



Natural Resource Management Strategy for Crows Nest Shire, Queensland

Draft 15 August 2001



The Crows Nest Shire Natural Resource Management Program is supported by the Bushcare program of the Commonwealth Government Natural Heritage Trust.



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Cover picture

Crows Nest Shire Council NRM Field Supervisor Steven Plant tackles a *Lantana camara* infestation at Motley Reserve, a bushland area north of Crows Nest township. Inspecting the work are (from left) Frank Burgess, President of the Crows Nest Creek Catchment Group and Upper Emu Creek Catchment Group, and Councillor Geoff Patch, Mayor of Crows Nest Shire.

Contents

1. Introduction	3
1.1 What is the Crows Nest Shire NRM Program?.....	4
1.2 What is in this NRM Strategy?	4
1.3 NRM Strategy principles.....	5
2. Action Plans.....	7
2.1 Weeds and pest animals	8
2.2 Nature conservation.....	10
2.3 Water quality and quantity	12
2.4 Rural land use and management.....	14
2.5 Tourism, recreation, scenic amenity and cultural heritage.....	16
2.6 Air quality, energy efficiency, renewable energy and waste management	18
3. Implementation Processes	21
3.1 Implementation Processes for the Action Plans	22
3.2 Communication, education and awareness program.....	23
3.3 Landholder funding assistance programs	26
3.4 Work Plan.....	28

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1. Introduction

- 1.1 What is the Crows Nest Shire NRM Program?
- 1.2 What is in this NRM Strategy?
- 1.3 NRM Strategy principles.

1.1 What is the Crows Nest Shire NRM Program?

Crows Nest Shire has a great diversity of natural resources, from the magnificent flora and fauna of our bushland areas to the rich soils of our agricultural land.

Our natural resources contribute to our quality of life in many ways. They are the clean air, clean water and biological diversity that sustain the very basis of all life on our planet. They are crucial to our living standards because they are the basis of much of our economic activity - including agriculture, forestry, mining, and much of our tourism. Our natural resources are also a source of aesthetic, cultural and spiritual value for our community.

At present, our natural resources and the economic activity they support are showing signs of stress. Many of our farming families are suffering personal and financial pain as a result of falling commodity prices and rising costs. At the same time our precious natural resources are in decline. For example, noxious weeds are invading our landscape, and many of our native species and ecosystems are threatened with extinction.

However, Crows Nest Shire Council is taking decisive action to reverse this decline through its new Natural Resource Management (NRM) Program. The Crows Nest Shire NRM Program commenced in March 2001 with two Natural Heritage Trust (NHT) funded projects:

1. “Holistic Natural Resource Management of Crows Nest Shire”, and
2. “Facilitating Access and Use of Natural Resource Information in Crows Nest Shire”.

The “Holistic Natural Resource Management of Crows Nest Shire” project has prepared this NRM Strategy. The NRM Strategy is being implemented through an innovative mix of planning, policy, on-ground works and incentives that will help the community and Council to manage the Shire’s land, air, water and vegetation in a long-term sustainable manner for the benefit of the whole community.

The “Facilitating Access and Use of Natural Resource Information in Crows Nest Shire” project is compiling and publishing integrated natural resource and land use management information for Crows Nest Shire, providing a technical foundation for the NRM Program.

1.2 What is in this NRM Strategy?

The Crows Nest Shire Natural Resource Management (NRM) Reference Group has developed this Strategy as the first stage of a long-term NRM Program for the Shire. The Crows Nest Shire NRM Reference Group consists of Councillors, Council NRM Program staff, and representatives from Landcare and Catchment Management groups, the Department of Natural Resources and Mines (DNR&M), the Environmental Protection Agency (EPA), CSIRO and the community.

The Crows Nest Shire NRM Strategy establishes:

- **Action Plans** to address the Shire’s NRM issues, and
- **Implementation Processes** to implement the Action Plans.

Action Plans

Action Plans have been developed for six groups of NRM issues:

1. Weeds and feral animals (see Section 2.1).
2. Nature conservation (see Section 2.2).
3. Water quality and quantity (see Section 2.3).
4. Rural land use and management (see Section 2.4).
5. Tourism, recreation, scenic amenity and cultural heritage (see Section 2.5).
6. Air quality, energy efficiency, renewable energy and waste management (see Section 2.6).

Implementation Processes

The Implementation Processes (see Section 3.1) include a range of innovative voluntary and statutory mechanisms.

The Implementation Processes also include a communication, education and awareness program (see Section 3.2) and landholder funding assistance programs (see Section 3.3).

Work Plan

A Work Plan (see Section 3.4, located at the very end of this Strategy for easy reference) specifies timelines and lead responsibility for each of the Implementation Processes.

1.3 NRM Strategy principles

The Crows Nest Shire NRM Strategy is underpinned by six principles of natural resource management adapted from the Queensland Government's *Strategy for Land, Water and Biological Resources* (1991). They are:

1. Natural resources are basic and interactive components of natural ecosystems and their management should be based on an understanding of these interactions and ecosystem dynamics, with a commitment to manage and plan for natural resource use, development and conservation within ecosystem contexts.
2. Ecosystems (e.g. creeks, wetlands, forests, grasslands), soils and rural land are continuously changing in response to natural processes and human activity, and their management must account for these changes over time.
3. The management of natural resources must be integrated rather than fragmented, with decisions based on the best available information and conducted in partnership with all relevant stakeholders (including individuals, community groups and organisations, all levels of government, and industries, companies and industry organisations).

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4. Natural resource management and planning must take into account the environmental, economic, and social implications of decisions and aim for a balance between the short and long-term socio-economic needs of the Shire and the short and long-term conservation and rehabilitation needs of the environment. In other words, it must operate according to the principles of ecologically sustainable development.
5. All resource users and managers (i.e. the whole community) have a responsibility to ensure that their actions do not have adverse impacts on the environmental values of the Shire.
6. The management of natural resources is best achieved through the informed actions of individual users and managers.

2. Action Plans

- 2.1 Weeds and pest animals.
- 2.2 Nature conservation.
- 2.3 Water quality and quantity.
- 2.4 Rural land use and management.
- 2.5 Tourism, recreation, scenic amenity and cultural heritage.
- 2.6 Air quality, energy efficiency, renewable energy and waste management.

2.1 Weeds and pest animals

Overview

Weed and pest animal issues in Crows Nest Shire are currently addressed by private landholders, Landcare and catchment management groups, State Government agencies and Crows Nest Shire Council.

Private landholders are carrying out weed and pest animal control on their individual properties, often with assistance from Natural Heritage Trust funded programs operated by three of the Shire's Landcare and catchment management groups. The Department of Natural Resources and Mines (DNR&M) provides technical assistance, education and other support for weed and pest animal management throughout the Shire. The Queensland Parks and Wildlife Service is implementing weed and feral animal control in the Ravensbourne and Crows Nest National Parks, and Toowoomba City Council has control programs for the reserves adjoining Cooby, Cressbrook and Perseverance Dams.

Crows Nest Shire Council has a *Property Pest Management Plan*, which has sought to establish a strategic and coordinated approach to weed and pest animal management across the Shire. The *Property Pest Management Plan* encompasses declared plants, enforcement procedure, property pest management plans, control methods, environmental weeds, Council controlled lands, special projects, declared animals, public awareness, funding, and review procedures. Council has been actively implementing the *Property Pest Management Plan*, including working to control several serious declared plants and providing free herbicide to landholders who want to control the weeds on the roadsides adjacent to their properties.

The Crows Nest Shire Council *Property Pest Management Plan* and the management activities of the Shire's Landcare and Catchment Management groups have brought about considerable forward progress in addressing weed and pest animal issues. Further progress can be made by building on these initiatives. This will be achieved by reviewing and revising the existing *Property Pest Management Plan* to create a new *Weed and Pest Animal Management Plan for Crows Nest Shire*. The review process will strengthen links with the Shire's Landcare and Catchment Management groups.

Desired outcomes

1. To achieve community recognition of the extent and impacts of the weed and pest animal problem in Crows Nest Shire.
2. To prevent the introduction of any further weed and pest animal species into Crows Nest Shire.
3. To effectively manage existing weed and pest animal species to minimise their impacts.

Actions

1. Weeds and pest animals.	
Actions	Description
1A	Review and revise the Crows Nest Shire Council <i>Property Pest Management Plan</i> to create a new <i>Weed and Pest Animal Management Plan for Crows Nest Shire</i> .
1B	<p>The issues and matters to be addressed by the review and revision include:</p> <ul style="list-style-type: none"> • Motivating and inspiring management action by all stakeholders. Demonstration activities would assist in achieving this. • Managing the weed infestations that occur in newly subdivided areas. • Identifying and managing all pest animals, rather than just declared animals. • Managing aquatic pest animals (e.g. introduced pest fish species). • Recognising good management efforts by landholders. • Making weed and pest animal information products that are useful to public and include information on local resources. • Making these information products readily available to the public. • Management of weeds and pest animals on properties owned by absentee landholders. • Addressing weed and pest animal management in the Code of Environmental Practice for Council Activities. • Using the Development Application process to enforce the eradication of weed and pest animals and to ensure that landscaping plans do not include weeds and pest animals. • Improving integration and linkages with Landcare and Catchment Management groups. • Research into the management of weeds and pest animals, in particular into local aspects and issues. • Making the research findings readily available to the public.
1C	Review and revise the <i>Weed and Pest Animal Management Plan for Crows Nest Shire</i> on an ongoing basis.

2.2 Nature conservation

Overview

Crows Nest Shire Council completed the preparation of a draft *Remnant Vegetation Corridor Management Strategy* in June 2000. The draft was revised and updated in May 2001. The draft *Remnant Vegetation Corridor Management Strategy* mapped vegetation areas throughout the Shire and assessed their condition. Wildlife corridors were also mapped and categorised into levels of importance. A range of threatening processes were identified which, if left unchecked, will result in the continued loss and fragmentation of remnant vegetation areas and corridors and the potential local extinction of flora and fauna species. Chapter 7 of the draft *Remnant Vegetation Corridor Management Strategy* identifies a range of protection and management measures and mechanisms aimed at halting this decline. These measures and mechanisms are:

1. Incentives.
 - Rate Deferrals/Rebates.
 - Grants.
2. Voluntary Conservation Agreements.
 - Property-Right Conservation Agreements.
 - Land for Wildlife.
 - Covenants Registrable on Title.
 - Nature Refuges.
3. Regulatory Measures.
 - Vegetation Management Act 1999.
 - Vegetation Management Local Laws.
 - Planning Schemes.
 - Environmental Rates Contribution.
4. Motivation and Educational Measures.
 - Adopt-a-Corridor.
 - Education Programs.
 - Awards Scheme.
5. Managing Public Land.
6. Fire Management.
7. Grazing Management.
8. Weed Management.
9. Feral and Domestic Animal Control.

Before these protection and management measures and mechanisms can be implemented, Council needs to update the vegetation area mapping to 1:25,000 Regional Ecosystem (RE) mapping, update the vegetation corridor mapping to reflect the importance of riparian corridors, identify all of the threatened species and ecosystems in the Shire, and prepare a recovery plan for these threatened species and ecosystems.

Desired outcomes

1. To achieve community recognition of the values, functions and benefits of the natural landscape.
2. To conserve and manage the native plants, animals and habitats of Crows Nest Shire.

Actions

2. Nature conservation.	
Actions	Description
2A	Determine landholder and community views in relation to the protection and management measures and mechanisms identified in Chapter 7 of the draft <i>Remnant Vegetation Corridor Management Strategy</i> . For example, views in relation to the desirability of rate deferrals versus rate rebates, views in relation to what levels of rate deferral/rebate are appropriate, and views in relation to the content of voluntary conservation agreements.
2B	Implement the protection and management measures and mechanisms identified in Chapter 7 of the draft <i>Remnant Vegetation Corridor Management Strategy</i> .
2C	Update the current “Crows Nest Shire Remnant Vegetation Condition” mapping to produce 1:25,000 Regional Ecosystem Mapping.
2D	Update the current “Crows Nest Shire Vegetation Corridors” mapping to reflect the importance of riparian zones as corridors.
2E	Prepare a list of threatened REs and species and list all other significant REs and species. Prepare a recovery plan for these ecosystems and species.
2F	Link the protection and management measures and mechanisms identified in Chapter 7 of the draft <i>Remnant Vegetation Corridor Management Strategy</i> , updated Remnant Vegetation Mapping, updated Vegetation Corridors Mapping, and Recovery Plan for Threatened Species and Ecosystems to the Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme, Crows Nest Shire Council Code of Environmental Practice for Council Activities, and South-East Queensland Regional Vegetation Management Plan (RVMP).

2.3 Water quality and quantity

Overview

Crows Nest Shire straddles the Great Dividing Range with the Emu, Perseverance, Crows Nest and Cressbrook Creek systems in the eastern part of the Shire flowing into the Brisbane River catchment, and the Cooby Creek system in the western part of the Shire flowing into the Condamine River catchment of the Murray Darling Basin.

Approximately half of the land area of Crows Nest Shire falls within the catchments of Toowoomba City Council's three water supply dams - Cooby, Cressbrook and Perseverance. Toowoomba City Council has initiated a "Three Dams Strategy" process to protect water quality in the dams and their catchments, and the NRM Program will expand this process to address water quality and quantity issues throughout the whole of the Shire. Links will also be established with other strategies, programs and processes that have relevance to water quality and quantity management in Crows Nest Shire. These include:

- Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme.
- Crows Nest Shire Council Code of Environmental Practice for Council Activities.
- South East Queensland Regional Water Quality Management Strategy (SEQRWQMS).
- Department of Natural Resources and Mines (DNR&M) Water Resource Plans (these were formerly called Water Allocation and Management Plans - WAMPS).
- Condamine Balonne Water Quality Strategy.
- Condamine Catchment Strategic Plan.
- Upper Emu Creek Catchment Strategic Plan.
- Crows Nest Creek Catchment Protection Strategy.
- Upper Brisbane Catchment Network (UBCN) Strategy.
- South East Queensland Water Company Water Quality Strategy.
- Strategic Guide to Natural Resource Management in South-East Queensland.
- National Action Plan (NAP) for Salinity.
- Murray Darling Basin Commission (MDBC) Salinity Strategy.
- MDBC Sustainable Rivers Audit.
- MDBC Algal Management Strategy.
- Environmental Protection Agency (EPA) water quality objectives setting, which will be incorporated into the Environmental Protection Policy (EPP) for Water Planning.

Desired outcomes

1. Water quality and ecological health of all waterways are sustainably managed, maintained and improved for the mutual benefit of people, flora and fauna.
2. In-stream economic values and resources are sustainably managed.
3. Demands on surface and ground water availability of current and future needs are equitably managed for the mutual benefit of people, flora and fauna.
4. 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.

Actions

3. Water quality and quantity.	
Actions	Description
3A	Establish an expanded Crows Nest Shire Water Management Committee, based on the existing steering committee for the Three Dams Strategy and including representatives from Landcare and Catchment Management groups.
3B	Prepare and implement a Water Management Strategy for Crows Nest Shire. Establish the Three Dams Strategy as a major sub-component, and establish linkages to all other relevant strategies, programs and processes.
3C	<p>The issues and matters to be addressed in the Water Management Strategy include:</p> <ul style="list-style-type: none"> • Water quality protection in the three dams (Cooby, Cressbrook and Perseverance). • Community awareness of water quality and quantity issues. • Need for the community to determine ‘environmental values’ for catchments. • Links between the quality of riparian environments and water quality and quantity. • Salinity. • Sediment and nutrient levels. • Impacts of Council infrastructure (roads, drainage, etc.) on sediments and nutrients. • Movement of pesticides off-site through surface and groundwater. • Location of rubbish dumps. • Effluent issues. • Access of stock to watercourses. • Need for integrated impact assessments in regard to water quality (i.e. the impacts of individual developments cannot be assessed in isolation). • Recognition of non-chemical aspects of quality (i.e. monitoring of ecological aspects). • Maintenance of environmental flows - both surface and groundwater. • Impacts of farm dams and other small private dams. • Need to identify the total amount of water available for all uses and needs. • Water needs for economic development. • Pumping of creeks for private use. • Increasing urban demand for water, and needs in relation to future growth (both in Crows Nest Shire and the wider eastern Darling Downs area). • Water use efficiency and reuse, e.g. two pipe system for potable and recycled non-potable. • Stormwater runoff.

2.4 Rural land use and management

Overview

The soils and landforms of Crows Nest Shire support a range of agricultural and related land uses. These land uses include traditional cattle grazing activities and newer pursuits such as deer grazing, fruit growing, mill timber plantations and cabinet timber plantations. The ongoing sustainable management of these activities will ensure that they continue to contribute to the prosperity of the Shire while at the same time maintaining the natural resource base on which they depend. CSIRO and the Landcare and Catchment Management groups covering Crows Nest Shire are leading the way in developing, promoting and delivering sustainable rural land use programs and practices in the Shire. Their efforts will be supported and enhanced by the “Facilitating Access and Use of Natural Resource Information in Crows Nest Shire” project component of the NRM Program, which is compiling and publishing detailed integrated natural resource and land use management information.

The Crows Nest Shire NRM Program will build an enhanced partnership with CSIRO and the Landcare and Catchment Management groups covering Crows Nest Shire, and work with and assist them to continue developing, promoting and delivering sustainable rural land use programs and practices in the Shire.

The CSIRO projects include:

- Guidelines and thresholds for grazing in grassy eucalypt woodlands project.
- A new project to take the guidelines and thresholds to a catchment scale.
- Landscape function analysis project.

The Landcare and Catchment Management group projects include several large-scale weed management projects and other projects from the various group strategies and action plans.

Other relevant strategies, programs and processes include:

- Grass check.
- Soils of Eastern Darling Downs Study.
- EDROC (Eastern Darling Downs Regional Organisation of Councils) Agwise Project.
- The Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme (in preparation).
- South-East Queensland Water Company Land Use Analysis.
- Strategic Guide to Natural Resource Management in South-East Queensland.
- Queensland Farmers Federation (QFF) Code of Practice for Agriculture.
- Codes of Practice for Native Forests.

Desired outcomes

1. Resource planning and decision making based on reliable, well-documented land resource information and on sound and sustainable economic principles.
2. Land resources identified and protected for their preferred use.
3. Land resources managed wisely through the adoption of integrated planning and management at a catchment scale.
4. Encourage the adoption of good management practice by all industries and stakeholders.

Actions

4. Rural land use and management.	
Actions	Description
4A	<p>Work with CSIRO, Landcare and Catchment Management groups including the Upper Brisbane Catchment Network (UBCN) and North East Downs Landcare, and all relevant strategies, programs and processes to assist them to address:</p> <ul style="list-style-type: none"> • Current reliance of many landholders on traditional farming activities and lifestyle, and their lack of awareness/recognition of alternative farming or other economic activities. • Tendency for short-term economic issues to override planning for long-term sustainability. • Social, economic and land use and management impacts of the dairy industry transition. • Lack of knowledge on pasture condition and soil stability across the Shire. • Need for skills training in pasture assessment. • Current dominance of introduced grasses in pasture systems. • Education and awareness.
4B	<p>Using the outputs of the “Facilitating Access and Use of Natural Resource Information in Crows Nest Shire” project, assist the Crows Nest Shire Integrated Planning Act (IPA) Planning Scheme and Crows Nest Shire Economic Development Strategy to address:</p> <ul style="list-style-type: none"> • Need to match rural enterprises with land capability (Crows Nest Shire features complex land systems, with the rural enterprise constraints and opportunities of each land system determined by the soils, vegetation and landform of that land system). • Cultivation for forage cropping in unsuitable areas and resultant soil erosion. • Farm forestry and intensive horticulture in unsuitable areas. • Buffering between incompatible land uses. • Current reliance of many landholders on traditional farming activities and lifestyle, and their lack of awareness/recognition of alternative farming or other economic activities. • Tendency for short-term economic issues to override planning for long-term sustainability. • Impacts of intensive animal industries. • Constraints to farm viability caused by small property sizes combined with declining profitability. • Social, economic and land use and management impacts of the dairy industry transition. • Adequate water for intensive horticulture and the efficient use of that water. • Lack of knowledge on pasture condition and soil stability across the Shire. • Need for skills training in pasture assessment. • Education and awareness.

2.5 Tourism, recreation, scenic amenity and cultural heritage

Overview

The natural resources of Crows Nest Shire include large areas of scenic bushland with a diversity of birdlife and wildlife, high escarpments overlooking a mosaic of bushland and farmland, and impressive gorges, creeks and waterfalls. These natural values are a significant tourism, recreation and scenic amenity asset for Shire residents and visitors to the area. The natural areas of the Shire also host significant cultural heritage values including historic structures and Aboriginal sites and pathways.

The Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme and Crows Nest Shire Council Economic Development Strategy are addressing tourism, recreation, scenic amenity and cultural heritage issues. The NRM Program will work with and assist these projects to address natural resource management issues associated with tourism, recreation, scenic amenity and cultural heritage. The outputs of the “Facilitating Access and Use of Natural Resource Information in Crows Nest Shire” project will be useful in this regard. The Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme and Crows Nest Shire Council Economic Development Strategy will also be assisted to establish linkages with other relevant strategies, programs and processes.

Other relevant tourism, recreation and scenic amenity strategies, programs and processes include:

- Crows Nest Shire Council Corporate Plan.
- Crows Nest Shire Council Sport and Recreation study.
- Crows Nest Shire Council Cultural Policy.
- Crows Nest Shire Council assessment of ecological values of unleased reserves.
- Department of Sport and Recreation Outdoor Recreation Plan.
- Three Dams Recreation Study.
- Programs by Tourism Queensland.
- Queensland Ecotourism Plan.
- Tenure allocations under the South-East Queensland Forest Agreement (SEQFA).
- Queensland Parks and Wildlife Service (QPWS) Parks Master Plan.

Other relevant cultural heritage strategies, programs and processes include:

- Crows Nest Shire oral history programs.
- Proposed Crows Nest Shire heritage trails.

If necessary, the NRM Program will assist the establishment of additional strategies, programs and processes.

Desired outcomes

1. To achieve community recognition of the relationship between natural resources and tourism, recreation, scenic amenity and cultural heritage.
2. To identify and preserve natural resource attributes which are the foundation of sustainable tourism and recreation and contribute to scenic amenity and the conservation of cultural heritage.
3. Assist with, encourage and contribute to the growth and development of sustainable tourism and recreation opportunities.

Actions

5. Tourism, recreation, scenic amenity and cultural heritage.	
Actions	Description
5A	<p>Using the outputs of the “Facilitating Access and Use of Natural Resource Information in Crows Nest Shire” project, assist the Crows Nest Shire Integrated Planning Act (IPA) Planning Scheme, Crows Nest Shire Economic Development Strategy and other relevant strategies, programs and processes to address the following issues and matters:</p> <p>Tourism and recreation</p> <ul style="list-style-type: none"> • Constraints and opportunities offered by the geography of the Shire. • Opportunities offered by the Shire’s close proximity to major population areas. • The Shire’s rich ecological diversity is an asset but needs to be carefully managed. • Impact of, and conflict between, activities e.g. trail bikes versus bushwalking. • Lack of sufficient developed or known opportunities to meet demand. • Department of Natural Resources and Mines (DNR&M) plans to sell State reserves. • Lack of promotional material in regard to tourism and recreation in Crows Nest Shire. • Lack of funding resources to produce promotional material. • Scope for further developing nature-based tourism and recreation opportunities. • Links between tourism and recreation and water quality. • Lack of cooperation and cohesion between all groups dealing with tourism in the area, including Forestry, Queensland Parks and Wildlife Service (QPWS), Toowoomba City Council (TCC) and surrounding Shires. • Need to address whether current tourism and recreation activities are giving the best return to Crows Nest Shire and its residents. • Lack of a focal identity for tourism in the Shire and lack of focus on quality tourism. • Incompatibility of some tourism expectations and activities with the environment. <p>Scenic amenity</p> <ul style="list-style-type: none"> • Lack of easily accessible lookouts and the loss of lookout sites and access routes to development. • Impact of development and public infrastructure on scenic vistas. • Unightly litter, weeds etc along highways. <p>Cultural heritage</p> <ul style="list-style-type: none"> • Lack of acknowledgement of indigenous cultural heritage (racism?). • Lack of knowledge of both European and Indigenous cultural heritage. • Lack of knowledge of relationship between Indigenous heritage and natural resources. • Need to acknowledge that cultural heritage evolves over time. • Need to use good practice models from other Local Governments.

2.6 Air quality, energy efficiency, renewable energy and waste management

Overview - air quality

The clean, fresh mountain air of the Shire is valued by the community and is also a significant attraction for both tourists and new residents. To help to protect this good air quality, the NRM Program will prepare a Crows Nest Shire Air Quality Strategy and assist in linking its recommendations to the Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme. The preparation of the Crows Nest Shire Air Quality Strategy will be substantially informed by the contents of the South East Queensland Regional Air Quality Strategy (SEQRAQS). Linkages will also be established with other relevant strategies, programs and processes including the Crows Nest Shire Council Code of Environmental Practice for Council Activities, the licensing requirements of the Environmental Protection Agency (EPA) and Crows Nest Shire Council, the EPA Environmental Protection Policy (EPP) for Air, and any relevant EPA State Interest Planning Policies (SIPPs).

Overview - energy efficiency and renewable energy

Traditional forms of energy generation involve the burning of non-renewable fossil fuels such as coal and oil. As well as depleting non-renewable natural resources, this causes high levels of pollution and the production of greenhouse gases. There are also associated impacts, for example the negative biodiversity impacts of clearing easements for high-voltage powerlines. Energy efficiency measures can reduce adverse natural resource impacts by reducing the overall amount of energy consumed. Renewable energy projects can reduce adverse natural resource impacts by generating energy from renewable resources like the sun and wind rather than non-renewable resources like coal and oil. Renewable energy projects can also be relatively small in scale and located close to the point of energy consumption, reducing or eliminating the need for high-voltage powerlines. The proposed Crows Nest wind farm is an excellent example of an innovative renewable energy project.

The NRM Program will assist the Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme, Crows Nest Shire Council Economic Development Strategy and Crows Nest Shire Council building approval processes to promote and encourage energy efficiency and renewable energy. Linkages will also be established with other relevant strategies, programs and processes including rebate schemes for solar hot water and Remote Area Power Supplies (RAPS), energy efficient house design educational information, “Energywise” program information, the Crows Nest Wind Farm feasibility study, and Queensland and Commonwealth Government Energy Policies.

Overview - waste management

In the past, most of the household waste in Crows Nest Shire has gone to landfill. Crows Nest Shire Council has initiated a sustainable waste management program that includes the establishment of a “Friends of Waste Management” group, the preparation of a Waste Management Strategy, the commencement of recycling programs, and the pioneering of innovations such as an on-farm composting trial for organic waste. The NRM Program will assist the “Friends of Waste Management” group in the preparation and implementation of the Waste Management Strategy.

Desired outcomes

1. To achieve community recognition of the importance of air quality, renewable energy, energy efficiency and waste management.
2. Maintain and enhance air quality in Crows Nest Shire.
3. Promote and assist the development of renewable energy, energy efficiency and sustainable waste management practices.

Actions

6. Air quality, renewable energy, energy efficiency and waste management.	
Actions	Description
6A	<p>Prepare a Crows Nest Shire Air Quality Strategy and assist in linking its recommendations to the Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme. The preparation of the Crows Nest Shire Air Quality Strategy is to be substantially informed by the contents of the South East Queensland Regional Air Quality Strategy (SEQRAQS), and linkages are also to be established with other relevant strategies, programs and processes including the Crows Nest Shire Council Code of Environmental Practice for Council Activities. The issues and matters the Crows Nest Shire Air Quality Strategy is to address include:</p> <ul style="list-style-type: none"> • Odour from intensive livestock operations. • Odour from other point sources including sewerage treatment plants. • Air layer inversion problem areas (e.g. Crows Nest). • The location and practices of industry in relation to sensitive areas such as air layer inversion problem areas. • Wood heaters, backyard burning, and incinerators. • Controlled burns of vegetation. • Burning of waste. • Agricultural spray drift. • Lack of baseline data on particulates, odour, chemicals, noise, problem areas, wind directions and air movement. • Funding priorities. • Landfill locations. • Dust problems from dirt roads. • Vehicle emissions. • Dust from quarries and related industries. • Lack of education and awareness. • Ongoing monitoring and evaluation.

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Actions	Description
6B	<p>Assist the Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme, Crows Nest Shire Council Economic Development Strategy and Crows Nest Shire Council building approval processes to promote and encourage energy efficiency and renewable energy. Assist the establishment of linkages will with other relevant strategies, programs and processes. Assist the Crows Nest Shire Council Integrated Planning Act (IPA) Planning Scheme, Crows Nest Shire Council Economic Development Strategy and Crows Nest Shire Council building approval processes to address relevant issues and matters including:</p> <ul style="list-style-type: none"> • Encouraging energy efficient housing and buildings and the use of energy efficient appliances. • The possible provision of incentives for energy efficient housing and buildings. • Energy efficient transport planning including encouraging the use of vehicles in an energy efficient manner and encouraging public transport. • Council leadership in regard to energy efficiency, e.g. the implementation of energy efficient measures in Council buildings. • Support for local renewable energy initiatives (both small and large). • Council support for green industries e.g. cogeneration. • Lack of awareness by the community of existing programs and opportunities and their benefits. • Firewood collection impacts. • Keeping abreast of advances in technology.
6C	<p>Assist the “Friends of Waste Management” group in the preparation and implementation of the Crows Nest Shire Waste Management Strategy. Assist the “Friends of Waste Management” group to address relevant issues and matters including:</p> <ul style="list-style-type: none"> • Need for a regional waste management strategy. • Need for a local waste management strategy. • Importance of the waste hierarchy, i.e. avoidance, re-use, repair-reclaim, recycle. • Benefits/disadvantages of kerbside recycling versus separating the waste stream at the transfer station. • Lack of recycling and reuse by residents. • Lack of the full range of recycling opportunities. • Lack of awareness. • Need to target education programs at the different waste management needs of different sectors of the community e.g. the different waste management needs of urban and rural landholders. • Impact of existing rubbish dumps on significant remnant vegetation, water quality and other natural resources. • Illegal dumping and roadside littering. • Management of industrial waste including organic waste. • Diversion of green waste.

3. Implementation Processes

- 3.1 Implementation Processes for the Action Plans.
- 3.2 Communication, education and awareness program.
- 3.3 Landholder funding assistance programs.
- 3.4 Work Plan.

3.1 Implementation Processes for the Action Plans

The Action Plans from Sections 2.1 to 2.6 of the NRM Strategy will be implemented through a range of linked processes. The Work Plan (see Section 3.4) shows how the Actions from the Action Plans relate to the Implementation Processes, and also shows timelines and lead responsibility for implementation.

The Implementation Processes are:

1. **Code of Environmental Practice** for Council Activities, which includes a Transport Corridor Conservation Strategy.
2. **Community attitude survey.**
3. **Small grants** to assist landholders with the costs of NRM activities on private land (see Section 3.3).
4. **Property Management Planning**, including Fire Management.
5. **Voluntary Conservation Agreement Policy.**
6. **Rate Rebate/Deferral Policy** (see Section 3.3).
7. **On-ground works.** These works will primarily be on public land, but will also include some works on private land as part of the devolved-grant program.
8. **Revision of Property Pest Management Plan** to create a new *Weed and Pest Animal Plan for Crows Nest Shire.*
9. **Environmental rates contribution review.**
10. **Adopt-a-corridor.**
11. **Vegetation mapping update.**
12. **Vegetation corridor mapping update.**
13. **Recovery Plan** for threatened species and ecosystems.
14. **Water Management Strategy.**
15. **Air Quality Strategy.**
16. **Crows Nest Shire IPA Planning Scheme.**
17. **Engagement of other stakeholders.**
18. **Communication, education and awareness** program (see Section 3.2).
19. **NRM Program review**, where the success of Action Plan implementation is evaluated.

3.2 Communication, education and awareness program

A communication, education and awareness program will be implemented to assist the successful achievement of the desired outcomes of the NRM Strategy.

Target audience

The communication, education and awareness program will be targeted at a wide audience, including:

- The NRM Reference Group.
- Landholders and residents.
- Visitors to the Shire.
- Councillors and Council staff.
- School students.
- Public land managers.
- Wider audience - people outside the area with an interest in NRM and the Crows Nest NRM Program.
- Adjoining Local Governments.
- Business and industry, including the commerce, tourism and large industry sectors.

Needs

The communication, education and awareness program will address the specific needs of each of the six Action Plan issues groups. The needs of each group will include:

1. Weeds and pest animals:
 - Awareness of the existing *Property Pest Management Plan* and that it is going to be revised.
 - Awareness of the need for the *Weed and Pest Animal Management Plan for Crows Nest Shire*, i.e. why is there a need to manage weeds and pest animals?
 - Rewards for ‘champion’ landholders, to promote and demonstrate good practice to other landholders.
 - Awareness of funding assistance programs.
2. Nature conservation:
 - Nature conservation award scheme.
 - Adopt-a-corridor program.
 - Engagement of landholders and public land managers in nature conservation.
 - Support networks and information on who to contact for assistance, e.g. who to contact at Council. This information could be put on the Council website.
3. Water quality and quantity:
 - Promotion of riparian management.
 - Use of ‘Healthy Waterways’ education packages, Department of Natural Resources and Mines (DNR&M) education materials, and the ‘environmental values’ setting program.

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4. Rural land use and management:
 - Education for other decision-makers, e.g. seminars, presentations at meetings, information on the Council website, meetings with key stakeholders.
5. Tourism, recreation, scenic amenity and cultural heritage:
 - Education for other decision-makers, e.g. seminars, presentations at meetings, information on the Council website, meetings with key stakeholders.
6. Air quality, energy efficiency, renewable energy and waste management:
 - 'Airwatch' program.
 - Education for other decision-makers, e.g. seminars, presentations at meetings, information on the Council website, meetings with key stakeholders.

The communication, education and awareness program also needs to create an awareness of what is really a problem and what is not (e.g. a wildfire burning through an area of bushland may be thought to be a problem when in fact the area of bushland features a fire-dependant ecosystem that will not survive without wildfire).

Activities

A Communication, Education and Awareness Working Group will be established. The Working Group will develop and implement a program of communication, education and awareness activities, which could include:

1. A 'land management expo' similar to events carried out in Ipswich and the Oxley Creek Catchment near Brisbane.
2. Possum-box and bird-box building field activities, which can communicate an understanding of an important aspect of biodiversity conservation and also provide a win-win solution for people who have problems with possums in their roof.
3. Articles in newspapers and segments on television programs, e.g. articles in local newspapers, articles in wider coverage newspapers such as the 'Great Outdoors' section of Friday's Courier Mail, segments on Channel 7's 'Great South East' program.
4. Property Management Planning:
 - Futureprofit program.
 - Crows Nest Shire Land Management Manual.
 - Non-producer Property Management Planning Kit.
 - Threatened species and ecosystems fact sheets.
 - Individual Property Fire Management Planning Kit.
 - Ecotourism workshops.
5. Information on Council's website.
6. Demonstrating good practice at Council venues, e.g. using local native species in landscaping.
7. Researching and promoting 'living history', e.g. oral histories from long-term landholders discussing the changes to the landscape that have occurred during their lives.

8. Written material:
 - Regular newsletters.
 - Including information with rates notices.
 - Information signs and brochures.
 - Use of a common theme (symbols and graphics) on information signs and brochures.
 - Information in the park displays.
 - Environmental events calendar.
 - Rainfall chart incorporating an environmental events calendar and other useful information.
 - Newspaper columns.
 - Information at tourist venues, plant nurseries etc.
9. School holiday programs.
10. Displays in the Crows Nest Library.
11. Enhanced display in the Crows Nest Shire Council Administration Centre foyer.
12. Workshops.
13. Communication with Indigenous people.
14. Awards:
 - Photo competition.
 - Native garden.
 - Pasture care.
 - Property management - various categories which could include nature conservation, riparian management etc.

3.3 Landholder funding assistance programs

Landholder funding assistance programs will be implemented to assist the successful achievement of the desired outcomes of the NRM Strategy. The landholder funding assistance programs are:

1. A landholder small grants program, and
2. A landholder rate rebates/deferrals program.

Landholder small grants program

Landholders will be able to apply for grant funding to assist them to carry out NRM activities on their property, e.g. fencing off areas of significant remnant vegetation, pasture rehabilitation, contour bank repairs etc. The landholder small grant process involves:

1. A public call for applications.
2. Interested landholders make application.
3. An assessment committee assesses the applications.
4. Successful applicants enter into a management agreement and receive assistance.

To be considered eligible for funding assistance, the Natural Heritage Trust (NHT) guidelines require landholders to contribute 50% of their total project costs. The landholder contribution can be either in-kind, such as contributing their own physical labour or using their own machinery, or the landholder contribution can be cash.

In 2001, one public call for applications will be made in September. In 2002, two public calls for applications are proposed for March and September (subject to the receipt of ongoing project funding from the Natural Heritage Trust). From 2003, ongoing public calls for applications are proposed using funds from the environmental rates contribution. The funds expected to be available in 2001 and 2002 are shown in the tables below.

2001			
NRM activity	Environmental rates contribution	Natural Heritage Trust funds	Total funding available
Fencing off areas of significant remnant vegetation (total funding covers 12 km of materials @ \$1,000/km).	4,000	8,000	12,000
Trees for rehabilitating degraded significant remnant vegetation and corridors (total funding covers 1000 trees @ \$2.75 each).		2,750	2,750
Pasture rehabilitation, contour repairs etc. (e.g. pasture rehabilitation @ \$40/ha, contour repairs @ \$640/km).	6,400		6,400

2002			
NRM activity	Environmental rates contribution	Natural Heritage Trust funds	Total funding available
Fencing off areas of significant remnant vegetation (total funding covers 30 km of materials @ \$1,500/km).		45,000*	45,000*
Trees for rehabilitating degraded significant remnant vegetation and corridors (total funding covers 2000 trees @ \$2.75 each).		5,500	5,500
Pasture rehabilitation, contour repairs, protection of remnant and riparian vegetation etc. (e.g. pasture rehabilitation @ \$40/ha, contour repairs @ \$680/km, protection of remnant and riparian vegetation @ \$53/ha).	25,000	75,000	100,000

* \$36,000 was specified in the original approved NHT application. \$45,000 has been applied for in the continuing NHT application based on revised NHT guideline \$/km rates for fencing, however the increase to \$45,000 has not yet been approved.

Landholder rate rebates/deferrals program

Landholders will also be able to apply for rate rebates or deferrals for areas of significant remnant vegetation that they have set aside through a conservation agreement. The rate rebate/deferral amounts and eligibility criteria will be determined in the Rate Rebate/Deferral Policy.

3.4 Work Plan

Implementation process	Actions	Lead responsibility	Timelines
1. Code of Environmental Practice	1B, 2F, 3B, 3C, 5A, 6A	CNSC NRM Officer	Start 08/01, finish 07/02.
2. Community attitude survey	2A, 3B, 3C	UQ Industrial Placement Student	Start 08/01, finish 11/02. Feed outputs into Voluntary Conservation Agreement Policy, Rate Rebate/Deferral Policy, Environmental rates contribution review and Water Management Strategy.
3. Small grants	2B, 3B, 4A	CNSC NRM Officer, CNSC NRM Field Supervisor	Start set-up phase 08/01, finish set-up phase 09/01. Three small grant rounds in 09/01, 03/02 and 09/02.
4. Property Management Planning	2B, 3B, 4A	CNSC NRM Officer	Start set-up phase 08/01, finish set-up phase 03/02 and implement from second small grant round onwards.
5. Voluntary Conservation Agreement Policy	2B, 3B, 4A	CNSC NRM Officer	Start with basic agreements for first devolved-grant round. Start detailed policy 12/01, finish 03/02 and implement from second small grant round onwards.
6. Rate Rebate/Deferral Policy	2B, 3B, 4A	CNSC NRM Officer	Start determining community views 08/01, finish 11/01. Start detailed policy 12/01, finish 03/02 and implement from second small grant round onwards.
7. On-ground works	2B, 3B, 4A	CNSC NRM Field Supervisor, CNSC NRM Work Crew	Was commenced 05/01. Primary focus on public land, with some private land work in conjunction with the small grant rounds.

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Implementation process	Actions	Lead responsibility	Timelines
8. Revision of Property Pest Management Plan	1A, 1B, 1C	CNSC NRM Officer	Start 08/01, finish 02/02.
9. Environmental rates contribution review	2B	CNSC Director Technical Services	Review in 03/02 in lead-up to Council 2002-2003 budget preparation.
10. Adopt-a-corridor	2B	CNSC NRM Officer	Start 01/02, implementation ongoing.
11. Vegetation mapping update	2C, 2F	Queensland Herbarium	Start 08/01, finish 10/01. Feed outputs into Recovery Plan 10/01.
12. Vegetation corridor mapping update	2D, 2F	CNSC Environmental Officer	Start 08/01, finish 07/02. Feed outputs into Water Management Plan on an ongoing basis.
13. Recovery Plan	2E, 2F	CNSC NRM Officer	Start 09/01, finish 03/02. Feed outputs into Planning Scheme 03/02.
14. Water Management Strategy	3A, 3B, 3C	CNSC NRM Officer	Was commenced 07/01, finish planning focus phase 03/02 and feed outputs into Planning Scheme 03/02. Continue focus on other aspects (e.g. on-ground works) beyond 03/02.
15. Air Quality Strategy	6A	CNSC NRM Officer	Start 02/02, finish 03/02. Feed outputs into Planning Scheme 03/02.
16. Crows Nest Shire IPA Planning Scheme	1B, 2B, 2F, 3B, 3C, 4B, 5A, 6A, 6B	CNSC planning consultant	Start preparation of detailed plan 03/02.
17. Engagement of other stakeholders	4A, 4B, 5A, 6A, 6B, 6C	CNSC NRM Officer	Start 08/01, implementation ongoing.
18. Communication, education and awareness	All	CNSC NRM Officer	Start 08/01, implementation ongoing.
19. NRM Program review	All	Consultant	Start 10/02, finish 11/02.

Notes