

*The*

# Natural Resource Management Strategy

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October 1999

***DRAFT***

**PART C**

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## Structure of Part C

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Part C deals with the four core themes and the two supporting themes that have been identified for the NRMS. These are listed in Table One.

**Table One: Themes for NRMS**

	<b>Themes</b>	<b>Description</b>
<b>Core Themes</b>	<i>Biodiversity</i>	Protection and restoration of biological diversity
	<i>Water</i>	Waterway health and quality and reliability of water supply
	<i>Land</i>	Use and protection of land and its resources
	<i>Coasts and Seas</i>	Protection and management of coastal resources and processes
<b>Supporting Themes</b>	<i>Understanding and Participation</i>	Information accessibility, community understanding and partnership development in resource and conservation management programs
	<i>Integrated Planning and Coordinated Management</i>	Integrated and coordinated approaches to planning and implementing management programs

While these themes have been developed to make it easier to identify and classify issues and projects, it should be remembered that natural resources and their associated issues (and subsequent actions) are, in reality, interrelated.

For each theme, the NRMS identifies:

- a goal - the long term, generally desired state for that theme; and
- desired outcomes

The context for achieving these outcomes is based on an analysis of threatening processes relevant to each theme. In order to achieve the desired outcomes:

- strategies have been identified; and
- a range of specific actions will implement each of these strategies.

Descriptions of such actions are outlined in part C (Table One), using the following terminology:

- Code (ie. B2.1)
- Actions
- Current Activities
- Priority/Localities

Table Two provides an example from the Biodiversity theme

Table Two: Example - Action tables

Code	Actions	Current Activities	Priority/Localities
Each action is assigned a code. For example-	This column contains a number of actions related to the Strategy (ie. B1).	This column contains examples of current activities related to the associated action – For example:	Actions may be identified as one or more of the following priorities.
B1.4	For example –	Regional Forest Agreement (RFA)	<b>A - “Immediate priority”</b> – Actions should be implemented as soon as practicable.
B1 refers to the first strategy of the biodiversity theme	B1 <i>“Identify ecosystems under current threat of loss or degradation or which are already degraded.”</i>		<b>B - “Mid-term priority”</b> – Actions are important, but not immediate.  <b>C - “Longer term priority”</b> – Actions that may be reliant upon the initial completion of Priority A or B Actions.  <b>Localities</b> where the undertaking of the action is critical may also be identified– for example –  ● <i>Mundoo and Garoo Shires</i>

The priorities within each theme, are based on:

- the *relative importance* of the resource issue in the regional context; and
- the *relevant sequencing* of resource management actions.

The sequence includes the following stages which are detailed in Part C Appendix One:

- Resource audit;
- Impact assessment;
- Resource planning;
- Resource management; and
- Resource monitoring.

At the local issue level, the sequential stage reached, together with the community’s capacity to resource and deliver the desired on-ground outcomes should be taken into account when prioritising funding.

# **Caring for our Biodiversity**

## Caring for our Biodiversity – Summary

Our regional goal for biodiversity is:

**To identify, protect, restore and sustainably manage the biological diversity of SEQ**

*Desired outcomes* associated with this goal are:

Full suite of ecological values within SEQ is protected, maintained and restored within a comprehensive, adequate and representative reserve system and across the landscape

Knowledge, understanding and management of biodiversity is improved and more fully integrated into government decision-making processes, with all stakeholders accepting and sharing responsibility for caring for and maintaining the region's biodiversity

The conservation status of threatened species and regional ecosystems in SEQ is maintained or improved, with emphasis being placed on minimising or avoiding processes that threaten the biodiversity of the region

Sustainable management of the reserve and regional landscape system is demonstrated and effective corridors are established between the reserved lands and habitat remnants

Four *key strategies* have been identified to achieve these desired outcomes

- B1 Gather, research, analyse and integrate data related to biological diversity**
- 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**

*Priority Actions* required to implement these strategies include:

- Develop a regional system for assessing nature conservation values
- Identify ecosystems under current threat of loss or degradation
- Identify and map native vegetation at a scale appropriate for regional planning and action
- Assess threats to biodiversity from invasive pest species

- Introduce incentive schemes to encourage activities that increase the coverage and improve the status of native flora / fauna and ecosystems
- Assist local governments, individuals and communities to better protect and manage local biodiversity
- Support and encourage the sustainable use of biological resources
- Increase landholders' knowledge and understanding of biodiversity and their ability to implement biodiversity management strategies
- Halt the loss and fragmentation of habitat in the region's lowlands

- Expand the nature refuge program and include financial management of nature refuges
- Provide incentives to landholders to voluntarily alter their existing land use rights to enhance long term conservation outcomes
- Review planning schemes to ensure that critical nature conservation areas and linkages are retained
- Prepare a regional Conservation Strategy
- Development and implementation of adequately resourced management plans for protected areas

- Enable individuals and community groups to be involved in monitoring of biodiversity at the local level
- Monitor and report on the rate of vegetation change in SEQ
- Develop high quality, simple monitoring and evaluation activities
- Identify relevant performance indicators

## 1.0 Our goal for biodiversity management

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### To identify, protect, restore and sustainably manage the biological diversity of SEQ

#### *The rationale behind this goal*

South East Queensland is one of the most species-rich and diverse parts of Australia for flora and fauna. Maintaining and restoring this biodiversity is important. In particular, people are dependent for sustenance, health, well being and enjoyment on fundamental biological systems and processes. Biological resources provide ecosystem services (e.g. nutrient storage and cycling, pollution breakdown) and provide biological resources which have an important economic function. Biologically diverse areas enhance recreation and tourism potential and contribute to social and cultural well being, and importantly provide options for the future. The identification, protection, restoration and sustainable management of this resource is essential to the viability of the region in the long term.

## 2.0 Desired outcomes

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- Full suite of ecological values within SEQ is protected, maintained and restored, both within a comprehensive, adequate and representative reserve system and across the landscape.
- Knowledge, understanding and management of the biodiversity of SEQ is improved and fully integrated into decision making processes, with all stakeholders accepting and sharing responsibility for caring for and maintaining the region's biodiversity.
- The conservation status of threatened species and regional ecosystems in SEQ is maintained or improved, with emphasis being placed on minimising or avoiding processes that threaten the biodiversity of the region.
- Sustainable management of the reserve and regional landscape system is demonstrated and effective corridors are established between the reserved lands and habitat remnants.

## 3.0 Threats to our biodiversity

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Biological diversity (biodiversity) is the natural diversity of native wildlife (plant and animal), together with the environmental conditions necessary for their survival. It has four components:

1. Regional diversity (the diversity of the landscape components of a region, and the functional relationships that affect environmental conditions within ecosystems);
2. Ecosystem diversity (the diversity of the different types of communities formed by living organisms and the relations between them);
3. Species diversity (the diversity of plant and animal species); and
4. Genetic diversity (the diversity of genes within each species).

South East Queensland has a wide diversity of natural resources, including biological resources. The area contains plants and animals that are found nowhere else and a wide range of habitat types (Sattler & Williams 1999). It contains habitat of both rare and threatened species of plants and animals; sites listed under international treaties and conventions (e.g. Ramsar wetlands, World Heritage properties); habitat of migratory birds recognized under international treaties (e.g. China-Australia Migratory Bird Agreement, Japan-Australia Migratory Bird Agreement and the Convention on the Conservation of Migratory Species of Wild Animals); and ecosystems with important ecological functions, such as mangroves, riparian areas, floodplains, saltmarshes and other tidal and non-tidal wetlands

### **The Current Situation**

Management of biodiversity in the region, to achieve the strategy's long term outcomes, will be influenced by and must take account of threatening processes. There is clear evidence that the region's biodiversity and the associated values that the community places on these resources are under threat of degradation and perhaps eventual loss. Approximately 56% of the region's natural vegetation has been lost. Many species of plants and animals are listed as rare or threatened (33 classed as endangered, 76 as vulnerable and 152 as rare). Within the South East Queensland bioregion, 11 regional ecosystems have been assessed as 'endangered' and 44 as 'of concern' (Sattler & Williams 1999) The more fertile and flatter parts of the region have a long history of clearing for agriculture and pasture. This has led to retention of large areas of vegetation on steeper lands along the coastal and subcoastal ranges and on poorly drained and low fertility soils along the coastal lowlands and depletion of vegetation types found on lowland areas.

More recent pressures on the biodiversity of the region stem from rapid population expansion, which is predicted to continue into the near future. As a consequence, much of the remnant vegetation along the coastal lowlands is being rapidly cleared and fragmented. At current rates of clearing, in the area south of Noosa and outside of protected areas, all paperbark forests will be cleared by 2004, all lowland eucalypt forests by 2016 and all heathlands by 2018 (Catterall & Kingston 1993). Inland, along rivers forest red gum forests on alluvial flats have been reduced to 6.5% of their extent and only 0.2% are protected.

Weeds and feral animals are also impacting on the biodiversity of the region. Major pests include feral cats, foxes, cane toad *Bufo marinus*, groundsel bush *Baccharis halimifolia*, creeping lantana *Lantana montevidensis*, camphor laurel *Cinnamomum camphora*, Chinese elm *Celtis sinensis*, and red natal grass *Rhyncholetrum repens*. Introduced pasture species invade intact and semi-intact vegetation and have displaced native species or increase the susceptibility to fire incursion. Riparian habitat is particularly vulnerable, being prone to invasion by woody and herbaceous species (Sattler & Williams 1999).

### ***Dominant threatening processes***

The dominant threatening activities operating in SEQ include inappropriate land clearing, land use management and fire management, subdivision, mining, road and rail construction and expanding urban and rural residential development. Emerging issues that threaten biodiversity of SEQ include:

- Loss and degradation of native vegetation and fauna habitat;
- Fragmentation and isolation of remaining bushland;
- Increasing pressures on coastal ecosystems;
- Changes in the natural biodiversity from invasive plants, feral animals and diseases;
- Changes in catchment hydrology from changing land use;
- Inappropriate water management (instream infrastructure);
- Deterioration in water quality from diffuse and point source pollution discharges; and
- Changes in the predation patterns on native animals.

## **4.0 Strategies required to achieve the outcomes**

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Four *key strategies* have been identified to achieve the outcomes:

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

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

***How is the implementation of these actions being coordinated?***

The Environmental Protection Agency has lead responsibility for the conservation of nature under the *Nature Conservation Act 1992*. The Agency is involved in gathering, researching and analysing data on nature. Other departments are also involved in data gathering and analysis, particularly in relation to processes that threaten biological diversity. This includes research into pest plant and animal species. Many local governments are also collecting and collating biodiversity inventories for their jurisdictions. Non-government agencies also play an important role. While there is some existing collaboration between agencies, overall regional coordination will be achieved through fulfillment of RFGM Regional Priority Action 1.2 "Prepare a Regional Conservation Strategy".

***Existing major initiatives include:***

**State**

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- 'Conservation Status of Queensland's Regional Ecosystems' (Sattler & Williams 1999)
- Nature Search 2001
- WildNet
- Statewide Landcover and Trees Study (DNR 1997)
- 'Partnerships for Conservation and Rehabilitation of the Ecosystems of South East Queensland' (NHT project application - EPA & WPSQ)

**Regional**

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- Assessment and Analysis of Deforestation Patterns in the SEQ2001 Area 1820-1987-1994 (Catterall, Storey & Kingston 1996)
- Remnant Bushland of South East Queensland in the 1990's (Catterall and Kingston, 1993)
- Regional Ecosystems 'At Risk' Mapping Project (Department of Environment 1997)
- Regional Landscape Strategy Nature Conservation Criteria Project
- Ecological assessment of significance, threats, and conservation priorities relating to remnant vegetation in the Greenbank to Flinders Peak region of South East Queensland (Catterall & Roberts 1994)
- Greenbank-Flinders Peak Vegetation Study and Ecological Assessment (Kinhill 1998)

**Local Government/Catchment**

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- **Caboolture**: Atlas of Natural Resources for Caboolture Shire Council (Loose 1995)
- **Beaudesert**: Beaudesert Shire Council Environmental Inventory (Chenoweth & Assoc. 1993).
- **Boonah**: The Remnant Native Vegetation Mosaics of Lands within Boonah Shire (Landscape Assessment, Management & Rehabilitation P/L 1999).
- **Brisbane**: Mountains to Mangroves Strategic Study (Mary Maher & Associates 1998); Fauna and Flora Information System; Brisbane City Vegetation Mapping (Kordas & BCC 1993).
- **Caboolture**: Atlas of Natural Assets (Loose 1994); Atlas of Natural Assets - Riparian & Reserve Vegetation (Burgess, Tapsall, Juniper, Martin 1998); Atlas of Natural Assets - Fauna species of conservation significance within the Shire (Martin, Richardson, Reis 1998).

- **Caloundra:** The Vegetation Mosaic of Lands within the Boundaries of Caloundra Shire (Olsen 1993).
- **Esk:** Assessment of vegetation and nature conservation values of Esk Shire (Johnson, Sullivan & Lawson 1998); Brisbane Valley Aerial photography (in prep.); An Assessment of the Natural Resources of the Lockyer Catchment (Davidson, Hempseed, Green 1999); Pinecliffs Nature Sanctuary Flora and Bird list (McDonald & Clarson 1998).
- **Gatton:** Gatton Shire Vegetation Survey (Grimshaw in prep.); Assessment of the vegetation and nature conservation requirements of Gatton Shire (Wilkinson & Grimshaw 1992); An Assessment of the Natural Resources of the Lockyer Catchment (Davidson, Hempseed, Green 1999); Helidon Hills Project (Boyes *et al.* in progress).
- **Gold Coast:** Environmental Atlas for Gold Coast City Council; Nature Conservation Strategy - Flora and Fauna Database (Gold Coast CC, Mary Maher & Assoc. 1999).
- **Ipswich:** Bremer Basin Vegetation Study (Boulton, Kingston, Turnbull 1998); Ipswich City Council Flora and Fauna Database (Ipswich CC 1999); Ipswich City Council Natural Systems Inventory (Storey, Kingston 1997); Rosewood Scrub Vegetation Complexes Study (PPK 1998); White Rock/Spring Mountain Conservation Scoping Report (Mary Maher & Assoc. & Olsen 1999); Gum-topped Box Complexes (Kinhill 1998); Pine Mountain - Ipswich City - Moist Forest Complexes Study (Boulton, Kingston, Storey, Turnbull 1997); Ipswich City - Wetlands and Riparian Vegetation Study (Boulton, Kingston, Kordas, Storey & Turnbull 1997); Survey of Remnant Bushland Areas in the City of Ipswich (Hanger, Bird & Boyes 1993).
- **Laidley:** An Assessment of Native Vegetation Areas within Laidley Shire (Fox, Johnson, Murphy & Patmore 1997); An Assessment of the Natural Resources of the Lockyer Catchment (Davidson, Hempseed, Green 1999).
- **Logan:** Logan City Remnant Vegetation Inventory and Ecological Assessment (Kingston, Schenk, Dean & Storey 1996)
- **Maroochy:** Conservation Assessment and Management Plans for Remnant Vegetation in Maroochy Shire (Mary Maher & Assoc., Ecograph, LAMR & Low 1998); Vegetation Surveys - Maroochy Shire and Noosa City (Olsen 1995); Maroochy Shire Biomap (MSC & Qld. Biodiversity Network 1998)
- **Noosa:** Vegetation of Noosa Shire Planning Scheme Report (1995); Vegetation of Noosa Shire (Olsen, Drane & Whitehead 1995); Noosa Shire Fauna Literature Search (Environmental Management Services, in progress); Noosa Shire Roadside Vegetation Survey (NSC in progress), Flora and Fauna Values of Vegetation Corridors in Noosa Shire (planned for NHT funding)
- **Pine Rivers:** Vegetation survey of Pine Rivers Shire (Young 1986); Biological Resource Assessment and Mapping Project (Loose, Bowden in progress).
- **Redcliffe:** Chelsea Street TAFE Reserve Kippa Ring Environmental Assessment (Chenoweth & Assoc. 1996); Redcliffe City Council - owned land between Duffield Road and Silcock Street (Chenoweth & Assoc. 1996).
- **Redland:** Redland Shire Environmental Inventory (RSC 1999); Ornithofauna of the Karremans Rainforest Area; Plant Species - Karremans Vineforest; Frog Survey (Sunburst Street, Capalaba); Venman's Reserve - Plant Species List; Fauna of the Birkdale Bushland (Barden 1995); Report on the Glen Road Mangrove Site as a Potential Illidge's Ant-Blue Butterfly Habitat (Beale 1995); Status of Rare Plant Species of Myora Swamp North Stradbroke Island (Bostock & Thomas 1992); Birkdale Park Study (Brannock Humphreys 1994); Fire Break Assessment Report (Rob Friend & Assoc. 1996); Natural Vegetation on Council Owned Bushland (Melville 1995)

## Actions Required

Code	Actions	Current Activities	Priority / Localities
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. <i>(Also refer Actions U1.15, U3.8, U2.10, U4.4)</i>		A - Whole Region
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.	Nature Search WESROC Sub-Regional Plan Individual councils	A - Whole Region
B1.3	Develop a regional system for assessing all nature conservation values, consistent with international, national and state standards.	WESROC - Common classification system project	A - Whole Region
B1.4	Identify ecosystems under current threat of loss or degradation or which are already degraded.	Regional Forest Assessment Individual councils Coastal strategy Herbarium	A - Whole Region Regional ecosystem types: <ul style="list-style-type: none"> <li>• <i>E.grandis</i> wet sclerophyll forest on alluvium;</li> <li>• <i>E.tereticornis</i> open forest on alluvium;</li> <li>• <i>E.populnea</i> forest on alluvium</li> <li>• <i>A.harpophylla</i> open forest on sedimentary rocks;</li> <li>• <i>Melaleuca tamariscina</i> subsp <i>irbyana</i> thicket on sedimentary rocks</li> <li>• <i>E.conglomerata</i> low woodland on sedimentary rocks</li> <li>• Freshwater swamps</li> <li>• Lowland rainforest on basalt</li> <li>• Vine thickets</li> <li>• In-stream vegetation</li> </ul>
B1.5	Identify and survey rare and threatened species of flora.	Herbarium	A - Kilcoy and Rosalie Shires
B1.6	Identify and survey rare and threatened species of fauna.	Nature Search	A - Whole of Region

<b>Code</b>	<b>Actions</b>	<b>Current Activities</b>	<b>Priority / Localities</b>
B1.7	Identify and map native vegetation at a scale appropriate for regional planning and action.	EPA Standardisation Project  EPA Nature Conservation Flora and Fauna Resource Inventory	A - Whole Region
B1.8	Complete and regularly update land cover and vegetation density mapping for the SEQ region.	SLATS project	B - Whole Region
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.	EPA Nature Conservation Flora and Fauna Resource Inventory	A - Rosalie and Kilcoy
B1.10	Assess threats to the region's biodiversity from invasive pest species (plant and animal).	Local governments	A - Whole Region  Subregional priority to be identified

<p><b>B2 Foster and encourage community / government involvement and networking in the protection, management and restoration of biodiversity.</b></p>
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**How is the implementation of these actions being coordinated?**

All agencies have a responsibility to implement an integrated approach to resource management. Protection, management and restoration of biodiversity is dependent on close co-operation and involvement of all relevant stakeholders, including government and non-government agencies, and community groups.

**Existing major initiatives include:**

**State**

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- Nature conservation extension service
- River Facts (DNR)
- Weed management and control studies (DPI, DNR, universities etc).
- Managing your Urban Bushland – A Guide for Urban Councils (Mather & Laurence 1993)

**Regional**

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- Management of River and Creek Bank Plantings in Sub-tropical Coastal Riparian Rainforest (DNR)
- Draft South East Queensland Environmental Weeds Strategy (1998)

**Local government / Catchment**

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- **Brisbane:** Management Plans for: Tinchi Tamba Wetlands Reserve (Chenoweth & Assoc. 1996); Brisbane Koala Park (Chenoweth & Assoc 1997); Bayside Parklands (1997); Raven Street Reserve (Greening Australia & Bcc 1998); Deagon Wetlands (BCC 1998); Brisbane Forest Park-Mt Coot-tha (BCC 1998); Karawath Forest; Toohey Forest; Boondall Wetlands (EDAW 1991).
- **Caboolture:** Caboolture Shire Fuel Maintenance Schedule for Parks and Reserves (Caboolture SC, Friend & Assoc. & Phoenix 1999).
- **Caloundra:** Caloundra Open Space Plan (Clouston 1999); Mary Cairncross Reserve Management Plan (Caloundra CC).
- **Esk:** Remnant Vegetation in the Lockyer Valley - the Conservation of Dry Rainforest (Brassington)
- **Gatton:** Remnant Vegetation in the Lockyer Valley - the Conservation of Dry Rainforest (Brassington); Helidon Hills Project (Boyes *et al.* in progress).
- **Gold Coast:** Bushfire Management Strategy
- **Ipswich:** Management Plans for: Allaway Island (Sinclair Knight Merz), Pilney Reserve (ICC 1999), Haig St. Bushland Reserve (ICC 1998); Moodai Reserve (ICC 1998); Woodend Nature Reserve (ICC 1998); Blackstone Hill (ICC 1998); Walter Zimmerman Park (ICC 1998); Kupa

Park (ICC 1998), Purga Nature Reserve (ICC 1998), Denman Park (Sinclair Knight Merz 1998), Denmark Hill (Mary Maher & Assoc. 1998), Pine Mountain Bush Reserve (Sinclair Knight Merz 1998).

- **Kilcoy:** Kilcoy Shire Pest Management Plan (Kilcoy SC 1999).
- **Laidley:** Laidley Shire Open Space Strategy and Recreation Development Plan (Carter & Assoc. 1996); Restoration and Management Plan for Laidley Creek West Remnant Softwood Scrub (Gordon's Scrub) (Tracey *et al.* 1996); Restoration Plan for the Welk Remnant (Breaden *et al.* 1996); Remnant Vegetation in the Lockyer Valley - the Conservation of Dry Rainforest (Brassington).
- **Maroochy:** Conservation Assessment and Management Plans for Remnant Vegetation in Maroochy Shire (Mary Maher & Assoc., Ecograph, LAMR & Low 1998); Koala Park Management (MSC 1998).
- **Pine Rivers:** Pine Rivers Green Plan (Chenoweth & Assoc. 1994).
- **Redcliffe:** Management Plans for: Nathan Road Wetland Reserve (Chenoweth & Assoc. 1996); Hayes Inlet Conservation Park (Chenoweth & Assoc. 1995).
- **Redland:** ACI Operations P/L North Stradbroke Island Project - Environmental Management Overview Strategy (Mining Lease Nos. 1132 & 1124 (1995); Pest Management Plan; Community Bushcare Program; Bushland Tool Kit (community based kit designed to monitor the effectiveness of volunteer bushland management practices); Reserve Management Framework; Management Plans for McMillan Road Conservation Area (RSC 1998), Glider Reserve R250 (RSC 1999), Flinders Beach, Bushland of the Coolnwynpin Creek Catchment (Dart 1999), Point Lookout Reserve R1781 (Stock, Olsen, Wilson, Brouwer 1998); Coolnwynpin Creek Restoration Plan; The Black Swamp Wetlands Integrated Community Management Plan (Maher & Cooper 1999); Land Management Plan for Water Reserve R884, North Stradbroke Island (RSC 1999); Southern Moreton Bay Islands Planning Study (Gutteridge Haskins & Davey 1998); North Stradbroke Island Fire Management Plan; Redland Shire zopen Space, Recreation, Conservation and Tourism Strategy (Wood, Thompson, Erickson & Bramley 1992).

## Local Area

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- Fish/Fish habitat studies (DPI, EPA)

## Actions Required

Code	Actions	Current Activities	Priority / Localities
	<b>Flora and Fauna Management</b>		
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. (Also refer Action U3.9)	Nature Search Local government rate relief Land for Wildlife	A - Local governments which do not have voluntary conservation agreements or similar programs
B2.2	Develop, promote and implement management plans for: <ul style="list-style-type: none"> <li>The efficient and cost-effective protection, restoration and rehabilitation of identified priority ecosystems to improve their conservation status;</li> <li>The ecologically sustainable use of biological diversity including harvesting and removal of native flora and fauna resources;</li> <li>Vegetation at a catchment level and in multiple land use situations, allowing provision for local input and support; and</li> <li>Fire management, based on sound ecological principles.</li> </ul>	Land for Wildlife Nature refuges Case Studies Private native forest management Planning schemes Catchment plans Strategic vegetation plans	B - Whole Region  B - Whole Region  A - Boonah, Noosa, Kilcoy Shires B - All other shires  A - Whole Region
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.	Private farm forestry extension, review and strategy Gatton Shire (Helidon Hills)	C - Whole Region A - Nature based recreation in Boonah, Gatton and Kilcoy
B2.4	Develop and apply guidelines to enhance the ability of landowners to effectively manage biological diversity resources. These should include guidelines: <ul style="list-style-type: none"> <li>For separating conflicting uses in order to protect nature conservation areas; and</li> <li>To enable the enhanced protection of important natural areas (e.g. lands adjacent to and near protected areas).</li> </ul>	Land for Wildlife newsletter and technical notes Nature refuge agreements	B - Whole Region
B2.5	Develop guidelines to enhance the ability of local government to effectively plan for the protection of biological diversity.		A - Whole Region

<b>Code</b>	<b>Actions</b>	<b>Current Activities</b>	<b>Priority / Localities</b>
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.	Nature refuges Voluntary conservation agreements Land Trust proposal Rate rebates Structural adjustment	A - NORSROC and WESROC
<b>Management of Waterways and the Riparian Zone</b>			
B2.7	Develop guidelines and implement riverine strategies for the protection, management and rehabilitation of riparian areas, riverine aquatic habitat, and wetlands.		To be determined
B2.8	Resolve management and control issues in relation to the ownership of high and low banks.		A - Whole Region
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.		A - Whole Region
B2.10	Improve and maintain the integrity of in-stream biota, wetland habitats and related terrestrial biota.		B - Whole Region
B2.11	Identify areas of streambank erosion and instream sedimentation and implement remedial and protective actions.		A - Lockyer and Upper Brisbane Rivers B - Whole Region
B2.12	Implement mechanisms to prevent the translocation and stocking of inappropriate species and to control noxious fish species in waterways.	QFMA Fresh Water Fisheries Draft Plan	B - Whole Region
<b>Weeds and other Pests</b>			
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.	Local governments	B - Whole Region
B2.14	Develop an 'Environmental Weeds' list and associated list of alternative plant species for the SEQ region.		B - Whole Region

<b>Code</b>	<b>Actions</b>	<b>Current Activities</b>	<b>Priority / Localities</b>
B2.15	Identify and manage sites with weed infestations in areas of high conservation significance, particularly 'endangered' and 'of concern' ecosystems.		A - Whole Region
B2.16	Identify and understand the causes of weed invasion and promote best practice environmental weeds management, particularly in areas of conservation significance.		B - Whole Region

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

***How is implementation of these actions being coordinated?***

The majority of land in SEQ is in private ownership and a variety of protection mechanisms are needed to increase the level of certainty that conservation outcomes will be retained on a long term basis. This may be achieved by landholders voluntarily agreeing to change the use rights attached to their property and by a range of regulatory mechanisms. Some local governments, for example, are working cooperatively with landholders to develop long term binding agreements to protect and better manage the region's biodiversity. The Queensland Parks and Wildlife Service is also working to increase the dedication and declaration of areas included in the protected area estate. Many of these new additions are in the form of voluntary conservation agreements (nature refuges) in areas of high conservation priority.

***Existing major initiatives include:***

**State**

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- Nature refuges (under the *Nature Conservation Act 1992*)
- Coordinated conservation areas (under the *Nature Conservation Act 1992*)

**Regional**

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- Strategy for the Conservation of Flora, Fauna and Natural Communities within Moreton Shire (Catterall, Kingston & Kordas 1993)
- South East Queensland Regional Nature Conservation Strategy (in prep.)

**Local government / Catchment**

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- **Beaudesert**: Tamborine Mountain DCP No7; Beechmont DCP No4; Beaudesert Shire Council Strategic Plan 1995 - Nature Conservation and Landscape Strategy.
- **Brisbane**: Brisbane City Council - higher voluntary conservation agreements.
- **Gold Coast**: Local Law No.6 (Vegetation Management) (Gold Coast City Council); Gold Coast City Council Nature Conservation Strategy (GCCC, Mary Maher & Assoc. 1998).
- **Redcliffe**: Redcliffe DCP No2.
- **Redland**: Local Law No.6 (Protection of Vegetation) and Local Law Policy No.6 (Protection of Vegetation); DCP No3 - Point Lookout (1995); DCP No5 - East Thornlands Local Area Plan (1998); "purchase and resale" strategies with conservation conditions in place.
- **Pine Rivers**: Pine Rivers Green Plan (1994).

## Actions Required

Code	Actions	Current Activities	Priority / Localities
	<i>Voluntary land tenure related mechanisms</i>		
B3.1	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.	QPWS	A - North Stradbroke, Helidon Hills, White Rock / Spring Mt / Flinders Peak, Noosa, Pumicestone Passage, Mooloolah River, Mt French, Ravenshourne , Lamington, Mt Cougal, State Forests (under CRA)
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.	Land Trust Revolving Fund	A - Whole Region
B3.3	Expand the nature refuge program within the region and include financial support for management of nature refuges.	QPWS	A - Whole Region
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.	QPWS	A - Whole Region
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.	Local government (e.g. BCCs higher VCAs)	A - Whole Region
B3.6	Develop voluntary conservation agreements (both binding and non-binding) with landholders of other conservation sites.		A - Whole Region

Code	Actions	Current Activities	Priority / Localities
B3.7	Promote the use of covenants, if they become available in Queensland.	Currently unavailable	A - Whole Region
B3.8	Support "Future Profit" programs which enable the sustainable management of commercial timber and native wildlife.		A - Whole Region
	<b>Regulatory Mechanisms</b>		
B3.9	Local government planning schemes should incorporate the Regional Landscape Strategy lands and protect land which has: <ul style="list-style-type: none"> <li>• Regional significance for broad nature conservation;</li> <li>• High scenic amenity;</li> <li>• Sustainable nature-based recreation;</li> <li>• Linkages to open space land;</li> <li>• High land and water conservation value;</li> <li>• Cultural heritage and social significance to a community;</li> <li>• Separates urban areas and outdoor recreation.</li> </ul>		B - part of IPA planning scheme implementation
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.		A - Whole Region
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.		A - Whole Region
B3.12	Develop and implement recovery plans and conservation plans for threatened wildlife and ecosystems.	EPA Recovery Planning Process Existing Recovery Plans - dugong <i>Dugong dugon</i> Hastings River mouse <i>Pseudomys oralis</i> Coxen's fig-parrot/double-eyed fig-parrot <i>Cyclopsitta diophthalma coxeni</i> eastern bristlebird <i>Dasyornis brachy[teris]</i> red goshawk <i>Erythrotriorchis radiatus</i> <i>Astronyrtus gonoclada</i>	B - Whole Region

<b>Code</b>	<b>Actions</b>	<b>Current Activities</b>	<b>Priority / Localities</b>
B3.13	Extend and promote existing planning protection mechanisms (e.g. tree preservation by-laws, Local Laws, vegetation protection orders) to protect all significant areas, where appropriate.		B - Whole Region
B3.14	Develop and implement State and local policies for nature conservation.		B - Whole Region
B3.15	Establish adequate resourcing for on-ground management of protected areas.		B - Whole Region

<p><b>B4</b>     <i>Identify and implement effective monitoring and reporting strategies to help assess and better manage the region's biodiversity.</i></p>
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***How is the implementation of these actions being coordinated?***

The Environmental Protection Agency has a responsibility to monitor and disseminate information about nature under the *Nature Conservation Act 1992*. Local governments are also required to assess the performance of their planning schemes. Other agencies are also contributing to the monitoring of biodiversity.

***Existing major initiatives include:***

**State**

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- SLATS project
- Nature Search
- State of the Environment Reporting – State Government

**Local Government / Catchment**

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- State of the Environment Reporting - various local governments (e.g. Brisbane City; Maroochy Shire, Gold Coast)

**Actions Required**

Code	Actions	Current Activities	Priority / Localities
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.	SLATS	A - Whole Region
B4.2	Develop high quality, simple monitoring and evaluation activities as an integral part of any management activities.	NHT monitoring and evaluation training workshops Nature Search	A - Whole Region
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.	BCC, Gold Coast, Maroochy	B - Whole Region
B4.4	Identify relevant performance indicators to effectively assess the condition of biodiversity, the impact of threatening processes and the effectiveness of management responses.		A - Whole Region
B4.5	Establish appropriate monitoring and reporting programs to assess the effectiveness of management activities.	Caboolture Shire	B - Whole Region