton Shire has dropped dramatically in recent decades, to the point where Gatton Shire now has one of the lowest clearing rates in South-East Queensland. The Department of Natural Resources report *Land Cover Change in South-East Queensland 1988-1997* reveals that an average of 160.4 hectares of woody vegetation cover was cleared per year in Gatton Shire from 1988 to 1997⁶. During the same period there was an average regrowth rate of 7.4 hectares per year. In 1988, 65.5% of Gatton Shire was woody vegetation cover, which had dropped to 64.9% in 1997 as a result of clearance.

Although current clearing rates are very low, the clearance that is occurring is likely to be having a detrimental impact, including the probable destruction of threatened species habitat and threatened ecosystems.

Current clearance for rural residential development

Most of the current native vegetation clearance in Gatton Shire is not the result of traditional farming activities. An analysis of the mapping in *Land Cover Change in South-East Queensland 1988-1997* and aerial photography shows that most of the current clearance is actually due to rural residential development and associated hobby farming activities in areas adjacent to the Gatton-Esk road, areas around Helidon and Grantham, and areas around Murphy's Creek. While some of the landholders purchasing into rural residential developments are retaining the native vegetation on their properties, other landholders are clearing their properties completely. Most of the rural residential developments are in lowland areas, where only a minimal amount of vegetation remains because of past clearance for farming. Further clearance in these areas is likely to be having serious impacts on the biodiversity of Gatton Shire. The vegetation that is being cleared may contain endangered or of-concern ecosystems or provide habitat for threatened species. The low sandstone hills where some of the rural residential development has taken place are similar to the low sandstone hills of the Woodlands State Forest in the east of Gatton Shire. Assessments carried out for the South-East Queensland Regional Forest Agreement (SEQ RFA) found that the Woodlands State Forest hosts a significant bioregional

ecosystem. As a result, Woodlands State Forest has been recommended for conversion to conservation reserve.

In many cases, rural residential development does not result in the complete clearance of all native vegetation. Many property owners will leave the large canopy trees and clear only the understorey. However, because ecosystem function is seriously disrupted, the biodiversity impacts of understorey clearance can be nearly as great as the impacts of total clearance. Understorey plants have a vital role in the ecosystem. For example, many bird species rely on understorey plants for food and protection. The biodiversity impacts of understorey clearance are further amplified by dogs and cats, which are common domestic pets on rural residential properties.

The *Gatton Shire Vegetation Survey*, due for completion in February 2000, will provide an insight into the impacts of clearance for rural residential development. A project initiated by the University of Southern Queensland will further investigate this issue.

Other causes of current clearance

Some of the current clearance is also occurring in the upland areas in the north and south of Gatton Shire. This clearance is primarily in the Helidon Hills, and is mainly the result of gravel extraction and sandstone mining. Gatton Shire Council is mostly carrying out the gravel extraction, and private operators carry out the sandstone mining. The part of the Helidon Hills where these activities are being carried out has a high concentration of threatened plant species. The presence of the threatened plant species *Paspalidium grandispiculatum* and *Grevillea quadricauda* directly adjacent to extraction areas indicates that populations of these species have probably been destroyed by the extraction activities.

The easement for a high-voltage powerline also passes through the Helidon Hills. The construction of this powerline will result in a considerable amount of vegetation clearance, leading to the fragmentation of what is a mostly continuous area of remnant vegetation. This powerline connects with the proposed "Springdale" substation on the eastern edge of the Helidon Hills. There are indications that further high-voltage powerlines will terminate at Springdale. If these powerlines traverse the Helidon Hills then they will lead to further clearance and habitat fragmentation.

2.2.2 The effects of past clearance

Biodiversity can continue to decline long after clearance has stopped. Clearance for farming often results in a mosaic of vegetation remnants and open farmland across the landscape. This type of mosaic can be seen in the upper Ma Ma Creek and upper Flagstone Creek catchments of Gatton Shire.

The vegetation remnants left behind after clearance will retain most of their biodiversity for a period of time. However, the isolation of the remnants can have a serious impact on ecosystem processes. Animals can lose their access to food resources or water. Plants can lose their access to pollinator species. The changed environment can bring new or larger numbers of competitor and predator species into the area.

It can take several generations of a species for serious decline to become apparent. There will be a drop in species numbers with every successive generation, to the point where the species finally disappears from the area. This process can take several decades or longer. Some long-

lived rainforest plants reproduce very infrequently; meaning that biodiversity decline as a result of clearance may not be evident for hundreds of years.

The plight of the Brush-tailed Rock Wallaby is an example of the effects of past clearance in Gatton Shire. A Queensland Parks and Wildlife Service (QPWS) report⁷ on a Brush-tailed Rock Wallaby population on the Glen Rock Regional Park property in the south of Gatton Shire advises that:

Development and its consequences, such as the clearing of native vegetation and the invasion of feral animals, increases the isolation of colonies by making the intervening lands inhospitable to activity and movement. Introduced predators (foxes and cats) can prey successfully on young brush-tailed rock-wallabies resulting in aging colonies with no recruitment. Goats can compete aggressively with rock wallabies for both food and shelter. These events can lead to the local extinction of colonies with the ultimate result of the loss of the species from an area. Management of this species should aim to not only maintain habitat within colonies but also the intervening lands between colonies.

Brush-tailed Rock Wallaby populations in the Helidon Hills and Glen Rock Regional Park appear to be reasonably stable. The Helidon Hills and Glen Rock Regional Park are both large areas of mostly continuous native vegetation. On the other hand, several Brush-tailed Rock Wallaby populations in the fragmented upper Ma Ma Creek catchment have disappeared, and the species is approaching local extinction.

Some of the other threatened fauna and flora species in Gatton Shire are also likely to be declining as a result of the effects of past clearance. For example, the Powerful Owl (*Ninox strenua*) and Red Goshawk (*Erythrotriorchis radiatus*), which both need large habitat areas for their survival.

2.2.3 The invasion of exotic flora species

The invasion of exotic flora species into native vegetation areas is arguably the biggest threat to the biodiversity of Gatton Shire. “Exotic” species are species that are not native to Australia.

The exotic flora species posing the greatest threat are:

- Lantana (*Lantana camara*).
- Madeira vine (*Anredera cordifolia*).
- Green panic (*Panicum maximum*).

Lantana

Lantana camara has invaded thousands of acres of native vegetation and pasture in Gatton Shire, and is a very serious threat to biodiversity. The Queensland Parks and Wildlife Service (QPWS) report on a Brush-tailed Rock Wallaby population on the Glen Rock Regional Park in the south-east of Gatton Shire warns that⁸:

The most immediate threat to the rock wallabies at Glen Rock is the degradation of its habitat by the invasion of weeds, namely *Lantana camara*.

The Lockyer Valley was one of the first places in Australia where *Lantana camara* was introduced. After a long period of exposure to the local environment and aided by the stresses of annual burning, it is rapidly becoming better adapted to local conditions. In Gatton Shire, *Lantana camara* is:

- Increasingly being found on less fertile geologies where previously it would not grow.
- Rapidly increasing its range.
- Invading threatened species habitat and threatened ecosystems.

It may not be possible to achieve long-term biodiversity conservation outcomes in the Lockyer Catchment unless the *Lantana camara* threat is completely removed.

Madiera vine

Madiera vine (*Anredera cordifolia*) is a vigorous exotic vine with a potato-like tuber. It is infesting areas of “of-concern” softwood scrub ecosystem in the southern Lockyer Catchment (ecosystems 12.8.21 and 12.9/10.15). The 40 hectare softwood scrub remnant in the Dwyer's Scrub Conservation Park has become 70% infested with madeira vine. The only known control method for madeira vine is herbicide application. However, this approach is extremely labour intensive because of the large areas of infestation and the way in which madeira vine becomes heavily entangled with the native vegetation. Madeira vine has also started to invade creeklines.

Green panic

Green panic (*Panicum maximum*) is an exotic pasture grass species that is invading the understorey of softwood scrub ecosystems in the Lockyer Catchment (ecosystems 12.8.21 and 12.9/10.15). *The Conservation Status of Queensland's Bioregional Ecosystems* alerts to the threats to biodiversity from exotic pasture grasses and other exotic pasture species⁹:

Introduced pasture species such as green panic *Panicum maximum*, Rhodes grass *Chloris gayana* and siratro *Macroptilium atropurpureum* invade intact and semi-intact vegetation and have displaced native species or increase the susceptibility to fire incursion.

Other exotic flora species

Other exotic flora species causing weed problems in the native vegetation areas of Gatton Shire include:

- Camphor laurel (*Cinnamomum camphora*).
- Chinese celtis (*Celtis sinensis*).
- Cats-claw creeper (*Macfadyena unguis-cati*).
- Asparagus fern (*Protasparagus* spp.)
- Privet (*Ligistrum* spp.)
- Groundsel (*Baccharis halimifolia*).
- Castor oil plant (*Ricinus communis*).
- Mother of millions (*Bryophyllum tubiflorum*).

2.2.4 Inappropriate fire regimes

Current fire management practices in Gatton Shire are having a serious negative impact on biodiversity. Many landholders are burning every few years or even annually to reduce fuel accumulations and maintain grazing pasture, at the expense of significant flora and fauna that cannot survive such frequent burning. According to the Helidon Hills Fire Management Plan¹⁰:

Fire is needed for nature conservation. Nature conservation is very important in the Helidon Hills because there is a vast array of rare and threatened plants, animals and ecosystems. To ensure that nature conservation is successful people must consider the fire requirements of these plants, animals and ecosystems. It has been recognised that there are some fire management practices occurring in the Helidon Hills that are unsuitable to achieve nature conservation.

The most obvious and threatening fire management practice towards nature conservation is broad-scale fuel reduction. Broad-scale fuel reduction is defined as burning any area, very frequently to reduce fuel hazards for wildfires. In most cases, broad-scale fuel reduction involves large areas of land burnt frequently (1 to 3 years). Although broad-scale fuel reduction provides part of an effective fuel reduction strategy to prevent wildfires, often the impacts towards nature conservation are quite serious.

A common misconception of some people is that *all* Aboriginals used fire in Australia as frequently as every year. However, judging by the types of vegetation in the Helidon Hills, if burning was undertaken frequently, many species would not be present. In the Helidon Hills, the extensive areas of bush with a shrubby understorey would definitely be not as extensive or diverse if fire was used frequently by Aboriginals. This misconception usually results with people thinking that burning every year is good for the environment because *all* Aboriginals burnt frequently. It must be realised that some Aboriginal groups in Australia did burn large areas of land frequently and some did not at all.

Most shrubby vegetation requires fire frequencies greater than 10 years to ensure survival. This is the case with the Helidon Hills. Where wildfire or controlled burning is infrequent, shrubby plants are predominant. Elsewhere in Australia, shrubby plants rely on wildfire alone and not the product of Aboriginal fire regimes.

Most plant species that have a high conservation value in the Helidon Hills grow as shrubby type plants. Broad scale fuel reduction with frequencies of every 1 to 3 years can threaten plants and animals particularly with high conservation values by changing vegetation composition and structure. Therefore to assist nature conservation in the Helidon Hills, fire regimes should replicate the natural fire regime of the area which is wildfire.

Similar vegetation communities exist in the south of Gatton Shire. For example, the shrubby understoreys in the Fordsdale area that feature the threatened plant *Boronia splendida* (splendid boronia)¹¹. *Boronia* species are extremely fire sensitive. Fire is needed for seed germination, and the frequency of fire needs to be regular enough to germinate seedlings while the soil seed store is still viable. However, if fires are too frequent the soil seed store will be exhausted at a faster rate than it is being replenished from the seed set by mature plants. For *boronia* species, there is

an optimum fire frequency - too frequent or too infrequent burning of an area will result in the decline and eventual extinction of the boronia from that area. *Boronia splendida* is currently thriving in places where there has not been a fire for around 30 years, but appears to be absent in places where burning is carried out annually. *Boronia splendida* has been observed to regenerate readily following clearance, demonstrating the existence of a viable soil seed store. (With many species, it is not the heat of the fire that stimulates seedling germination, but chemical compounds in the smoke. The same compounds can also be released from the soil following disturbance, and this is why clearance can stimulate germination of *Boronia splendida*). These factors indicate that a fire frequency of around 30 years is likely to be required by *Boronia splendida*, and that annual burns constitutes a serious threat to the survival of the species. This conclusion is supported by the known fire requirements of other boronia species, however further research will be required to more accurately confirm the required fire frequency for *Boronia splendida*.

Fire is also posing a significant threat to “of-concern” and “endangered” ecosystem remnants in Gatton Shire. Fires impact on remnant margins, and will often burn into a remnant for a considerable distance due to the presence of exotic species. As described in Section 2.2.3 above, introduced pasture species, in particular green panic grass *Panicum maximum*, are invading intact and semi-intact dry rainforest remnants in the Lockyer Catchment, displacing native species and greatly increasing the susceptibility to fire incursion.

Aboriginal Fire Regimes

It is widely believed that before European settlement, Aboriginals burnt the native vegetation of Gatton Shire as frequently as every year. However, this cannot be correct, because many of the Gatton Shire species and ecosystems would simply not be present if fire had been used as frequently as every year or even as frequently as every five years. These species and ecosystems are more likely to be the product of widely-spaced random wildfire events rather than any deliberate burning regime.

Aboriginals burnt bushland areas to assist with the availability of food resources, hence the description “fire-stick farming”. Gatton Shire features wide and very fertile creek valleys and alluvial plains, now recognised as some of the world’s most fertile agricultural land. Prior to European settlement these lowland areas typically featured forest red gum (*Eucalyptus tereticornis*) open woodland with a grassy understorey and would have had an abundance of food resources, in particular kangaroos and wallabies. The Aboriginals apparently lived a semi-sedentary lifestyle on the lowland flats and plains, only venturing into the uplands on hunting and food gathering forays or to travel on various pathways to other areas¹². The Aboriginals probably burnt the lowland flats and plains to promote the presence of fresh green grass to attract the kangaroos and wallabies, and there is historical evidence to support this. For example, Murphy’s Creek in the north-west of the Lockyer is reported to have been known to Aboriginal people as *Tamamareen* meaning “where the fishing nets were burnt in a grass fire”. However, they would have had little or no need to burn the far less fertile Lockyer uplands. Fire would actually have posed a significant threat to the upland dry rainforest areas, which featured food and medicinal resources, and for this reason fire may have even been deliberately avoided in the uplands.

There is evidence to support the view that different tribal groups had very different fire management practices. Just to the south of Fordsdale, where *Boronia splendida* is found, is the West Haldon district which was apparently a different tribal area with dramatically different fire

management practices. The local history book *On the Point of a Spur* highlights the differences between the two areas¹³:

Unlike the impenetrable scrub country that surrounded the Mt. Whitestone district in the early 1840's, the West Haldon district bordering the south-west Lockyer was open country. May Cork writes:

It is worth recording that a description of the district in the early 1860's differs considerably from a description of it at present. At the date mentioned the country was sparsely timbered and well grassed. Soon however, a remarkable change took place and such country became overgrown with small brush, and the number of trees increased enormously.

Most certainly, the change in vegetation cover at West Haldon from a sparse sclerophyll forest to a densely timbered one was due to the removal of the Keinjan tribesman from the area by 1860, who previously practised extensive burning of their hunting grounds.

Cycles of change

The fire dependant ecosystems in Gatton Shire are not static. In the period between wildfire events, these ecosystems experience a considerable degree of change. For example, the ecosystem that features *Boronia splendida*. After a fire the seeds of the fire dependent species in this ecosystem, in particular acacias and *Boronia splendida*, germinate. These species will then grow into a thick mass that dominates the understorey. After around 15 to 20 years has elapsed, the relatively short-lived acacias start to die. After around 25-30 years all of the acacias die to leave a more open understorey dominated by *Boronia splendida*. At some point *Boronia splendida* would also be expected to reach maturity and die which would open up the understorey even further, to a point where there is an understorey of mostly grass species. The cycle repeats with the next wildfire.

Many landholders are observing the acacia-dominated or open stages of the cycle and mistakenly thinking that this is the constant state of the ecosystem.

2.2.5 Feral animals

Feral animals are causing a comparatively small amount of damage to the biodiversity of Gatton Shire. Feral animals can cause direct damage to native vegetation, for example by eating native plant seedlings, and can also cause indirect damage by contributing to the spread of exotic flora. The feral animals causing damage include feral pigs, feral cats, feral dogs, wild deer, and wild horses.

2.2.6 Habitat modification from grazing and timber harvesting

The habitat modification caused by grazing is making a comparatively small contribution to biodiversity decline in Gatton Shire. Grazing animals, particularly cattle, are damaging native plant seedlings and contributing to the spread of exotic flora.

The habitat modification caused by timber harvesting is also contributing to biodiversity decline in Gatton Shire. The damage caused by timber harvesting includes the destruction of understorey plants and the threatened species *Eucalyptus taurina*. Most of the timber harvesters

operating in Gatton Shire are attempting to manage their activities sustainably. However, their efforts have been hampered by a lack of biodiversity conservation information. There is also a small minority of timber harvesters whose activities are having significant negative impacts on biodiversity.

2.2.7 Lack of conservation data

A lack of detailed biodiversity data has hindered biodiversity conservation decision-making in Gatton Shire. The 1:25,000 scale Gatton Shire vegetation mapping and assessment work will significantly improve the available data, taking the knowledge base to a level where many biodiversity conservation actions will be able to be very effectively carried out. However, there will still be many unanswered questions. For example:

- What are the exact fire frequencies and intensities needed for the ongoing survival of species like the splendid boronia (*Boronia splendida*)?
- What long-term impacts will powerline easements have on threatened species like the Glossy Black Cockatoo? What actions are needed to mitigate these impacts?
- What actions are needed to reverse the decline of Brush-tailed Rock Wallaby populations in the upper Ma Ma Creek catchment?

2.2.8 Lack of conservation awareness

Most of the residents of Gatton Shire are unaware of the significant biodiversity of their area. This lack of awareness is leading to uninformed decisions that are impacting negatively on biodiversity. In particular, residents are unaware of:

- The threatened species and ecosystems in the Shire and the threats to these species and ecosystems.
- How to implement cooperative “win-win” biodiversity conservation programs that benefit both biodiversity and the rights and needs of landholders and the community.
- The significant economic potential of the Shire’s biodiversity.

2.2.9 Other threats

Other potential threats include *Phytophthora cinnamomi*, a fungus that has caused large amounts of damage to native vegetation in other parts of Australia. It may also be causing damage, or have the potential to cause damage, to native vegetation in South-East Queensland.

2.3 Protected areas in Gatton Shire

2.3.1 What is a protected area?

A “protected area” is an area where either a conservation agreement with the landholder or acquisition for a National Park, Conservation Park, or other form of reserve protects conservation values from threats. The degree to which a protected area will be successful in mitigating threats depends on the type of protected area, and on how well the protected area is managed.

2.3.2 Existing protected areas

Currently only a small part of the biodiversity of Gatton Shire is conserved in protected areas. The existing protected areas in Gatton Shire are:

- Dwyer's Scrub Conservation Park.
- Flagstone Conservation Park.
- Glen Rock Regional Park.
- Mt. Mistake National Park.

Dwyer's Scrub Conservation Park

The 259 hectare Dwyer's Scrub Conservation Park is located in the upper Ma Ma Creek catchment in the south of Gatton Shire. This Conservation Park protects an area of threatened semi-evergreen vine forest/thicket ecosystem and a number of significant flora and fauna species. A Management Plan for Dwyer's Scrub Conservation Park was prepared in May 1998¹⁴. The Queensland Parks and Wildlife Service (QPWS) has started to implement the plan.

Flagstone Conservation Park

The Flagstone Conservation Park is located in the upper Flagstone Creek catchment in the south of Gatton Shire. This Conservation Park protects an area of sandstone flora.

Glen Rock Regional Park

The 6,300 hectare Glen Rock Regional Park is located in the south-east corner of Gatton Shire¹⁵. The Glen Rock property was purchased by the Queensland Government to provide public open space to the community of South-East Queensland. A management planning process is underway, and is considering the mix of proposed uses including nature-based outdoor recreation, biodiversity conservation, economic development and the conservation of cultural values. A full management plan is expected to be prepared shortly.

Mt. Mistake National Park

Mt. Mistake National Park directly adjoins the Glen Rock Regional Park. Located partly within Gatton Shire, the Mt. Mistake National Park extends into adjoining Shires.

2.3.3 Proposed protected areas

Because only a small part of the biodiversity of Gatton Shire is currently conserved in protected areas, additional protected areas have been recommended by:

- The South-East Queensland Regional Framework for Growth Management (SEQ RFGM).
- The WESROC Sustainable Management of the Helidon Hills Project.
- The South-East Queensland Regional Forest Agreement (SEQ RFA) process.

The South-East Queensland Regional Framework for Growth Management (SEQ RFGM)

The South-East Queensland Regional Framework for Growth Management (RFGM) has recommended that a new National Park be established in the Helidon Hills, and that an enlarged National Park be investigated at Ravensbourne on the northern edge of the Helidon Hills¹⁶.

The WESROC Sustainable Management of the Helidon Hills Project

The Sustainable Management of the Helidon Hills Draft Management Plan recommends against acquiring private land in the Helidon Hills for National Park or Conservation Park. Instead, the Draft Management Plan recommends conserving the significant conservation values of the Helidon Hills through a cooperative partnership with the existing private landholders. This partnership will involve:

- Assisting landholders to sustainably manage existing land-uses (which include grazing, timber harvesting and sandstone mining).
- Assisting interested landholders to establish new sustainable enterprises such as ecotourism.
- Enter into management agreements with landholders, whereby financial and/or material assistance is provided in return for conservation.

The South-East Queensland Regional Forest Agreement (SEQ RFA) process

In partnership with conservationists and the timber industry, the Queensland Government has developed an agreed position in regard to the South-East Queensland Regional Forest Agreement. The Queensland Government position achieves maximum outcomes for biodiversity conservation and maximum outcomes for the timber industry. In Gatton Shire, the Queensland Government position involves the conversion of all State Forests to conservation reserves because of their very high conservation values. At the same time the Queensland Government position gives Lockyer Valley timber mills 25-year security of timber supply. Gatton Shire has four State Forests: White Mountain State Forest; Lockyer State Forest; Woodlands State Forest; and Mt. Mistake State Forest. White Mountain State Forest and Lockyer State Forest cover the largest area, a total of 11302 ha, and are both located in the Helidon Hills. At the time of writing this report, the Commonwealth Government had not yet agreed to the Queensland Government SEQ RFA position.

2.3.4 Other protection mechanisms

Queensland Vegetation Management Act

The new Queensland *Vegetation Management Act* will restrict the clearing of threatened ecosystems and other high nature conservation value areas. It is anticipated that a range of other conservation mechanisms will be implemented in conjunction with the clearing restrictions. For example, conservation incentives and conservation agreements with private landholders.

Commonwealth Environment Protection & Biodiversity Conservation Act

The new Commonwealth *Environment Protection & Biodiversity Conservation (EPBC) Act*, which comes into force in July 2000, will also increase the legislative protection for threatened species and ecosystems. An important addition will be the identification of critical habitats and the establishment of thresholds that will guide the Commonwealth in deciding whether future proposed developments could have a significant impact on biodiversity and require Commonwealth approval or not. The Lockyer Catchment has large areas of native vegetation, with much of this vegetation likely to be assessed as “critical habitat”.

References and Notes - Chapter 2

- ¹ Department of Natural Resources (1999). *Land Cover Change in South-East Queensland, 1988 - 1997*, p. 38-39. Resource Sciences and Knowledge, Queensland Department of Natural Resources, 80 Meiers Road, Indooroopilly, 4068.
- ² Horsfall, M. (1999). "Biodiversity", p. 28-30 in *Greenhouse Living*, May 1999.
- ³ Horsfall, M. (1999). 'Species diversity', 'Ecosystem diversity', and 'Genetic diversity' pp. 28-29 in "Biodiversity", *Greenhouse Living*, May 1999.
- ⁴ Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*, pp. 11-19, 11/78-11/81, 12/72-12/75. Published by Environmental Protection Agency, Brisbane.
- ⁵ Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Published by Environmental Protection Agency, Brisbane.
- ⁶ Department of Natural Resources (1999). *Land Cover Change in South-East Queensland, 1988 - 1997*, p. 39. Resource Sciences and Knowledge, Queensland Department of Natural Resources, 80 Meiers Road, Indooroopilly, 4068.
- ⁷ Krieger, G. and Capararo, S. (1999). *An assessment of the Brush-tailed rock-wallaby population in the Mt. Machar and Cooks Tableland areas of Glen Rock (Gatton Shire)*, p. 1. Queensland Parks and Wildlife Service Conservation Resource Unit Moggill, August 1999.
- ⁸ Krieger, G. and Capararo, S. (1999). *An assessment of the Brush-tailed rock-wallaby population in the Mt. Machar and Cooks Tableland areas of Glen Rock (Gatton Shire)*, p. 3. Queensland Parks and Wildlife Service Conservation Resource Unit Moggill, August 1999.
- ⁹ Sattler, P.S. and Williams, R.D. (eds) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*, p. 12/9. Published by Environmental Protection Agency, Brisbane.
- ¹⁰ Gardner, M. (1998). *Fire Management Plan - Helidon Hills*, p. 8. The University of Queensland Gatton Campus and Gatton Shire Council, November 1998.
- ¹¹ Boyes, B. & Cox, N. (1999). "A Fire at Treetops? Fire Management and Nature Conservation", pp. 169-177 in Boyes, B. (ed) *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature 1998 South-East Queensland Rainforest Recovery Conference. WWF, Sydney.
- ¹² Ann Wallin & Associates (1998). *Helidon Hills: A Predictive Cultural Heritage Report*, p. 19. (Draft September 1998).
- ¹³ Campanaris, C. (1986). *On the Point of a Spur. A History of the Mt. Whitestone State School, 1886 - 1986 and District*.
- ¹⁴ Department of Environment (1998). *Management plan - Dwyers Scrub Conservation Park*. Department of Environment Southeastern Region Moggill, May 1998.
- ¹⁵ Department of Natural Resources (undated). *Glen Rock Regional Park*.
- ¹⁶ Department of Local Government and Planning (1998). *South East Queensland Regional Framework for Growth Management*.

3. Achieving successful biodiversity conservation outcomes

What should be done to conserve the highly significant biodiversity of Gatton Shire? This Chapter introduces four strategies that can achieve successful biodiversity conservation outcomes:

- 1. The highly effective win-win approach. This results in wins for biodiversity conservation and wins for the rights and needs of landholders.*
- 2. A biodiversity conservation framework. This provides a structure for implementing the win-win approach.*
- 3. Innovative recovery planning partnerships. These partnerships are the centrepiece of the biodiversity conservation framework.*
- 4. Best-practice biodiversity conservation actions. Through these recommended actions, the biodiversity conservation framework and its partnerships can deliver the win-win outcomes.*

3.1 The win-win approach

Q. How do you successfully conserve the highly significant native vegetation of Gatton Shire?

A. By using the win-win approach, which results in both a win for biodiversity conservation and a win for the rights and needs of private landholders.

About three-quarters of the highly significant biodiversity of Gatton Shire is owned and managed by private landholders. If successful biodiversity conservation outcomes are to be achieved, then conservation strategies must account for the rights and needs of private landholders.

The best approach is the “win-win approach”, which results in *both* a win for biodiversity conservation *and* a win for the rights and needs of private landholders.

Table 3.1 - Applying the win-win approach to biodiversity conservation in Gatton Shire

The lose-lose approach	The win-win approach
biodiversity conservation loses landholders lose	biodiversity conservation wins landholders win
Decision-making processes where the decisions are made by consultants or bureaucrats and imposed on landholders. If landholders do get consulted, it is only at the end of the process after most of the decisions have already been made.	Decision-making processes where landholders are given a genuine and valid involvement in the process from day one and maximum ownership of the process outcomes.
Land areas are acquired for National Parks or Conservation Parks. This costs lots of money, and long-term management becomes an added burden to already inadequately resourced government agencies. Acquired areas also result in lost rate income for Council, but Council is still expected to maintain access roads and other infrastructure.	Land areas remain in private ownership and the owners are given education and material and financial assistance, which enables them to continue to act as on-site managers of their biodiversity conservation areas.
Rules and regulations are imposed on landholders to simply ban the clearing of native vegetation.	Landholders are encouraged to voluntarily conserve areas through: <ul style="list-style-type: none"> • Giving landholders security of land use in return for biodiversity conservation outcomes. • The provision of financial and material assistance in recognition of the economic cost to landholders from setting aside and managing areas for conservation. • The encouragement of alternative land uses. • Alternative approaches to development.
The end result of the lose-lose approach is a backlash and non-cooperation from landholders and the creation of an anti-conservation sentiment in the community.	The end result of the win-win approach is cooperative and supportive landholders who will willingly protect their native vegetation for many years to come.

3.1.1 The essence of the win-win approach

Q. Is “win-win” just a fancy name for “compromise”?

A. No, “compromise” is in fact a lose-lose approach.

They say that there are two sides to any issue. Each side argues for an outcome that they think will benefit their interests in the issue. However, what usually results is either win-lose or lose-lose:

win-lose	One side gets their desired outcome; the other side gets nothing.
lose-lose	Both sides agree to give ground and sacrifice part of their outcome to reach a “compromise”.

With the win-win approach, lateral thinking is used to come up with an outcome that will fully satisfy the interests of *both* sides. This win-win outcome will often be quite different to the outcomes that were originally advanced by each individual side, but will still fully satisfy the interests of each individual side.

Unfortunately, approaches to biodiversity conservation in Gatton Shire have mostly been win-lose or lose-lose. Gatton Shire Council and State Government departments have relied solely on “rules and regulations” approaches that have little or no regard for the well-being of rural landholders (conservation wins, landholders lose). In response, many Gatton Shire landholders have rejected biodiversity conservation, fearing that conservation would result in them losing the right to farm their properties (landholders win, conservation loses).

However, it doesn’t need to be like this. Table 3.1 shows how the win-win approach can be applied in Gatton Shire to achieve outcomes that benefit the interests of *both* landholders *and* biodiversity conservation.

3.1.2 Making the right decisions

Q. What sort of decision making processes lead to win-win outcomes?

A. Decision making processes that give landholders and the community genuine and valid involvement from day one, and maximum ownership over outcomes.

Biodiversity conservation decision-making processes typically involve consultants or bureaucrats preparing policies and strategies in the isolation of an office. If landholders are involved at all, it is only at the end of the process after most of the decisions have already been made. Decisions are made without proper consideration of the issues, needs, concerns and ideas of landholders, so it is hardly surprising that this sort of decision-making process usually results in a “lose” outcome for landholders.

If biodiversity conservation decision-making processes are to result in win-win outcomes, then it is essential that landholders and community groups be given genuine and valid involvement from day one. Decision-making processes also need to develop maximum landholder and community ownership over the outcomes, in recognition of the fact that it is landholders and the community who have the long-term responsibility for conservation management.

The WESROC Sustainable Management of the Helidon Hills Project has clearly demonstrated the benefits of a people-friendly decision-making process. From its inception, this project sought

to be different. The motivation for this difference was a desire that the community of the Helidon Hills would not only have significant input into the project, but that they would in fact develop ownership of the process so that it carried on long after the project team had completed its work.

It was realised that the only way that this could be achieved was if the people of the community were able to have a genuine voice. The project could only succeed if its actions truly reflected the diverse aspirations of landholders and communities of interest within the Helidon Hills.

Through its people-friendly processes, the Helidon Hills Project has developed a level of landholder and community support that is arguably unprecedented. Many other projects in this area have failed or stalled because landholders and the community were not properly involved. Some of these projects resulted in a major backlash from landholders who anticipated a “lose” outcome for their interests. Others projects had their outcomes “compromised” to lose-lose in order to avoid the inevitable backlash. To achieve successful outcomes in rural areas, it is as much the way things are done as what is done. Many government programs with the best of intentions fail because of poor processes.

The current Gatton Shire Integrated Planning Act (IPA) Planning Scheme Project is also using people-friendly processes. In addition to up-front landholder and community involvement through public meetings and a newsletter, Gatton Shire Council has established a Community Reference Group comprising representatives from localities and special interest sectors throughout the Shire. Through its people-friendly processes, Gatton Shire Council aims to achieve widespread landholder and community support for the new Gatton Shire Planning Scheme.

For biodiversity conservation issues, the next step is to advance decision-making processes that will cement landholder and community involvement and ownership in place. If the role of landholders and the community is not secured then it would be very easy to retreat back to the lose-lose approach. A range of innovative win-win partnerships can achieve this involvement and ownership and at the same time ensure that genuine conservation outcomes are achieved.

3.1.3 Acquisition versus private ownership

Q. Is acquiring land for National Parks and Conservation Parks the best way to protect biodiversity conservation values in Gatton Shire?

A. No, further acquisition in Gatton Shire would lead to lose-lose outcomes. Acquisition is very expensive, and long-term management would become an added burden to already inadequately resourced government agencies. Acquired areas also result in lost rate income for Councils, but Councils are still expected to maintain access roads and other infrastructure.

The traditional way of achieving biodiversity conservation on private land has been to acquire the land through purchase, and then gazette it as a National Park or Conservation Park. However, this approach presents several problems in Gatton Shire.

Firstly, acquisition is very expensive. The cost of acquiring the extensive areas of significant native vegetation in Gatton Shire would be in the order of tens of millions of dollars.

Secondly, long-term management becomes an added burden to already inadequately resourced government agencies. Existing conservation reserves in the Lockyer Catchment, although only

small in area compared to the overall area of high conservation value land in the Lockyer, are already under-resourced. For example, the Dwyer's Scrub Conservation Park in southern Gatton Shire, where the significant vineforest vegetation community has become infested with the exotic weed madeira vine (*Anredera cordifolia*). This situation is not a reflection on the enterprise of Queensland Parks and Wildlife Service Rangers, who are highly skilled and put in an outstanding effort. Rather, it is the result of an extremely poor level of resourcing from successive Queensland Governments.

Thirdly, when freehold land is purchased and gazetted as National Park or Conservation Park, Local Government rates can no longer be levied on the property, but services such as roads still need to be provided. Gatton Shire has relatively large areas of privately owned native vegetation. If even a small proportion of this bushland were to be acquired for National Park or Conservation Park then there would be a significant loss of rates for Council, but still a requirement to maintain access roads and other services to these areas. This would put an unfair burden on the remaining ratepayers in the Shire, who would face either rate rises or a reduction in services.

Aside from these problems, many landholders would not want to sell their properties anyway. Lockyer landholders have a very strong desire to retain ownership of their land, which was clearly expressed during the WESROC Sustainable Management of the Helidon Hills Project.

Many landholders need to derive their income from economic pursuits on their properties, meaning that retaining ownership of their land is essential for their livelihood. The properties of many Lockyer Catchment landholders have been in the same family for several generations, meaning that the properties have become an important part of family heritage, which the families wish to retain. The Lockyer also has a large number of landholders who have settled in the area in recent times. Many of these landholders have purchased their properties with the specific intention of securing and protecting land with biodiversity conservation values, and they want to keep their land for this reason.

Any plans for extensive private land acquisition in Gatton Shire would be likely to result in a community backlash, an added burden to already stretched government agencies, an unfair burden on ratepayers, and the loss of people who are already willingly conserving the natural values of their properties. Clearly, acquisition in Gatton Shire leads to lose-lose outcomes.

A much more workable and cost effective way of achieving conservation on private land is to keep the existing private landholders and assist them to conserve the native vegetation on their properties. This leads to win-win outcomes for *both* biodiversity conservation *and* landholders.

3.1.4 Encouraging biodiversity conservation on private land

To advance private land biodiversity conservation interests; governments often rely solely on “rules and regulations” approaches that have little or no regard for the well-being of rural landholders.

However, win-win programs that that benefit *both* conservation *and* landholders have been underway in other states for some time, and in the past few years have also commenced in Queensland.

Win-win outcomes can be achieved by:

- Giving landholders security of land use in return for biodiversity conservation outcomes.
- The provision of incentives, which recognise the economic cost to landholders from setting aside and managing areas for conservation.
- The encouragement of alternative land uses.
- Alternative approaches to development.

Rules and regulations may be the only way to achieve conservation outcomes in areas where large amounts of significant native vegetation are being cleared. But in Gatton Shire, where clearance rates are comparatively very low, an emphasis on rules and regulations is more likely to alienate potentially cooperative landholders. The cooperation of landholders is essential if the major threats to biodiversity in Gatton Shire, such as weed invasion, are to be successfully mitigated. According to the *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*¹:

Land clearing regulation is often the focus of attention with regard to vegetation management and legislation. Regulation is generally perceived by landholders as a restriction on private property rights of individuals and a hindrance to economic activity. It can be counterproductive to building partnerships for sustainable vegetation management with these same landholders.

Programs that provide financial and material assistance to landholders are now widespread in South-East Queensland. An example is the Brisbane City Council Voluntary Conservation Agreement (VCA) scheme. In return for landholders entering into a VCA, the landholders receive direct financial assistance of up to \$1,500 per year. These types of programs are called “incentives”. The *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation* gives the rationale for incentives²:

Put simply, incentives are a reward or payment for the provision of services that conserve native vegetation. Incentives may be of a financial or non-financial nature such as a cash grant or provision of training for whole-farm planning.

Rationale for the use of incentives comes from the fact that there are both private and public benefits associated with the management of native vegetation. Many of the benefits of vegetation management are often located off-site/farm such as in the case of biodiversity and salinity management, while the costs are on site/farm. As a result, the costs are internal to the landholder, but the benefits as well as having an internal component, are external and to the broader community. The result is that in the absence of government intervention native vegetation conservation will tend to be under-provided in the market place.

The *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation* profiles a range of best-practice vegetation management incentives, and incentives are discussed in detail in:

- *Motivating People: Using Management Agreements to Conserve Remnant Vegetation.*
- *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation.*
- *Opportunity Denied: Review of the legislative ability of local government to conserve native vegetation.*

- *Conservation Hindered: The impact of local government rates and State land taxes on the conservation of native vegetation.*

Refer to Section 1.2 for further information about these reports.

3.2 A coordinated framework for biodiversity conservation in the Lockyer Catchment

3.2.1 Why have a coordinated framework?

To make the win-win approach work in Gatton Shire, it needs to be delivered through an effective framework that coordinates the activities of all of the agencies, organisations and individuals involved in biodiversity conservation in this area.

Some of the components of the win-win approach are best implemented by Gatton Shire Council. For example, alternative approaches to development are best implemented through the Gatton Shire Planning Scheme. However, other components are best implemented by community organisations. For example, programs to fence areas of significant native vegetation are best implemented through Natural Heritage Trust (NHT) funded projects carried out by groups like LWMA - Lockyer Landcare. A high degree of coordination is needed between Gatton Shire Council and the community to ensure that all of the threats to the biodiversity in Gatton Shire are being properly addressed by either Council or the community or both. Council actions alone will not be enough to conserve our biodiversity, and neither will community actions alone.

Without coordination there is a danger that some key threats to biodiversity will not be properly addressed or will not be addressed at all, or that limited resources will not be focussed on the highest-priority issues.

Conservation actions in Gatton Shire must also be linked to “bigger picture” conservation processes and policies. This allows access to “best-practice” conservation approaches and ensures that conservation actions in Gatton Shire are coordinated with and consistent with regional, State and Commonwealth conservation actions, policies and priorities. These linkages also ensure that the needs and issues of the Lockyer Catchment are fed into the “bigger-picture” processes.

The need for coordination is discussed in the report *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation*. In relation to the conservation of native vegetation³:

Local Governments are not the only level of government or organisation with an interest in this issue... A wide range of other organisations and individuals have an interest in the outcomes of strategies for vegetation management, including the Commonwealth government and State governments, catchment committees, landcare groups, voluntary regional organisations of councils, non-government organisations such as Greening Australia, and farming and industry groups. The challenge is to develop structures which

allow these organisations and individuals to undertake complementary and coordinated actions across... local, regional and national scales...

This challenge is well and truly being met in the Lockyer Catchment through the innovative actions of LWMA - Lockyer Landcare and the World Wide Fund For Nature Australia (WWF). Using the Lockyer Catchment as a key national demonstration site, LWMA - Lockyer Landcare and WWF are developing two new innovative “recovery planning process” models. These new processes bring together the wide range of organisations and individuals with an interest in native vegetation management. This group then cooperatively develops a plan of action, and the participating organisations identify who will carry out each action.

The Lockyer Catchment has been chosen as a key national demonstration site because of the leading community-based biodiversity conservation work being carried out, and because of the “bigger-picture” linkages that have already been successfully established.

3.2.2 The Lockyer Catchment Biodiversity Conservation Framework

Because the key community organisations involved in biodiversity conservation in Gatton Shire operate right across the Lockyer Catchment, it is best for the biodiversity conservation framework to operate at the Lockyer Catchment level. The Lockyer Catchment Biodiversity Conservation Framework is shown in Figure 3.1 on the next page⁴. “Recovery planning” partnerships are the centrepiece of the Lockyer Catchment Biodiversity Conservation Framework. These partnerships will facilitate the effective implementation of best-practice biodiversity conservation mechanisms in Gatton Shire.

3.3 Recovery planning partnerships

Q. How can we establish effective biodiversity conservation planning partnerships that bring together local government, landholders, community organisations, scientists and State agencies?

A. By using “recovery planning” processes.

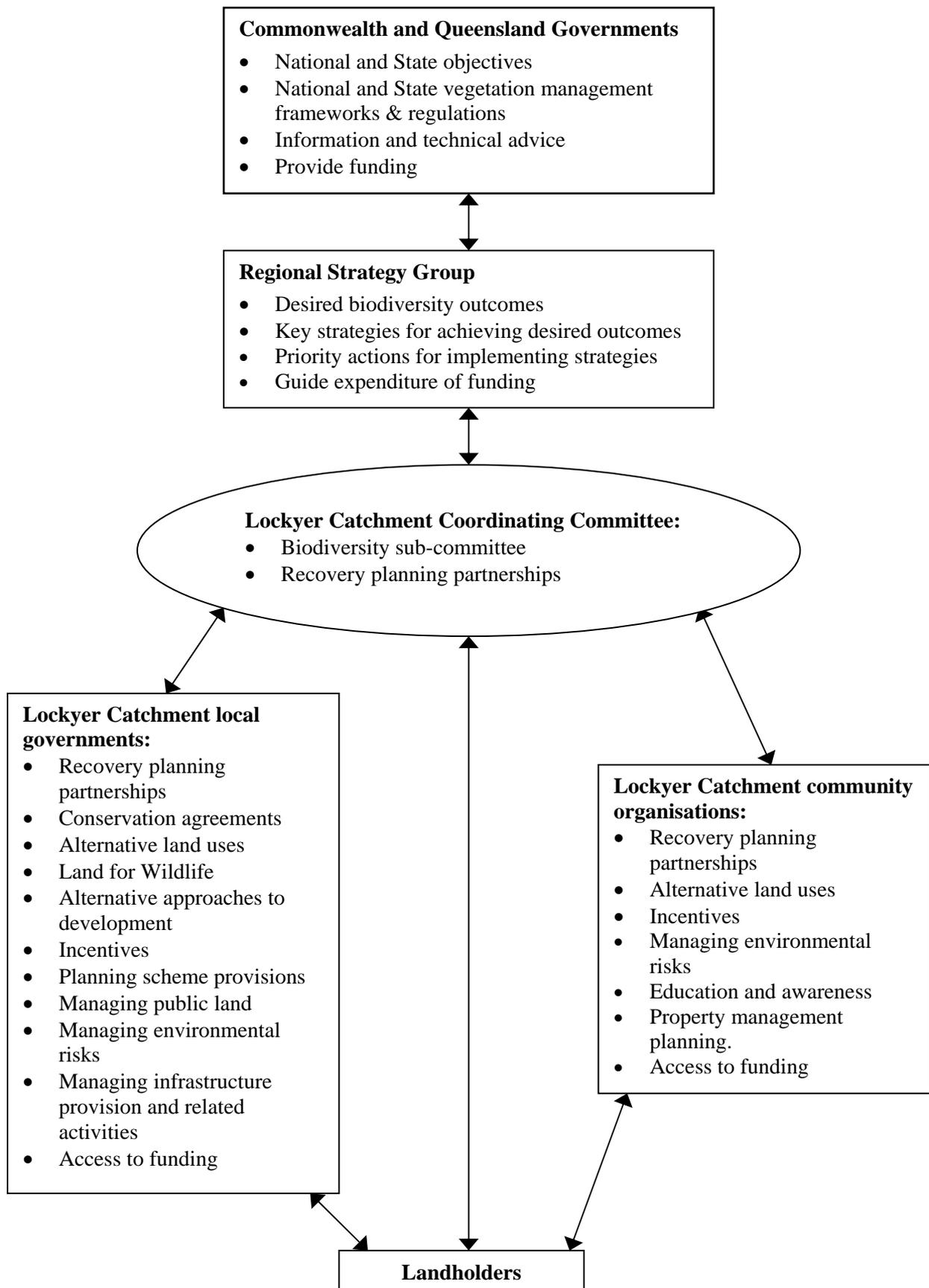
“Recovery planning” partnerships are the driving force at the centre of the Lockyer Catchment Biodiversity Conservation Framework. These partnerships are essential for the effective delivery of biodiversity conservation outcomes.

3.3.1 The recovery planning process

“Recovery planning” is the recognised process for bringing threatened species back from the brink of extinction. Operating under the Commonwealth *Endangered Species Protection Act 1992*, recovery planning is being used successfully across Australia to arrest the decline of numerous threatened plant and animal species.

Recovery planning works because it is a cooperative process. Recovery planning draws together a “recovery team” of the people associated with the conservation of a particular species, including landholders, scientists, community group members, Council officers and State Government officers.

Figure 3.1 - Lockyer Catchment Biodiversity Conservation Framework



The recovery team prepares and implements a “recovery plan”. The recovery plan is a comprehensive document that schedules and costs all of the actions that are necessary to bring the threatened species back from the brink of extinction. The diverse viewpoints, experience and skills of the recovery team leads to the preparation of a recovery plan that will deliver scientifically credible conservation outcomes as well as being workable on the ground.

Recovery plans typically schedule actions for a five-year period. At the end of the five-year cycle the recovery plan is reviewed and revised as necessary.

3.3.2 A successful recovery planning program

A successful example is the recovery program for *Austromyrtus gonoclada*⁵, which is an endangered rainforest plant species found in the Brisbane area. In 1995, this small tree was facing imminent extinction, with less than 100 plants remaining. After becoming aware of this crisis situation, Logan City Council initiated a recovery planning process for *Austromyrtus gonoclada* in September 1995.

The *Austromyrtus gonoclada* recovery team was formed comprising:

- Sharyn French - Bushland Management Officer, Logan City Council.
- Jan Glazebrook - Society for Growing Australian Plants.
- Dr. Bonni Reichelt - Society for Growing Australian Plants.
- Graham McDonald - Toona Rainforest Nursery and Society for Growing Australian Plants.
- Jim Murray - Landholder.
- David Murray - Landholder.
- Wendy Drake - Department of Environment.
- Wayne Kington - Department of Environment.
- Alex Knight - Department of Environment.
- Glenn Leiper - Jacob’s Well Environmental Education Centre.
- Kenneth McClymont - Brisbane City Council.
- Dan Daly - Brisbane City Council.
- John McKenzie - Brisbane City Council.
- Julia Playford - University of Queensland.
- Tanya Pritchard - Greening Australia.

The recovery team has prepared a recovery plan, which is being progressively implemented. Win-win outcomes achieved to date by the *Austromyrtus gonoclada* recovery program include:

- Voluntary Conservation Agreements over private land containing *Austromyrtus gonoclada*. In return for entering into the agreements, the landholders have received financial and material assistance.
- The fencing of *Austromyrtus gonoclada* populations.
- Weed control.
- The propagation of *Austromyrtus gonoclada* from seeds and cuttings.
- The planting of these new plants at suitable locations.

3.3.3 New approaches to recovery planning

So far, recovery planning has taken a single-species approach, and in many cases this approach will be the best. However, in areas like Gatton Shire where there are a large number of threatened species, establishing recovery teams and recovery plans for every single species would be impractical and expensive. In the Helidon Hills alone, at least ten recovery teams and

recovery plans would be needed, which would be a huge drain on the already stretched resources of landholders, community groups, Gatton Shire Council and State Government agencies.

Several of the Helidon Hills species are also found in other places outside the Lockyer Catchment, with some of these places being quite some distance away. An example is the Red Goshawk (*Erythrotriorchis radiatus*). Although there are estimated to be less than 400 pairs of this species remaining, there are populations in far flung parts of Australia. It would obviously be very difficult for a Helidon Hills landholder to be given a valid and genuine involvement in the recovery program decision-making if this meant having to fly across Australia to attend recovery team meetings. Achieving win-win outcomes would be very difficult in this situation.

Recognising the limitations of the single-species recovery planning approach, Environment Australia⁶ is initiating two new recovery planning approaches⁷:

- The “multiple-species” approach (also called the “ecosystem” approach).
- The “regional” approach.

With the multiple-species approach, the focus is on the conservation of the ecosystem that hosts the threatened species, rather than on the individual species themselves. Actions focussed on conserving the whole ecosystem can be far more efficient and cost-effective because all of the threatened species in an ecosystem will be facing a range of common threats, such as clearance and weed invasion. The ecosystem itself may also be threatened and need conservation in its own right.

World Wide Fund For Nature Australia (WWF) has initiated the multiple-species approach in Queensland through the WWF South-East Queensland Rainforest Recovery Project⁸. Rainforest ecosystems rather than individual rainforest species are being recovered, and district based recovery implementation teams are facilitating local ownership of the decision-making process.

3.3.4 The regional recovery initiative

The other new approach, regional recovery, will involve systematically examining the listed species and vegetation communities in a region, identifying the most common threats to the listed species and vegetation communities in that region and developing recovery plans which focus on reducing those threats. This type of approach will:

- Focus on the causes of endangerment rather than the effects.
- Provide much greater opportunity for community involvement in and management of the recovery process.
- Reduce the threats to species and vegetation communities in a range of categories (rather than simply focusing on those in the critically endangered and endangered categories).
- Reduce the likelihood of species and vegetation communities progressing up the scale of endangerment.
- Have benefits for other non-listed species and vegetation communities.
- Provide opportunities for greater interaction between Commonwealth, State and local government programs.

As the result of a successful application to the Threatened Species Network (TSN) Community Grants Program, LWMA - Lockyer Landcare is set to pioneer the “regional recovery” approach in Queensland. The TSN Community Grants Program is a joint program of the World Wide Fund For Nature Australia (WWF) and the Commonwealth Government Natural Heritage Trust (NHT).

The “regional recovery” approach has outstanding potential and is much more widely applicable than the multiple-species (ecosystem) approach. It is ideally suited to the Lockyer Catchment, where there are a large number of threatened species and ecosystems facing a range of common threats (these threats were described in Section 2.2). The regional focus means that regional recovery planning can secure valid and genuine landholder and community involvement in the decision making process while at the same time ensuring that conservation actions are scientifically credible. This is a win-win outcome.

The Lockyer Catchment Biodiversity Recovery Partnership is:

- Forming a Lockyer Catchment Biodiversity Recovery Team; involving landholders, community group representatives, Council representatives, scientists, and government agency representatives.
- Preparing a *Lockyer Catchment Biodiversity Recovery Plan*.
- Linking the Biodiversity Recovery Plan to Planning Schemes, commencing with the Gatton Shire IPA (Integrated Planning Act) Planning Scheme.
- Establishing Nature Refuge Agreements and “Land for Wildlife” registrations with private landholders.
- Carrying out weed control and fire management planning.
- Widely promoting the regional recovery approach.

3.3.5 Decision support systems

The recovery planning partnerships can be complemented and assisted by a range of decision support systems. These include⁹:

- *MODSS*. The Multi-Objective Decision Support System (MODSS) evaluates land use alternatives within a framework that involves the community in the decision-making process. This process develops a set of criteria for the evaluation of environmental, economic and social impacts and benefits.
- *TIM*. The Threat Identification Model (TIM) aims to identify sources of unsustainability and strategic environmental assessment for land-use planning.
- *MUMPS*. The Multiple Use Management Planning System (MUMPS) facilitates the sustainable blending of a range of land uses within the one landscape. MUMPS is being widely applied to State Forest management in Queensland, where timber production, recreation, conservation and other uses are being integrated. MUMPS is likely to be used to aid the preparation of management plans for Lockyer Valley State Forests and the Glen Rock Regional Park.

3.4 Best-practice biodiversity conservation actions

3.4.1 A best-practice model

Through best-practice biodiversity conservation actions, the biodiversity conservation framework and its partnerships will deliver the win-win outcomes. The *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation* identifies a

best-practice model for Local Government's role in managing and monitoring native vegetation¹⁰. The components of the best-practice model are:

1. Commitment and resourcing.
 - Political commitment from local councils.
 - Allocation of resources, particularly for appointment of environmental officers (these may be shared at a regional level where appropriate).
 - Raising environment levies to support.
2. Planning.
 - Community consultation.
 - Access to best available data and guidelines.
 - Access to expertise (gis, planning).
 - Quality planning framework, linking local government and regional catchment bodies.
3. Implementation.
 - Bonus development rights/trade-off scheme.
 - Environmental zoning/protection orders.
 - Rate relief/differential rating.
 - Covenants/management agreements.
 - Devolved grants.
 - Community education.
 - Community support.
 - Land management.
 - Education and training council staff and elected representatives.
4. Monitoring/review.
 - Monitoring and evaluation framework.
 - State of environment reporting.

3.4.2 Applying the best practice model in Gatton Shire

“Implementation” of a biodiversity conservation program in Gatton Shire will be achieved through a range of biodiversity conservation “mechanisms”. The *Gatton Shire Biodiversity Strategy* identifies recommended “actions” that will lead to “mechanisms” being put in place. The implementation process is explained in detail Section 4.1.

Table 3.2 on the next page shows how the biodiversity conservation “actions” for Gatton Shire are linked to the best-practice model. Each of the “actions” is detailed in Chapter 4.

3.4.3 Development of biodiversity conservation mechanisms for Gatton Shire

The proposed biodiversity conservation “mechanisms” have been developed from the best-practice mechanisms in:

- *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation.*
- *Motivating People: Using Management Agreements to Conserve Remnant Vegetation.*
- *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation.*

- *Conservation hindered: The impact of local government rates and State land taxes on the conservation of native vegetation.*
- *Rainforest Recovery for the New Millennium.*
- *Managing Natural Resources in Rural Australia for a Sustainable Future. A discussion paper for developing a national policy.*

These reports are referenced extensively throughout Chapter 4, and should be consulted directly for additional information on the proposed conservation “mechanisms”. Refer to Section 1.3 for information on how to obtain copies of these reports.

The conservation actions and mechanisms are also consistent with the actions of the *Draft Natural Resources Management Strategy SEQ*, as shown in Appendix A.

Table 3.2 - Application of the best-practice biodiversity conservation model to the Gatton Shire situation

Components of best-practice model	Actions for Gatton Shire
1. Commitment and resourcing	
Political commitment from local councils.	Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning Partnership.
Allocation of resources, particularly for appointment of environmental officers (these may be shared at a regional level where appropriate).	Section 4.15 - Resources.
Raising environment levies to support.	Section 4.15 - Resources.
2. Planning	
Community consultation.	Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning Partnership.
Access to best available data and guidelines.	Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning Partnership. Section 4.12 - Biodiversity data.
Access to expertise (gis, planning).	Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning Partnership.
Quality planning framework, linking local government and regional catchment bodies.	Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning Partnership.

Table 3.2 (continued)

3. Implementation	
Bonus development rights/trade-off scheme.	Section 4.3 - Facilitating alternative land-uses. Section 4.5 - Alternative approaches to development. Section 4.8 - Planning Scheme provisions.
Environmental zoning/protection orders.	Section 4.8 - Planning Scheme provisions.
Rate relief/differential rating.	Section 4.7 - Incentives. Section 4.15 - Resources.
Covenants/management agreements.	Section 4.2 - Property-Right Conservation Agreements (PRCAs). Section 4.4 - Land for Wildlife.
Devolved grants.	Section 4.6 - Habitat restoration. Section 4.7 - Incentives.
Community education.	Section 4.13 - Education and awareness.
Community support.	Section 4.7 - Incentives. Section 4.15 - Resources.
Land management.	Section 4.6 - Habitat restoration. Section 4.9 - Managing publicly owned land. Section 4.10 - Managing environmental risks. Section 4.11 - Managing infrastructure provision and related activities. Section 4.14 - Property management planning.
Education and training council staff and elected representatives.	Section 4.13 - Education and awareness.
4. Monitoring/review	
Monitoring and evaluation framework.	Section 4.1 - The Lockyer Catchment Biodiversity Recovery Planning Partnership.
State of environment reporting.	Section 4.12 - Biodiversity data.

References and Notes - Chapter 3

¹ Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*. Draft 14/7/99.

² Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*, p. 26. Draft 14/7/99.

³ Binning, C. and Young, M. (1999). *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation*, p. 25. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/99, Environment Australia, Canberra.

⁴ Figure 3.1 is based on Figure 1.2: "Institutional approaches to natural resource management", p. 25 in Binning, C. and Young, M. (1999). *Beyond Roads, Rates and Rubbish: Opportunities*

for local government to conserve native vegetation, p. 25. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/99, Environment Australia, Canberra.

⁵ McDonald G. (1999) 'Conservation and Recovery of *Austromyrtus gonoclada*' pp. 106-108 in Boyes B. (ed). *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature 1998 South-East Queensland Rainforest Recovery Conference. WWF, Sydney.

⁶ "Environment Australia" is the Commonwealth Government environment agency.

⁷ Rankin A. (1999) Keynote Address: 'A lot can happen in a millennium - the changing role of government in threatened species conservation' pp. 70-79 in Boyes B. (ed). *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature 1998 South-East Queensland Rainforest Recovery Conference. WWF, Sydney.

⁸ Boyes B.R. (ed) (1999). *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature 1998 South-East Queensland Rainforest Recovery Conference. WWF, Sydney.

⁹ Stelfox, S. (1999). *Decision Support Systems*. Unpublished paper.

¹⁰ Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation* pp. 42-44. Draft 14/7/99.

4. Recommended biodiversity conservation actions

What are the recommended biodiversity conservation actions, and how should they be implemented? This chapter discusses:

- 1. The Lockyer Catchment Biodiversity Recovery Planning Partnership.*
- 2. Property-Right Conservation Agreements (PRCAs).*
- 3. Alternative land-uses.*
- 4. Land for wildlife.*
- 5. Alternative approaches to development.*
- 6. Habitat restoration and management.*
- 7. Incentives.*
- 8. Planning Scheme provisions.*
- 9. Managing publicly owned land.*
- 10. Managing environmental risks.*
- 11. Managing infrastructure provision and related activities.*
- 12. Biodiversity data.*
- 13. Education and awareness.*
- 14. Property management planning.*
- 15. Resources.*

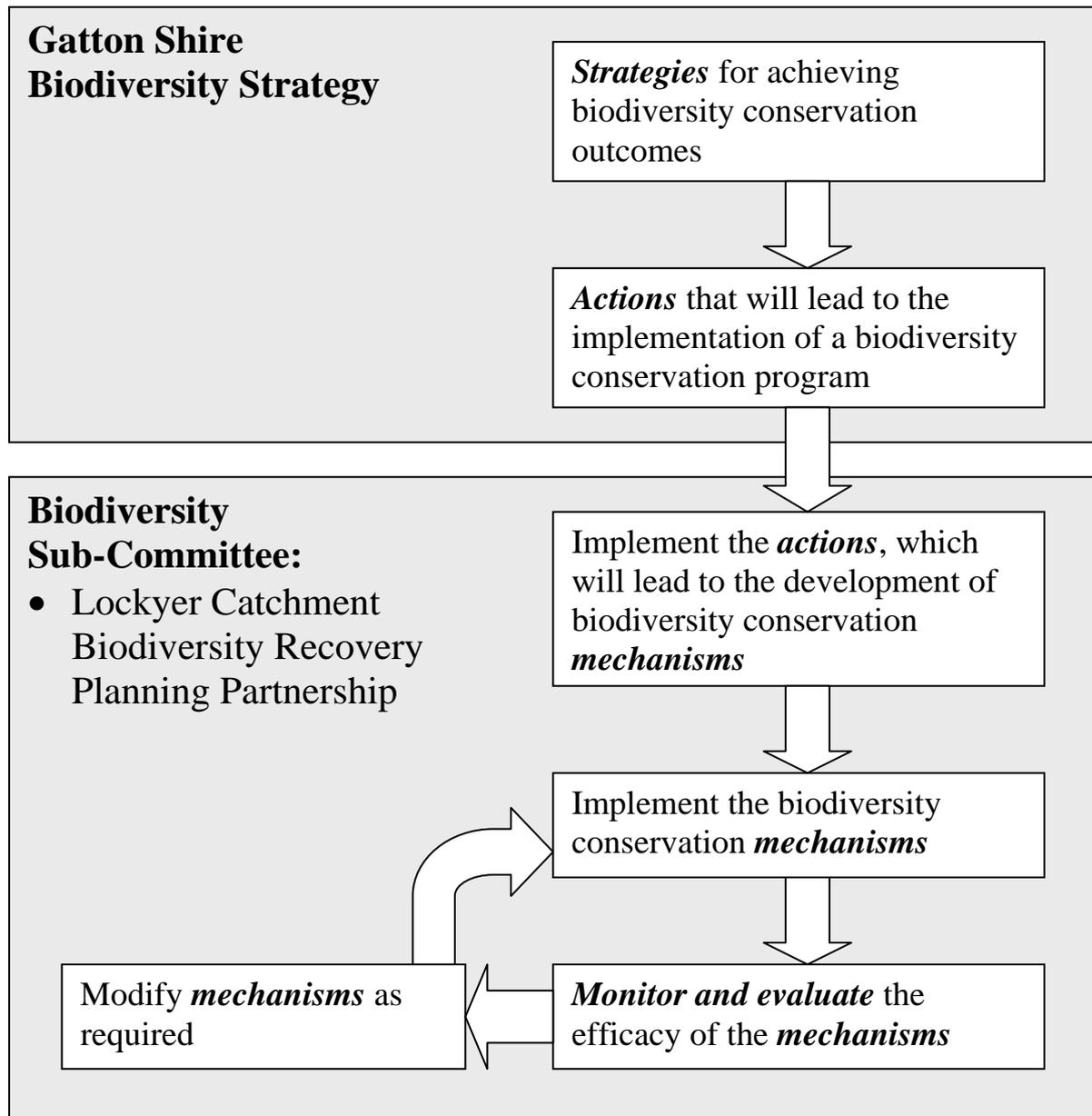
4.1 The Lockyer Catchment Biodiversity Recovery Planning Partnership

4.1.1 The implementation process

The *Gatton Shire Biodiversity Strategy* is the first stage in the implementation of the biodiversity conservation program for Gatton Shire. The stages of the process are shown in Figure 4.1. The next stage involves implementing the *actions* in this chapter, which will lead to the development

of biodiversity conservation *mechanisms* for Gatton Shire. The *Lockyer Catchment Biodiversity Recovery Planning Partnership* will drive the implementation of the actions.

Figure 4.1 - Implementing the biodiversity conservation program for Gatton Shire



4.1.2 Coordinating the implementation process

Three types of recovery planning partnership are being established in the Lockyer Catchment:

- *Regional recovery planning.* The Lockyer Catchment Biodiversity Recovery Planning Partnership will be the primary process. The Lockyer Catchment Biodiversity Recovery Plan will address the threats to all native vegetation in the Lockyer Catchment, in particular the key threats to threatened species and ecosystems. The Lockyer Catchment Biodiversity Recovery Plan will inform the development of biodiversity conservation *mechanisms*.
- *Ecosystem recovery planning.* Because of their level of endangerment, some threatened ecosystems will require additional specific conservation actions. Examples are the dry

rainforest ecosystems of the Lockyer. These are among Australia’s most endangered ecosystems, and are being conserved through the WWF South-East Queensland Rainforest Recovery Project. The actions from the South-East Queensland Rainforest Recovery Plan and other relevant ecosystem recovery plans will be fed into the Lockyer Catchment Biodiversity Recovery Plan.

- *Single-species recovery planning.* Because of their level of endangerment, some threatened species will require additional specific conservation actions. An example is the Red Goshawk. A single-species recovery plan has been prepared for this species. The actions from this plan and other single-species recovery plans will be fed into the Lockyer Catchment Biodiversity Recovery Plan.

A single body should be established to provide coordination between the three recovery planning partnerships, to lead the implementation of the actions in this chapter, and to establish effective linkages with other biodiversity planning levels (local government, region, State, Commonwealth). In determining what should be the single coordinating body, it is useful to look at the four “core” themes in the *Draft Natural Resource Management Strategy SEQ* (NRMS). As shown in Table 4.1, the four “core” NRMS themes are biodiversity, water, land, and coasts and seas¹. The Lockyer Catchment Coordinating Committee (LCCC) currently has a Water Sub-Committee and a Land-use Sub-Committee, and the coasts and seas issue is not directly relevant to the Lockyer. The LCCC Communication Sub-Committee and Management Committee are addressing the two “supporting” themes. However, the “biodiversity” core theme is not addressed by the current structure.

A Biodiversity Sub-Committee should be established to ensure that LCCC is properly addressing all of the core NRMS themes.

Table 4.1 - NRMS themes and the LCCC structure

Core themes	Description	LCCC structures
<i>Biodiversity</i>	Protection and restoration of biological diversity.	
<i>Water</i>	Waterway health and quality and reliability of water supply.	Water Sub-Committee
<i>Land</i>	Use and protection of land and its resources.	Land-use Sub-Committee Valuations Sub-Committee
<i>Coasts and seas</i>	Protection and management of coastal resources and processes.	Not directly relevant to the Lockyer.
Supporting themes	Description	LCCC structures
<i>Understanding and participation</i>	Information accessibility, communication understanding and partnership development in resource and conservation management programs.	Communication Sub-Committee
<i>Integrated Planning and Coordinated Management</i>	Integrated and coordinated approaches to planning and implementing management programs.	LCCC Management Committee

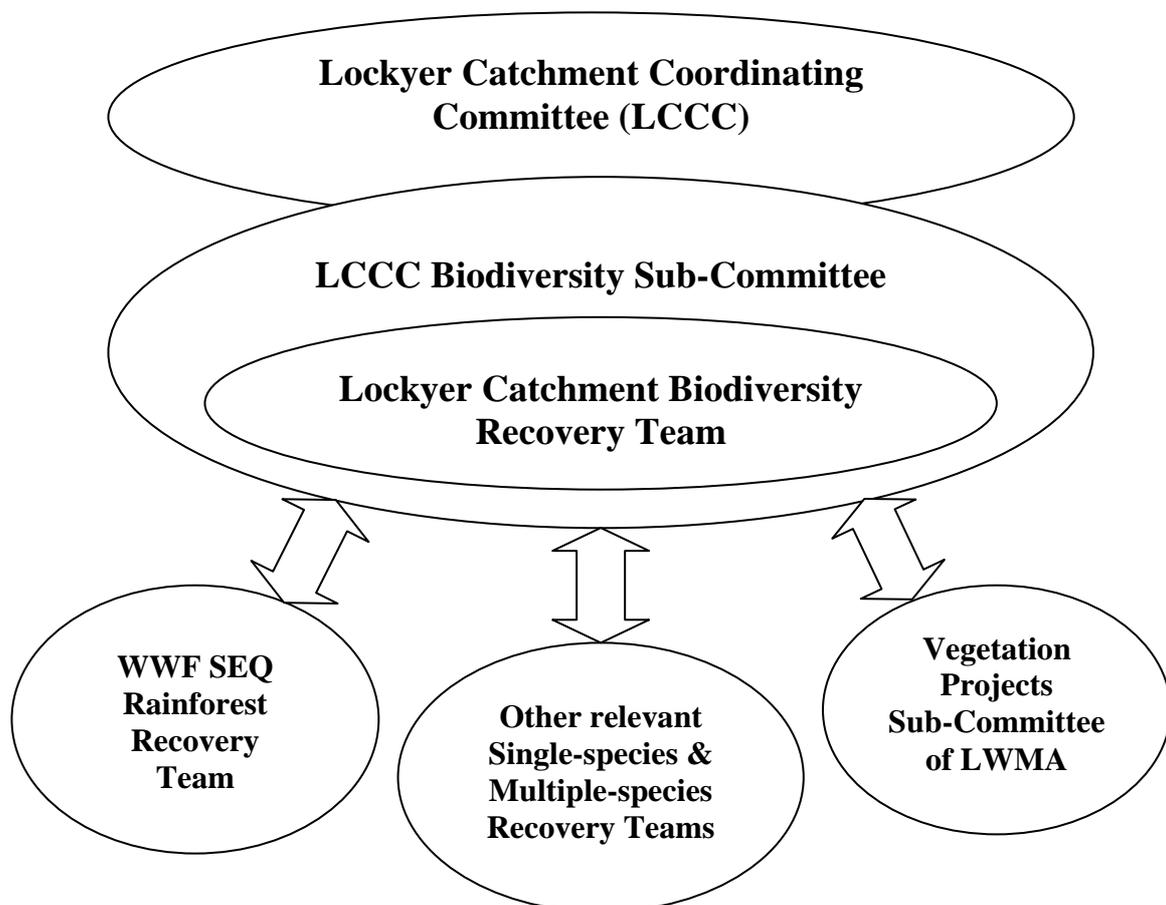
4.1.3 Role of the Biodiversity Sub-Committee

The Biodiversity Sub-Committee of the Lockyer Catchment Coordinating Committee would provide:

- *Coordination.* Coordinate the Lockyer Catchment Biodiversity Recovery Planning Partnership.
- *Linkages.* Coordinate linkages with the WWF South-East Queensland Rainforest Recovery Project and other relevant single-species and multiple-species recovery planning processes.
- *Leadership.* Lead the implementation of the Gatton Shire biodiversity conservation program.
- *Networking.* Establish effective networks with other biodiversity planning levels (local government, region, State, Commonwealth).
- *Lockyer Catchment Biodiversity Strategy.* Extend the Gatton Shire Biodiversity Strategy to other Lockyer Catchment local governments, and in doing so create a full Lockyer Catchment Biodiversity Strategy.

Because Biodiversity Recovery Planning will be the primary biodiversity conservation decision-making process, there will be a high degree of overlap between the proposed Biodiversity Sub-Committee and the Lockyer Catchment Regional Recovery Team.

Figure 4.2 - Coordination structure - Lockyer Catchment Biodiversity Strategy



4.1.4 Role of the Lockyer Catchment Biodiversity Recovery Plan

- Q. Will the vegetation mapping and assessments from the Gatton Shire Vegetation Survey be a sufficient basis for making informed biodiversity conservation decisions in Gatton Shire?***
- A. No. The vegetation mapping and assessment will identify native vegetation areas and their significance, including threatened ecosystems and threatened species habitat. However, it will not identify the natural processes that these species and ecosystems need for survival, or what needs to be done to maintain these processes in the face of a range of threats. This is the role of the Lockyer Catchment Biodiversity Recovery Plan.***

The vegetation mapping and assessments from the *Gatton Shire Vegetation Survey* will identify native vegetation areas and their significance, including threatened ecosystems and threatened species habitat. This will allow for some informed biodiversity conservation decisions to be made. For example, high conservation value areas that are inappropriate for development will be identified and can be protected through a range of mechanisms.

However, the mapping and assessments will not identify “natural processes”. An “ecosystem” includes all the different species in a particular environment from the biggest tree to the tiniest micro-organism, and their interactions with each other and the non-living parts of their environment (such as soil and water). The maintenance of these natural processes is vital for the survival of every species in the ecosystem. This is why the Biodiversity Recovery Plan is so important, and will become the key reference for biodiversity conservation decision-making in the Lockyer Catchment. The Biodiversity Recovery Plan will identify the natural processes essential for the survival of the biodiversity of Gatton Shire, and what needs to be done to maintain these processes in the face of the threats that were identified in Section 2.2. For example:

- What are the exact fire frequencies and intensities needed for the ongoing survival of species like the splendid boronia (*Boronia splendida*)?
- What long-term impacts will powerline easements have on threatened species like the Glossy Black Cockatoo? What actions are needed to mitigate these impacts?
- What actions are needed to reverse the decline of Brush-tailed Rock Wallaby populations in the upper Ma Ma Creek catchment?

Importantly, the Biodiversity Recovery Plan will achieve its outcomes through a cooperative partnership involving Councils, landholders, scientists, community groups and government agencies.

4.1.5 The benefits of embracing Regional Recovery Planning

Embracing Regional Recovery Planning will have significant benefits for the landholders and community of the Lockyer Catchment.

The new Queensland *Vegetation Management Act* will considerably strengthen the legislative protection for threatened ecosystems and other high conservation value areas, and will operate through “Regional Vegetation Management Plans”. The Regional Recovery Planning Partnership will ensure that the needs and issues of the landholders and community of the Lockyer Catchment are properly considered by the Regional Vegetation Management Plan decision-making process.

The new Commonwealth *Environment Protection and Biodiversity Conservation (EPBC) Act*, which comes into force in July 2000, will also increase the legislative protection for threatened species and ecosystems². An important addition will be the identification of critical habitats and the establishment of thresholds that will guide the Commonwealth in deciding whether future proposed developments could have a significant impact on biodiversity and require Commonwealth approval or not. The Lockyer Catchment has large areas of native vegetation, with much of this vegetation likely to be assessed as “critical habitat”. However, a locally developed Regional Recovery Plan is a positive way of proactively dealing with the EPBC legislative requirements.

By embracing the Lockyer Catchment Biodiversity Recovery Planning Partnership, the Lockyer Catchment Coordinating Committee (LCCC) and Lockyer Catchment Councils can facilitate local involvement in the decision-making process and local ownership of the outcomes, instead of State and Commonwealth interference and pressure. This is a major “win” outcome for the landholders and community of the Lockyer Catchment.

4.1.6 Evaluation and monitoring

Evaluation and monitoring is a fundamental component of the Lockyer Catchment Biodiversity Recovery Plan. The evaluation and monitoring will establish performance indicators, and measure the success/failure of biodiversity conservation mechanisms against those indicators on a regular basis. If success is not being achieved, changes to the biodiversity conservation mechanisms will need to be made. The proposed performance indicators for Gatton Shire biodiversity are³:

- A no-net-loss of vegetation cover situation in Gatton Shire by 2005.
- No further decline of threatened species and ecosystems by 2005.
- A net reduction in the number of threatened species and ecosystems in Gatton Shire by 2010.

Achieving the conservation of threatened species and ecosystems alone is not enough. A no-net-loss of vegetation cover situation should also be achieved, in recognition of the full range of benefits offered by native vegetation. For example, the role that native vegetation plays in conserving soil and water resources.

4.1.7 Recommended actions

A - Lockyer Catchment Biodiversity Recovery Planning Partnership		
Actions	Description	Responsibility
A1	Embrace the Lockyer Catchment Biodiversity Recovery Planning Partnership, and in doing so facilitate local involvement in biodiversity conservation decision-making processes and local ownership of the outcomes.	Lockyer Catchment Coordinating Committee (LCCC), Lockyer Catchment Councils.
A2	Prepare the <i>Lockyer Catchment Biodiversity Recovery Plan</i> , incorporating actions from the WWF SEQ Rainforest Recovery Project and other relevant single-species and multiple species recovery planning processes.	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.

Actions	Description	Responsibility
A3	<p>Establish a Biodiversity Sub-Committee of the Lockyer Catchment Coordinating Committee (LCCC), which will provide:</p> <ul style="list-style-type: none"> • <i>Coordination.</i> Coordinate the Lockyer Catchment Biodiversity Recovery Planning Partnership. • <i>Linkages.</i> Coordinate linkages with the WWF SEQ Rainforest Recovery Project and other relevant single-species and multiple-species recovery planning processes. • <i>Leadership.</i> Lead the implementation of the Gatton Shire biodiversity conservation program. • <i>Networking.</i> Establish effective networking with other biodiversity planning levels (local government, region, State, Commonwealth). • <i>Lockyer Catchment Biodiversity Strategy.</i> Extend Gatton Shire Biodiversity Strategy to other Lockyer Catchment Councils, and in doing so create a full Lockyer Catchment Biodiversity Strategy. 	Lockyer Catchment Coordinating Committee (LCCC), Lockyer Catchment Centre.
A4	Establish the <i>Lockyer Catchment Biodiversity Recovery Plan</i> as the key reference for biodiversity conservation decision-making in the Lockyer Catchment.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre, Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.

4.2 Property-Right Conservation Agreements (PRCAs)

Q. Why have many rural landholders rejected biodiversity conservation policies?

A. Because the policies have had little regard for the lifestyle and livelihood of rural landholders, which is a win-lose approach. Win-win outcomes can be achieved through the utilisation of Property-Right Conservation Agreements (PRCAs), which provide both land-use security and also for the conservation of natural values.

4.2.1 Conservation on private land

The traditional way of achieving biodiversity conservation on private land has been to acquire the land through purchase, and then gazette it as a National Park or Conservation Park. However, as was detailed in Section 3.1.3, this approach presents several problems in Gatton Shire. Acquisition is very expensive, and long-term management would become an added burden to already inadequately resourced government agencies. Acquired areas would also

result in lost rate income for Council, but Council would still be expected to maintain access roads and other infrastructure. Aside from these problems, most Gatton Shire landholders would not want to sell their properties anyway.

Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should adopt and advocate a preferred position in regard to biodiversity conservation on private land in Gatton Shire. This preferred position should state that biodiversity conservation outcomes in Gatton Shire are to be achieved through cooperative arrangements with existing landholders rather than through acquisition. The only exception to this should be acquisition by a revolving fund.

Revolving funds

Despite most landholders in Gatton Shire wanting to retain ownership of their land, there are currently some native vegetation properties listed for sale, and others will no doubt be listed for sale from time to time. Instead of acquiring these properties for reserve purposes, they could be purchased by a “revolving fund”. Revolving funds⁴ purchase key properties, place conservation agreements on them, and then resell them to conservation-minded landholders. There would be a ready market for the resale of the properties, demonstrated by the number of landholders who have recently purchased land in Gatton Shire area because they want to own land with conservation values. A revolving fund is one of the components of the Proposed Land Trust for Queensland⁵.

4.2.2 Voluntary Conservation Agreements (VCAs)

Voluntary Conservation Agreements (VCAs) are now used widely throughout South-East Queensland. A VCA is a formal agreement between a landholder and another body, typically a Council, in which the landholder agrees to set aside all or part of their property as a protected area for conservation. The landholders enter the agreement voluntarily - it is not compulsory or forced upon them. Councils typically provide assistance to landholders who enter into a VCA. For example, Brisbane City Council provides direct financial assistance of up to \$1,500 per year to VCA landholders. Other Councils provide assistance through rate rebates.

The Queensland Government also has a type of VCA. Called the Nature Refuge Agreement (NRA), it has the disadvantage of not including guaranteed assistance for the landholder. It does, however, have the advantage of being able to be fixed on the property title. This means that the conservation area is protected in perpetuity, even if the property is sold to other landholders. Many landholders like this feature, because it ensures that future owners must continue to protect the conservation values of the property.

Council VCAs are becoming the preferred agreement to Queensland Government NRAs even though VCAs are not yet able to be registered on title. This is because VCAs are more flexible, the VCA process is locally owned, and Councils have been more proactive in promoting and using VCAs.

4.2.3 Expanding VCAs to include property rights

While VCAs have been very successful in achieving cooperative conservation outcomes on private land in places like Brisbane, they are not yet in widespread use in rural areas like Gatton Shire.

VCAs in their current form have been designed for use in urban or rural residential settings. Financial assistance and rate rebates are significant incentives for urban and rural residential landholders, and would encourage many landholders to sign a VCA. However, unlike most urban and rural residential landholders, landholders in Gatton Shire typically need to derive an income from their properties. Conservation policies to date have largely ignored the livelihood needs of rural landholders. Many landholders have opposed these policies, not because they are opposed to the conservation of the natural values on their properties, but because they see conservation as a threat to their survival.

The win-win solution is a “Property-Right Conservation Agreement” that secures *both* the land-use rights of the landholder *and* the conservation of biodiversity values. This approach is endorsed by the *Draft National Framework for the Management and Monitoring of Australia’s Native Vegetation*⁶:

Property right measures can be used to clarify rights, entitlements and obligations, such as in the case of a conservation covenant. They will be most effectively used where site specific arrangements for the management of native vegetation are required.

Property-Right Conservation Agreements (PRCAs) should be used in Gatton Shire to secure the conservation of biodiversity values and the rights of landholders to carry out a range of activities including:

- Grazing.
- Timber production.
- Agriculture.
- Ecotourism.

4.2.4 Structure of Property-Right Conservation Agreements (PRCAs)

The Gatton Shire PRCAs should be based on the wording of existing South-East Queensland VCAs (for example, the VCAs of Brisbane City Council, Ipswich City Council and Cooloola Shire Council), with the addition of property-right security clauses. Additionally, the Gatton Shire PRCAs:

- Should be linked to property management plans.
- Should use a “zonal” system.
- Must consider the conservation requirements of continuous habitat areas.
- Could be offered for a range of different durations.
- Could be linked to codes of practice.

Property management plans

As shown in Section 1.2, property management planning is the next biodiversity planning “level” after catchment and local government planning. Because property management planning is the key process for translating catchment-level actions into property-level actions, the Gatton Shire PRCAs should be linked to property management plans. Property management planning is further explained in Section 4.14.

Property management plans could be made a pre-requisite for landholders who want to enter into PRCAs. Alternatively, a higher level of incentives could be offered for PRCAs where there is a property management plan.

The zonal system

The Gatton Shire PRCAs should use a “zonal” system similar to the one that is used by the Environmental Protection Agency (EPA) for many of its Nature Refuge Agreements (NRAs).

With the zonal system, the agreement property is divided up into various zones of differing conservation value and land-use intent. For example, there might be a high-conservation value zone where the landholder and Council agree to exclude grazing, and another low-conservation value zone where the landholder and Council agree that grazing rights can be secured in conjunction with the conservation of the natural values. The intent of each zone needs to be detailed in a schedule attached to the PRCA, and a map showing the zones needs to be a scheduled attachment to the PRCA. Zone boundaries for NRAs are generally determined with the used of a global positioning system (GPS) receiver or compass (it is not necessary to define surveyed boundaries), and the same procedure should be able to be used for PRCAs.

Continuous habitat areas

The Gatton Shire PRCAs must consider the conservation requirements of continuous native vegetation areas. Individual properties within continuous native vegetation areas, such as the Helidon Hills, cannot be considered in isolation. The long-term survival of the flora and fauna in continuous native vegetation areas is directly dependant on the maintenance of habitat viability over the whole area, and not just on individual properties.

To achieve conservation outcomes in continuous habitat areas, the PRCAs in these areas:

- Must link the conservation areas on each individual property with the conservation areas on adjoining properties.
- Must consider the conservation requirements of the whole area. Within a continuous native vegetation area, the total conservation area protected through all of the individual property PRCAs must be sufficient to maintain the long-term habitat viability of the overall area.

Agreement duration

The Gatton Shire PRCAs could be offered for a range of different durations. Conservation agreements can either be “fixed-term” or “in-perpetuity”. Fixed term agreements operate for a defined period, for example 1 or 5 years. In-perpetuity agreements are registered permanently on the property title, making the agreement binding on the current and all future landholders. Local Government conservation agreements cannot yet be registered on property title in Queensland, but the Queensland Government is expected to correct this anomaly in the near future. In the meantime, Gatton Shire Council should adopt the approach taken by Brisbane City Council with its VCAs. The “higher” VCAs, one of two types of Brisbane City Council VCA, are for a period of 99 years and include a clause stating that the agreement will be registered on property title once this becomes possible.

For some landholders, fixed-term agreements can be more attractive than in-perpetuity agreements. Some landholders are understandably uncomfortable with the idea of an agreement that lasts forever, particularly landholders who have had bad experiences with government in the past. As a result, fixed-term agreements can often achieve higher levels of landholder participation.

On the other hand, *Motivating People: Using Management Agreements to Conserve Remnant Vegetation* alerts to the problems that can be experienced with fixed-term agreements⁷:

Their main disadvantage is that they do not bring about a transition to a new definition of property rights...

Generally, fixed-term agreements have a critical weakness in that they need to be renegotiated and the landholder may seek payment for activities undertaken under a prior agreement. Sometimes, they give the landholder an opportunity to hold a valued environmental asset to ransom. Some of these problems have been overcome by requiring money to be paid back when a new agreement cannot be negotiated...

Other solutions to overcome the problems of fixed term agreements include:

- Offering a higher level of incentives with longer-duration agreements, which would encourage more landholders to enter into the longer-duration agreements (refer to Section 4.7).
- Only offering property-right security with in-perpetuity agreements. Fixed-term agreements would be basic VCAs, and in-perpetuity agreements would be PRCAs.

Codes of practice

To ensure that the property-right land use secured through a PRCA is carried out sustainably, there could be a requirement for the land use to be carried out in accordance with a recognised code of practice. Codes of practice have been developed for sustainable native forest timber production⁸ and sustainable agriculture⁹, and there is an accreditation program for ecotourism¹⁰. Compliance with a relevant code of practice/accreditation program could be a mandatory prerequisite for entry into a PRCA. Alternatively, a higher level of incentives could be offered for PRCAs where there is compliance with a code of practice.

4.2.5 Implementing a PRCA program

Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should develop and implement a Property Right Conservation Agreement (PRCA) program.

To be effective, the PRCA program needs to be well resourced. The issue of resourcing is addressed in Section 4.15. The PRCA program also needs to proactively target potential PRCA sites with high conservation values, in addition to responding to interested landholders who come forward of their own accord. Experience elsewhere has shown that voluntary conservation agreement programs will be much more successful if they proactively target potential agreement sites¹¹. High conservation value sites will be identified by the *Gatton Shire Vegetation Survey* (refer to Sections 1.1 and 2.1.2) and the *Lockyer Catchment Biodiversity Recovery Plan*.

It may be possible to include enhanced property-right measures in Queensland Government Nature Refuge Agreements (NRAs) as an alternative to developing and implementing a new PRCA program. The use of the enhanced NRAs would result in considerable savings in effort and expense for Gatton Shire Council and the Lockyer Catchment community. Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should investigate the possibility of including enhanced property-right measures in Queensland Government Nature Refuge Agreements (NRAs) before proceeding with the development of a PRCA program.

4.2.6 Recommended actions

B - Property-Right Conservation Agreements (PRCAs)		
Actions	Description	Responsibility
B1	Adopt and advocate a preferred position in regard to biodiversity conservation on private land in Gatton Shire. This preferred position should state that biodiversity conservation outcomes in Gatton Shire are to be achieved through cooperative arrangements with existing landholders rather than through acquisition. The only exception to this should be acquisition by a revolving fund.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
B2	Investigate the possibility of including enhanced property-right measures in Queensland Government Nature Refuge Agreements (NRAs) before proceeding with the development of a Property-Right Conservation Agreement (PRCA) program.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
B3	Develop and implement a Property-Right Conservation Agreement (PRCA) program. The Gatton Shire PRCAs should be based on the wording of existing South-East Queensland VCAs with the addition of property-right security clauses, and: <ul style="list-style-type: none"> • Should be linked to property management plans. • Should use a “zonal” system. • Must consider the conservation requirements of continuous habitat areas. • Could be offered for a range of different durations. • Could be linked to codes of practice. 	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
B4	Target PRCAs at high conservation value sites identified by the <i>Gatton Shire Vegetation Survey</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Gatton Shire Council, Lockyer Catchment Centre, Lockyer Catchment Biodiversity Recovery Team.

4.3 Alternative land-uses

While Property-Right Conservation Agreements (PRCAs) will suit the needs of a large number of landholders in Gatton Shire, they will not suit all landholders. Many landholders have indicated that their traditional farming pursuits are no longer viable, largely as a result of a significant decline in commodity prices over several decades combined with property sizes that are relatively small. Many upland landholders who were very profitable in the 1960’s now rely heavily on off-farm income, or have suffered a severe drop in living standards, or both. These landholders will obviously not be interested in securing their right to continued economic decline.

A win-win outcome in this situation involves finding solutions that benefit *both* conservation *and* the economic needs of landholders. These solutions can be achieved by linking additional mechanisms to the PRCAs:

- Mechanisms that facilitate alternative land-use options, in particular tourism enterprises, new farming opportunities and farm forestry.
- Mechanisms that facilitate environmentally sound rural residential developments. This is discussed in Section 4.5.
- Incentives. This is discussed in Section 4.7.

4.3.1 Tourism enterprises

Many Gatton Shire landholders are very interested in nature-based tourism as an alternative land-use option. Gatton Shire has significant potential for further nature-based tourism development. It is close to the major urban areas of South-East Queensland, and offers unique experiences in terms of flora and fauna, landforms and heritage. Gatton Shire has over 100,000 hectares of native vegetation featuring unique species, beautiful wildflowers, and impressive gorges, escarpments, waterfalls and views. Several landholders are already capitalising on these values through a range of recently established nature-based tourism ventures.

Ecotourism

The term “nature-based tourism” is used to describe any tourism activity that utilises the natural environment, including tourism activities that may actually degrade the environment. Within the broad field of nature-based tourism there is “ecotourism”. According to the Queensland Ecotourism Plan¹²:

Ecotourism is defined as:

“nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable.”

This definition recognises that ‘the natural environment’ includes cultural components and that ‘ecologically sustainable’ involves and appropriate return to the local community and long-term conservation of the resource.

Ecotourism is preferred to broader nature-based tourism, not just because of its lower impacts and greater biodiversity benefits, but because of its much greater economic benefits. Tourism is the world’s largest and Australia’s fastest growing industry. Ecotourism is the fastest growing sector of that industry, with ecotourists now representing nearly 30% of the travelling public in Australia¹³. Ecotourism also returns more to local economies than many other forms of tourism. Recent research¹⁴ shows that most visitors are tertiary educated professionals with incomes in excess of \$60,000 per year, and that 79% of visitors have an average spend-per-day of more than \$100.

Peter O’Reilly, from the world-famous O’Reilly’s Rainforest Guesthouse in the Gold Coast Hinterland and President of the Ecotourism Association of Australia (EAA), affirms that ecotourism is here for the long-term and will guarantee the protection of our natural assets¹⁵:

Now I know there are those of you who are thinking that you’ve heard it all before, and that ecotourism is the flavour of the month, in which every cowboy with a four-wheel drive thinks he can make a fast buck.

Firstly, ecotourism is definitely here to stay. Market forces will demand it. People are more environmentally conscious than ever before...They are keen to experience and learn about their natural environment, and, as a result, they are very protective of that natural asset.

Secondly, industry self regulation is alive and well in ecotourism. In November 1996, the Ecotourism Association together with the Australian Tourism operators Network launched the National Ecotourism Accreditation Program (NEAP)...The benefits of the scheme extend to committed ecotourism operators, natural resource managers, ecotourists, and conservation minded people such as ourselves who only want sustainable business operations to be allowed into natural areas of significant conservation value.

These benefits are primarily derived by the exclusion of the cowboy operators, and through the provision of a guarantee of quality. NEAP is being well promoted throughout the country at this time and rapidly gaining both operator, travel agent and consumer acceptance.

Nature-based tourism activities should be encouraged in Gatton Shire, but with preference given to ecotourism activities. Ecotourism can provide Gatton Shire with a new high-value low-impact industry.

Developing ecotourism in Gatton Shire

Two environmental tourism workshops were held during the WESROC Sustainable Management of the Helidon Hills Project, in response to requests for information and assistance from several Helidon Hills landholders who are keen to establish environmental tourism enterprises. Participants in the workshops included:

- Environmental tourism experts from Tourism Queensland¹⁶, the Ecotourism Association of Australia (EAA), and the University of Queensland Gatton Campus.
- Gatton Shire Council officers.
- Landholders from throughout Gatton Shire who have established, or are interested in establishing, environmental tourism enterprises.

One of the conclusions from the workshops was that current Gatton Shire Council policies and procedures are not assisting ecotourism development. Landholders who want to engage in traditional pursuits such as grazing and timber harvesting face few, if any, impediments to their activities, even though these activities may be having negative impacts on the environment. However, landholders who want to establish ecotourism enterprises face a complex development application process and various fees and charges, and can also be required to pay for management plans and flora, fauna and cultural heritage surveys. This is a lose-lose approach. Landholders are losing economic opportunities, the community is losing employment opportunities and flow-on economic benefit opportunities, and biodiversity is losing a very effective conservation mechanism. Other Councils in this region are actively developing ecotourism opportunities, and Gatton Shire Council should follow their lead. For example, Boonah Shire recently secured over \$200,000 in funding which is being used to promote ecotourism development.

The Commonwealth Government policy discussion paper *Managing Natural Resources in Rural Australia for a Sustainable Future* recommends that¹⁷:

Governments should consider a range of measures aimed at facilitating the sustainable utilisation of wildlife, including...a review of policy and administrative procedures relating to the commercial use of wildlife, to ensure that there are no unnecessary hindrances to the development of appropriate wildlife-based agricultural industries, including...eco-tourism activities.

Gatton Shire Council should review its policies and procedures to ensure that ecotourism is not unnecessarily hindered. This review should involve extensive consultation with:

- Environmental tourism experts from Tourism Queensland, the Ecotourism Association of Australia (EAA), and the University of Queensland Gatton Campus.
- Landholders from throughout Gatton Shire who have established, or are interested in establishing, environmental tourism enterprises.

Lockyer Catchment Councils, the Lockyer Catchment Coordinating Committee (LCCC), the Lockyer Valley Tourist Association (LVTA) and LWMA - Lockyer Landcare should also pursue grant funding for an ecotourism development program. The ecotourism development program should be based on the current Boonah Shire project, and have the following components:

- Development of an ecotourism development strategy for the Lockyer Catchment.
- Advice and assistance to people interested in establishing ecotourism enterprises.
- Funding grants to landholders to offset application fees and charges and the costs of management plans and flora, fauna and cultural heritage surveys.
- Preparation and distribution of a guide booklet titled “How to establish an ecotourism enterprise in the Lockyer Catchment”, which sets out clearly and simply approval processes and requirements.

Resolving land-use conflicts

Tourism developments, even small-scale low-impact ecotourism developments, can impact negatively on other landholders or the activities of other landholders. If these conflict situations arise, Gatton Shire Council should take the win-win approach. This involves working cooperatively with all of the landholders involved to find solutions that facilitate *both* the establishment of tourism enterprises *and* the protection of the rights and needs of other landholders. Potential solutions include the careful placement of buildings and other infrastructure, and the realignment of access roads.

4.3.2 New farming opportunities

Alternative farming enterprises have considerable potential in Gatton Shire, in particular enterprises involving the commercial production of native plant species. The *Draft National Framework for the Management and Monitoring of Australia’s Native Vegetation* highlights the future role of Australian native species¹⁸:

Over time, more sustainable land use systems are likely to include native Australian species more than is found in conventional agriculture today.

Farming systems may in the future have portions of the landscape occupied by native perennials, some of which form the basis of grazing systems, and others generating a

range of products including...timber, fuelwood, craftwood and pulp, cut flowers, essential oils, herbs, solvents and pharmaceuticals.

The native vegetation of Gatton Shire features a large number of plant species, in particular wildflowers, with commercial potential. Examples are the “Splendid Boronia” (*Boronia splendida*), with its spectacular display of pink flowers, and the native mint *Mentha grandiflora*. Australian native flowers and foliage were once extensively harvested from the bush, but a transition to cultivation is now occurring because bush harvesting produces an inferior quality product as well as having a negative environmental impact. Native wildflowers, in particular riceflowers, Geraldton wax, and kangaroo paw, are already being successfully commercially grown as cut flower crops in the Lockyer Valley. The Rural Industries Research and Development Corporation (RIRDC) publication *The New Rural Industries - A handbook for Farmers and Investors* relates how Gatton Shire farmers Graham and Esther Cook successfully developed a local native riceflower into a commercial crop¹⁹:

Graham Cook was the first grower to cultivate rice flower commercially. Graham has a lifetime of experience in farming, but by 1997 he and his wife Esther were looking for a crop which would make their lucerne and cattle farm near Helidon in southern Queensland more viable and easier to manage.

They were seeking something that did not need a large area or expensive specialised equipment, that needed a minimum of water, and which could tolerate salty water in dry times. They looked at native flowers.

After trialling (mostly unsuccessfully) a wide selection of native flowers...they felt that the local rice flower looked the most promising and suitable for their climate.

The Cooks have since released two cultivars, ‘Cooks Snow White’ and ‘Cooks Tall Pink’, which they are now successfully growing for the export market.

The growing of Australian native flowers offers significant economic opportunities, but Australians have been surprisingly slow to recognise these opportunities and capitalise on them. Other countries have been much quicker to recognise the potential of our native flora than we have. For example, Israel now exports four times the value of Australian native cut flowers as Australia. Jean McRuvie, formerly of the Department of Primary Industries, points out that export native flowers can offer far greater income potential than some traditional agricultural exports²⁰:

The industry also suffers from a poor profile, being seen as a ‘hobby’ type industry and not an industry to be taken seriously like grain or cattle. In this regard an interesting statistic that should be taken into account is that:

‘THE JAPANESE SPEND MORE ON FLOWERS THAN THEY DO ON BEEF’ (Jeff Moon, Queensland Horticultural Export Council, July 1995).

Other new farming opportunities

In addition to native plant based enterprises, a range of other new farming and related activities also have potential in the Lockyer Valley. These include aquaculture and food processing.

Developing new farming opportunities in the Lockyer Catchment

The development of new farming opportunities in the Lockyer Catchment is impeded by:

- The absence of a lead group/organisation.
- A lack of landholder awareness of new opportunities.
- A lack of government financial support for the commercial investigation of local native species.

To overcome these impediments, the Lockyer Catchment Centre should convene a forum aimed at creating strategic directions for the development of new farming opportunities in the Lockyer Catchment; in particular native plant based industries. The forum should involve:

- Existing local commercial native plant growers.
- Landholders interested in establishing native plant crops and other alternative enterprises.
- Gatton and Laidley Shire Councils.
- The Department of Primary Industries.
- Research and technical staff from the University of Queensland Gatton Campus and Toowoomba TAFE.
- Lockyer Catchment Coordinating Committee (LCCC).
- LWMA - Lockyer Landcare.

The forum should aim to:

- Identify a lead group/organisation that will take responsibility for the future advancement of the initiative.
- Initiate the development of a funding proposal for submission to the year 2000 RIRDC funding round.
- Initiate the development of funding proposals for submission to other funding sources as identified.
- Initiate planning for native plant enterprise and new farming opportunity information activities (field days, brochures etc.)

4.3.3 Farm forestry

Another new rural enterprise with expanding potential is farm forestry. After observing strong local interest in farm forestry, the Lockyer Catchment Centre facilitated the establishment of the Lockyer and West Moreton Farm Forestry Group in 1998. The group has brought together interested landholders, the local timber industry and government agencies, and works to promote and assist the establishment of farm forestry plantations throughout the region. The South-East Queensland Regional Forest Agreement (SEQ RFA) is expected to provide a significant boost to farm forestry in the Lockyer. To meet SEQ RFA objectives, a massive area of timber plantation will be established over the next 5 years, with the Lockyer one of the key plantation focus areas.

4.3.4 Recommended reading

The following books should be acquired by Gatton Shire Council and the Lockyer Catchment Centre libraries. The books feature useful information about ecotourism and the commercial development of Australian native plants:

- Holing, D. (ed) (1996). *World Travel: A Guide to International Ecojourneys*. The Nature Company, R.D. Press, Sydney.

- Elander, M. and Widstrand, S. (1993). *Eco-Touring: The Ultimate Guide*. Firefly Books (U.S.) Inc. New York.
- Hamilton, Jill, Duchess of, and Bruce, J. (1998). *The Flower Chain: The Early Discovery of Australian Plants*. Kangaroo Press, NSW.

World Travel: A Guide to International Ecojourneys and *Eco-Touring: The Ultimate Guide* are comprehensive and inspiring guides to ecotourism destinations throughout the world. Both books highlight the benefits of ecotourism and the need for the careful management of ecotourism assets. *The Flower Chain: The Early Discovery of Australian Plants* chronicles the chain of events that made Australia's rich and diverse flora known all over the world while it has been largely ignored in Australia itself.

4.3.5 Recommended actions

C - Alternative land-uses		
Actions	Description	Responsibility
C1	Review policies and procedures to ensure that ecotourism is not unnecessarily hindered. This review should involve extensive consultation with: <ul style="list-style-type: none"> • Environmental tourism experts from Tourism Queensland, the Ecotourism Association of Australia (EAA), and the University of Queensland Gatton Campus. • Landholders from throughout Gatton Shire who have established, or are interested in establishing, environmental tourism enterprises. 	Gatton Shire Council.
C2	Apply the win-win approach to land-use conflicts between ecotourism and the rights and needs of other landholders.	Gatton Shire Council.
C3	Pursue grant funding for an ecotourism development program. The ecotourism development program should be based on the current Boonah Shire project, and have the following components: <ul style="list-style-type: none"> • Development of an ecotourism development strategy for the Lockyer Catchment. • Advice and assistance to people interested in establishing ecotourism enterprises. • Funding grants to landholders to offset application fees and charges and the costs of management plans and flora, fauna and cultural heritage surveys. • Preparation and distribution of a guide booklet titled "How to establish an ecotourism enterprise in the Lockyer Catchment", which sets out clearly and simply approval processes and requirements. 	Lockyer Catchment Councils, Lockyer Catchment Coordinating Committee (LCCC), Lockyer Valley Tourist Association (LVTA), LWMA - Lockyer Landcare.

Actions	Description	Responsibility
C4	<p>Convene a forum aimed at creating strategic directions for the development of new farming opportunities in the Lockyer Catchment; in particular native plant based industries. The forum to involve:</p> <ul style="list-style-type: none"> • Existing local commercial native plant growers. • Landholders interested in establishing native plant crops and other alternative enterprises. • Gatton and Laidley Shire Councils. • The Department of Primary Industries. • Research and technical staff from the University of Queensland Gatton Campus and Toowoomba TAFE. • Lockyer Catchment Coordinating Committee (LCCC). • LWMA - Lockyer Landcare. <p>The forum should aim to:</p> <ul style="list-style-type: none"> • Identify a lead group/organisation that will take responsibility for the future advancement of the initiative. • Initiate the development of a funding proposal for submission to the year 2000 RIRDC funding round. • Initiate the development of funding proposals for submission to other funding sources as identified. • Initiate planning for native plant enterprises and other alternative farming opportunities information activities (field days, brochures etc.) 	Lockyer Catchment Centre.
C5	Continue to promote and assist the development of farm forestry.	Lockyer and West Moreton Farm Forestry Group.
C6	<p>The following books should be acquired for the Gatton Shire Council and Lockyer Catchment Centre libraries:</p> <ul style="list-style-type: none"> • Holing, D. (ed) (1996). <i>World Travel: A Guide to International Ecojourneys</i>. The Nature Company, R.D. Press, Sydney. • Elander, M. and Widstrand, S. (1993). <i>Eco-Touring: The Ultimate Guide</i>. Firefly Books (U.S.) Inc. New York. • Hamilton, Jill, Duchess of, and Bruce, J. (1998). <i>The Flower Chain: The Early Discovery of Australian Plants</i>. Kangaroo Press, NSW. 	Gatton Shire Council, Lockyer Catchment Centre.

4.4 Land for Wildlife

4.4.1 A non-binding program

Declining economic viability is one of the two key reasons why some Gatton Shire landholders will not want to enter into Property-Right Conservation Agreements (PRCAs). The other key reason is the concern that some landholders have about entering into a binding agreement. The ‘Land for Wildlife’ initiative provides a win-win outcome in this situation by providing *both* conservation assistance to landholders *and* a mechanism that is not legally binding.

Land for Wildlife has been operating successfully in Victoria for 17 years, with over 3,800 properties now involved, and is now also operating successfully in South-East Queensland. Land for Wildlife is a free, voluntary, and non legally binding program that aims to encourage and assist private landholders to provide and actively manage habitat for wildlife on their property. Land for Wildlife is responsive to the needs of the landholders and recognises that each landholder will have a different capacity to participate in the program. For example, participants include farms, bush blocks, parks, school grounds, golf courses, and cemeteries.

Landholders receive informative newsletters and on-ground advice, and a ‘Land for Wildlife’ sign for their property, but are free to leave the program at any time if they so desire.

Gatton Shire Council is highly commended for supporting the initiation of Land for Wildlife in the Helidon Hills. Council is strongly encouraged to expand Land for Wildlife to the rest of Gatton Shire, and to make a long-term commitment to the program.

4.4.2 Recommended actions

D - Land for Wildlife		
Actions	Description	Responsibility
D1	Expand Land for Wildlife to the whole of Gatton Shire, and make a long-term commitment to the program.	Gatton Shire Council.

4.5 Alternative approaches to development

- Q. But isn't this biodiversity conservation stuff really just the greens trying to stop developments that will benefit the people of Gatton Shire?*
- A. No. If the win-win approach is taken, solutions can be found that will result in both development outcomes and conservation outcomes.*

As revealed in Section 2.2.1, most of the current native vegetation clearance in Gatton Shire is the result of rural residential development. The solution to this problem is *not* a ban on development. The solution is a win-win approach to development that achieves *both* development outcomes *and* the conservation of native vegetation.

4.5.1 The disadvantages of rural residential development

Traditional approaches to rural residential development typically involve subdividing a large block into equally sized smaller blocks. For example, a rural residential development created by subdividing a 100 acre block into 5 acre blocks. This type of development has several disadvantages:

- *Native vegetation clearance.* While some of the landholders purchasing into rural residential developments are retaining the native vegetation on their properties, other landholders are clearing their properties completely with negative impacts on biodiversity. Some landholders retain the tree canopy but clear the understorey, which can be almost as devastating as total clearance (refer to Section 2.2.1).
- *High cost of service provision.* The residences in rural residential subdivisions are scattered over a wide area and separated by a considerable distance, leading to higher costs for the provision of services such as access roads, electricity, water, telephone and waste disposal. It is often the wider community, and not the developer or the residents in the development, who end up paying at least part of the cost for the provision of these services, even though the wider community is not likely to receive any benefit from the development or the services.
- *Bushfire risk.* Residences scattered through an area that retains some native vegetation cover are at risk from bushfires.
- *Social problems.* Because the residences in rural residential subdivisions are scattered over a wide area and separated by a considerable distance, there can be a high degree of social isolation and a poor sense of community for residents. Property crime rates are often very high in rural residential areas, with isolated unattended houses an easy target for burglars.

4.5.2 Innovative win-win approaches to rural residential development

The disadvantages of traditional approaches to rural residential development can be overcome by the use of three innovative approaches:

- Group-title development.
- Multiple-occupancy development.
- “Conservation subdivision”.

Group-title and multiple-occupancy developments

Instead of dividing a large block into equally sized small blocks, group-title and multiple-occupancy developments involve subdividing a small proportion of the large block into standard house allotments and setting the rest of the large block aside as a common area. For example, 10 acres of a large 100 acre block is subdivided into 20 half-acre blocks, and the remaining 90 acre area is set aside as a common area. With a group-title development, purchasers receive individual titles for their residential properties and become shareholders in the common area. With a multiple-occupancy development, purchasers do not receive a title, and instead become shareholders in both the residential area and the common area.

Group-title and multiple-occupancy developments can lead to win-win outcomes for *both* biodiversity conservation *and* rural residential development, as well as a win for the cost of service provision, a win for bushfire safety, and a win for social well-being:

- *Native vegetation retention.* If the original large block was mostly native vegetation, then the native vegetation can be retained in the common area and protected by a conservation agreement, with the residential area taking advantage of previously cleared areas.
- *Low cost of service provision.* The residences are clustered in one small area, which dramatically reduces the cost of providing services such as access roads, electricity, water, telephone and waste disposal.
- *Bushfire protection.* Because the residences are clustered in one small area, buffer zones can be easily constructed to protect the residences from a bushfire in the remaining bushland area.
- *Social benefits.* Clustering the residences in one small area facilitates a high level of social interaction and sense of community. Property crime becomes nearly non-existent because there is almost always someone around to notice the arrival of a burglar.

Conservation subdivision

Not all landholders that subdivide their properties want to divide the land area into small blocks. Some landholders just want to subdivide their property into two or three blocks. For example, subdividing a 100 acre block into two 50 acre blocks. While this form of subdivision has a lower impact than subdivision into small blocks, native vegetation clearance can still be the end result.

Another innovative type of subdivision offers a potential solution. This is “conservation subdivision”, and it involves permitting the subdivision of a large block into two, three or four allotments in return for all of the native vegetation on the original block being protected through conservation agreements. This is a win-win outcome for *both* biodiversity conservation *and* the landholder.

4.5.3 Implementing alternative approaches to subdivision in Gatton Shire

As part of the Gatton Shire Council Planning Scheme Review, Council is proposing to review the rural residential land situation. Council proposes to²¹:

Evaluate supply with view to reduction and/or redistribution to more suitable areas having consideration for infrastructure services, agricultural land, access and constraints.

This review process should consider:

- *The impact of the current supply of zoned rural residential land on native vegetation.* Gatton Shire currently has a large supply of zoned rural residential land. If all of this rural residential development proceeds, vegetation clearance will result. The impact of the current supply of zoned rural residential land on native vegetation should be considered as a “constraint” in the context of this proposed rural residential land review, and the decision-making should be informed by the *Gatton Shire Vegetation Survey*, *Queensland Vegetation Management Act* (refer Sections 2.3.4 and 4.1.5), *Commonwealth Environment Protection & Biodiversity Conservation Act* (refer Sections 2.3.4 and 4.1.5) and *Lockyer Catchment Biodiversity Recovery Plan*.

- *The impact of any proposed redistribution of supply on native vegetation.* Any plans to redistribute rural residential land to other parts of the Shire should also consider native vegetation as a “constraint”. The decision-making should be informed by the *Gatton Shire Vegetation Survey*, *Queensland Vegetation Management Act* (refer Sections 2.3.4 and 4.1.5), *Commonwealth Environment Protection & Biodiversity Conservation Act* (refer Sections 2.3.4 and 4.1.5) and *Lockyer Catchment Biodiversity Recovery Plan*.
- *The protection of Good Quality Agricultural Land (GQAL).* The current Gatton Shire Planning Scheme does not permit the subdivision of Good Quality Agricultural Land (GQAL), in accordance with *State Planning Policy (SPP) 1/92 Development and Conservation of Agricultural Land*. Council should continue to prevent the subdivision of Good Quality Agricultural Land (GQAL).
- *Subdivision as a possible option for non-GQAL farmland that is not economically viable.* The current Gatton Shire Planning Scheme also does not permit the subdivision of other (non-GQAL) rural land areas. Decisions to continue this policy should take into account the questionable viability of these areas for future farming activities. While many of these properties are large in the context of property sizes in Gatton Shire, they are small in the context of the size needed to carry out economically viable farming activities. Alternative enterprises such as ecotourism, the growing of native plant based crops and farm forestry will offer viable alternatives for many properties, but may not be suitable for all properties. Because of this, subdivision should be investigated as a possible option for landholders whose properties are no longer viable for farming.
- *The benefits of innovative approaches to rural residential development.* Because of the benefits for biodiversity conservation, innovative approaches to rural residential development (group-title development, multiple-occupancy development and conservation subdivision) are preferable to traditional approaches to rural residential development.

The review process should aim to achieve a win-win outcome for *both* biodiversity conservation *and* development.

4.5.4 Offsets and performance/assurance bonds

The *Queensland Vegetation Management Act* will restrict the clearance of threatened ecosystems and high conservation value areas in Gatton Shire. If Gatton Shire Council decides to continue to allow the clearance of other areas of native vegetation, then policies and provisions for “offsets and performance/assurance bonds” should be implemented. This would achieve a no-net-loss of vegetation cover situation, in recognition of the full range of benefits offered by native vegetation. For example, the role that native vegetation plays in conserving soil and water resources. Offsets and performance/assurance bonds are explained in the *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*²²:

Off-sets are mechanisms through which clearing one area is made subject to the landholder revegetating another area or protecting part of the area proposed for clearing with fencing. A performance or assurance bond may be used to ensure that the conditions associated with clearing consent are met. Precedents for both offsets and performance bonds exist within the mining industry. Once again, application to native vegetation would have to take account of the different values of different areas of native vegetation.

4.5.5 Recommended actions

E - Alternative approaches to development		
Actions	Description	Responsibility
E1	The Gatton Shire Council Planning Scheme rural residential land review should consider: <ul style="list-style-type: none"> • The impact of the current supply of zoned rural residential land on native vegetation. • The impact of any proposed redistribution of supply on native vegetation. • The protection of Good Quality Agricultural Land (GQAL). • Subdivision as a possible option for non-GQAL farmland that is not economically viable. • The benefits of innovative approaches to rural residential development (group-title development, multiple-occupancy development and conservation subdivision). 	Gatton Shire Council.
E2	Decision-making for the Gatton Shire Planning Scheme rural residential land review should be informed by the <i>Gatton Shire Vegetation Survey</i> , <i>Queensland Vegetation Management Act</i> , <i>Commonwealth Environment Protection & Biodiversity Conservation Act</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Gatton Shire Council.
E3	If the clearance of native vegetation for rural residential development is allowed to continue, then policies and provisions for “offsets and performance/assurance bonds” should be implemented.	Gatton Shire Council.

4.6 Habitat restoration and management

4.6.1 The management of exotic flora and feral animals

The invasion of exotic flora species into native vegetation areas is arguably the biggest threat to the biodiversity of Gatton Shire (refer to Section 2.2.3). The exotic flora species posing the greatest threat are lantana (*Lantana camara*), madeira vine (*Anredera cordifolia*), and green panic (*Panicum maximum*). This threat should be mitigated through exotic flora management programs.

Feral animals are also threatening biodiversity, but to a much lesser extent than exotic flora (refer to Section 2.2.5). This threat must also be mitigated through management programs.

A long-term strategic management approach must be taken if the exotic flora and feral animal threat is to be successfully mitigated. Ad-hoc approaches do not work. It is largely pointless for exotic species to be controlled on one property if the property is rapidly re-infested from an adjacent property. Effective exotic flora and feral animal management programs should be a component of the *Lockyer Catchment Biodiversity Recovery Plan*.

Best practice exotic flora and feral animal management

The success or otherwise of exotic flora and feral animal management programs depends directly on the identification of best practice management approaches. This needs to include identifying and understanding the causes of exotic species invasion, and identifying practical and cost-effective management techniques. Only through best practice approaches will win-win outcomes be achieved.

4.6.2 Sustainable management of grazing and timber harvesting

The habitat modification caused by grazing is making a comparatively small contribution to biodiversity decline in Gatton Shire (refer to Section 2.2.6). Sustainable grazing management programs should be developed as components of the *Lockyer Catchment Biodiversity Recovery Plan*. The sustainable grazing management programs should:

- Be linked to property management plans (refer to Section 4.14).
- Involve the erection of fencing to facilitate grazing exclusion or grazing control in high conservation value areas.
- Involve incentive payments to landholders to assist them with fencing and other biodiversity management issues (refer to Section 4.7).

The habitat modification caused by timber harvesting is also contributing to biodiversity decline in Gatton Shire (refer to Section 2.2.6). The South-East Queensland Regional Forest Agreement (SEQ RFA) process is developing sustainable timber production programs for both public and private land. A Code of Practice for Native Forest Timber Production has been prepared²³. The SEQ RFA sustainable timber production programs should be incorporated into the *Lockyer Catchment Biodiversity Recovery Plan*. The new Queensland *Vegetation Management Act* may also impact on private land timber production, and this should be further investigated.

4.6.3 Re-establishing areas of native vegetation

The biodiversity of Gatton Shire continues to feel the effects of past clearance, as was detailed in Section 2.2.2. As well as conserving remaining areas of native vegetation, a successful biodiversity conservation program in Gatton Shire will also need to re-establish areas of native vegetation. In particular, corridors linking isolated remnants will need to be re-established. Re-establishment programs could be linked to development offsets (refer to Section 4.5.4). Native vegetation re-establishment programs should be developed as components of the *Lockyer Catchment Biodiversity Recovery Plan*.

4.6.4 Recommended actions

F - Habitat restoration and management		
Actions	Description	Responsibility
F1	Develop effective exotic flora and feral animal management programs as components of the <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.
F2	Develop sustainable grazing management programs as components of the <i>Lockyer Catchment Biodiversity Recovery Plan</i> . The sustainable grazing management programs should: <ul style="list-style-type: none"> • Be linked to property management plans. • Involve the erection of fencing to facilitate grazing exclusion or grazing control in high conservation value areas. • Involve incentive payments to landholders to assist them with fencing and other biodiversity management issues. 	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.
F3	Incorporate the SEQ RFA sustainable timber production programs into the <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.
F4	Further investigate the impacts of the new Queensland <i>Vegetation Management Act</i> on private land timber production, and respond accordingly.	LCCC Biodiversity Sub-Committee.
F5	Develop native vegetation re-establishment programs as components of the <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.

4.7 Incentives

Motivating People: Using Management Agreements to Conserve Remnant Vegetation describes how incentives are an essential component of successful biodiversity conservation programs²⁴:

If the role of private land conservation is going to be significantly enhanced, then consideration will need to be given to mechanisms which encourage greater numbers of landholders to participate. Financial incentives are the most powerful and direct means of encouraging more people to consider participating in nature conservation programs.

4.7.1 Transition incentives

One type of incentive is the “transition” incentive. The *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*²⁵ describes transition incentives:

These are once-off payments to assist landholders to meet new requirements imposed through legislative and land-use planning processes. Policy or legislative change is accompanied by incentives that assist landholders in meeting new vegetation management obligations. The emphasis is on equity so as to retain landholder support and motivation for the transition to a new management standard.

An example of transition incentives are the South Australian compensation payments, which are made if a landholder whose clearing application is refused enters into a Heritage Agreement to protect their native vegetation. The Queensland Government intends to make similar compensation payments to landholders affected by the new *Vegetation Management Act* clearing restrictions. However, the Queensland Government has indicated that it will not be able to pay compensation without \$100 million in Commonwealth Government assistance. At the time of writing this report, the Commonwealth Government had not yet agreed to the Queensland Government request for assistance.

The payment of compensation to landholders affected by the *Vegetation Management Act* is an issue for the Queensland Government. However, Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should ensure that the rights, needs and opinions of Gatton Shire landholders are taken into account by the compensation decision-making process, and that any affected Gatton Shire landholders are properly compensated.

4.7.2 Conservation agreement incentives

The other major type of incentive is the conservation agreement incentive, where landholders who enter into a conservation agreement are eligible for various forms of assistance. The assistance can be “in-kind”, or in the form of “financial payments”. An example of an “in-kind” incentive is giving property right security to conservation agreement landholders, as was explained in Section 4.2.

“Financial payment” incentives typically correspond to the duration and level of conservation security of a conservation agreement. That is, an in-perpetuity conservation agreement generally attracts a full incentive payment, whereas a fixed-term conservation agreement or Land for Wildlife generally attracts a proportion of the full incentive payment. An example is the Natural Heritage Trust (NHT) funding allowances available for the fencing of revegetation, remnant vegetation or riparian areas. In the 1998/99 NHT funding round, the fencing assistance allowances were²⁶:

- Up to \$600 per km in riparian zones or where the remnant vegetation is not being protected under a management agreement.
- Up to \$1,200 per km where the vegetation is under a management agreement (such as the Land for Wildlife scheme).
- Up to the full cost of fencing, including paid labour when the vegetation is, or will be, protected in perpetuity by a binding covenant on title.

There are several different forms of financial payment that can be included in a conservation agreement incentives package²⁷. Two key forms are:

- *Recognition payments.* These payments are made in “recognition” of the sacrifices that the conservation agreement landholder is often making in the interests of the wider community. Recognition payments can be in the form of an up-front cash payment, or in the form of relief from local government rates and State land taxes.
- *Management assistance payments.* These payments are made to assist the landholder with the costs of managing their remnant vegetation. For example, payments to assist with fencing and payments to assist with weed control. Management assistance payments are often made through “devolved-grant” programs.

4.7.3 Relief from local government rates and State land taxes

The report *Conservation hindered: The impact of local government rates and State land taxes on the conservation of native vegetation* recommends rates and land tax policy options for each level of government, as shown in Table 4.2 below²⁸:

Table 4.2 - Summary of draft policy options

Jurisdiction	Draft policy options
Commonwealth	<ul style="list-style-type: none"> • Allow rate and land tax payments to be deducted from the income of landholders who enter into legally binding conservation agreements. • Establish and fund education programs to ensure that land use restrictions relating to retention of native vegetation are taken into account in land valuation.
State	<ul style="list-style-type: none"> • Exempt from rates and land tax all land that is covered by a legally binding conservation agreement. • Extend provisions that allow high conservation value land to be valued on the basis of its current use - conservation - rather than on the basis of its development potential. • Ensure site value is used in preference to unimproved value for valuation purposes. • Ensure that legally binding conservation agreements are recorded on files and taken into account in land valuation.
Local councils	<ul style="list-style-type: none"> • Use differential rating to ensure land of high conservation value, which is appropriately zoned, qualifies for the lowest rural rate.

Implementing rate and land tax relief for Gatton Shire landholders

Relief from local government rates and State land taxes would be an excellent biodiversity conservation incentive to offer to Gatton Shire landholders, in conjunction with the range of other measures recommended in this chapter.

Although the actual amount of rate and land tax relief given to an individual landholder may be small in terms of the land value of the area they have set aside for conservation, rate and land tax relief is still a significant incentive.

The report *Motivating People: Using Management Agreements to Conserve Remnant Vegetation* advises that²⁹:

Financial payment is not only significant in terms of the financial position of the landholder, but also in terms of the symbol of cost-sharing provided. Landholders might receive a small payment as due recognition for the conservation service they are providing the public. Indeed, many landholders feel strongly that the community should acknowledge their efforts. This may be one reason why lack of local government rate relief has been consistently raised as a key impediment to entering management agreements. It might be argued that the concept of stewardship will remain hollow in the absence of payments which provide public recognition of the contribution landholders are making to conservation.

The Queensland and Commonwealth Governments have not yet implemented policies based on the recommended policy options in Table 4.2. In fact, the Queensland Government is at present actually acting *contrary* to the recommended policies, evidenced by the recent valuation *increases* slugged on several Lockyer Catchment landholders who are actively conserving their remnant vegetation. And if the Queensland and Commonwealth Government policy options were to be implemented, the impacts on Gatton Shire Council would be devastating. About half of the Shire's land area is privately owned native vegetation, with most of this vegetation having high conservation significance. If all of this vegetation was exempted from rates, Council would suffer a huge drop in income.

Gatton Shire Council itself is also not at present offering rate relief for biodiversity conservation. The recommended policy option for local councils in Table 4.2 would be an ineffective measure in Gatton Shire, because many remnant vegetation landholders are already on the minimum rural rate. Offering further rate discounts beyond this would be impossible in Gatton Shire without external funding assistance. Gatton Shire has a very high proportion of privately owned native vegetation but also a very small rate base. It is impossible for Gatton Shire Council to provide rate relief for around half the land area of the Shire, some 75,000 hectares, from its own meagre resources. Charging a green levy to fund rate relief would be just as unworkable. The amount raised would be insignificant compared to the high cost of providing rate relief, and increasing rural poverty in the Shire means that any overall rate increase is likely to create a corresponding increase in rate default and a probable net loss in income for Council.

The report *Conservation hindered: The impact of local government rates and State land taxes on the conservation of native vegetation* agrees that local governments like Gatton Shire Council will find it very difficult to provide rate relief without external funding assistance³⁰:

In an earlier report, *Motivating People*, Binning and Young recommended that:

Commonwealth and State Governments could encourage local governments to provide rate rebates for land covered by a legally binding conservation agreement that provides for vegetation conservation.

- A five year program to supplement costs to local government could be established. 100% supplementation could be provided in the first 2 years, decreasing by 33% each year thereafter; and
- Following this transition, rate rebates could be built into the rating base of local governments by reviewing the basis for land valuation and rating.

The rationale behind this recommendation is that to be consistent with the principles of the Commonwealth's Natural Heritage Trust, the Commonwealth should use funding as a catalyst to promote innovative natural resource management programs but not have any ongoing liability after the (five-year) life of the program...

This arrangement is appropriate if local governments have the capacity to raise adequate revenue to meet the costs of introducing rate incentives. However, there is considerable evidence that many local governments are tightly constrained in their ability to raise funds for new activities...

In urban environments, where many residents can offset the costs of a few conservation incentives, the case for local government funding would appear quite strong. However, in remote rural communities, which are more dependant on grant funding, the ability of councils to cross-subsidise conservation activities is more constrained. In these cases there may be a case for ongoing Commonwealth funding, either in the form of a tied grant or through appropriate increases in untied Financial Assistance Grants.

Clearly, State or Commonwealth funding assistance is needed if rate and land tax relief is to be achieved in Gatton Shire. The Queensland Government is expected to address the issue of rate and land tax relief through its "Regional Vegetation Management Plan" process (refer to Section 2.3.4). However, the needs and issues of well-resourced Councils like Brisbane, Logan and Ipswich are currently dominating biodiversity decision-making processes in the South-East Queensland, giving rise to genuine fears that the financial incapacity problems faced by Councils like Gatton will not be properly addressed.

Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should strongly advocate the need for State and Commonwealth funding assistance for rate and land tax relief in Gatton Shire. This issue is further pursued in Section 4.15 - "Resourcing".

4.7.4 Devolved-grant programs

Devolved-grant programs are where an organisation or agency secures grant funding, and then in turn offers smaller "devolved grants" to individual landholders. These smaller grants then allow the landholders to carry out various conservation management activities. For example, erecting fences around areas of remnant vegetation or controlling weeds.

Four Natural Heritage Trust (NHT) funded projects are, or will be, offering devolved grants or similar payments to Lockyer Catchment landholders to assist them to manage the threats to the biodiversity on their properties. The four projects are:

- WESROC Sustainable Management of the Helidon Hills Project.
- WWF South-East Queensland Rainforest Recovery Project.
- LWMA - Lockyer Landcare Lockyer Catchment Biodiversity Recovery Project.
- WESROC Accelerated On-farm Nature Conservation Project.

All of these projects are targeted at high conservation value areas. However, a large area of significant native vegetation combined with small amounts of funding means that these projects will benefit only a small part of the significant biodiversity of Gatton Shire. Further projects are required so that the threats to all significant areas are addressed. These additional projects should be directed at the highest biodiversity conservation priorities, with the decision-making informed by the *Gatton Shire Vegetation Survey* and *Lockyer Catchment Biodiversity Recovery Plan*. (See also Sections 4.14 and 4.15).

Landholders also need management assistance funding in the long-term, rather than on an ad hoc project-by-project basis. The report *Motivating People: Using Management Agreements to Conserve Remnant Vegetation* states that³¹:

Governments are generally concerned that funding commitments be restricted to a finite period, usually not greater than five years. However, to be enduring, sites covered by management agreements will require ongoing adaptive management.

As was the case with rate and land tax relief, the provision of ongoing management assistance funding to Gatton Shire landholders is well and truly beyond the financial means of Gatton Shire Council. The State and Commonwealth Governments need to put in place arrangements that will allow landholders in low financial capacity areas, such as the Lockyer Catchment, access to ongoing management assistance funding. This issue is further pursued in Section 4.15 - “Resourcing”.

4.7.5 Recommended actions

G - Incentives		
Actions	Description	Responsibility
G1	Ensure that the rights, needs and opinions of Gatton Shire landholders are taken into account by the Queensland Government <i>Vegetation Management Act</i> compensation decision-making process, and that any affected Gatton Shire landholders are properly compensated.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
G2	With assistance from the State or Commonwealth Governments, implement, or facilitate the implementation of, local government rate and State land tax relief for conservation agreement landholders in Gatton Shire. Link the rate and land tax relief to the Property Right Conservation Agreement (PRCA) and Nature Refuge Agreement (NRA) mechanisms.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
G3	Seek Natural Heritage Trust (NHT) funding for additional devolved-grant projects aimed at addressing the threats to all significant biodiversity areas in Gatton Shire. These additional projects should be directed at the highest biodiversity conservation priorities, with the decision-making informed by the <i>Gatton Shire Vegetation Survey</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> . (See also Actions M1, N1, O4 and O5).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.

4.8 Planning Scheme provisions

4.8.1 Current provisions

The current Gatton Shire Planning Scheme has several provisions relating to biodiversity conservation:

- Section 4.5.3 - Areas of Environmental Significance.
- Section 6.2.4 (4) - On-Site Works - Vegetation Protection.
- Section 6.6.1 - Code for Establishing Timber Harvesting.

Copies of the current Gatton Shire Planning Scheme can be viewed at either the Gatton Shire Council main office (Railway Street, Gatton) or at the Lockyer Catchment Centre (cnr. Hunt and Railway Streets, Forest Hill).

4.8.2 Incorporating cooperative approaches

The biodiversity conservation provisions in the Gatton Shire Planning Scheme have focussed solely on the “rules and regulations” approach.

Introduced with the 1995 Planning Scheme review, the “Areas of Environmental Significance” (AES) provision allows Gatton Shire Council to declare any part of the Shire at any time an “Area of Environmental Significance”. Landholders right across the State are currently expressing concern about the impact of the new Queensland *Vegetation Management Act*. But unlike the provisions in the *Vegetation Management Act*, the AES provision does not have any scientific criteria for deciding what areas will be declared, does not provide for compensation to affected landholders, and was not accompanied by cooperative incentive-based programs. Not surprisingly, Gatton Shire Council’s draconian nature conservation approach triggered a serious community backlash. Landholders and community groups requested that Council introduce cooperative incentive-based programs, but Council firmly rejected them. In doing so, Gatton Shire Council has denied its landholders access to the cooperative win-win programs now being enjoyed by landholders right across South-East Queensland.

However, to its credit Gatton Shire Council has since 1995 been working towards the adoption of cooperative incentive-based biodiversity conservation approaches. Council is actively supporting the cooperative incentive-based approaches developed by the WESROC Sustainable Management of the Helidon Hills Project, and excellent biodiversity conservation planning linkages have now been established between Council and landholders and community organisations throughout the Shire. The *Gatton Shire Biodiversity Strategy* is firm evidence of the high level of cooperation that is now occurring.

The current Gatton Shire Planning Scheme Review project offers Gatton Shire Council the opportunity to cement the win-win cooperative incentive-based approach in place. The Gatton Shire Council Planning Scheme Review should:

- Consider the recommended actions from the *Gatton Shire Biodiversity Strategy*.
- Embrace the Lockyer Catchment Biodiversity Recovery Planning Partnership. Through this partnership, Council can work with the community to develop the conservation “mechanisms” proposed by the recommended actions of the *Gatton Shire Biodiversity Strategy* (refer to Section 4.1).

- Consider the provisions of the new Queensland *Vegetation Management Act* and Commonwealth *Environment Protection & Biodiversity Conservation Act* (refer to Sections 2.3.4 and 4.1.5).
- Consider whether the new Queensland *Vegetation Management Act* provisions make the Areas of Environmental Significance (AES) provision redundant. If so, consider removing the Areas of Environmental Significance (AES) provision from the Planning Scheme.

4.8.3 Recommended actions

H - Planning Scheme provisions		
Actions	Description	Responsibility
H1	<p>The Gatton Shire Council Planning Scheme Review should:</p> <ul style="list-style-type: none"> • Consider the recommended actions from the <i>Gatton Shire Biodiversity Strategy</i>. • Embrace the Lockyer Catchment Biodiversity Recovery Planning Partnership. Through this partnership, Council can work with the community to develop the conservation “mechanisms” proposed by the recommended actions of the <i>Gatton Shire Biodiversity Strategy</i> (see also Action A1). • Consider the provisions of the new Queensland <i>Vegetation Management Act</i> and Commonwealth <i>Environment Protection & Biodiversity Conservation Act</i>. • Consider whether the new Queensland <i>Vegetation Management Act</i> provisions make the Areas of Environmental Significance (AES) provision redundant. If so, consider removing the Areas of Environmental Significance (AES) provision from the Planning Scheme. 	<p>Gatton Shire Council, Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.</p>

4.9 Managing publicly owned land

4.9.1 Land managed by Gatton Shire Council

The report *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation* highlights the potential for local governments to contribute to native vegetation conservation in their role as a manager of publicly owned land³²:

In their role as managers of public lands, local governments can make a substantial and direct contribution to conserving native vegetation. By breaking away from their traditional focus, there is an opportunity for councils to actively manage these lands for conservation.

The publicly owned lands for which Gatton Shire Council has a management responsibility include:

- *Roadsides and unmade roads.* Many of the roadsides and unmade roads in Gatton Shire have high conservation significance. In some parts of the Shire where there has been a large amount of past clearance for farming, roadsides and unmade roads are one of the few places where the original vegetation can still be found. This vegetation includes endangered and of-concern ecosystems, and is habitat for endangered, vulnerable and rare species.
- *Public parks.* At least one of the public parks in Gatton Shire is known to have high conservation significance. This is Lake Apex in Gatton, which hosts a range of significant bird species. The conservation value of other public parks in the Shire is not known.
- *Cemeteries.* Cemeteries can host some of the last remaining areas of native vegetation in areas that have been substantially cleared for farming, particularly where the original vegetation was native grassland. The conservation value of cemeteries in Gatton Shire is not known.

4.9.2 Integrating biodiversity conservation into Council management activities

The management regimes for roadsides and unmade roads, public parks, cemeteries and other Council managed lands can be easily modified so that there is a win-win outcome for *both* biodiversity conservation *and* the continued use and management of these areas. Council is already demonstrating the benefits of the win-win approach through its highly commendable management of Lake Apex, where successful outcomes for both biodiversity conservation and recreation are being achieved. To achieve further successes:

- A roadside conservation management program should be implemented.
- Public parks, cemeteries, and other areas of public land managed by Council should be surveyed for their conservation values, and conservation management programs need to be implemented for any sites that are found to have conservation significance.

The “Managing Roadsides” project

The Lockyer Catchment Centre has received Natural Heritage Trust (NHT) funding to carry out a Lockyer Catchment roadside conservation management project. This project is titled “Managing Roadsides”, and is a component of the larger “Achieving Landcare and Rivercare in the Lockyer/Moreton Bay Catchments” program. The Managing Roadsides project is based directly on successful roadside conservation management projects that the World Wide Fund For Nature Australia (WWF) has carried out in northern New South Wales, and a similar project that WWF currently has underway on the Eastern Darling Downs. The Managing Roadsides project is expected to commence in early 2000, when the Lockyer Catchment Centre will initiate discussions with Councils regarding the scope and focus of the project.

Public parks, cemeteries, and other areas of public land managed by Council

The Lockyer Catchment Centre should implement a project, or projects, that will:

- Assess the conservation value of public parks, cemeteries, and other areas of public land managed by Council throughout Gatton Shire.
- Determine appropriate management strategies for areas that are identified as having conservation significance.
- Implement the strategies.

4.9.3 Land managed by other agencies

Gatton Shire Council has management responsibility for only a small proportion of the publicly owned land within the Shire. The majority of the publicly owned land is the management responsibility of the Queensland Government:

- State forests - White Mountain State Forest; Lockyer State Forest; Woodlands State Forest; and Mt. Mistake State Forest.
- National Parks and Conservation Parks - Mt. Mistake National Park, Dwyer’s Scrub Conservation Park, Flagstone Conservation Park.
- Other major reserves - Glen Rock Regional Park, Helidon Explosives Magazine.
- Other minor reserves - Numerous small reserves (e.g. water reserves) throughout the Shire.
- Unallocated State Land (USL) - Gatton Shire has some small areas of USL throughout the Shire (USL was previously known as Vacant Crown Land - VCL).

Management plans are either in place, being prepared or are proposed for many of these sites. While this management planning is the responsibility of the Queensland Government, Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should ensure that:

- Management plans are prepared in a timely manner for all publicly owned, Queensland Government managed land in Gatton Shire.
- The management plans for all publicly owned, Queensland Government managed land are coordinated with management planning on adjacent private and public lands.
- The Gatton Shire community and adjacent landholders are properly involved in the management planning decision-making processes.
- Valid biodiversity conservation outcomes are achieved by the management plans.
- Adequate Queensland Government resources are provided for the timely implementation of the management plans.

The Queensland Government is not currently providing adequate resources to departmental staff for the preparation and implementation of management plans. This is evidenced by the delays in the preparation of a management plan for the Glen Rock Regional Park, and by the madeira vine infestation in the Dwyer’s Scrub Conservation Park.

The Queensland Government should be requested to commit to five-year funding programs for the preparation (where required) and implementation of management plans for Queensland Government managed land in Gatton Shire, in particular:

- White Mountain State Forest; Lockyer State Forest; Woodlands State Forest; and Mt. Mistake State Forest.
- Mt. Mistake National Park, Dwyer’s Scrub Conservation Park, Flagstone Conservation Park.
- Glen Rock Regional Park, Helidon Explosives Magazine.

4.9.4 Recommended actions

I - Managing publicly owned land		
Actions	Description	Responsibility
II	Carry out the Lockyer Catchment “Managing Roadsides” project.	Lockyer Catchment Centre.

Actions	Description	Responsibility
I2	Develop and implement a project, or projects, that will: <ul style="list-style-type: none"> • Assess the conservation value of public parks, cemeteries, and other areas of public land managed by Council throughout Gatton Shire. • Determine appropriate management strategies for areas that are identified as having conservation significance. • Implement the strategies. 	Lockyer Catchment Centre, LCCC Biodiversity Sub-Committee.
I3	Request the Queensland Government to commit to five-year funding programs for the preparation, where required, and implementation of management plans for Queensland Government managed land in Gatton Shire, in particular: <ul style="list-style-type: none"> • White Mountain State Forest; Lockyer State Forest; Woodlands State Forest; and Mt. Mistake State Forest. • Mt. Mistake National Park, Dwyer’s Scrub Conservation Park, Flagstone Conservation Park. • Glen Rock Regional Park, Helidon Explosives Magazine. The management plans should: <ul style="list-style-type: none"> • Be prepared in a timely manner. • Be coordinated with management planning on adjacent private and public lands. • Properly involve the Gatton Shire community and adjacent landholders in decision-making processes. • Achieve valid biodiversity conservation outcomes. 	Gatton Shire Council, LCCC Biodiversity Sub-Committee.

4.10 Managing environmental risks

The report *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation* highlights the potential for local governments to contribute to native vegetation conservation through the management of environmental risks³³:

Councils are responsible for managing a wide range of environmental risks, including flooding and fire, which may have a direct impact on the management of native vegetation. There is potential for councils to integrate risk management with conservation programs.

Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation describes how the impact of risk management strategies on native vegetation is a significant issue, with Councils often caught in a “Catch 22” position:

- On the one hand, local councils are responsible for ensuring that lands they are responsible for managing do not place life or property at risk from flooding, fire and storms.
- On the other hand, actions to reduce environmental risks may have an adverse impact on native vegetation. For example, controlled burning of bushland to reduce the hazard of wildfires will adversely affect some ecosystems.

However, by taking the win-win approach, valid outcomes can be achieved for *both* risk management *and* biodiversity conservation.

4.10.1 Fire management

The *Fire Management Plan - Helidon Hills* alerts to the difficulties of managing fire for both biodiversity conservation and the protection of life and property³⁴:

Obviously, relying on wildfire for nature conservation has conflicts with the safety and protection of residents and assets. Incidents of wildfire increases the threat to lives and property. Landholder responsibility and fire preparedness are likely to be more effective in reducing losses of lives and assets than broad-scale fuel reduction to decrease the occurrence of wildfires. The spread and damage of most wildfires can be restricted provided that there is effective protection for lives and assets.

Therefore, this fire management plan advocates wildfire preparedness, fuel reduction zones and fire protection for buildings and appropriate property layout to provide effective and efficient fire protection. If there are sufficient wildfire protection measures, then relying on wildfires is the best fire management strategy to assist nature conservation in the Helidon Hills. If relying on wildfires is unsuitable, applying a fire regime that replicates natural fire regimes can also achieve nature conservation. The habitat conservation burning strategy of this plan outlines the most suitable fire regimes for the ecosystems of the Helidon Hills and it is hoped that these regimes will assist nature conservation in the area.

Regular controlled burning is carried out throughout the Lockyer Catchment to reduce the risk posed by wildfire to life and property. However, these controlled burns are not replicating the frequency or intensity of the natural fire regimes (as described in Section 2.2.4). As a result, controlled burning is posing a serious threat to biodiversity. On the other hand, many residences in the Lockyer Catchment are at risk of destruction from the infrequent but extremely severe firestorm events that strike the area approximately once every 30 to 40 years. At particular risk are the residences built by many of the landholders that have moved to the area in recent years. For example, some landholders have built residences in totally inappropriate locations such as the tops of steep and heavily forested hillsides.

While the adequate buffering and protection of property will lead to a win-win outcome for *both* biodiversity conservation *and* the protection of property from the risk of wildfire, there are several critical questions that must be answered before that outcome is achieved, including:

- What weather conditions create the circumstances suitable for a firestorm event to occur?
- How fast do the firestorms travel?

- What width of buffer will stop these firestorms? What other precautions should be taken if buffer zones are not totally effective?
- Can controlled high-intensity summer burning replicate natural fire regimes, and if so, can this high-intensity burning be carried out safely?

A consortium of South-East Queensland Councils, which includes Gatton Shire Council, has been successful in securing Natural Heritage Trust (NHT) funding for a “Fire and Biodiversity” project. This project will assist in answering the above questions. Further research will need to be carried out for the preparation of the *Lockyer Catchment Biodiversity Recovery Plan*. The fire management actions will then need to be implemented through:

- The Gatton Shire Planning Scheme and building regulations.
- Fire management plans for individual properties throughout Gatton Shire.

4.10.2 Floodplain and water management

Floodplain and water management is another environmental risk where win-win outcomes can be achieved.

“Riparian” vegetation, which is the vegetation that fringes watercourses, has important biodiversity values. The conservation of riparian vegetation should be integrated with the management of watercourse and floodplain areas.

Similarly, the conservation of “aquatic ecosystems” and wetland areas should be integrated with floodplain management and the management of water for agricultural use. The Lockyer Catchment has wetlands with very high biodiversity significance. “Aquatic ecosystems” are the ecosystems that are actually within the water bodies, comprising species such as algae and fish. An endangered algae has already been located in a creek system in South-East Queensland.

Linkages between the Water Sub-Committee and Biodiversity Sub-Committee of the Lockyer Catchment Coordinating Committee (LCCC) should be established, to progress:

- The identification of significant riparian vegetation, aquatic ecosystems and wetlands.
- The development of win-win outcomes for the conservation, management and sustainable use of these areas.

4.10.3 Recommended actions

J - Managing environmental risks		
Actions	Description	Responsibility
J1	In conjunction with the South-East Queensland Fire and Biodiversity project, research and develop fire management actions for the <i>Lockyer Catchment Biodiversity Recovery Plan</i> . The fire management actions need to achieve both biodiversity conservation and the protection of life and property.	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.
J2	Implement fire management actions through the Gatton Shire Planning Scheme and building regulations.	Gatton Shire Council.

Actions	Description	Responsibility
J3	Implement fire management actions through fire management plans for individual properties throughout Gatton Shire. Link the fire management plans to property management plans.	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.
J4	Establish linkages between the Water Sub-Committee and Biodiversity Sub-Committee of the Lockyer Catchment Coordinating Committee (LCCC) to progress: <ul style="list-style-type: none"> • The identification of significant riparian vegetation, aquatic ecosystems and wetlands. • The development of win-win outcomes for the conservation, management and sustainable use of these areas. 	Lockyer Catchment Centre.

4.11 Managing infrastructure provision and related activities

The provision of a range of infrastructure including roads, powerlines and railway lines can have detrimental impacts on biodiversity. The impacts can be either direct, such as the clearance of vegetation for a powerline easement, or indirect, such as the extraction of gravel for use on roads.

4.11.1 Queensland Government infrastructure provision

Queensland Government infrastructure provision in Gatton Shire is currently having a major impact on biodiversity.

The easement for one high-voltage powerline already passes through the Helidon Hills. The construction of this powerline will result in a considerable amount of vegetation clearance, leading to the fragmentation of what is a mostly continuous area of remnant vegetation. This powerline connects with the proposed “Springdale” substation on the eastern edge of the Helidon Hills. There are indications that further high-voltage powerlines will terminate at Springdale. If these powerlines traverse the Helidon Hills then they will lead to further clearance and habitat fragmentation.

Other major infrastructure projects that will potentially impact on biodiversity include the new Toowoomba range road crossing and the re-alignment of the Brisbane to Toowoomba railway line.

Mitigating the impacts

The Lockyer Catchment Coordinating Committee (LCCC) and Gatton Shire Council should ensure that all infrastructure providers pay careful attention to the location of infrastructure so that negative impacts on biodiversity are prevented or minimised.

If any infrastructure provision does result in negative impacts on biodiversity, then the infrastructure provider has a responsibility to fund the mitigation of these impacts. It is essential that this funding be spent on mitigating the direct impacts of the infrastructure, and not on unrelated or tokenistic conservation activities. For example, the impacts of high voltage powerline construction on the biodiversity of the Helidon Hills must be mitigated by conservation activities in the Helidon Hills, and in particular by activities directed at any threatened species or ecosystems that are impacted by the powerline.

Through these approaches, win-win outcomes can be achieved that benefit *both* biodiversity conservation *and* the provision of important infrastructure.

4.11.2 Gatton Shire Council infrastructure provision and related activities

Current infrastructure provision and related activities by Gatton Shire Council are having little or no impact on biodiversity, with one notable exception. This is the extraction of lateritic gravels from the Helidon Hills, which is having a very serious negative impact. These lateritic gravels are used extensively by Gatton Shire Council for road construction and maintenance. The extraction is carried out in the part of the Helidon Hills that is north of Helidon township.

The gravel scrape areas are relatively large, resulting in the extensive loss of habitat. The presence of the threatened plant species *Paspalidium grandispiculatum* and *Grevillea quadricauda* directly adjacent to scrape areas indicates that populations of these species have probably been destroyed by the extraction activities. Further extraction in this part of the Helidon Hills is likely to destroy more threatened species and place them at risk of moving from “vulnerable” to extinction to “endangered”.

Paspalidium grandispiculatum and *Grevillea quadricauda* are unique species. The only place on earth where *Paspalidium grandispiculatum* is found is the Helidon Hills, and the only places on earth where *Grevillea quadricauda* is found are the Helidon Hills and at Flagstone Creek. The loss or endangerment of these unique species is something that should not be contemplated.

Mitigating the impacts

The extraction of lateritic gravels from the part of the Helidon Hills north of Helidon is a win-lose outcome. Because of the high significance of the area, further clearing for gravel extraction is likely to be restricted by the new Queensland *Vegetation Management Act*. Other extraction areas of lower significance within the Helidon Hills should be found, or more preferably, locations out of the Helidon Hills where there will be no negative impacts on biodiversity. Extracting gravel from around the threatened species is not an effective solution. For the species to survive, the natural processes need to be maintained. This means keeping not just the species, but the habitat as well.

It is recognised that Gatton Shire Council is extracting the lateritic gravels from the Helidon Hills not by choice but by necessity, and that Council would keenly source road construction material from better locations if it could afford to do so.

Gatton Shire has management responsibilities for a very large area of highly significant remnant native vegetation, but an extremely small rate base to cover the costs of management. This places Council at a significant disadvantage in terms of achieving successful biodiversity management outcomes. For this reason, it can be argued that the State and Commonwealth

Governments have a responsibility to provide funding assistance to Gatton Shire Council. This would allow Council to source gravel from more expensive but more sustainable locations. It is unlikely that win-win outcomes will be achieved without this external funding assistance.

Gatton Shire Council should identify and cost alternative sources of gravel at sites where there are little or no biodiversity impacts. Then, in conjunction with the Lockyer Catchment Coordinating Committee (LCCC), Council should lobby for State and Commonwealth Government funding assistance to cover any increased costs of extraction from the alternative sources.

4.11.3 Sandstone mining

Sandstone mining is also carried out in the part of the Helidon Hills north of Helidon. However, unlike gravel, Helidon Sandstone is a unique product, the mining of which provides significant economic and employment benefits for Gatton Shire. Additionally, because Helidon Sandstone is a high-value product, mining is disturbing only a minimal area.

The mining activities are currently having some negative impacts on biodiversity, but these impacts could be successfully mitigated through the development and implementation of biodiversity conservation programs. The sandstone mine operators are keen to implement biodiversity management programs, but have been hindered by a lack of leadership from the Department of Mines and Energy (DME). DME has been responsible for administering the Environmental Management Overview Strategy (EMOS) for each of the sandstone mines, but has not sought to integrate proper biodiversity management programs into a Helidon Hills EMOS. In particular, the conservation needs of threatened species like *Paspalidium grandispiculatum* and *Eucalyptus taurina* have not been addressed. The Department of Mines and Energy (DME) and Environmental Protection Agency (EPA) should address this deficiency as a matter of priority, which will facilitate win-win outcomes that benefit *both* biodiversity conservation *and* sandstone mining.

4.11.4 Other extractive industries

There are other proposed and potential extractive industries that may impact negatively on biodiversity in Gatton Shire.

Proposed Paradise Creek hard-rock quarry

A hard rock quarry is proposed for a basalt knoll adjacent to Paradise Creek in the Ma Ma Creek valley of the southern Lockyer. The vegetation on the knoll has been identified as an “of-concern” ecosystem. The new Queensland *Vegetation Management Act* will restrict the clearance of of-concern ecosystems. Existing approvals are not affected by the *Vegetation Management Act*, meaning that the provisions of the Act will not apply to the Paradise Creek hard-rock quarry unless new approvals are required. If the quarry proceeds, Gatton Shire Council should ensure that damage to the threatened ecosystem is minimised. Any clearance or damage should be offset by revegetation to the same habitat standard as the original vegetation. These approaches will facilitate win-win outcomes that benefit *both* biodiversity conservation *and* extractive industry.

Other potential quarries

A potential hard-rock quarry resource has been identified adjacent to Mt. Cross in the Helidon Hills. Gatton Shire Council should fully consider biodiversity impacts and the provisions of the new Queensland *Vegetation Management Act* when considering either the planning protection of this resource or applications to quarry this resource. The Helidon Hills is a large area of continuous habitat with a large number of threatened species. Any habitat fragmentation caused by quarrying could have very serious consequences for biodiversity. If approvals are given, then any biodiversity impacts must be properly mitigated. Decisions regarding any other future extractive industry proposals must also fully consider biodiversity impacts, and if approvals are given, then any biodiversity impacts must be properly mitigated. These approaches will facilitate win-win outcomes that benefit *both* biodiversity conservation *and* extractive industry.

4.11.5 Recommended actions

K - Managing infrastructure provision and related activities		
Actions	Description	Responsibility
K1	Request all infrastructure providers to pay careful attention to the location of infrastructure so that negative impacts on biodiversity are prevented or minimised.	LCCC Biodiversity Sub-Committee, Gatton Shire Council.
K2	Request all infrastructure providers to fund the mitigation of the negative impacts of their infrastructure. Inform the infrastructure providers that it is essential that this funding be spent on mitigating the direct impacts of the infrastructure, and not on unrelated or tokenistic conservation activities.	LCCC Biodiversity Sub-Committee, Gatton Shire Council.
K3	Identify and cost alternative sources of gravel at sites where there are no negative biodiversity impacts.	Gatton Shire Council.
K4	Lobby for State and Commonwealth Government funding assistance to cover any increased costs of gravel extraction from alternative sources.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
K5	Request that the Department of Mines and Energy (DME) and Environmental Protection Agency (EPA) integrate proper biodiversity management programs into the Environmental Management Overview Strategy (EMOS) for each Helidon Hills sandstone mine.	LCCC Biodiversity Sub-Committee.
K6	If the proposed Paradise Creek hard-rock quarry proceeds, ensure that threatened ecosystem damage is minimised. Any clearance or damage should be offset by revegetation to the same habitat standard as the original vegetation.	Gatton Shire Council.

Actions	Description	Responsibility
K7	Decisions regarding planning protection for, or applications for the quarrying of, any other potential or future extractive resources must also fully consider biodiversity impacts. If approvals are given, then any biodiversity impacts must be properly mitigated.	Gatton Shire Council.
K8	The <i>Gatton Shire Vegetation Survey</i> , Queensland <i>Vegetation Management Act</i> , Commonwealth <i>Environment Protection & Biodiversity Conservation Act</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> should inform all decisions regarding infrastructure provision and related activities in Gatton Shire.	LCCC Biodiversity Sub-Committee, Gatton Shire Council, infrastructure providers.

4.12 Biodiversity data

4.12.1 The current situation

The *Gatton Shire Vegetation Survey* will significantly improve the biodiversity data for Gatton Shire. However, more data is needed to provide an adequate basis for biodiversity decision making. The *Gatton Shire Vegetation Survey* will identify and map:

- Areas of native vegetation and their significance.
- Threatened ecosystems.
- Threatened species habitat, particularly threatened plants.
- Threats to native vegetation and threatened species and ecosystems.

However, the *Gatton Shire Vegetation Survey*:

- Will not be able to study every part of Gatton Shire in detail, meaning that some significant species and ecosystems may not be discovered.
- Does not have a heavy emphasis on fauna identification.
- Is not studying wetlands or aquatic ecosystems.

4.12.2 Acquiring additional data

Adequate biodiversity data is essential for the achievement of win-win outcomes. To address the current data deficiency, the Biodiversity Sub-Committee should:

- *Identify and map wetlands and aquatic ecosystems.* Develop and implement a mapping and assessment project, or projects, to identify and assess the significance of wetlands and aquatic ecosystems.
- *Develop and implement a “Naturesearch” program.* The Queensland Parks and Wildlife Service (QPWS) operates a highly effective community fauna identification program called “Naturesearch”. Naturesearch should be implemented in Gatton Shire.

- *Assist landholders to identify threatened species and ecosystems on their land.* Threatened species and ecosystem identification kits should be provided to landholders. This will assist landholders to manage threatened species and ecosystems, and will also add to flora and fauna databases. This issue is further pursued in Section 4.13 - “Education and awareness”.

4.12.3 Recommended actions

L - Biodiversity data		
Actions	Description	Responsibility
L1	Develop and implement a mapping and assessment project, or projects, to identify and assess the significance of wetlands and aquatic ecosystems.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
L2	Develop and implement a “Naturesearch” program in Gatton Shire.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.

4.13 Education and awareness

4.13.1 The current situation

Surprisingly, most of the residents of Gatton Shire are unaware of the significant biodiversity of their area. In particular, residents are unaware of:

- The threatened species and ecosystems in the Shire and the threats to these species and ecosystems.
- How to implement “win-win” biodiversity conservation programs that benefit both biodiversity and the rights and needs of landholders and the community.
- The significant economic potential of the Shire’s biodiversity.

4.13.2 Developing a biodiversity education and awareness program

As shown in Table 4.3 on the next page, a successful biodiversity education and awareness program should examine the needs of the various sectors of the Gatton Shire community, and then develop and implement programs to directly meet these needs. The three community sectors are:

- *Rural landholders.* These are the residents of the rural parts of Gatton Shire, and the owners of most of the biodiversity areas in the Shire.
- *Urban landholders.* These are the residents of the towns of Gatton, Grantham and Helidon.
- *Decision-makers.* These are the people who make decisions about the conservation and management of the biodiversity of Gatton Shire, including Councillors and Council staff, members of the Lockyer Catchment Coordinating Committee (LCCC) and Landcare groups, and officers of State Government agencies.

Table 4.3 - An effective biodiversity education and awareness program for Gatton Shire

Community sector	Education & awareness needs	Education & awareness program
Rural landholders	<ul style="list-style-type: none"> • Management of native vegetation. • Identification and management of threatened species and ecosystems. • Knowledge of win-win solutions that can benefit both conservation and landholders. • Knowledge of the economic potential of native vegetation. 	<ul style="list-style-type: none"> • Threatened species and ecosystem identification and management kits. • Demonstration sites and projects. • Property visits and field days. • Small Block Manual. • Guide booklet “How to establish an ecotourism enterprise in Gatton Shire”.
Urban landholders	<ul style="list-style-type: none"> • General knowledge of the native vegetation of Gatton Shire. 	<ul style="list-style-type: none"> • Establishment of native species and ecosystem botanic garden at Lake Apex. • Field days and other events at the botanic garden. • Increased use of local native species in park and garden plantings throughout Shire.
Decision makers	<ul style="list-style-type: none"> • Broad knowledge of native vegetation conservation and management issues. • Knowledge of win-win solutions that can benefit both conservation and landholders. • Knowledge of the economic potential of native vegetation. • Knowledge of key impediments to achievement of win-win outcomes. 	<ul style="list-style-type: none"> • Field tours and visits to native vegetation sites. • Presentations from experts on biodiversity conservation issues.

4.13.3 Implementing a biodiversity education and awareness program

Rural landholders

- *Threatened species and ecosystem identification and management kits.* A threatened species information kit will shortly be prepared for the Helidon Hills as a component of the WESROC Sustainable Management of the Helidon Hills Project. This kit will be distributed free-of-charge to all Helidon Hills landholders. To complement the Helidon Hills kit, a threatened species and ecosystem information kit, or kits, should be prepared for remaining parts of the Shire.
- *Demonstration sites and projects.* The Vegetation Projects Sub-Committee (VPSC) of LWMA - Lockyer Landcare is carrying out conservation projects at three “of-concern” dry rainforest ecosystem sites: the Welk remnant, Nelsons remnant, and a “Touch of Paradise” remnant (refer to Section 1.1). Another group is carrying out a conservation project at the

“Jensens Gully” site, which includes an area of “of-concern” forest red gum woodland. Conservation actions at these sites should be aimed not only at the conservation of the sites themselves, but also at developing and demonstrating conservation actions to landholders across the Lockyer Catchment. These groups or other groups should also establish additional project sites in other key threatened ecosystem types and threatened species habitats.

- *Property visits and field days.* The Vegetation Projects Sub-Committee (VPSC) of LWMA - Lockyer Landcare and other groups host regular visits to sites across the Lockyer Catchment, where various native vegetation conservation and management issues are evident. Field days are also held. These property visits and field days should be continued.
- *Small Block Manual.* The Lockyer Catchment Centre “Small Block Manual” will shortly be published. The Small Block Manual contains a wealth of vegetation information of interest to landholders, in particular landholders on small properties such as those in rural residential developments.
- *Guide booklet “How to establish an ecotourism enterprise in Gatton Shire”.* Refer to Section 4.3.

Urban landholders

- *Establishment of a local native species and ecosystem botanic garden at Lake Apex.* A local native species and ecosystem botanic garden should be established at Lake Apex Park in Gatton. The botanic garden would be a small-scale version of the highly successful Tondoon Botanic Gardens in Gladstone, Central Queensland and would feature plantings of dominant vegetation communities, threatened ecosystems, threatened species and species with commercial potential. As well as being a significant recreational asset for the Gatton Community, the Lake Apex Botanic Garden would provide an additional tourism feature at the increasingly popular Lake Apex site.
- *Field days and other events at the botanic garden.* Regular field days and other events should be held to maximise the education and awareness potential of the Lake Apex Botanic Garden.
- *Increased use of local native species in park and garden planting.* The native vegetation of Gatton Shire features numerous plant species that would be ideal for the home garden. To promote the benefits of using local native species, Gatton Shire Council should use them as much as possible for park plantings, garden plantings and street trees.

Decision-makers

- *Field tours and visits to native vegetation sites.* The Councillors and staff of Gatton Shire Council and the Management Committees of the Lockyer Catchment Coordinating Committee (LCCC) and LWMA - Lockyer Landcare should participate in regular biodiversity field tours and site visits. These field tours and site visits will allow these decision-makers to become better informed about Gatton Shire biodiversity conservation issues, and the win-win outcomes that can be achieved for these issues. The first field tour, or tours, should be held in March 2000 following the completion of the *Gatton Shire Vegetation Survey*.

- *Presentations from experts on biodiversity conservation issues.* To complement the field tours and site visits, the Councillors and staff of Gatton Shire Council and the Management Committees of the Lockyer Catchment Coordinating Committee (LCCC) and LWMA - Lockyer Landcare should receive regular presentations from experts on biodiversity conservation issues. The first of these presentations should be carried out as a part of the first field tour in March 2000.

4.13.4 Recommended actions

M - Education and awareness		
Actions	Description	Responsibility
M1	To complement the Helidon Hills threatened species kit, seek funding for the development of a threatened species and ecosystem information kit, or kits, for remaining parts of Gatton Shire. (See also Actions G3, N1, O4 and O5).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
M2	Encourage the continuation of the Welk remnant, Nelsons remnant, “Touch of Paradise” remnant and “Jensens Gully” conservation projects. Encourage the project groups to use the conservation actions at these sites to develop conservation techniques and promote them to landholders across the Lockyer Catchment.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
M3	Work with Landcare and community groups to encourage and facilitate the establishment of additional conservation demonstration project sites in other key threatened ecosystem types and threatened species habitats.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
M4	Work with Landcare and community groups to encourage and facilitate field days and property visits to inform landholders about various native vegetation conservation and management issues.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
M5	Seek funding to establish a local native species and ecosystem botanic garden at Lake Apex Park in Gatton.	Gatton Shire Council, LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
M6	Work with Landcare and community groups to encourage and facilitate regular field days and other events to maximise the education and awareness potential of the Lake Apex Botanic Garden.	Gatton Shire Council, LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
M7	Increase the use of local native species for park plantings, garden plantings and street trees.	Gatton Shire Council.
M8	Arrange regular biodiversity conservation field tours and site visits for the Councillors and staff of Gatton Shire Council and the Management Committees of the Lockyer Catchment Coordinating Committee (LCCC) and LWMA - Lockyer Landcare. Hold the first field tour in April 2000 following the completion of the <i>Gatton Shire Vegetation Survey</i> .	LCCC Biodiversity Sub-Committee, LWMA - Lockyer Landcare Education Sub-Committee, Lockyer Catchment Centre.

Actions	Description	Responsibility
M9	Arrange regular presentations from experts on biodiversity conservation issues for the Councillors and staff of Gatton Shire Council and the Management Committees of the Lockyer Catchment Coordinating Committee (LCCC) and LWMA - Lockyer Landcare. The first of these presentations should be carried out as a part of the first field tour in April 2000.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre, Gatton Shire Council.
M10	Investigate and develop additional biodiversity education and awareness programs.	LCCC Biodiversity Sub-Committee, LCCC Communication Sub-Committee, LWMA - Lockyer Landcare Education Sub-Committee, Lockyer Catchment Centre.
M11	Education and awareness program decision-making should be informed by the <i>Gatton Shire Vegetation Survey</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Gatton Shire Council, LCCC Biodiversity Sub-Committee, LCCC Communication Sub-Committee, LWMA - Lockyer Landcare Education Sub-Committee, Lockyer Catchment Centre.

4.14 Property management planning

4.14.1 Futureprofit

Property management planning is the next biodiversity planning “level” after catchment and local government planning (refer to Section 1.2). Property management planning is the key process for translating the actions of the *Gatton Shire Biodiversity Strategy* and *Lockyer Catchment Biodiversity Recovery Plan* into property-level actions.

The Department of Primary Industries (DPI) operates an effective property management planning process called “Futureprofit”. The Futureprofit process involves a series of workshops in which facilitators assist the landholders to identify and plan both the land management and business management aspects of their property.

Funding should be sought for the wide implementation of Futureprofit property management planning programs in Gatton Shire (see also Sections 4.7.4 and 4.15). The Futureprofit programs should include:

- Biodiversity conservation planning and management, achieved through the implementation of actions from the *Lockyer Catchment Biodiversity Recovery Plan*.
- Linkages to Property Right Conservation Agreements (PRCAs), Nature Refuge Agreements (NRAs) and Land for Wildlife.
- Sustainable grazing and sustainable timber harvesting programs.
- Exotic flora and feral animal management.

- Re-establishment of areas of native vegetation.
- Linkages to devolved grant programs and other incentives.
- Fire management planning.
- Consideration of alternative land-uses and alternative approaches to development.
- Education and awareness.

4.14.2 Recommended actions

N - Property management planning		
Actions	Description	Responsibility
N1	<p>Seek funding to widely implement Futureprofit property management planning programs (see also Actions G3, M1, O4 and O5). The Futureprofit programs should include:</p> <ul style="list-style-type: none"> • Biodiversity conservation planning and management, achieved through the implementation of actions from the <i>Lockyer Catchment Biodiversity Recovery Plan</i>. • Linkages to Property Right Conservation Agreements (PRCAs), Nature Refuge Agreements (NRAs) and Land for Wildlife. • Sustainable grazing and sustainable timber harvesting programs. • Exotic flora and feral animal management. • Re-establishment of areas of native vegetation. • Linkages to devolved grant programs and other incentives. • Fire management planning. • Consideration of alternative land-uses and alternative approaches to development. • Education and awareness. 	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.

4.15 Resources

Proper resources are essential for the successful implementation of a biodiversity conservation program for Gatton Shire. Without these resources, win-win outcomes will be very difficult to achieve. Two types of resources are needed:

- Financial resources.
- Human resources.

4.15.1 Financial resources

Financial resources are needed for rate and land tax relief and ongoing management assistance, however:

- As stated in Section 4.7.3, Gatton Shire Council does not have the financial resources to be able to offer rate and land tax relief to conservation agreement landholders. Gatton Shire

Council would also be unable to cope with the financial impact of rate and land tax relief achieved through the lowering of property valuations by the Queensland Government.

- As stated in Section 4.7.4, Gatton Shire Council does not have the financial resources to be able to offer ongoing management assistance funding to conservation agreement landholders.

In an attempt to solve this problem for the Helidon Hills area, the Lockyer Catchment Coordinating Committee (LCCC) submitted an application to the Natural Heritage Trust (NHT) seeking funding for the establishment of a Helidon Hills trust fund. The trust fund would have been able to fund both rate relief and management assistance on an ongoing basis. However, the application was rejected.

The Queensland Government has also been investigating the establishment of a proposed “Land Trust for Queensland”. This trust could potentially provide rate relief and management assistance funding to landholders in areas like Gatton Shire, where the local governments are unable to provide assistance from their own resources. However, the Queensland Government has not as yet made a commitment to such a role for the proposed Land Trust for Queensland.

In an attempt to gain some progress towards a solution, LWMA - Lockyer Landcare sent a submission to the Hon. Rod Welford MLA, Minister for Environment and Heritage and Minister for Natural Resources, and the Vegetation Management Advisory Committee. The LWMA - Lockyer Landcare submission sought Queensland Government assistance to advance many of the actions in this chapter. It included a request for Minister Welford to consider³⁵:

...recommending that State Government financial assistance be given to landholders in areas where the Local Governments are unable to afford to fund vegetation management activities, and that the proposed Land Trust for Queensland be investigated as the vehicle for the delivery of this assistance.

In his reply³⁶, Minister Welford commended LWMA - Lockyer Landcare on its vegetation management initiatives, and advised that the issues raised by the group would be considered by the “Regional Vegetation Management Plan” process (refer to Section 2.3.4). Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should ensure that the “Regional Vegetation Management Plan” process properly considers the needs, concerns, issues and ideas of the landholders and community of Gatton Shire. Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should also strongly advocate the need for State and Commonwealth funding assistance for rate and land tax relief and ongoing management assistance in Gatton Shire. In the meantime, funding should be sought for the implementation of further devolved-grant management assistance projects (refer to Section 4.7.4).

4.15.2 Human resources

Local governments with large rate bases are able to afford well-resourced “conservation departments” with at least several conservation officers who are devoted entirely to biodiversity conservation and planning. Gatton Shire has one of the largest proportions of remnant vegetation in South-East Queensland, but its small rate base means that it cannot afford a conservation department or conservation staff. The biodiversity conservation and management actions that have been achieved in Gatton Shire have come about through specific projects such as the WESROC Sustainable Management of the Helidon Hills Project. While these projects have achieved good results, a lack of long-term staff support and a lack of overall coordinated

biodiversity planning in the Lockyer Catchment have impeded the achievement of proper outcomes.

Ideally, State and Government funding should be provided to allow Lockyer Catchment Councils to establish conservation departments that are on a par with those of well-resourced South-East Queensland Councils. At the very least, State and Government funding needs to be provided to the Lockyer Catchment Centre for the employment of conservation staff whose time would be shared between all of the Lockyer Catchment Councils. A minimum of two staff are required:

- *Biodiversity conservation planning officer.* This officer would provide overall coordination and strategic planning for biodiversity conservation in the Lockyer Catchment.
- *Conservation agreements officer.* This officer would be focussed on working with private landholders to establish conservation agreements. The officer would respond to landholders who come forward of their own accord, and would also target high conservation values sites.

Gatton Shire Council and the Lockyer Catchment Coordinating Committee (LCCC) should strongly advocate the need for State and Commonwealth funding assistance for Lockyer Catchment conservation staff.

In the meantime, funding should be pursued for the employment of a “biodiversity conservation planning officer” and a “conservation agreements officer” (see also Sections 4.7.4 and 4.14). The Project Coordinator of the Lockyer Catchment Biodiversity Recovery Planning Project will be carrying out the role of biodiversity conservation planning officer until this project finishes in November 2000. Funding is needed to continue this position after this time. The Property-Right Conservation Agreements (PRCAs) are a major component of the biodiversity conservation program for Gatton Shire. A full time officer is essential for the success of the PRCA program. The Lockyer Catchment Coordinating Committee (LCCC) should:

- Seek Natural Heritage Trust (NHT) funding for a “Lockyer Catchment conservation agreement officer”, as a component of a larger funding application for a major devolved-grant management assistance project. This project would commence in November 2000.
- Investigate potential funding options for the employment of a “Lockyer Catchment biodiversity planning officer” beyond November 2000.

4.15.3 Recommended actions

O - Resources		
Actions	Description	Responsibility
O1	Ensure that the “Regional Vegetation Management Plan” process properly considers the needs, concerns, issues and ideas of the landholders and community of Gatton Shire.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
O2	Strongly advocate the need for State and Commonwealth funding assistance for rate and land tax relief and ongoing management assistance in Gatton Shire. Develop and implement effective strategies for this advocacy.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.

Actions	Description	Responsibility
O3	Strongly advocate the need for State and Commonwealth funding assistance for Lockyer Catchment conservation staff. Develop and implement effective strategies for this advocacy.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.
O4	Seek Natural Heritage Trust (NHT) funding for a “Lockyer Catchment conservation agreement officer”, as a component of a larger funding application for a major devolved-grant management assistance project. This project would commence in November 2000. (See also Actions G3, M1, N1 and O5).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.
O5	Investigate potential funding options for the employment of a “Lockyer Catchment biodiversity planning officer” beyond November 2000. (See also Actions G3, M1, N1 and O4).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.

References and Notes - Chapter 4

¹ Table 4.1 is based on Table 2 “NRMS themes”, p. 16 in SEQ Regional Strategy Group (1999). *Draft Natural Resources Management Strategy SEQ*. Department of Natural Resources.

² Personal communication, Jamie Pittock, WWF Program Leader - Nature Conservation and Murray Darling Basin, 25/10/99.

³ These performance indicators are consistent with “Indicators of progress, Natural resource condition”, p. 21 of National Natural Resource Management Task Force (1999). *Managing Natural Resources in Rural Australia for a Sustainable Future. A discussion paper for developing a national policy*. Agriculture, Fisheries and Forestry - Australia.

⁴ Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*, p. 32. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra.

⁵ Moretto, D. (1999). *A Proposal to establish a Land Trust for Queensland*. Department of Natural Resources discussion paper.

⁶ Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*, p. 60. Draft 14/7/99.

⁷ Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*, p. 31. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra.

⁸ Department of Natural Resources (1998). *Code of Practice for Native Forest Timber Production*.

⁹ Queensland Farmers Federation (undated). *The Environmental Code of Practice for Agriculture*.

- ¹⁰ O'Reilly, P. (1998). 'Conservation and Education through ecotourism', pp 195-197 in Boyes B. (ed) *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature South-East Queensland Rainforest Recovery Conference. WWF, Sydney.
- ¹¹ Personal communication, Leo Ryan, Program Officer, Conservation Partnerships, Brisbane City Council.
- ¹² Department of Tourism, Small Business and Industry (1997). *Queensland Ecotourism Plan* p. 3.
- ¹³ Tourism Queensland (1999). 'Ecotourism - More Fact, Less Fad', pp. 1-3 in *Ecotrends*, March 1999.
- ¹⁴ Queensland Tourist and Travel Corporation (QTTC) (1998). 'Ecotourism Research', p. 3 in *Ecotrends*, September 1998.
- ¹⁵ O'Reilly, P. (1998). 'Conservation and Education through ecotourism', pp 195-197 in Boyes B. (ed) *Rainforest Recovery for the New Millennium*. Proceedings of the World Wide Fund For Nature South-East Queensland Rainforest Recovery Conference. WWF, Sydney.
- ¹⁶ "Tourism Queensland" was formerly known as the Queensland Tourist and Travel Corporation (QTTC).
- ¹⁷ National Natural Resource Management Task Force (1999). *Managing Natural Resources in Rural Australia for a Sustainable Future. A discussion paper for developing a national policy*, p. 65. Agriculture, Fisheries and Forestry - Australia.
- ¹⁸ Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*, p. 13. Draft 14/7/99.
- ¹⁹ Rural Industries Research and Development Corporation (1998). "Riceflower" in *The New Rural Industries: A handbook for Farmers and Investors*. Internet site: <http://www.rirdc.gov.au/pub/handbook/riceflower.html>
- ²⁰ Rural Industries Research and Development Corporation (1997). *New Crops, New Products - New Opportunities for Australian Agriculture*. Volume 1 - Principles and Case Studies, p. 218. "Queensland Strategy for the Export Native Flower Industry", Jean McRuvie, Qld. Department of Primary Industries.
- ²¹ Gatton Shire Council (1999). *Planning Scheme Review: Statement of Proposals*, p. 17.
- ²² Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*, p. 32. Draft 14/7/99.
- ²³ Department of Natural Resources (1998). *Code of Practice for Native Forest Timber Production*.
- ²⁴ Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*, p. 33. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra.
- ²⁵ Australian New Zealand Environment and Conservation Council (ANZECC) (1999). *Draft National Framework for the Management and Monitoring of Australia's Native Vegetation*, p. 27. Draft 14/7/99.

- ²⁶ Commonwealth Government (1998). *Natural Heritage Trust Guide to New Applications 1998-99*, p. 40. Commonwealth Government, Canberra.
- ²⁷ Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*, pp. 33-37. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra.
- ²⁸ The information in Table 4.2 has been copied from Table 6.1, p. 36 in Binning, C. and Young, M. (1999). *Conservation Hindered: The impact of local government rates and State land taxes on the conservation of native vegetation*. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 3/99, Environment Australia, Canberra.
- ²⁹ Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*, p. 33. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra.
- ³⁰ *Conservation Hindered: The impact of local government rates and State land taxes on the conservation of native vegetation*, pp. 41-42. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 3/99, Environment Australia, Canberra.
- ³¹ Binning, C. and Young, M. (1997). *Motivating People: Using Management Agreements to Conserve Remnant Vegetation*, p. 37. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/97, Environment Australia, Canberra.
- ³² Binning, C. and Young, M. (1999). *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation*, pp. 46-51. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/99, Environment Australia, Canberra.
- ³³ Binning, C. and Young, M. (1999). *Beyond Roads, Rates and Rubbish: Opportunities for local government to conserve native vegetation*, pp. 52-53. National R&D Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 1/99, Environment Australia, Canberra.
- ³⁴ Gardner, M. (1998). *Fire Management Plan - Helidon Hills*. The University of Queensland Gatton Campus and Gatton Shire Council.
- ³⁵ Boyes, B. (1999). LWMA - Lockyer Landcare submission of 16 August 1999 on "Proposed freehold vegetation management framework", p. 5.
- ³⁶ Welford, R. (1999). Reply to LWMA - Lockyer Landcare submission of 16 August 1999, p. 2.

Appendix A

Regional strategy linkages

The *Draft Natural Resource Management Strategy SEQ* identifies four strategies for biodiversity conservation in South-East Queensland:

B1	Gather, research, analyse and integrate data related to biodiversity.
B2	Foster and encourage community/government involvement and networking in the protection, management and restoration of biodiversity.
B3	Encourage the use of voluntary land use rights (or property rights) mechanisms and appropriate regulatory strategies.
B4	Identify and implement effective monitoring and reporting strategies to help assess and better manage the region's biodiversity.

The actions for each of the four *Draft Natural Resource Management Strategy SEQ* strategies for biodiversity conservation are listed below, together with the corresponding section in the *Gatton Shire Biodiversity Strategy*.

B1 Gather, research, analyse and integrate data related to biodiversity.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>	
B1.1	Develop a community / government nature conservation network for SEQ for the protection and restoration of the natural biodiversity of the region. The network should facilitate the collection, collation and dissemination of information necessary to develop the Conservation Strategy (RFGM) for biodiversity protection and ensure that the data are in a form which is accessible to a broad range of stakeholders. The network needs to develop agreed priorities and provide ongoing strategic guidance and education to all stakeholders.	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
B1.2	Continue the program of nature conservation studies and data acquisition with emphasis on native vegetation (on all land tenures), native fauna, significant habitat, and exotic flora.	4.12	Biodiversity data.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>	
B1.3	Develop a regional system for assessing all nature conservation values, consistent with international, national and state standards.	State or regional responsibility.	
B1.4	Identify ecosystems under current threat of loss or which are already degraded.	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
		4.12	Biodiversity data.
B1.5	Identify and survey rare and threatened species of flora.	4.12	Biodiversity data.
B1.6	Identify and survey rare and threatened species of fauna.	4.12	Biodiversity data.
B1.7	Identify and map native vegetation at a scale appropriate for regional planning and action.	4.12	Biodiversity data.
B1.8	Complete and regularly update land cover and vegetation density mapping for the SEQ region.	State or regional responsibility.	
B1.9	Encourage all local governments in the SEQ region to undertake nature conservation inventories and assessments to ensure that nature conservation can be addressed at the local scale.	4.12	Biodiversity data.
B1.10	Assess threats to the region's biodiversity from invasive pest species (plant and animal).	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
		4.6	Habitat restoration and management.

B2 Foster and encourage community/government involvement and networking in the protection, management and restoration of biodiversity.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>	
Flora and Fauna Management			
B2.1	Enhance community and landholder involvement in wildlife and habitat conservation, particularly through support for programs such as 'Land for Wildlife', devolved grant schemes and voluntary conservation agreements.	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
		4.2	Property-Right Conservation Agreements (PRCAs).
		4.4	Land for Wildlife.
		4.7.4	Devolved-grant programs.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>	
B2.2	<p>Develop, promote and implement management plans for:</p> <ul style="list-style-type: none"> • The efficient and cost-effective protection, restoration and rehabilitation of identified priority ecosystems to improve their conservation status; • The ecologically sustainable use of biological diversity including harvesting and removal of native flora and fauna resources; • Vegetation at a catchment level and in multiple land use situations, allowing provision for local input and support; and • Fire management, based on sound ecological principles. 	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
		4.3	Alternative land-uses.
		4.6	Habitat restoration and management.
		4.9	Managing publicly owned land.
		4.10.1	Fire management.
B2.3	Encourage new and existing industries / activities that have the potential to protect or restore regional biodiversity e.g. farm forestry, industries that use native flora and fauna, nature based recreation and tourism, and industries / activities that relieve pressure or reduce demands on native species.	4.3	Alternative land-uses.
B2.4	<p>Develop and apply guidelines to enhance the ability of landowners to effectively manage biological diversity resources. These should include guidelines:</p> <ul style="list-style-type: none"> • For separating conflicting uses in order to protect nature conservation areas; and • To enable the enhanced protection of important natural areas (e.g. lands adjacent to and near protected areas). 	4.3	Alternative land-uses.
		4.8	Planning Scheme provisions.
		4.13	Education and awareness.
B2.5	Develop guidelines to enhance the ability of local government to effectively plan for the protection of biological diversity.	State or regional responsibility.	
B2.6	Introduce incentive schemes to encourage activities that increase the coverage and improve the status of native flora and fauna (as listed in the <i>Nature Conservation Act 1992</i>) and ecosystems in South East Queensland.	4.7	Incentives.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>
Management of Waterways and the Riparian Zone		
B2.7	Develop guidelines and implement riverine strategies for the protection, management and rehabilitation of riparian areas, riverine aquatic habitat, and wetlands.	4.10.2 Floodplain and water management.
B2.8	Resolve management and control issues in relation to the ownership of high and low banks.	4.10.2 Floodplain and water management.
B2.9	Identify barriers to fish movement (including major barriers such as dams and minor barriers such as road culverts) and provide appropriate fishways, where necessary.	4.10.2 Floodplain and water management.
B2.10	Improve and maintain the integrity of in-stream biota, wetland habitats and related terrestrial biota.	4.10.2 Floodplain and water management.
B2.11	Identify areas of streambank erosion and instream sedimentation and implement remedial and protective actions.	4.10.2 Floodplain and water management.
B2.12	Implement mechanisms to prevent the translocation and stocking of inappropriate species and to control noxious fish species in waterways.	4.10.2 Floodplain and water management.
Weeds and other Pests		
B2.13	Develop, promote and implement weed and feral animal control strategies using an ecosystem approach. Implement the control strategies as local government pest management plans.	4.6.1 The management of exotic flora and fauna.
B2.14	Develop an 'Environmental Weeds' list and associated list of alternative plant species for the SEQ region.	State or regional responsibility.
B2.15	Identify and manage sites with weed infestations in areas of high conservation significance, particularly 'endangered' and 'of concern' ecosystems.	4.1 The Lockyer Catchment Biodiversity Recovery Planning Partnership. 4.6.1 The management of exotic flora and fauna.
B2.16	Identify and understand the causes of weed invasion and promote best practice environmental weeds management, particularly in areas of conservation significance.	4.6.1 The management of exotic flora and fauna.

B3 Encourage the use of voluntary land use rights (or property rights) mechanisms and appropriate regulatory strategies.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>
Voluntary land tenure related mechanisms		
B 3.1	Extend the area of national parks and conservation parks to include examples of all landscape elements and vegetation communities within the SEQ region that are poorly conserved at present.	4.2.1 Conservation on private land.
B3.2	Purchase identified key sites to protect and restore biological diversity at the local level. Such sites should ensure the secure protection of biodiversity values. Purchase and resale, with conservation conditions in place, may be an alternative action to minimise any costs to local government and other agencies.	4.2.1 Conservation on private land.
B3.3	Expand the nature refuge program within the region and include financial support for management of nature refuges.	State or regional responsibility.
B3.4	Target voluntary conservation agreements (under the <i>Nature Conservation Act 1992</i>) with landholders of identified high priority conservation sites. These agreements should be accompanied by incentives that promote sustainable use and appropriate developments.	4.2 Property-Right Conservation Agreements (PRCAs). 4.3 Alternative land-uses. 4.6 Habitat restoration and management. 4.7 Incentives.
B3.5	Target binding voluntary conservation agreements (available through local government) with landholders of identified high priority conservation sites. These agreements should be accompanied by incentives that promote sustainable use and appropriate developments.	4.2 Property-Right Conservation Agreements (PRCAs). 4.3 Alternative land-uses. 4.7 Incentives.
B3.6	Develop voluntary conservation agreements (both binding and non-binding) with landholders of other conservation sites.	4.2 Property-Right Conservation Agreements (PRCAs).
B3.7	Promote the use of covenants, if they become available in Queensland.	4.2 Property-Right Conservation Agreements (PRCAs).
B3.8	Support “Future Profit” programs which enable the sustainable management of commercial timber and native wildlife.	4.2.4 Structure of Property-Right Conservation Agreements (PRCAs). 4.6 Habitat restoration and management. 4.14 Property management planning.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>	
Regulatory Mechanisms			
B3.9	Local government planning schemes should incorporate the Regional Landscape Strategy lands and protect land which has: <ul style="list-style-type: none"> • Regional significance for broad nature conservation; • High scenic amenity; • Sustainable nature-based recreation; • Linkages to open space land; • High land and water conservation value; • Cultural heritage and social significance to a community; • Separates urban areas and outdoor recreation. 	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
		4.5	Alternative approaches to development.
		4.6.3	Re-establishing areas of native vegetation.
		4.8	Planning Scheme provisions.
B3.10	Review planning schemes to ensure that critical nature conservation areas, together with the linkages connecting these, are retained. This may require new definitions, intents, objectives and / or zones and strategic designations.	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
		4.5	Alternative approaches to development.
		4.6.3	Re-establishing areas of native vegetation.
		4.8	Planning Scheme provisions.
B3.11	Prepare a Regional Conservation Strategy (RFGM) based on comprehensive inventories of the natural environment. The strategy should be used to ensure protection of significant remnant vegetation in the SEQ region.	State or regional responsibility.	
B3.12	Develop and implement recovery plans and conservation plans for threatened wildlife and ecosystems.	4.1	The Lockyer Catchment Biodiversity Recovery Planning Partnership.
B3.13	Extend and promote existing planning protection mechanisms (e.g. tree preservation by-laws, Local Laws, vegetation protection orders) to protect all significant area, where appropriate.	4.8	Planning Scheme provisions.
B3.14	Develop and implement State and local policies for nature conservation.	4.	Recommended biodiversity conservation actions.
B3.15	Establish adequate resourcing for on-ground management of protected areas.	4.7	Incentives.
		4.9.3	Land managed by other agencies.
		4.15	Resources.

B4 Identify and implement effective monitoring and reporting strategies to help assess and better manage the region’s biodiversity.

<i>Draft Natural Resource Management Strategy SEQ</i>		<i>Gatton Shire Biodiversity Strategy</i>
B4.1	Monitor and report on the rate of vegetation change in the SEQ region every two years using satellite imagery and compare the results against performance indicators and standards.	State or regional responsibility.
B4.2	Develop high quality, simple monitoring and evaluation activities as an integral part of any management activities.	4.1.6 Evaluation and monitoring.
B4.3	Implement a regional State of the Environment reporting system to establish a comprehensive database on the condition and trends of environmental resources in the region.	State or regional responsibility.
B4.4	Identify relevant performance indicators to effectively assess the condition of biodiversity, the impact of threatening processes and the effectiveness of management responses.	4.1.6 Evaluation and monitoring.
B4.5	Establish appropriate monitoring and reporting programs to assess the effectiveness of management activities.	4.1.6 Evaluation and monitoring.

Appendix B

Summary of recommended actions

A - Lockyer Catchment Biodiversity Recovery Planning Partnership				
Actions	Description	Responsibility	Priority	Target date
A1	Embrace the Lockyer Catchment Biodiversity Recovery Planning Partnership, and in doing so facilitate local involvement in biodiversity conservation decision-making processes and local ownership of the outcomes.	Lockyer Catchment Coordinating Committee (LCCC), Lockyer Catchment Councils.	High	February 2000
A2	Prepare the <i>Lockyer Catchment Biodiversity Recovery Plan</i> , incorporating actions from the WWF SEQ Rainforest Recovery Project and other relevant single-species and multiple species recovery planning processes.	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000

Actions	Description	Responsibility	Priority	Target date
A3	<p>Establish a Biodiversity Sub-Committee of the Lockyer Catchment Coordinating Committee (LCCC), which will provide:</p> <ul style="list-style-type: none"> • <i>Coordination.</i> Coordinate the Lockyer Catchment Biodiversity Recovery Planning Partnership. • <i>Linkages.</i> Coordinate linkages with the WWF SEQ Rainforest Recovery Project and other relevant single-species and multiple-species recovery planning processes. • <i>Leadership.</i> Lead the implementation of the Gatton Shire biodiversity conservation program. • <i>Networking.</i> Establish effective networking with other biodiversity planning levels (local government, region, State, Commonwealth). • <i>Lockyer Catchment Biodiversity Strategy.</i> Extend Gatton Shire Biodiversity Strategy to other Lockyer Catchment Councils, and in doing so create a full Lockyer Catchment Biodiversity Strategy. 	Lockyer Catchment Coordinating Committee (LCCC), Lockyer Catchment Centre.	High	February 2000
A4	Establish the <i>Lockyer Catchment Biodiversity Recovery Plan</i> as the key reference for biodiversity conservation decision-making in the Lockyer Catchment.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre, Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000

B - Property-Right Conservation Agreements (PRCAs)

Actions	Description	Responsibility	Priority	Target date
B1	Adopt and advocate a preferred position in regard to biodiversity conservation on private land in Gatton Shire. This preferred position should state that biodiversity conservation outcomes in Gatton Shire are to be achieved through cooperative arrangements with existing landholders rather than through acquisition. The only exception to this should be acquisition by a revolving fund.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	Ongoing
B2	Investigate the possibility of including enhanced property-right measures in Queensland Government Nature Refuge Agreements (NRAs) before proceeding with the development of a Property-Right Conservation Agreement (PRCA) program.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	March 2000
B3	Develop and implement a Property-Right Conservation Agreement (PRCA) program. The Gatton Shire PRCAs should be based on the wording of existing South-East Queensland VCAs with the addition of property-right security clauses, and: <ul style="list-style-type: none"> • Should be linked to property management plans. • Should use a “zonal” system. • Must consider the conservation requirements of continuous habitat areas. • Could be offered for a range of different durations. • Could be linked to codes of practice. 	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	June 2000
B4	Target PRCAs at high conservation value sites identified by the <i>Gatton Shire Vegetation Survey</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Gatton Shire Council, Lockyer Catchment Centre, Lockyer Catchment Biodiversity Recovery Team.	High	Ongoing

C - Alternative land-uses

Actions	Description	Responsibility	Priority	Target date
C1	<p>Review policies and procedures to ensure that ecotourism is not unnecessarily hindered. This review should involve extensive consultation with:</p> <ul style="list-style-type: none"> • Environmental tourism experts from Tourism Queensland, the Ecotourism Association of Australia (EAA), and the University of Queensland Gatton Campus. • Landholders from throughout Gatton Shire who have established, or are interested in establishing, environmental tourism enterprises. 	Gatton Shire Council.	High	December 2000
C2	Apply the win-win approach to land-use conflicts between ecotourism and the rights and needs of other landholders.	Gatton Shire Council.	High	Ongoing
C3	<p>Pursue grant funding for an ecotourism development program. The ecotourism development program should be based on the current Boonah Shire project, and have the following components:</p> <ul style="list-style-type: none"> • Development of an ecotourism development strategy for the Lockyer Catchment. • Advice and assistance to people interested in establishing ecotourism enterprises. • Funding grants to landholders to offset application fees and charges and the costs of management plans and flora, fauna and cultural heritage surveys. • Preparation and distribution of a guide booklet titled “How to establish an ecotourism enterprise in the Lockyer Catchment”, which sets out clearly and simply approval processes and requirements. 	Lockyer Catchment Councils, Lockyer Catchment Coordinating Committee (LCCC), Lockyer Valley Tourist Association (LVTA), LWMA - Lockyer Landcare.	High	December 2000

Actions	Description	Responsibility	Priority	Target date
C4	<p>Convene a forum aimed at creating strategic directions for the development of new farming opportunities in the Lockyer Catchment; in particular native plant based industries. The forum to involve:</p> <ul style="list-style-type: none"> • Existing local commercial native plant growers. • Landholders interested in establishing native plant crops and other alternative enterprises. • Gatton and Laidley Shire Councils. • The Department of Primary Industries. • Research and technical staff from the University of Queensland Gatton Campus and Toowoomba TAFE. • Lockyer Catchment Coordinating Committee (LCCC). • LWMA - Lockyer Landcare. <p>The forum should aim to:</p> <ul style="list-style-type: none"> • Identify a lead group/organisation that will take responsibility for the future advancement of the initiative. • Initiate the development of a funding proposal for submission to the year 2000 RIRDC funding round. • Initiate the development of funding proposals for submission to other funding sources as identified. • Initiate planning for native plant enterprises and other alternative farming opportunities information activities (field days, brochures etc.) 	Lockyer Catchment Centre.	High	April 2000
C5	Continue to promote and assist the development of farm forestry.	Lockyer and West Moreton Farm Forestry Group.	Medium	Ongoing

Actions	Description	Responsibility	Priority	Target date
C6	<p>The following books should be acquired for the Gatton Shire Council and Lockyer Catchment Centre libraries:</p> <ul style="list-style-type: none"> • Holing, D. (ed) (1996). <i>World Travel: A Guide to International Ecojourneys</i>. The Nature Company, R.D. Press, Sydney. • Elander, M. and Widstrand, S. (1993). <i>Eco-Touring: The Ultimate Guide</i>. Firefly Books (U.S.) Inc. New York. • Hamilton, Jill, Duchess of, and Bruce, J. (1998). <i>The Flower Chain: The Early Discovery of Australian Plants</i>. Kangaroo Press, NSW. 	Gatton Shire Council, Lockyer Catchment Centre.	Low	December 2000

D - Land for Wildlife				
Actions	Description	Responsibility	Priority	Target date
D1	Expand Land for Wildlife to the whole of Gatton Shire, and make a long-term commitment to the program.	Gatton Shire Council.	High	Ongoing

E - Alternative approaches to development				
Actions	Description	Responsibility	Priority	Target date
E1	<p>The Gatton Shire Council Planning Scheme rural residential land review should consider:</p> <ul style="list-style-type: none"> • The impact of the current supply of zoned rural residential land on native vegetation. • The impact of any proposed redistribution of supply on native vegetation. • The protection of Good Quality Agricultural Land (GQAL). • Subdivision as a possible option for non-GQAL farmland that is not economically viable. • The benefits of innovative approaches to rural residential development (group-title development, multiple-occupancy development and conservation subdivision). 	Gatton Shire Council.	High	December 2000
E2	<p>Decision-making for the Gatton Shire Planning Scheme rural residential land review should be informed by the <i>Gatton Shire Vegetation Survey</i>, <i>Queensland Vegetation Management Act</i>, <i>Commonwealth Environment Protection & Biodiversity Conservation Act</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i>.</p>	Gatton Shire Council.	High	December 2000
E3	<p>If the clearance of native vegetation for rural residential development is allowed to continue, then policies and provisions for “offsets and performance/assurance bonds” should be implemented.</p>	Gatton Shire Council.	High	December 2000

F - Habitat restoration and management				
Actions	Description	Responsibility	Priority	Target date
F1	Develop effective exotic flora and feral animal management programs as components of the <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000
F2	Develop sustainable grazing management programs as components of the <i>Lockyer Catchment Biodiversity Recovery Plan</i> . The sustainable grazing management programs should: <ul style="list-style-type: none"> • Be linked to property management plans. • Involve the erection of fencing to facilitate grazing exclusion or grazing control in high conservation value areas. • Involve incentive payments to landholders to assist them with fencing and other biodiversity management issues. 	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000
F3	Incorporate the SEQ RFA sustainable timber production programs into the <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000
F4	Further investigate the impacts of the new Queensland <i>Vegetation Management Act</i> on private land timber production, and respond accordingly.	LCCC Biodiversity Sub-Committee.	High	June 2000
F5	Develop native vegetation re-establishment programs as components of the <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000

G - Incentives

Actions	Description	Responsibility	Priority	Target date
G1	Ensure that the rights, needs and opinions of Gatton Shire landholders are taken into account by the Queensland Government <i>Vegetation Management Act</i> compensation decision-making process, and that any affected Gatton Shire landholders are properly compensated.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	June 2000
G2	With assistance from the State or Commonwealth Governments, implement, or facilitate the implementation of, local government rate and State land tax relief for conservation agreement landholders in Gatton Shire. Link the rate and land tax relief to the Property Right Conservation Agreement (PRCA) and Nature Refuge Agreement (NRA) mechanisms.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	December 2000
G3	Seek Natural Heritage Trust (NHT) funding for additional devolved-grant projects aimed at addressing the threats to all significant biodiversity areas in Gatton Shire. These additional projects should be directed at the highest biodiversity conservation priorities, with the decision-making informed by the <i>Gatton Shire Vegetation Survey</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> . (See also Actions M1, N1, O4 and O5).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	High	February 2000

H - Planning Scheme provisions				
Actions	Description	Responsibility	Priority	Target date
H1	<p>The Gatton Shire Council Planning Scheme Review should:</p> <ul style="list-style-type: none"> • Consider the recommended actions from the <i>Gatton Shire Biodiversity Strategy</i>. • Embrace the Lockyer Catchment Biodiversity Recovery Planning Partnership. Through this partnership, Council can work with the community to develop the conservation “mechanisms” proposed by the recommended actions of the <i>Gatton Shire Biodiversity Strategy</i> (see also Action A1). • Consider the provisions of the new Queensland <i>Vegetation Management Act</i> and Commonwealth <i>Environment Protection & Biodiversity Conservation Act</i>. • Consider whether the new Queensland <i>Vegetation Management Act</i> provisions make the Areas of Environmental Significance (AES) provision redundant. If so, consider removing the Areas of Environmental Significance (AES) provision from the Planning Scheme. 	Gatton Shire Council, Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	December 2000

I - Managing publicly owned land				
Actions	Description	Responsibility	Priority	Target date
I1	Carry out the Lockyer Catchment “Managing Roadsides” project.	Lockyer Catchment Centre.	High	January 2000
I2	Develop and implement a project, or projects, that will: <ul style="list-style-type: none"> • Assess the conservation value of public parks, cemeteries, and other areas of public land managed by Council throughout Gatton Shire. • Determine appropriate management strategies for areas that are identified as having conservation significance. • Implement the strategies. 	Lockyer Catchment Centre, LCCC Biodiversity Sub-Committee.	Medium	March 2001
I3	Request the Queensland Government to commit to five-year funding programs for the preparation, where required, and implementation of management plans for Queensland Government managed land in Gatton Shire, in particular: <ul style="list-style-type: none"> • White Mountain State Forest; Lockyer State Forest; Woodlands State Forest; and Mt. Mistake State Forest. • Mt. Mistake National Park, Dwyer’s Scrub Conservation Park, Flagstone Conservation Park. • Glen Rock Regional Park, Helidon Explosives Magazine. The management plans should: <ul style="list-style-type: none"> • Be prepared in a timely manner. • Be coordinated with management planning on adjacent private and public lands. • Properly involve the Gatton Shire community and adjacent landholders in decision-making processes. • Achieve valid biodiversity conservation outcomes. 	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	June 2000

J - Managing environmental risks

Actions	Description	Responsibility	Priority	Target date
J1	In conjunction with the South-East Queensland Fire and Biodiversity project, research and develop fire management actions for the <i>Lockyer Catchment Biodiversity Recovery Plan</i> . The fire management actions need to achieve both biodiversity conservation and the protection of life and property.	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	November 2000
J2	Implement fire management actions through the Gatton Shire Planning Scheme and building regulations.	Gatton Shire Council.	High	November 2000
J3	Implement fire management actions through fire management plans for individual properties throughout Gatton Shire. Link the fire management plans to property management plans.	Lockyer Catchment Biodiversity Recovery Team, Project Coordinator Lockyer Catchment Biodiversity Recovery Project.	High	Ongoing
J4	Establish linkages between the Water Sub-Committee and Biodiversity Sub-Committee of the Lockyer Catchment Coordinating Committee (LCCC) to progress: <ul style="list-style-type: none"> • The identification of significant riparian vegetation, aquatic ecosystems and wetlands. • The development of win-win outcomes for the conservation, management and sustainable use of these areas. 	Lockyer Catchment Centre.	High	November 2000

K - Managing infrastructure provision and related activities				
Actions	Description	Responsibility	Priority	Target date
K1	Request all infrastructure providers to pay careful attention to the location of infrastructure so that negative impacts on biodiversity are prevented or minimised.	LCCC Biodiversity Sub-Committee, Gatton Shire Council.	High	March 2000 then ongoing
K2	Request all infrastructure providers to fund the mitigation of the negative impacts of their infrastructure. Inform the infrastructure providers that it is essential that this funding be spent on mitigating the direct impacts of the infrastructure, and not on unrelated or tokenistic conservation activities.	LCCC Biodiversity Sub-Committee, Gatton Shire Council.	High	March 2000 then ongoing
K3	Identify and cost alternative sources of gravel at sites where there are no negative biodiversity impacts.	Gatton Shire Council.	High	March 2000
K4	Lobby for State and Commonwealth Government funding assistance to cover any increased costs of gravel extraction from alternative sources.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	June 2000
K5	Request that the Department of Mines and Energy (DME) and Environmental Protection Agency (EPA) integrate proper biodiversity management programs into the Environmental Management Overview Strategy (EMOS) for each Helidon Hills sandstone mine.	LCCC Biodiversity Sub-Committee.	High	March 2000
K6	If the proposed Paradise Creek hard-rock quarry proceeds, ensure that threatened ecosystem damage is minimised. Any clearance or damage should be offset by revegetation to the same habitat standard as the original vegetation.	Gatton Shire Council.	High	Ongoing
K7	Decisions regarding planning protection for, or applications for the quarrying of, any other potential or future extractive resources must also fully consider biodiversity impacts. If approvals are given, then any biodiversity impacts must be properly mitigated.	Gatton Shire Council.	High	Ongoing

Actions	Description	Responsibility	Priority	Target date
K8	The <i>Gatton Shire Vegetation Survey</i> , <i>Queensland Vegetation Management Act</i> , <i>Commonwealth Environment Protection & Biodiversity Conservation Act</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> should inform all decisions regarding infrastructure provision and related activities in Gatton Shire.	LCCC Biodiversity Sub-Committee, Gatton Shire Council, infrastructure providers.	High	Ongoing

L - Biodiversity data				
Actions	Description	Responsibility	Priority	Target date
L1	Develop and implement a mapping and assessment project, or projects, to identify and assess the significance of wetlands and aquatic ecosystems.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	Medium	February 2001
L2	Develop and implement a “Naturesearch” program in Gatton Shire.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	High	March 2000

M - Education and awareness				
Actions	Description	Responsibility	Priority	Target date
M1	To complement the Helidon Hills threatened species kit, seek funding for the development of a threatened species and ecosystem information kit, or kits, for remaining parts of Gatton Shire. (See also Actions G3, N1, O4 and O5).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	High	February 2000
M2	Encourage the continuation of the Welk remnant, Nelsons remnant, "Touch of Paradise" remnant and "Jensens Gully" conservation projects. Encourage the project groups to use the conservation actions at these sites to develop conservation techniques and promote them to landholders across the Lockyer Catchment.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	Medium	Ongoing
M3	Work with Landcare and community groups to encourage and facilitate the establishment of additional conservation demonstration project sites in other key threatened ecosystem types and threatened species habitats.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	Medium	Ongoing
M4	Work with Landcare and community groups to encourage and facilitate field days and property visits to inform landholders about various native vegetation conservation and management issues.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	Medium	Ongoing
M5	Seek funding to establish a local native species and ecosystem botanic garden at Lake Apex Park in Gatton.	Gatton Shire Council, LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	Medium	December 2001
M6	Work with Landcare and community groups to encourage and facilitate regular field days and other events to maximise the education and awareness potential of the Lake Apex Botanic Garden.	Gatton Shire Council, LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	Medium	Ongoing
M7	Increase the use of local native species for park plantings, garden plantings and street trees.	Gatton Shire Council.	High	Ongoing

Actions	Description	Responsibility	Priority	Target date
M8	Arrange regular biodiversity conservation field tours and site visits for the Councillors and staff of Gatton Shire Council and the Management Committees of the Lockyer Catchment Coordinating Committee (LCCC) and LWMA - Lockyer Landcare. Hold the first field tour in April 2000 following the completion of the <i>Gatton Shire Vegetation Survey</i> .	LCCC Biodiversity Sub-Committee, LWMA - Lockyer Landcare Education Sub-Committee, Lockyer Catchment Centre.	High	April 2000
M9	Arrange regular presentations from experts on biodiversity conservation issues for the Councillors and staff of Gatton Shire Council and the Management Committees of the Lockyer Catchment Coordinating Committee (LCCC) and LWMA - Lockyer Landcare. The first of these presentations should be carried out as a part of the first field tour in April 2000.	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre, Gatton Shire Council.	High	April 2000
M10	Investigate and develop additional biodiversity education and awareness programs.	LCCC Biodiversity Sub-Committee, LCCC Communication Sub-Committee, LWMA - Lockyer Landcare Education Sub-Committee, Lockyer Catchment Centre.	Low	Ongoing
M11	Education and awareness program decision-making should be informed by the <i>Gatton Shire Vegetation Survey</i> and <i>Lockyer Catchment Biodiversity Recovery Plan</i> .	Gatton Shire Council, LCCC Biodiversity Sub-Committee, LCCC Communication Sub-Committee, LWMA - Lockyer Landcare Education Sub-Committee, Lockyer Catchment Centre.	High	Ongoing

N - Property management planning				
Actions	Description	Responsibility	Priority	Target date
N1	<p>Seek funding to widely implement Futureprofit property management planning programs (see also Actions G3, M1, O4 and O5). The Futureprofit programs should include:</p> <ul style="list-style-type: none"> • Biodiversity conservation planning and management, achieved through the implementation of actions from the <i>Lockyer Catchment Biodiversity Recovery Plan</i>. • Linkages to Property Right Conservation Agreements (PRCAs), Nature Refuge Agreements (NRAs) and Land for Wildlife. • Sustainable grazing and sustainable timber harvesting programs. • Exotic flora and feral animal management. • Re-establishment of areas of native vegetation. • Linkages to devolved grant programs and other incentives. • Fire management planning. • Consideration of alternative land-uses and alternative approaches to development. • Education and awareness. 	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	High	February 2000

O - Resources				
Actions	Description	Responsibility	Priority	Target date
O1	Ensure that the “Regional Vegetation Management Plan” process properly considers the needs, concerns, issues and ideas of the landholders and community of Gatton Shire.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	June 2000
O2	Strongly advocate the need for State and Commonwealth funding assistance for rate and land tax relief and ongoing management assistance in Gatton Shire. Develop and implement effective strategies for this advocacy.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	Ongoing
O3	Strongly advocate the need for State and Commonwealth funding assistance for Lockyer Catchment conservation staff. Develop and implement effective strategies for this advocacy.	Gatton Shire Council, LCCC Biodiversity Sub-Committee.	High	Ongoing
O4	Seek Natural Heritage Trust (NHT) funding for a “Lockyer Catchment conservation agreement officer”, as a component of a larger funding application for a major devolved-grant management assistance project. This project would commence in November 2000. (See also Actions G3, M1, N1 and O5).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	High	February 2000
O5	Investigate potential funding options for the employment of a “Lockyer Catchment biodiversity planning officer” beyond November 2000. (See also Actions G3, M1, N1 and O4).	LCCC Biodiversity Sub-Committee, Lockyer Catchment Centre.	High	February 2000