DRAFT

Natural Resource Management Strategy

for South East Qld

Moreton Region

January 2000

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Contents

Understanding the Structure of this Strategy

The NRMS has two main components, Parts A and B.

Part A

Part A is the strategy itself, setting out the vision, direction and priorities for natural resource management in South East Queensland. It contains sections that explain:

- The relationship with other natural resource planning;
- Vision and strategic directions;
- Regional implementation priorities; and
- Monitoring and evaluation.

Part B

Part B contains specific actions to achieve the strategy's vision. This section has been organised into six main themes. Four of these themes, the 'core themes' are resource management issue or topic areas for which strategies and actions are described.

The remaining two are supporting themes, which are processes for ensuring the core theme actions are implemented in the context of other planning in the region and through partnerships with all stakeholders.

Description	Theme
Core Themes –	*Caring for our biodiversity*
Resource management issues/topic areas	*Caring for our water*
	Caring for our land
	Caring for our coasts and seas
Supporting themes –	*Understanding and Participation*
Mechanisms to implement core themes above.	*Integrated Planning and Coordinated Management*

Each theme describes:

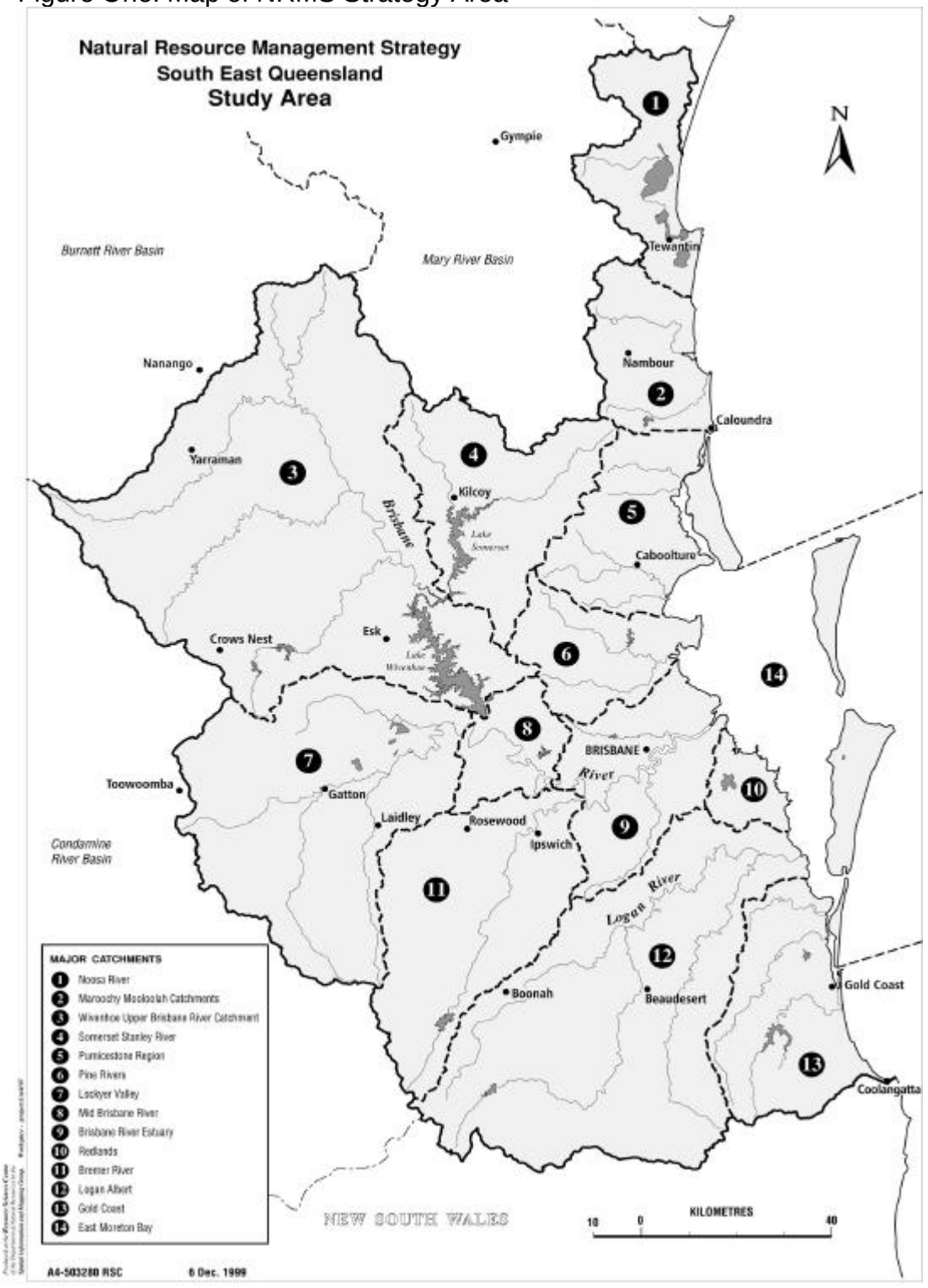
- A goal;
- Desired outcomes;
- Threats or impediments;
- Strategies; and
- Actions.

These themes represent a regional overview of natural resources in South East Queensland and priority actions for management. For many of these actions there are more specific and detailed plans and action programs either already prepared or in the process of being prepared. Often these have extensive government, community and industry stakeholder support and input. Where this is the case, the NRMS has sought to reflect or summarise this work, not repeat or duplicate it.

Part B also contains an appendix which represents a summary of the priorities for action in each of the fourteen catchments in the NRMS area.

Where catchment management strategies have been prepared these are used to prepare and summarise the catchment priorities, in the context of regional outcomes and goals. Where Catchment Management Strategies have not yet been completed, these catchment priorities will need assessment and review by relevant catchment, landcare and other groups, and local governments.

Figure One: Map of NRMS Strategy Area



1.0 Introduction

1.1 Background to the NRMS

Preparation of the community-driven Natural Resource Management Strategy (NRMS) for South East Queensland commenced in December 1997. The Regional Strategy Group (RSG) responsible for its development formed in February 1998 under the umbrella of the State Landcare and Catchment Management Council (LCMC). As one of thirteen regional natural resource management strategies being prepared throughout Queensland, the NRMS will help guide management and conservation of natural resources in the region, through the use of Natural Heritage Trust (NHT) funds, and potentially, other funding sources. The preparation of these regional strategies throughout Queensland is in direct response to the Federal Government's request for regional documents that will assist with the allocation of NHT monies.

1.2 Strategy area

The NRMS area covered by this strategy (Figure One) is similar to that of the SEQ 2001 Regional Framework for Growth Management (RFGM) which has been endorsed[1] as the primary regional planning strategy for South East Queensland. However, the NRMS is based on the region's catchments, rather than on local government boundaries. This is because catchments form natural boundaries and are a logical management unit for natural resource related activities. Nineteen local government areas (or part areas) are covered by the NRMS, from Noosa in the north to Rosalie in the west and south to Beaudesert and Gold Coast City.

1.3 South East Queensland Regional Overview

Our natural resources

South East Queensland has a rich diversity of natural resources, from the magnificent flora and fauna in the Lamington Plateau and Scenic Rim, to the rich agricultural soils of the Lockyer Valley. There is a large number of endemic species, and a wide range of habitat types, including rainforest, a variety of eucalypt and melaleuca forests, and the mangroves, floodplains and wetlands found along the coastal regions, with its islands and seas. These natural resources are valuable for many reasons, with their intrinsic value as habitat and natural areas, as well as for beneficial use by the community.

Cultural Heritage

The South East is also rich in cultural heritage, both indigenous and non-indigenous. The Aborigines have had a long history of interaction with the land, utilising the abundance of natural resources to be found in this area. Cultural heritage is a component of natural resources and resource management. Indigenous people still interact with the land and continue to do so, although the way they interact may be changing.

[1] by all three levels of government and a regional non-government sector committee

Our economy

The region supports, and in terms of its economy, is partly reliant upon a wide diversity of agricultural, commercial and manufacturing industries, commerce and tourism. Important agricultural activities include intensive horticulture (fruit, vegetable, nursery and flower) crops, sugar cane, broad acre grain crops, peanuts and oil seed crops, tree crops as well as beef cattle production, dairying, pigs, poultry and other miscellaneous stock enterprises.
The region also sustains a large area of native and plantation forestry and is an important area for marine and freshwater fisheries and aquaculture. Associated with these land uses and rural industries are processing plants or value adding facilities. The economies of many towns in the region are virtually dependent on the viability and sustainability of these industries, including tourism, an essential and growing part of South East Queensland's economy.

Population pressures

The South East is the fastest growing areas in Queensland, with the total population expected to reach approximately three million people by 2011. Around 29% of Australia's total population growth between 1991 and 2011 will occur in the South East region. The population expansion experienced by the region over the last five years has placed additional pressures on the use and management of the region's natural resources. Already there is increasing competition between urban and rural sectors for the scarce resources of land and water. Major land use changes have occurred in some communities without adequate planning to minimise the negative impacts on both human and natural resources. There is increasing evidence of overuse and degradation of the region's natural resources. Issues such as salinity, soil erosion, loss of aquatic and terrestrial flora and fauna and their habitats, soil acidification and deteriorating water quality are receiving greater community scrutiny.

Social Harmony

There is a growing awareness of the need to involve the community in managing natural resources. This is to encourage a sense of responsibility, and foster a sense of belonging in their environment. We need to strive to achieve a balance between the various factors – environmental, economic and social – by taking them all into account. Our natural resources in the region are shared and utilised by the entire South East community, and all have an equal responsibility to manage these resources sustainably. The NRMS aims to provide information and direction to the community to encourage ownership of the outcomes in sustainably managing our natural resources.

1.4 Levels of natural resource planning

Natural resource planning at the regional level forms a continuum or link from international, national and state level planning to that of catchment/local government planning and property or individual planning (Figure 2). Within South East Queensland there are a number of regional strategies relating to water quality, air quality, coastal management, regional landscapes, and nature conservation that are in preparation or are being implemented. The current state government endorses, in principle, the continuation of the regional planning and coordination projects currently under way. The *Integrated Planning Act 1997* (IPA) also makes specific mention of the regional dimensions of planning matters and the need to integrate these into local government planning schemes. Thus regional planning has an important role to play within Queensland and in particular in the South East Queensland region.

Figure Two – Levels of Natural Resource/Biodiversity planning. Each level has direct or indirect links with others above and below.

Strategy Level	Examples
International	Agenda 21 Ramsar Convention
National	National Strategy for ESD National Strategy for the Conservation of Australia's Biodiversity
State	State Natural Resource Management Strategy Plans State Planning Policy State Coastal Management Plans
Regional	Regional Framework for Growth Management Regional Landscape Strategy Regional Coastal Management Plans Natural Resource Management Strategy SEQ Regional Forest Agreement Regional Air Quality Strategy
Catchment and local government	Integrated Catchment Management Plans Pest Management Plans River Management Plans Biodiversity Strategies IPA Planning Schemes WAMPs
Local/community groups	Area bushland plans Roadside/corridor rehabilitation Neighbourhood bush restoration
Property/individual	Property Management Plans Water management plans Land management plans

1.5 Regional natural resource management strategies

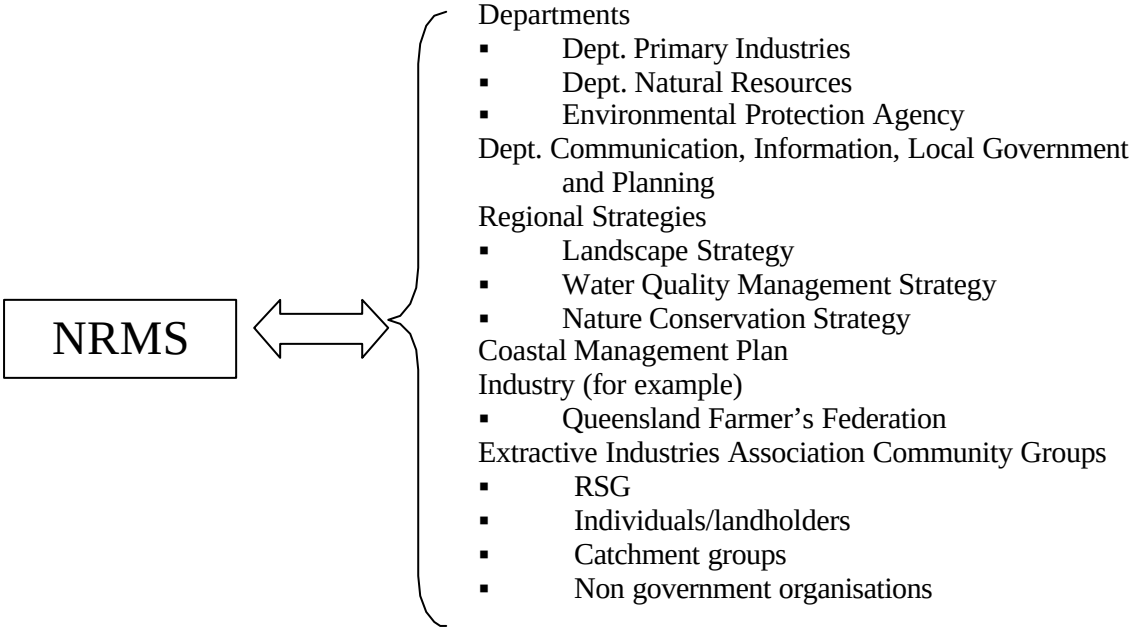
Regional strategies, as requested by the Federal government for NHT purposes, are characterised by substantial community input and direction setting in conjunction with government agencies. Forging strong partnerships among the key players in natural resource management is crucial to ensuring the success of regional strategies. Such strategies need to be dynamic in that they should be responsive to changing circumstances and directions at the local, state, national and even international levels. Regional strategies also usually require a long-term commitment from their stakeholders in the development, implementation and review stages.

1.5.1 The Natural Resource Management Strategy for South East Queensland

The NRMS for South East Queensland, developed by the RSG, recognises the importance of partnerships among those involved in natural resource management within each catchment. Through these partnerships sustainable approaches to land and water management are to be developed. The NRMS can also provide a long-term framework for communities to work together and address resource management and biodiversity conservation issues at a regional scale. It is important for the NRMS to be linked and integrated with other regional planning and resource management strategies as well as strategies and policies developed at the state and national level.

This strategy has drawn from and been informed by the many other natural resource and conservation planning projects and general planning initiatives that are currently being undertaken by community, industry and government in South East Queensland. It provides a framework for natural resource management and conservation in the region, by identifying overall regional priorities and opportunities for more integrated action. Within this context it suggests outcomes, targets, priority actions and localities where specific actions are required. Specifically, the NRMS has established an integral relationship with several regional natural resource planning and management planning projects (Refer Figure Three).

Figure Three: Stakeholders involved in developing the NRMS



1.5.2 Links with the Integrated Planning Act (1997) and local government

The South East Queensland NRMS may be used by local governments when preparing their planning schemes in accordance with the *Integrated Planning Act 1997* (IPA). The purpose of IPA is to seek to achieve ecological sustainability. One of the ways in which IPA does this is by coordinating and integrating planning at the local, regional and state levels. This coordination and integration of planning is intended to occur, primarily, through a local government's planning scheme, which advances ecological sustainability by identifying and integrating balances between:

- protection of ecological processes and natural systems at local, regional, state and wider levels; and
- economic development; and
- maintenance of the cultural, economic, physical and social well-being of people and communities.

The NRMS assists by identifying a range of natural resource management issues to be considered by local government in its development planning by identifying strategic directions, priority areas and gaps in existing data/knowledge about natural resource management. Outputs from this strategy may also be utilised as inputs in later planning and assessment processes.

In its present format, the NRMS is not a sectoral strategy under the RFGM, and does not constitute a 'regional dimension' to a planning scheme for the purposes of IPA. Instead, it provides a valuable resource document to inform local government in addressing natural resource management issues both at the catchment and regional level.

2.0 Roles of the Natural Resource Management Strategy SEQ

This section is critical to understanding the context and the implications of the NRMS. The strategy is to fulfill a number of roles, both primary and secondary. These are outlined in the table below.

Table One: Roles of the NRMS

	Role	Description
Primary Roles	***Guide the development of NHT project applications***	• Guide applicants for NHT funds for 1999-2002 and subsequent grant programs. Projects are more likely to receive NHT funding where they help implement or are consistent with priority actions identified in a regional strategy; • Develop projects to achieve practical outcomes; and • Highlight gaps where potential practical projects can be developed.
	Assist in the evaluation of projects for the NHT process.	• Provide assistance to the Regional Assessment Panel (RAP) in determining NHT funding allocations by identifying priorities and gaps in natural resource management activities.
Secondary Roles	***Provide information on other natural resource funding sources***	• The NRMS provides an indication of where to access other possible sources of funding that applicants may approach to support their natural resource management projects.
	Inform the RFGM and other planning processes on natural resource management issues	• This strategy will provide information on resource issues The NRMS must be consistent with the RFGM. Thus, an output from the NRMS will be that it provides information to the RFGM on natural resource issues that have not been addressed to date. The principles and actions contained within the NRMS are consistent with those principles and objectives negotiated through the RFGM process.

3.0 Participation in the Preparation of the NRMS

3.1 The Regional Strategy Group

The composition of the RSG includes wide representation from all key industry, community and government stakeholder organisations in South East Queensland. A community member chairs the RSG, and importantly, each member is recognised as equal, with no stakeholder having greater influence than any other.

3.2 Developing the NRMS

Community workshops were conducted throughout the region in 1998, attracting suggestions and comments from key groups involved in natural resource management – particularly those utilising and others wishing to access NHT monies. Additionally, other natural resource plans and strategies were thoroughly referenced for information essential to the strategy. The input from these sources, together with regular input from State and local governments and other key stakeholders, was used to develop sequential drafts of the strategy. As a result the NRMS document presented here, represents the compilation of inputs from the full cross-section of stakeholders in the region.
The NRMS will be reviewed and updated regularly through ongoing community and stakeholder participation.

4.0 Endorsement of the NRMS

4.1 What is endorsement?

Endorsement is an essential process that allows stakeholders, including the general community, to formally acknowledge that:

- the strategy represents their views on natural resource management in South East Queensland; and
- they support the document and will contribute to implementing the actions contained therein.

4.2 Who will endorse the NRMS?

The LCMC will formally endorse the NRMS provided the strategy conforms to its Guidelines[2]. Prior to presentation to the LCMC, the RSG members will seek the support of their representative organisations or sectoral groups to have the strategy formally endorsed. Other community groups/organisations in the region will be encouraged to indicate their support for the strategy.

Stakeholder endorsement is expected to follow a two-stage process:

Stage 1: **'In principle' endorsement**

At this stage, endorsement is an acknowledgment of the:

- Vision;
- Outcomes;
- Key issues;
- Priorities;
- Development process undertaken to prepare the NRMS; and
- Context of where the NRMS relates to other relevant strategies.

As of 2000, the RSG and LCMC are seeking stage one endorsement to put the strategy in place as a guide to fulfil its primary roles regarding NHT matters. This does not bind stakeholders to committing resources. But, it does provide acknowledgment of the portfolio and/or legislative responsibilities held by agencies and local government

Stage 2: 'Implementation' endorsement

Further endorsement is required when the NRMS is to be implemented particularly where key stakeholders need to be involved in action plans, and where financial and other resources are to be committed. Once actions begin to be implemented, the NRMS will continue to be updated periodically in order to keep the information and priorities current.

[2] *Guidelines for developing regional strategies* March 1999 (DNR)

5.0 A Vision for South East Queensland

The following vision has been developed by the RSG to help integrate the diversity of interests and outcomes for natural resource management in the region.

5.1 The Vision

South East Queensland will be a caring community, sustainably using, enjoying and understanding the region's natural resources, beauty and biodiversity, both now and in the future.

5.2 How to achieve the vision

From the wide range of natural resource management issues, issues of concern discussed at workshops were separated into themes through the logical breakup of issues. The vision relates to four core themes: Biodiversity; Water; Land; and Coasts and Seas. In order to address the management issues associated with these core themes, there are two supporting themes which provide mechanisms to implement the core themes - Understanding and Participation, and Integrated Planning and Coordination (Table Two). Each of the core themes embodies elements of the supporting themes.

Table Two: NRMS Core and supporting themes

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

For each theme, the NRMS identifies:

- A *goal*;
- For each goal a range of *desired outcomes* have been determined.
- In order to achieve those outcomes *strategies* are identified.
- A range of specific *actions* will implement each of these strategies.

For further information regarding theme layout, please refer to Section B, page 23.

6.0 Implementation, Monitoring and Evaluating the NRMS

The policy direction and principles of the NRMS identified in Part A may be implemented through the allocation of NHT funding and through informing complementary initiatives and strategies relating to natural resource management matters. The actions identified in parts B and C may be implemented through a number of avenues. These include NHT funded projects as well as the sectoral strategies under the RFGM, the core business of State and local government agencies, the implementation of IPA planning schemes and other on-ground activities of landcare, catchment management and other community groups.

Monitoring the outcomes of actions allows documentation of their effects on the status of the natural resource environment. Evaluating their effectiveness provides the opportunity for the NRMS to be refined and updated in response to these impacts. This may result in a change of priorities, or an alteration of methods in response to new information or technologies. It is also essential to have a feedback loop which allows the information gathered from such monitoring and evaluation to be distributed to other plans/organisations, and back into the NRMS review process.

There are three components to the implementation, monitoring and evaluation of the NRMS. These are:

1. The implementation of NRMS strategies and actions by all participants;
2. The monitoring and evaluation of the NRMS policy direction and principles (Part A) by the RSG; and
3. Maintaining the relevance and currency of the NRMS action plan components (Part B)

6.1 How to determine overall regional priorities

Fulfilling the vision for South East Queensland requires that specific outcomes be identified for each of the strategies under each theme.

For each strategy a number of actions have been identified. These have been prioritised in relation to the degree to which they:

- support the vision, goal and strategy;
- progress toward the desired outcome;
- integrate a number of themes;
- involve maximum community participation/partnership arrangements; and
- are consistent with NHT guidelines and other natural resource management planning documents.

Several dimensions influence the priorities. High priority actions are:

a) ***inherently important*** in achieving natural resource management goals as outlined in this strategy's themes;

b) ***time sensitive*** ie. other projects are dependent on the completion of the subject project, or are urgently required to arrest or reverse damaging processes; and/or

c) ***opportunity–driven*** ie. those which can capitalise on local initiative and enthusiasm, and those where critical resources are immediately available.

Some actions will have priorities that may combine more than one of these elements.

Priority actions are highlighted under each theme in Part B Section One in the NRMS.

6.2 The monitoring, evaluating and reviewing of the NRMS

6.2.1 The Regional Strategy Group

The RSG or its successor will monitor the implementation of the NRMS. The RSG is currently responsible for directing the development of the NRMS, and promoting its use and raising awareness among the diverse stakeholder groups. Once the strategy is endorsed, the role of the RSG may evolve to address and fulfil the implementation and review process.

6.2.2 Monitoring the NRMS

Monitoring the NRMS will involve:

- the short and long term effects of the actions on the natural resource environment through feedback from state and local government, catchment groups and other organisations; and
- acceptance of the strategy itself through comments regarding usefulness, usability, format, content, and updates of current activities from the above groups.

6.2.3 Evaluating the NRMS

Once monitoring has been undertaken, the RSG will assess the results against the roles, goals and strategies of the NRMS, and also take into account new information, technologies and methods. The NRMS will be updated, where necessary.

6.2.4 Reviewing the NRMS

The general direction and more 'strategic' elements of the NRMS (Part A) will need to be reviewed every three to five years. The Action Plan components (Part B) will require more regular maintenance to ensure they reflect project achievements, the most recent advances in information availability and changes in priority setting. It is anticipated that input will be received on a routine basis from project groups, the work of Catchment Management Committees, Landcare groups, industry and local government, and planning processes to allow these components of the NRMS to be regularly updated. As the longer-term role of the RSG (or its successor) is established, the precise mechanisms for handling this information will be developed.

Table Three: Review and maintenance of the NRMS

Section	**Review**	**Timing**
Part A	'Strategic Planning' component	3-5 years
	Continual maintenance	
Part B Section One	Action planning component (Themes)	ongoing
Part B Section Two	Catchment information	ongoing

Part B - Section One

Action Plans

Themes

- ***Biodiversity***
- ***Water***
- ***Land***
- ***Coasts and Seas***
- ***Understanding and Participation***
- ***Integrated Planning and Coordinated Management***

Structure of Part B

Part B deals with the four core themes and the two supporting themes that have been identified for the NRMS. These have been listed in Table Two Part A.

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.

- *Caring for Biodiversity*
- *Caring for Water*
- *Caring for our Land*
- *Caring for our Coasts and Seas*
- *Understanding and Participation*
- *Integrated Planning and Coordinated Management*

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
- specific actions will implement each of these strategies.

Descriptions of such actions are outlined in Table Four, using the following terminology:

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

Table Four provides an example from the Biodiversity theme.

Table Four: Example – How to interpret Theme Action tables

Code	**Actions**	**Current Activities**	**Priority/Localities**
Each strategy/ action is assigned a code. For example:	**Actions relating to each strategy.**	**Contains examples of current activities related to the associated action.** **At the bottom of the list are NHT project numbers[3].**	**Actions may have certain localities/ecosystems listed as priority areas. There may also be a prioritisation of the action as A, B or C.**
B1.4	'*Identify ecosystems under current threat of loss or degradation, or which are already degraded.'*	Regional Forest Assessment Individual councils Herbarium 982450*****	A – Whole Region Regional ecosystem types: • *E. grandis* wet sclerophyll forest on alluvium
B1 refers to the first strategy of the biodiversity theme. ***1.4*** is the fourth action underneath the first strategy.		*Refer to that number in Appendix ** for the name of the project which relates to that particular action	**A - "Immediate priority"** – Actions should be implemented as soon as practicable. **B - "Mid-term priority"** – Actions are important, but not immediate. **C - "Longer term priority"** – Actions that may be reliant upon the initial completion of Priority A or B Actions.

The ***priorities*** within each theme, are based on the:
- *relative importance* of the resource issue in the regional context; and
- *relevant sequencing* of resource management actions.

The sequence includes the following stages which are detailed in 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.

[3] Please note – not all current NHT projects within the *Current Activities* column are included. Those listed are current examples only. Many NHT projects include components of more than one theme.

Theme One: 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

- 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

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

- 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

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

- 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

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

- 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

Priority Actions required to implement these strategies include:

1.0 Our goal for biodiversity management

To identify, protect, restore and sustainable manage biological diversity

1.1 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 serve an important economic function. Biologically diverse areas enhance recreation and tourism potential, contribute to social and cultural well being, and provide a range of options for future decision making. It is also generally accepted that species and ecosystems have intrinsic worth. The identification, protection, restoration and sustainable management of this resource is essential to the viability of the region in the long term.

1.2 Desired outcomes

- 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.

1.3 Threats to our biodiversity

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

1.4 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, with vegetation being retained on steeper lands along the coastal and subcoastal ranges and on poorly drained and low fertility soils along the coastal lowlands.

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 *Rhyncheletrum 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).

1.5 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 the 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;
- Changes in the predation patterns on native animals; and
- Fauna road mortality.

2.0 Strategies required to achieve the outcomes

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

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

B1 Gather, analyse and integrate data related to biodiversity

Actions Required

B1	*Gather, analyse and integrate data related to biodiversity*		
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 biodiversity information and ensure that the data are in a form that 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. It should be adequately resourced. (*Also refer Actions U1.13, U3.9, U4.4)*		**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 972487, 972590 982503, 982555 992413, 992505	**A** - Whole Region
B1.3	Develop a regional system for assessing all nature conservation values, consistent with international, national and state standards.	WESROC–Nature Conservation Criteria project	**B**- 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 972424 982450 992468 992413	**B** - Whole Region Regional ecosystem types: • *E.grandis* wet sclerophyll forest on alluvium; • *E.tereticornis* open forest on alluvium; • *E.populnea* forest on alluvium • *A.harpophylla* open forest on sedimentary rocks; • *Melaleuca tamariscina* subsp *irbyana* thicket on sedimentary rocks • *E.conglomerata* low woodland on sedimentary rocks • Freshwater swamps • Lowland rainforest on basalt • Vine thickets • In-stream vegetation

B1	*Gather, analyse and integrate data related to biodiversity*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
B1.5	Identify and survey rare and threatened species of flora.	Herbarium Conservation Action Statements (BCC) 982544, 992504 992505, 992510	**A** - Kilcoy and Rosalie Shires
B1.6	Identify and survey rare and threatened species of fauna.	Nature Search Conservation Action Statements (BCC) 972531, 982555 992504	**A** - Whole of Region
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 tree 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 979252	**A** - Rosalie and Kilcoy
B1.10	Identify the distribution of and assess the impacts on the region's biodiversity from invasive pest species (plant and animal).	Local government pest management plans PestInfo SEQ Environmental Weeds Strategy (EPA, DPI)	**A** - Whole Region Subregional priority to be identified
B1.11	Assess the biological values of transport corridors, stock routes and other linear reserves.	Ipswich City Council	**B** - Whole Region

Coordinating the implementation of B1 Actions

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/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".

Current activities include:

State

- 'Conservation Status of Queensland's Regional Ecosystems' (Sattler & Williams 1999)
- Nature Search 2001/WildNet
- Statewide Landcover and Trees Study (SLATS) DNR 1999
- Comprehensive Regional Forest Assessment
- *'Queensland Fisheries Habitats - Current Conditions and Recent Trends'* (DPI Fisheries)
- Species profiles (DNR)

Regional

- 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)
- WESROC - 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)
- 'Partnerships for Conservation and Rehabilitation of the Ecosystems of South East Queensland' (NHT project application - EPA & WPSQ)
- SEQ Environmental Weeds Strategy

Local Government/Catchment

- **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).
- **Darling Downs** – Moreton Rabbit Strategy
- **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**: Conservation survey, status and management of *Melaleuca irbyana* and freshwater wetland communities for Ipswich City Council (Cooper, Mary Maher & Assoc., Walker, Landcare Management Services, Low 1995), Riparian Environmental Weeds of the Bremer River catchment within the City of Ipswich (Weed Science Consultancy 1995), 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)

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

Actions required

B2	***Foster and encourage community/government involvement in the protection, management and restoration of biodiversity.***		
Code	**Actions**	**Current ctivities**	**Priority/Localities**
	Flora, Fauna & Ecosystem Management		
B2.1	Protect and better manage "endangered" and "of concern" regional ecosystems and other locally threatened ecosystems.		Regional ecosystem types: *(Refer B1.4)*
B2.2	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
B2.3	Develop, promote and implement management plans for:		
	a) The efficient and cost effective protection, restoration and rehabilitation of identified priority ecosystems to improve their conservation status;	992495 992507	**A –** Pine Rivers **B –** Whole Region
	b) The ecologically sustainable use of biological diversity including harvesting and removal of native flora and fauna resources;	992429	**A –** Pine Rivers **B –** Whole Region
	c) Vegetation at a catchment level and in multiple landuse situations, allowing provision for local input and support;	972512	**A –** Boonah, Noosa, Kilcoy Shires, Pine Rivers **B –** All other shires
	d) Fire management, based on sound ecological principles; and	992409	**A –** Whole region
	e) Roadside conservation	(*these activities cover all of the above*) Land for Wildlife Nature Refuges Case Studies Private native forest management Planning Schemes Catchment Plans Strategic vegetation plans	**A –** Whole region

B2	***Foster and encourage community/government involvement in the protection, management and restoration of biodiversity.***		
Code	**Actions**	**Current ctivities**	**Priority/Localities**
B2.4	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) *'Balancing Conservation and Production – Understanding and using Landscape Thresholds in Property Planning'* CSIRO	**C**- Whole Region **A** - Nature based recreation in Boonah, Gatton and Kilcoy
B2.5	Develop and encourage the application of guidelines, for use by local government, community groups and individuals, which assist in the planning and management of biological diversity, including the retention of effective remnant mosaics and connecting corridors. These should include guidelines: • for separating conflicting uses in order to protect nature conservation areas; • to enable the enhanced protection of important natural areas (e.g. lands adjacent to and near protected areas); and • for effective revegetation of important regional ecosystems.	Land for Wildlife newsletter and technical notes Nature refuge agreements Balancing Conservation and Production 972512	**B** - Whole Region
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 *Nature Conservation Act 1992*) and ecosystems in South East Queensland.	Nature refuges Voluntary conservation agreements Land Trust proposal Rate rebates Structural adjustment 992450 992465	**A** - NORSROC and WESROC
	Management of Waterways and the Riparian Zone ***(see also Water - W2 & Land - L3)***		
B2.7	Develop guidelines and encourage the implementation of riverine strategies for the protection, management and rehabilitation of riparian areas, riverine aquatic habitat and wetlands.	River Facts (DNR) *'Fish Habitat Code of Practice* (DPI)' Marine wetlands – considerably protected by *Fisheries Act 1994* 992419	**A** - Whole Region

B2	***Foster and encourage community/government involvement in the protection, management and restoration of biodiversity.***		
Code	**Actions**	**Current ctivities**	**Priority/Localities**
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. *(Also see C1.7*)		**A**- Whole Region
B2.10	Improve and maintain the integrity of in-stream biota, wetland habitats and related terrestrial biota. *(Also see C2)*	972432 982503 992419 992428 992504	**B** - Whole Region
B2.11	Identify areas of streambank erosion and instream sedimentation and implement remedial and protective actions.	982557	**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
	Weeds and other Pests		
B2.13	Develop, promote and implement ongoing weed and feral animal control strategies using an ecosystem approach. Implement the control strategies as local government pest management plans.	Local government Pest Management Plans Weedbuster Day 992437	**B** - Whole Region
B2.14	Develop an 'Environmental Weeds' list and associated list of alternative plant species for the SEQ region.	*'Environmental Weeds Strategy for SEQ'* (DNR)	**B** - Whole Region
B2.15	Identify and manage sites with weed infestations (including aquatic weeds) in areas of high conservation significance, particularly 'endangered' and 'of concern' ecosystems.	992504 992510	**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.	'Weedbusters'	**B** - Whole Region

Coordinating the implementation of B2 Actions

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.

State

- Nature conservation extension service
- River Facts (DNR)
- Vegetation Facts (DNR)
- Weed management and control studies (DPI, DNR, universities etc).
- Managing your Urban Bushland – A Guide for Urban Councils (Mather & Laurence 1993)
- PestInfo (DNR)
- PestFacts (DNR)
- Weedbuster Week
- Queensland Weed and Feral Animal strategies (DNR)

Regional

- Management of River and Creek Bank Plantings in Sub-tropical Coastal Riparian Rainforest (DNR)
- Draft South East Queensland Environmental Weeds Strategy (1998)
- Draft Flinders Peak/Goolman Conservation Estate Management Plan (1999)
- Draft Flinders Peak/Goolman Conservation Estate Fire Management Plan (1999)
- Draft Spring Mountain/White Rock Conservation Estate Management Plan (1999)
- Draft Spring Mountain/White Rock Conservation Estate Fire Management Plan (1999)
- Draft Roadside Vegetation Management Strategy (1999)
- Draft Strategic Bushland Fire Management Plan (1999)

Local government / Catchment

- **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); Pest Management Plan.(BCC)
- **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); Kupi 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

- Fish/Fish habitat studies (DPI, EPA)

B3 Encourage the use of voluntary land use (property) agreements and appropriate regulatory strategies.

Actions required

B3	*Encourage the use of voluntary land use (property) agreements and appropriate regulatory strategies .*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
	Voluntary land tenure related mechanisms		
B3.1	Identify Regional Parks which are large in size, connected to other open space areas and which are managed to fulfil a range of functions.	Local government	
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 Local government conservation acquisition programs	**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 *Nature Conservation Act 1992*) with landholders of identified high priority conservation sites. These agreements should be accompanied by incentives that promote sustainable use and appropriate developments.	QPWS 982536 992450 992465	**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.	Local government Land for Wildlife 979248	**A** - Whole Region
B3.7	*Promote the use of covenants.*	Under consideration	**A** - Whole Region
B3.8	Support “Future Profit” programs which enable the sustainable management of commercial timber and native wildlife.		**A** - Whole Region

B3	*Encourage the use of voluntary land use (property) agreements and appropriate regulatory strategies .*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
	Regulatory Mechanisms		
B3.9	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 Local government	**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)
B3.10	Local government planning schemes will incorporate the Regional Landscape Strategy lands and protect lands having regional significance for: • broad nature conservation; • high scenic amenity; • sustainable nature-based recreation; • linking open space lands; • high land and water conservation value; • cultural heritage and social significance to a community; • separate urban areas; and • outdoor recreation[4].	RLS (Regional Parks Working Group) RLSAC 'Guidelines' Local government Guidelines on protecting Regional Landscape Values in Planning Schemes (DNR)	**B** - part of IPA planning scheme implementation
B3.11	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.	IPA State Interest Review process Draft *Guidelines for model provisions for biological diversity* (EPA)	**A** - Whole Region
B3.12	Prepare and implement a Regional Nature Conservation Strategy based on comprehensive inventories of the natural environment. The strategy should be used to ensure protection of significant remnant vegetation in the SEQ region.	In preparation	**B** - Whole Region

[4] Regional Framework for Growth Management 1998 Principle 5.5

B3	***Encourage the use of voluntary land use (property) agreements and appropriate regulatory strategies .***		
Code	**Actions**	**Current Activities**	**Priority / Localities**
B3.13	Develop and implement recovery plans and conservation plans for threatened wildlife and ecosystems.	Recovery Planning Process: • dugong *Dugong dugon* • Hastings River mouse *Pseudomys oralis* • Coxen's fig-parrot/double-eyed fig-parrot *Cyclopsitta diophthalma coxeni* • eastern bristlebird *Dasyornis brachypteris* • red goshawk *Erythrotriorchis radiatus* • *Austromyrtus gonoclada* • Collared Delma *Delma torquata* • Native jute *Corchorus cunninghamii* • Rainforest Recovery Plan (WWF)	**B** - Whole Region
B3.14	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.	Local government BCC *Draft Natural Assets Planning Scheme Policy* in *Draft City Plan*	**B** - Whole Region
B3.15	Develop and implement State and local policies for nature conservation.	Draft Natural Assets Planning Scheme Policy (BCC)	**B** - Whole Region
B3.16	Establish adequate resourcing for on-ground management of protected areas and other reserved lands.	Local and state government Environmental/green levies *National Local Government Biodiversity Strategy* (C'wth 1999)	**B** - Whole Region

Coordinating the implementation of B3 Actions

The majority of land is under freehold tenure and a variety of protection mechanisms are needed to increase the level of certainty that conservation outcomes will be achieved in the long term. This may involve landholders voluntarily agreeing to change the use rights attached to all, or parts of, their property and the application of 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. The Environmental Protection Agency is facilitating the development of a Nature Conservation Strategy for South East Queensland, which will identify specific actions to be undertaken to better protect and manage the region's biological diversity.

Current Activities include:

State

- Nature refuges (under the *Nature Conservation Act 1992*)
- Coordinated conservation areas (under the *Nature Conservation Act 1992*)
- Land Trust proposal
- Draft *Guidelines for model provisions for biological diversity* (EPA in prep)

Regional

- 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.)
- Draft *Guidelines on protecting Regional Landscape Values in planning schemes* (DNR 1999)

Local government / Catchment

- **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).
- **Ipswich**: Vegetation Management Local Law No.49; Rural Conservation Agreement and Nature Conservation Agreement.
- **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).
- **Other**: *National Local Government Biodiversity Strategy* (C'wth 1999)

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

Actions required

B4	*Identify and implement effective monitoring and reporting strategies to help assess and better manage the region's biodiversity*		
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 Vegetation mapping (BCC)	**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 979206 992495	**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

Coordinating the implementation of B4 Actions

State

- State Landcover and Trees Study (DNR 1999)
- Nature Search
- State of the Environment Reporting – State Government
- Queensland fisheries habitats - current conditions and recent trends (DPI Fisheries)
- PestInfo

Local Government / Catchment

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

Theme Two: Caring for our Water

Caring for our Water – Summary Page

Our ***regional goal*** for water is:

To ensure the catchments and waterways of SEQ maintain a healthy ecological system and provide an adequate and sustainable supply of clean water to support the needs of the region.

Desired outcomes associated with this goal are:

Water quality and the ecological health of all waterways sustainably *managed, maintained and* improved for the mutual benefit of people, flora and fauna.	Instream values and resources are managed and protected.	Demands on water availability and use are equitably managed for the mutual benefit of people, flora and fauna.	Cultural and social values an integral consideration in water care and water management, with effective solutions arising from community understanding and ownership of problems.

Three ***key strategies*** have been identified to achieve these desired outcomes:

W1 Develop and implement policies, plans, practices, guidelines and standards for:
- (a) sustainable domestic and industrial wastewater treatment in the region;
- (b) sustainable land use and improved water quality within the SEQ region;
- (c) managing impoundment release patterns and flood risk to minimise; and
- (d) water extraction, improving the efficiencies of water use in agriculture, industry and urban areas and establish environmental flow objectives and criteria for waterways; and
- (e) urban stormwater management, and develop plans for existing and new areas.

W2 Protect, manage and restore riparian corridors, including streambank management and marine areas

W3 Foster and encourage community involvement and networking in water resource management.

Priority actions required to implement these strategies include:

- Develop and implement waste-water reuse schemes to more efficiently utilise the finite water resources of SEQ
- Develop standards and implement systems and processes to reduce nutrient loads in SEQ waterways
- Develop and implement catchment management plans and appropriate water quality monitoring strategies for all important water systems in SEQ
- . Prepare and implement WAMPS for major catchments and prepare a regional Water Infrastructure Plan for SEQ

- Develop and implement Best Practice for land use and integrated catchment management in SEQ
- Develop and implement plans and strategies to reduce the influence of port activities and shipping on water quality and the environment
- Promote and adopt 'water sensitive' design principles for urban development
- Develop and implement flood management plans consistent with the risk factors and environmental parameters involved.

- Quantify stormwater run-off loads and assess effectiveness of stormwater management practices
- Design and implement mechanisms to ensure regional infrastructure meets appropriate stormwater management needs.
- Identify and involve key stakeholders and the community in education programs and forums pertinent to water resource management
- Encourage community (including indigenous) participation in the planning and implementation of water strategies in the region.

1.0 Our goal for water management

To ensure the catchments and waterways of SEQ maintain a healthy ecological system and provide an adequate and sustainable supply of clean water to support the needs of the region.

1.1 The rationale behind this goal

Water is a variable, intermittent and often slowly renewable resource. The demands on this resource frequently exceed its availability. To cater for the many competing uses of water, we must manage in such a way that all interests in the region are considered. We also have to plan for the future, so that this generation as well as the next will have adequate access to quality water resources. Additionally, instream ecosystems must be catered for in order to keep our river systems and their dependent wildlife healthy, and to maintain water quality.

NB: There is an inextricable link between the land and water resources. Many of the priority actions identified in the Land theme of this NRMS relate to the issues for water identified below. When developing projects to address these priority water issues, both the Land and Water Theme sections must be considered.

1.2 Desired outcomes

- Water quality and the ecological health of all waterways are sustainably managed, maintained and improved for the mutual benefit of people, flora and fauna.
- Instream values and resources are managed and protected.
- Demands on water availability and use are equitably managed for the mutual benefit of people, flora and fauna.
- Cultural and social values are an integral consideration in water care and water management, with effective solutions arising from community understanding and ownership of problems.

1.3 Threats to our water resources

Integrated management of the catchments and waterways in South East Queensland to achieve these long term outcomes must take account of the impeding processes (as defined by community, industry and government) and the relevant statutory and policy requirements that influence the quality and availability of water in the region. These include:

1.3.1 Loss of water quality

The quality of water resources is dependent on how well we look after our catchments, waterways and groundwater supplies. Stormwater runoff and treated wastewater can contain a range of contaminants that end up in streams and rivers, having a detrimental effect on water quality and native aquatic flora and fauna.

The Industry and Community Advisory Committee ranked the status of sewage treatment plants, integrated catchment management, the treatment of stormwater runoff, and the restoration of riparian vegetation as the top four priority issues influencing water quality. Similarly, The *1998 Moreton Bay Catchment Water Quality Management Strategy* identified excess sedimentation, excess nutrient

levels, and loss of riparian vegetation as the priority water quality issues for South East Queensland's major catchment system. These are summarised as follows:

Issue	Problems	Sources	Examples of desired projects*
Excess sediment	• Seagrass loss; • Changes in habitat • Impacts on biota; and • Making water less fit for swimming.	Most sediment comes from the catchment through: • Stormwater runoff; and • Bank erosion.	• Sediment sourcing • Improved land management practices • Stabilisation of banks • Planting buffer strips and riparian vegetation, restoring coastal wetlands *(C2.5)* • Building stormwater quality improvement devices (SQIDS) (eg. wetlands)
Excess nutrients (nitrogen, phosphorous & carbon)	• Algal blooms; • Excess weed growth; • Breakdown of denitrification processes; and • Changes to the natural balance of plankton species	About 50% from point sources – mainly from sewage treatment plants in larger urban areas. About 50% from non-point sources – mainly from urban and agricultural areas.	• Nutrient sourcing • Recycling of sewage & industrial wastewater • Improved treatment of sewage and industrial wastewater • Improved land management practices • Planting of buffer strips and riparian vegetation • Building stormwater quality improvement devices (SQIDS) (eg. wetlands)
Loss of riparian vegetation	• Increased sediments and nutrients in stormwater runoff; • Changes to ecosystem processes; • Bank erosion; and • Loss of habitat, shade and shelter.	Causes of lost riparian vegetation include: • Urban development • Clearing for agriculture; and • Foreshore development	• Protecting existing riparian vegetation • Improved land management practices • Restoration of riparian vegetation. *Evaluation of the work should be included in each project. For further detailed information on sources/possible effects of urban runoff, also refer '*Urban Stormwater Management Strategy'* Brisbane City Council 1999-2001

1.3.2 Water production and demand

Allocation of this valuable resource needs to take account of its availability; the efficiency of its use, the cost-benefit of activities utilising the resource, the essential nature of these activity; and issues of equity between potential users.

Water production is affected by catchment vegetation, geology and land use. Increased runoff can lead to more flash flooding but less flow between rainfall events. Forests can lead to the recycling of evaporation into local rainfall. Aquifer recharge areas require protection to ensure the long -term production of essential groundwater.

1.3.3 Flooding

Flooding can cause major damage and community disruption but at the same time it must be recognised as a natural and sometimes essential feature of our ecosystem. The conservation of commercial and recreational fish stocks, for example, is dependent upon the maintenance of appropriate environmental flow patterns to support their specific breeding and development cycles. Flood management should focus on public safety and minimising its erosive potential on exposed agricultural lands and riparian environments, rather than flood prevention. The cost of flooding includes environmental damage and the loss of life, property and agricultural production.

2.0 Strategies required to achieve the outcomes

Four *key strategies*[5] have been identified to achieve the outcomes:

W1	Develop and implement policies, plans, practices and standards for: a) sustainable domestic and industrial wastewater treatment; b) sustainable land use and improved water quality; c) managing impoundment release patterns and flood risk to minimise damage to infrastructure, assets and people; d) water extraction, efficiencies of water used in agriculture, industry and urban areas and establish specific environmental flow objectives and criteria for waterways. and e) urban stormwater management and develop plans for existing and new areas.
W2	Protect, manage and restore riparian corridors, including streambank management and marine areas
W3	Foster and encourage involvement and networking of community, industry, business and government in water resource management.

[5] These three strategies have been adapted from:

- *The Waterways Management Plan* 1998 (WMP) (Brisbane River Management Group and Brisbane River and Moreton Bay Wastewater Management Study Steering Committee);
- *Moreton Bay Catchment Water Quality Management Strategy;* 1998 (RWQMS) (Brisbane River Management Group and Brisbane River and Moreton Bay Wastewater Management Study Steering Committee);
- The *Regional Framework for Growth Management (RFGM)* 1998; and
- Consultation undertaken by the RSG.

W1 Develop and implement policies, plans, practices and standards for: a) sustainable domestic and industrial wastewater treatment

Actions required

W1(a) *Develop and implement policies, plans, practices and standards for:*

a) sustainable domestic and industrial wastewater treatment

Code	Actions	Current Activities	Priority/Localities
Nutrient load reduction			
W(a) 1.1	Implement nutrient reduction (nitrogen, phosphorous) at sewage treatment plants discharging to tidal and non-tidal waters.	Redcliffe, Pine Rivers, Brisbane, Caboolture, Redland and Ipswich Councils have given or are investigating commitments	A Bramble & Waterloo Bays, Pine, Caboolture, Brisbane, Bremer and Logan Rivers B Maroochy, Mooloolah, Noosa and Nerang rivers C All freshwater reaches
W(a) 1.2	Achieve specific faecal coliform and organic matter standards at all sewage treatment plants and consider standards for viruses, pathogens, endocrine disruptors.	Levels being further investigated in the RWQMS for other areas	A Bremer River, Bramble & Waterloo Bays- organic matter; Brisbane River - faecal coliforms B Other rivers
W(a) 1.3	Investigate and implement wastewater reuse schemes, strategies and guidelines to reduce wastewater loads entering waterways.	Commitments from , Brisbane, Caboolture, Ipswich Pine Rivers Redcliffe and Redland Councils	A highly population areas B Logan C Other areas
W(a) 1.4	Participate in large-scale wastewater reuse studies and review treatment advances to achieve further significant load reductions.	DNR, EPA and local government have given commitments	A Lockyer/Downs/Warrill feasibility study
W(a) 1.5	Adoption by Industry of Best-Practice environmental management through waste prevention, cleaner production and wastewater reuse options consistent with Environmental Protection Act 1994	Caltex, BP, Incitec and AMH have given commitments	A Brisbane and Bremer Rivers B AMH
W(a) 1.6	Quantify desired sewer overflow reductions and implement reduction programs in all urban areas.	Commitments from , Brisbane, Caboolture, Ipswich, Pine Rivers Redcliffe and Redland Councils	B All urban areas
W(a) 1.7	Develop and implement a load-based licensing system for major discharges to waterways.	EPA have given a commitment	B All areas

Coordinating the implementation of W1(a) actions

Local government and the Environmental Protection Agency are driving the necessary actions under the aims of the South East Queensland Regional Water Quality Management Strategy (RWQMS). This is managed through collaboration between community, industry, local and State government. Specific research is providing information that informs the extent to which wastewater discharges are to be reduced at each Sewage Treatment Plant (STP) and major industrial point source discharges in the region. Individual stakeholders agree to a course of action in regard to reducing their discharges. This program and the targets are incorporated in EPA license conditions.

Existing major initiatives

Regional

- SEQ Water and Wastewater Management Study.

Local government / Catchment

- Logan / Coomera Wastewater Strategy.
- Noosa Shire Council wastewater treatment program
- Soil Filter Research Sewerage Effluent Disposal - Gatton College and Laidley, Gatton and Esk Councils.
- Gold Coast City Council Northern Wastewater Treatment Strategy.
- Effluent Filter Study for Gatton (University of Queensland).
- Caboolture Shire Council On-site Effluent Disposal Study.

W1(b) Develop and implement policies, plans, practices and standards for:

b) sustainable land use and improved water quality

Actions required

W1 (b)	*Develop and implement policies, plans, practices and standards for:* ***b) sustainable land use and improved water quality***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
Catchment and Water Quality Strategies			
W(b) 1.8	Implement integrated water quality monitoring programs; e.g. ICM, Landcare, Coastcare, indigenous, Waterwatch.	Commitment from EPA and relevant Councils being negotiated 972448 972576 979242 982501	A Moreton Bay and its estuaries B All othwer areas
W(b) 1.9	Ensure monitoring results are readily accessible to stakeholders and the community.	EPA has given a commitment Stage 3 RWQMS 972448 972511	A All areas
W(b) 1.10	Complete and implement a Regional Water Quality Management Strategy, incorporating: consistent approach model performance criteria water quality assessment/evaluation	RWQS under development – due for completion by Dec 2001	A Brisbane River, Moreton Bay and estuaries B Coastal estuaries - northern and southern catchments C All freshwater reaches
W(b) 1.11	Update and produce regular 'State of the Waterways' reports.	State of Brisbane River and Moreton Bay Waterways Bremer, Lockyer,	C
W(b) 1.12	Support and facilitate existing and establishing community-based groups that are developing and implementing catchment management plans and associated on ground works programs.	All current ICM groups 982515 992418	A Existing areas B All other areas with no current ICM group
W(b) 1.13	Identify, develop and use catchment health indicators.	Some work on site/issue specific indicators Waterwatch	A
Land use (see also 'Caring for Our Land' Theme)			
W(b) 1.14	Identify and promote 'ICM Best Practice' guidelines for local government processes affecting land-use.		A
W(b) 1.15	Identify eroding or 'at risk' agricultural and other lands that contribute to non point source pollution loads, measure effectiveness of various control methods and encourage implementation of controls and prevention through adoption of Best Practice.		A All areas identified B Implement selective trials C Implement successful methods

W1 (b)	***Develop and implement policies, plans, practices and standards for:*** ***b) sustainable land use and improved water quality***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
W(b) 1.16	Develop non-point pollutant load models to operate at a number of different levels (eg. local, regional).		A Stage 2 Councils, EPA & DNR B All other areas
W(b) 1.17	Review and amend codes of practice covering use of pesticides and fertilisers, including application conditions and options for changes to practices for the SEQ region.	Being investigated in WMP & RWQMS	B
W(b) 1.18	Review current arrangements and guidelines for mosquito control and develop a uniform code of practice for SEQ.	EPA has given a commitment	B
Water Storages			
W(b) 1.19	Establish integrated water quality monitoring programs for major supply and State-owned dams *(identification of sediment sources and nutrient loads; restoration/stabilisation of degraded lands; blue green algae mitigation plans; links with up and down stream ambient monitoring programs, etc.)*	SEQ Water Board RWQMS, DNR Toowoomba City Council Caloundra Maroochy WB	B
Groundwater			
W(b) 1.20	Identify groundwater recharge and discharge points, monitor their condition, and implement incentives for clean water production.	982539 (in part) 992417 (in part)	B
W(b) 1.21	Ensure use of groundwater in SEQ is sustainable and its availability monitored; and develop and implement groundwater management plans for individual aquifers in accordance with ARMCANZ Guidelines.		B
Acid sulfate soils (see also 'Caring for Our Land' Theme)			
W(b) 1.22	Develop and implement plans to deal with the Lyngbya bloom based on Lyngbya task force findings	Lyngbya – acid sulfate links investigated in RWQMS NHT project – Maroochy Landcare Group - *Maroochy/ Caloundra Acid Sulfate Sustainable Land Management*.	A *Southern* Pumicestone Passage and northern Deception Bay B Other areas as identified
Planning			
W(b) 1.23	Develop and review water quality regulatory planning mechanisms for use by local government, and develop and implement an appropriate monitoring and evaluation process.		B

Coordinating the implementation of W1(b) actions

The RWQS will not implement actions, will only identify what should be done. The Water EPP and local catchment management plans will also be useful in implementing RWQMS and NRMS actions.

Existing major initiatives

Regional

- SEQ Regional Water Quality Management Strategy (RWQMS)

Local government / Catchment

- Moreton Bay Catchment Water Quality Management Strategy.
- Waterways Management Plan for Brisbane River and Moreton Bay Catchment.
- Bremer - Bremer River Draft Catchment Management Strategy *and* Bremer River Catchment State of the River Report.
- **Brisbane** : - Brisbane City Council has undertaken catchment planning work for Nundah/Downfall, Norman, Bald Hills, Bulimba, CabbageTree, Lota, Wynnum, Moggill and Breakfast/Enoggera Creeks, Kedron Brook. In the process of development – Waterways Management Plans for Pullen Pullen and Wolston Creeks (June 2000).
- 1996 State of the Brisbane River, Moreton Bay and Waterways Report.
- Oxley Creek Catchment Coordinating Committee is developing the Oxley Creek Catchment Management Plan, a vegetation management plan, combined water quality monitoring program and an AQUALM model for Oxley Creek.
- State of Oxley Creek Catchment Report and Water and Land Use Impact and Management Analysis.
- **Lockyer** - Establishment of a Water Quality Monitoring Network (includes the Lockyer Catchment Centre, Lockyer Catchment Coordinating Committee, Landcare, and Lockyer Watershed Management Association.)
- Lockyer Catchment Community Water Management Strategy 1999-2002 (LCCC)
- Lockyer Catchment State of the River Report
- Lockyer Draft Catchment Management Strategy and land use guidelines for the Lockyer catchment area.
- **Logan Albert** - *A cooperative management policy for the Logan and Albert rivers catchment – the Logan and Albert catchment management committee Oct 1999 (Draft)*
- **Maroochy Mooloolah** - Lake Baroon Catchment Management Strategy (Maroochy). - State of the Rivers: Maroochy River and Tributary Streams.
- **Pine Rivers** - North and South Pine Rivers Catchment Management Plan (Draft).- SEQWB is developing a catchment model for the North Pine Dam catchment.
- **Pumicestone** - Pumicestone Catchment Plan. - Pumicestone Passage, its catchment and Bribie Island: Draft Integrated Management Strategy.

W1 (c)	**Develop and implement policies, plans, practices and standards for:** **(c) managing impoundment release patterns and flood risk**

Actions required

W1 (c)	***Develop and implement policies, plans, practices and standards for:*** ***(c) managing impoundment release patterns and flood risk***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
W(c) 1.24	Regularly review impoundment operating rules to assess their effectiveness with public safety.		A Brisbane River catchments. B All other areas
W(c) 1.25	Maintain flood warning systems in major impoundments.		B
W(c) 1.26	Improve the legislative and policy framework for protection against flooding; and prepare/update flood emergency plans for developed areas.		B
W(c) 1.27	Develop and implement flood management plans for areas with severe flooding problems and review existing flood management plans.		A
W(c) 1.28	Conduct flood management activities *(eg, risk assessment, identification of social issues, water harvesting research, determination of environmental flooding regimes, and review of regulatory tools.)*		B
W(c) 1.29	Adopt a consistent flood regulation level across local government areas through inclusion of consistent policies /guidelines in local planning schemes. (or – 'Adopt consistent town planning regulations relating to the types of development that can be accommodated below graduated flooding ARI's'. (ARI's – Annual Return Index).	New planning schemes being developed over next 2 years	A Urban areas B All other areas

Coordinating the implementation of W1(c) Actions

To be completed

Existing major initiatives:

- Lockyer Catchment Flood Scoping Study *(to be completed)*

W1 (d)	**Develop and implement policies, plans, practices and standards for:** **(d) water extraction, water use in agriculture, industry and urban areas, and environmental flow**

Actions required

W1 (d)	***Develop and implement policies, plans, practices and standards for:*** ***(d) water extraction, water use in agriculture, industry and urban areas, and environmental flow***

Code	Actions	Current Activities	Priority/Localities
Water Allocation and Management Planning			
W(d) 1.30	Define and measure sustainable water yields and link with production capacity		B All high demand/horticultural areas. C All other areas
W(d) 1.31	Continuing review of water allocation.		A Brisbane River, Wivenhoe, Mt Crosby, Logan River. B All other areas
W(d) 1.32	Prepare and implement Water Allocation and Management Plans for all major catchments in SEQ on a priority basis		B Logan and Brisbane (below Wivenhoe Dam), Rivers and Lockyer Creek C Other areas of high growth and demand
W(d) 1.33	Develop and implement land and water management plans and guidelines for significant water users in regulated sections of the region eg. industries and other		B irrigated areas C all other areas
W(d) 1.34	Establish requirements for environmental management plans for all new water intensive projects.	WIP DIP	B All freshwater, upper and middle catchment areas
W(d) 1.35	Develop a conceptual model for key water quality issues in freshwater waterways and impoundments.	RWQMS – subject of current investigations, Stage 3 work	B All freshwater, upper and middle catchment areas
W(d) 1.36	Implement water use monitoring in all urban and rural areas not currently metered/monitored.	Most of SEQ urban water use metered.	B
W(d) 1.37	Establish policies for implementing transferable water entitlements and develop processes to minimise the adverse impacts of inter-catchment transfers		B
Water Supply - Rural and Urban			
W(d) 1.38	Prepare and implement a Regional Water Infrastructure Plan.		A

W1 (d)	***Develop and implement policies, plans, practices and standards for:*** ***(d) water extraction, water use in agriculture, industry and urban areas, and environmental flow***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
W(d) 1.39	Review local water supply plans for consistency with the Regional Water Infrastructure Plan and ensure that these form an integral part of sub-regional priorities.		B
W(d) 1.40	Adopt and implement Total Management Plans for all water resources infrastructure *(as per DNR guidelines.)*		B
W(d) 1.41	Promote demand management of water supply (comment – we already have demand, we need better 'supply' management.)		B
W(d) 1.42	Establish Conditions to Operate for all State-owned storages and distribution systems.	Completed?	B
W(d) 1.43	Assess existing and future water supply sources and develop strategies to resolve potential opportunities and problems.		B
W(d) 1.44	Prepare and implement catchment management strategies, with priority given to catchments where raw water quality standards are threatened.	SEQ Water Board, RWQMS, Toowoomba CC, Caloundra Maroochy Water Board	A Pine Dam, Baroon Pocket catchments B Wivenhoe and Somerset catchments C All other water supply catchments
W(d) 1.45	Improve understanding of environmental flows, including links with estuarine and inshore processes.		C
W(d) 1.46	Manage water allocations to ensure that the quality, quantity, timing and duration of water flows through wetlands are appropriate to maintain their natural values. *(Also see Coasts (C2)*		B - Regional
W(d) 1.47	Develop and implement incentives for clean water production and efficient use.		B
W(d) 1.48	Identify and promote water conservation opportunities.		B

Coordinating the implementation of W1 (d) Actions: - To be completed

Existing major initiatives:

Regional

- Griffith University is assessing instream habitat and water flows between Wivenhoe Dam and Mt Crosby weir to develop possible environmental flow options from Wivenhoe Dam to Moreton Bay.
- Lower Lockyer Irrigation Project.
- Logan River Irrigation Project.

W1 (e) Develop and implement policies, plans, practices and standards for:

(e) urban stormwater management, and develop plans for existing and new areas

Actions required

W1 (e) Develop and implement policies, plans, practices and standards for:

(e) urban stormwater management, & develop plans for existing and new areas

Code	Actions	Current Activities	Priority/Localities
W(e) 1.49	Determine specific stormwater runoff loads to be achieved	Being further investigated in RWQMS Stage 3 work	A Urban areas B Non urban areas
W(e) 1.50	Coordinate and integrate stormwater management issues through a collaborative effort.	Commitment from EPA, DNR, Brisbane, Caboolture, Pine Rivers, Redland and Redcliffe	B
W(e) 1.51	Develop and implement catchment management plans, stormwater management plans and local stormwater management plans for developed and developing areas.	Commitments from, Brisbane, Caboolture, Pine Rivers Redcliffe, Redland and Ipswich.	B All urban and non-urban areas C Northern and Southern catchment areas
W(e) 1.52	Review and implement urban stormwater quality management plans consistent with the Environmental Protection (Water) Policy 1997	EPA have given a commitment	B
W(e) 1.53	Determine the effectiveness of various stormwater quality management practices.	Coast and Clean Seas project to measure effectiveness	A Brisbane, Pine River and Ipswich councils B All other areas
W(e) 1.54	Identify the desired characteristics of receiving waters to ensure development of appropriate stormwater quality measures	RWQMS – Stage 3 collation of historical and current water quality data for SEQ.	B All urban areas
W(e) 1.55	Promote and adopt 'water sensitive' design principles for future urban development, through modifications to Strategic Plans and Development Control Plans.	Guideline documents – UDIA involved.	A Current and proposed urban development land B All other areas
W(e) 1.56	Design and implement mechanisms in local government planning to ensure decisions involving infrastructure, adequately assess stormwater management issues.	Planning Schemes under development over next 2 years.	A
W(e) 1.57	Refine and implement an integrated monitoring program for quantifying stormwater pollutants entering SEQ waterways that links with projects evaluating the effectiveness of control methods.	RWQMS – Stage 3	A Stage 2 Councils - implementation of EHMP (Moreton Bay estuaries) B All other areas

Coordinating the implementation of W1 (e) Actions

Each local government is preparing Urban Stormwater Quality Management Plans by 2002, in accordance with the Environment Protection (Water) Policy. While it is the responsibility of each jurisdiction to develop and implement its own stormwater management program, the South East Queensland Regional Water Quality Management Strategy, will coordinate this between jurisdictions to ensure complementary programs are implemented.

Existing major initiatives

State

- DNR Stormwater Improvement Grant funding to local government

Local government / Catchment

- Urban Stormwater Management Plan for Redland Shire Council.
- Brisbane City Council Urban Stormwater Management Strategy.
- Brisbane City Council is investigating and implementing the use of wetlands and other stormwater quality improvement devices (SQIDS) for stormwater management and nutrient removal.
- Pine Rivers Shire Council Stormwater Drainage Strategy Plan.
- Brisbane City Council is undertaking numerous stormwater monitoring programs.
- Brisbane City Council Administrative Policy 09.018 'Waterways Protection' requires all work units to undertake stormwater management consistent with the National Water Quality Management Strategy.

W2	Protect, manage and restore riparian corridors, including streambank management and marine areas

Actions required

W2	*Protect, manage and restore riparian corridors, including streambank management and marine areas*		
Code	**Actions**	**Current Activities**	**Priority/Localities**
W2.1	Develop strategies, plans and incentive programs to protect, manage and restore riparian corridors, including streambank management, erosion and weed and animal management.	Bremer Catchment Association – *Streambank Restoration Grants project* (NHT) 972415 992414 992428	A upper catchment areas.
W2.2	Develop a reference guide for catchment/community groups documenting latest riparian research, on ground works methodology, weed removal methods, demonstration sites and evaluation results		B
W2.3	Identify significant riparian vegetation for protection under relevant Local Laws		A Particularly Gold Coast, Bremer River
W2.4	Determine the viability of a restoration and rehabilitation plan for marine plants in all coastal areas/estuaries of SEQ and develop and implement plans where appropriate.	Being investigated in RWQMS	B

Coordinating the implementation of W2 Actions

To be completed

Existing major initiatives include:

Local government / Catchment

- Ipswich City Council and Gatton and Laidley Shire Councils are undertaking riparian management through a natural resources inventory and strategic plan provisions.
- A Brisbane City Council program (Habitat Brisbane) is supporting groups involved in catchment rehabilitation with a focus on riparian vegetation and waterways protection.

W3 Foster and encourage community involvement and networking in water resource management. ***(Also refer – Understanding and Participating theme*****)**

Actions required

W3 Foster and encourage involvement and networking of community, industry, business and government in water resource management			
Code	**Actions**	**Current Activities**	**Priority/ Localities**
W3.1	Encourage community participation in planning, decision-making and implementation of management plans for SEQ water resources.	• NHT programs • DNR support of Catchment and Landcare groups.	A
W3.2	Identify and involve key stakeholders with an interest in the use of water bodies and establish appropriate forums between water resource managers, users and educators. *(see U1.16)*		A
W3.3	Expand community education programs on relevant environmental education topics *(eg, riparian vegetation management, best farm management practices, management of stock access to waterways, minimising sources of pollutants in urban stormwater.)*	Ipswich City Council – Land Management Seminars	A
W3.4	Identify and incorporate indigenous management technologies in management plans and encourage indigenous participation in management planning and implementation. *(See U1.16)*	Being investigated in the RWQMS	A
W3.5	Identify local social and cultural values and incorporate these into water resource planning and management.	Brisbane	B
W3.6	Promote the adoption of a 'freshwater protection' ethic.		B
W3.7	Develop/maintain a skills and learning opportunities register and continue to develop/maintain a regional inventory of all existing community organisations and environmental groups.(*See U1.17*)		C

Coordinating the implementation of W3 Actions - To be completed

Existing major initiatives include:

State

- 'Healthy Waterways' public involvement and education campaign.

Regional

- Queensland Conservation Council has completed an inventory of community groups in local government and Integrated Catchment Management Communication Plan: A Strategy for Greater Understanding and Participation.

Local government / Catchment

- Internal Waterways Management Committees within various local governments – eg. Ipswich City Council
- Bremer Catchment Association – Waterwatch program
- Brisbane City Council formed A Citywide Catchment Group – as a forum to represent (14) community-based catchment groups across the city and to involve the community in waterway planning and management.
- BCC also has a public education and awareness campaign – Improving our Waterways (from Backyard to Bay).

Theme 3: Caring for our Land

Caring for our Land – Summary

Our ***regional goal*** for land is:

To identify, protect, restore and sustainably manage the land resources of SEQ.

Desired outcomes associated with this goal are:

- Regionally significant land resources identified and protected for their preferred use through appropriate planning schemes.
- Resource planning and decision making based on reliable, land resource information and on sound, sustainable economic principles.
- Land resources managed wisely through the adoption of integrated planning and management..
- Land degradation and its associated impacts minimised through adoption of Best Management Practice by all stakeholders

Three *key strategies* have been identified to achieve these desired outcomes.

L1
Develop a comprehensive inventory and assessment of land resources in the region;

L2
Develop and promote the adoption of plans for sustainable land use management and conservation

L3
Develop and promote Best Practice for the wise use and management of land resources

Priority Actions required to implement these strategies include:

- Mapping of potential and existing acid sulphate soil risk areas
- Resource inventory programs to identify and document significant water catchments and riverine resources
- Resource inventory programs to identify and document Good Quality Agricultural Land (GQAL)
- Resource inventory programs to identify and document regionally significant landscapes

- Make land resource data available to key stakeholders to assist in planning
- Protect through planning schemes, significant land resource areas and their associated infra-structure
- Adopt catchment-based flood plain planning processes to reduce flood damage while maximising ecological values
- Develop policies/strategies to ensure mining decisions fully consider environmental and social factors

- Develop and implement Best Practice for the management of acid sulphate soil risk areas
- Develop and implement Best Practice to minimise and reverse soil erosion
- Provide incentives and regulations to support private and farm forestry, encourage sustainable land practices, and minimise the cost of managing green space
- Review poorly managed or sited landfill sites and rehabilitate closed sites of concern

1.0 Our goal for land management

To identify, protect, restore and sustainably manage the land resources of SEQ

1.1 The rationale behind this goal

The finite land resources of South East Queensland are in high demand from, and essential to, urban and rural residential development, industry, agriculture, forestry, mining, tourism, recreation, and road, rail and other infrastructure. These often-competing uses place pressure on the resources, contributing to soil, land and water degradation and threatening their long-term sustainability. The continued protection, restoration and sustainable management of land resources, together with their equitable allocation between prospective users, is therefore essential to the economic, social and environmental viability of the region.

1.2 Desired outcomes

- Regionally significant land resources identified and protected for their preferred use through appropriate planning schemes.
- Resource planning and decision making based on reliable, well-documented land resource information and on sound and sustainable economic principles.
- Land resources managed wisely through the adoption of integrated planning and management.
- Land degradation and its associated impacts minimised through the adoption of Best Management Practice by all industries and stakeholders.

1.3 Threats to our land resources

Agriculture and its associated industries and services constitute one of the major land uses in the region and are a major contributor to the economy and an important source of employment. Agricultural industries cannot be sustained if farm management practices are detrimental to, or threaten, the resource base. The ever-increasing demand for production efficiency will continue the trend towards more intensive agricultural practices and this, in turn, places greater pressure on the land resource.

Mining and extractive industries, too, place significant demands on key resources within the region. Such resources, by their very nature, are non-renewable, although their distribution within the system may be changed by natural forces such as wind and water. The use of these resources must, therefore, be based on sound economic principles taking into account the long term implications of their removal; the strategic and practical value of alleviating unwanted deposition, and our capacity to use alternative products.

Whilst the above arguments may not apply to all land uses, the significance of their impacts may be no less severe. Strategies and practices that minimise the risk and occurrence of soil and water degradation must accompany all land development.

Management of land resources in SEQ to achieve the desired outcomes listed above should take account of the following threatening issues:

1.3.1 Land use competition

Competing land use requirements necessitate that local and regional planning initiatives identify, designate and protect land resources for their preferred long-term sustainable and/or equitable use. This will include good quality agricultural land; environmental, open space and recreational use; industry; mining and residential development. Failure to allocate suitable land to appropriate use and development purposes will result in further deterioration or loss of the natural resource base through on and off-site impacts.

1.3.2 Soil degradation

Preventing soil degradation requires an understanding of the soil's capability and managing the resource accordingly. Soil must remain in place and retain its physical, chemical and biological fertility to be useful as a sustainable, functioning resource. Soil erosion removes a fundamental asset and the off-site impacts, such as siltation and nutrient enrichment of waterways, can have long term detrimental effects on the wider community and environment. Soil fertility can be compromised by increasing levels of soil acidity, salinity, sodicity, heavy metal accumulation and toxic levels of trace elements. Bio-organisms in the soil are critical to its fertility, through the nutrient breakdown and recycling processes to which they contribute.

Soil salinity is an example of land degradation in the region. In areas such as the Lockyer and Bremer valleys, removal of deep-rooted native vegetation has contributed to dryland salinity with the effects sometimes taking up to 20-30 years to become visible. Salt concentration adversely affects germination and plant growth, and high sodium levels can lead to deterioration in soil structure affecting plant growth.

Acid Sulfate Soils (ASS) are soils that contain iron sulfides eg.pyrite, commonly found in low-lying coastal areas. Mangroves, salt marshes, floodplains and wetlands are ideal environments for ASS formation. When ASS are exposed to oxygen through drainage or disturbance, the pyrite undergoes a series of chemical reactions to produce sulfuric acid. Following rainfall events, the sulfuric acid is flushed from the soil, carrying stripped aluminium, iron and other heavy metals from the soil into surrounding waterways. The release of acid and metals from such disturbance can cause significant harm to the environment, engineering structures and even human health. Adverse impacts include fish disease, death of aquatic organisms such as fish and oysters, death of vegetation, corrosion of concrete and steel infrastructure, and alteration of species diversity.

There are an estimated 60 000ha of ASS located along the NRMS area coastline and many of these areas are under intense pressure for urban and agricultural development. ASS can be successfully managed by adopting best management practices and following appropriate guidelines, but government, community and industry must collaborate to raise awareness and develop more cost-effective solutions.

1.3.3 Management of riparian lands

Riparian areas are critical to the maintenance of stream bank stability, good quality water supplies and the general health of aquatic environments. They provide habitat and movement corridors for terrestrial and aquatic native plants and animals. Riparian management practices should aim at the maintenance and recovery of these important functions. A key issue in riparian management in the region is the ownership and definition of the beds and banks of waterways. This affects a range of environmental and management concerns and well managed watercourses and riparian areas are valuable assets for both individual landholders and the community.

1.3.4 Weeds and pest animals

Weeds are among the most serious threats to the region's primary production and natural environment. Pest animals can threaten agricultural production, native ecosystems and social values. The impact of weeds is of particular concern in the riparian zone, where high fertility and moisture provide an ideal habitat for their establishment and expansion. A serious impact of weeds in such areas is the physical blocking of waterways and the replacement of native habitat.

Pest animals can change the environment, destroy crops, attack livestock, compete with native fauna, and can be vectors for parasites and disease. Community awareness of the importance of pest animal control and the need to prevent the spread of existing and introduction of new pest species is critical.

2.0 Strategies required to achieve the outcomes

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

L1	Develop a comprehensive inventory and assessment of land resources in the region.
L2	Develop and promote the adoption of plans for sustainable land use management and conservation.
L3	Develop and promote Best Practice for the wise use and management of land resources

L1	**Develop a comprehensive inventory and assessment of land resources in the region**

Actions Required

L1 Develop a comprehensive inventory and assessment of land resources in the region			
Code	**Actions**	**Current Activities**	**Priority/ Localities**
L1.1	Continue resource inventory programs to identify, map and document:		
	a) significant water catchments based on water quality and quantity;		A
	b) significant riverine resources, including riparian areas, riverine aquatic habitat, and wetlands;		A
	c) Good Quality Agricultural Lands	Planning Policy 1/92 Planning Guidelines	A - *particularly Redland Shire, coastal hinterland, Lockyer, Bremer & Brisbane valleys*
	d) regionally significant landscapes; including, geological features and regionally significant open space areas on public, private and 'designated' land.	Regional Landscape Strategy development	A
	e) areas for sustainable native forestry;		B
	f) available resources for all types of extractive materials (including baseline production data)		B
	g) significant eco-tourism resources		B
	h) Soil and land capability/suitability	982491	B
L1.2	Complete and utilise the Comprehensive Regional Assessment (CRA) for the SEQ Biogeographic Region.		B
L1.3	Continue detailed mapping of potential and existing acid sulfate soil areas (	979246	A - *particularly Gold Coast, Pumicestone, Maroochy*

Coordinating the implementation of L1 Actions

The Department of Natural Resources gathers land resource information for the identification of Good Quality Agricultural Land and the assessment of land use suitability, including irrigation. Other agencies and local governments gather land resource information as part of development assessment requirements. While there is some collaboration between agencies, there is often a lack of coordination across agencies within the region.

Existing major initiatives include:

State

- Queensland Acid Sulfate Soil Investigation Team (QASSIT)
- Land Facts (DNR)
- DNR State of the Rivers
- State government assessment and mapping of soils and land use for priority localities and issues
- State government research into land degradation and management practices.

Regional

- Comprehensive Regional Assessment
- South East Queensland Recreation Site Inventory Database project

Local government / Catchment

- Combined State and local government, and community detailed assessment of acid sulfate soils distribution in specific localities.
- Boonah Shire Land Resource Assessment (NHT funded project)
- Community group audit of natural resources (various local areas)
- Ipswich City Council – Draft Rural Lands Strategy 1999 (*see B1*)

L2 Develop and promote the adoption of plans for sustainable land use management and conservation

Actions required

L2	*Develop and promote the adoption of plans for sustainable land use management and conservation*		
Code	**Actions**	**Current Activities**	**Priority/Localities**
L2.1	Make land resource data available to local governments and other stakeholders to assist in the development of planning schemes and other measures that minimise land degradation. *(Also see U1.19)*	962501	A
L2.2	Designate and protect, through planning schemes, available and required areas of Good Quality Agricultural Land, forestry land and eco-tourism resources, together with their associated infrastructure requirements - at the same time, minimising impacts on core conservation areas.		A
L2.3	Develop specific resource protection measures for key mineral deposits and associated haulage routes.		A
L2.4	Ensure that lands having regional significance are identified and protected in local government planning and management schemes.	Guidelines on protecting Regional Landscape Values in Planning Schemes for local governments in SEQ.	A
L2.5	Adopt catchment-based flood plain planning processes to reduce flood damage and potential loss of life, while maximising ecological values. (particularly Lockyer, Bremer).	Lockyer Flood Scoping Study	A
L2.6	Locate residential development in appropriate, well-serviced locations with minimal encroachment on areas of natural, agricultural and extractive resource significance.	Planning Policy 1/92 and Guidelines	B
L2.7	Develop an Environmental Protection Policy, Codes of Practice and appropriate strategies to minimise the impact of extractive industry activities on the environment and community.		A
L2.8	Plan and protect the infrastructure requirements of allocated resource reserves.		A
L2.9	Continue the development and implementation of pest management and control plans by local government. *(also see B2.13)*		A

Coordinating the implementation of L2 Actions

Local governments are required to prepare and implement revised Planning Schemes under the Integrated Planning Act. These Planning Schemes, which are approved by State Government, through DCILGP as lead agency, are central instruments for embracing sustainable outcomes in land use planning. Supporting these are plans such as Integrated Catchment Management Plans which are prepared in collaboration with community, industry and government, and endorsed through DNR as lead agency. Successful coordination of sustainable land use planning relies largely on achieving an integrated approach between participating agencies. DNR also have responsibility for the Regional Landscape Strategy, which is the umbrella project for regional landscape and open space planning in South East Queensland.

The Extractive Industries Unit within the Department of Mines and Energy has the responsibility to address the issue of mid-to-long term secure supply of sand and gravel extractive resources throughout Queensland, in particular for the South East. In particular, it coordinates extractive industry policy and planning. In South East Queensland, regional extractive industries planning is also coordinated through and accountable to the Brisbane River Management Group (BRMG) Policy Council. Specifically, the Environment Protection Agency manages extraction in tidal areas; DNR manages planning and approval for non-tidal in-stream extraction; and local governments manage planning and approval for off-stream extraction. Additionally, the Extractive Industry Association actively collaborates to ensure the best regional resource management plans are developed.

Existing major initiatives include:

State

- State Planning Policy 1/92 and Guidelines – Good Quality Agricultural Land.
- Queensland Weed and Feral Animal Strategies

Regional

- Regional Landscape Strategy
- Implementation of regional planning initiatives and the development of statutory mechanisms and guidelines by State and local government in association with key stakeholders.

Local government / Catchment

- Lockyer Catchment Flood Scoping Study.
- Brisbane River Flood Study
- Extractive Industries Strategy for non-tidal Brisbane River
- Oxley Creek ICM Plan
- Bremer River Draft ICM Plan
- Upper Brisbane River Catchment Investigations
- Brisbane City Council's City Plan
- Maroochy City Council's new Planning Scheme
- Development and review of planning schemes and other planning documents (eg, local area plans and regional plans) by Local Governments.
- Development of catchment management strategies and plans by various community groups, in association with State and local government.
- Pest Management Planning by local government

L3 Promote Best Practice for the wise use and management of land resources in the region.

Actions required

L3	*Promote Best Practice for the wise use and management of land resources in the region*		
Code	**Actions**	**Current Activities**	**Priority/Localities**
L3.1	Develop and implement Best Management Practice for the following agricultural issues:	992469	
	a) Soil erosion in areas used for agriculture and forestry	Land conservation measures - eg contour bank construction, stubble management, minimum tillage Code of Practice for Agriculture Land Degradation research Boonah gully rehabilitation project 992500 982499	A
	b) Pasture decline (particularly Upper Brisbane Valley)	Grass Check Pasturewatch program 982499	B
	c) Chemical and fertiliser use	Code of Practice for Agriculture, Guidance provided by chemical companies Chemical applicators course Legislation re safe use of chemicals	B
	d) Soil salinity (particularly Lockyer)	Saltwatch	B
	e) Stream bank erosion and erosion of riparian lands (particularly - Lockyer, Bremer)	Rivercare program (DNR) Greening Australia Bushcare program BCC streambank erosion programs DOT vessel wash review DNR State of the Rivers assessment 962794 982497	A
	f) Mass movement / Landslip	Landcare groups have assisted landholders with rehabilitation of individual sites	C
	g) Problems of soil health (acidity, fertility and structural decline)	Research by DPI in the horticulture and cropping industries	B
L3.2	Develop and implement Best Management Practice for the following issues related to development:		
	a) Acid sulfate soils (particularly Gold Coast, Pumicestone, Maroochy) *(see also Action C4)*	Acid Sulfate Soil Investigation Team programs	A -

L3	***Promote Best Practice for the wise use and management of land resources in the region***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
	b) Soil erosion resulting from construction of houses, roads, railway, pipe and power lines, etc.	Code of Practice for construction industry Awareness programs by local authorities "on the spot" fines 992442	A
	c) Contaminated land	Maintenance of the contaminated land sites register	B
L3.3	Develop and implement Best Management Practice for the following land uses:		
	a) Native forestry	982507 992416	B
	b) Mining and extractive industries		A
L3.4	Develop effective mechanisms for monitoring and reporting the status and condition of regionally significant land resources.		B
L3.5	Promote and facilitate whole farm planning based on sustainability of a property's natural resources.*(See U2.16)*	Future*Profit* program 962472 992427 992469	A
L3.6	Develop and provide incentives and regulations to: a) support the expansion of private and farm forestry; b) encourage sustainable land use practices; and c) minimise costs to community of managing green space.	Farm Forestry Joint venture program Farm Forestry extension program Codes of Practice	A
L3.7	Identify suitable sites for land-fill		B
L3.8	Review poorly sited and managed land-fill sites and rehabilitate closed sites where necessary		A
L3.9	Promote education awareness programs with the general public and relevant commercial distributors to improve their understanding and commitment to the control and containment of exotic and potential pest species.		A

Coordinating the implementation of L3 Actions

The sustainable use and management of land resources is dependent on close cooperation and involvement of all relevant stakeholders, including landholders involved in all industries, community groups, government and non-government agencies. All agencies have a responsibility to implement and coordinate an integrated approach to land resource management and the industry association plays an active role in promoting best management practices.

Existing major initiatives include:

State

- DPI Farm Forestry Joint Venture Program.
- Regional Forest Agreement
- Future *Profit*
- Grass Check, Pasturewatch, Saltwatch, Soilwatch
- National Landcare Program (NHT)
- Rivercare Program (DNR)

Regional

- SEQ2001 Regional Framework for Growth Management.

Local government / Catchment

- Moreton Bay Catchment Water Quality Management Strategy (1999)
- Involvement of various community groups in a range of local programs aimed at improving land management and rehabilitation.
- Implementation of Landcare and Integrated Catchment Management programs coordinated and supported by State Government.

Theme 4: Caring for our Coasts and Seas

Caring for our Coasts and Seas – summary

Our regional goal for coasts and seas is:

To identify, protect, rehabilitate and sustainably manage the coastal and marine ecosystems, processes and physical features of SEQ.

Desired outcomes associated with this goal are:

- Integrated management and coordination of the coastal zone, particularly with regard to key natural resource issues
- Public uses and activities within the coastal zone are managed in accordance with the principles of ecologically sustainable development
- Natural coastal ecosystems and resources are protected and enhanced
- Improved water quality in marine and estuarine environments

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

C1
Restore, maintain and enhance the biological diversity of coastal ecosystems

C2
Protect, manage and restore coastal wetlands so that their natural, cultural and economic values are maintained

C3
Manage coastal development and land use activities and processes in accordance with the principles of ecologically sustainable development

C4
Manage public access to the coast from both land and sea so that ecological processes are sustained

Priority Actions required to implement these strategies include:

Ensure representation of all natural coastal wetlands in protected areas large enough to protect their natural, cultural and functional values, and nominate internationally outstanding sites for listing where appropriate under international conventions.

- Document and develop management plans for coastal wetlands, including those identified in the Coastal Plan, on a priority basis beginning with those on State land.
- Give statutory protection to coastal wetlands, including those identified under the SEQ Coastal Management Plan.

- Complete a range of natural resource inventories for coastal wetlands, shorebirds, rocky reefs, seagrass and remnant vegetation.
- Analyse available information and map wetlands to inform planning and management decisions to conserve and protect all coastal wetlands.
- Document the extent and impact of acid sulphate soils (ASS), and implement appropriate strategies for ASS management.

- Complete coastal geographic information systems for SEQ and make this information available to all government and the community.
- Implement administrative arrangements for more integrated and coordinated management of the coastal zone.
- Ensure that all natural coastal wetlands are represented in protected areas.

1.0 Our goal for coasts and seas management

To identify, protect and sustainable manage the coastal and marine ecosystems, processes and physical features of SEQ

1.1 Desired outcomes

- Integrated management and coordination of the coastal zone, particularly with regard to key natural resource issues.
- Public uses and activities within the coastal zone are managed in accordance with the principles of ecological sustainable development.
- Natural coastal ecosystems and resources are protected and enhanced; and
- Water quality in marine and estuarine environments is improved.

1.2 Threats to our coasts and seas

In order to achieve these outcomes, the management of our coast and seas in South East Queensland will be influenced by, and must take account of, threatening processes and relevant statutory and policy requirements.

The coastal zone of South East Queensland is one of the most heavily impacted areas of the state but it contains some of the most diverse natural habitats in Queensland. These include major sand islands combining urban development, sandmining and nature conservation activities. A variety of smaller islands range from near pristine to heavily developed conditions.

The current pattern of settlement is similar to elsewhere in Australia, with most major population and industrial centres located along the coast. Substantial areas of coastal catchments are dedicated to agricultural activities or rural residential uses. As a result, considerable areas of intertidal and coastal habitat have been modified for urban development, agriculture, industry and port facilities.

Environmental management issues include poor water quality discharges and nutrient and sediment enriched estuaries and bays. Issues such as adverse impacts on fish habitat areas, erosion of water courses and beaches, urban expansion, pollution and loss of coastal vegetation are generally associated with catchment areas with high and growing populations and with intensive land use and high economic productivity. These areas also rate highly for recreational and commercial fishing values.

1.3 Priority Issues

Identified priority issues in South East Queensland include:

- Increasing pressures on the coastal environment from urban growth and other forms of development;

- Declining water quality and ecosystem health and resources in water catchments, particularly Moreton Bay (pollution, loss of seagrass, algal blooms, threats to fisheries);
- Potential loss of industry viability for tourism and fishing;
- Balancing the needs of development and resource use with their long-term sustainability;
- Protecting and enhancing the lifestyle and recreational opportunities available to residents and visitors in South East Queensland;
- Increasing expectations regarding improved access to and use of the coast; and,
- Lack of sufficient coordinated management.

1.4 Moreton Bay

Moreton Bay has a variety of unique habitat values that include wetlands and foreshores listed under the internationally significant Ramsar agreement, and limited banks of corals characteristic of inshore reefs. The Bay also supports large populations of dugong and turtle which is unusual for an area in such close proximity to a major urban centre such as Brisbane (QFMA, 1997).

Moreton Bay is one of Queensland's most important coastal resources. In addition to its natural attributes, the Bay contributes significantly to the economy of the region and the State through a wide range of commercial and recreational uses. These include shipping, extractive industries, commercial and recreational fishing, tourism and a variety of recreation activities.

As well as the major river catchments in South East Queensland, there are a large number of smaller streams flowing directly to the sea from urbanised catchments. Some of the important issues in these catchments are: storm floods, urban weeds, loss of biodiversity, disruption of riparian corridors, runoff containing domestic chemicals and fertilizers, oils and rubbish from roads and shopping centres, and acid leachate from acid sulfate soil disturbance.

Studies of the ecological health of coastal waters, particularly Moreton Bay, have flagged a number of environmental warning signs, including:

- Gradual decline of water quality and habitats of western and southern Moreton Bay and adjacent shores, particularly in terms of sediment (turbidity) and nitrogen accumulation;
- Algal blooms in Deception Bay, Bramble Bay and Hayes Inlet;
- The lower Brisbane River estuary does not meet national guidelines for primary contact recreation;
- Loss of biological diversity;
- Loss of seagrass in Bramble Bay, Deception Bay and near the mouth of the Logan River;
- Reports of fewer fish in Moreton Bay;
- Loss of, and impacts on, fish spawning grounds through human activities such as boating and jet-skiing in areas such as Maroochy, Mooloolah and Pumicestone;
- Excessive pollution in Pumicestone Passage caused by changed land use and management practices; and
- Effects of fishing activities on habitats and water quality.

These signs indicate that the marine environment will need careful monitoring and intervention if sustainability is to be maintained and highlight the integral link between freshwater and coastal marine environments. A number of high impact areas with respect to the above environmental warning signs in Moreton Bay include:

- *Western Moreton Bay (Bramble Bay, Hayes Inlet and Deception Bay);*
- *Southern Bay areas; and*
- *Tidal Bremer River to lower Brisbane River estuary (Abal et al, 1998).*

Moreton Bay and Pumicestone Passage are recognised on a global scale for their unique aquatic environs that cover a range of habitats from seagrass meadows to coral beds, for fish and crustaceans, turtles and dugongs. Increased exploitation of the area by all users and interaction between these users will inevitably result in a range of conflicts. Appropriate management strategies are required to ensure the effects and implications of this conflict are minimised.

2.0 Strategies required to achieve the outcomes

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

C1	Identify, maintain and restore the biological diversity of coastal ecosystems.
C2	Protect, manage and restore coastal wetlands so that their natural, cultural and economic values are maintained.
C3	Manage coastal development and land use activities and processes in accordance with the principles of ecologically sustainable development.
C4	Manage public access to the coast from both land and sea so that ecological processes are sustained.

C1 Identify, maintain and restore the biological diversity of coastal ecosystems

Actions required

C1 Identify, maintain and restore the biological diversity of coastal ecosystems			
Code	**Actions**	**Current Activities**	**Priority / Localities**
C1.1	Complete and implement the South East Queensland Regional Coastal Management Plan.	Partially completed	A Regional
C1.2	Research and monitor the life history, distribution and needs of significant coastal and marine species.	Turtle, dugong, seagrass, shorebirds, fisheries spp. bait spp. 992470	B - Regional (Some species may be locality specific)
C1.3	Ensure comprehensive and adequate representation of all natural coastal wetlands in protected areas, and nominate internationally outstanding sites for listing, where appropriate under international conventions.	Local government protection of wetlands e.g. Brisbane - Boondall, Tinchi Tamba, Deagon wetlands	A - Coastal Region
C1.4	Develop indicators for the carrying capacity of shallow inshore marine habitat to assess the impacts of commercial and recreational activities.		B - Coastal Region
C1.5	Develop and implement management and education strategies for key fauna and flora eg. shorebirds, dugong, turtles. (*Also see U1.22)*	Shorebirds Plan of Management and Education Strategy	B - Regional
C1.6	Assess the impact of upstream and downstream activities on fish breeding.	Fishway IDC; DPI currently investigating fishway development requirements	B - Regional
C1.7	Identify critical barriers to fish movement and remove, or provide fishways.		B - Regional
C1.8	Control the impacts of non-indigenous species on our coasts and seas.	ANZECC Guidelines; Queensland Ballast Water Management Committee	B - Coastal
C1.9	Encourage the re-establishment of native fish stocks to regional waterways.	992419	B - Regional (maybe A for some species)

Coordinating the implementation of C1 Actions

These actions are being coordinated through relevant legislation such as the *Coastal Protection and Management Act 1995, Nature Conservation Act 1992* and the *Fisheries Act 1994,* and by State and local government agencies. The *Coastal Protection and Management Act 1995* provides a framework for the coordination of these activities across the coastal zone.

State

- NatureSearch
- WildNet
- Conservation plans and management guidelines for rare and threatened species
- Marine and Coastal Species Database (EPA)
- Development of coastal Geographic Information System (EPA)

Regional

- Inventory and Assessment of Rocky Shores in South East Queensland

Local

- Moreton Bay Marine Park and Zoning Plan
- Voluntary Conservation Agreements under the Nature Conservation Act
- DPI Fish Habitat Area Management Plans
- Local government management plans for significant areas
- Shorebird Plan of Management for the Moreton Bay Marine Park
- Management plans for coastal protected areas

C2 Protect, manage and restore coastal wetlands so that their natural, cultural and economic values are maintained

Actions required

C2	*Protect, manage and restore coastal wetlands so that their natural, cultural and economic values are maintained*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
	Data Collection		
C2.1	Map South East Queensland's wetlands every 5 years at a large scale (1:25 000) *(See U1.23*)		A - Regional
C2.2	Analyse both historical and recent wetland information to build an understanding of the extent and impact of coastal wetland change over time.	DPI Fisheries Condition and Trend Unit Activities – '*Queensland fisheries habitat – current condition and recent trends'*	A - Regional
	Planning and Management		
C2.3	Give statutory protection to coastal wetlands (including those to be identified under the South East Queensland Coastal Management Plan).		A - Coastal Region
C2.4	Encourage and assist the conservation and protection of natural wetlands through the planning and development assessment process.		A - Regional
C2.5	Document and develop management plans for coastal wetlands.		A – Regional, State land
C2.6	Encourage restoration and rehabilitation of coastal wetlands (freshwater and marine).	DPI Fisheries – Draft Guidelines '*Restoration of Fish habitats – Fisheries guidelines for marine areas'* 982544 992472	B - Coastal Region
C2.7	Establish innovation schemes aimed at conserving wetlands in private ownership and in fostering community ownership.		B - Regional
C2.8	Develop a handbook or other resources that detail all the agreements and incentives offered by State and local government to encourage wetland conservation. *Also see U1.20*		B- Regional

C2	*Protect, manage and restore coastal wetlands so that their natural, cultural and economic values are maintained*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
C2.9	Investigate opportunities for encouraging recreational and tourist use and enjoyment of public wetlands by providing minimum impact access and interpretative facilities in appropriate locations. *(See U1.19)*		B - Regional
	Monitoring		
C2.10	Local and State Government should have a separate section in their State of Environment Reporting to report on the health of coastal wetlands.		B - Regional
C2.11	Develop criteria for post construction monitoring of environmental impacts.		A - Regional

Coordinating the implementation of C2 Actions

This strategy is being coordinated in consultation with local government, other state government departments, community groups, indigenous groups and the private sector.

Existing major initiatives include:

State

- Strategy for the Conservation and Management of Queensland Wetlands

Regional

- Mapping and conservation assessment of coastal wetlands in South East Queensland
- Seagrass mapping by Regional Water Quality Strategy

Local

- Local government vegetation mapping (all local authorities) and in particular Brisbane City Councils wetlands mapping inventory
- Numerous local government planning projects for coastal wetlands and environments
- Brisbane City Council draft Wetlands Code (in draft City Plan)
- Moreton Bay Fisheries Management Plan
- Include wetland plans (Refer B1 Major initiatives)
- Declared Fish Habitat Areas
- Boondall Wetlands Management Plan
- Deagon Wetlands Management Plan
- Carbrook / Cornubia Wetlands Management Plan
- Tinchi Tamba, Nathan Road Wetland Reserve Management Plan, Black Swamp Wetlands.

C3 Manage coastal development activities and processes in accordance with the principles of ecologically sustainable development

Actions required

C3	*Manage coastal development activities and processes in accordance with the principles of ecologically sustainable development*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
	Acid Sulfate Soils (ASS)		
C3.1	Determine the extent of acid sulfate soils by preparing and undertaking a Statewide mapping and assessment program.	QASSIT ASS mapping for South East Queensland	A - Coastal Region: Coastal local govs. to do this in more detail
C3 .2	Identify and map potential and existing acid sulfate drainage risks on receiving environments.	None	A - Coastal Region
	Map natural and artificial drains and waterways in coastal regions and undertake assessment (ie.pH, Al, Fe, titratable acidity) to determine existence of acid sulfate soil 'hotspots'.		
C3.3	Develop and enforce appropriate strategies for development on acid sulfate soils.	Local government codes and policies Brisbane City Council Acid Sulfate Soils Risk Assessment Map State guidelines	A - Coastal Region : location areas need to be linked to high risk areas identified on the mapping
C3.4	Implement actions of the QASSMAC Management Strategy.		A-Coastal Region
C3.5	Development applications should include reference to the ASS Risk Map and detail proposed management strategies prior to any approvals being given.		
C3.6	Review development control mechanisms and guidelines for coastal developments to ensure minimal impact on coastal habitat and processes.		B - Coastal Region
	Transport operations		
C3.7	Develop and implement an environmental management system for management of port activities.	POBC have given a commitment	A Brisbane River
C3.8	Implement the Australian Ballast Water Management Strategy and assess potential for ballast water management to be a protocol or annex to MARPOL 73/78	EPA have given a commitment and being investigated in RWQMS	A Moreton Bay
C3.9	Review, in accordance with the Environmental Protection (Water) Policy 1997, waste reception facilities for marinas, moorings, boat-building/repair facilities, etc.	EPA, Brisbane, Caboolture, Ipswich, Pine Rivers, Redcliffe and Redland commitments	B All navigable areas

C3	*Manage coastal development activities and processes in accordance with the principles of ecologically sustainable development*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
C3.10	Implement the sewage provisions of the Transport Operations (Marine Pollution) Act 1995.	QT has given a commitment	B All navigable areas
C3.11	Implement a long-term environmental management plan or program for navigational dredging and disposal of dredged material placement	POBC have given a commitment. Other being investigated in RWQMS	B Brisbane River and Moreton Bay (both inside and outside of port areas).

Coordinating the implementation of C3 activities

The coordination of coastal development and land use activities and processes is achieved namely through the *Integrated Planning Act*, the *Coastal Protection and Management Act* and local government planning schemes. A policy on Acid Sulfate Soils was being developed as part of the South East Queensland Regional Coastal Management Plan. This policy was being developed in coordination with a State Coastal Plan Policy, Interim State Planning Policy and the QASSMAC Management Strategy.

State

- State Planning Policy being developed by DNR
- QASSMAC Management Strategy
- State Coastal Management Plan Policy on Acid Sulfate Soils
- DNR Acid sulfate soils potential mapping

Regional

- South East Queensland Regional Coastal Management Plan Policy on Acid Sulfate Soils
- South East Queensland Regional Coastal Management Plan Policies on Coastal Dependent Development and Activities, Extractive Industries, and Artificial Waterways

Local

- Local government acid sulfate soils mapping
- Local government policies on acid sulfate soils (Redlands, Caboolture)
- Southern Moreton Bay Islands Planning Study
- Minjerraba (Stradbroke Island) Planning and Management Study
- Brisbane City Council Draft Acid Sulfate Soils Planning Scheme Policy (draft City Plan)

C4 Manage public access to the coast from both land and sea so that ecological processes are sustained

Actions Required

C4	*Manage public access to the coast from both land and sea so that ecological processes are sustained*		
Code	**Actions**	**Current Activities**	**Priority / Localities**
C4.1	Maintain public ownership of foreshore.		A - Coastal Region
C4.2	Manage public access through provision of defined access nodes.		A - Coastal Region
C4.3	Control movement of vehicles on foreshore (intertidal) areas, and exclude from the dunal system.		A - Coastal Region
C4.4	Identify sites suitable for a range of recreational activities.		A - Coastal Region
C4.5	Provide minimum impact recreational sites where required.		B – Coastal Region
C4.6	Develop codes of practice for whale watching industry and related industries.	*Nature Conservation (Whale and Dolphin) Conservation Plan 1997*	B - Coastal Region
C4.7	Identify local social and cultural values and incorporate these into coastal planning and management.		B - Region
C4.8	When developing access routes, ensure protection of important breeding sites for significant species.		A- Region
C4.9	Promote effective use of environmental levies to protect the species and habitats of our coasts and seas.		C - Region

Coordinating the implementation of C4 Actions

Subject to completion of action C1.1

Existing major initiatives include:

To be completed

Theme 5: Community Understanding and Participation

Understanding and Participation – Summary

Our *regional goal* for understanding and participation is:

To have a well-informed and motivated SEQ community, actively participating in, promoting and practising sustainable natural resource management.

Desired outcomes associated with this goal are:

- Resources and information are readily accessible to all members of the community
- Educative components are integrated into the use and management of natural resources
- Understanding, commitment and participation is fostered through cooperation, collaboration and partnering between stakeholders
- Opportunities are provided for building and improving the capacity of the community to understand and become involved in natural resource management.

Four *key strategies* have been identified to achieve the desired

U1
Identify stakeholder needs and improve access to information

U2
Facilitate and evaluate education activities/programs, and incorporate into all natural resource management projects

U3
Facilitate and resource effective partnerships and networks to address identified natural resource management priorities

U4
Enhance the natural resource management skills base of stakeholders

Priority Actions required to implement these strategies include:

- Develop a framework that enables access of knowledge.
- Learning, education and extension are essential components of the development and implementation of all natural resource management projects.

- Develop a framework that identifies capacity building needs/requirements and builds upon existing capacity building programs.
- Develop and implement all natural resource management projects based on partnerships and partnership agreements, MoUs, etc.

1.0 Our goal for understanding and participation

To have a well-informed and motivated community, actively participating in, promoting and practicing sustainable natural resource management

1.1 The rationale behind this goal

Sustainable natural resource management will depend on the wise and often voluntary action of natural resource users, together with support and action from the local community. An important element of this process is an understanding of natural resource management issues, which results from the sharing of relevant information within and between stakeholder groups.

As a 'supporting' theme, understanding and participation is a vitally important component of each of the four resource themes, biodiversity, water, land and coasts and seas. Increasing levels of awareness, through engaging the community, provides the stimulus for achieving informed natural resource management in South East Queensland. It is important to realise that without sharing relevant information, skills and practices between all stakeholders, effective management of our environment will not occur.

1.2 Desired outcomes

- Resources and information are readily accessible to all members of the community.
- Educative components are integrated into the use and management of natural resources.
- Understanding, commitment and participation is fostered through cooperation, collaboration and partnering between stakeholders.
- Opportunities are provided for building and improving the capacity of the community to understand, respect and become involved in natural resource management.

1.3 Issues concerning understanding and participation

Despite rapid advances in the increasing knowledge of the community about natural resource management issues and processes, there is still a perceived lack of awareness and understanding of integrated natural resource management practices.

A number of issues may influence the level of understanding a community has:

1.3.1 Information availability and accessibility

State and local government agencies, educational institutions, industry bodies, cultural groups, community groups and individuals all play a role in capturing, processing and communicating information. This information includes:

- the condition of natural resources;
- trends in natural resource condition;
- natural processes and the impact of human activity on these processes;
- existing groups/organisations and strategic plans/programs (including ICM plans); and
- best management practices related to natural resource management.

The incorporation of such information at all levels of decision making and the acknowledgment of present levels of understanding amongst various sectors is essential.

However information is often unavailable for a number of reasons, including:

- the data does not exist;
- it is inaccessible due to restrictions;
- the community is unaware that it is available, or are unsure how to access the information; and/or
- it is in a format that is not relevant, useful or up-to-date.

The situation of not knowing what information is out there can lead to a duplication of effort, time and resources, and is counterproductive.

1.3.2 Educative components in NRM projects

Too often when designing projects, the education and awareness component is not well planned and integrated, but is often an afterthought once the project is underway or nearly completed. This leads to:

- a haphazard approach, producing poor results and inadequately resourced component of natural resource management; and
- poorly coordinated, and ineffective in transmission of project results.

This eventually results in inadequate information dissemination and stagnation of natural resource management practices and priorities.

1.3.3 Working in isolation from other groups

Working in isolation results in wasting time, effort and scarce resources through duplication, and failure to build upon shared knowledge with other groups.

1.4 Promoting understanding and participation

Activities relevant to the promotion of understanding and participation in natural resource management include:

- collation, analysis and dissemination of regional information
- development of tools, methods, skills
- identification, development and promotion of the use of best management practices, tools and methods
- strategic and outcome based planning
- development and application of appropriate monitoring and evaluation tools and procedures
- regional reporting
- community engagement aimed at generating understanding, support and participation

- consultation with, and participation of indigenous groups and raising of cross-cultural awareness in the community.

Providing communities with the opportunity to develop, learn, interact and become involved in natural resource management issues is critical to the successful implementation of this strategy.

2.0 Strategies required to achieve the outcomes

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

U1	Identify stakeholder needs and improve access to relevant information
U2	Facilitate and evaluate education activities/programs, and incorporate relevant educative components into all natural resource management projects
U3	Facilitate and resource effective partnerships and encourage networking to address identified natural resource management priorities
U4	Enhance understanding and improve the natural resource management skills base of stakeholders

U1 Identify stakeholder needs and improve access to relevant natural resource management information

Actions required

U1	*Identify stakeholder needs and improve access to relevant natural resource management information*		
Code	**Actions**	**Current Activities**	**Priority/Locality**
	Education		
U1.1	Undertake an audit of education resources, skills base and practices.	DPI Scoping Study to identify fish/fish habitat information requirements – in regard to planning and infrastructure development	Regional A
U1.2	Assess community, government and industry understanding of natural resource management issues.	IPA training and awareness	A Regional
U1.3	Prioritise community, government and industry information, education and training needs and implement the necessary programs to address these needs, and fill gaps.	NRM Education catalogue, and website publications	A Regional
U1.4	Form and enhance networks to share and review education products, practices and skills.	DPI/UQ Rural Extension Centre training Future Profit group workshops Formation of producer groups to promote Best Management Practice (eg. Topcrop) LCM groups	Currently happening - ongoing
U1.5	Develop a readily accessible database of past, current and proposed understanding and participation activities.		B
	Natural Resources		
U1.6	Identify sources of natural resource data on condition and trends and S*tate of the Environment* information for South East Queensland.		Site Specific Issues
U1.7	Review of government policy on access to information to ensure availability and use is maximised.	Regional Managers of Government forums to foster the exchange and sharing of information	A Regional
U1.8	Provide adequate physical and financial resources to improve access and dissemination of information.	DPI Extension Strategy • DNR Facts • DPI Notes Prime Notes CDROM	A Regional
U1.9	Ensure equitable and effective distribution of information about Best Management Practices, Code of Practice, and natural resource legislation.	DPI Call Centre and Information Centres Future Profit Workshops QGAP Offices	A Regional

U1	***Identify stakeholder needs and improve access to relevant natural resource management information***		
Code	**Actions**	**Current Activities**	**Priority/Locality**
U1.10	Continue to develop and maintain a regional inventory of existing community organisations, landholder and environmental groups.	Queensland Conservation Council – currently undertaking inventories	C- Update
U1.11	Develop and maintain a skills and learning opportunities register.		
	Biodiversity		
U1.12	Develop information/action plan that improves awareness among stakeholders of the current status of biodiversity.		B Region
U1.13	Develop a community/government nature conservation network, to facilitate the collection, collation and dissemination of information. *(See B1.1)*	972512	
	Water		
U1.14	Identify and involve key stakeholders with an interest in the use of water bodies. *(See W3.2)*		A
U1.15	Develop/ maintain a skills and learning register and continue to develop/maintain a regional inventory of all existing community organisations and environmental groups. *(See W3.7)*		C
	Land		
U1.16	Improve understanding within industry and community of the type and locality of land uses dependent on natural resources. (eg. Open Space and Extractive Industries.)	992469 992499	A Region
U1.17	Ensure land resource data are available to local government and other stakeholders. *(See L2.1)*	972512	
	Coasts and Seas		
U1.18	Develop a handbook or other resources that detail all the agreements and incentives offered by State and local government to encourage wetland conservation. *(See C2.8)*		
U1.19	Investigate and pursue opportunities for providing interpretative facilities in appropriate locations in public wetlands. *(See C2.9)*		

U1	***Identify stakeholder needs and improve access to relevant natural resource management information***		
Code	**Actions**	**Current Activities**	**Priority/Locality**
U1.20	Improve understanding and awareness of the current status and vulnerability to human interference of coastal issues, eg. coastal wetlands, shorebirds, rocky reefs, seagrass, etc.	972424	A – Region C - Region
U1.21	Develop and implement education strategies for key fauna and flora *(Also see C1.5)*		B Regional
U1.22	Ensure data to be gathered (as identified in coasts) is made available to all users in a relevant format (ie. acid sulfate soils data, wetlands changes, etc.) *(See C2.1, C3.1, C3.2)*	972424	
	Integrated Planning		
U1.23	Remove impediments to the sharing of NRM data between agencies and other groups *(See P1.4)*		B Regional
U1.24	Undertake inventory of resource management projects (by catchment) to establish relationship between related initiatives *(See P1.5)*		A

Coordinating the implementation of U1 Actions

Currently, there is no central mechanism for collating identified needs and requirements. The community has to access several State government Departments and local government. However, for each priority issue area or theme, it may be possible to develop a central point of coordination for stakeholder information needs, collation and dissemination.

Existing major initiatives include:

There are myriad of activities aimed at identifying stakeholder needs and improving access to information. Some of these include:

State

- Weedbuster Week

Regional

- DNR Programs – Waterwatch, Saltwatch /DNR Publications – Fact Sheets
- DPI programs – Grass Check, Soil Check
- DPI – Understanding Soil Ecosystem Relationships (info Package) Prime Notes CD ROM
- Healthy Waterways Program – BRMG

Local

Councils – Publications, Presentations /technical advice - Ipswich City Council – flora and fauna database, fact sheets; Land for Wildlife Extension Officers

- Education Centres
- Brisbane Forest Park – Schools education programs/activities

U2 Facilitate and evaluate education activities/programs and incorporate relevant educative components into all natural resource management projects

Actions required

U2	*Facilitate and evaluate education activities/programs and incorporate relevant educative components into all natural resource management projects*		
Code	**Actions**	**Current Activities**	**Priority/Localities**
U2.1	Develop government and non-government extension activities and practical, on the ground programs, (eg. pest management, farm forestry, fire management) to fulfill the natural resource management needs of SEQ.	DPI/UQ Rural Extension Centre courses Future Profit workshops DPI Extension activities including the Fisheries Extension Strategy 992450	B Site Specific Regional
U2.2	Develop action-based natural resource management programs that can be implemented at a local level while forming part of a coordinated regional approach.	DNR Action Education programs – • Waterwatch • Saltwatch • Pasturewatch	B Site Specific Regional
U2.3	Establish guidelines and monitor performance to ensure that South East Queensland natural resource management stakeholder communication and consultation methods are appropriate and ethical.		A/B
U2.4	Ensure natural resource management information appropriate to the SEQ region is integrated into curricula at all levels of the formal education system in the region. Allow for the flexibility of this information to change as understanding of natural resource management issues changes in response to new information.	DNR NRM education modules and other publications for the formal education sector Education TAFE and school learning modules 972427	B
U2.5	Provide teacher support, resources and learning opportunities for the delivery of NRM topics through the school curriculum	DNR NRM Education NHT: • SEEN • L-SEEN	B Regional
U2.6	Develop, share and enhance techniques to monitor and evaluate education programs both quantitatively and qualitatively.		B Regional
U2.7	Incorporate participatory monitoring and evaluation components in all NRM education activities	NHT Project – Integrated NRM Education	A
U2.8	Develop education and information products that reflect successful on-ground activities highlighting environmental, economic and social benefits.	These codes of practice: • An Environment code of Practice for Agriculture • Sustainable Cane Growing in Qld • Farmcare Guidelines (Qld Fruit & Vegetable Growers)	

U2	***Facilitate and evaluate education activities/programs and incorporate relevant educative components into all natural resource management projects***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
U2.9	Develop an accredited and environmentally sound ecotourism training program		
	Biodiversity		
U2.10	Develop conservation extension programs to increase community understanding and ownership of the region's biodiversity resources. These programs should provide advice, education and training on all nature conservation activities and issues. Such advice should directly assist landholders in preserving biodiversity.	• Land for Wildlife • Bushcare support/facilitation • Case studies (eg. Helidon Hills project) • Rural extension activities • Property management plans • Future Profit workshops/plans 972575	
U2.11	Integrate, at agency level, biodiversity conservation extension services with other extension programs (eg. catchment management, property management, LandCare, Rural extension services, Bushcare)		A – Whole of Region
U2.12	Develop environmental education programs to raise community awareness of biodiversity issues, threatening processes and strategies for improved actions.	Large Cities and Shires 972427 972432 972525 992450 992458	A – Smaller rural councils (not covered by current funding sources)
	Water		
U2.13	Promote the adoption of a 'freshwater protection' ethic.		
U2.14	Expand community education programs on relevant environmental education topics such as riparian vegetation management, best farm management practices, management of stock access to waterways and minimising sources of pollutants in urban stormwater.	972511 982549 982502 992450	
U2.15	Develop and promote 'Waterwise on the Farm' program with peak body support and link with property planning, landcare and catchment planning activities.		
	Land		
U2.16	Promote and facilitate whole farm planning based on sustainability of a property's natural resources. *(See L3.5)*	Future*Profit* program 982499 992427 992469	A

U2	***Facilitate and evaluate education activities/programs and incorporate relevant educative components into all natural resource management projects***		
Code	**Actions**	**Current Activities**	**Priority/Localities**
U2.17	Develop environmental education programs to demonstrate to the community the economic and social benefits of improved and sustainable land management.	Integrated NRM Education NHT project will fund one person in SEQ) 972436 972487 982499 992442 992500	A
	Coasts and Seas		
U2.18	Expand community education programs on relevant environmental education topics to raise community awareness of coastal values.	992495	A - Region
U2.19	Facilitate education and extension programs dealing with coastal management and incorporate into coastal management projects.	972424	
U2.20	Facilitate education and extension programs to raise awareness of ASS risks and promote Best Management Practice for ASS areas.		
	Integrated Planning and Coordination		
U2.21	Promote programs/projects that involve the community in a coordinated approach to catchment management.	972415 992427 992457	C-Region
U2.22	Encourage the establishment of Land Care and Integrated Catchment Management (ICM) groups across the region, and enhance and promote the technical and extension support provided to these groups. *(RFGM 2.5l)*	Employment of landcare coordinators and facilitators to cover the whole region 972590 982571 992456 992457	A Region

Coordinating the implementation of U2 Actions

There is no central regional coordination of this. Each of the key State Government agencies develops and implements its own material. Local government also does this. There is scope for considerably more coordination and integration of educational activities associated with various NRMS projects and between these and the children and adult education programs.

Existing major initiatives include:

Regional

- Access to Learning Opportunities for Landcare Projects –(cooperation between DNR, LCMC, TAFE Qld, Education Qld)
- DNR – Extension Officers, Workshops in Forest Management Education;

Local

- BFP – Schools Education Program
- Redland Shire Bushcare Program
- BCC – Habitat Brisbane
- DPI – UQ Rural Extension Centre training facility
- ICM and local gov – Training and Education Program (DCILGP, LGAQ, DNR, Community)
- Ipswich CC – Demonstration Sites – weed control; Land management Seminars

U3 Facilitate and resource effective partnerships and encourage networking to address identified natural resource management priorities

Actions required

U3	*Facilitate and resource effective partnerships and encourage networking to address identified natural resource management priorities*		
Code	**Actions**	**Current Activities**	**Priority/Locality**
U3.1	Identify in a coordinated and integrated manner existing and developing community, government and industry networks and partnerships for natural resource management, particularly with common/compatible natural resource management issues/concerns and opportunities.	• Water Allocation Management Plans • Integrated Catchment Management • RFGM • Regional Managers of Government forums • Future Profit groups 972488	A Regional
U3.2	Foster partnerships between networks and groups with common or compatible natural resource management issues, concerns and opportunities.	• Future Profit groups • Farmer groups developing and promoting Best Management Practice (eg. Topcrop) • ICM Groups 972488 972511 972512 992417 992442 992457	A Regional
U3.3	Use effective partnerships and networks to address physical and financial resources support and information sharing deficiencies.	992457	A Regional
U3.4	Establish regional and sub-regional environmental advisory bodies in governments to allow greater input by relevant community interests and organisations into environmental planning and protection processes.	SEQROC Environmental Network BCC Bushland Committee WESROC Urban Consultative Committee	A – Whole Region
U3.5	Build recognition and understanding of indigenous issues and contributions in the community.	992461 992474 992495	A - Region
U3.6	Identify needs for cross cultural natural resource programs and facilitate networks and partnerships.	992461	A/B Regional
U3.7	Through effective partnerships and networks: • Access and respect the views of all owners in terms of the value and significance of cultural places; • Access information on traditional, historic and cultural natural resource management practices.	DPI's Aboriginal and Torres Strait Islander Employment Strategy (particularly in the Fisheries management area)	Ongoing Priority
U3.8	Identify and provide the resources required for the above.		B Regional
	Biodiversity		
U3.9	Develop a community/government nature conservation network for the South East Queensland for the protection and restoration of the natural biodiversity of the region. The network needs to develop agreed priorities and provide ongoing strategic guidance and education to all stakeholders. *(See B1.1)*		

U3	*Facilitate and resource effective partnerships and encourage networking to address identified natural resource management priorities*		
Code	**Actions**	**Current Activities**	**Priority/Locality**
U3.10	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.	NatureSearch Local government rate relief Land for Wildlife 982536 992465	A – Local govs which do not have VCA's or similar programs
	Water		
U3.11	Identify local social and cultural values and incorporate these into water resource planning and management.		B Regional
U3.12	Establish appropriate forums between water resource managers, users and educators.		
	Coasts and Seas		
U3.13	Promote community and indigenous involvement in documenting wetland values and in managing these values on public and private land.		B Regional
U3.14	Identify and incorporate indigenous management technologies in management plans and, where subject to indigenous ownership of intellectual property, enable participation in management planning and implementation.	Being investigated in the RWQMS	Regional
U3.15	Facilitate community participation in the planning, decision-making and implementation of management plans for our coasts and seas.	Public Consultation process under RCPMP	B Regional
	Integrated Planning and Coordination		
U3.16	Develop and implement formal coordination mechanisms for information exchange between ICM Committees. *(Also see P2.2)*		

Coordinating the implementation of U3 Actions

The DNR is developing a statewide framework for the further implementation of community-based natural resource management. This includes an assessment of the most appropriate organisational models and structures and the capacity -building needs of the various participatory sectors (State, local government, industry and community).

Existing major initiatives include:

- Access to Learning Opportunities for Landcare Projects – includes Professional Partnerships and NRM Education – result of cooperation between DNR, NHT, LCMC, TAFE
- Education Qld.
- Voluntary Conservation Agreements (local gov)/ Land for Wildlife (ICC/local gov)
- Upper Logan, Albert and Bremer Farm Forestry Development Project – involves Councils, DPI, DNR, GAQ, Moreton Rural Advisory Service, and Logan & Albert Conservation Association
- Fire Management for Biodiversity Consortium (SEQ) – involves councils, QFRA, DPI, DNR, QPWS, EPA, GAQ, Landcare
- DPI – 'Building Rural Leaders' Training
- DPI facilitated 'Best Practice Management' groups of landholders (eg. 'Topcrop' groups and NHT sponsored farmer groups promoting conservation cropping) – exchanging and developing natural resource management skills and methodologies
- QFF – 'Farmers in the Classroom'
- Councils – Advisory Committees

U4 Enhance understanding and improve the natural resource management skills base of stakeholders

Actions required

U4	*Enhance understanding and improve the natural resource management skills base of stakeholders*		
Code	**Actions**	**Current Activities**	**Priority/Locality**
U4.1	Communicate the relevance and value of being involved and identify means to enable effective participation.	992458	B/C Regional
U4.2	Provide opportunities for the community (individuals, groups/organisations) to obtain training and skills for more effective natural resource management. These include: ▪ Group skills – leadership training, negotiation and conflict resolution, management; and ▪ NRM skills – eg. monitoring/evaluation, property management.	972484 972488 982499	A Regional
	Biodiversity		
U4.3	Develop and implement training programs in various aspects of coastal and biodiversity management for industry and community.	NatureSearch accreditation	
U4.4	Develop community/government nature conservation network, to provide ongoing strategic guidance and education to all stakeholders. *(See B1.1)*	Habitat Brisbane program (BCC)	
	Water		
U4.5	Facilitate community participation in the planning, decision-making and implementation of management plans for the region's water resources.		
U4.6	Identify, acknowledge and involve stakeholders with an interest in the use of water bodies.	972484	
	Coasts and Seas		
U4.7	Encourage community awareness and monitoring of wetlands and associated wildlife through programs such as the Integrated Catchment Management Program, Coasts and Clean Seas, Fisheries Action Program, Waterwatch and Waterwise, and promote community involvement in managing local wetlands.	979242 982501 982544	A Regional
U4.8	Facilitate community participation in the planning, decision-making and implementation of management plans for our coast and seas.		B Regional
U4.9	Establish innovation schemes aimed at conserving wetlands in private ownership and in fostering community ownership.		B Regional

U4	*Enhance understanding and improve the natural resource management skills base of stakeholders*		
Code	**Actions**	**Current Activities**	**Priority/Locality**
	Integrated Planning and Coordination		
U4.10	Promote programs/projects that involve the community in a coordinated approach to catchment management.	972488 982520 992456 992457 992500	C - Regional

Coordinating the implementation of U4 Actions

DNR are developing a statewide framework for the further implementation of community-based NRM management. This includes an assessment of the most appropriate organisational models and structures and the capacity building needs of the various participatory sectors (State, local government, industry, and community). Other organisations and bodies are also ensuring that they include components of community participation.

Existing major initiatives include:

Regional

- Brisbane Forest Park (DNR) – Schools Education Program
- DNR – Saltwatch, Waterwatch, Pasturewatch;
- DPI – Future Profit; Building Rural Leaders Training

Local

- Access to Learning Opportunities for Landcare Projects
- Catchments – Adopt a Waterway (Pumicestone)
- Master Tree Grower's Course – part of the Upper Logan, Albert and Bremer Farm Forestry Development Project
- Land for Wildlife (ICC)
- Ipswich City Council – Parkland Care Program, Bushland Care Program

Theme 6: Integrated Planning and Coordinated management

Integrated Planning and Coordinated management – Summary page

Our regional goal for Integrated Planning and Coordinated Management is:

To integrate and coordinated the protection, equitable allocation and sustainable use and management of the natural resources of SEQ.

Desired outcomes associated with this goal are:

- Improved coordination and integration of natural resource management assessment, planning and management
- Catchment Plans developed and implemented for all catchments
- Natural resource management integrated in Local Government corporate plans, local laws and statutory plans
- The performance of natural resource management policies, plans, strategies and actions is monitored and reported

Four key strategies have been identified to achieve these desired outcomes

P1

Develop and implement regulatory and administrative arrangements to improve coordination and integration of natural resource matters

P2

Develop and implement integrated catchment management plans

P3

Integrate natural resource management in local government corporate plans, local laws and strategy plans

P4

Undertake monitoring and reporting of natural resource conditions and trends

Priority Actions required to implement these strategies

- Determine appropriate forums and administrative arrangements to promote effective coordination of natural resource management
- Undertake ***inventory of resource management projects (by catchment)***
- ***Provide*** input to the RFGM Review process and develop actions that ensure the integration of natural resource matters.
- Establish and operationalise stakeholder advisory committee
- Ensure appropriate public consultation

- Facilitate establishment of Catchment Management Committees throughout the region.
- Develop and implement formal coordination mechanisms for information exchange between ICM committees
- Develop and implement mechanism for regular progress reporting to each ICM committee
- Complete ICM Strategies
- Integrate ICM Strategies with IPA Planning Schemes
- Prepare implementation plans for completed ICM strategies
- Formally endorse completed ICM Strategies and associated detailed plans for implementation

- Develop natural resource management commitment through local government "vision" statements and corporate plans.
- Found IPA-based schemes on sustainable development principles (including sustainable use of natural resources)
- Develop and maintain appropriate databases to identify and protect natural resource and management values

See priority of monitoring programs under the core theme areas

1.0 Our goal for integrated planning and coordinated management

To integrate and coordinate the protection, equitable allocation and sustainable use and management of our natural resources

1.1 The rationale behind this goal

Land use planning and development has often been undertaken as an independent sectoral exercise, with little regard for how one sectoral approach impacts upon another. In the case of natural resource management, this has lead to the loss, degradation or alienation of valuable natural resources. To address these issues and to ensure that a sustainable balance between natural resource conservation and management meets the region's ecological, economical and social needs, it is necessary to integrate and coordinate the efforts of the various agencies and interests in the planning and management of the region's natural resources.

1.2 Desired outcomes

- Improved coordination and integration of natural resource assessment, planning and management.
- Catchment plans developed and implemented for all catchments.
- Natural resource management integrated in local government corporate plans, laws and statutory plans.
- The performance of natural resource management policies, plans, strategies and actions is monitored and reported.

1.3 Impediments to natural resource management

Management of coordination and integration in the region to achieve these long-term outcomes will be influenced by and must take account of the impeding processes and issues, and the relevant statutory and policy requirements.

In responding to the various natural resource management issues, state and local governments have often introduced regulatory controls, which often overlap and impact on the regulatory system as a whole.

Natural resource management has also been impeded by the conflicting demands and uses being placed on natural resources. Conflicting demand places even greater pressure on the need to identify a balance between issues such as conservation and development; environmental and human needs, and social justice and economic aspirations etc. However, these conflicting demands need to be resolved by adopting an integrated approach which can investigate, resolve and agree upon comprehensive strategies to balance these competing demands.

1.4 Regional Level Planning

For the South East Queensland region, the 'peak' integrated project and mechanism is the Regional Framework for Growth Management (RFGM) and its associated Regional Outline Plan containing principles and priority actions for the various sectoral elements. This represents the current agreed policy position for managing growth within the region. The RFGM currently includes a number of natural resource conservation and management initiatives which collectively form the basis of an overall natural resource management and conservation strategy, albeit in a fragmented form.

Regional natural resource planning strategies and projects referred to in the RFGM include:

- Regional Landscape Strategy
- Regional Water Quality Strategy
- Regional Coastal Management Plan
- Regional Nature Conservation Strategy
- Regional Forest Agreement
- Protection of good quality agricultural land
- South East Queensland Regional Air Quality Strategy
- Identification and protection of regional significant extractive resources

It is expected that the NRMS will be further developed to provide a more holistic, integrating approach to natural resource management. As a key structural element of the region, embracing many aspects of natural resources, the NRMS provides the opportunity to link and integrate these elements at both regional and local levels.
At a more local level, there are three key mechanisms in the region for delivering integrated natural resource management:

- Local government planning schemes
- Integrated catchment management strategies
- Landscape management plans

2.0 Strategies required to achieve the outcomes

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

P1	To improve the effectiveness and coordination of planning, regulatory and administrative arrangements for natural resource and conservation management
P2	To develop and implement integrated catchment management plans
P3	To integrate natural resource and conservation management planning in local government corporate, local law and land use planning
P4	To monitor and report on natural resource and natural environment condition and trend

P1 Improve the coordination and integration of natural resource assessment, planning and management through regulatory and administrative arrangements

Actions required

P1	Improve the coordination and integration of natural resource assessment, planning and management through regulatory and administrative arrangements		
Code	**Actions**	**Current Activities**	**Priority / localities**
P1.1	Determine appropriate forums and administrative arrangements to promote effective coordination for natural resource management.		A -regional
P1.2	Develop taxation and financial measures to encourage sustainable natural resource management, including the use of alternative land valuations.		B
P1.3	Investigate legislative support for natural resource management groups.		B
P1.4	Remove impediments to the sharing of NRM data between agencies and other groups (eg Universities) across the region. *(See U1.23)*		B
P1.5	Undertake inventory of resource management projects (by catchment) to establish relationships between related initiatives. *(See U1.24)*	992457	A
P1.6	Provide linkages (or mechanisms for linking) between NRM initiatives. eg: • completing and linking catchment management studies • linking water quality and quantity/allocation studies. • MUMPS (Multiple Use Management Plans) • RFA (Regional Forest Agreement).	992428	B
P1.7	Provide input to RFGM review process that results in developing actions that ensure the integration of NRMS matters for example: a) the region as a whole b) each catchment c) Regional Organisations of Councils (ROCs).		A
P1.8	Establish and operationalise a stakeholder advisory committee to assist with the development and implementation of policy and actions (RFGM 5.2).	Regional Landscape Advisory Committee established and ongoing.	A – regional
P1.9	Ensure appropriate public consultation in the coordination, development and implementation of regional strategies and policies.		A - regional

Coordinating the implementation of P1 Actions

There is no specific lead agency (representing community and industry) or advisory group at the regional level with responsibility for natural resource management and there is no central coordinating inter-government/agency planning mechanism. The RFGM, administered by the Department of Communication Information, Local Government and Planning, together with the associated sectoral strategies provide the principal mechanism for ensuring overall integrated planning and coordination of effort and planning in the region.

An important initiative for improved integrated planning and coordination is the *Integrated Planning Act 1997* (IPA). The intent of IPA is to achieve ecological sustainability by:

- coordinating and integrating planning at the local, regional and State levels;
- managing the process by which development occurs; and
- managing the effects of development on the environment

IPA requires a higher order of integration of natural resource planning and management in local government schemes than was previously required. The need to consider valuable features, including natural resources, increases the responsibility of local government with regard to the protection and sustainable management of those features.

Integrated catchment management strategies are non-statutory mechanisms addressing natural resource management at site-specific levels. These strategies are viewed as an appropriate mechanism for integrating and linking natural resource management initiatives. Local management plans for natural resource use and protection also offer an integrating mechanism.

Existing major initiatives include:

State

- *Integrated Planning Act 1997*
- *Coastal Protection and Management Act 1995*
- State Wetlands Policy

Regional

- RFGM (SEQROC)
- Regional Landscape Strategy
- Regional Water Quality Strategy
- Moreton Bay Strategic Plan
- Regional Coastal Management Plan
- Regional Extractive Industry Strategy
- Healthy Waterways Plan
- Regional Nature Conservation Strategy
- Regional Forest Agreement
- Protection of Good Quality Agricultural Land
- Regional Air Quality Strategy
- SEQ Environmental Weeds Strategy
- Identification and protection of regionally significant extractive resources

Local

- IPA Planning Schemes
- Integrated Catchment Management Plans
- Landscape management plans
- Lockyer Creek Catchment Committee Valuations Subcommittee Report

P2 Develop and implement integrated catchment management plans

Actions required

Code	Actions	Current Activities	Priority / localities
P2.1	Facilitate establishment of Catchment Management Committees in all sections of region where they do not currently exist.	992457	A – Gold Coast; Logan Albert; Upper Brisbane/Stanley.
P2.2	Develop/implement a formal coordination mechanism for information exchange between ICM Committees. *(U3.16)*		A - region
P2.3	Develop and implement mechanism for regular progress reporting from each ICM Committee.		A - region
P2.4	Complete Integrated Catchment Management Strategies. *(Also see W(e)1.51*	97249 982518 982558 982857	ICM Committees, local gov, DNR
P2.5	Integrate ICM Plans with IPA Planning Schemes.		A – Where ICM plans exist B – otherwise
P2.6	Prepare implementation plans, budgets and timetables for completed ICM Strategies.		A – *Where ICM plans exist*
P2.7	Formally endorse completed Catchment Management Strategies and associated detailed plans for implementation.		A – *Where ICM plans exist*

Coordinating the implementation of P2 Actions

DNR and LCMC are responsible for overseeing the development and accreditation of ICM Planning throughout the State. The LCMC approves these ICM plans and Regional Strategies. In the region, many local governments strongly support ICM planning and actively 'host' these processes in partnership with State Government and community. However, there is not a defined integrating and coordinating process for the region as a whole. While there is networking between some of the ICM projects, there is little 'drive' and coordinating effort which serves to focus and inform the timing, process, outputs and outcomes of this ICM planning. There is scope for providing more regional coordination and integration, including more definitive roles for ICM Plans, agreed priority outcomes being aimed for, and ensuring ICM planning is completed for each catchment.

State

- Landcare and Catchment Management Council (LCMC)

Regional

- Regional Strategy Group (NRMS)
- SEQROC working parties

Local

- Oxley Ck ICM Plan
- North and South Pine Integrated Catchment Draft Management Strategy
- Various Brisbane City creek catchment plans
- Bremer River Draft ICM Plan
- Draft Lockyer Creek ICM Strategy
- Draft Noosa River Catchment Management Strategy
- Draft Pumicestone Passage Catchment Management Strategy
- Logan – Coomera Water Quality Strategy and ICM Planning
- Draft Maroochy ICM Strategy

P3 Integrate natural resource and conservation management planning in local government corporate, local and statutory land use planning

Actions required

Code	Actions	Current Actions	Priority/ localities
P3.1	Develop natural resource management commitments through local government "vision" statements and corporate plans.		A
P3.2	Develop IPA based planning schemes founded on sustainable development principles (including sustainable use of natural resources).		A
P3.3	Develop and maintain appropriate databases to identify and protect natural resource and conservation management values.	Pumicestone catchment assoc. Database	A -regional
P3.4	Review and update local laws to integrate issues.		B- regional
P3.5	Conduct audits of topic / thematic planning (eg on biodiversity) to check incorporation into local government planning processes.		B-regional
P3.6	Investigate key regional issues and outcomes and define the need for integrated planning and management across local government boundaries.		B- regional

Coordinating the integration of P3 Actions

Each local government in the region is responsible for its own corporate plan, local laws and land use planning in regard to natural resource planning. The RFGM establishes a regional planning framework, and together with strong networks supports local government initiatives. Local governments are each required to assess natural resources elements as part of the preparation of IPA planning schemes. Community and industry stakeholders have the opportunity to contribute to this. The State Government has a significant role in ensuring State interests are met to achieve defined regional natural resource management outcomes. Cooperative natural resource management planning by local government has also emerged through the excellent joint work within Regional Organisations of Councils (ROCs), local open space planning and management and through cooperative ICM ventures.

Existing major initiatives include:

Regional

- Sharing of information through SEQROC and sub-ROCs (especially through relevant working groups)
- Involvement by State agencies in IPA scheme preparation
- Adopting relevant RFGM principles

Local

- Draft IPA Planning Schemes
- Incorporation of State-of-Environment reporting in local government procedures

P4 Monitor and report on natural resource and natural environment condition and trends

Actions Required

Code	Actions	Current Actions	Priority / localities
P4.1	Determine and implement appropriate standards and indicators for the measurement of natural resource condition and trend.		B -regional
P4.2	Implement and coordinate state of environment reporting for natural resources at the regional level.		B - regional
P4.3	Encourage individuals and groups to undertake NRM monitoring.		B -regional
P4.4	Facilitate the integrated collation of monitoring results from individuals and groups.	972484 979242 972511 972448 972484 972459 972427 982501 992416	B -regional
P4.5	Provide linkages to more closely integrate monitoring at local, catchment/subregional, and regional levels.		B –regional
P4.6	Develop mechanisms for sectoral (theme) reporting on indicators.		B –regional
P4.7	Report results of monitoring on a regular basis (theme report card).		B –regional

Coordinating the implementation of P4 Actions

The Environmental Protection Agency (EPA) is responsible for preparing State of Environment (SoE) reports for Queensland. In addition, local government is responsible for preparation of City/ Shire based SoE reporting. SEQROC has recently supported moves toward regional SoE reporting. Natural resource indicators have not been determined for the region. There is little coordination to date of monitoring of natural resource condition and trend. There is no clarity as to the lead agency, which should have overall responsibility for coordinating this.

Existing major initiatives include:

Regional

- Regional performance Monitoring program (RRU, AHURI)
- State SoE Reporting
- Comprehensive Regional Assessment (undertaken for the RFA)
- State land and Trees Study (SLATS)

Local

- Lockyer Natural Resource Assessment Project
- Brisbane City Council's State of Environment Reporting
- Gold Coast City Council's State of Environment Reporting

Part B – Section Two

1.0 Catchments in South East Queensland

There are fourteen catchments in the SEQ region. These are listed in Table Five. Catchments are based on water systems (creeks and rivers), are regarded as natural boundaries for ecological processes and are the most suitable level for planning natural resource management. Catchments are interrelated and interdependent.
Integrated Catchment Management is based upon the concept of a coordinated approach to natural resource management. ICM is the framework to encourage the working together of the broad cross section of the community to achieve sustainable NRM.

Table Five - 14 Catchments of SEQ region

Catchment	Group	Catchment Plan
Noosa River	Noosa River Catchment Assoc.	Yes - Draft
Maroochy Mooloolah Catchments	Maroochy Mooloolah Catchment Coordinating Committee Inc.	Yes - Draft
Pumicestone Region	Pumicestone Region Catchment Coordination Assoc.Inc.	Yes - Draft
Eastern Moreton Bay		SEQ RWQMS
Pine Rivers	North & South Pine Rivers Integrated Catchment Assoc.Inc.	Yes - Draft
Wivenhoe Upper Brisbane River Catchment		
Somerset Stanley River Catchment		
Lockyer Valley	Lockyer Resource Management Group	Yes - Draft
Bremer River		Yes - Draft
Mid Brisbane River		
Brisbane River Estuary		
Redlands		
Logan Albert		Group forming – no draft
Gold Coast		Group forming – no draft

1.1 How do catchment plans and the NRMS interrelate?

Catchment Plans are at the next level down for natural resource planning. Each of the above catchments together form the South East region. Catchment plans are developed through the coordinated effort of representative stakeholders within the catchment (including community, industry). They outline the issues and priorities for action within that defined catchment area.

The NRMS builds upon the knowledge and information already gathered from these plans. Each of the fourteen catchments within the SEQ area The purpose of the NRMS is to provide a regional overview of priority issues in the South East, pulling together information gathered from each of the catchments to set regional priorities for action.

The NRMS will support the plans and planning processes of landcare and catchment groups.

1.2 What this section is all about

This section provides a catchment overview of the thematic priorities, as identified in Parts A and B. For each of the fourteen catchments identified in Table Five, there will a brief, summarised overview of issues, and a short set of priority actions/localities essential for that area.

This information has been drawn from existing catchment plans/strategies, and the input from members of the catchment group. Where catchment plans have not yet been completed, these catchment priorities will need assessment and review by the relevant catchment, landcare and other groups, and local government.

NOTE – each catchment where catchment plans exist, have organised their issues/actions in their own format for ease of reference and use, and specifically for that catchment. The NRMS reflects each catchment's priority actions in their original format. It will vary from catchment to catchment. However, these actions have been referred back to the NRMS regional priority strategies (to link back to regional overview) and possible referenced/linked regional actions (where relevant).

Where catchment plans do not exist, information has been researched through existing documents – the priorities and information listed is a guide only, and further consultation will be implemented in the near future to continue to obtain accurate information.

Noosa River

Catchment Description

The Noosa River system is the southernmost component of the Great Sandy Region (including Fraser Island, Cooloola National Park and Hervey Bay) which contains the oldest and largest number of independent coastal dune systems recorded in the world. The lower Noosa River is a comparatively rare example in the subtropics of a choked coastal lagoon system developed entirely on sand[6].

The following issues/actions have been identified from the Noosa Draft Management Plan 1999[7].

Main issues

- Water quality – Acid sulfate soils, sewage and wastewater discharge, salinity, impacts of forestry operations on water quality;
- Water quantity
- Streambank protection;
- Stream hydrology
- Fisheries Management;
- Land use practices – land clearing, urban development, tourism and recreational use, erosion and sediment control;
- Habitat changes;
- Amenity and Tourism.
- Pest Management

Priority Actions

Catchment Plan Actions (Priorities)		NRMS Related Strategies
Biodiversity and Habitat Values of the Catchment		
Gather information	• distribution/abundance of endangered, rare/vulnerable flora/fauna, • ecosystems (riparian ecosystems)	• B1
Encourage better planning	• management plans, codes of practice and incentive schemes	• B2.2, B2.6, B2.7, B2.13, B3.4, B3.5,
Implement plans	• Pest Management Plans • Acquire critical habitats; • Rehabilitate degraded areas	• B2 (as above)
Best Practice Management		
Identify catchment 'hotspots'	• Soil salinity, acidity, ASS risk areas, land capability	• L1.1, L1.2, L1.3, W1(b)1.15
Information gaps		• B1, L1, C1, U1 (through collection of information)
Property Management	• Workshops	• L3.5, U2.16

[6] Great Sandy Region Draft Management Plan 1993

[7] *'Recommendations for the Cooperative Management of the Noosa River Catchment'* 1st Draft 1999 – Noosa River Catchment Coordinating Committee

Catchment Plan Actions (Priorities)		NRMS Related Strategies
Raising community awareness	• Adoption of ICM principles by landholders of industry codes/management practices • Disseminate BMP information to community, government/industry	• W1.5, W3, U & I theme; P1
Management of Water Resources		
Identify information	• Environmental flows, sustainable water yields; • Investigate future freshwater supply source, water reuse; • Raise awareness – rural urban areas - community/landholders, council	• W1(d) 1.45, 1.46, 1.35,1.50, 1.51 • W(d)1.43, W(a)1.3, 1.4, 1.5 • W3, U4.5, U4.6
Maintaining Water quality		
Identify/collate information	• Water pollution, stormwater	• Water Theme – W1
Develop implement plans, guidelines, strategies based on information	• Stormwater, water reuse, erosion/sediment control, ASS mapping	• W1(a) – (e)
Increased research, understanding & sharing of information		
Promotion of ICM to community	• Understanding/awareness programs; • Actively encourage and promote further research	• W3, U4,
River/Stream Management		
Identify information		• B1, B2.9-B2.11
Investigate causes of bank erosion		• B2.11,W2, L1.1
Educate community in BMP river/streams	• Value of freshwater tidal wetlands • Encourage reduction of pollutants	• L3.1,U1.9,U2.14
Fisheries Management		
Identify information/sources	• Fish/crustacean spp. in rivers • Current/future threats to fisheries • Research for sustainability of stocks	• B1.2, B2.9, C1.2 • B1.10, B2.12, C1.6, C1.8 • B1.4, C1.9
Investigate information gaps	• Initiate voluntary Riverwatch program • Sustainable catch rates, diversity & abundance of stock(fish)	• B4.5, P4.3, U3.15, U4.7 • C1.4, C1.2, C1.6
Promote awareness/knowledge within community – sustainability of Noosa Fishery		
Protection of habitat	• Use of best available technology by commercial sector – limit impacts • Endorse/implement Noosa River Plan • Extension/support units to attend events in catchment • Ongoing fisheries public education program	• W1 (a)–(e), C**(?)** L2.7, L3.1, L3.2, L3.3, C3.6, • P2.1, P2.4, P2.6, P2.7 • U2.10 • C1.5, U2.14, U2.18,

Maroochy Mooloolah Catchments

Catchment Description[8]

The Maroochy and Mooloolah catchments, covering the Caloundra City and Maroochy Shire boundaries, contain a wide variety of landscapes and is regarded as one of the most beautiful areas in Australia. High ecological diversity to the north and spectacular landscapes, particularly the sandy beaches and headlands, attract increasing numbers of tourists each year. The catchment's population currently grows at a rate of 5% per year.

Current activities in the catchment include:

- Tourism
- Fishing;
- Urban/rural residential development;
- Agriculture; and
- Extractive industry.

The following issues/actions have been identified from the Maroochy Mooloolah Draft Catchment plan 1999[9] and have been related to corresponding regional actions/priorities from the NRMS.

Priority Actions

Catchment Plan Priority Strategies		NRMS Related Strategies
Water Quality/Pollution		
Undertake audit of catchment input/output	Conduct nutrient and pesticide audit of catchments	W1(b)1.8, W(b)1.19
Riparian Management		
Define riparian zone in site specific way	Compile list of appropriate vegetation types; Design buffer models; Develop and disseminate material based on riparian buffer model.	B1, W2.3 B2.7, B2.11, W2.1, W2.4, U1.24, U2.1, U2.14,
Identify potential rehabilitation sites,	prioritise allocation of resources	B1.4, L1.1(b)W3.3, (Catchment Plans
Support on-ground works at priority sites	Publicise and encourage good riparian management	L3.1(e), U2.8, U2.21,

[8] Draft Maroochy Mooloolah Catchment Management Strategy August 1999
[9] Draft Maroochy Mooloolah Catchment Management Strategy August 1999

Social Harmony		
Promote support/financial incentives -	For signatories to voluntary agreements to benefit catchment; Signage to raise catchment profile; Provide local catchment examples/issues for use in educational curricula	B2.6, B3.4 – B3.7 U1.20 U2.4, U2.8, U2.12
Population impact		
Promote community awareness/participation	Raise interest, cooperation, communication Promote development/adoption of good practice guidelines; Promote infrastructure/regulatory systems that reflect ecologically sustainable growth management.	U1, U2, U3, U4, P2, P4 L2, L3, W1(b)1.14-W1(b)1.18 W1(d)(e), L2, C3,
Resource Use/Planning		
Implement guidelines	Identification of Good Quality Agricultural Land	L1, L2
Fish Habitat		
	Protect Areas – maximise benefits from wetlands, seagrass beds as fish habitat; Mapping; Management plans Appropriate controls Involving landholders/raising awareness	B2.7, B2.10, W2.1, C1, C2 C2.1 C1.1, C2.5, C2.6 C1.8, C3.5, C3.6 U1, U2, U3, U4
Promotion of sustainable use of estuarine resources	Responsible boat traffic/waste management; Sustainable fishing practices	C3.9, C3.10, C3.11 C1.4
Promote appropriate management regimes for individual estuaries	Research/promote values, use coordinated and precautionary approach to dredging	C3.12
Manage Acid Sulfate Soils to minimise impacts on fish habitats	Broadscale mapping of potential ASS areas; Fish runs Promote awareness Develop planning policies	W1(b)1.15, L1.3, C3.1, C3.2 L3.2(a), U1, U2, L2, L3.2(a),

Pumicestone

Catchment Description[10]

The Pumicestone region is located at the northern end of Moreton Bay, with the Pumicestone passage separating Bribie Island from the mainland. The catchment adjoins the Maroochy Mooloolah catchment to the north, and Pine Rivers catchment to the south. The passage is well-known for its seagrass beds and the population of dugong and other marine life they support. The region is essential habitat for many species of migratory and non-migratory birds. The passage, with its extensive system of tidal flats, mangroves, saltmarsh and claypan, has been listed under the RAMSAR convention as an important site for roosting and feeding for migratory species.

Current land uses in the catchment include:

- pine plantations and native hardwood forestry,
- crops (pineapples, strawberries)
- poultry/aquaculture industries;
- extraction of sand, gravel and hard rock;
- tourist activities (including recreational fishing)

The condition of the Passage water is dependent upon the water quality flowing from the numerous creeks and streams flowing into it.

Priorities

Many of the priority actions (short term) listed below have been derived from the Pumicestone Draft Catchment Strategy[11], and are being currently addressed, or will be in the near future.

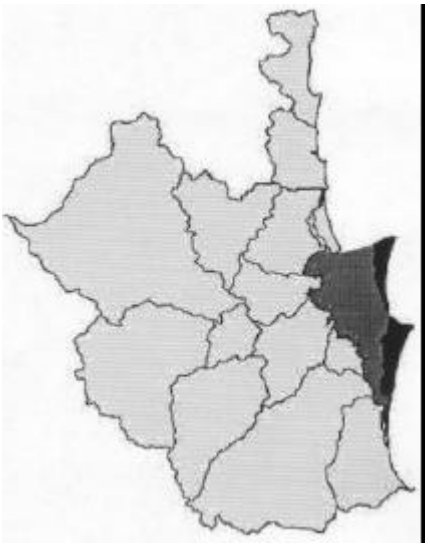
Catchment Plan		NRMS Related Strategies
Historical Aspects of Landuse		
Traditional Owner's Forum	• Guidance, input to natural resource management	U3.2, U3.5, U3.6, U3.7, U3.13, U3.14
Cultural Heritage Survey	• site location, information	U3.7
Education and Awareness		
Building community awareness	• borrowing system for information at catchment centre (library expansion) • signage • press releases • website - maintain	• U1 • U1.20, U1.21
Waterwatch	• Particularly at southern end of catchment	U4.5, W1(b)1.9

[10] Pumicestone Region Catchment Management Strategy, September 1999 Consultation Draft.
[11] Pumicestone Region Catchment Management Strategy, September 1999 Consultation Draft.

Catchment Plan		NRMS Related Strategies
Planning, Development and Infrastructure		
	• Ensure coordination and integration of numerous planning works in SEQ, particularly Pumicestone. • Participate in IPA Planning Scheme review (currently) • Realise more ecotourism opportunities	• P1.5, P1.7, P2.5, P3.6 • P2.5, P3.2, P3.4 • B2.3, L1.1(g), L2.2, U2.9
Resource Management		
Land		
	• Management of ASS • Hydric Soils • Loss of topsoil	• L1.3,L3.2(a), C3.1-C3.6, W(b)1.22 • L2.2, L3.1(a)
Landscape	• Landscape erosion and hazard analysis	• L1.1(h), L3.1(a),(b)
Extractive Industries		W(c)1.28, L1.1(f), L2.3, L2.6, L2.7, L3.3(b)
Water		
Implement plans	• Stormwater plans • Encourage stormwater plans by councils	• W(e)1.54 – 1.62
Better manage consumptive demand	• Ground and surface water	• W(b)1.20, 1.21, W(d)1.35 – 1.53
Vegetation		
Weed Management		• B1.10, B2.13 – B2.16
Preservation of bushland	• Significant areas • Design/develop linking corridors	• B2.2, B2.4, B2.5, B2.6, B2.7, B3 • B3.11
Fauna		
Protection of species	• Dugong and water bird • Protection of habitat, feeding/roost sites • Fish habitat protection	• B16, B2.6, C1.5 • B3 • W2.4, C1.3, C2.4, C2.6,
Research, Environmental Monitoring, State of Environment Reporting		
Coordinate and monitor activities	• Encourage information transfer and networking	• P1.4, P1.6, P2.2, U1.8, U1.18, U1.23, U1.24
Database	• Continue to improve access to the database – upgrading, maintenance	• U1.8

Eastern Moreton Bay

Catchment Description[12]



Including both the north Stradbroke Island and Moreton Island, the Moreton Bay catchment is approximately 19 700 km^2. One of the healthiest catchments in the South East, it is estimated that the foreshore and associated wetlands supports seasonally up to 25% of Australia's bird species. Populations of dugong, whales, dolphins and turtles inhabit the waters.

The following issues have been identified from a number of sources, particularly from the Regional Water Quality Management Strategy. (refer footnote 11). Further consultation will be needed to clarify and broaden issues beyond a primarily water quality focus. Priority actions for the catchment have not yet been identified.

Main issues[13]

- Channel modification
- Mangrove clearing
- Dredging/coral and sand extraction
- Urbanisation – deforestation, potentially increasing turbidity and eutrophication via flood events.
- Commercial/recreational fishing
- Shipping/boating
- Indigenous issues – involvement in management planning/monitoring
- Eutrophication and turbidity
- Marina/canal estate development
- River regulation
- River water quality/pollution

[12] *The Crew Members Guide to the Health of Our Waterways* 1998

[13] Issues resourced from: '*Draft South East Queensland Regional Water Quality Management Strategy'* Oct 1999; and
Arthington,A.,Bunn,S., Mosisch.T. & Dennison,W. '*Ecology Foundation Paper Stage 2 Final Report*' BRMG December 1996:63

Pine Rivers

Catchment Description[14]

The Pine Rivers Catchment includes both north and south Pine Rivers, and covers an area of approximately 725km^2. Located between the Pumicestone and Brisbane River estuary catchments, the waters drain into Bramble Bay.

Land uses in the catchment include:

- Rural and urban development;
- Water storage (Lake Kurwongbah and Lake Samsonvale);
- National parks, reserves (wetland and fish habitat); and
- Extractive industries.

The following table includes a brief summary of actions in the Draft Pine Rivers Strategy 1998. Further work will be required to prioritise actions appropriately to reflect important short-term priorities for the Pine Rivers catchment.

Catchment Plan		NRMS Related Strategies
Water Quality & Efficient Use	• Community education • Adoption of BMP • Database of discharges • Alternative disposal/reuse of effluent water	• W3 • W1(a)1.5, W1(b)1.15, W1(b)1.17, • W1(a)1.1-1.7
Erosion	• Mapping, control plans, BMP • Monitoring programs	• L3.1(a) • P4
Extractive Industries	• Promote BMP • Embody community expectations, adhere to performance criteria	• L2.7, L3.3(b) •
Viable agricultural industry	• Rural land suitability study – GQAL • Property management plans, BMP	• L1.1 (c), (h) • L3.1(a) – (g), L3.2, L3.5
Fire Management	• Management plans • Safe practices	• B2.2(d)
Landuse Planning	• Population carrying capacity • Minimise population impacts • Environmentally sensitive landuse planning • Community involvement	• L2.6, L2.4, P3.2,
Human Settlement – Public Awareness & Education	• Education programs, information	• U1, U2, U3, W3. B2

[14] North & South Pine Rivers Catchment Management Strategy August 1998

	sharing/networking	
Development impacts	• BMP, • stormwater management, use of EIAs	• L2, L3 • W1(a)1.5, W1(e)
Mosquito control	• Management plan, control methods	• B2.13, W1(b)1.18
Native Vegetation – loss, fragmentation/degradation	• Native vegetation survey • BMP land clearing • Coordinated development of plans • Management – fire, weeds, pest, rehabilitation	• B1.2, B1.4, B1.5, B1.7 • B2.2, B2.4, B2.5, B3.13, L2.4, L3 • P1, P2, P3, P4 • B2.2, B2.13 – B2.16, B2.6, B2.7, B2.10, B3.12
Feral Animals	• Comprehensive control program (land, exotic fish), Integrated Pest Management (IPM) • Community responsibility	• B2.12, B2.13, B2.15, B2.16, C1.8 • U2.12
Fishing/Fish Habitat	• Education campaigns, responsible fishing practices • Programs – identify, protect, monitor, manage & restore habitat	• W3.3 • B1, W2, C1, C2, C3
Agricultural & Environmental Weeds	• Weed survey • Education campaigns • Control/management plans, IPM	• B2.13 – B2.16 • U1, U2, U3
Natural & Cultural Heritage – Recreational Activities	• Plan – sustainable management of current/future recreation opportunities	• U3
Cultural Heritage	• Promote/support education programs • Identification of sites, appropriate management	• U3

Wivenhoe Upper Brisbane River Catchment

Catchment Description

This catchment extends across an area of approximately 5 700 km^2, and extends from the Wivenhoe Dam wall to the headwaters east of Kingaroy. It forms the upper freshwater part of the three main catchments that contain the Brisbane River – the upper, mid and lower Brisbane river catchments. The Stanley, Bremer and Lockyer catchments can be included as part of the whole Brisbane catchment. The upper catchment includes the Wivenhoe Dam, located on the Brisbane River approximately 5km upstream from the Lockyer Creek junction. The dam is used for water supply, flood control, hydroelectric power generation and recreation. There are also a number of smaller water storages in the catchment for water supply and irrigation purposes[15].

The catchment contains an extensive number of state forests and national parks. The upper reaches of the Brisbane River contain more intact bushland areas and patches of significant riparian areas[16]. The landscape surrounding Lake Wivenhoe represents an open rural landscape of open forest and cleared grazing lands. Riparian zones and habitats have been extensively modified by clearing, dredging and extraction.

*Please not*e – there is as yet no fully established catchment group in the Upper Brisbane areas, except the recently established Upper Brisbane network group recently established. The following information has been gathered through a series of issues workshops held, and documentation on the upper Brisbane catchment area, including the Brisbane River Upper Emu Creek Strategy[17] – further work will be needed to fully determine issues/actions needed in this catchment.

Main issues

- Deforestation and agricultural land use vegetation[13]
- Removal, degradation of riparian vegetation
- Water Quality
- Water Quantity
- Best Management Practices
- Weeds
- Education and Awareness
- Economics – Farm Viability
- Sand & Gravel Extraction
- Erosion
- Legislation control
- Nature conservation

Other issues

- Urbanisation/fragmentation
- Access to river
- Timber industry
- Control of regrowth

[15] *'Climate and Flow Hydrology of the Brisbane river Catchment Background Paper – Draft'* November 1996 (BRMG):2, 5

[16] *River Landscape, Access and Recreation – Foundation Paper* (Draft)– BRMG (EDAW (Aust) October 1996

[17] *Brisbane River Upper Emu Creek Strategy (Draft)* North East Downs Landcare Group Inc.

Priority Actions

Catchment – Priority Actions		NRMS – Related Strategies
Water Quality	• Nutrients, sewage, stormwater runoff • Extension/coordination • Riparian zone management	• W1(a)1.1-1.7, W1(b), W1(e) • W3, U1.15, U1.16, U2.14, U2.20 • B2.7-B2.12, W2, L1.1(b), L3.1(e)
Water Quantity	• Blue-green algae control • Wastewater reuse • Ground water • Water control/storage • Conservation of water • Entitlements & flows	• W(b)1.19, W(b)1.23 • W(a)1.1.3 – 1.5 • W(b)1.20-1.21 • W1(c) (d) • W(b)1.53, W(d)1.45
Education & Awareness	• Recreation	• U2.8, U2.14
Economics - Farm viability	• environmental controls on farming; • chemical use • farm forestry	• L3 • L3(c) • B2.5, L3.3(a), L3.6
Sand & Gravel Extraction	• high bank/low bank ownership issue to be resolved; • riverbed repair • extractive industries management	• B2.8 • B2.7, B2.10, B2.11, W2, L3.1(e) • L1.1(f), L2.3, L2.7, L3.3(b)
Erosion	• erosion on developments, • streambank/gully erosion, • sedimentation of waterways, • control, habitat management and stream fencing, • managing access to river, • landuse and vegetation management.	• L3.2(b) • B2.7- B2.12, W2, L3.1(e) • W1(a), W(b)1.15, L3.1(a) • L3.1(e), B2.2, B2.3, B2.5, B2.7, B2.11 • B2.1- B2.6, L3
Best Management Practices	• Fire management in grazing areas; • Salinity • Excessive tree clearing	• B2.3(d) • L3.1(d) • B3
Legislation control	• Rural & Urban	•
Weeds	• Weeds/pest management • Weeds/incentives for control • Water quality/weed management	• B2.13 – B2.16, L3.9, C1.9 • W(b)1.19, W2.2

Somerset Stanley River Catchment

Catchment Description[13]

Stanley River catchment is about 1,330 km^2 in size and approximately ¾ grazing land, however, most of the remainder of the catchment comprises forest. The catchment contains Somerset Dam, a major water storage, 7km upstream from its confluence with the Brisbane River. This dam is used for a number of purposes, including water supply, flood control, hydroelectric power generation and recreation.

The immediate surrounds and peninsulas of Lake Somerset are mostly cleared with limited significant natural areas. The Stanley River contains more intact bushland areas, particularly in the upper reaches of the river.

The following issues have been identified from a number of sources[11], particularly from the Regional Water Quality Management Strategy. Further consultation will be needed to clarify and broaden issues beyond a primarily water quality focus. Priority actions for the catchment have not yet been identified.

Main issues

- Deforestation and agricultural land use vegetation;
- Removal, degradation of riparian vegetation;
- Cattle access to streams vegetation;
- River impoundment and flow regulation vegetation; and
- Land and water based recreation vegetation.

Priority Actions

To be completed…

Lockyer Valley

Catchment Description[13]

The Lockyer catchment is located between the Bremer and Upper Brisbane catchments, with an area of approximately 2 890 km^2. The Lockyer Creek begins in the Great Dividing Range and flows in an easterly direction for some 100 km to join the Brisbane River near Lowood. The catchment has been extensively cleared, with grazing as the predominant land use (approximately 85%), with smaller areas of cropping and forestry. The riparian areas are predominately in poor condition due to the clearing of native vegetation and weed invasion, particularly lantana.

A number of water storages and weirs are located on the Lockyer Creek and its tributaries that support irrigated agriculture and the urban communities[18].

Main issues

- Deforestation and Agricultural Land use
- Cattle access to streams
- Removal/degradation of riparian vegetation
- Water abstraction
- River impoundment and flow regulation
- Dredging/sand extraction
- Urbanisation
- Introduced/exotic plants
- Land/water-based recreation.

Priority Actions

The Lockyer CCC places a high priority on education (Understanding and Participation) as it relates to such initiatives as the tours run by the Lockyer Watershed Management Association (NHT funded). The Group believes that it is this aspect of encouraging the community to take responsible action that will raise caring for the land to the next level of effective management – a vital step to achieving the goal of sustainable natural resource management.

Catchment Priority Actions		NRMS Related Strategies
Floodplain management	• Implement Floodplain Management program - development & implementation of: – Generic flood management farm plan – Bed & bank stability plan for lower Lockyer	• L2.5 • W(c)1.26, 1.34 • W2, B2.7-B2.12
Integrated Planning, Management		
	• Update guidelines for incorporating catchment management in local government	• P2.5

[18] State of the Rivers, Lockyer Creek 1997:2

	strategic plans in line with IPA • Conduct model IPA Planning Scheme in Gatton shire • Implement catchment centre strategic plan • Implement LCCC Communication Strategy	• P3.2 • P2.7
Land	• Work with local governments to protect Good Quality Agricultural Land • Develop, implement sustainable management of Helidon Hills Plan (NHT project) • Develop and deliver FutureProfit programs for tomato growers • Promote QFF Farmcare Codes of practice. • Research and promote new rural opportunities **Weeds** • Implement Council Pest Management Plans • Promote IPM, develop biological control agents for major weeds chemical alternatives). • Raise awareness of weeds and weed management. • Develop & implement Code of Practice for operations within the catchment. Include different types of extraction: – Sand, Gravel, Topsoil, Sandstone	• L2.2 • B2.3(a),(c) • L3.5, B3.8 • L3.6, (L3) • L1.1(g), B2.4 • B2.13 • B2.16, L3.9 • L3.9, U2.14 • L2.7, L3.3
Riparian Management		
	• Develop & implement improving the stability and sustainability of the Atkinson Buaraba Creek Catchment (NHT project) • Update principles & guidelines to address upland and wetland management issues. • Implement three pilot creek management plans as a means of developing cost effective watercourse management techniques. • Implement healthy waterways creek restoration program • Continue creek management projects in wider catchment • Promote sustainable management of natural springs and wetlands (link to water management & flow program).	• B2.7, B2.11, W2.1, W2.2 • B2.1, B2.7, C2 • B2.7, B2.10, W2.1 • W3.6 • W2.4, B2.3(c) • B2.7, B2.10, W(d)1.45, 1.46
Biodiversity		
	• Manage Glenrock as an important upper catchment open space • Implement Managing Roadsides project • Input to Railway corridor planning • Establish forums for a coordinated approach to nature conservation • Implement Helidon Hills Devolved Grants	• B3.10 • B1.11, B2.3(e) • B1.11, B2.5 • U3.2, U3.3, U4.10

	for nature conservation and threatened species awareness program • Conduct vegetation mapping - assess the ecological significance of habitats in the Lockyer - include in council strategic plans - update as required • Investigate and promote farm forestry • Conduct natural resource assessment and promote fact sheets.	• B2.2 • B1.2, B1.4, B1.9 • B2.4, L1.1(e), L3.3(a), L3.6 • L3.9, B1, L1, L3.9
Education		
	• Implement program – Landcare Guided Tours to extend landcare principles and practices to promote products and services of the Valley – create/maintain urban rural linkages. • Investigate and operate tourism programs including ecotourism in the Lockyer • Maintain the Lockyer catchment centre • Develop and promote small Block manual: Land, water, wildlife & vegetation management in the Lockyer and surrounds • Develop & implement future awareness and education program including information on fire sensitive vegetation.	• L3.9, U1.17, U2.14, U2.17, U2.21, U4.2, U4.10 • B2.4, L2.2, U2.9 • U2.22 • B2.2, U2.8, U2.12, U2.17, U2.21 • As above - B2.3(d)
Cultural Heritage		
	• Implement recommendations for cultural heritage in the Helidon Hills Plan as a model for the rest of the catchment	• U3.5, U3.6, U3.7
Water		
	• Investigate water issues involved with proclamation • Develop and operate community Waterwatch water quality network • Investigate potential for water from alternative water sources for agricultural use including renewed water & Wivenhoe dam • Support & promote findings of Aquifer mapping projects • Work with QFVG to implement rural water use efficiency initiative • Provide input to SEQRWQMS & BRMP	• W(b)1.8, W3.1, U2.15, U4.7 • W(a)1.3-W(a)1.5, W(d)1.43 • W(d)1.36, 1.47, 1.48

Bremer Catchment

Catchment Description

The Bremer River and its tributaries cover an area of approximately 2 032km^2. The Bremer River flows in a northerly direction until near Rosewood where it turns east and meanders through Ipswich to join the Brisbane River system. The majority of valleys within the catchment are wide and U-shaped and characteristically have extensive alluvial terraces.

Currently, land use within the Bremer River catchment is centred around agriculture and cattle grazing. Agriculture is an important industry within the catchment, where vegetables, grains and cereals are grown on the fertile floodplains and terraces. Grazing occurs on both cleared and partially thinned native pastures and on improved pastures. Other land uses include: mining of coal; sand and gravels; rural residential uses; (particularly at Ipswich and surrounding areas) urban; state forest; and recreation and nature reserves. Rural residential development has been expanding throughout the catchment over the past two decades. Riparian vegetation is intermittent along water courses.

Main issues

For more detailed information regarding management actions for the Bremer Catchment, please refer to the Bremer Catchment Management Plan.

State of the catchment

The Bremer River catchment State of the Rivers[19] survey made the following findings:

- Widespread degradation of the riparian zone, resulting from clearing of native vegetation;
- Aquatic habitats in generally moderate to good condition;
- Relatively stable riverbanks and beds;
- Some areas with significant values as either remnant riparian or aquatic habitat, or providing benefit as a wildlife corridor;
- Grazing and clearing activities identified as the most common detrimental influences impacting upon stream and riparian attributes.

Priority Actions

Catchment Strategies		NRMS Related Strategies
Management of Urban Growth	• Adopting water sensitive urban design principles for future development, modify town plans, develop BMPs on approaches to urban design.	• W(e)1.55, L3.2(b), B3.1
Flood Management	• Adopting water sensitive urban design, consistent flood regulations, modify town plans to enforce conditions for future development	• W(e)1.55, W(c)
Erosion/Sedimentation	• Expand community education programs – eg. BMP for farms,	• W3.3, U1.9, U1.7, U2.4

[19] Telfer & Carter, State of the Bremer River 1996

	minimising sources of pollutants in urban stormwater, environmental education topics. • Develop stormwater management plans for specific waterways. • Introduction of local law/council planning policy – sediment and erosion control plans for construction sites.	• W(e) • W(e)1.55, L3.2(b)
Riparian Vegetation management	• Nominate riparian vegetation for protection (under Local Law no 49) • Ongoing commitment to weed management/control programs. • Develop a Riparian Vegetation Management Plan – conserve, rehabilitate and enhance riparian corridors.	• B3.14 • B2.13, B2.15, B2.16, L2.9 • B2.7, B2.10, W2
Remnant bushland management	• Nominate remnant bushland areas for protection (local law no 49) • Ongoing commitment to weed management/control programs. • Develop bushland management plan.	• B1.4, B2.1 • B2.13-B2.16, L2.9 • B2.3
Water Quality degradation	• Encouragement of WSUD principles in future urban development; • Encourage industry/extractive industry to develop CPs, Environmental management plans, BMPs. • Investigate opportunities to reduce sewage treatment plant discharges; • Continue involvement with BR & MBMS & BRMG.	• L3.3(b) • W1(a) • W3.2
Environmental performance of extractive industry	• Encourage industries to develop CP's, Environmental management plans, BMPs to minimise environmental impacts of operations.	• W(b)1.15, L3.3(b)
Environmental Ignorance	• Continuation and expansion of community education programs, eg. – Best Farm Management Practices; – Riparian vegetation management – Remnant bushland management – Weeds/pest impacts – Stock access management to watercourses – Minimising pollutants in urban stormwater Other environmental education programs.	• U2.12, U2.14

Mid Brisbane River

Catchment Description[13]

This catchment is located almost in the centre of the NRMS SEQ region, and is surrounded on all sides by other catchments, including Bremer, Lockyer, upper Brisbane, Stanley, Pumicestone and Pine Rivers. Forests make up about 60% of the upper and middle Brisbane River catchment, grazing 20% and horticulture 10 %. The remainder of the catchment comprises urban areas. Extends from Colleges Crossing to Lake Wivenhoe spillway. The mid Brisbane catchment is close to Brisbane Forest park, and contains significant visual and conservation value. Much of the catchment is made of relatively natural areas and riparian vegetation is continuous for much of the river. The exceptions are areas altered by mining and extraction.

Main issues[13]

High impact issues -

- Deforestation and Agricultural Land use
- Removal / degradation of riparian vegetation
- Water Abstraction
- Inter-basin Transfers of water
- River impoundment and flow regulation
- Dredging/sand extraction
- Urbanisation
- Introduced/exotic fishes

Priority Actions

To be completed

Brisbane River Estuary

Catchment Description

Approximately 990km2 in size, this catchment is located between Pine Rivers and Redlands catchments. Most of the urban development within the area has occurred in the Lower Brisbane River catchment. Between 1975 and 1988, encroachment by urban development resulted in a decline of one-third in land traditionally used for agricultural purposes[13]. Vast array of landuses and dense settlement patterns. The catchment has an urban character, and extends westwards towards Ipswich from Moreton Bay[14].A number of areas that display natural characteristics, including Long Pocket, mangrove/mudflat areas in lower reaches. The area includes Enoggera Creek, Norman Creek, Bulimba Creek, Oxley Creek, which are developing or have developed their own 'sub-catchment' management plans.
Most vegetation within the lower Brisbane catchment has been cleared or modified – the creeks/river are high in siltation levels, and there is extensive weed growth –the water quality is regarded as relatively low.

Main issues (high impact)[13]

- Removal/degradation of riparian vegetation
- River impoundment and flow regulation
- Dredging/sand extraction
- Land reclamation
- Urbanisation
- Industrial development
- Commercial/recreational fishing
- Introduced/exotic plants

Priority Actions

To be completed

Redlands

Catchment Description

A small catchment which contains a number of creeks (Tingalpa Creek, Hilliards Creek, Eprapah Creek) and Leslie Harrison Dam, and is located between Lower Brisbane and Logan Albert catchments.

Main issues

As the Redland Catchment currently has no catchment plan/group, the following issues have been identified from the Regional Water Quality Management Strategy. Further consultation with the community will be required to broaden the scope of issues that are of concern to the Redland community, and determine a range of priority actions for necessary action for the catchment.

Logan Albert

Catchment Description[20]

The Logan Albert catchments are located between the Bremer and the Gold Coast catchments, extending from the coast towards the NSW border. Combined, the two rivers cover an area of approximately 3,740km^2 with headwaters beginning in the Scenic Rim/Border Ranges. The Logan Albert catchment includes important areas of remnant bushland, with particular value placed on the vineforest remnants.

Main issues

As there is currently no catchment plan/group in the Logan Albert, the following issues have been identified through a workshop held by the Logan Albert community, with a focus towards water quality issues. The following summary issues/actions have been identified as being priorities for NHT funding for the region.

- Water Quality suitable for recreation, habitat loss, sedimentation, monitoring/assessment, riparian management (generally handled by RWQMS);
- Cultural Heritage/traditional environmental management of impacts (EPA)
- Planning, urbanisation (DCL Integrated Planning Project)

The following issues are not currently being addressed, and were therefore considered to be priorities for community efforts and funding (including NHT):

- Integration;
- Education and awareness;
- Pests; and
- Funding.

[20] Low Choy 1998 *'Towards Joint Coordinated Management for the Logan & Albert Rivers – A Background Paper'*:4

Gold Coast

Catchment Description

The Gold Coast Catchment unit is bounded to the north and west by the Logan Albert River catchment and by the New South Wales border in the south and lies almost completely within the Gold Coast City Council boundaries. It contains five main drainage systems (Pimpama, Coomera, Nerang Rivers, Tallebudgera and Currumbin Creeks) which flow generally eastwards from the rugged, mountainous hinterland to the floodplains and coastal strip. Also within the catchment unit are many streams, lakes and canals, several of which have undergone significant modification from their natural state.

The Gold Coast still has significant environmental assets based on its remaining bushland, its wetlands, waterways and beaches, and its near-shore marine environment. Remnant bushland covers some 52% of the city's total area (concentrated on the hinterland to the west) and supports a high level of species diversity[21]. The long-term health of these ecosystems depends on maintaining the existing level of biodiversity.

Main issues

This section is currently incomplete due to lack of a central catchment group. There is a new group forming in this area, and further consultation with the community will provide the information regarding priority issues and actions.

The following are preliminary issues identified from a number of sources (reference number below):

- Water Quality/supply
- Maintenance of aquatic systems/wetland conservation;
- Rehabilitation of degraded lands (including weeds/erosion/riparian management)
- Sewage disposal
- Waterfront industry/aquaculture development
- Enforcement vs regulation
- Urban development/runoff;
- Recreational use of rivers/access/tourism impacts
- Protection of areas of cultural and historical significance.

[21] Environmental Studies, Gold Coast City Council 1997 p1-1, 1-3)

Glossary

Ballast	Weight or heavy material carried by ships for ensuring stability, to avoid capsizing, and to ensure effective movement in the water.
Biodiversity (Biological diversity)	The natural diversity of native wildlife (plant and animal), together with the environmental conditions necessary for their survival. It has four components: regional diversity; ecosystem diversity; species diversity; and genetic diversity (*Nature Conservation Act 1992*)
Bioregion	
Corridors	A strip of bushland that provides a link between two habitats.
Cultural Heritage	
Desired outcomes	These state the specific matters to be achieved in order to realise the goal
Ecological Sustainability	A balance that integrates – a) protection of ecological processes and natural systems at local, regional, State and wider levels; and b) economic development; and c) maintenance of the cultural, economic, physical and social wellbeing of people and communities [22].
Ecologically Sustainable Development (ESD)	Using, conserving and enhancing the community's resources so that ecological processes on which life depends are maintained, and the total quality of life, now and in the future, can be increased.
Ecosystem	A dynamic complex of plant, animal, fungal, and micro-organism communities and the associated non-living environment interacting as an ecological unit (National Strategy for the Conservation of Australia's Biological Diversity 1996).
Goal	These describe the long term, generally desired state for that theme
Guidelines for developing regional strategies	A Department of Natural Resources document designed to assist Regional Strategy Groups develop strategies that will improve natural resource management, biodiversity conservation and sustainable production at a regional level. The guidelines explain the steps necessary for a strategy to be endorsed by the Natural Heritage Committee of Ministers (NHCM), through the LCMC and to meet the Commonwealth Natural Heritage Trust requirements for funding.
Hydrology	Science dealing with the properties and geographical distribution of water on the land or under the earth's surface (State of the Environment Report 1998).
Integrated Planning Act 1997 (IPA)	An Act for a framework to integrate planning and development assessment so that development and its effects are managed in a way that is ecologically sustainable, and for related purposes[23].

[22] From IPA 1997
[23] From IPA 1997

Landcare and Catchment Management Council (LCMC)	Established in 1997, the LCMC provides strategic advice to the Minister for Natural Resources on landcare and catchment management in Queensland, and provides a link between community organisations and government. It is also responsible for providing advice and strategic direction for the operation, management, administration, monitoring and evaluation of the NHT in Queensland.
LWRRDC	The *Land and Water Resources Research and Development Corporation*. Based in Canberra, the LWRRDC's mission is to establish and manage well-targeted and integrated research and development programs in key areas of natural resource management. It provides funding for innovative projects under three broad areas - productive and sustainable land use systems, sustaining vegetation in the landscape, and sustainable management of rivers and water resources.
Natural Heritage Trust (NHT)	A partnership between the Commonwealth, State and Territory governments to conserve, repair and replenish Australia's environment and natural resources. Created in 1996, the Trust will invest $1.25 billion in Australia's natural heritage over its first five years. Applicants are required to fill out a detailed application stating the objectives, workplan, outputs, monitoring and evaluation techniques, budget and maintenance of their projects. In particular, applicants must describe the strategic value of their project. That is, how their projected activities fulfil actions or recommendations in planning documents at regional, catchment and local levels. In this regard, the NRMS provides a framework and context within which NHT applicants can develop projects based on prioritised nature conservation issues in the Moreton Region. DNR, EPA and GAQ extension staff support the development of such projects.
Natural resource management	The management of natural resources such as biodiversity, land, and water.
Pathogens	Organisms that cause disease.
Province	
Ramsar Convention	The Convention on Wetlands of International Importance, especially as Waterfowl Habitat itself and the Recommendations and Resolutions from all Conferences of Contracting Parties. The Convention requires that all Contracting Parties shall ensure that those responsible at all levels for wetlands management shall be informed of, and take into consideration, recommendations of such Conferences concerning the conservation, management and wise use of wetlands and their flora and fauna.
Regional Coordinating Committee (RCC)	The body with the primary responsibility for the implementation, monitoring and review of the RFGM[24].
Regional Ecosystem	
Regional Framework for Growth Management (RFGM)	The RFGM has been endorsed by State Cabinet as the primary regional planning strategy for South East Queensland. It includes a number of sector strategies for planning and managing both the demands placed upon the region arising from high population growth, and the need to conserve and manage our natural environment and resources.

[24] The SEQ RFGM 1998

Regional Landscape Strategy	A strategy for the Regional Framework for Growth Management 1998 concerned with the protection of regionally significant open space. A community based Advisory Committee has been established to oversee the implementation of the Regional Landscape Strategy.
Regional Strategy Group (RSG)	A group representing resource management industries, local and state governments, conservation, indigenous and other key community groups whose role is to establish linkages with, and gain input from, key community stakeholders in the development of natural resource management strategies.
Restoration/rehabilitation	Returning existing habitats to a known past state or to an approximation of the natural condition by repairing degradation, by removing introduced species, or by reinstating species and habitat (Australian Natural Heritage Charter 1996).
Riparian vegetation	Vegetation that is found along river or stream banks. Riparian zones are important sources of organic matter and shading, act as temperature regulators, and filter runoff water before it enters a stream (Waterways Management Plan 1998).
Strategy	An approach that gives direction to the achievement of desired outcomes.
Water Allocation Management Plans (WAMPs)	Through the Department of Natural Resources, the Water Allocation and Management Planning process will provide a framework for improved allocation and planning of Queensland's water resources. WAMPs adopt an integrated approach, which is based on the best available ecological, social and economic data, and involves extensive basin-wide hydrologic analysis and community consultation.

Acronyms

ANZECC	Australia and New Zealand Environmental Coordinating Committee
WIP	Water Infrastructure Plan
IPA	Integrated Planning Act (1997)
LCMC	Landcare and Catchment Management Council
LWRRDC	Land and Water Resources Research and Development Corporation
NHT	Natural Heritage Trust
NORSROC	Northern Regional Organisation of Councils
NRMS	Natural Resource Management Strategy SEQ
QASSMAC	Queensland Acid Sulfate Soils Management Association (or advisory?) Committee
QFMA	Queensland Management Fisheries Authority
RCC	Regional Coordinating Committee
RFGM	Regional Framework for Growth Management
RSG	Regional Strategy Group
RWQMS	Regional Water Quality Management Strategy
SEQROC	South East Queensland Regional Organisation of Councils
SEQWB	The South East Queensland Water Board
SLATS	The Statewide Landcover and Trees Study
SouthROC	Southern Regional Organisation of Councils
SoE	State of Environment
SQIDS	Stormwater Quality Improvement Devices
QPWS	Queensland Parks and Wildlife Service
FAIRA	Foundation of Aboriginal and Islander Research Association

Appendix One – Processes of natural resource management

Each of these steps may be initiated at different stages.

PROCESSES OF NATURAL RESOURCE MANAGEMENT	
Resource Audit: • determine location and extent of resources • determine strategic significance of resources • quantify status and condition of resources • ensure availability and comprehension of resource audit information to stakeholders	**WHAT, WHERE, HOW MANY** **HOW IMPORTANT** **CURRENT STATUS** **AVAILABILITY OF DATA**
Impact Assessment: • identify threatening and supporting processes, activities and inter-relationships • determine economic/ecological/social significance of these processes, activities and inter-relationships • quantify occurrence and severity of impacting processes, activities and inter-relationships • ensure availability and comprehension of impact assessment information to stakeholders	**CRITICAL FACTORS** **IMPORTANCE** **EFFECTS** **INFORMATION AVAILABILITY**
Resource Planning: • develop and implement plans for the protection and conservation of resources • develop and implement plans for the equitable allocation of resources • coordinate resource planning within a strategic regional framework • develop and implement incentive and legislative mechanisms to support these plans	**PLAN TO RETAIN** **PLAN TO USE** **COORDINATE PLANNING** **SUPPORT IMPLEMENTATION**
Resource Management: • minimisation and reversal of resource degradational processes • develop and implement best management practice for the protection and maintenance of resources • develop and implement best management practice for the sustainable use of resources • develop and implement best management practice for the rehabilitation and restoration of resources • coordinate best management practice on a strategic basis	**REDRESS DEGRADATION** **MANAGE TO RETAIN** **SUSTAINABLY USE** **MANAGE TO RESTORE** **COORDINATE MANAGEMENT**
Resource Monitoring: • monitor the condition and status of regionally significant resources • monitor the effectiveness of resource planning and management processes that have been implemented • feedback information from monitoring activities to resource planners and managers	**MONITOR STATUS** **MONITOR EFFECTIVENESS** **PROVIDE FEEDBACK**

Appendix Two - Theme Statutory/non statutory plans/programs

Biodiversity

There are a number of statutory and non-statutory documents of direct relevance to the management of biological diversity in South East Queensland. These are:

- Convention on Biological Diversity
- National Strategy for the Conservation of Australia's Biological Diversity
- Nature Conservation Act 1992 and Regulations
- Integrated Planning Act 1997
- International Conventions (JAMBA / CAMBA / Ramsar)
- National Strategy for Ecologically Sustainable Development
- Intergovernmental Agreement on the Environment 1992
- Fisheries Act 1994
- Land Protection Act
- Regional Framework for Growth Management 1998

Water

Water management in South East Queensland has many existing components and stakeholders. Current programs and actions being undertaken by government, industry and the community include:

- Water Resources Act 1989

Water quality management

- Water quality impacts are regulated under the Environmental Protection (Water) Policy 1997 and other legislation, such as the Transport Operations (Marine Pollution) Act 1995.
- Under the Environmental Protection Regulation 1998, environmentally relevant activity 38-39, dealing with land development and construction, are proposed to be introduced in January 2000?.
- Water-sensitive urban design principles are being developed for urban stormwater management.
- Local governments have prepared various master drainage plans throughout the Region.

Water quality monitoring

- DNR continues to undertake ambient chemical and biological water quality monitoring at selected monitoring points in the Region.
- SEQWB continues to test for physical, chemical, and biological water quality parameters.
- Numerous 'State of the River' reports have been completed.
- Waterwatch has been implemented by a number of community groups.
- EPA and local governments do regular monitoring

Catchment management planning

- The Queensland Government has initiated the Integrated Catchment Management (ICM) program.
- Numerous catchment management plans and strategies have been completed.

Riparian management

- River Improvement Trusts are working to repair damage to riparian areas.
- Local government is undertaking vegetation mapping and management planning activities.
- The LWRRDC is researching and publishing information and guidelines on riparian management, including livestock access management.

Safe drinking water supply

- DNR and SEQWB are implementing water quality monitoring programs for impoundments.
- DNR has implemented water quality management plans for dams and offtake points.

Water allocation

- DNR is conducting a continuing review of water allocation.
- Extraction pricing policies and agreements have been established.
- Beneficial use reviews for water extraction are being implemented.
- Water Advisory Committees have been established to deal with water extraction issues.
- The regional Water Infrastructure Planning and Development Implementation Plan has been endorsed.
- DNR and local government is implementing WaterWise programs in urban and rural areas.
- Industry bodies are developing water management guidelines for agriculture, industry and urban areas.

Monitoring

- DNR, SEQWB and BCC are operating a network of assessment and management gauging stations to monitor water flows and extraction.
- Irrigation use is monitored in State-owned schemes.

Floodplain management

- Local government is revising floodplain regulation.

Managing flood risk

- SEQWB and DNR are conducting a review of impoundment operating rules.
- SEQWB and local government is maintaining a flood warning system.
- Local government has prepared flood management plans.
- Flood management is also being dealt with through catchment management planning.

Land

Land management in South East Queensland has many existing components and stakeholders. Current programs and actions being undertaken by government, industry and the community include:

Land Assessment

- The State government continues to undertake assessment and mapping of soils and land use for priority localities and issues, as well as research into land degradation and management practices.
- Assessments of the detailed distribution of acid sulfate soils in specific localities are being conducted through combined State and Local Government, and community projects.
- Some community groups are conducting an audit of natural resources in their local area.

Land Planning

- Local governments are developing and reviewing planning schemes and other planning documents such as local area plans and regional plans.
- Community groups, in association with State and local governments, are developing Catchment Management Strategies and Plans to facilitate integrated management of priority resource issues.
- State and local government, together with key stakeholders, are implementing regional planning initiatives in the region, and developing statutory mechanisms and guidelines.

Land Management

- Industry groups continue to prepare environmental codes of practice incorporating Best Management Practice.
- Community groups are involved in a range of local programs aimed at improving land management and rehabilitation.
- State Government coordinates and supports the implementation of Landcare and Integrated Catchment Management programs in Queensland.

There are a number of statutory and non-statutory documents relevant to the management of land resources in South East Queensland. These include:

- *Rural Land Protection Act 1985* and Regulations. Directs the management and control of declared and priority pest plant and animal species. *(Presently being revised including proposed development of Pest Management Plans by Local Governments.)*
- *Integrated Planning Act 1997* and Regulations. Allows for increased recognition of natural resources and their planning and management, and requires the development / revision of local government planning schemes.
- Regional Framework for Growth Management. Provides strategic direction for land use in the region.
- *Soil Conservation Act 1986*
- Approved Industry Codes of Practice:
  - Environmental Code of Practice for Agriculture. Developed by the QFF and associated groups
  - Farmcare – Code of Practice for Sustainable Fruit and Vegetable Production in Queensland
  - Sustainable Cane Growing in Queensland.
  - Environmental Codes of Practice in preparation:
  - Construction (Urban), Housing Construction
  - Dairy Farming - already available (1996). Focuses on effluent management and soil erosion
  - National Beef Cattle Feedlot industry. Targets drainage, effluent, weeds and chemicals
  - Piggeries
  - Nursery Industry
  - Mineral Exploration and Small Scale Mining
  - Used Lubricating Oil
  - Other relevant Codes of Practice:

- Native Forest Timber Production. Focuses on protection of soil, water and biodiversity, and management of waste, toxic substances, pests, fire and cultural heritage and landscape features.

- Plantations for Wood Production. Focuses on protection of vegetation, soil and water values.

Coasts and Seas

The South East Queensland Coastal Management Plan has a key role in providing a coordinating framework for the above plans and programs and in integrating planning and management across the land/sea interface (refer to diagram). Links with key regional projects such as the Healthy Waterways and SEQ2001 have been initiated. These links minimise duplication of effort, assist in efficient resource and information sharing and assist in achieving integrated outcomes where this is relevant and possible. Current programs and actions being undertaken by government, industry and the community include:

Coastal Management Legislation

- Planning and management for the coastal zone is regulated under the Coastal Protection and Management Act 1995 through a State coastal management plan and regional coastal management plans.
- Planning schemes for local government areas are developed under the Integrated Planning Act 1997.
- Marine Parks Act 1982 provides for the declaration of marine parks of which Moreton Bay Marine Park is one. Uses and activities within the Moreton Bay Marine Park are managed through the Moreton Bay Zoning Plan 1997.
- Fisheries Act 1994 and Regulation 1995 provide for the protection of marine plants, declaration of fish habitat areas 15 in south-east Queensland, has a statutory role in approving waterway barriers and the restoration of destroyed or damaged wetland habitats.
- Nature Conservation Act 1992 provides management principles for protected areas within the coastal zone including national and conservation parks and the fauna which inhabit them.

Marine and Coastal Species

- Conservation plans and management guidelines for rare and threatened species.
- Shorebird Plan of Management and Education Strategy.
- Marine and Coastal Species Database developed by the Environmental Protection Agency.
- Numerous fisheries management plans being developed by QFMA/DPI.
- Seagrass mapping by Regional Water Quality Strategy.
- Development of coastal GIS by the EPA including natural resource information on Wetlands, Rocky Reefs and Waders.

Significant Habitat

- Many national/conservation park management plans have been developed under the Nature Conservation Act for coastal areas in South East Queensland.
- Declaration of Fisheries Habitat Areas under the Fisheries Act.
- Development of Fisheries Habitat Management Plans by DPI.
- State Government Policies
- DNR is undertaking research and management planning for acid sulfate soils.
- Most local governments have large-scale vegetation and natural resource inventories.
- Some local governments have specific wetland mapping inventories (e.g. Brisbane).
- Some local governments have vegetation protection local laws that can cover significant habitat.

Coastal Management

- Some local governments are developing coastal management plans and strategies (Caboolture, Redlands, Maroochy).
- Numerous conservation and community groups are involved in coastal management projects
- Numerous coastcare projects.

Planning and Management

- South East Queensland Regional Framework for Growth Management
- Healthy Waterways Project

Port of Brisbane Corporation Management Plan

- Southern Moreton Bay Islands Planning Study
- Brisbane Gateway Ports Strategy
- Minjerribah (Stradbroke Island) Planning and Management Study

Understanding and Participation

Understanding and Participation in South East Queensland has many existing components and stakeholders. There are many projects and organisations, which include a component of education and awareness, and it is impossible to list all in SEQ. Broad representations of major current programs and actions being undertaken by government, industry and the community which feature environmental education/participation include the following.

Department of Natural Resources

- Saltwatch, Waterwatch, Pasturewatch, Landcare – DNR (local governments, DPI, EPA, Education Qld, Qld Landcare and Catchment Management Council and NHT
- SWEEP – Strategic Weed Education and Eradication Program –DNR
- Access to Learning Opportunities for Landcare Projects – (includes Professional Partnerships and NRM Education) – result of cooperation between DNR, NHT, LCMC, TAFE Qld and Education Qld)
- NRM Education Forum
- Education on Resource Net
- DNR Online Activities – (eg. Role of Trees)
- Publications (eg. Waterwise, DNR Fact Sheets, Landcare Case Studies, Natural Resource Monitoring Guide, Catchment Care Education Kit), Videos – group and catchment approaches to Landcare

School projects

(in conjunction with variety of bodies, including Councils, DNR, Greening Australia, depending on situation and location)

- Total Basin Management (Dakabin State High school)
- Karawatha Forest – Scrubby Creek Catchment Studies
- Greenslopes State School Nature Trail
- A Master Plan for Talara Primary College for a Sustainable 21st Century (Caloundra)
- Wildflower Patch (Currumundi)
- Ferny Grove Waterwatch Project

School publications –

- Learning through Landcare: Landscaping your Schoolground Kit; Weedbuster Activity Kit
- Workshops in Forest Management Education

Brisbane Forest Park

- Field Studies at Brisbane Forest Park (to be completed)
- Publications and brochures- newsletters
- Junior Ranger program
- Walkabout Creek Wildlife Centre talks/interpretation information
- GO BUSH program;
- Workshops for Educators – NRM education
- Interpretative walks/activities
- Schools Education Program - School programs/activities – excursions
- Presentations/puppet shows
- Spotlight walks
- The Bush Telegraph newspaper (quarterly)

Calendar Events

- World Environment Day (5 June) (EPA)
- National Water Week (October 17 – 23)
- National Weedbuster Week (October 10 – 17)
- Waterwatch Waterbug Survey (October)

Environmental Protection Agency

- Land for Wildlife
- Bushcare
- NatureSearch
- Community Nature Conservation
- Nature Refuges

Department of Primary Industries

- Future Profit' (Property Management Planning) – incorporating natural resource management as an integral component of sustainable rural production
- 'Building Rural Leaders' training – developing community leaders with the people and management skills to lead community –based natural resource management programs
- DPI facilitated 'Best Practice Management' groups of landholders (eg. 'Topcrop' groups and NHT sponsored farmer groups promoting conservation cropping) – exchanging and developing natural resource management skills
- Integrated Planning Act (IPA) training and awareness by DCILGP and other Government Departments
- University of Queensland Rural Extension Centre training facility

and methodologies

Grass Check, Soil Check Monitoring Programs

- Coastcare
- Understanding Soil Ecosystem Relationships (info package), Prime Notes (CD ROM database)

- ***Brisbane River Management Group***
- Healthy Waterways Program – BRMG

Queensland Farmers' Federation

- Industry Codes of Practice – QFF, Qld Fruit and Vegetable Growers, CANEGROWERS
- 'Farmers in the Classroom' – farmer presentations to primary school classes
- 'Discovering Queensland's Food and Fibre' – educating about sustainable agriculture
- Balancing production with nature conservation' – case study project- farmers balancing production goals with nature conservation

Greening Australia

- Accelerated On-farm Nature Conservation Project – Greening Australia
- SOWN – Save our Waterways Now – Greening Australia
- Bush Regeneration Series – series of sessions aimed at improving community understanding and skills in bush regeneration. Covers a broad range of topics including wetlands ecology, creating a Bush Friendly Garden, plant identification and propagation, as well as project, report, submission and application writing skills.
- Booklets and publications dealing with extension topics

Environment Australia

Today Shapes Tomorrow – Environment Australia

Schools

'Remnant to Remnant Program' – Beechmont Primary School

Councils

Landscape analysis and Erosion Hazard Mapping Program, Deception Bay to Caloundra Bar Coastal Management and Rehabilitation Action Plan – Caboolture Shire Council

- Bushland Care Program – BCC
- Biodiversity in Your Backyard (not started yet)
- Community forum – for input from the community about the City Plan;
- Your City, Your Say – BCC
- Land for Wildlife – Voluntary Wildlife Conservation – most shires in SEQ
- CREEC – Caboolture Region Environmental Education Centre
- Adopt a Waterway – Caboolture Shire Council

- Coast Care Program (just started)
- Advisory Committees – 'Bushlands, Wetlands and Waterways' Committee; and 'An Urban Environment' Committee; - Key representatives of environment representatives throughout the city – 10 community members, 2 counsellors. (started October last year)
- 'Clean Air' Campaign (not started yet).
- Newsletters, 'The Regenerator' News
- Voluntary Conservation Agreements (BCC, Gold Coast)
- Redland Shire Council Bushcare Program

Logan City Council – Current Education Program

- Logan and Albert Catchment Congress (currently inactive)
- Presentations and Information – to schools, community groups;
- Clean Up Australia 2001 Project;
- Presentations and Tours of the materials recovery Facility and Logan Recycling Market;

- World Environment Day (June 5th)
- Logan Environment Action Grants – yoU in the Environment (LEAG.UE) – encourages community involvement in the management of the Logan City environment;
- Environmental Education Program
- Waste Awareness Poster and Multimedia Competition; Recycling Schemes;

- L-SEEN – Logan Schools Environment Educator's Network – provide educators with a forum for the development of environmental education in Logan City.

Ipswich City Council

Environmental Consultative Committee – various stakeholder groups and community representatives – advises department on implementation of various programs.

Land Management Survey 1996 – for all properties 4 ha and over.

Release of the Enviroplan 1997

Information – Fact sheets and brochures – ie. Urban Bushland, Erosion/sediment control;Technical advice available to landholders/community groups

Flora and Fauna Database – internal use and external advice to stakeholders;

Demonstration Sites – i.e. Weed control (cats claw creeper);

Land Management Seminars – rural and rural residential landholders.

Parkland Care Program, Bushland Care Program, Honorary Park Rangers;

Financial Incentives – Free Plant Program, Streambank Restoration Program, VCAs, Environmental Weed Control Rebate)

Traineeships – Aboriginal Environmental Trainees;

Planning Mechanisms – Management Plans and Statements of Intent for Reserves Estate.

Vegetation Mapping and Ecological Assessment; Vegetation Management Local Law;

Planning Scheme Provisions through appropriate zoning eg. Rural Conservation Zone; Conservation Acquisition Program.

Others

Landcare Field Trips for Schools

Integrated Catchment Management and Local Government – Training and Education Program (DCILGP, LGAQ, DNR)

Deception Bay Beachfront Improvement Assoc.Inc.

Environmental Education Centres – (Jacob's Well Ed. Centre) Dep. Of Education

Interpretation Centres – BCC, LCC, DNR, Community

Community Groups – Kedron Brook – Northeast Wetlands Sustainable Plan (started?)

Lockyer Landcare Guided Tours

Many of these programs and plans are similar in their approach and how they disseminate information to their audience. However, while many organisations or departments still approach Understanding and Participation individually, there are also a number of programs and projects that involve a wide diversity of participants, that can involve a number of organisations and departments, and a spread of community members (i.e. Waterwatch, Land for Wildlife).

Integrated Planning and Coordination

One of the challenges for natural resource and conservation managers and community / industry stakeholders in South East Queensland is the plethora of plans and strategies. While the role and purpose of these individual plans and strategies may be well defined, the links and interrelationships may require further integration and coordination.

Achieving a greater, more effective measure of integration and coordinated management effort across the region will depend, to a large extent, on how well these inter-relationships can be defined. It may be helpful to define a nested set of plans, strategies and action programs that describes these generalised roles. In particular for this Strategy, it may be important to define its place relative to these other plans and strategies.

Appendix Three - Past/current/continuing past NHT projects – 1997 - 1998

AppID	Applicant	Project Title	C'ment
927431	Society for Growing Australian Plants - Ipswich Branch	Establishment of Arboretum in Peace Park, Rosewood	Moreton
932161	Brisbane Valley-Kilcoy Landcare Group	Sustainable land use in the Kilcoy and Esk Shires	Moreton
942111	Barung Landcare Assn Inc.	Dairy Effluent Trials - Upper Mary River Catchment	Cooloola
952053	Maroochy Landcare Group Inc	Maroochy Landcare Group Coordinator	IUP
952063	Maroochy Mooloolah Catchment Care Assoc Inc	Maroochy/Mooloolah Catchment Strategy	IUP
952134	Department of Natural Resources	Risk Mapping Acid Sulfate Soils in SE Qld	IUP
962417	Department of Natural Resources	Maintaining & Improving the Health of Pumicestone Passage	IUP
962419	Numinbah Valley Landcare Group Inc	Water Quality Improvement Plan	Moreton
962501	Esk Shire Council	Resolving Conflict Between Gravel Extraction and Agricultural Landuse	Moreton
962503	Lockyer Catchment Coordinating Committee Inc	Technical Officer Lockyer Catchment Centre	Moreton
962794	Department of Primary Industries	Sloping farming land and riparian zone management on dairy farms	Moreton
972414	Wallum Action Group Inc	Rehabilitating Bribie's Woodlands	IUP
972415	Bremer River Catchment Assoc Inc	Riparian management in the Bremer River Catchment	Moreton
972416	Wildlife Preservation Society of Qld - Caloundra Area Inc.	Stanley River Park Richmond Birdwing Rehabilitation / Revegetation Project	Cooloola
972419	Wildlife Preservation Society of Queensland - Gold Coast & Hinterland Branch Inc	Schuster Park Tree-care Project	IUP
972424	Department of Environment & Heritage	Threatened Coastal Ecosystems	Moreton
972426	Friends of Lagoon Creek Group Inc	The Regeneration and Preservation of Lagoon Creek	Moreton
972427	Greening Australia (Q) Inc	Save Our Waterways Now (SOWN)	IUP
972430	Numinbah Valley Landcare Group Inc	Numinbah Valley Pilot Resource Inventory	Moreton
972432	Society for Growing Australian Plants - Ipswich Branch	Regeneration of remnant dry rainforest and riparian community Opossum Creek	IUP
972436	Lockyer Watershed Management Assoc Inc	Our Lockyer Community- Unveiling the Valley (Rural-Urban Links)	Moreton
972448	Brisbane Valley-Kilcoy Landcare Group	Waterwatch in Upper Brisbane River & Kilcoy	Moreton
972453	Caboolture Region ICM Group Inc	Produce Downstream Community Newsletter / Education Project	IUP
972459	Maroochy River Catchment Area Network Waterwatch Inc	Maroochy Waterwatch - Community Watershed Monitoring Project	IUP
972471	Bureau Sugar Experiment Stations	Beneficial use irrigation strategies with treated urban effluent	Moreton

AppID	Applicant	Project Title	C'ment
972475	Western Subregional Organisation of Councils	Sustainable Management of the Helidon Hills	Moreton
972484	Mooloolah Community Association	Mooloolah Waterwatch - Community Water Quality Monitoring (includes 982517)	IUP
972487	Maroochy & Mooloolah CC Steering Committee	Maroochy Mooloolah Catchment Situation Analysis & Strategy Development	IUP
972488	Noosa River Catchment Coordinating Committee Inc.	Community Awareness Education And Training, Noosa Queensland	IUP
972492	Noosa River Catchment Coordinating Committee Inc.	Noosa River Catchment Management Strategy	IUP
972511	Pumicestone Region Catchment Coordination Assoc Inc	Pumicestone Water and Ecosystem Monitoring Coordination	IUP
972512	Noosa Shire Council	Vegetation Management Strategy Implementation - Noosa Shire Case Study	IUP
972525	Lockyer Watershed Management Assoc Inc	Management and Promotion of "Touch of Paradise" Remnant	Moreton
972526	Lockyer Watershed Management Assoc Inc	Management Plan Implementation for Welk Remnant	Moreton
972527	Lockyer Watershed Management Assoc Inc	Implementing the management plan for Nelson's remnant	Moreton
972531	Gold Coast City Council	Platypus Health and Abundance in NSW and Qld	IUP
972575	Brisbane City Council	Bushland Care Coordinators	IUP
972576	Department of Natural Resources	Measuring Acid and Nutrient Export in Pimpama Sub Catchments	Moreton
972590	Norman Creek Catchment Coordination Committee	Norman Creek Integrated Catchment Management with Community Partnership	IUP
979203	Eudlo and Ilkley Landcare Group Inc	Eudlo Revegetation Project	Moreton
979206	Logan and Albert Conservation Assoc	Logan and Albert Catchments Monitoring to Management Project	Moreton
979219	Department of Natural Resources	Developing a Regional Strategy for SEQld	Moreton
979242	Oxley Creek Environment Group Inc	Waterwatch Program - Oxley Creek	IUP
979246	Gold Coast City Council	Acid Sulfate/Wastewater Irrigability/Stratigraphic Mapping Logan-	Moreton
979248	Ipswich City Council	Land for Wildlife Pilot Program - South East Queensland	IUP
979252	Boonah Shire Council	Boonah Shire Resource Inventory	Moreton
979354	Department of Environment & Heritage	Management Planning and Public Education for Migratory Bird Roost and Feeding Sites Moreton Bay	IUP

Appendix Four - Past/current/continuing Moreton Region NHT Project List 1998 – 1999

ApplNo	Applicant	Project Title	C'ment
932161	Brisbane Valley-Kilcoy Landcare Group	Sustainable land use in the Kilcoy and Esk Shires	Moreton
952053	Maroochy Landcare Group Inc	Maroochy Landcare Group Coordinator	IUP
952063	Maroochy Mooloolah Catchment Care Assoc Inc	Maroochy/Mooloolah Catchment Strategy	IUP
952134	Department of Natural Resources	Risk Mapping Acid Sulfate Soils in SE Qld	IUP
962417	Department of Natural Resources	Maintaining & Improving the Health of Pumicestone Passage	IUP
962419	Numinbah Valley Landcare Group Inc	Water Quality Improvement Plan	Moreton
962501	Esk Shire Council	Resolving Conflict Between Gravel Extraction and Agricultural Landuse	Moreton
962503	Lockyer Catchment Coordinating Committee Inc	Technical Officer Lockyer Catchment Centre	Moreton
962794	Department of Primary Industries	Sloping farming land and riparian zone management on dairy farms	Moreton
972414	Wallum Action Group Inc	Rehabilitating Bribie's Woodlands	IUP
972415	Bremer River Catchment Assoc Inc	Riparian management in the Bremer River Catchment	Moreton
972419	Wildlife Preservation Society of Queensland - Gold Coast & Hinterland Branch Inc	Schuster Park Tree-care Project	IUP
972424	Department of Environment & Heritage	Threatened Coastal Ecosystems	Moreton
972426	Friends of Lagoon Creek Group Inc	The Regeneration and Preservation of Lagoon Creek	Moreton
972427	Greening Australia (Q) Inc	Save Our Waterways Now (SOWN)	IUP
972432	Society for Growing Australian Plants - Ipswich Branch	Regeneration of remnant dry rainforest and riparian community Opossum Creek	IUP
972436	Lockyer Watershed Management Assoc Inc	Our Lockyer Community- Unveiling the Valley (Rural-Urban Links)	Moreton
972448	Brisbane Valley-Kilcoy Landcare Group	Waterwatch in Upper Brisbane River & Kilcoy	Moreton
972453	Caboolture Region ICM Group Inc	Produce Downstream Community Newsletter / Education Project	IUP
972459	Maroochy River Catchment Area Network Waterwatch Inc	Maroochy Waterwatch - Community Watershed Monitoring Project	IUP
972471	Bureau Sugar Experiment Stations	Beneficial use irrigation strategies with treated urban effluent	Moreton
972475	Western Subregional Organisation of Councils	Sustainable Management of the Helidon Hills	Moreton
972484	Mooloolah Community Association	Mooloolah Waterwatch - Community Water Quality Monitoring (includes 982517)	IUP
972487	Maroochy & Mooloolah CC Steering Committee	Maroochy Mooloolah Catchment Situation Analysis & Strategy Development	IUP
972488	Noosa River Catchment Coordinating Committee Inc.	Community Awareness Education And Training, Noosa Queensland	IUP
972492	Noosa River Catchment Coordinating Committee Inc.	Noosa River Catchment Management Strategy	IUP
972511	Pumicestone Region Catchment Coordination Assoc Inc	Pumicestone Water and Ecosystem Monitoring Coordination	IUP
972512	Noosa Shire Council	Vegetation Management Strategy Implementation - Noosa Shire Case Study	IUP
972525	Lockyer Watershed Management Assoc Inc	Management and Promotion of "Touch of Paradise" Remnant	Moreton
972526	Lockyer Watershed Management Assoc Inc	Management Plan Implementation for Welk Remnant	Moreton
972527	Lockyer Watershed Management Assoc Inc	Implementing the management plan for Nelson's remnant	Moreton

ApplNo	Applicant	Project Title	C'ment
972531	Gold Coast City Council	Platypus Health and Abundance in NSW and Qld	IUP
972575	Brisbane City Council	Bushland Care Coordinators	IUP
972576	Department of Natural Resources	Measuring Acid and Nutrient Export in Pimpama Sub Catchments	Moreton
972590	Norman Creek Catchment Coordination Committee	Norman Creek Integrated Catchment Management with Community Partnership	IUP
979203	Eudlo and Ilkley Landcare Group Inc	Eudlo Revegetation Project	Moreton
979206	Logan and Albert Conservation Assoc	Logan and Albert Catchments Monitoring to Management Project	Moreton
979242	Oxley Creek Environment Group Inc	Waterwatch Program - Oxley Creek	IUP
979246	Gold Coast City Council	Acid Sulfate/Wastewater Irrigability/Stratigraphic Mapping Logan-Coomera	Moreton
979248	Ipswich City Council	Land for Wildlife Pilot Program - South East Queensland	IUP
979252	Boonah Shire Council	Boonah Shire Resource Inventory	Moreton
982491	Department of Natural Resources	Boonah Land Resource Assessment	Moreton
982492	Department of Natural Resources	Catchment and Riparian Management, Upper Brisbane River	Moreton
982497	Boonah & District Landcare Assoc Inc	Boonah Landcare Gully Erosion Control in Grazing Land	Moreton
982499	West Moreton Landcare Group Inc	Improved Pasture and Soil Management in West Moreton Landcare Area	Moreton
982501	Queensland Gould League for Environmental Education Inc	Brisbane West Waterwatch Project	IUP
982502	Maroochy Landcare Group Inc	Sustainable Landcare Management Program for Maroochy Landcare District	IUP
982503	Atkinson Buaraba Creek Catchment Landcare Group	Strategic Management, Conservation and Regeneration of Buaraba Creek Catchment	Moreton
982504	Lota Manly West Community Ass.	Melaleuca Park Riparian Enhancement Project	IUP
982507	Greening Australia (Q) Inc	Upper Logan, Albert and Bremer Farm Forestry Development	Moreton
982508	Beaudesert Shire Council	Tamborine Mountain Escarpment Management Strategy Project	Moreton
982509	Lockyer Catchment Coordinating Committee Inc	Implementing ICM and Landcare in the Lockyer Catchment	Moreton
982511	Lockyer Watershed Management Assoc Inc	Vegetation Assessment and Conservation - Gatton Shire	Moreton
982512	Gold Coast & Hinterland Environment Council Assoc Inc	Tallebudgera Greenspace Bush Regeneration Project	IUP
982513	Caboolture Shire Council	Stormwater Management Systems Investigation to Improve Pumicestone Waterways	IUP
982515	Caboolture Region ICM Group Inc	Pumicestone CMS - Burpengary Creek Implementation Program	IUP
982518	North & South Pine Rivers Integrated Catchment Assoc Inc.	Catchment Coordination in the Pine Rivers, South East Queensland	IUP
982519	Caboolture Shire Council	Pumicestone Region Landscape Analysis and Erosion Hazard Identification	IUP
982520	Oxley Creek Catchment Association Inc	Oxley Creek ICM - Implementation Project	IUP
982521	Oxley Creek Environment Group Inc	1999 Brisbane River Youth Congress	IUP
982524	Gold Coast City Council	Coordination of Catchment Management in Gold Coast Catchments	IUP
982529	Moggill Creek Catchment Management Group	Ranges to River - Moggill Creek Catchment Project	IUP
982533	Beechmont District Landcare Assoc Inc	Restore our Reserve Project	Moreton
982535	Australian Trust for Conservation Volunteers	ATCV Weekend Landcare Program	Moreton
982536	Brisbane City Council	Support for and Expansion of Voluntary Conservation Agreements and Local Government Liaison	IUP
982538	Maroochy Shire Council	Rare and Threatened Species of Maroochy Shire	IUP

ApplNo	Applicant	Project Title	C'ment
982539	Gold Coast City Council	Groundwater Resource Assessment and Model, Pimpama Area (GRAM-PA)	Moreton
982544	Bulimba Creek Catchment Coordinating Committee	Bushlands to Bay Corridor - Bulimba Creek Catchment Coordinator	IUP
982549	Maroochy Landcare Group Inc	Maroochy/Caloundra Acid Sulfate - Sustainable Land Management	IUP
982555	Wildlife Preservation Society of Queensland - Glossy Black-Cockatoo Branch Inc	Restoration and Protection of Bushland for Glossy Black-Cockatoo	Moreton
982557	Brisbane Valley Landcare Group Inc	Stream Bank Rehabilitation Demonstration Sites - Upper Brisbane River	Moreton
982558	Brisbane Valley Landcare Group Inc	Integrated Management Towards 2001 - Upper Brisbane River Catchment	Moreton
982560	Queensland Ornithological Society Inc	Eastern Bristlebird Project	Moreton
982567	Noosa & District Landcare Group Inc	Noosa Riverbank Restoration Project	Moreton
982571	Bremer River Catchment Assoc Inc	Coordination of Catchment Management in the Bremer River Catchment	Moreton
992480	Department of Primary Industries	Delivering Quality Property Mgt Planning Services for SEQ	Regional

Appendix Five - List of Past/current/continuing Moreton Region NHT projects 1999 – 2000

ApplNo	Applicant	Project Title	C'ment
962794	Department of Primary Industries	Sloping farming land and riparian zone management on dairy farms	Moreton
972415	Bremer River Catchment Assoc Inc	Riparian management in the Bremer River Catchment	Moreton
972424	Department of Environment & Heritage	Threatened Coastal Ecosystems	Moreton
972426	Friends of Lagoon Creek Group Inc	The Regeneration and Preservation of Lagoon Creek	Moreton
972427	Greening Australia (Q) Inc	Save Our Waterways Now (SOWN)	IUP
972432	Society for Growing Australian Plants - Ipswich Branch	Regeneration of remnant dry rainforest and riparian community Opossum Creek	IUP
972436	Lockyer Watershed Management Assoc Inc	Our Lockyer Community- Unveiling the Valley (Rural-Urban Links)	Moreton
972448	Brisbane Valley-Kilcoy Landcare Group	Waterwatch in Upper Brisbane River & Kilcoy	Moreton
972459	Maroochy River Catchment Area Network Waterwatch Inc	Maroochy Waterwatch - Community Watershed Monitoring Project	IUP
972471	Bureau Sugar Experiment Stations	Beneficial use irrigation strategies with treated urban effluent	Moreton
972484	Mooloolah Community Association	Mooloolah Waterwatch - Community Water Quality Monitoring (includes 982517)	IUP
972487	Maroochy & Mooloolah CC Steering Committee	Maroochy Mooloolah Catchment Situation Analysis & Strategy Development	IUP
972488	Noosa River Catchment Coordinating Committee Inc.	Community Awareness Education And Training, Noosa Queensland	IUP
972492	Noosa River Catchment Coordinating Committee Inc.	Noosa River Catchment Management Strategy	IUP
972511	Pumicestone Region Catchment Coordination Assoc Inc	Pumicestone Water and Ecosystem Monitoring Coordination	IUP
972512	Noosa Shire Council	Vegetation Management Strategy Implementation - Noosa Shire Case Study	IUP
972525	Lockyer Watershed Management Assoc Inc	Management and Promotion of "Touch of Paradise" Remnant	Moreton
972526	Lockyer Watershed Management Assoc Inc	Management Plan Implementation for Welk Remnant	Moreton
972527	Lockyer Watershed Management Assoc Inc	Implementing the management plan for Nelson's remnant	Moreton
972531	Gold Coast City Council	Platypus Health and Abundance in NSW and Qld	IUP
972575	Brisbane City Council	Bushland Care Coordinators	IUP
972576	Department of Natural Resources	Measuring Acid and Nutrient Export in Pimpama Sub Catchments	Moreton
972590	Norman Creek Catchment Coordination Committee	Norman Creek Integrated Catchment Management with Community Partnership	IUP
979203	Eudlo and Ilkley Landcare Group Inc	Eudlo Revegetation Project	Moreton
979206	Logan and Albert Conservation Assoc	Logan and Albert Catchments Monitoring to Management Project	Moreton
979242	Oxley Creek Environment Group Inc	Waterwatch Program - Oxley Creek	IUP
979246	Gold Coast City Council	Acid Sulfate/Wastewater Irrigability/Stratigraphic Mapping Logan-Coomera	Moreton
979248	Ipswich City Council	Land for Wildlife Pilot Program - South East Queensland	IUP
979252	Boonah Shire Council	Boonah Shire Resource Inventory	Moreton
982428	World Wide Fund for Nature (WWF)	Conservation and Restoring Riparian Habitats for Mary River Cod	Burnett
982491	Department of Natural Resources	Boonah Land Resource Assessment	Moreton
982492	Department of Natural Resources	Catchment and Riparian Management, Upper Brisbane	Moreton

ApplNo	Applicant	Project Title	C'ment
		River	
982497	Boonah & District Landcare Assoc Inc	Boonah Landcare Gully Erosion Control in Grazing Land	Moreton
982499	West Moreton Landcare Group Inc	Improved Pasture and Soil Management in West Moreton Landcare Area	Moreton
982501	Queensland Gould League for Environmental Education Inc	Brisbane West Waterwatch Project	IUP
982502	Maroochy Landcare Group Inc	Sustainable Landcare Management Program for Maroochy Landcare District	IUP
982503	Atkinson Buaraba Creek Catchment Landcare Group	Strategic Management, Conservation and Regeneration of Buaraba Creek Catchment	Moreton
982504	Lota Manly West Community Association	Melaleuca Park Riparian Enhancement Project	IUP
982507	Greening Australia (Q) Inc	Upper Logan, Albert and Bremer Farm Forestry Development	Moreton
982508	Beaudesert Shire Council	Tamborine Mountain Escarpment Management Strategy Project	Moreton
982509	Lockyer Catchment Coordinating Committee Inc	Implementing ICM and Landcare in the Lockyer Catchment	Moreton
982512	Gold Coast & Hinterland Environment Council Assoc Inc	Tallebudgera Greenspace Bush Regeneration Project	IUP
982513	Caboolture Shire Council	Stormwater Management Systems Investigation to Improve Pumicestone Waterways	IUP
982515	Caboolture Region ICM Group Inc	Pumicestone CMS - Burpengary Creek Implementation Program	IUP
982518	North & South Pine Rivers Integrated Catchment Assoc Inc.	Catchment Coordination in the Pine Rivers, South East Queensland	IUP
982520	Oxley Creek Catchment Association Inc	Oxley Creek ICM - Implementation Project	IUP
982524	Gold Coast City Council	Coordination of Catchment Management in Gold Coast Catchments	IUP
982529	Moggill Creek Catchment Management Group	Ranges to River - Moggill Creek Catchment Project	IUP
982533	Beechmont District Landcare Assoc Inc	Restore our Reserve Project	Moreton
982535	Australian Trust for Conservation Volunteers	ATCV Weekend Landcare Program	Moreton
982536	Brisbane City Council	Support for and Expansion of Voluntary Conservation Agreements and Local Government Liaison	IUP
982539	Gold Coast City Council	Groundwater Resource Assessment and Model, Pimpama Area (GRAM-PA)	Moreton
982544	Bulimba Creek Catchment Coordinating Committee	Bushlands to Bay Corridor - Bulimba Creek Catchment Coordinator	IUP
982549	Maroochy Landcare Group Inc	Maroochy/Caloundra Acid Sulfate - Sustainable Land Management	IUP
982555	Wildlife Preservation Society of Queensland - Glossy Black-Cockatoo Branch Inc	Restoration and Protection of Bushland for Glossy Black-Cockatoo	Moreton
982558	Brisbane Valley Landcare Group Inc	Integrated Management Towards 2001 - Upper Brisbane River Catchment	Moreton
982567	Noosa & District Landcare Group Inc	Noosa Riverbank Restoration Project	Moreton
992480	Department of Primary Industries	Delivering Quality Property Management Planning Services for SEQ	Regional

Appendix Six: Continuing and New NHT Projects – by Catchment

Project Number	Project Title	Organisation	Start	Complete
Upper Brisbane				
Continuing				
962501	Resolving Conflict Between Gravel Extraction and Agricultural Landuse	Esk Shire Council	1.8.96	
972448	Waterwatch in Upper Brisbane River and Kilcoy	Brisbane Valley-Kilcoy Landcare Group	1.7.99	
982492	Catchment and Riparian Management, Upper Brisbane River	Department of Natural Resources	1.1.99	Sep-02
982557	Streambank Rehabilitation Demonstration Sites - Upper Brisbane Valley	Brisbane Valley-Kilcoy Landcare Group		
982558	Integrated Management Towards 2001 - Upper Brisbane River Catchment	Brisbane Valley-Kilcoy Landcare Group	1.10.99	1.10.01
982857	Implementing the Brisbane River-Upper Emu Creek Strategy	North East Downs Landcare Group Inc.		
Upper Brisbane New Recommended				
992468	Management and Protection of the Greenhide Lowland Rainforest Remnant	Brisbane Valley-Kilcoy Landcare Group Inc.		1.10.01
992469	Kilcoy District Land and Catchment Care	Brisbane Valley-Kilcoy Landcare Group Inc.		1.9.01
992500	Oaky Creek Landcare Catchment Protection and Natural Resource Conservation Project	North East Downs Landcare Group Inc.		
992507	Developing Specialised Revegetation Techniques to Seal Remnant Rainforest Edges	Brisbane Forest Park Administration Authority (BRAIN)		1.11.01

Project Number	Project Title	Organisation	Start	Finish
Lockyer				
Continuing				
972436	Our Lockyer Community - Unveiling the Valley (Rural-Urban Links)	Lockyer Watershed Management Association Inc.	1.10.97	1.9.00
972525	Management and Promotion of "Touch of Paradise" Remnant	Lockyer Watershed Management Association Inc.	1.7.97	1.6.00
972526	Management Plan Implementation for Welk Remnant	Lockyer Watershed Management Association Inc.	1.7.97	1.7.00
972527	Implementing the Management Plan for Nelson's Remnant	Lockyer Watershed Management Association Inc.	1.7.97	1.6.00
982503	Strategic Management, Conservation and Regeneration of Buaraba Creek Catchment	Atkinson Buaraba Creek Catchment Landcare Group Inc (ABC Landcare)	1.1.99	1.12.01
982509	Implementing ICM and Landcare in the Lockyer Catchment	Lockyer Catchment Coordinating Committee Inc.	1.10.98	1.10.01
Lockyer - New Recommended				

992401	Dam and Waterway Restoration and Rehabilitation Using Indigenous Aquatic Species	Society for Growing Australian Plants Ipswich Branch		
992427	Implementing Floodplain Management in the Lockyer Catchment	Lockyer Catchment Coordinating Committee (LCCC) Inc.		
992428	Achieving Landcare and Rivercare in the Lockyer/Moreton Bay Catchments	Lockyer Catchment Coordinating Committee (LCCC) Inc.		1.10.01
992450	Advancing Onground Nature Conservation	Western SubRegional Organisation of Council		1.11.01

Project Number	Project Title	Organisation	Start	Finish
Bremer				
Continuing				
927431	Establishment of Arboretum in Peace Park Rosewood	Society for Growing Australian Plants - Ipswich Branch	1.8.94	1.12.01
972415	Riparian Management in the Bremer River Catchment	Bremer Catchment Association Inc.	1.12.97	30.11.00
972432	Regeneration of Remnant Dry Rainforest and Riparian Community Opossum Creek	Society for Growing Australian Plants - Ipswich Branch	1.12.92	1.12.00
982499	Improved Pasture and Soil Management in West Moreton Landcare Area	The West Moreton Landcare Group Inc.		
982571	Coordination of Catchment Management in the Bremer River Catchment	Bremer Catchment Association Inc.		
Bremer - New Recommended				
992456	ICM Implementation in the Bremer Catchment	Bremer Catchment Association Inc.		1.9.02

Project Number	Project Title	Organisation	Start	Finish
Lower Brisbane				
Continuing				
972427	Save Our Waterways Now (SOWN)	Greening Australia Queensland Inc.	1.9.99	1.9.00
972575	Bushland Care Coordiantors	Brisbane City Council	1.10.99	1.6.01
972590	Norman Creek Integrated Catchment Management with Community Partnership	Norman Creek Catchment Coordination Committee (N4C)	1.4.98	1.4.01
979242	Waterwatch Program - Oxley Creek	Oxley Creek Environment Group Inc.	1.9.97	
982501	Brisbane West Waterwatch Project	Queensland Gould League for Environmental Education Inc.	1.1.99	
982520	Oxley Creek ICM - Implementation Project	Oxley Creek Catchment Assocation Inc.	1.3.99	1.3.02
982529	Ranges to River - Moggill Creek Catchment Project	Moggill Creek Catchment Management Group	1.9.98	1.9.01

982544	Bushlands to Bay Corridor - Bulimba Creek Catchment Coordinator	Whites Hill-Pine Mountain Community Group Inc. & B4C - Bulimba Creek Catchment Coordinating Committee	1.1.99	1.1.02
Lower Brisbane New Recommended				
992414	Pullen Pullen Creek Revegetation Project	Pullen Pullen Catchments Group Inc.		1.9.02
992457	Implementing Catchment Management in the Six Mile, Woogaroo and Goodna Creek Catchments	Ipswich City Council		1.9.02
992474	Ningy Ningy Community Bushland Reclamation Project	Ningy Ningy Cultural Heritage Association Inc.		1.9.01
992504	Restoring the Ecological Self-Sustainability of Runcorn Swamp	Runcorn Wetlands Bushcare Group		1.9.01
992510	Enoggera Reservoir Rainforest Regeneration Project	Brisbane Forest Park Administration Authority (BFP)		1.9.01

Project Number	***Project Title***	***Organisation***	***Start***	***Finish***
Noosa				
Continuing				
972488	Community Awareness Education and Training - Noosa Queensland	Noosa River Catchment Coordinating Committee Inc.	1.10.97	1.10.00
972489 (BM)	Landcare Regional Information Centre	Noosa and District Landcare Group		1.9.00
972492	Noosa River Catchment Management Strategy	Noosa River Catchment Coordinating Committee Inc.	1.10.97	1.12.99
972493(BM)	Waterwatch in the Six Mile Creek and Noosa River Systems	Noosa and District Landcare Group		
972494(BM)	Sustainable Land Use in the Noosa Shire	Noosa and District Landcare Group		1.6.00
972512	Vegetation Management Strategy Implementation - Noosa Shire Case Study	Noosa Shire Council	1.6.98	1.6.01
982424 (BM)	Red Cedar Growth and Protection from Shootborer Project	Noosa and District Landcare Group		1.12.02
982567	Noosa Riverbank Restoration Project	Noosa and District Landcare Group	1.11.98	1.8.00
Noosa - New Recommended				
992413	Fauna and Flora Values of Vegetation Corridors and Remnants Noosa Shire	Noosa River Catchment Coordinating Committee Inc.		
992429 (BM)	Noosa River/Six Mile Catchment Farm Forestry Project	Noosa and District Landcare Group		1.12.02

Project Number	***Project Title***	***Organisation***	***Start***	***Finish***
Maroochy/Mooloolah				
Continuing				
972484	Mooloolah River Waterwatch - Community Water Quality Monitoring (includes 982517)	Mooloolah Valley Community Association Inc. (Sub-committee of Mooloolah River Waterwatch)	1.7.97	
972487	Maroochy Mooloolah Catchment Situation Analysis and Strategy Development	Maroochy Mooloolah Catchment Care Association Inc.	1.3.98	1.2.01
979203	Eudlo Revegetation Project	Eudlo and Ilkley Landcare Group Inc.	1.9.97	1.3.00

982502	Sustainable Landcare Management Program for Maroochy Landcare District	Maroochy Landcare Group Inc.	1.12.98	1.11.01
982549	Maroochy/Caloundra Acid Sulfate - Sustainable Land Management	Maroochy Landcare, Maroochy-Mooloolah Catchment Care, Maroochy Shire Council, Caloundra City Council, Canegrowers, Maroochy Waterwatch, Mooloolah Waterwatch, Sunshine Coast University, Department of Natural Resources	1.11.98	1.10.01
Maroochy MooloolaNew Recommended				
992483	Petrie Creek Restoration Project	Petrie Creek Catchment Care Committee		
992509 (previously 972459)	Maroochy Rivercare Community Water Quality Monitoring and Facilitation Project	Maroochy River Catchment Area Network (MRCAN) Waterwatch Inc.		
992471	Palmwoods Wetlands and Remnant Riparian Forest Project	Junior Landcare Group (Palmwoods State School)		1.10.01

Project Number	***Project Title***	***Organisation***	***Start***	***Finish***
Pumicestone				
Continuing				
972426	The Regeneration and Preservation of Lagoon Creek	The Friends of Lagoon Creek Inc.	1.9.97	
972511	Pumicestone Water and Ecosystem Monitoring Coordination (GIS/Waterwatch)	Pumicestone Region Catchment Coordination Association Inc.	1.2.98	
982513	Stormwater Management System Investigation to Improve Pumicestone Waterways	Caboolture Shire Council and Caloundra City Council	1.1.99	1.12.01
982515	Pumicestone Catchment Management Strategy - Burpengary Creek Implementation Program	Caboolture Region Integrated Catchment Management Group Inc.	1.10.98	1.1.02
Pumicestone New Recommended				
992417	Innovative Risk Assessment of Soil, Groundwater and Land use Interactions, Pumicestone Region	Pumicestone Region Catchment Coordination Association Inc.		1..6.03
992418	Implementing the Pumicestone Region Catchment Management Strategy	Pumicestone Region Catchment Coordination Association Inc.		1.11.02
992419	Prioritising Stream Rehabilitation Works to Protect and Restore Fish Habitat	Pumicestone Region Catchment Coordination Association Inc.		1.10.01
992465	Implementation of Government and Voluntary Conservation Program	Caboolture Shire Council		1.12.01
992487	Regenerate Bribie's Wallum and Woodlands	Wallum Action Group Inc.		1.12.00

Project Number	***Project Title***	***Organisation***	***Start***	***Finish***
Pine Rivers				
Continuing				

982518	Catchment Coordination in the Pine Rivers, South East Queensland	North and South Pine Rivers Integrated Catchment Association Inc.	1.10.98	1.9.01
Pine Rivers - New Recommended				
992442	On-Site Erosion and Sediment Control - Education and Demonstration Program (NORSROC Area)	Pine Rivers Shire Council		
992492	Gold's Scrub Rehabilitation Project	Men of the Trees (Inc.)		
992506	Mountains to Mangrove Corridor Project	Greening Australia Queensland Inc.		

Project Number	***Project Title***	***Organisation***	***Start***	***Finish***
Moreton Bay				
Continuing				
982504	Melaleuca Park Riparian Enhancement Project	Lota Manly West Community Association	1.1.99	1.7.01
982540	Moreton Bay Catchment Water Quality Management Strategy	Department of Environment and Heritage	1.10.98	
Moreton Bay New Recommended				
992461	Quandamooka Community Shellfish Program	Quandamooka Land and Sea Management Agency		
992470	Linking Fish Populations to Pollution Levels in a South-East Queensland Conservation Reserve	Australian Marine Conservation Society Inc.		
992472	Monitoring and Education of the Offshore Snapper Fishery	Australian Marinelife Institute Inc.		
992495	18 Mile Swamp Ecological Assessment and Monitoring Study	Quandamooka Land and Sea Management Agency		
992505	Community and School Waterwatch Programs for Creek Systems in Redland Shire	Eprapah Creek Catchment Landcare Association Inc.		

Project Number	***Project Title***	***Organisation***	***Start***	***Finish***
Logan/Albert				
Continuing				
979206	Logan and Albert Catchments - Monitoring to Management Project	Logan and Albert Conservation Association Inc.		1.1.00
*979252	Boonah Shire Resource Inventory	Boonah Shire Council	1.4.99	1.9.99
*982491	Boonah Land Resource Assessment	Department of Natural Resources	1.11.98	1.12.01
*982497	Boonah Landcare Gully Erosion Control in Grazing Land	Boonah and District Landcare Association Inc.	1.1.99	1.12.01
982507	Upper Logan, Albert and Bremer Farm Forestry Development	Greening Australia Queensland Inc.	1.1.99	1.11.01
982508	Tamborine Mountain Escarpment Management Strategy Project	Beaudesert Shire Council	1.6.98	1.10.01
Logan Albert New Recommended				

*992409	Bushfire Management for the Conservation and Maintenance of South East Queensland's Biodiversity	Logan City Council	1.10.01

Project Number	Project Title	Organisation	Start	Finish
Gold Coast				
Continuing				
972531	Platypus Health and Abundance in NSW and Qld	Currumbin Sanctuary (Gold Coast City Council 1999/2000)	1.7.98	
972576	Acid and Nutrient Exports from the Pimpama Sub-Catchments	Department of Natural Resources	1.3.98	
979246	Acid Sulfate/Wastewater/Stratigraphic Mapping - Logan-Coomera	Gold Coast City/NE Albert Landcare/Rocky Point Canegrowers	1.10.97	
982512	Tallebudgera Greenspace Bush Regeneration Project	Gold Coast & Hinterland Environment Council Association Inc.		1.12.99
982524	Coordination of Catchment Management in Gold Coast Catchments	Gold Coast City Council	1.7.99	1.7.02
982533	Restore our Reserve Project	Beechmont District Landcare Association Inc.	1.1.99	1.1.02
982539	Groundwater Resource Assessment and Model, Pimpama Area (GRAM-PA)	Gold Coast City Council	1.2.99	1.2.02
982555	Restoration and Protection of Bushland for Glossy Black Cockatoo	Wildlife Preservation Society of Queensland - Glossy Black-Cockatoo Branch Inc.	1.3.99	1.6.01
Gold Coast New				
992458	Community Environmental and Conservation Education Officer Promoting Threatened Species Protection (Gold Coast)	David Fleay Wildlife Park (Queensland Parks and Wildlife Service)		

Project Number	Project Title	Organisation	Start	Finish
Regional				
Continuing				
962472	Quality Property Management Planning Services (South East Queensland)	Queendland Department of Primary Industries	1.1.97	
962794	Sloping Farming Land and Riparian Zone Management on Dairy Farms	Department of Primary Industries	1.1.97	
972424	Threatened Coastal Ecosystems	Department of Environment and Heritage	1.3.98	
972471	Beneficial Use Irrigation Strategies with Treated Urgan Effluent	Bureau of Sugar Experiment Stations	1.1.98	
979248	Land for Wildlife Pilot Program - South East Queensland	Ipswich City Council	1.3.98	1.3.01
982450	South East Queensland Rainforest Recovery Project	World Wide Fund for Nature	1.4.99	1.4.01
982536	Support for and Expansion of Voluntary Conservation Agreements and Local Government Liaison	Brisbane City Council	1.11.98	1.11.00
Regional New				

Recommended				
992416	Monitoring Sustainable Native Forest Management on Private Lands	Forest Ecosystem Research and Assessment, Department of Natural Resources		
992421	River Styles' Appraisal in the Maroochy, Mooloolah, Noosa and Mary River Catchments	Joint Rivercare Steering Group of three Catchment Coordinating Committees : the Rivercare Consortium		
992437	Insect Biodiversity and Farm Forestry Pest Management in SE Queensland	Queensland Forestry Research Institute		
992446	The Sunshine Coast Bioregional Conservation Strategy (Habitat 2000)	Sunshine Coast Environment Council Inc.		
992452	Partnerships for Conservation and Rehabilitation of the Ecosystems of South East Queensland	Environmental Protection Agency, Southern Region (EPA)		
992475	Measurement and Economic Integration of Biodiversity Values in Sub-Tropical Farm Forestry	Forest Ecosystem Research and Assessment Unit (FERA), Department of Natural Resources		
992476	Implementing NRM Strategies for South East Queensland	Department of Natural Resources		1.12.01
992480	Delivering Quality Property Management Planning Services for SEQ	Queensland Department of Primary Industries		1.10.01