



Leigh Catchment Action Plan

2008-2013



Leigh Catchment Group



Leigh Catchment Action Plan: 2008-2013

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Leigh Catchment Group



Centre for Environmental Management



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Abbreviations

AAV	Aboriginal Affairs Victoria
AVW	Atlas of Victorian Wildlife database
BEN	Ballarat Environment Network
CAP	Catchment Action Plan
CaLP Act	<i>Catchment and Land Protection Act 1994</i>
CCMA	Corangamite Catchment Management Authority
CFA	Country Fire Authority
DSE	Department of Sustainability and Environment
DPI	Department of Primary Industries
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
EVC	Ecological Vegetation Class
FFG Act	<i>Flora and Fauna Guarantee Act 1988 (Vic)</i>
FIS	Flora Information System database
GIS	Geographic Information System
ISC	Index of Stream Condition
KTRI	Keith Turnbull Research Institute
LAL	Landcare Australia Ltd
LCG	Leigh Catchment Group
NRM	Natural Resource Management
PIRVic	Primary Industries Research Victoria
TFN	Trust for Nature
TSN	Threatened Species Network
VROT	Victorian Rare or Threatened species

1. Introduction

1.1. Background

The Leigh Catchment Group (LCG) formed in 1997 following recognition by the Landcare Groups of the Catchment that a combined and coordinated approach to management of the catchment would result in improved works and lead to an increase in funding for larger scale Natural Resource Management projects. The following groups are LCG members:

- Bamganie-Meredith Landcare Group.
- Garibaldi Environment Group.
- Grenville Landcare Group.
- Leigh Districts Landcare Group.
- Napoleons/Enfield Landcare Group.
- Ross Creek Landcare Group.
- South Ballarat Urban Landcare Group.
- Upper Williamson's Creek Landcare Group.
- Wattle Flat/Pootilla Landcare Group.
- LINCS (Linear Network of Communal Spaces) program.

Historically the Executive Committee consisted of an independent chairman, secretary, treasurer and two voting representatives from each Landcare Group. Since 2009 this has been replaced by the Leigh Catchment Board consisting of nine elected Landcare Members. There are two Landcare coordinator positions (currently equivalent to 1.8 FTE positions). The coordinators are responsible for managing projects and activities undertaken through the LCG and also provide support to the Landcare Group members. Various additional short term appointments have been employed to assist with administration and specific projects or activities.

The LCG is supported by the Department of the Environment, Water, Heritage and the Arts (Commonwealth), Department of Sustainability and Environment (Vic), Department of Primary Industries (Vic), Corangamite Catchment Management Authority, Central Highlands Water, Southern Rural Water, Greening Australia, Trust for Nature, City of Ballarat, Golden Plains Shire, Moorabool Shire Council, University of Ballarat, Ballarat Environment Network, community groups and individuals.

The current Leigh Catchment Plan was produced in August 1999 by the Leigh Catchment Group with assistance from Landcare groups within the catchment. The Plan incorporates the Yarrowee River and Leigh River Management Plans.

The Leigh Catchment Group received funding from Victorian Government's Second Generation Landcare 06-07 program to revise and update the existing Leigh Catchment Plan. The aim of the revision and update is to integrate current strategic direction, expert knowledge and community desires to enable the development of prioritised actions to protect the catchment's valuable assets and mitigate potential threats to these assets.

1.2. The Leigh Catchment

The Leigh Catchment covers an area of 890 square kilometres including the Yarrowee River which becomes the Leigh River at its confluence with Williamson's Creek. The Leigh River flows into the Barwon River at Inverleigh. The Leigh Catchment contains a diverse range of topographic features from gently undulating hills, wide valleys and river flats, to steep escarpments and rocky gorges.

The catchment supports areas of significant remnant native vegetation including forests, woodlands, grasslands and wetlands occurring on private and public land. The Leigh River supports intact corridors of riparian vegetation with important fauna habitat values. Agriculture is the predominant land use in the catchment. The urban and semi urban areas of Ballarat are also a significant component of the catchment.

Rivers and tributaries of the catchment include:

Yarrowee River

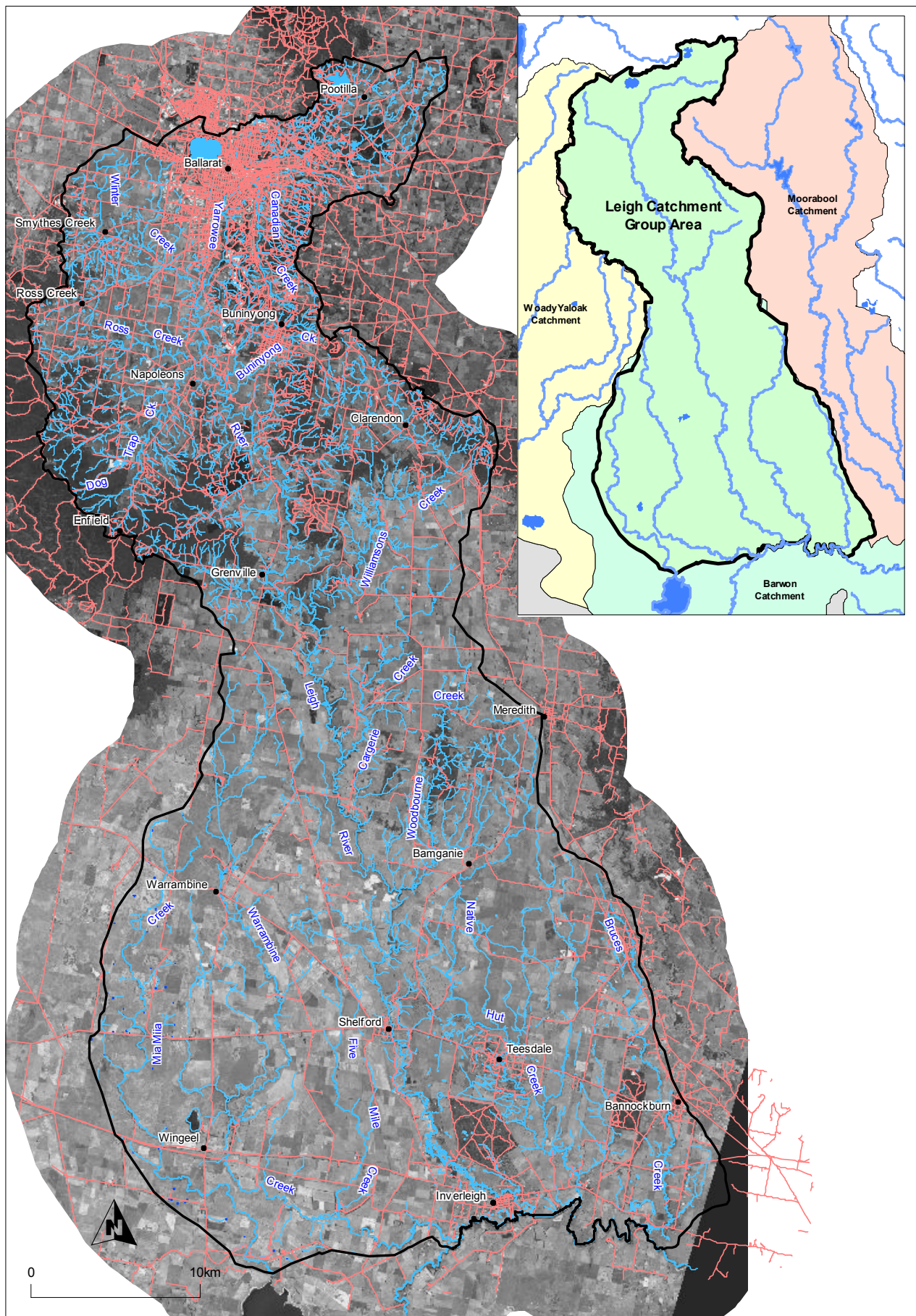
- Canadian Creek sub-catchment including Pennyweight Gully, No. 3 Channel, Specimen Vale and Warrenheip Gully.
- Urban sub-catchment including Little Bendigo Creek, Redan Creek, Water Street Drain, Black Hill Creek, Gnarr Creek, Gladstone Creek and Warrenheip Creek.
- Mid Yarrowee sub-catchment including Buninyong Creek, Dog Trap Creek, Ross Creek and Winter Creek.
- Lower Yarrowee sub-catchment including Back Creek, Monmouth Gully and Williamsons Creek.

Leigh River (begins at the confluence of Williamsons Creek and the Yarrowee River)

- Cargerie Creek
- Woodbourne/Wilsons Creek

The Warrambine Creek, Native Hut Creek, and Bruces Creek subcatchments which flow directly into the Barwon River, and the Mia Mia Creek sub-catchment which flows into Lake Murdeduke, were added to the LCG area in 2002 increasing it to 1580 square kilometres (Figure 1-1).

Figure 1-1 Leigh Catchment Group area



1.3. Purpose

The Leigh Catchment Action Plan establishes a long term direction and identifies priority actions for the protection and enhancement of natural resources within the Leigh Catchment Group area. The Leigh Catchment Action Plan (CAP):

- Incorporates strategies, priorities and direction from current local, regional, state and national plans and frameworks.
- Identifies and describes natural resource values within the LCG area.
- Identifies and describes threats to natural resources within the LCG area.
- Describes previous NRM activities within the LCG area.
- Identifies a set of actions to protect and enhance NRM values within the LCG area.
- Identifies processes and partners for implementation of NRM actions.
- Describes a monitoring and evaluation process to enable assessment and reporting of NRM projects.
- Identifies community engagement and capacity building strategies to help deliver and achieve the CAP outcomes.

1.4. Vision

The Corangamite Regional Catchment Strategy vision (CCMA 2003) lists the following key outcomes:

- A healthy environment.
- Sustainable economic use of natural resources.
- A smaller footprint.
- A planned landscape.
- Cohesive, innovative communities.
- Partnership between community and government.

In recognition and support of the above desired outcomes, the Leigh Catchment Group's vision for the catchment is:

Working together to achieve sustainable ecosystems, agriculture and communities.

1.5. Plan Development

The Leigh Catchment Action Plan is being developed through the following process:

- Review of existing catchment information and data,
- Identification of sub-catchment management areas,
- Identification and description of catchment assets/values and threats within the sub-catchments,
- Development of NRM actions required to address threats within the sub-catchments,
- Preparation of Draft LCG Catchment Action Plan document,
- Review of a Draft Plan by LCG member Landcare groups, landholders and other stakeholders (in process),
- Review of stakeholder feedback and finalisation of LCG Catchment Action Plan (to be completed).

2. Strategic Framework and Existing Information

2.1. Supporting strategies and plans

A range of state and regional natural resource management strategies, plans and policies provide a framework for the Leigh Catchment Action Plan. This framework is positioned within the broader context of National and International NRM policies and strategies. A list of the most relevant state, regional and local strategies and plans for the LCG area is provided in Table 2-1. These strategies, plans and reports contain relevant background information and provide direction and priorities for NRM activities within the Leigh Catchment.

Table 2-1 State, regional and local NRM strategies and plans

TITLE	YEAR
STATE	
Land and Biodiversity White paper	Victorian Government (in prep.)
Our Environment Our Future: Sustainability Action Statement	(DSE 2005c)
Our Environment Our Future: Victoria's Environmental Sustainability Strategy	(DSE 2005d)
Our Water Our Future: Ballarat Regional Action Plan	(DSE 2005e)
Our Water Our Future: Securing Water Future Together (Government White Paper)	(DSE 2004c)
Victoria's Biodiversity Strategy: Directions in Management Our Living Wealth Sustaining Our Living Wealth	(DNRE 1997b)
Victoria's Greenhouse Strategy Action Plan Update	(DSE 2005f)
Victoria's Native Vegetation Management: A Framework for Action	(DNRE 2002a)
Victorian Pest Management – A Framework For Action	(DNRE 2002f)
Victorian Pest Management – Fox Management Strategy	(DNRE 2002b)
Victorian Pest Management – Public Land Pest Management Strategy	(DNRE 2002c)
Victorian Pest Management – Rabbit Management Strategy	(DNRE 2002d)
Victorian Pest Management – Weed Management Strategy	(DNRE 2002e)
Victorian Salinity Management Framework	(DNRE 2000)
REGIONAL	
Corangamite Landcare Support Strategy 2004-2009	(CCMA 2004b)
Corangamite Native Vegetation Plan: 2003-2008	(CCMA 2005)
Corangamite Rabbit Action Plan: 2001 - 2006	(CCMA 2000a)
Corangamite Regional Catchment Strategy: 2003 -2008	(CCMA 2003)
Corangamite Regional Nutrient Management Plan	(CCMA 2000b)
Corangamite Regional Wetland Strategy: 2006-2011	(CCMA 2006a)
Corangamite River Health Strategy	(CCMA 2006b)
Corangamite Salinity Action Plan 2005-2008	(Nicholson <i>et al.</i> 2006)
Corangamite Soil Health Strategy 2006-2012	(Clarkson 2007)
Corangamite Water Quality Plan	(in prep)
Corangamite Weed Action Plan: 2001- 2004	(CCMA 2000c)
LOCAL	
Ballarat Koala Plan of Management (Draft)	(Schlagloth <i>et al.</i> 2006)
Blueprint Ballarat	(City of Ballarat 2004)
Cities for Climate Protection – City of Ballarat Greenhouse Action Plan (draft)	(City of Ballarat 2003)
City of Ballarat Environmental Sustainability Strategy	(Milne & Kendal 2007)
City of Ballarat Open Space Strategy (Draft)	(City of Ballarat <i>et al.</i> 2007)
City of Ballarat Roadside Management Plan (Draft)	(City of Ballarat 2000)
Leigh Catchment Plan: Incorporating the Yarrowee River and Leigh River Management	(Leigh Catchment Group)

TITLE	YEAR
Plans	2000)
LINCS strategy	(LINCS Committee 1995)
Mount Buninyong Scenic Reserve Final Management Plan	(CEM 1997)
Urban and Upper Tributaries, Buninyong Creek and Canadian Creek Master Plans	2000
Yarrowee River Corridor Landscape Master Plans and Land Management Plan	(Thomson Hay & Associates 1995)

2.2. Catchment Information

In addition to information contained in the strategies and plans listed in Section 2.1, a range of other data sources were used to obtain information on the natural resources/values and threats within the LCG area. The following databases and datasets were accessed to extract data for the LCG area:

- CAMS (Catchment Activity Management System) (DSE).
- Corangamite Catchment Management Authority GIS datasets (CCMA).
- Leigh Catchment Group Project Database (LCG).
- Flora Information System (DSE).
- Atlas of Victorian Wildlife (DSE).
- Ecological Vegetation Class GIS dataset (DSE).
- VicMap GIS datasets including topographic, waterway and wetland, road, and Victorian Planning Scheme layers.
- Roadside mapping databases

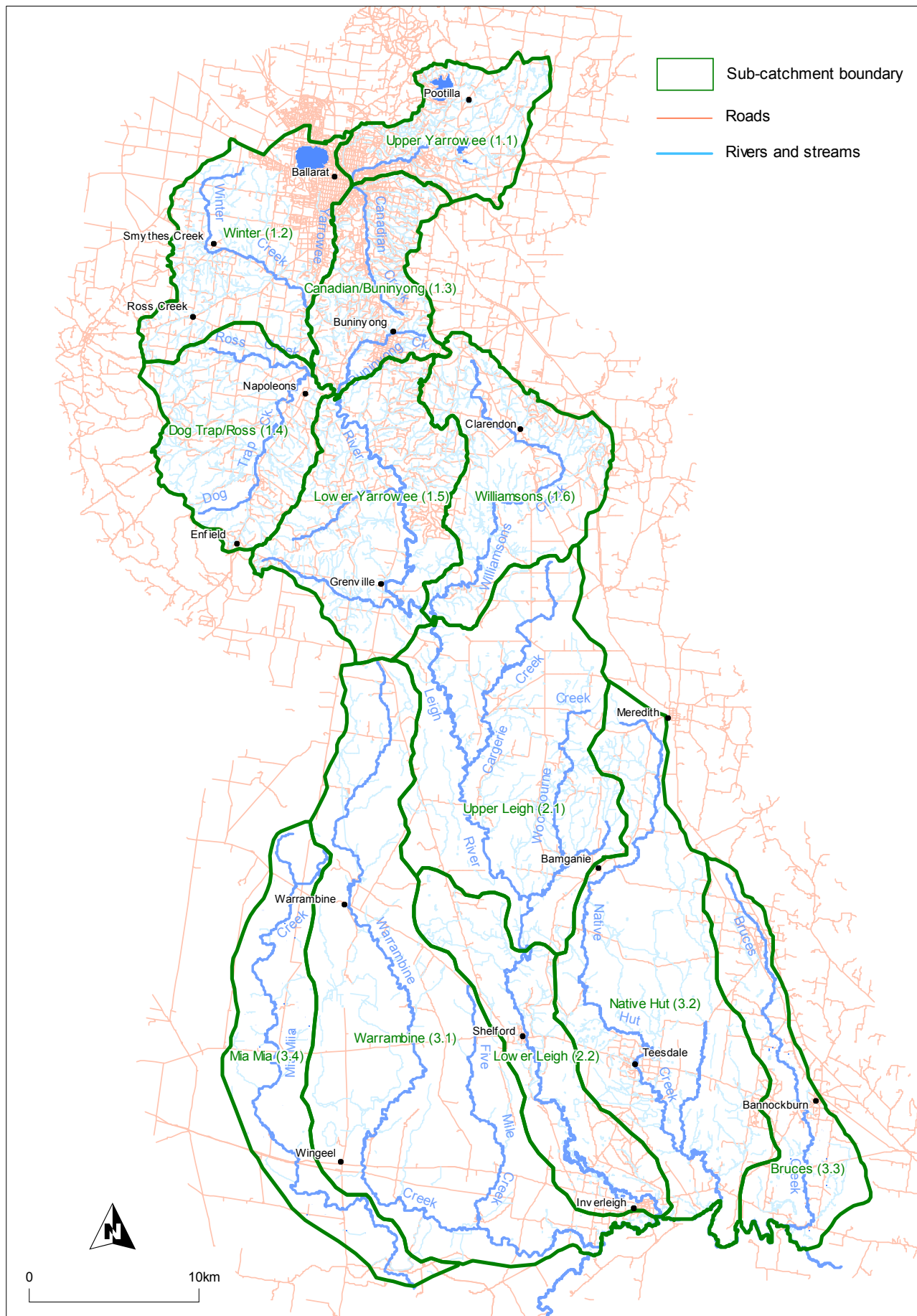
2.3. Sub-catchment Management Areas

The Leigh Catchment was divided into eight sub-catchments to enable the identification of assets, threats and actions at a scale that will allow targeted management of natural resources within the Leigh River catchment. The sub-catchment areas were developed with consideration of hydrological boundaries, land type and land use features. A further four sub-catchments of the Barwon River neighbouring the Leigh Catchment that are currently part of the Leigh Catchment Group area are also included. The sub-catchments are listed in Table 2.2 and shown in Figure 2-1.

Table 2-2 Sub-catchments of the Leigh River

ID	Sub-catchment Name	River Catchment	River section	Area (hectares)
1.1	Upper Yarrowee	Yarrowee	Upper	6,406
1.2	Winter	Yarrowee	Mid	10,880
1.3	Canadian/Buninyong	Yarrowee	Mid	6,846
1.4	Dog Trap/Ross	Yarrowee	Mid	9,727
1.5	Lower Yarrowee	Yarrowee	Lower	13,194
1.6	Williamsons	Yarrowee	Lower	10,666
2.1	Upper Leigh	Leigh	Upper	20,851
2.2	Lower Leigh	Leigh	Lower	9,898
3.1	Warrambine	Barwon	Mid	29,598
3.2	Native Hut	Barwon	Mid	21,046
3.3	Bruces	Barwon	Mid	8,432
3.4	Mia Mia	Murdeduke	Upper	10,653

Figure 2-1 Sub-catchment management areas



2.4. Natural Resource Management

Land, water and other natural resources within the LCG area are managed by a range of government agencies, non-government organisations, community groups, business and industry groups and private landholders. The key agencies, groups and individuals involved in natural resource management within the LCG area are:

- Ballarat and District Aboriginal Cooperative
- Ballarat Environment Network
- Barwon Water
- Central Highlands Water
- City of Ballarat
- Colac Otway and Surf Coast (small sections of the southern area of the Leigh Catchment Group area)
- Corangamite Catchment Management Authority
- Country Fire Authority
- Department of Planning and Community Development (including Aboriginal Affairs Victoria)
- Department of Primary Industries
- Department of Sustainability and Environment
- Golden Plains Shire
- Greening Australia
- Heritage Victoria
- Landcare and environmental groups (see below for list of groups within LCG area)
- Moorabool Shire Council
- Parks Victoria
- Private landholders and land managers
- Seeding Victoria
- Southern Rural Water
- VicRoads
- VicTrack
- Wathaurong community

There are currently nine Landcare/environment groups with areas of interest that occur within the LCG area. The urban and semi-urban area covered by the LINCS (Linear Network of Community Spaces) program managed by the City of Ballarat is also within the LCG area. The groups, and the sub-catchments covered by their area of activity, are listed in Table 2-3. Landcare group boundaries are shown in Figure 2-2.

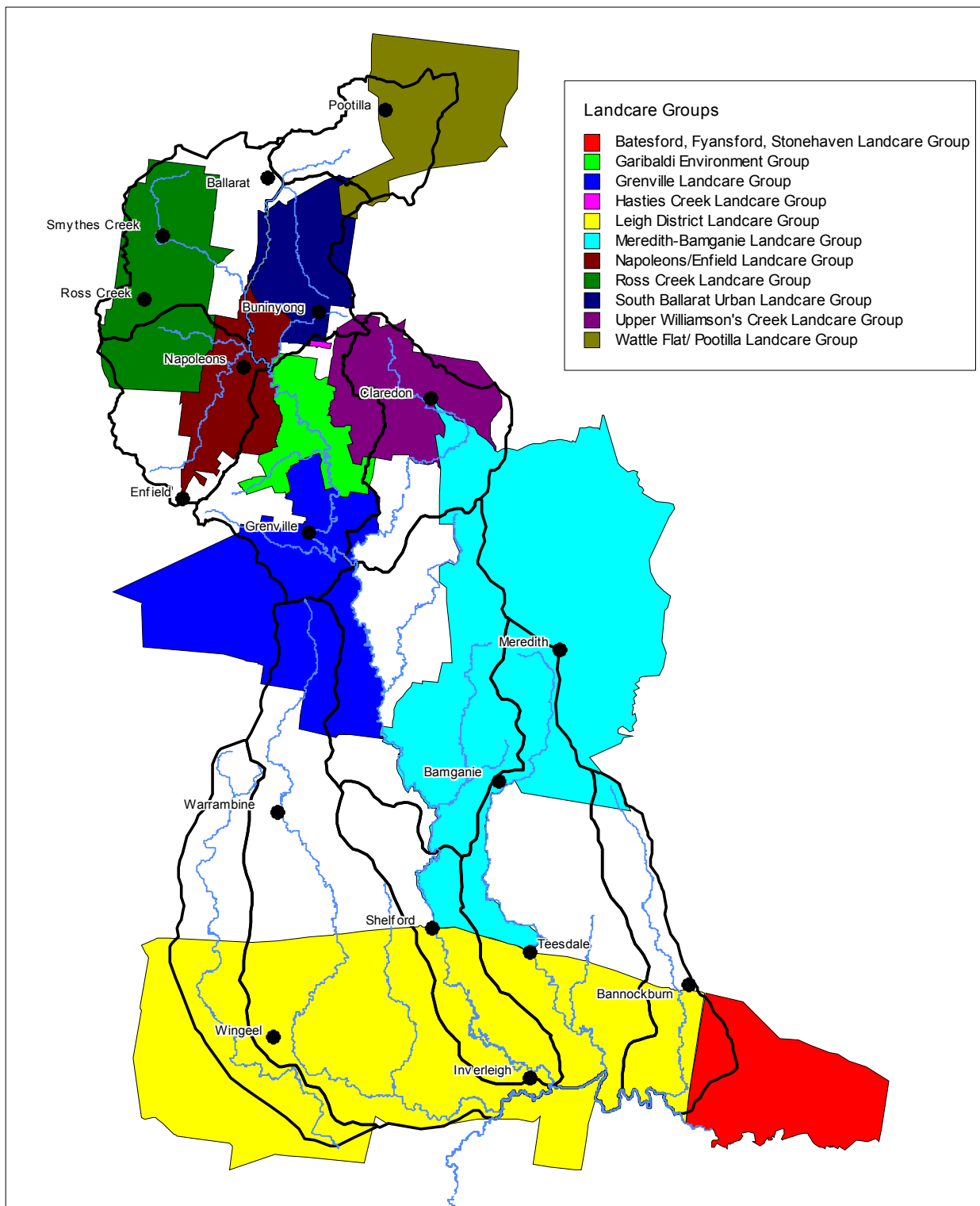
Table 2-3 Landcare/environment groups associated with the Leigh Catchment Group area

Landcare Group	Approx. area (ha) within LCG	Proportion of LCG area (%)	Sub-catchments covered by Landcare group
Bamganie-Meredith Landcare Group	20,340	13	Upper Leigh (50%) Native Hut (30%) Williamsons (10%) Lower Leigh (10%)
Garibaldi Environment Group	4,000	3	Lower Yarrowee (95%) Williamsons (<5%)
Grenville Landcare Group	10,400	7	Lower Yarrowee (40%) Warrambine (30%) Upper Leigh (25%)
Leigh Districts Landcare Group	36,370	23	Warrambine (45%) Native Hut (20%) Lower Leigh (15%) Mia Mia (15%) Bruces (11%)
Napoleons-Enfield Landcare Group	5,730	4	Dog Trap/Ross (60%) Lower Yarrowee (20%)

Landcare Group	Approx. area (ha) within LCG	Proportion of LCG area (%)	Sub-catchments covered by Landcare group
			Canadian/Buninyong (15%) Winter (10%)
Ross Creek Landcare Group	9,370	6	Winter (65%) Dog Trap/Ross (35%)
South Ballarat Urban Landcare Group	5,400	3	Canadian/Buninyong
Upper Williamson's Creek Landcare Group	7,700	5	Williamsons (80%) Lower Yarrowee (20%) Canadian/Buninyong (<5%)
Wattle Flat/Pootilla Landcare Group	3,370	2	Upper Yarrowee

Figure 2-2 Landcare group boundaries

Data source: CCMA dataset



3. Catchment Assets and Threats

3.1. Assets

A wide range of natural resource and environmental values occur within the LCG area. An overview of the key assets located within the LCG area is provided in Table 3-1. A description of land use and the key environmental assets is provided in Tables 3-2 — 3-6. A profile of natural resource assets for each of the 12 LCG sub-catchments is provided in Section 6.

The following environmental values/assets of the LCG area are shown in Figures 3-1 — 3-10.

- Figure 3-1 Distribution of remnant native vegetation classified by Bioregional Conservation Status (see Appendix 4 for Bioregional Conservation Status definitions).
- Figure 3-2 Broad distribution of rare and/or threatened fauna. A list of threatened fauna for each sub-catchment is provided in Section 6.
- Figure 3-3 Distribution and quantity of Atlas of Victorian Wildlife records.
- Figure 3-4 Broad distribution of rare and/or threatened flora. A list of threatened flora for each sub-catchment is provided in Section 6.
- Figure 3-5 Distribution and quantity of Flora Information System records.
- Figure 3-6 Major waterways and wetlands.
- Figure 3-7 Waterway environmental condition (Index of Stream Condition assessment).
- Figure 3-8 Land used for agriculture (grazing, cropping, dairy), horticulture or forestry.
- Figure 3-9 Roadside conservation status (RCAC roadside assessment rating).
- Figure 3-10 Aboriginal cultural heritage place sites.

Table 3-1 Summary of natural resource assets within the Leigh Catchment Group area

Asset	Description and significance	State and regional priorities
Native vegetation communities and flora	<ul style="list-style-type: none"> • 932 native flora species. • 77 rare or threatened native flora species. • 19,000 hectares of remnant native vegetation. • 23 native vegetation communities. • 21 threatened vegetation communities. • Approximately 250 mapped roadsides supporting medium to very high conservation significance native vegetation (see Appendix 1 for list of roads). 	<ul style="list-style-type: none"> • Victoria's Biodiversity Strategy (DNRE 1997a) lists general priorities for each bioregion across the state. • Corangamite Native Vegetation Plan (CCMA 2005) priorities include: <ul style="list-style-type: none"> • Priority Ecological Vegetation Class (EVC) for protection • Priority EVCs for revegetation. • Linear reserves • Scattered trees • Threatened flora • Threatened fauna. • Flora listed under FFG Act and EPBC Act. • DSE Biosites. • DSE and Parks Victoria management plans identify significant conservation areas through zoning and identify priority management strategies for individual Parks or reserves. • Areas covered by Local Government planning scheme Vegetation Protection Overlays. • Significant roadsides identified in Roadside Management Plans and/or significant identified from roadside vegetation surveys.

Asset	Description and significance	State and regional priorities
Native fauna	<ul style="list-style-type: none"> 322 native fauna species. 56 rare and/or threatened native fauna species. 	<ul style="list-style-type: none"> Victoria's Biodiversity Strategy (DNRE 1997a) lists general priorities for each bioregion across the state. Fauna listed under FFG Act and EPBC Act. Victorian Rare and/or threatened fauna (DSE 2005a, 2007). DSE Biosites. Koala habitat and management areas (Schlagloth <i>et al.</i> 2006)
Waterway and wetland systems	<ul style="list-style-type: none"> 500 kilometres of major rivers and streams (Yarrowee/Leigh River 108 kilometres). 140 wetlands. Nationally Significant wetlands - Lake Wendouree. Regionally significant (environmental) waterway - Leigh River (Reach B12) (CCMA 2004a). 	<ul style="list-style-type: none"> CCMA River Health Strategy (CCMA 2004a) priority waterway – Leigh River (Williamsons Creek confluence to Barwon River section) CCMA Wetland Strategy (CCMA 2006a) key wetlands - White Swan Reservoir, Lake Wendouree, Gong Gong Reservoir, Kirk Reservoir, Pincott Reservoir, Bingley Swamp. Yarrowee/Leigh/Canadian/Buninyong Masterplans
Land	<ul style="list-style-type: none"> 126,000 hectares of agricultural and horticultural land. 4,800 hectares of semi-urban land use. 6,000 hectares of urban land use. 	<ul style="list-style-type: none"> Corangamite Salinity Action Plan (Nicholson <i>et al.</i> 2006) priority areas (none located within LCG area). Corangamite Soil Health Strategy (Clarkson 2007) investment priorities.
Cultural heritage	<ul style="list-style-type: none"> Aboriginal and non-aboriginal cultural heritage sites and objects. 	<ul style="list-style-type: none"> Sites and areas listed with AAV, Heritage Victoria, National Trust and other local heritage databases/archives.

Table 3-2 Leigh Catchment Features and Land Use Summary

Feature	Area (ha)	% of LCG area
LCG catchment area	158,197	na
Public land	16,150	10
Private land	142,046	90
Land use:		
Agriculture/Horticulture	126,047	80
Conservation	5,738	4
Forestry	7,820	5
Mining	545	<1
Semi-urban	4,832	3
Urban	5,980	4

Table 3-3 Area of native vegetation within the LCG area

Asset	Area (ha)	% of LCG area
Total area of remnant native vegetation	19,030	13
Total area of remnant native vegetation on public land	8,730	6
Total area of remnant native vegetation on private land	10,300	7
Endangered EVCs	2,895	15*
Vulnerable EVCs	2,116	11*
Depleted EVCs	4,322	23*
Least Concern EVCs	9,650	51*

Data source: EVC_BCS100 GIS data layer (DSE 2002). See Appendix 4 for EVC Bioregional Conservation Status definitions.

* Proportion of total area of native vegetation within the LCG area.

Table 3-4 Ecological Vegetation Classes mapped within the LCG area

EVC	EVC Name	BCS ¹ Status	Area (ha) mapped	Regional Priority EVC ²	
				VVP	CVU
3	Damp Sands Herb-rich Woodland	V	100		
16	Lowland Forest	LC	150		
20	Heathy Dry Forest	LC	9,500		
22	Grassy Dry Forest	D	3,530		
23	Herb-rich Foothill Forest	D,V	720	P,R	
47	Valley Grassy Forest	V	1,010		
53	Swamp Scrub	E	30	P,R	
55	Plains Grassy Woodland	E	1,900	P,R	P
56	Floodplain Riparian Woodland	E	160	P,R	
68	Creekline Grassy Woodland	E	50	P,R	
83	Swampy Riparian Woodland	E	60	P,R	R
125	Plains Grassy Wetland	X	2	P,R	P
128	Grassy Forest	V,E	580		
132	Plains Grassland	E	55	P,R	
164	Creekline Herb-rich Woodland	V,E	340	P	
175	Grassy Woodland	E	195	P,R	P,R
198	Sedgy Riparian Woodland	D	115		
641	Riparian Woodland	E	20	P,R	P,R
647	Plains Sedgy Wetland	E	70	P,R	P,R
691	Aquatic Herbland / Plains Sedgy Wetland Mosaic	E	10	P,R	
851	Stream-bank Shrubland	V,E	75		
895	Basalt Escarpment Shrubland	E	5		
897	Plains Grassland / Plains Grassy Woodland Mosaic	E	350	P,R	

Data source: EVC_BCS100 GIS data layer (DSE 2002). See Appendix 4 for EVC Bioregional Conservation Status definitions

¹ Bioregional Conservation Status: X – Possibly extinct; E – Endangered; V – Vulnerable; LC – Least Concern

² Corangamite Native Vegetation Plan priorities:

VVP – Victorian Volcanic Plain bioregion

CVU – Central Victorian Uplands bioregion

P – Regional priority EVC for protection and enhancement

R – Regional priority EVC for revegetation

Table 3-5 Rare and/or threatened fauna recorded within the LCG area

Species	VROT ¹	FFG ²	EPBC ³	Year of last record	Record count
Australasian Shoveler	v			2002	29
Australian Bustard	c	L		1955	7
Azure Kingfisher	n			2001	2
Baillon's Crake	v	L		2001	11
Barking Owl	e	L		1991	3
Black Falcon	v			2001	2
Black-chinned Honeyeater	n			2001	19
Black-eared Cuckoo	n			2001	8
Blue-billed Duck	e	L		2003	40
Brolga	v	L		2003	19
Brown Quail	n			1980	4
Brown Treecreeper	n			2003	16
Brush-tailed Phascogale	v	L		1993	6
Bush Stone-curlew	e	L		1914	1
Caspian Tern	n	L		1980	1
Chestnut-rumped Heathwren	v	L		1907	2
Common Bent-wing Bat	e	L	CD	1962	1

Species	VROT ¹	FFG ²	EPBC ³	Year of last record	Record count
Common Dunnart	v			1964	1
Common Sandpiper	v			1988	1
Diamond Dove	n	L		1999	1
Diamond Firetail	v	L		2000	29
Elegant Parrot	v			1954	1
Fat-tailed Dunnart	n			1996	7
Freckled Duck	e	L		2002	6
Glossy Ibis	n			1986	1
Great Egret	v	L		2003	24
Grey Goshawk	v	L		2001	5
Grey-crowned Babbler	e	L		1979	1
Growling Grass Frog	e	L	V	2001	10
Hardhead	v			2003	81
Hooded Robin	n	L		1989	4
Latham's Snipe	n			2001	13
Lewin's Rail	v	L		1994	4
Little Bittern	e	L		2000	9
Little Button-quail	n			1970	1
Macquarie Perch	e	L	E	1970	8
Major Mitchell's Cockatoo	v	L		1958	1
Mountain Galaxias		L		1999	41
Musk Duck	v			2003	91
Nankeen Night Heron	n			2000	9
Painted Honeyeater	v	L		1998	12
Pectoral Sandpiper	n			1998	2
Pied Cormorant	n			2001	10
Plains-wanderer	c	L	V	1955	3
Powerful Owl	v	L		1999	6
Red-tailed Black-Cockatoo	e	L	E	1896	1
Regent Honeyeater	c	L	E	1947	2
Royal Spoonbill	v			1980	2
Speckled Warbler	v	L		1979	3
Spot-tailed Quoll	e	L	E	1964	1
Spotted Harrier	n			2001	2
Spotted Quail-thrush	n			1976	3
Square-tailed Kite	v	L		2000	2
Striped Legless Lizard	e	L	V	1997	10
Swamp Skink	v	L		1999	5
Swift Parrot	e	L	E	2001	7
Whiskered Tern	n			1980	5
Yarra Pigmy Perch	n	L	V	2000	296

Data source: Atlas of Victorian Wildlife (DSE 2004a)

¹ Victorian Rare or Threatened animal status (DSE 2007):

c = Critically Endangered

e = Endangered

v = Vulnerable

n = Near Threatened

² Flora and Fauna Guarantee Act 1988 (Vic):

L = listed as threatened under schedule 1 of the Act

³ *Environment Biodiversity and Conservation Act 1999* (Cwlth):

C = listed as critically endangered

E = listed as endangered

V = listed as vulnerable

CD = listed as Conservation Dependent

Table 3-6 Rare and/or threatened flora recorded within the LCG area

Name	Common name	VROT ¹	FFG ²	EPBC ³	Year of last record	Record count
<i>Amphibromus sinuatus</i>	Wavy Swamp Wallaby-grass	v			1950	1
<i>Asperula charophyton</i>	Elongate Woodruff	k			1950	1
<i>Austrostipa hemipogon</i>	Half-bearded Spear-grass	r			1979	2
<i>Bossiaea cordigera</i>	Wiry Bossiaea	r			1998	2
<i>Brachyscome cuneifolia</i>	Wedge-leaf Daisy	k			1950	1
<i>Caladenia pumila</i>	Dwarf Spider-orchid	x	L	X	1950	1
<i>Caladenia sp. aff. fragrantissima (Inverleigh)</i>	Inverleigh Spider-orchid	e			1950	1
<i>Calandrinia volubilis</i>	Twining Purslane	r			1950	1
<i>Calochilus gracillimus</i>	Slender Beard-orchid	k			1990	2
<i>Cardamine gunnii s.s.</i>	Tuberous Bitter-cress	x			1950	2
<i>Cardamine tenuifolia</i>	Slender Bitter-cress	k			1950	1
<i>Carex chlorantha</i>	Green-top Sedge	k			1905	3
<i>Chiloglottis trilabra</i>	Tall Wasp-orchid	k			2001	1
<i>Chiloglottis X pescottiana</i>	Bronze Bird-orchid	r			1999	3
<i>Chionogentias gunniana</i>	Gunn's Forest-gentian	x			1950	1
<i>Comesperma polygaloides</i>	Small Milkwort	v	L		2002	24
<i>Corunastylis ciliata</i>	Fringed Midge-orchid	k			1950	1
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	2001	38
<i>Cullen tenax</i>	Tough Scurf-pea	e	L		1995	3
<i>Desmodium varians</i>	Slender Tick-trefoil	k			1992	1
<i>Dianella amoena</i>	Matted Flax-lily	e		E	1950	2
<i>Dipodium pardalinum</i>	Spotted Hyacinth-orchid	r			1950	1
<i>Distichium capillaceum</i>	Fine Fringe-moss	v			1898	3
<i>Diuris punctata var. punctata</i>	Purple Diuris	v	L		2002	5
<i>Diuris sp. aff. chryseopsis (Basalt Plains)</i>	Small Golden Moths	v	L	E	1990	2
<i>Eucalyptus brookeriana</i>	Brooker's Gum	r			2002	4
<i>Eucalyptus leucoxydon subsp. connata</i>	Melbourne Yellow-gum	v	X		1998	15
<i>Eucalyptus willisii subsp. falciformis</i>	Grampians Peppermint	r			1950	1
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		2002	73
<i>Euphrasia collina subsp. speciosa</i>	Purple Eyebright	x			no date	1
<i>Euphrasia scabra</i>	Rough Eyebright	e	L		no date	1
<i>Glycine latrobeana</i>	Clover Glycine	v	L	V	2001	23
<i>Gratiola pumilo</i>	Dwarf Brooklime	r			1996	1
<i>Grevillea bedgoodiana</i>	Enfield Grevillea	v		V	1998	13
<i>Grevillea chrysophaea</i>	Golden Grevillea	r			1950	2
<i>Grevillea steiglitziana</i>	Brisbane Range Grevillea	r			1950	2
<i>Hypoxis vaginata var. brevistigmata</i>	Yellow Star	k			2000	3
<i>Lachnagrostis adamsonii</i>	Adamson's Blown-grass	v	L	E	1998	6
<i>Lachnagrostis filiformis var. 2</i>	Wetland Blown-grass	k			1950	1
<i>Lachnagrostis punicea</i>	Purple Blown-grass	r			1950	4
<i>Lachnagrostis punicea subsp. filifolia</i>	Purple Blown-grass	r	L		1950	1
<i>Lachnagrostis punicea subsp. punicea</i>	Purple Blown-grass	r			1997	4
<i>Lachnagrostis robusta</i>	Salt Blown-grass	r			1998	8
<i>Lemna trisulca</i>	Ivy-leaf Duckweed	k			1993	2
<i>Lepidium pseudo-hyssopifolium</i>	Native Peppergrass	k			1993	1
<i>Lepidosperma canescens</i>	Hoary Rapier-sedge	r			1982	2
<i>Leptospermum turbinatum</i>	Shiny Tea-tree	r			1950	1

Name	Common name	VROT ¹	FFG ²	EPBC ³	Year of last record	Record count
<i>Leucochrysum albicans</i> subsp. <i>albicans</i> var. <i>tricolor</i>	White Sunray	e		E	2001	8
<i>Lotus australis</i>	Austral Trefoil	k			2001	5
<i>Microseris</i> sp. 1	Plains Yam-daisy	v			1950	1
<i>Nicotiana suaveolens</i>	Austral Tobacco	r			2001	4
<i>Olearia pannosa</i> subsp. <i>cardiophylla</i>	Velvet Daisy-bush	v	L		1950	1
<i>Olearia tubuliflora</i>	Rayless Daisy-bush	r			1971	4
<i>Pimelea spinescens</i>	Spiny Rice-flower	e	L		2000	14
<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower	v		C	2002	29
<i>Pleurosorus subglandulosus</i>	Glandular Blanket-fern	k			1978	2
<i>Poa labillardierei</i> var. (Volcanic Plains)	Basalt Tussock-grass	k			1992	2
<i>Prasophyllum</i> aff. <i>validum</i> B	Woodland Leek-orchid	e		V	1950	2
<i>Prasophyllum fosteri</i>	Shelford Leek-orchid	e	L		2003	20
<i>Prasophyllum frenchii</i>	Maroon Leek-orchid	e	L	E	1992	4
<i>Prasophyllum pyriforme</i> s.s.	Silurian Leek-orchid	e			1983	3
<i>Prasophyllum suaveolens</i>	Fragrant Leek-orchid	e	L	E	2000	4
<i>Prostanthera decussata</i>	Dense Mint-bush	r			1950	1
<i>Prostanthera nivea</i> var. <i>nivea</i>	Snowy Mint-bush	r			2001	15
<i>Pterostylis aciculiformis</i>	Slender Ruddyhood	k			1970	1
<i>Pterostylis smaragdina</i>	Emerald-lip Greenhood	r			1950	1
<i>Ptilotus erubescens</i>	Hairy Tails		L		2002	48
<i>Pultenaea graveolens</i>	Scented Bush-pea	v	L		1950	2
<i>Rhagodia parabolica</i>	Fragrant Saltbush	r			2001	9
<i>Rutidosis leptorhynchoides</i>	Button Wrinklewort	e	L	E	2001	10
<i>Senecio cunninghamii</i> var. <i>cunninghamii</i>	Branching Groundsel	r			2000	5
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	e	L	V	2002	21
<i>Swainsona behriana</i>	Southern Swainson-pea	r			2000	5
<i>Thelymitra gregaria</i>	Basalt Sun-orchid	e	L		2002	2
<i>Thelymitra hiemalis</i>	Winter Sun-orchid	e	L		1950	1
<i>Thelymitra luteociliium</i>	Fringed Sun-orchid	r			1982	2
<i>Thelymitra mackibbinii</i>	Brilliant Sun-orchid	e	N	V	1950	1
<i>Thelymitra</i> X <i>macmillanii</i>	Crimson Sun-orchid	v			2001	6
<i>Tripogon loliiformis</i>	Rye Beetle-grass	r			1993	2
<i>Wurmbea uniflora</i>	One-flower Early Nancy	r			1950	1

Data source: Flora Information System (DSE 2004b)

¹ Victorian Rare or Threatened plant status (DSE 2005a):

x = Presumed extinct in Victoria
e = Endangered
v = Vulnerable
r = Rare in Victoria
k = Poorly Known in Victoria

² Flora and Fauna Guarantee Act 1988 (Vic):
L = listed as threatened under schedule 1 of the Act

N = nominated for listing as threatened
X = rejected for listing as threatened

³ *Environment Biodiversity and Conservation Act 1999* (Cwlth):

X = Extinct
C = listed as critically endangered
E = listed as endangered
V = listed as vulnerable

Figure 3-1 Mapped remnant native vegetation classified by Bioregional Conservation Status

Data source: EVC_BCS100 GIS data layer (DSE 2002). See Appendix 4 for EVC Bioregional Conservation Status definitions

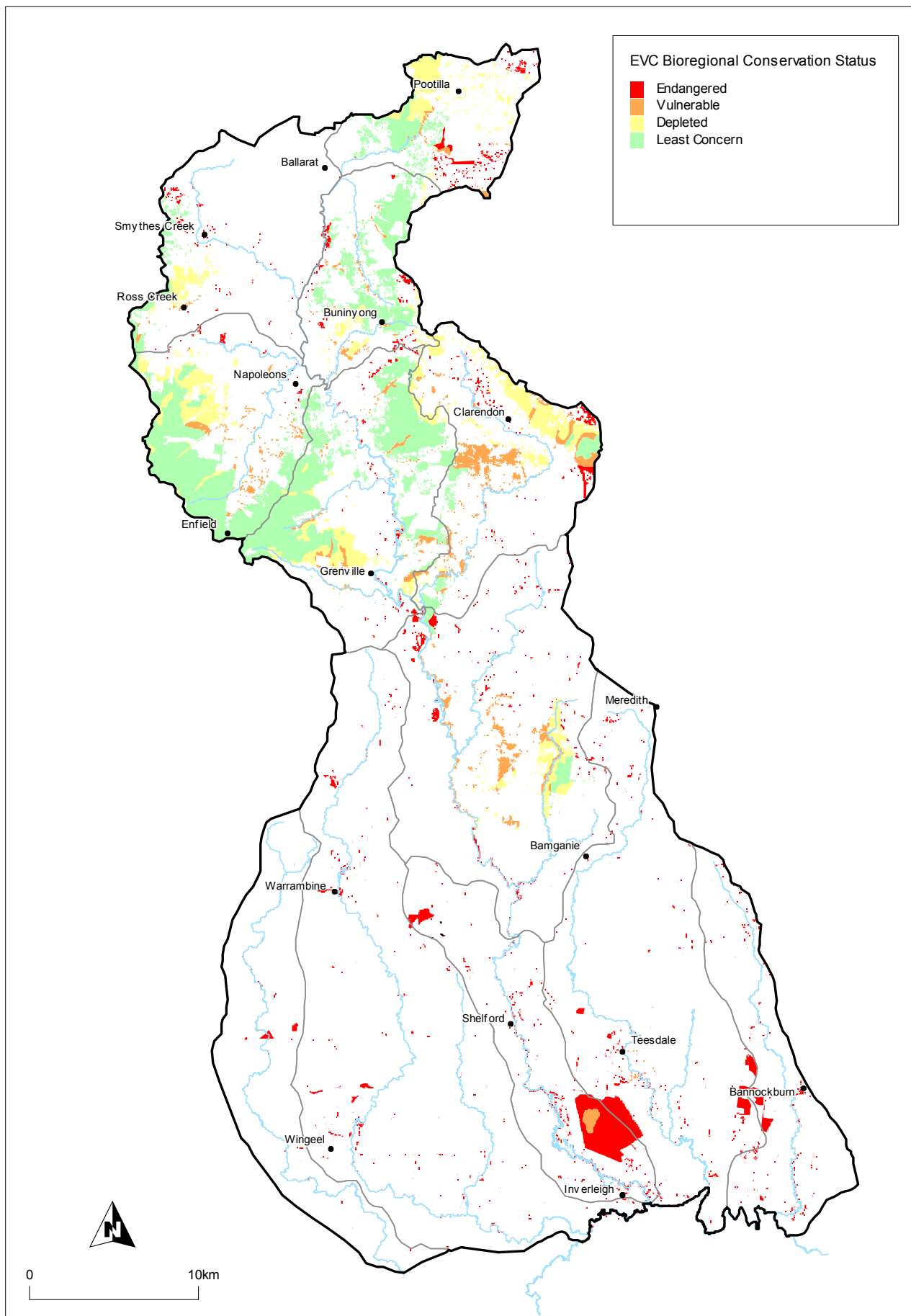


Figure 3-2 Distribution of Atlas Victorian Wildlife threatened fauna records

Data source: Atlas of Victorian Wildlife (DSE 2004a). Actual locations are not shown to protect local populations

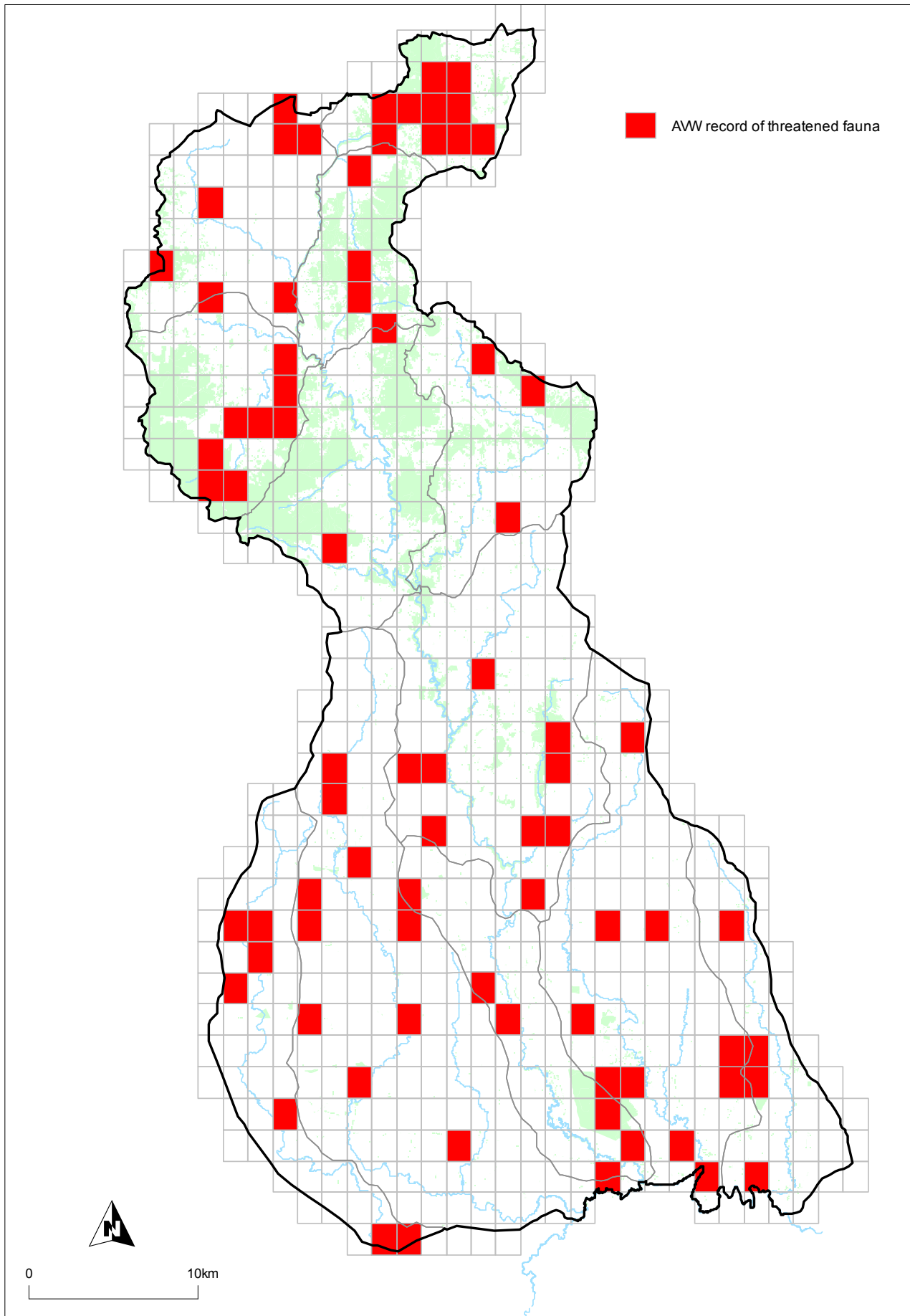


Figure 3-3 Distribution and quantity of Atlas of Victorian Wildlife records within the LCG area

Data source: Atlas of Victorian Wildlife (DSE 2004a)

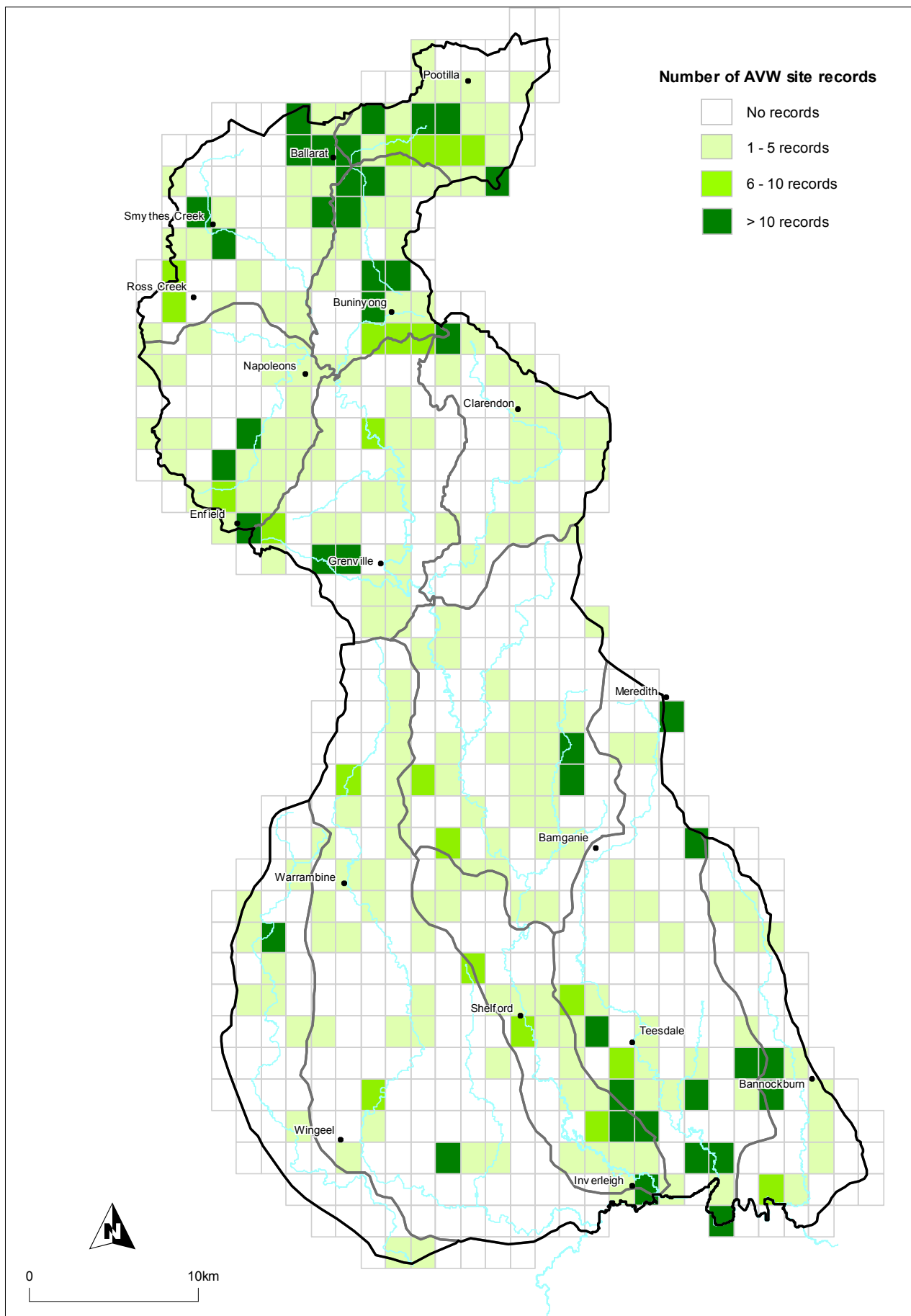


Figure 3-4 Distribution of Flora Information System rare and/or threatened flora records

Data source: Flora Information System (DSE 2004b). Actual locations are not shown to protect local populations

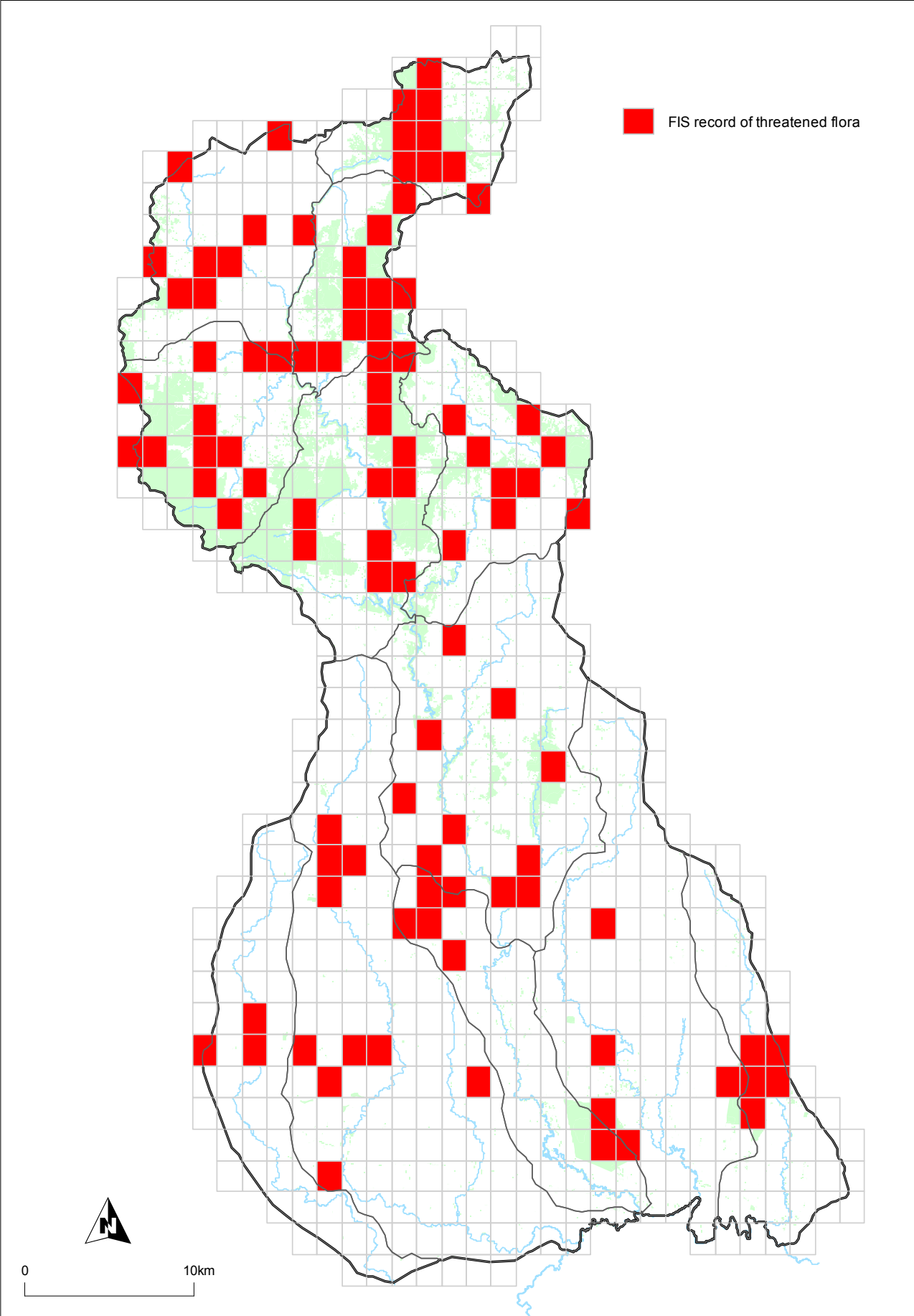


Figure 3-5 Distribution and quantity of Flora Information System records within the LCG area

Data source: Flora Information System (DSE 2004b)

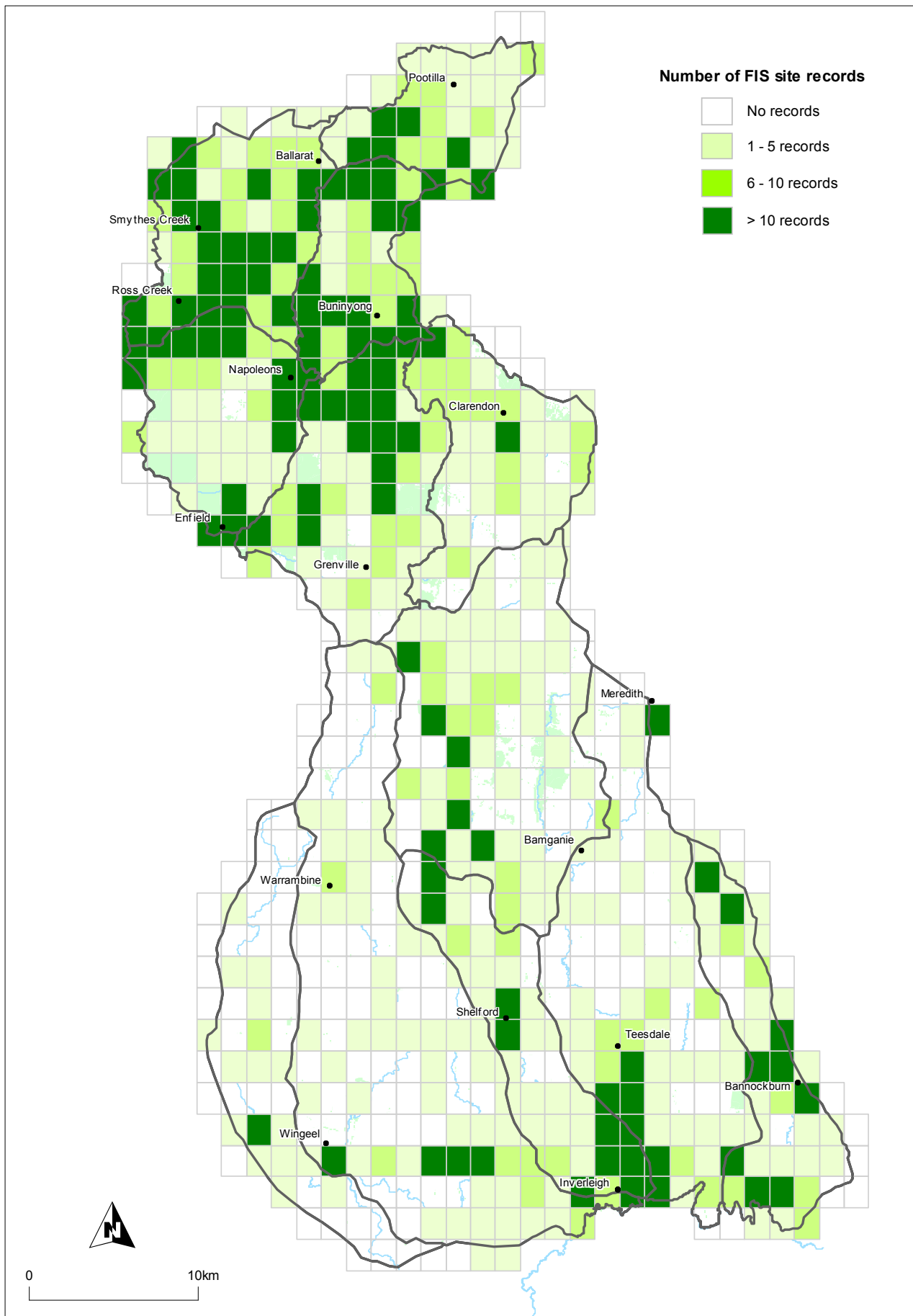


Figure 3-6 Wetland location and size

Data source: Wetland_1994 GIS data layer (DSE)

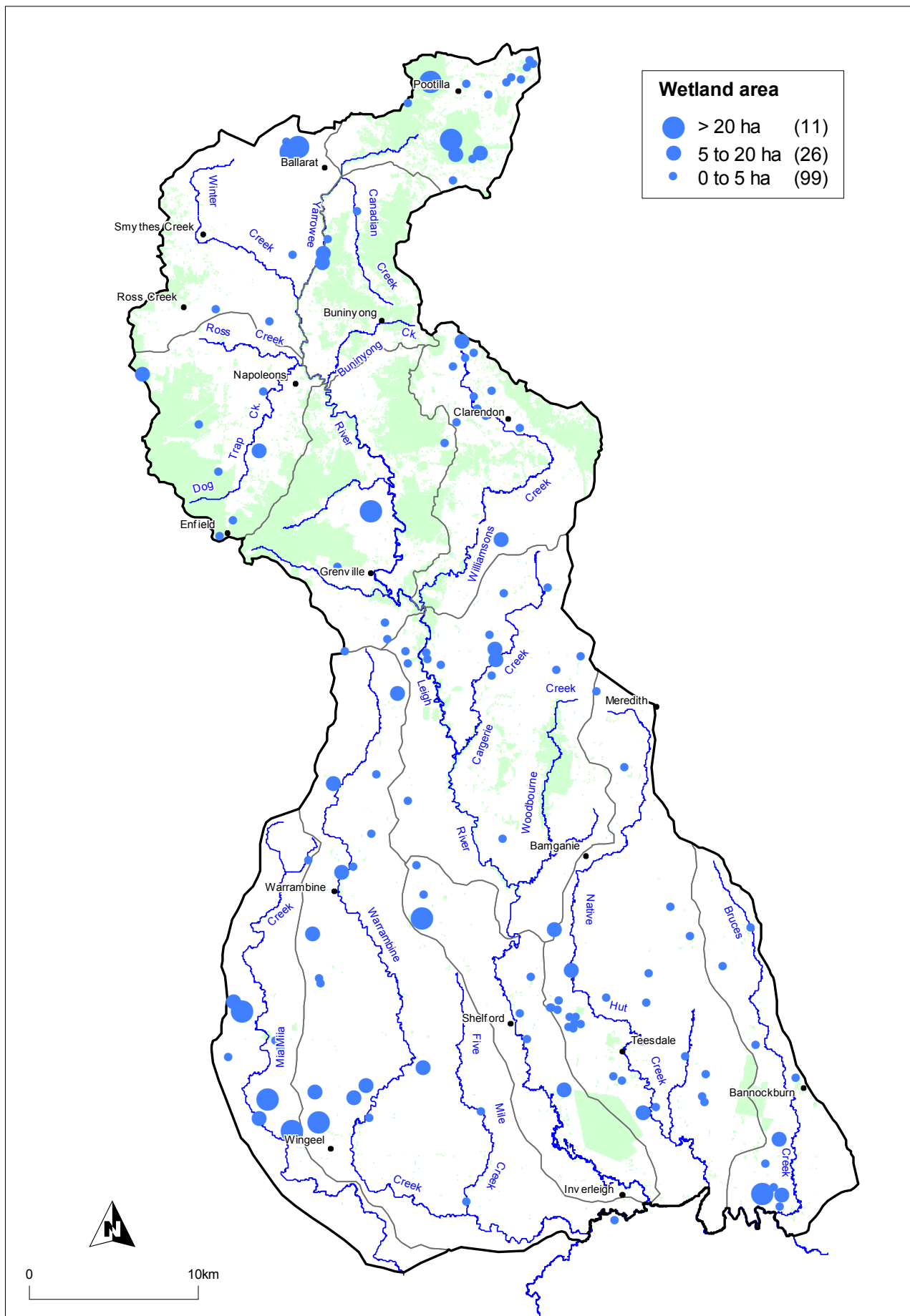


Figure 3-7 Index of Stream Condition assessment of rivers and streams in the LCG area

Data source: Reproduced from ISC2 report (DSE 2005b)

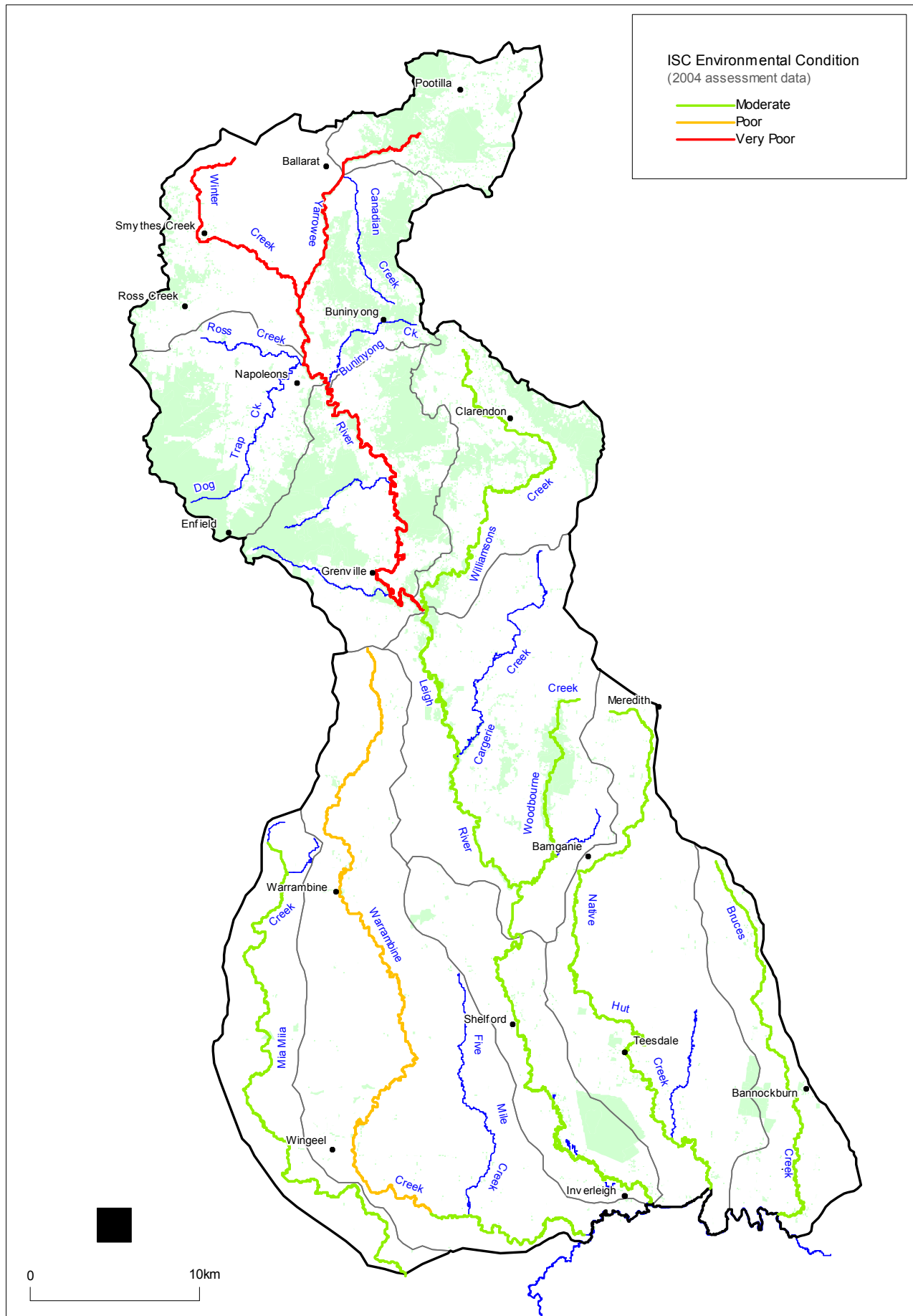


Figure 3-8 Land use within the LCG area

Data source: Corangamite Catchment Management Authority landuse dataset

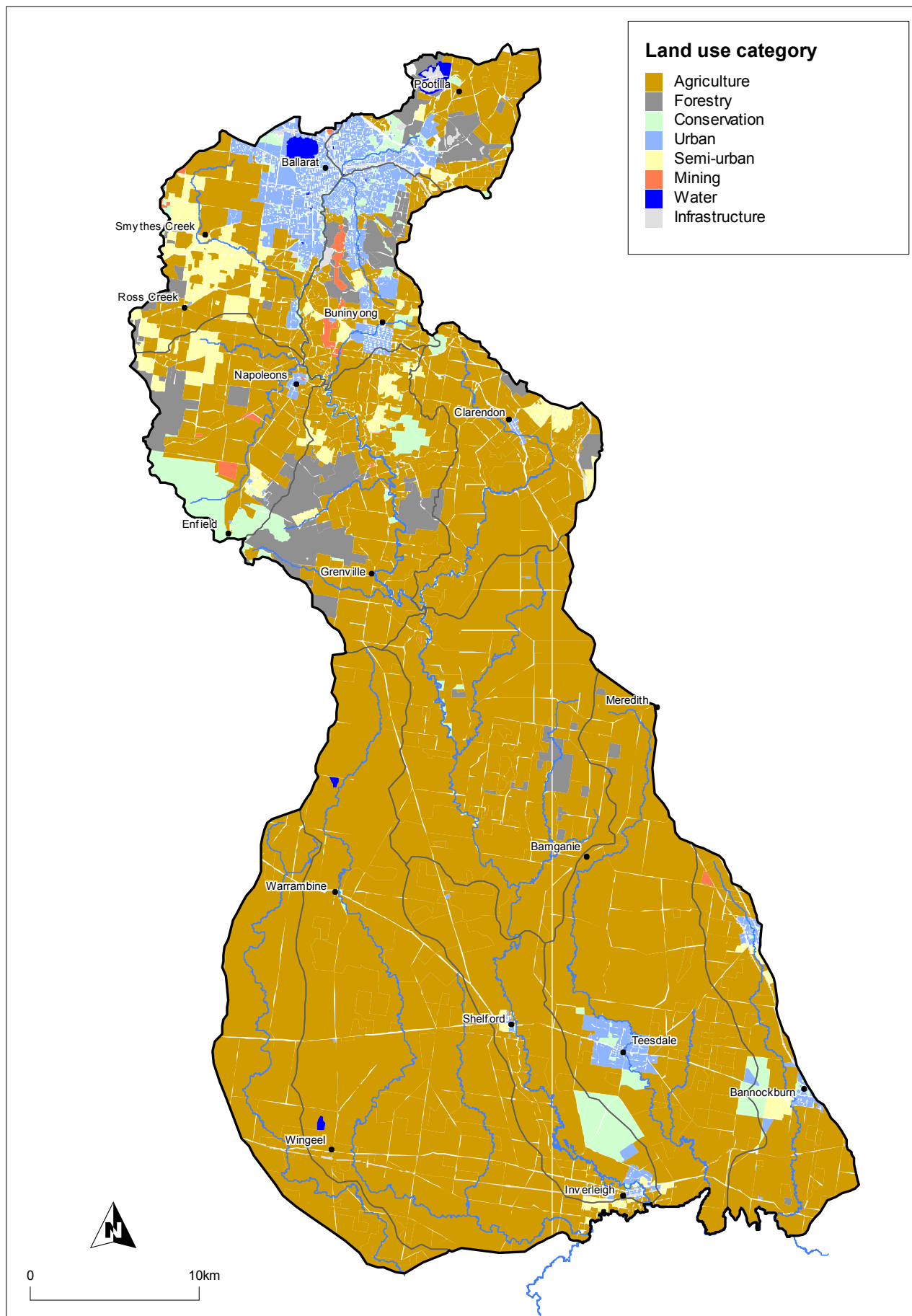


Figure 3-9 Roadside conservation status within the LCG area

Data source: RCAC assessment data from roadside surveys conducted for the City of Ballarat and Golden Plains Shire by BEN Biodiversity Services

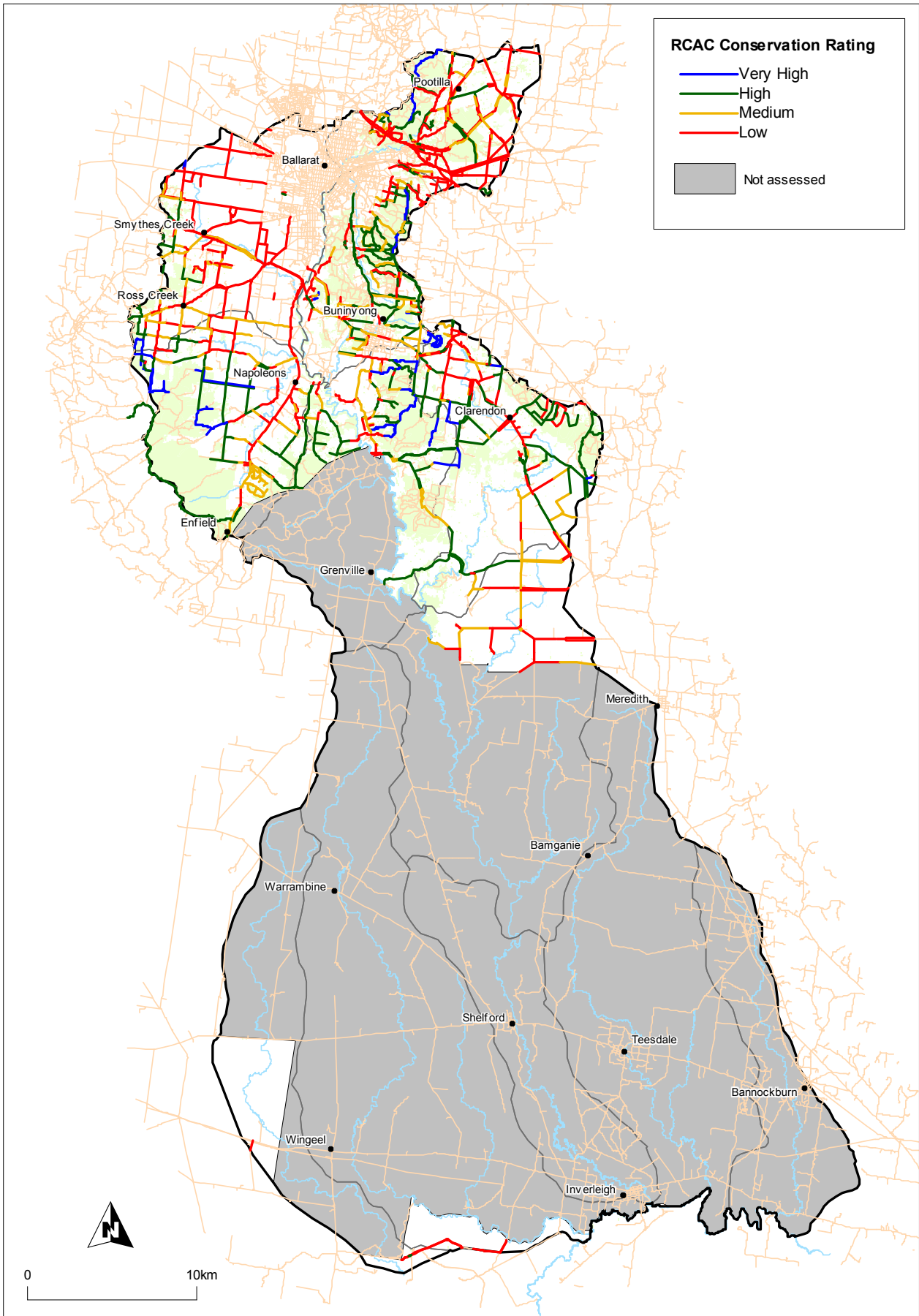
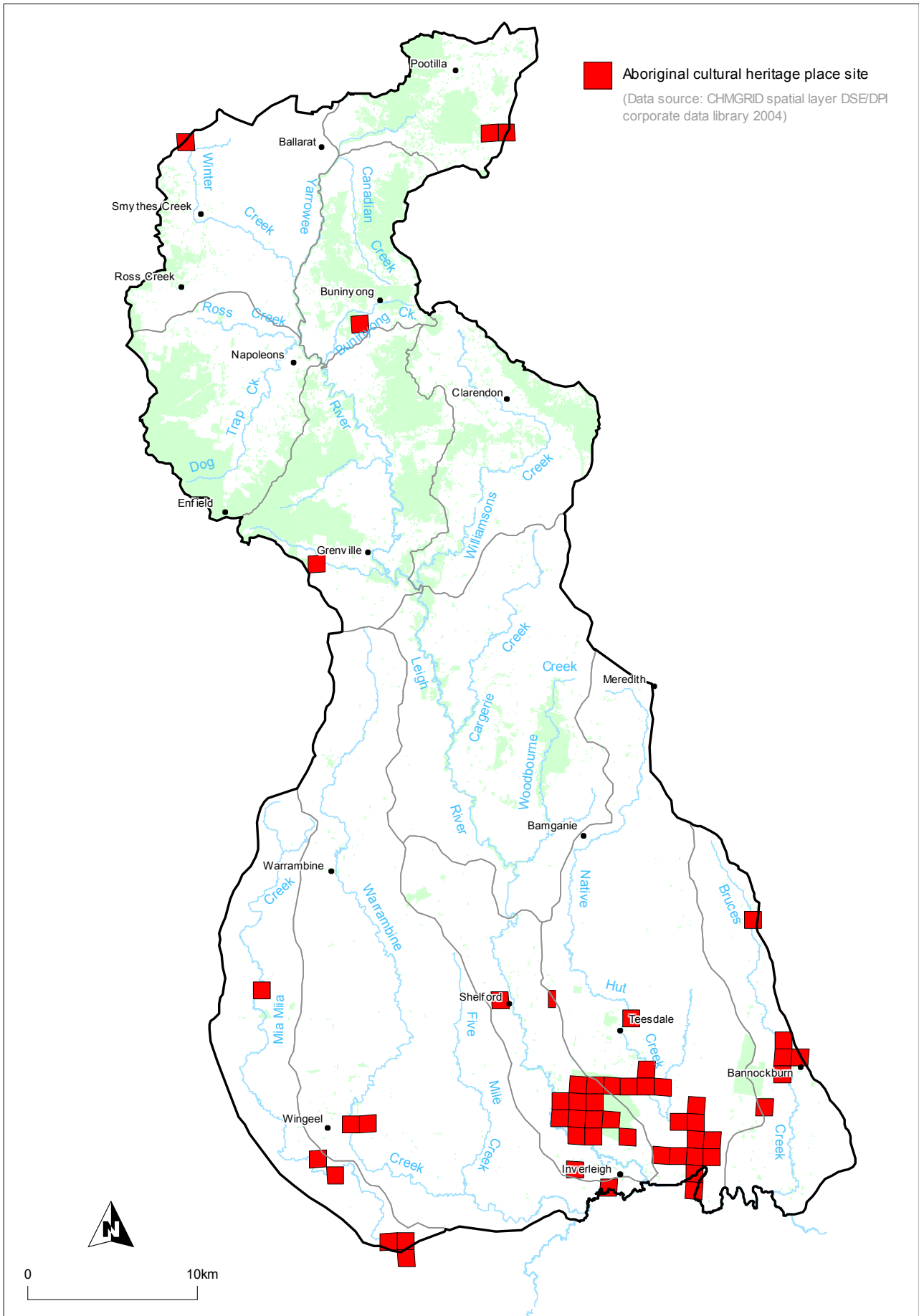


Figure 3-10 Aboriginal cultural heritage place site records within the LCG



3.2. Threats

Threatening processes that potentially affect the condition of natural resource assets of the LCG area were identified and are listed in Table 3-7. A profile of threatening processes within the LCG area is provided in Table 3-8.

The following threatening processes are shown in Figures 3-11 — 3-13.

Figure 3-11 Mapped primary (natural) and secondary (induced) salinity sites.

Figure 3-12 Mapped gully, sheet and rill erosion

Figure 3-13 Declared noxious weeds (CaLP Act)

Table 3-7 Threatening processes within the Leigh Catchment Group area

Threat	Assets potentially affected by the threat	Relevant priorities identified in state/regional/local strategies and plans
Native vegetation loss and degradation: Threatening processes include: <ul style="list-style-type: none"> • Clearing • Altered grazing regimes • Altered fire regimes • Altered hydrological regimes • Land use change 	Flora, fauna, soil condition, water quality, cultural heritage	<ul style="list-style-type: none"> • Victoria's Biodiversity Strategy (DNRE 1997a): Reversal, across the entire landscape, of the long-term decline in the extent and quality of native vegetation • State Government Native Vegetation Framework (DNRE 2002a). Aims to achieve 'Net Gain' in native vegetation quantity and quality. Defers regional priority setting to Native Vegetation Plans. • Corangamite Native Vegetation Plan (CCMA 2005). Lists priority EVCs for protection and restoration. • Areas covered by Local Government planning scheme Vegetation Protection Overlays.
Pest plants	Flora, fauna, agricultural land	<ul style="list-style-type: none"> • Corangamite region weeds listed under CaLP Act (See Appendix 2 for list of declared noxious weeds for the Corangamite area) (DPI 2008). • Corangamite Weed Action Plan (CCMA 2000c) describes priority weeds.
Pest animals	Flora, fauna, agricultural land	<ul style="list-style-type: none"> • Corangamite Rabbit Action Plan (CCMA 2000a) defines priority areas for Rabbit management.
Soil health decline including: <ul style="list-style-type: none"> • Salinity • Erosion • Acidification • Structure decline • Waterlogging 	Agricultural land, flora, fauna, water quality, cultural heritage	<ul style="list-style-type: none"> • Corangamite Salinity Action Plan (Nicholson <i>et al.</i> 2006) priority areas (no priority areas identified within the LCG area). • Corangamite Soil Health Strategy (Clarkson 2007) investment priorities and including gully, tunnel, sheet and rill erosion in the Leigh landscape zone.
Waterway and wetland health decline. Threatening processes include: <ul style="list-style-type: none"> • Salinisation • Sedimentation • Excessive nutrients • Altered flow regimes • Aquatic and riparian vegetation and habitat loss 	Water quality, riparian and aquatic flora and fauna, cultural heritage	<ul style="list-style-type: none"> • CCMA River Health Strategy (CCMA 2004a) priority waterways - Lower Leigh River. • Corangamite Regional Wetland Strategy (CCMA 2006a). No specific priority wetlands listed. Lists the development and implementation of a wetland prioritisation process for regional investment as a priority. Also identifies the need to develop wetland local action plans. • Leigh River catchment classified as high implementation priority within an agricultural land program in the Corangamite Nutrient Management Strategy (CCMA 2000b). • 2004 ISC assessment classified Barwon River basin condition as very poor (DSE 2005b)
Climate change - reduced water availability (reduced rainfall and increased evaporation) and temperature increases	Flora, fauna, water quantity and quality, agricultural land	<ul style="list-style-type: none"> • No specific regional or state strategies/plans with NRM focus. Various climate change based issues incorporated in other NRM plans and strategies.
Urbanisation and land use change	Flora, fauna, water quality,	<ul style="list-style-type: none"> • Blueprint Ballarat (City of Ballarat 2004) contains

Threat	Assets potentially affected by the threat	Relevant priorities identified in state/regional/local strategies and plans
	cultural heritage, agricultural land	<p>strategic direction for residential and commercial development within the City of Ballarat.</p> <ul style="list-style-type: none"> Local Government planning scheme zoning and planning overlays (ie. VPO, ESO, SLO EMO) Yarrowee/Canadian/Buninyong Creek Masterplans

Table 3-8 Threatening process profile for the LCG area

Threat type	Quantity	% of LCG area
Salinity¹		
Number of mapped primary salinity sites	46	-
Number of mapped secondary salinity sites	220	-
Area of mapped primary salinity sites (ha)	150	0.1
Area of mapped secondary salinity sites (ha)	1,013	0.6
Erosion²		
Length of mapped gully erosion (km)	125	na
Area of mapped sheet/rill erosion (ha)	885	0.6
Approximate area of native vegetation loss (ha) ³ (may include some areas supporting highly depleted native vegetation)	138,000	88%
Pest plants (CaLP CCMA declared noxious weeds*)⁴. (See Appendix 2 for the list of declared noxious weeds for the Corangamite area).		
Number of Regionally Prohibited species	0	-
Number of Regionally Controlled species	24	-
Number of Restricted species	23	-
Total number of declared noxious weed species	47	-

Data source:

¹ Corangamite salinity GIS dataset (CCMA 2008)

² Corangamite erosion GIS dataset (CCMA 2008)

³ EVC_BCS100 GIS data layer (DSE 2002)

⁴ Flora Information System (DSE 2004b)

Table 3-9 Declared weed definitions (DPI 2008)

Regionally Prohibited Weeds	Regionally Prohibited weeds are not widely distributed in a Region but are capable of spreading further. It is reasonable to expect that they can be eradicated from a Region and they must be managed with that goal. Land owners must take all reasonable steps to eradicate Regionally Prohibited weeds on their land.
Regionally Controlled Weeds	These weeds are usually widespread and are considered important in a particular Region. To prevent their spread, continuing control measures are required. Land owners have the responsibility to take all reasonable steps to prevent the growth and spread of Regionally controlled weeds on their land.
Restricted Weeds	Includes plants that pose an unacceptable risk of spreading in the State or to other parts of Australia if they were to be sold or traded in Victoria, and are a serious threat to another State or Territory of Australia. Trade in these weeds and their propagules, either as plants, seeds or contaminants in other materials is prohibited

Figure 3-11 Mapped primary and secondary salinity in the LCG area

Data source: CCMA salinity mapping

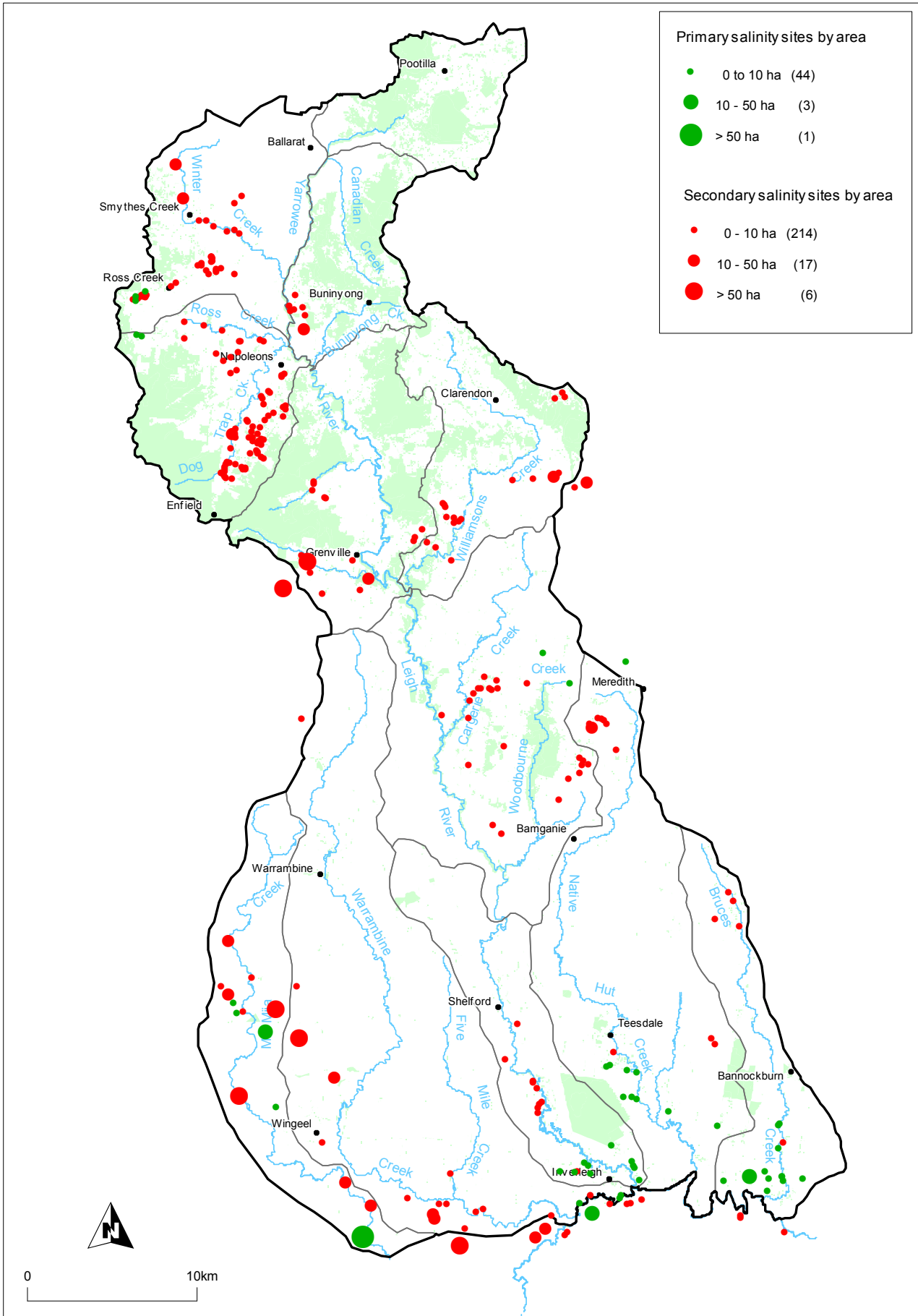


Figure 3-12 Mapped gully and sheet/rill erosion sites in the LCG area

Data source: CCMA erosion GIS layers

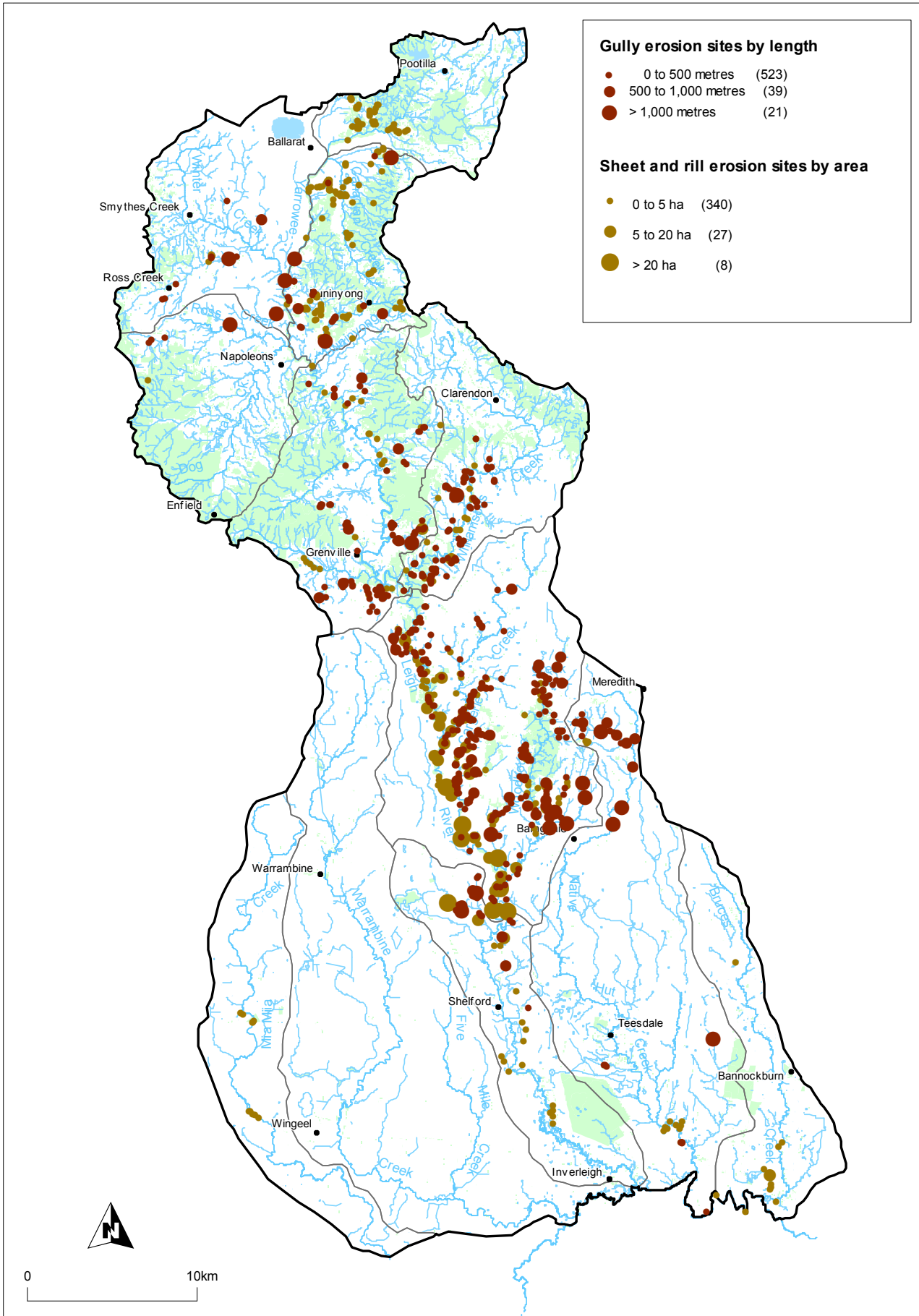
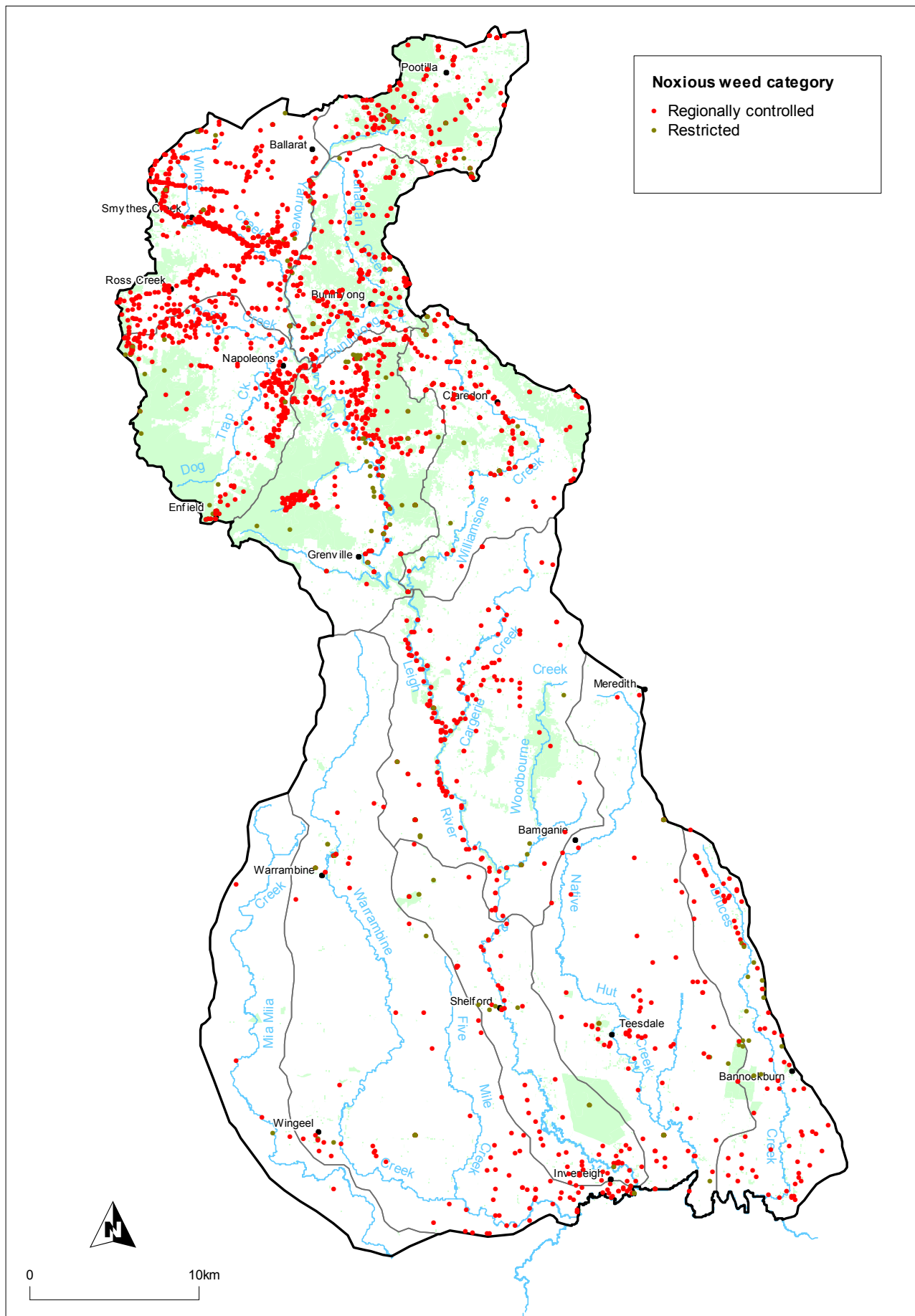


Figure 3-13 Location of mapped declared noxious weed records in the LCG area

Data source: Flora Information System (DSE 2005a). See Appendix 4 for declared weed category definitions.



4. LCG Natural Resource Management activities

Approximately 200 land owners/managers (individuals, landcare groups, community groups and committees) have received funding assistance to undertake over 250 NRM projects and activities (between 1997-2007) within the LCG area. These projects have addressed a range of environmental issues including remnant vegetation protection and enhancement, revegetation of degraded landscapes, salinity control, erosion control, wetland and waterway protection and restoration, habitat corridors and pest plant control.

A breakdown of on-ground NRM projects undertaken by the LCG is shown in Table 4-1 and the location of project sites is shown in Figure 4-1. The summary does not include other NRM projects undertaken by landholders and landcare groups independently of the LCG or projects coordinated by the LCG but not funded by the Group. Table 4-2 lists the total amount of land, length of fencing and number of plants involved in LCG projects over the past ten years.

Over 18 NRM programs/projects have been developed and funded by the LCG. Over \$1.8 million of NRM funding has been managed by LCG for on-ground and related NRM activities within the LCG area. LCG NRM programs and projects are summarised in Table 4-3.

Alongside the development and coordination of on-ground works, the LCG Landcare officers (Andrea Mason and Jenny Sedgwick) have provided support to Landcare and other community groups within the LCG area and have coordinated and implemented numerous community based activities including training courses, workshops/seminars/field days, event displays, school programs, and media events. A wide range of NRM information resources have been developed and promoted through brochures, newsletters, electronic mailing, the internet and the media.

Table 4-1 Total number of NRM projects undertaken through the LCG: 1997–2007

Activity type	No of projects
Remnant vegetation protection/enhancement	22
Revegetation	56
Salinity control	6
Erosion control	2
Waterway rehabilitation	71
Wetland protection/enhancement	4
Corridor establishment	71
Pest plant control	16
Escarpment management	3
Total	251

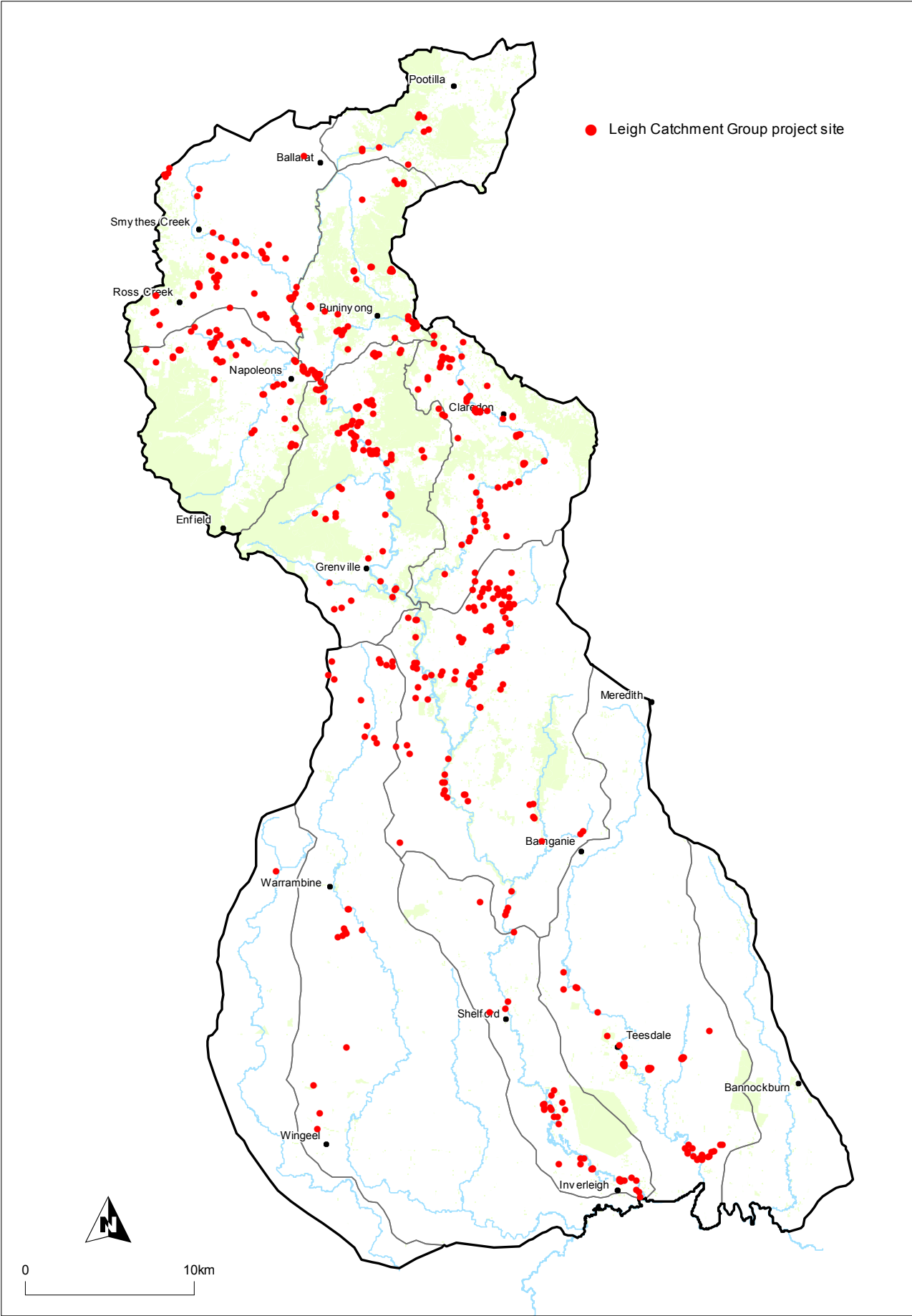
Table 4-2 Summary of NRM works undertaken through the LCG: 1997–2007

NRM works	Amount
Total land area (ha) subject to NRM works	529
Total length (km) of fencing constructed for NRM works	130
Number of plants	397,452
Length of stream protected (km)	23
Area of weed control (ha)	61
Area revegetated – terrestrial (ha)	190
Area revegetated – riparian/wetland (ha)	184
Area of remnant vegetation protected (ha)	94
Area of wetland protected (ha)	67

Table 4-3 Summary of LCG funding programs: 1997–2007

LCG program/project name	Funding program source	Description	Timeframe	Total budget
Ballarat to Barwon	NHT	3yr waterway protection program	1999-2001	\$493,100
CCMA	CCMA	Ballarat to Barwon support	2000-2001	\$10,000
InVEST	NHT	Indigenous Vegetation and Environmentally Sustainable Targets Project	2001-2002	\$145,000
2 nd Generation Landcare	2 nd Generation0102	Project Officer support	2001-2002	\$33,500
CCMA Targeted Waterways Program	CCMA	Bridal creeper and weed control, Leigh R	2001-2002	\$30,000
CCMA erosion	CCMA	Erosion mitigation – rock chute	2001-2002	\$40,000
Golden Plains Shire	Golden Plains Shire	Group support	2001	\$5,500
InVEST 2003	NHT	as for InVEST	2002-2003	\$88,650
CCMA	CCMA Initiative Fund	InVEST 2003 extra support	2002-2003	\$11,350
AFFA	NHT	Project Officer support	2002-2003	\$32,380
2 nd Generation InVEST 03	2 nd Generation0203	Landcare Office Support	2002-2003	\$18,190
Barunah 2003	2 nd Generation0203	Waterway protection	2002-2003	\$30,000
CCMA	CCMA Initiative Fund	Rock chute extra support	2002-2003	\$8,693
AFFA	NHT	Project Officer support	2003-2004	\$80,302
CAPP 2004	NHT	Catchment Asset Protection Project	2003-2004	\$48,000
POA 2005	NAP & NHT	Protecting Our Assets	2004-2005	\$181,240
CCMA erosion	CCMA	Erosion mitigation – rock chute	2004-2005	\$43,000
Envirofund LWC 0405	NHT	Wildlife Corridors Project	2004-2005	\$17,309
2 nd Generation Larundel Biolink	2 nd Generation0405	Corridor and remnant protection	2004-2005	\$30,000
2 nd Generation Landcare Support	2 nd Generation0405	Group Support	2004-2005	\$300
Gorse Task Force	Gorse Task Force	Upper Leigh Catchment Revitalisation Project	2004-2005	\$12,000
ROLS 2006	NAP & NHT	Protecting Our Assets	2005-2006	\$165,600
Leigh River Escarpment Project 2006	NLP	Sustainable Grazing Management	2005-2006	\$34,400
2 nd Generation Landcare Support	2 nd Generation0506	Group Support	2005-2006	\$300
CCMA	Sue Hickey Memorial Grant 2005	Study Tour	2005-2006	\$5,000
CCMA Healthy Waterway Support Fund 05/06				\$43,000
SOC 2007	NAP & NHT	Protecting Our Assets	2006-2007	\$128,800
2 nd Generation Landcare Support	2 nd Generation0607	Group Support	2006-2007	\$300
Envirofund Larundel	NHT		2006-2007	\$45,454
Golden Plains Shire	Golden Plains Shire	Group support	2007	\$5,000
2 nd Generation Landcare	2 nd Generation0607	Leigh Catchment Review	2006-2007	\$20,000
			TOTAL	\$1,806,368

Figure 4-1 Location of mapped LCG NRM project sites

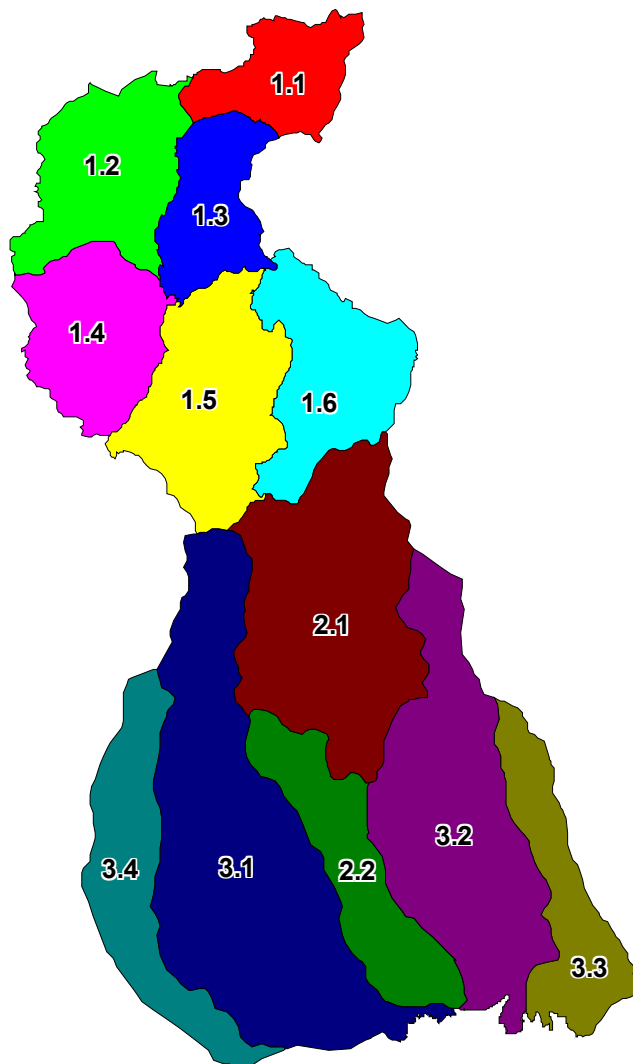


5. Catchment and Sub-catchment Profiles and Actions

The following section summarises catchment asset, threat and NRM activity information for each sub-catchment area. The information presented in the profiles has been extracted from existing databases and spatial datasets. The profiles are not an exhaustive list of features within the sub-catchments and may contain inaccuracies.

Sub-catchment profile data sources:

Native vegetation	Ecological Vegetation Class EVC_BCS100 GIS dataset layer (DSE2002)
Native Fauna	Atlas of Victorian Wildlife database (DSE 2004a)
Native Flora	Flora Information System (DSE 2004b)
Salinity	Corangamite salinity mapping GIS data layer (CCMA 2008)
Erosion	Corangamite erosion mapping GIS data layers (CCMA 2008)
Introduced flora	Flora Information System (DSE 2004b)
NRM projects	Leigh Catchment Group Project Database and the Catchment Activity Management System (CAMS) Database



Leigh Catchment Group area sub-catchments

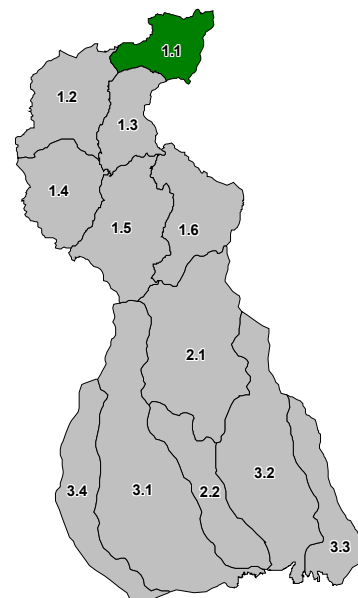
- 1.1 Upper Yarrowee
- 1.2 Winter
- 1.3 Canadian/Buninyong
- 1.4 Dog Trap/Ross
- 1.5 Lower Yarrowee
- 1.6 Williamsons
- 2.1 Upper Leigh
- 2.2 Lower Leigh
- 3.1 Warrambine
- 3.2 Native Hut
- 3.3 Bruces
- 3.4 Mia Mia

Sub-catchment 1.1 — Upper Yarrowee

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	6,406	4*
Public land	1,735	27
Private land	4,671	73
Land use:		
Agriculture/Horticulture	2,790	44
Conservation	378	6
Forestry	1,125	18
Mining	-	-
Semi-urban	132	2
Urban	847	13

* Proportion of the LCG area



Environmental Asset Summary

Native vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	1,090	17
Total area of remnant native vegetation on private land	480	8
Total area of remnant native vegetation	1,570	25
Endangered EVCs	170	10*
Vulnerable EVCs	80	5*
Depleted EVCs	670	43*
Least Concern EVCs	660	42*

*Proportion of total area of native vegetation within sub-catchment.

EVCs mapped within the sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
20	Heathy Dry Forest	LC	658	
22	Grassy Dry Forest	D	215	
23	Herb-rich Foothill Forest	D,V	501	Y
47	Valley Grassy Forest	V	34	
55	Plains Grassy Woodland	E	114	Y
83	Swampy Riparian Woodland	E	1	Y
175	Grassy Woodland	E	54	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Azure Kingfisher	n			2001	2
Baillon's Crake	v	L		2001	1
Black-eared Cuckoo	n			2001	5
Blue-billed Duck	e	L		1999	5
Great Egret	v	L		2001	5
Grey Goshawk	v			2001	2
Growling Grass Frog	e	L	V	2001	2
Hardhead	v			2001	10
Latham's Snipe	n			2001	2
Lewin's Rail	v	L		1992	1
Musk Duck	v			2000	4
Pied Cormorant	n			2001	2
Powerful Owl	v	L		1999	1
Square-tailed Kite	v	L		2000	2

* See Appendix 4 for definitions

Flora – Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Bossiaea cordigera</i>	Wiry Bossiaea	r			1998	1
<i>Desmodium varians</i>	Slender Tick-trefoil	k			1992	1
<i>Eucalyptus brookeriana</i>	Brooker's Gum	r			2002	4
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		2000	7

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	0
Sheet/Rill erosion – mapped area (ha) affected	4.5
Salinity – number of mapped secondary salinity affected areas	0
Salinity – area of mapped secondary salinity sites (ha)	0
Number of declared Regionally Controlled noxious weed species*	15
Number of declared Restricted noxious weed species*	11

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	2
Revegetation	2
Salinity control	-
Erosion control	-
Waterway rehabilitation	1
Wetland protection/enhancement	-
Corridor	1
Pest plant control	1
Total	7

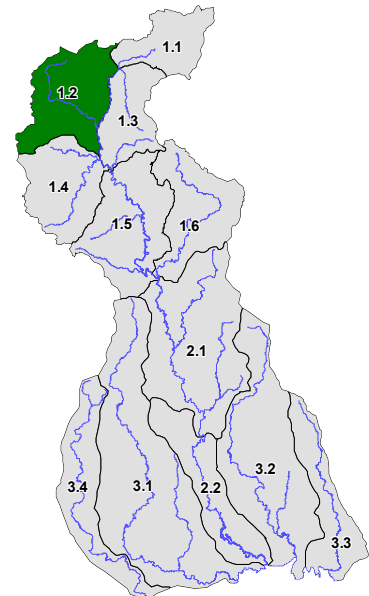
NRM works	Amount
Total area (ha) of NRM activities	6
Total length (km) of fencing for NRM works	0.62
Number of plants	600

Sub-catchment 1.2 — Winter

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	10,880	7*
Public land	1,041	10
Private land	9,840	90
Land use:		
Agriculture/Horticulture	4,800	44
Conservation	310	3
Forestry	350	3
Mining	45	0
Semi-urban	1970	20
Urban	2075	20

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	30	<1
Total area of remnant native vegetation on private land	690	6
Total area of remnant native vegetation	720	7
Endangered EVCs	73	10*
Vulnerable EVCs	30	4*
Depleted EVCs	290	41*
Least Concern EVCs	320	45*

* Proportion of total area of native vegetation

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
20	Heathy Dry Forest	LC	322	
22	Grassy Dry Forest	D	290	
47	Valley Grassy Forest	V	30	
55	Plains Grassy Woodland	E	62	Y
83	Swampy Riparian Woodland	E	11	Y
164	Creekline Herb-rich Woodland	E	1	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Australasian Shoveler	v			2002	20
Australian Bustard	c	L		1955	2
Baillon's Crake	v	L		2001	10
Blue-billed Duck	e	L		2003	32
Brolga	v	L		1996	1
Brown Treecreeper	n			2003	1
Brush-tailed Phascogale	v	L		1990	1
Common Sandpiper	v			1988	1
Freckled Duck	e	L		2002	3
Great Egret	v	L		2003	7
Growling Grass Frog	e	L	V	2001	1
Hardhead	v			2003	45
Latham's Snipe	n			2000	6
Lewin's Rail	v	L		1994	3
Little Bittern	e	L		2000	9
Macquarie Perch	e	L	E	1970	8
Musk Duck	v			2003	72
Nankeen Night Heron	n			2000	4
Pied Cormorant	n			1999	4
Regent Honeyeater	c	L	E	1947	2

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Amphibromus sinuatus</i>	Wavy Swamp Wallaby-grass	v			1950	1
<i>Asperula charophyton</i>	Elongate Woodruff	k			1950	1
<i>Calochilus gracillimus</i>	Slender Beard-orchid	k			1950	1
<i>Chionogentias gunniana</i>	Gunn's Forest-gentian	x			1950	1
<i>Dianella amoena</i>	Matted Flax-lily	e		E		1
<i>Eucalyptus willisii subsp. falciformis</i>	Grampians Peppermint	r			1950	1
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		1998	10
<i>Euphrasia collina subsp. speciosa</i>	Purple Eyebright	x				1
<i>Euphrasia scabra</i>	Rough Eyebright	e	L			1
<i>Grevillea bedgoodiana</i>	Enfield Grevillea	v		V	1950	1
<i>Lachnagrostis filiformis var. 2</i>	Wetland Blown-grass	k			1950	1
<i>Lachnagrostis punicea</i>	Purple Blown-grass	r			1950	2
<i>Lachnagrostis punicea subsp. filifolia</i>	Purple Blown-grass	r	L		1950	1
<i>Lachnagrostis punicea subsp. punicea</i>	Purple Blown-grass	r			1950	1
<i>Lemna trisulca</i>	Ivy-leaf Duckweed	k			1993	2
<i>Lepidium pseudohyssopifolium</i>	Native Peppercross	k			1993	1
<i>Leptospermum turbinatum</i>	Shiny Tea-tree	r			1950	1
<i>Pimelea spinescens</i>	Spiny Rice-flower	e	L		1950	1
<i>Pimelea spinescens subsp. spinescens</i>	Spiny Rice-flower	v		C	1950	1
<i>Thelymitra mackibbinii</i>	Brilliant Sun-orchid	e	N	V	1950	1

<i>Thelymitra X macmillanii</i>	Crimson Sun-orchid	v			1950	1
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* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	7
Sheet/Rill erosion – mapped area (ha) affected	0.6
Salinity – number of mapped secondary salinity affected areas	37
Salinity – area of mapped secondary salinity sites (ha)	64
Number of declared Regionally Controlled noxious weed species*	20
Number of declared Restricted noxious weed species*	18

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Project type	No of projects
Remnant vegetation protection	1
Revegetation	3
Salinity control	2
Erosion control	-
Waterway rehabilitation	5
Wetland protection/enhancement	1
Corridor	10
Pest plant control	1
Total	23

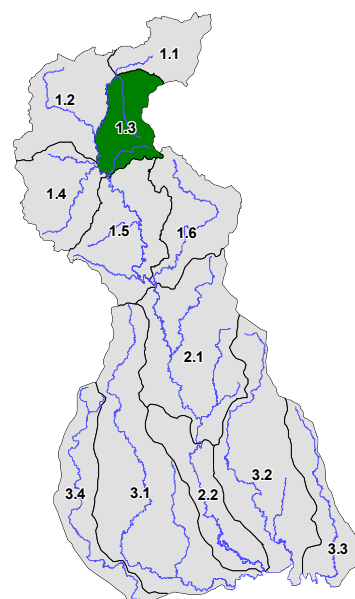
NRM works	Amount
Total area (ha) of NRM activities	31
Total length (km) of fencing for NRM works	5.4
Number of plants	21,143

Sub-catchment 1.3 — Canadian/Buninyong

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	6,850	4*
Public land	1,960	30
Private land	4,890	71
Land use:		
Agriculture/Horticulture	2,610	38
Conservation	440	6
Forestry	970	14
Mining	310	4
Semi-urban	280	4
Urban	1,420	21

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	650	9
Total area of remnant native vegetation on private land	1260	18
Total area of remnant native vegetation	1910	27
Endangered EVCs	100	5
Vulnerable EVCs	120	6
Depleted EVCs	280	15
Least Concern EVCs	1,410	74

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
20	Heathy Dry Forest	LC	1412	
22	Grassy Dry Forest	D	242	
23	Herb-rich Foothill Forest	D	36	
47	Valley Grassy Forest	V	106	
55	Plains Grassy Woodland	E	53	Y
83	Swampy Riparian Woodland	E	47	Y
128	Grassy Forest	V	14	

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Barking Owl	e	L		1989	1
Blue-billed Duck	e	L		1986	1
Brush-tailed Phascogale	v	L		1991	1
Glossy Ibis	n			1986	1
Grey Goshawk	v			1992	3
Growling Grass Frog	e	L	V		
Hooded Robin	n	L		1975	1
Musk Duck	v			1975	2

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		1999	16

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	6
Sheet/Rill erosion – mapped area (ha) affected	15
Salinity – number of mapped secondary salinity affected areas	7
Salinity – area of mapped secondary salinity sites (ha)	28
Number of declared Regionally Controlled noxious weed species*	15
Number of declared Restricted noxious weed species*	12

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	1
Revegetation	9
Salinity control	1
Erosion control	-
Waterway rehabilitation	7
Wetland protection/enhancement	1
Corridor	7
Pest plant control	4
Total	30

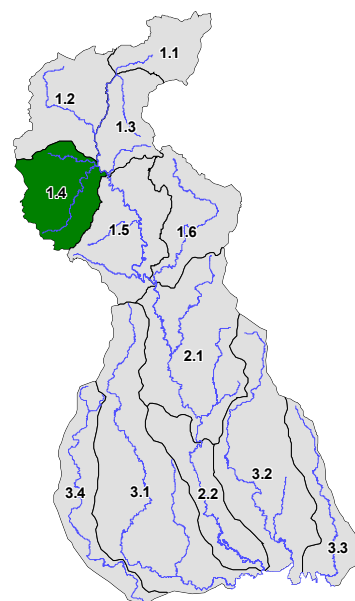
NRM works	Amount
Total area (ha) of NRM activities	17
Total length (km) of fencing for NRM works	3.2
Number of plants	19,218

Sub-catchment 1.4 — Dog Trap/Ross

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	9,730	6*
Public land	2,680	28
Private land	7,050	72
Land use:		
Agriculture/Horticulture	5,430	56
Conservation	1,570	16
Forestry	1,250	13
Mining	135	1
Semi-urban	880	9
Urban	120	1

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	2,560	26
Total area of remnant native vegetation on private land	1,490	15
Total area of remnant native vegetation	4,050	42
Endangered EVCs	40	1
Vulnerable EVCs	190	5
Depleted EVCs	810	20
Least Concern EVCs	3,000	74

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
20	Heathy Dry Forest	LC	3006	
22	Grassy Dry Forest	D	697	
47	Valley Grassy Forest	V	187	
55	Plains Grassy Woodland	E	36	Y
128	Grassy Forest	E,v	6	
198	Sedgy Riparian Woodland	D	114	
641	Riparian Woodland	E	2	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Brolga	v	L		2003	2
Growing Grass Frog	e	L	V	2001	4
Powerful Owl	v	L		1999	2
Spotted Quail-thrush	n			1976	1
Swamp Skink	v	L		1999	4

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Bossiaea cordigera</i>	Wiry Bossiaea	r			1989	1
<i>Calochilus gracillimus</i>	Slender Beard-orchid	k			1990	1
<i>Chiloglottis X pescottiana</i>	Bronze Bird-orchid	r			1999	1
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		2000	10
<i>Gratiola pumilo</i>	Dwarf Brooklime	r			1996	1
<i>Grevillea bedgoodiana</i>	Enfield Grevillea	v		V	1998	12
<i>Pleurosorus subglandulosus</i>	Glandular Blanket-fern	k			1978	1
<i>Pterostylis aciculiformis</i>	Slender Ruddyhood	k			1970	1

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	3.4
Sheet/Rill erosion – mapped area (ha) affected	1
Salinity – number of mapped secondary salinity affected areas	71
Salinity – area of mapped secondary salinity sites (ha)	70
Number of declared Regionally Controlled noxious weed species*	4
Number of declared Restricted noxious weed species*	3

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	5
Revegetation	6
Salinity control	2
Erosion control	-
Waterway rehabilitation	8
Wetland protection	-
Corridor	4
Pest plant control	-
Total	25

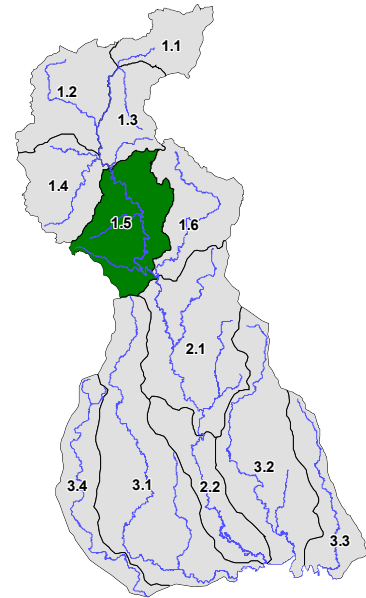
NRM works	Amount
Total area (ha) of NRM activities	47
Total length (km) of fencing for NRM works	10.1
Number of plants	18,550

Sub-catchment 1.5 — Lower Yarrowee

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	13,195	8*
Public land	3,595	27
Private land	9,600	73
Land use:		
Agriculture/Horticulture	8,320	63
Conservation	850	6
Forestry	2,990	23
Mining	10	<1%
Semi-urban	520	4
Urban	20	<1%

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	2,280	17
Total area of remnant native vegetation on private land	2,440	18
Total area of remnant native vegetation	4,720	35
Endangered EVCs	110	2
Vulnerable EVCs	290	6
Depleted EVCs	700	15
Least Concern EVCs	3,620	77

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
20	Heathy Dry Forest	LC	3619	
22	Grassy Dry Forest	D	694	
23	Herb-rich Foothill Forest	D	5	
47	Valley Grassy Forest	V	152	
55	Plains Grassy Woodland	E	62	Y
128	Grassy Forest	V	78	
164	Creekline Herb-rich Woodland	V	36	
198	Sedgy Riparian Woodland	D,V	3	
641	Riparian Woodland	E	17	Y
851	Stream-bank Shrubland	V	23	
897	Plains Grassland / Plains Grassy Woodland Mosaic	E	29	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Barking Owl	e	L		1991	1
Hardhead	v			1992	6
Whiskered Tern	n			1978	1

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Chiloglottis trilabra</i>	Tall Wasp-orchid	k			2001	1
<i>Chiloglottis X pescottiana</i>	Bronze Bird-orchid	r			1998	2
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		2001	14
<i>Glycine latrobeana</i>	Clover Glycine	v	L	V	1950	1
<i>Hypoxis vaginata</i> var. <i>brevistigmata</i>	Yellow Star	k			2000	3
<i>Pleurosorus subglandulosus</i>	Glandular Blanket-fern	k			1950	1
<i>Wurmbea uniflora</i>	One-flower Early Nancy	r			1950	1

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	17.7
Sheet/Rill erosion – mapped area (ha) affected	30
Salinity – number of mapped secondary salinity affected areas	15
Salinity – area of mapped secondary salinity sites (ha)	203
Number of declared Regionally Controlled noxious weed species*	14
Number of declared Restricted noxious weed species*	11

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	4
Revegetation	7
Salinity control	
Erosion control	
Waterway rehabilitation	15
Wetland protection	
Corridor	12
Pest plant control	5
Escarpment	1
Total	44

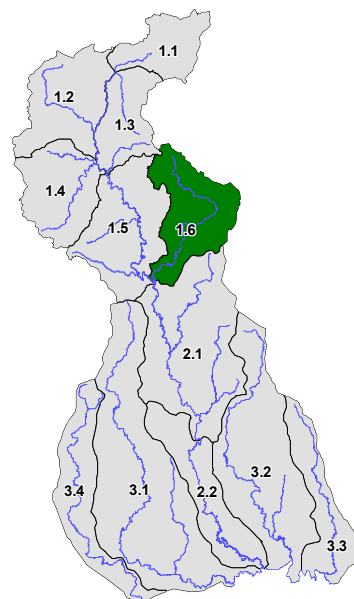
NRM works	Amount
Total area (ha) of NRM activities	62
Total length (km) of fencing for NRM works	16
Number of plants	39,080

Sub-catchment 1.6 — Williamsons

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	10,670	7*
Public land	710	7
Private land	9,955	93
Land use:		
Agriculture/Horticulture	9,100	85
Conservation	150	1
Forestry	390	4
Mining	-	-
Semi-urban	430	4
Urban	50	<1%

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	340	3
Total area of remnant native vegetation on private land	2,100	20
Total area of remnant native vegetation	2,440	23
Endangered EVCs	170	7
Vulnerable EVCs	820	33
Depleted EVCs	1,030	42
Least Concern EVCs	420	17

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
20	Heathy Dry Forest	LC	424	
22	Grassy Dry Forest	D	856	
23	Herb-rich Foothill Forest	D	178	
47	Valley Grassy Forest	V	330	
55	Plains Grassy Woodland	E	166	Y
128	Grassy Forest	V	484	

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Black-chinned Honeyeater	n			1991	1
Common Bent-wing Bat		L		1962	1
Hardhead	v			1992	3
Powerful Owl	v	L		1995	1

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		2002	12

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	12.5
Sheet/Rill erosion – mapped area (ha) affected	20
Salinity – number of mapped secondary salinity affected areas	18
Salinity – area of mapped secondary salinity sites (ha)	65
Number of declared Regionally Controlled noxious weed species*	11
Number of declared Restricted noxious weed species*	6

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	1
Revegetation	15
Salinity control	1
Erosion control	1
Waterway rehabilitation	9
Wetland protection/enhancement	1
Corridor	6
Pest plant control	1
Total	35

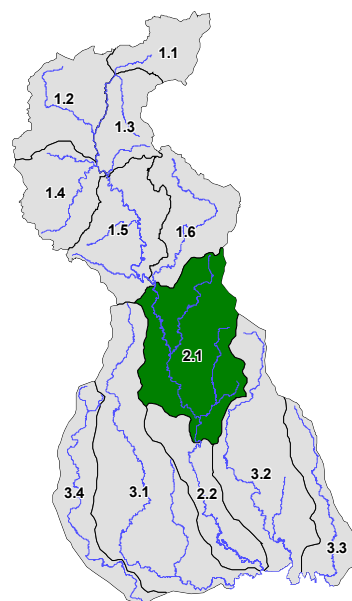
NRM works	Amount
Total area (ha) of NRM activities	55
Total length (km) of fencing for NRM works	18
Number of plants	41,972

Sub-catchment 2.1 — Upper Leigh

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	20,850	13*
Public land	970	5
Private land	19,880	95
Land use:		
Agriculture/Horticulture	19,620	68
Conservation	134	<1%
Forestry	630	2
Mining	5	<1%
Semi-urban	-	-
Urban	4	<1%

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	510	2
Total area of remnant native vegetation on private land	1,010	5
Total area of remnant native vegetation	1,520	7
Endangered EVCs	290	19
Vulnerable EVCs	490	32
Depleted EVCs	540	35
Least Concern EVCs	210	14

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
16	Lowland Forest	LC	152	
20	Heathy Dry Forest	LC	57	
22	Grassy Dry Forest	D	536	
47	Valley Grassy Forest	V	173	
55	Plains Grassy Woodland	E	92	Y
56	Floodplain Riparian Woodland	E	3	Y
132	Plains Grassland	E	4	Y
164	Creekline Herb-rich Woodland	V	305	Y
175	Grassy Woodland	E	70	Y
641	Riparian Woodland	E	0	Y
851	Stream-bank Shrubland	E,V	30	
895	Basalt Escarpment Shrubland	E	4	
897	Plains Grassland / Plains Grassy Woodland Mosaic	E	91	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Australasian Shoveler	v			1960	1
Barking Owl	e	L		1988	1
Brolga	v	L		1995	2
Brown Treecreeper	n			2001	2
Brush-tailed Phascogale	v	L		1989	3
Fat-tailed Dunnart	n			1996	1
Hardhead	v			1960	1
Mountain Galaxias		L		1999	41
Powerful Owl	v	L		1988	2
Spotted Quail-thrush	n			1960	1
Whiskered Tern	n			1978	1

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Brachyscome cuneifolia</i>	Wedge-leaf Daisy	k			1950	1
<i>Comesperma polygaloides</i>	Small Milkwort	v	L		2001	5
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	1991	4
<i>Cullen tenax</i>	Tough Scurf-pea	e	L		1995	2
<i>Diuris</i> sp. aff. <i>chryseopsis</i> (Basalt Plains)	Small Golden Moths	v	L	E	1950	1
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		1995	3
<i>Glycine latrobeana</i>	Clover Glycine	v	L	V	1998	4
<i>Lachnagrostis punicea</i>	Purple Blown-grass	r			1950	1
<i>Lachnagrostis punicea</i> subsp. <i>punicea</i>	Purple Blown-grass	r			1997	2
<i>Lachnagrostis robusta</i>	Salt Blown-grass	r			1996	2
<i>Lotus australis</i>	Austral Trefoil	k			2001	2
<i>Microseris</i> sp. 1	Plains Yam-daisy	v			1950	1
<i>Nicotiana suaveolens</i>	Austral Tobacco	r			2001	4
<i>Olearia tubuliflora</i>	Rayless Daisy-bush	r			1971	2
<i>Pimelea spinescens</i>	Spiny Rice-flower	e	L		1998	2
<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower	v		C	2001	2
<i>Poa labillardierei</i> var. (Volcanic Plains)	Basalt Tussock-grass	k			1950	1
<i>Prasophyllum fosteri</i>	Shelford Leek-orchid	e	L		1950	1
<i>Prasophyllum frenchii</i>	Maroon Leek-orchid	e	L	E	1991	2
<i>Prostanthera nivea</i> var. <i>nivea</i>	Snowy Mint-bush	r			2001	9
<i>Rhagodia parabolica</i>	Fragrant Saltbush	r			2001	6
<i>Swainsona behriana</i>	Southern Swainson-pea	r			1998	2
<i>Thelymitra gregaria</i>	Basalt Sun-orchid	e	L		1950	1
<i>Tripogon loliformis</i>	Rye Beetle-grass	r			1950	1

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	60
Sheet/Rill erosion – mapped area (ha) affected	649
Salinity – number of mapped secondary salinity affected areas	23
Salinity – area of mapped secondary salinity sites (ha)	21
Number of declared Regionally Controlled noxious weed species*	14
Number of declared Restricted noxious weed species*	14

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection/enhancement	4
Revegetation	-
Salinity control	-
Erosion control	-
Waterway rehabilitation	4
Wetland protection	-
Corridor	15
Escarpment	2
Pest plant control	-
Total	25

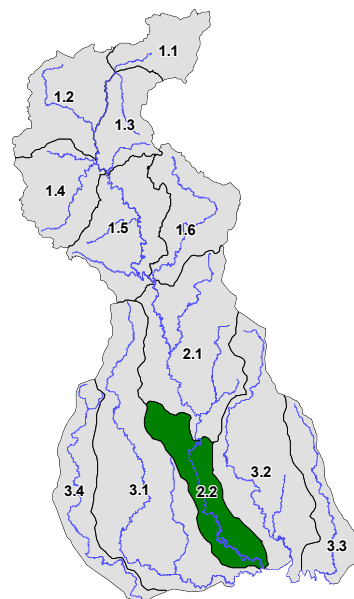
NRM works	Amount
Total area (ha) of NRM activities	221
Total length (km) of fencing for NRM works	43
Number of plants	106,387

Sub-catchment 2.2 — Lower Leigh

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	9,900	6*
Public land	1,300	13
Private land	8,600	87
Land use:		
Agriculture/Horticulture	8,300	84
Conservation	845	9
Forestry	-	-
Mining	-	-
Semi-urban	150	2
Urban	240	2

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	790	8
Total area of remnant native vegetation on private land	290	3
Total area of remnant native vegetation	1,080	12
Endangered EVCs	985	91
Vulnerable EVCs	90	9
Depleted EVCs	-	-
Least Concern EVCs	-	-

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
3	Damp Sands Herb-rich Woodland	V	93	
55	Plains Grassy Woodland	E	738	Y
56	Floodplain Riparian Woodland	E	142	Y
125	Plains Grassy Wetland	X	2	Y
132	Plains Grassland	E	<1	Y
175	Grassy Woodland	E	12	Y
647	Plains Sedgy Wetland	E	67	Y
897	Plains Grassland / Plains Grassy Woodland Mosaic	E	26	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Brolga	v	L		1999	4
Diamond Firetail	v	L		1999	2
Plains-wanderer	c	L	V	1955	3

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Austrostipa hemipogon</i>	Half-bearded Spear-grass	r			1979	1
<i>Comesperma polygaloides</i>	Small Milkwort	v	L		2002	10
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	2001	8
<i>Diuris sp. aff. chryseopsis (Basalt Plains)</i>	Small Golden Moths	v	L	E	1990	1
<i>Glycine latrobeana</i>	Clover Glycine	v	L	V	2001	10
<i>Lepidosperma canescens</i>	Hoary Rapier-sedge	r			1982	1
<i>Leucochrysum albicans subsp. albicans var. tricolor</i>	White Sunray	e		E	2001	6
<i>Lotus australis</i>	Austral Trefoil	k			1990	1
<i>Pimelea spinescens</i>	Spiny Rice-flower	e	L		1999	6
<i>Pimelea spinescens subsp. spinescens</i>	Spiny Rice-flower	v		C	2000	7
<i>Prasophyllum aff. validum B</i>	Woodland Leek-orchid	e		V		1
<i>Prasophyllum fosteri</i>	Shelford Leek-orchid	e	L		2003	18
<i>Prasophyllum frenchii</i>	Maroon Leek-orchid	e	L	E	1992	2
<i>Prasophyllum pyriforme s.s.</i>	Silurian Leek-orchid	e			1983	2
<i>Prostanthera nivea var. nivea</i>	Snowy Mint-bush	r			1992	2
<i>Ptilotus erubescens</i>	Hairy Tails		L		2002	35
<i>Swainsona behriana</i>	Southern Swainson-pea	r			2000	3
<i>Thelymitra gregaria</i>	Basalt Sun-orchid	e	L		2002	1
<i>Thelymitra luteocilium</i>	Fringed Sun-orchid	r			1982	1
<i>Thelymitra X macmillanii</i>	Crimson Sun-orchid	v			1982	2

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	7.3
Sheet/Rill erosion – mapped area (ha) affected	144
Salinity – number of mapped secondary salinity affected areas	10
Salinity – area of mapped secondary salinity sites (ha)	10
Number of declared Regionally Controlled noxious weed species*	7
Number of declared Restricted noxious weed species*	8
Approximate area (ha) of native vegetation loss	

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	4
Revegetation	7
Salinity control	
Erosion control	
Waterway rehabilitation	9
Wetland protection	
Corridor	3
Pest plant control	2
Total	25

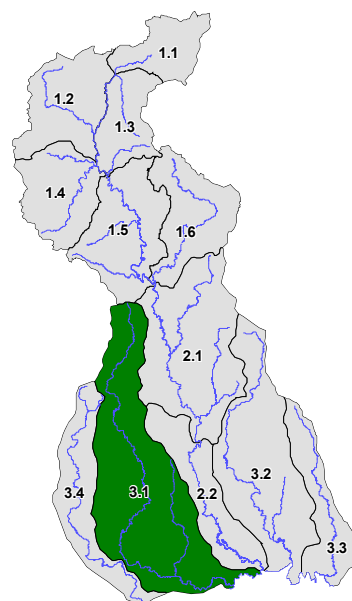
NRM works	Amount
Total area (ha) of NRM activities	30
Total length (km) of fencing for NRM works	13
Number of plants	42,092

Sub-catchment 3.1 — Warrambine

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	29,600	19*
Public land	750	3
Private land	28,840	97
Land use:		
Agriculture/Horticulture	28,740	98
Conservation	40	
Forestry	-	-
Mining	-	-
Semi-urban	115	<1
Urban	5	<1

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub- catchment area
Total area of remnant native vegetation on public land	30	<1%
Total area of remnant native vegetation on private land	180	1
Total area of remnant native vegetation	210	1
Endangered EVCs	210	100
Vulnerable EVCs	-	-
Depleted EVCs	-	-
Least Concern EVCs	-	-

CCMA priority EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
53	Swamp Scrub	E	20	Y
55	Plains Grassy Woodland	E	2	Y
56	Floodplain Riparian Woodland	E	12	Y
125	Plains Grassy Wetland	X	<1	
647	Plains Sedgy Wetland	E	4	Y
897	Plains Grassland / Plains Grassy Woodland Mosaic	E	171	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Australasian Shoveler	v			1989	3
Australian Bustard	c	L		1954	4
Black Falcon	v			1979	1
Blue-billed Duck	e	L		1992	2
Brolga	v	L		1996	5
Diamond Dove	n	L		1999	1
Elegant Parrot	v			1954	1
Fat-tailed Dunnart	n			1995	2
Freckled Duck	e	L		1979	1
Great Egret	v	L		1979	2
Growling Grass Frog	e	L	V	1998	2
Hardhead	v			1995	4
Latham's Snipe	n			1979	3
Musk Duck	v			1995	7
Nankeen Night Heron	n			1997	1
Pectoral Sandpiper	n			1998	2
Royal Spoonbill	v			1978	1
Striped Legless Lizard	e	L	V	1995	1
Whiskered Tern	n			1980	3

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Comesperma polygaloides</i>	Small Milkwort	v	L		2001	8
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	2001	15
<i>Cullen tenax</i>	Tough Scurf-pea	e	L		1993	1
<i>Glycine latrobeana</i>	Clover Glycine	v	L	V	1993	2
<i>Lachnagrostis robusta</i>	Salt Blown-grass	r			1997	3
<i>Pimelea spinescens</i>	Spiny Rice-flower	e	L		2000	4
<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower	v		C	2002	12
<i>Poa labillardierei</i> var. (Volcanic Plains)	Basalt Tussock-grass	k			1992	1
<i>Prasophyllum fosteri</i>	Shelford Leek-orchid	e	L		1991	1
<i>Prasophyllum suaveolens</i>	Fragrant Leek-orchid	e	L	E	2000	4
<i>Ptilotus erubescens</i>	Hairy Tails		L		1950	1
<i>Senecio cunninghamii</i> var. <i>cunninghamii</i>	Branching Groundsel	r			2000	3
<i>Tripogon loliiformis</i>	Rye Beetle-grass	r			1993	1

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	0
Sheet/Rill erosion – mapped area (ha) affected	0
Salinity – number of mapped secondary salinity affected areas	14
Salinity – area of mapped secondary salinity sites (ha)	191
Number of declared Regionally Controlled noxious weed species*	14

Number of declared Restricted noxious weed species*

10

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	
Revegetation	2
Salinity control	
Erosion control	1
Waterway rehabilitation	5
Wetland protection	
Corridor	7
Pest plant control	
Total	15

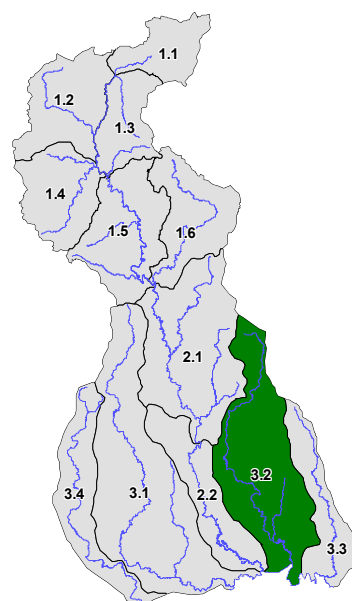
NRM works	Amount
Total area (ha) of NRM activities	29
Total length (km) of fencing for NRM works	14
Number of plants	56,665

Sub-catchment 3.2 — Native Hut

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	21,046	13*
Public land	970	5
Private land	20,080	95
Land use:		
Agriculture/Horticulture	18,850	89
Conservation	715	3
Forestry	95	<1
Mining	-	-
Semi-urban	30	<1
Urban	870	4

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	350	2
Total area of remnant native vegetation on private land	225	1
Total area of remnant native vegetation	575	3
Endangered* EVCs	565	98
Vulnerable* EVCs	10	2
Depleted* EVCs	-	-
Least Concern* EVCs	-	-

* See Appendix 4 for definitions

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
3	Damp Sands Herb-rich Woodland	V	11	
55	Plains Grassy Woodland	E	414	Y
56	Floodplain Riparian Woodland	E	4	Y
68	Creekline Grassy Woodland	E	36	Y
132	Plains Grassland	E	30	Y
175	Grassy Woodland	E	60	Y
647	Plains Sedgy Wetland	E	0	Y
691	Aquatic Herbland / Plains Sedgy Wetland Mosaic	E	0	Y
851	Stream-bank Shrubland	E	21	

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Australasian Shoveler	v			2001	2
Black-chinned Honeyeater	n			2001	8
Black-eared Cuckoo	n			1979	2
Brolga	v	L		1992	3
Brown Quail	n			1980	3
Brown Treecreeper	n			1998	10
Caspian Tern	n	L		1980	1
Diamond Firetail	v	L		2000	20
Fat-tailed Dunnart	n			1995	1
Freckled Duck	e	L		1978	1
Great Egret	v	L		1989	10
Grey-crowned Babbler	e	L		1979	1
Hardhead	v			2001	9
Hooded Robin	n	L		1979	1
Latham's Snipe	n			1986	1
Little Button-quail	n			1970	1
Musk Duck	v			1979	4
Nankeen Night Heron	n			1979	3
Painted Honeyeater	v	L		1998	2
Pied Cormorant	n			1979	3
Royal Spoonbill	v			1980	1
Speckled Warbler	v	L		1979	2
Spotted Harrier	n			1979	1
Swift Parrot	e	L	E	2001	5
Yarra Pigmy Perch	n	L	V	2000	196

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Austrostipa hemipogon</i>	Half-bearded Spear-grass	r			1950	1
<i>Caladenia pumila</i>	Dwarf Spider-orchid	x	L	X	1950	1
<i>Caladenia sp. aff. fragrantissima (Inverleigh)</i>	Inverleigh Spider-orchid	e			1950	1
<i>Calandrinia volubilis</i>	Twining Purslane	r			1950	1
<i>Cardamine gunnii s.s.</i>	Tuberous Bitter-cress	x			1950	2
<i>Cardamine tenuifolia</i>	Slender Bitter-cress	k			1950	1
<i>Corunastylis ciliata</i>	Fringed Midge-orchid	k			1950	1
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	2001	6
<i>Dianella amoena</i>	Matted Flax-lily	e		E	1950	1
<i>Dipodium pardalinum</i>	Spotted Hyacinth-orchid	r			1950	1
<i>Diuris punctata var. punctata</i>	Purple Diuris	v	L		2002	5
<i>Eucalyptus leucoxyloides subsp. connata</i>	Melbourne Yellow-gum	v	X		1998	7
<i>Eucalyptus yarraensis</i>	Yarra Gum	r	X		1950	1
<i>Glycine latrobeana</i>	Clover Glycine	v	L	V	1993	6
<i>Grevillea chrysophaea</i>	Golden Grevillea	r			1950	2
<i>Grevillea steiglitziana</i>	Brisbane Range Grevillea	r			1950	2
<i>Lachnagrostis punicea</i>	Purple Blown-grass	r			1950	1

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Lachnagrostis punicea</i> subsp. <i>punicea</i>	Purple Blown-grass	r			1950	1
<i>Lepidosperma canescens</i>	Hoary Rapier-sedge	r			1950	1
<i>Leucochrysum albicans</i> subsp. <i>albicans</i> var. <i>tricolor</i>	White Sunray	e		E	2001	2
<i>Lotus australis</i>	Austral Trefoil	k			1950	2
<i>Olearia pannosa</i> subsp. <i>cardiophylla</i>	Velvet Daisy-bush	v	L		1950	1
<i>Olearia tubuliflora</i>	Rayless Daisy-bush	r			1950	2
<i>Pimelea spinescens</i>	Spiny Rice-flower	e	L		1950	1
<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower	v		C	1950	1
<i>Prasophyllum</i> aff. <i>validum</i> B	Woodland Leek-orchid	e		V	1950	1
<i>Prasophyllum pyriforme</i> s.s.	Silurian Leek-orchid	e			1950	1
<i>Prostanthera decussata</i>	Dense Mint-bush	r			1950	1
<i>Prostanthera nivea</i> var. <i>nivea</i>	Snowy Mint-bush	r			2001	3
<i>Pterostylis smaragdina</i>	Emerald-lip Greenhood	r			1950	1
<i>Ptilotus erubescens</i>	Hairy Tails		L		2002	12
<i>Pultenaea graveolens</i>	Scented Bush-pea	v	L		1950	2
<i>Rhagodia parabolica</i>	Fragrant Saltbush	r			1950	3
<i>Rutidosis leptorhynchoides</i>	Button Wrinklewort	e	L	E	1950	1
<i>Senecio cunninghamii</i> var. <i>cunninghamii</i>	Branching Groundsel	r			1950	1
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	e	L	V	1984	3
<i>Thelymitra hiemalis</i>	Winter Sun-orchid	e	L		1950	1
<i>Thelymitra luteocilium</i>	Fringed Sun-orchid	r			1950	1
<i>Thelymitra</i> X <i>macmillanii</i>	Crimson Sun-orchid	v			2001	2

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	12
Sheet/Rill erosion – mapped area (ha) affected	8
Salinity – number of mapped secondary salinity affected areas	11
Salinity – area of mapped secondary salinity sites (ha)	36
Number of declared Regionally Controlled noxious weed species*	15
Number of declared Restricted noxious weed species*	13

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	
Revegetation	4
Salinity control	
Erosion control	
Waterway rehabilitation	8
Wetland protection/enhancement	1
Corridor	5
Pest plant control	1
Total	19

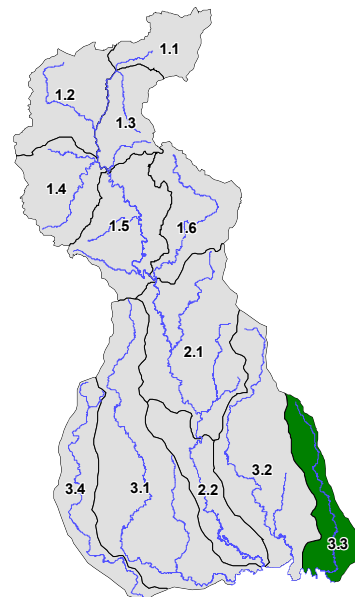
NRM works	Amount
Total area (ha) of NRM activities	32
Total length (km) of fencing for NRM works	7
Number of plants	49,815

Sub-catchment 3.3 — Bruces

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	8,432	5*
Public land	408	5
Private land	8,024	95
Land use:		
Agriculture/Horticulture	7,025	84
Conservation	300	4
Forestry	15	<1
Mining	40	<1
Semi-urban	325	4
Urban	325	4

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	90	1
Total area of remnant native vegetation on private land	100	1
Total area of remnant native vegetation	190	2
Endangered EVCs	190	100
Vulnerable EVCs	-	-
Depleted EVCs	-	-
Least Concern EVCs	-	-

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
55	Plains Grassy Woodland	E	161	Y
68	Creekline Grassy Woodland	E	13	Y
132	Plains Grassland	E	19	Y
691	Aquatic Herbland / Plains Sedgy Wetland Mosaic	E	1	Y
851	Stream-bank Shrubland	E	<1	

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Australasian Shoveler	v			1979	1
Black-chinned Honeyeater	n			1999	9
Brown Treecreeper	n			1989	2
Brush-tailed Phascogale	v	L		1993	1
Common Dunnart	v			1964	1

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Diamond Firetail	v	L		1995	7
Freckled Duck	e	L		1997	1
Hardhead	v			2001	1
Hooded Robin	n	L		1989	1
Major Mitchell's Cockatoo	v	L		1958	1
Musk Duck	v			1978	1
Painted Honeyeater	v	L		1995	10
Pied Cormorant	n			1989	1
Swift Parrot	e	L	E	1979	1
Yarra Pigmy Perch	n	L	V	2000	100

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	2001	3
<i>Eucalyptus leucoxylon subsp. connata</i>	Melbourne Yellow-gum	v	X		1996	8
<i>Pimelea spinescens subsp. spinescens</i>	Spiny Rice-flower	v		C	2001	6
<i>Prostanthera nivea var. nivea</i>	Snowy Mint-bush	r			1993	1
<i>Rutidosis leptorhynchoides</i>	Button Wrinklewort	e	L	E	2001	9
<i>Senecio cunninghamii var. cunninghamii</i>	Branching Groundsel	r			1992	1
<i>Senecio macrocarpus</i>	Large-fruit Fireweed	e	L	V	2002	18

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	0
Sheet/Rill erosion – mapped area (ha) affected	0
Salinity – number of mapped secondary salinity affected areas	5
Salinity – area of mapped secondary salinity sites (ha)	1.4
Number of declared Regionally Controlled noxious weed species*	11
Number of declared Restricted noxious weed species*	6

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	-
Revegetation	-
Salinity control	-
Erosion control	-
Waterway rehabilitation	-
Wetland protection	-
Corridor	-
Pest plant control	-
Total	0

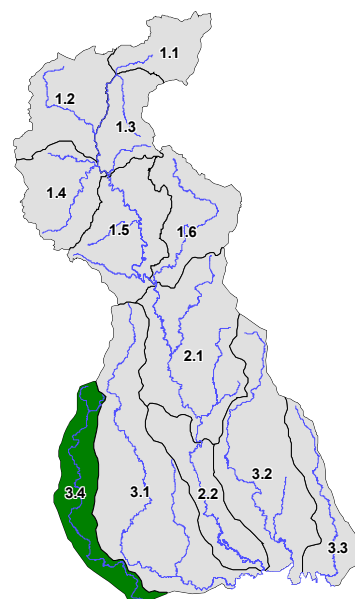
NRM works	Amount
Total area (ha) of NRM activities	-
Total length (km) of fencing for NRM works	-
Number of plants	-

Sub-catchment 3.4 — Mia Mia

Sub-catchment Features and Land Use Summary

Feature	Area (ha)	% of sub-catchment area
Sub-catchment area	10,653	7*
Public land	37	<1
Private land	10,616	99
Land use:		
Agriculture/Horticulture	10,460	99
Conservation	-	-
Forestry	-	-
Mining	-	-
Semi-urban	-	-
Urban	-	-

* Proportion of Leigh Catchment



Environmental Asset Summary

Native Vegetation

Asset	Area (ha)	% of sub-catchment area
Total area of remnant native vegetation on public land	1	<1
Total area of remnant native vegetation on private land	50	<1
Total area of remnant native vegetation	51	<1
Endangered EVCs	50	100
Vulnerable EVCs	-	-
Depleted EVCs	-	-
Least Concern EVCs	-	-

EVCs present in sub-catchment

EVC	EVC Name	BCS Status*	Area (ha) mapped	CCMA priority EVC
53	Swamp Scrub	E	7	Y
55	Plains Grassy Woodland	E	3	Y
691	Aquatic Herbland / Plains Sedgy Wetland Mosaic	E	10	Y
897	Plains Grassland / Plains Grassy Woodland Mosaic	E	30	Y

* See Appendix 4 for definitions

Fauna – Rare and/or Threatened

Species	VROT*	FFG*	EPBC*	Year of last record	Record count
Australasian Shoveler	v			1995	1
Black Falcon	v			2001	1
Brolga	v	L		2000	2
Fat-tailed Dunnart	n			1995	3
Hardhead	v			1995	1
Spot-tailed Quoll	e	L	V	1964	1
Spotted Harrier	n			2001	1
Striped Legless Lizard	e	L	V	1997	9

* See Appendix 4 for definitions

Flora - Rare and/or Threatened

Name	Common name	VROT*	FFG*	EPBC*	Year of last record	Record count
<i>Comesperma polygaloides</i>	Small Milkwort	v	L		1990	1
<i>Cullen parvum</i>	Small Scurf-pea	e	L	E	2001	2
<i>Lachnagrostis adamsonii</i>	Adamson's Blown-grass	v	L	E	1998	6
<i>Lachnagrostis robusta</i>	Salt Blown-grass	r			1998	3

* See Appendix 4 for definitions

Threat summary

Threat type	Quantity
Gully erosion – mapped length (km) of gully affected	0
Sheet/Rill erosion – mapped area (ha) affected	0
Salinity – number of mapped secondary salinity affected areas	9
Salinity – area of mapped secondary salinity sites (ha)	324
Number of declared Regionally Controlled noxious weed species*	3
Number of declared Restricted noxious weed species*	1

* See Appendix 4 for definitions

NRM activity summary (LCG projects 1997-2007)

Activity type	No of projects
Remnant vegetation protection	-
Revegetation	-
Salinity control	-
Erosion control	-
Waterway rehabilitation	-
Wetland protection	-
Corridor	1
Pest plant control	-
Total	1

NRM works	Amount
Total area (ha) of NRM activities	0.8
Total length (km) of fencing for NRM works	0.8
Number of plants	2,320

6. Actions

The actions that aim to protect or enhance the identified assets, and reduce the impact of the identified threats within the LCG area, are grouped under the following themes:

- Climate change adaptation and mitigation.
- Community support, engagement and capacity building.
- Cultural heritage protection and management.
- Pest plant and animal control and management.
- Protection, enhancement and restoration of biodiversity.
- Salinity and soil health management.
- Sustainable agricultural practices.
- Waterway and wetland protection and enhancement.

- This section presents priority actions for works and activities. Table 6-1 lists an action reference number, the type of action, priorities or targets for the implementation of the action, methods or techniques that may be employed to implement the action and a list of key stakeholders or partners that may assist or support the delivery of the action.

Table 6-1 Actions for the Leigh Catchment Group Area

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
1	Climate change mitigation and adaptation			
1.1	Investigate and develop opportunities to establish carbon offset/trading programs for the LCG area.	<ul style="list-style-type: none"> • Auditing programs • Carbon sequestration programs 	<ul style="list-style-type: none"> • Arrange information sessions, workshops and meetings • Establish trial sites 	<ul style="list-style-type: none"> • Carbon offset/trading groups
1.2	Support and promote carbon emission reduction programs.	<ul style="list-style-type: none"> • Carbon emission reduction programs for agriculture • Household emission reduction education programs 	<ul style="list-style-type: none"> • Arrange meetings between LCG officers/executive and program coordinators • Provide opportunities for presentations and information sessions • Publicise programs in LCG media material 	<ul style="list-style-type: none"> • DPI/DSE • BREAZE • LAL • CCMA • Sustainability Victoria • Landcare/community groups
1.3	Investigate impacts of climate change on catchment assets and NRM management techniques.	<ul style="list-style-type: none"> • Waterway and wetland change • Adaptation of revegetation methods • Weather events • Reduced water availability 	<ul style="list-style-type: none"> • Develop and/or support projects investigating the impact of climate change on natural resources in the Corangamite region. 	<ul style="list-style-type: none"> • Tertiary institutions and research groups • DPI/DSE • CCMA

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
1.4	Develop carbon neutral policy for the Leigh Catchment Group.	<ul style="list-style-type: none"> • LCG activities 	<ul style="list-style-type: none"> • Undertake carbon audit for LCG activities. • Set emissions targets • Identify actions for reducing emissions • Reduce waste-recycle paper, use recycled paper for publishing 	<ul style="list-style-type: none"> • Sustainability Victoria
2	Community support, engagement and capacity building			
2.1	Provide support to LCG Landcare groups.	<ul style="list-style-type: none"> • LCG member Landcare groups • Related community environmental groups 	<ul style="list-style-type: none"> • Project management • NRM advice and information • Funding opportunities • Networking • Site assessments • Implementation of Landcare support strategy processes and recommendations • Publicity • Meetings 	<ul style="list-style-type: none"> • Landcare/community groups • CCMA
2.2	Promote landholder involvement with Landcare groups.	<ul style="list-style-type: none"> • Private landholders within the LCG area 	<ul style="list-style-type: none"> • Field days • Event displays • Promotional material • Media releases 	<ul style="list-style-type: none"> • Landcare/community groups • CCMA • DSE/DPI • Greening Australia
2.3	Promote and support voluntary landholder agreements (eg. Conservation covenants, Land for Wildlife).	<ul style="list-style-type: none"> • Private landholders within the LCG area 	<ul style="list-style-type: none"> • Field days • Event displays • Promotional material • Media releases 	<ul style="list-style-type: none"> • Landcare/community groups • Trust for Nature • Greening Australia • CCMA • DSE/DPI

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
2.4	Increase community awareness and knowledge of NRM issues, activities and methods.	<ul style="list-style-type: none"> General community 	<ul style="list-style-type: none"> Undertake education and information program targeted at small acreage landholders Conduct information sessions, field days, catchment tours and workshops. Undertake and promote RVRSA (Remnant Vegetation Rapid Site Assessment) of remnant vegetation patches Undertake a significant tree survey Develop/support community based fauna survey/field day events Produce newsletters and media releases Develop and maintain internet based resources. Provide information sources and reference material to landholders 	<ul style="list-style-type: none"> Landholders Landcare/community groups Greening Australia CCMA DSE/DPI Schools and tertiary institutions
2.5	Develop and undertake school based education programs or activities.	<ul style="list-style-type: none"> Primary and secondary schools within the LCG area 	<ul style="list-style-type: none"> Develop and run practical activities for students. Promote and assist established programs such as Young Landcare, Waterwatch, Satwatch, Frogwatch etc. Undertake school/community research joint projects eg. Bridal Creeper leaf hopper breeding and release. 	<ul style="list-style-type: none"> Department of Education and Early Childhood Development Schools Landcare/community groups KTRI
2.6	Promote cross communication of environmental understanding between groups.	<ul style="list-style-type: none"> Urban and rural based groups in LCG area Urban and rural based groups outside the LCG area City based groups Other non environmental based groups eg cultural groups, clubs Corporate groups 	<ul style="list-style-type: none"> Interactive visits. Develop links between urban community and landcare groups eg 'sister' group. Support tours to other areas. Host visits from outside the catchment. 	<ul style="list-style-type: none"> Landcare/community groups Non NRM community groups CVA LCG

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
2.7	Support and promote government and non-government agency NRM programs.	<ul style="list-style-type: none"> Existing and new programs as developed 	<ul style="list-style-type: none"> Arrange meetings between LCG officers/executive and agency program coordinators Provide opportunities for presentations and information sessions Assist with workshops and field days. Publicise programs in LCG media material Provide information sources and reference material to landholders 	<ul style="list-style-type: none"> CCMA DSE/DPI Greening Australia Parks Victoria Local government Seeding Victoria Gorse Task Force Schools Tertiary education Landcare/community groups Victorian Landcare Centre KTRI
3	Cultural heritage protection and management			
3.1	Increase community awareness and knowledge of cultural and historic features of the LCG area.	<ul style="list-style-type: none"> General community 	<ul style="list-style-type: none"> Conduct workshops and/or field days Provide information sources and reference material to landholders 	<ul style="list-style-type: none"> Wathaurong community Ballarat and District Aboriginal Cooperative AAV Heritage Victoria University of Ballarat Aboriginal Education Centre
3.2	Assist landholders and land managers to protect significant cultural and historic sites.	<ul style="list-style-type: none"> Private landholders 	<ul style="list-style-type: none"> Provide information and facilitate communication between landholders and relevant groups and agencies 	<ul style="list-style-type: none"> Wathaurong community Ballarat and District Aboriginal Cooperative AAV Heritage Victoria University of Ballarat Aboriginal Education Centre
4	Pest plant and animal control and management			
4.1	Undertake targeted control of CaLP Act listed weeds for the Corangamite area.	<ul style="list-style-type: none"> Areas supporting priority EVCs Waterways High conservation status roadsides Locally significant sites identified through Local Action Plans. Public and private land projects 	<ul style="list-style-type: none"> Coordinate with key agencies Chemical, physical and biological control treatments as developed of infestations. Link landholders to registered chemical use training programs eg Chemical Users course Weed identification training sessions 	<ul style="list-style-type: none"> Landholders DPI Gorse Task Force Serrated Tussock Task Force CCMA PIRVic

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
4.2	Work on joint projects with Good Neighbour Program, Gorse Task Force and other integrated programs.	<ul style="list-style-type: none"> Gorse task force priority areas Priority weed infestations adjacent and within public land Areas supporting priority EVCs Waterways High conservation status roadsides Locally significant sites identified through Local Action Plans 	<ul style="list-style-type: none"> Coordinate with relevant agencies and groups Field days/ information sessions re varied control method options Undertake local weed audits Support local group initiatives 	<ul style="list-style-type: none"> Landholders Landcare/community groups Gorse Task Force DPI DSE Local Government Parks Victoria
4.3	Undertake targeted rabbit control.	<ul style="list-style-type: none"> Priority areas defined by the CCMA Rabbit Action Plan Sites supporting CCMA priority EVCs Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Accepted rabbit control treatments including habitat destruction where appropriate Develop strategies to assist rural-urban areas 	<ul style="list-style-type: none"> Landholders Landcare/community groups CCMA DPI
4.4	Support and promote agency Fox control programs and initiatives.	<ul style="list-style-type: none"> Sites supporting rare/or threatened fauna susceptible to Fox predation. Locally significant sites identified through Local Action Plans. Areas identified by NRM agency programs 	<ul style="list-style-type: none"> Accepted fox control treatments Develop strategies to assist rural-urban areas Ensure best management practices related to control around threatened species 	<ul style="list-style-type: none"> Landholders DPI DSE TSN
4.5	Monitor/assess other potential pest animal impacts (potential species include deer, pigs, cats, dogs, introduced birds).	<ul style="list-style-type: none"> Sites supporting CCMA priority EVCs Areas known to support threatened flora and/or fauna. Roadsides with high conservation value. Urban/Semi Urban areas. Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Consultation with landholders, community groups and NRM agencies 	<ul style="list-style-type: none"> Landholders DPI DSE Landcare/community groups
5	Protection, enhancement and restoration of biodiversity			

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
5.1	Manage remnant vegetation and fauna habitat on private land for conservation.	<ul style="list-style-type: none"> Sites supporting CCMA priority EVCs. Secondary salinity sites and adjacent areas Areas known to support threatened flora and/or fauna. Areas covered by Vegetation Protection Overlays, Environmental Significance Overlays, Salinity Management Overlays or Erosion Management Overlays. Urban and semi-urban areas subject to development. Native grasslands Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Fencing for site management Cease clearing and timber removal Support and encourage enforcement of native vegetation protection legislation Ecological burning Controlled grazing for biomass and weed control Control pest plants and animals Restore degraded or missing vegetation components. Ecological thinning. Understorey enhancement Scattered tree protection Land for Wildlife Educational activities Media articles-local newsletters, Leighway, e news 	<ul style="list-style-type: none"> Landholders Landcare/community groups CCMA DSE DPI Local Government Greening Australia Seeding Victoria CFA
5.2	Assist VicRoads, VicTrack and Local Government to protect and conserve remnant vegetation and fauna habitat on roadsides and rail reserves.	<ul style="list-style-type: none"> Roadsides supporting CCMA priority EVCs Roadsides with general high conservation value. Roadsides that connect, or potentially connect remnant patches of vegetation. 	<ul style="list-style-type: none"> Identify and establish joint/collaborative revegetation and remnant protection projects Advise road managers of LCG NRM projects being undertaken adjacent or in close proximity to road reserves. Support and encourage enforcement of native vegetation protection legislation Foster new relationships and good communication with existing organisations 	<ul style="list-style-type: none"> VicRoads VicTrack Local Government Adjoining landholders CFA
5.3	Support agencies and other groups to protect, enhance and restore vegetation on public land and crown land reserves.	<ul style="list-style-type: none"> Sites supporting CCMA priority EVCs Areas known to support threatened flora and/or fauna. Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Identify and establish joint/collaborative projects for sites that cover public and private land. Advise relevant land managers of LCG NRM projects being undertaken adjacent or in close proximity to areas of public land. 	<ul style="list-style-type: none"> DSE Parks Victoria Ballarat Environment Network Friends Groups/community groups Community Management committees Local Government Schools

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
5.4	Revegetate areas on private land for biodiversity protection and enhancement.	<ul style="list-style-type: none"> • Areas directly adjacent to roadsides supporting remnant vegetation. • Vegetation/habitat corridors or linking patches between remnant vegetation patches or past revegetation sites. • Areas adjacent to sites known to support rare and/or threatened native fauna. • Areas adjacent to permanent or semi permanent water including major waterways and wetlands. • Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> • Implement standard revegetation methods to establish a range of lifeforms/strata that match the relevant local EVCs • Incorporate habitat features for a range of wildlife. • Assist with species selection to ensure revegetation with suitable species adjacent to threatened EVCs. • Publicise potential native weeds to the community 	<ul style="list-style-type: none"> • Landholders • Landcare/community groups • VicRoads • Local Government • CCMA • DSE/Parks Victoria • Greening Australia • Seeding Victoria
5.5	Develop and/or support fauna and flora survey/assessments.	<ul style="list-style-type: none"> • Roadsides and rail reserves • Remnant vegetation on private land • Revegetation sites • Areas with no or few existing plant or animal records. 	<ul style="list-style-type: none"> • Collaborate with relevant organisations or groups to develop survey and research projects 	<ul style="list-style-type: none"> • Research institutions • Field Naturalist groups • Bird observer groups • DSE • Greening Australia • Landcare/community groups • Schools • Tertiary institutions • TFN • Landcare Australia
5.6	Promote and encourage involvement in NRM agency biodiversity restoration and improvement programs.	<ul style="list-style-type: none"> • Private land managers and landholders 	<ul style="list-style-type: none"> • Provide information to landholders and land managers. • Facilitate and/or promote workshops, information sessions and presentations. 	<ul style="list-style-type: none"> • CCMA • DSE • Greening Australia • DPI • Schools • Landcare/community groups
6	Salinity and soil health management			
6.1	Undertake a salinity assessment/review of the LCG area to establish priority salinity management areas and to identify salinity monitoring requirements and sites.	<ul style="list-style-type: none"> • LCG area 	<ul style="list-style-type: none"> • Develop project with NRM agencies and/or research group • Collate existing information on the LCG area and history including Waterwatch and Saltwatch records • Engage experts to undertake assessment and prepare report. 	<ul style="list-style-type: none"> • DPI • CCMA • Research institutions/groups • Landcare/community groups
6.2	Develop treatment options for priority salinity management areas within the LCG area.	<ul style="list-style-type: none"> • Priority salinity management areas identified by salinity assessment (see above) 	<ul style="list-style-type: none"> • To be developed 	<ul style="list-style-type: none"> • CCMA • DPI • Research institutions/groups

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
6.3	Coordinate and/or promote targeted salinity management field days/workshops.	<ul style="list-style-type: none"> Target landholders in priority salinity management areas. 	<ul style="list-style-type: none"> Workshops and field days Support Waterwatch groups Participate in Saltwatch activities 	<ul style="list-style-type: none"> Landholders Landcare/community groups CCMA DPI
6.4	Control existing gully, sheet and rill erosion using site specific treatment methods.	<ul style="list-style-type: none"> CCMA Soil Health Strategy priority investment areas. Sites supporting remnant native vegetation. Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Engineering treatments such as rock fills and earthworks Biological treatment such as vegetation re establishment 	<ul style="list-style-type: none"> Landholders Landcare/community groups CCMA DPI
6.5	Identify sites susceptible to erosion to target for future NRM works.	<ul style="list-style-type: none"> LCG area 	<ul style="list-style-type: none"> Susceptibility mapping 	<ul style="list-style-type: none"> CCMA DPI Landcare/community groups
6.6	Coordinate and or support targeted soil health field days/workshops.	<ul style="list-style-type: none"> Target landholders in areas prone to soil health issues. 	<ul style="list-style-type: none"> Workshops and field days 	<ul style="list-style-type: none"> Landcare/community groups CCMA DPI
6.7	Support and promote industry/agency programs that address soil health issues.	<ul style="list-style-type: none"> Priority soil health issues in the Leigh landscape zone including waterlogging, soil structure decline, soil acidification and nutrient decline 	<ul style="list-style-type: none"> Hold meetings with key delivery agencies. Provide information to landholders and land managers. Facilitate and/or promote workshops, information sessions and presentations. 	<ul style="list-style-type: none"> Landcare/community groups CCMA DPI
7	Sustainable agricultural practices			
7.1	Support and/or promote sustainable farming or environmental best practice programs.	<ul style="list-style-type: none"> Broad acre and small acreage landholders 	<ul style="list-style-type: none"> Arrange meetings between LCG officers/executive and program coordinators Provide opportunities for presentations and information sessions eg pasture management, grazing issues, agricultural carbon offsets Support field days Publicise programs in LCG media material Provide information sources and reference material to landholders 	<ul style="list-style-type: none"> DPI CCMA Greening Australia Landcare/community groups Southern Farming Systems

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
7.2	Promote or encourage farm planning and implementation of sustainable farming practices.	<ul style="list-style-type: none"> Broad acre and small acreage landholders 	<ul style="list-style-type: none"> Coordinate, promote and/or support farm planning training courses eg EBMP, Whole Farm Planning Coordinate, promote and/or support field days and workshops. Provide information sources and reference material to landholders 	<ul style="list-style-type: none"> DPI CCMA Greening Australia Farm planning experts Landcare/community groups Southern Farming Systems
8	Waterway and wetland protection and enhancement			
8.1	Revegetate riparian zones.	<ul style="list-style-type: none"> Nationally, regionally or locally important waterways. Extensions to intact riparian vegetation. Waterways connecting patches of remnant vegetation. Waterways or gullies susceptible to erosion. Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Standard revegetation methods to establish a range of lifeforms/strata that match the relevant local EVC(s). Incorporate habitat features for a range of wildlife including aquatic fauna. Promote and encourage involvement in NRM agency river restoration and improvement programs. 	<ul style="list-style-type: none"> Landholders Landcare/community groups CCMA DSE Greening Australia Local government Seeding Victoria Schools
8.2	Protect and enhance remnant native vegetation and fauna habitat along waterways.	<ul style="list-style-type: none"> High conservation significance/quality waterways or waterways supporting high quality remnant vegetation and/or fauna habitat. Waterways or gullies susceptible to erosion. Locally significant sites identified through Local Action Plans. 	<ul style="list-style-type: none"> Fencing for site management Cease clearing and timber removal Ecological burning Controlled grazing for biomass and weed control Control pest plants and animals Restore degraded or missing vegetation components. Instream habitat enhancement. Promote and encourage involvement in NRM agency river restoration and improvement programs. 	<ul style="list-style-type: none"> Landholders Landcare/community groups CCMA DSE Greening Australia Local government Seeding Victoria Schools CFA

Ref.	Action	Priorities/location	Methods	Stakeholders/Partners
8.3	Protect, restore and/or enhance wetlands and associated native vegetation and fauna habitat.	<ul style="list-style-type: none"> • Internationally, Nationally or Regionally significant wetlands. • Wetlands supporting rare and/or threatened flora or fauna • Locally significant sites identified through Local Action Plans. • Farm dams. 	<ul style="list-style-type: none"> • Remove artificial hydrological regimes that degrade wetland condition • Fencing for site management • Cease clearing and timber removal • Ecological burning • Controlled grazing for biomass and weed control • Control pest plants and animals • Restore degraded or missing vegetation components. • Establish artificial fauna habitat • Identify landholders of priority waterway sites and provide information and promote LCG programs. • Wetland habitat improvement earthworks 	<ul style="list-style-type: none"> • Landholders • Landcare/community groups • CCMA • DSE • Greening Australia • Local government • Seeding Victoria • Schools • CFA
8.4	Restore native vegetation adjacent to wetlands to augment and buffer biodiversity values.	<ul style="list-style-type: none"> • Internationally, Nationally or Regionally significant wetlands. • Wetlands supporting rare and/or threatened flora or fauna • Locally significant sites identified through Local Action Plans. • Farm dams. 	<ul style="list-style-type: none"> • Standard revegetation methods to establish a range of lifeforms/strata that match the relevant local EVC(s). • Incorporate habitat features for a range of wildlife including aquatic fauna. 	<ul style="list-style-type: none"> • Landholders • Landcare/community groups • CCMA • DSE • Greening Australia • Local government • Seeding Victoria • Schools
8.5	Promote and encourage involvement in NRM agency river and wetland restoration and improvement programs.	<ul style="list-style-type: none"> • Private land managers and landholders 	<ul style="list-style-type: none"> • Provide information to landholders and land managers. • Facilitate and/or promote workshops, information sessions and presentations. 	<ul style="list-style-type: none"> • CCMA • DSE • Greening Australia • DPI • Schools

7. Implementation

7.1. Local Action Plans

The implementation of actions listed in Section 6 would be facilitated by local NRM action plans developed by Landcare or other community groups. These plans would incorporate the knowledge, interests and priorities of local landholders and land managers. The LCG CAP provides background information and context for the development of the local action plans and highlights areas or issues for potential NRM projects that could be undertaken through a Landcare or other community group.

A template is provided in Appendix 3 to assist community based groups to develop a local NRM action plan.

7.2. Leigh Catchment Group structure and administration

The Leigh Catchment Board consists of nine elected Landcare Members. There are two Landcare Coordinator positions (currently equivalent to 1.8 FTE positions). The coordinators are responsible for managing projects and activities undertaken through the LCG and provide support to the Landcare Group members.

The key organisational features and processes that will support the LCG in delivering successful NRM initiatives are outlined in Table 7-1.

Table 7-1 Key LCG organisational requirements and processes

Action/recommendation	Notes/supporting information
Continue LCG Landcare officer position at a minimum 1 full time equivalent	<ul style="list-style-type: none"> • High priority. • Key role for the development of funding applications and coordination with regional, state and national NRM agencies. • A critical aspect of the successful administration and management of the LCG. • Important role for providing support to Landcare groups within the LCG area. • Key role for project support, tracking, mapping, reporting and quality control.
Develop LCG Business Plan	<ul style="list-style-type: none"> • Review constitution. • Production of Marketing brochure to forge sponsorship links with corporate sponsors and local businesses.
Develop a set of on ground project guidelines.	<ul style="list-style-type: none"> • Structure to best NRM management practices to ensure project quality control for funding from new sources.
Strengthen partnerships with agencies.	<ul style="list-style-type: none"> • Ensure regular communication with local government including local councillors. • Continue links with DPI, DSE, CCMA and water authorities to exchange information and implement relevant departmental programs within the LCG.
Develop partnerships with adjoining landcare networks	<ul style="list-style-type: none"> • Continue to participate in the Corangamite Landcare Coordinators Working Group activities.
Maintain communication processes within the LCG	<ul style="list-style-type: none"> • Production and distribution of 'Leighway' newsletter and E news. • Continue regular meetings of the LCG board and communication with Landcare group representatives.
Provide appropriate financial remuneration to executive members (eg. Secretary and treasurer)	<ul style="list-style-type: none"> • Cover expenses and a proportion of the provided labour
Continue to maintain LCG office in Buninyong.	<ul style="list-style-type: none"> • Investigate and develop proposals for alternative office locations including the potential Royal Park redevelopment.
Maintain necessary technical equipment and office resources	<ul style="list-style-type: none"> • Maintain and upgrade computing hardware and software as required.

7.3. Support and Partnerships

A range of agencies and organisations may provide assistance with the delivery of actions listed in this CAP. Partnerships with one or more of the groups listed below can be formed to deliver a range of NRM outcomes across a variety of land use types.

Key agencies/organisations	Roles and responsibilities
Ballarat Environment Network	Biodiversity management, NRM knowledge and information, coordination of NRM projects
Barwon Water	Water management
Central Highlands Water	Water management
Corangamite Catchment Management Authority	Funding, native vegetation management, waterway and wetland management, NRM information management, volunteer group support. Carbon trading opportunities
Department of Sustainability and Environment	Development and implementation of sustainability and biodiversity policies, programs and priorities.
Department of Primary Industries	Development and implementation of sustainability and biodiversity policies, programs and priorities. Carbon trading opportunities
Indigenous organisations and communities	Cultural knowledge and surveys, management of culturally significant sites and values, land management
Landcare groups and other community based NRM groups	Implementation of NRM projects including on-ground works, community capacity building and networking, development of local action plans
Local businesses and industry	NRM related technological services and products. NRM management expertise and services. Financial support/sponsorship of NRM projects.
Landcare Australia Ltd	Carbon trading opportunities
Local Government: City of Ballarat Moorabool Shire Council Golden Plains Shire Colac Otway Shire Council Surf Coast Shire Council	Public land management (including relevant roadsides), strategic land use planning, sustainability planning and development, statutory planning, policy development, storm water management
Parks Victoria	Management of biodiversity and other natural resource values on Parks and reserves
VicRoads	Management of biodiversity and other natural values on roadsides. Control of pest plants and animals
VicTrack	Management of biodiversity and other natural values on rail reserves. Control of pest plants and animals
Greening Australia	Development and implementation of sustainability and biodiversity programs. NRM knowledge and information, coordination of NRM projects. Community Education.
Seeding Victoria	Coordination of indigenous seed supply. Community education programs.

8. Monitoring and Evaluation

A range of catchment scale monitoring frameworks and processes are being implemented by DSE, DPI, CCMA and other agencies to report on progress towards improved NRM within the Corangamite area. The Corangamite Regional Catchment Strategy outlines a monitoring and evaluation framework that has been developed to measure progress towards achievement of targets within the Corangamite Catchment. Feedback and reporting from state and regional based monitoring programs back to the Leigh Catchment Group will provide the opportunity to assess the outcomes of NRM activities undertaken by the Group.

An effective monitoring and assessment process requires the measurement of inputs (eg. number of trees planted, length of fencing, number of workshops/field days) and outputs (eg. changes in native vegetation extent and quality, changes in extent and severity of erosion, community participation levels and knowledge) need to be measured.

The LCG currently records and monitors inputs (including costs) through the use of the Leigh Catchment Group Project Database (custom designed relational database). The Group also submits information from the database into CAMS (Catchment Activity Management System). The CAMS database is a data management and reporting system developed by State Government for regional DSE, DPI and CMA staff. LCG officers have recently worked with the CCMA to map on-ground NRM projects undertaken within the LCG area for entry into CAMS.

The key processes required for monitoring and evaluating NRM activities within the LCG are listed in Table 8-1.

Table 8-1 NRM monitoring and evaluation framework

Task/process	Timeline	Responsibility
Enter NRM project information into LCG Project Database.	At commencement of all projects and update as required during active period of project	LCG
Map LCG NRM projects (where applicable) to complement project information held in the LCG Project Database	At completion of all projects (where project has a spatial component)	LCG
Transfer of data to CAMS	Specified by CCMA	LCG/CCMA
Submit Landcare reports to CCMA	Specified by CCMA	LCG
Measure and report on indicators of catchment health (delivered by key NRM agencies, CCMA, DSE, DPI) to assess progress towards meeting NRM targets.	Specified by delivery agency	CCMA,/DSE/DPI
Assess community participation in NRM within the Leigh Catchment and evaluate community perceptions of the Leigh Catchment Group.	Biannually	CCMA/LCG
Undertake targeted review and assessment of restoration and mitigation techniques used for LCG NRM projects	Develop and undertake project by 2010	LCG/CCMA/DPI
Develop targeted experimental research projects to determine changes and effects in relation NRM works within the catchment	To be determined	LCG/CCMA/DPI/DSE/tertiary institutions

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Appendix 1 Significant roadsides in the LCG area

The following table lists roads that support areas of medium, high or very high conservation significance (RCAC conservation significant rating) remnant native vegetation. The list only includes roads that have been systematically assessed using the RCAC roadside assessment method. A large area of the Golden Plains Shire within the LCG area is yet to be assessed using this method. The highest recorded significance category for each roadside is shown.

Road name	Sub-catchment							
	1.1	1.2	1.3	1.4	1.5	1.6	2.1	3.4
Alkera Road	Medium							
Allens Road	Medium							
Allisons Rd				High				
Angled Track					High	High		
Armstrong Rd				High				
Attwoods Road						High		
Aubreys Road			Medium					
Ballarat-Daylesford Road	High							
Bell Avenue			High					
Bells Road		High						
Bennett Street			Medium					
Bergs Lane			High					
Betson Road						High		
Betsons Road						Very High		
Blackberry Lane			Medium					
Blacks Rd		Medium		Medium				
Blairs Lane			Medium					
Boak Road			High					
Bodens Court				Very High				
Boroka Street	High							
Boundary Road			Very High				Medium	
Boundary Road/Baileys Road			High					
Boundary Road/Cathie Street			Very High					
Braybrook-Sandwith Rd					High	High		
Brays Rd				Medium				
Brennan Park Road					Very High	Very High		
Brennans Road					Very High			
Brickhouse Lane				Medium				
Bridge Road						High		
Buninyong-Mt Mercer Road					Medium			
Buninyong-Sebastopol Road			High					
Calverts Rd				Very High				
Cantons Road (unformed)						High		
Cantons Lane						Medium		
Cargerie-Meredith Road							Medium	
Carolyns Road					Very High	Very High		
Cathcart Street			Medium					
Cathe Street			High					
Chapmans Lane			High					
Clarendon Blue Bridge Road						High		
Clarendon-Lal Lal Road						High		
Clarkes Rd				High	High			
Clarkes Road	High							

Road name	Sub-catchment							
	1.1	1.2	1.3	1.4	1.5	1.6	2.1	3.4
Clarks Road	High							
Coal Mine Road						High		
Cockatoo Road						High		
Colac-Ballarat Rd				High				
Courts Road						High		
Creswick-Bungaree Road	Medium							
Currawong Road						High		
Davidsons Road			High					
Davidsons Road/Boundary Road			Medium					
Delmera Court	High							
Dereel-Mt Mercer Rd							Medium	
Ditchfield Lane	High							
Doodts Road	High							
Dozed Track			High					
Eaglehawk Drive						High		
Eason Street			Medium					
Elaine-Blue Bridge Road						High		
Eureka Street			Medium					
Finchs Road		Very High						
Finns Road					High	High		
Fire Access Road			High					
Fishers Rd						Very High		
Fisken Road			High					
Flagstaff Road						High		
Foos Road			High					
Forest Boundary Road			High					
Fortune Road	High		High					
Frawleys Road	Medium							
Fussell Street			High					
Gammock Road					Medium			
Gear Avenue			High					
Gilberts Rd					High			
Gittings Lane			High					
Glen Park Rd	High							
Glenelg Hwy		Medium						
Glenisla Road	High							
Gracefield Road	High							
Granny Whites Lane			Medium		Medium			
Granny Whites/Blackberry Lane			Medium					
Green Hill Road			High					
Greenhalghs Road		High						
Greenhill Road			High					
Griffeys Lane			High					
Hampson Rd					Medium			
Hayward Road						High		
Hedrick Street			Medium					
Hendersons Lane			High					
Hendersons Rd		Medium						
Herriot St			Medium					
Hillview Road	High							
Hiscock Gully Road			High					

Road name	Sub-catchment							
	1.1	1.2	1.3	1.4	1.5	1.6	2.1	3.4
Hiltchcock Avenue			High					
Hocking Avenue			Medium					
Hogarths Road						Medium		
Hopgoods Lane					High	High		
Hopgoods Track						High		
Horsehill North Road						Medium	Medium	
Horsehill West Road						High	High	
Hoveys Rd					High			
Howlett Rd		Very High		Very High				
Incolls Rd				High				
Jacksons Road	Medium							
James Hill Road	Very High							
Janson Road	High							
Jindabyne Street	High							
Jollys Hill Rd		High						
Katy Ryans Road			High					
Katy Ryans Road/Unnamed track			Medium					
Kellys Road					High	High		
Kennedys Rd		High						
Kennys Rd					High			
Kierces Lane	High							
Kiewa Street	High							
Kirks Rd		Medium						
Kittys Lead Rd				High	High			
Kookaburra Road						High		
Kooyong Street	High							
Lal Lal-Blue Bridge Road						High		
Lavery Avenue			High					
Lears Rd & Haddon Common Rd		High						
Linden Lane	High							
Lloyds Rd					High			
Lockyer Rd					High			
Log Hut Rd				Very High				
Long Hill Road	Medium							
Long Street			High					
Longs Hill Road	High							
Lorikeet Road						High		
Luke Rd				Medium				
Lukes Rd				Very High				
Lumsden Lane						High		
Macs Road			High					
Main Road			High					
Manning Lane	Medium							
Martin Drive (Cnr Wallis Street)		High						
McBains Road					High			
McCarthys Road			Medium					
McCleods Road					High			
MCINTYRES ROAD								High
McMasters Road						Medium		
Melaleuca Rd, Grevillea Rd & Lantana Rd				Medium				

Road name	Sub-catchment							
	1.1	1.2	1.3	1.4	1.5	1.6	2.1	3.4
Midland Highway			Medium		High	High	Medium	
Monks Rd				Very High				
Morris Rd				Very High				
Moss Avenue			High					
Mt Buninyong Access Road			Very High			Very High		
Mt Doran Settlement Road						High		
Mt Doran-Egerton Road						Very High		
Mt Helen Drive			High					
Mt Mercer-Elaine Rd							Medium	
Mt Warrenheip Road	High							
Murphy Road						Medium		
Narmbool Road							Medium	
Nashs Lane					Very High	Very High		
Nashs Road					High	High		
Natrass Rd				High				
Navigators Road			High					
Nerrina Road	Very High							
Neville Rd					High			
Nichols Rd		Medium		Medium				
Nidschelms Road					Very High	Very High		
Nijams Road			Very High					
Nine Mile Rd				High				
Olympic Avenue			High					
Orrells Road						Medium	Medium	
Parkinsons Rd				High	High			
Pearsons Court						High		
Peers Lane					Very High			
Pioneer Lane					Very High			
Platts Road					Very High	High		
Post Office Rd		High		High				
Pryors Road					High	High		
R176 Road			Very High					
Race Rd		Very High						
Ralstons Road	High							
Raynor Road	Medium							
Recreation Road			High					
Reservoir Rd				Very High				
Richards Rd	High							
Richards Road	Medium							
Rosella Road						High		
Rosenows Road					High			
Ross Creek-Buninyong (Laceys) Rd		Medium		Medium				
Ross Creek-Haddon Rd		High						
Sago Hill Road		Medium						
Sand Road					High			
Sandys Hill Road					High			
Scarffs Lane			Medium					
Scotts Lane					Very High	Very High		
Scotts Road						High		
Sebastopol-Smythesdale Rd		High						

Road name	Sub-catchment							
	1.1	1.2	1.3	1.4	1.5	1.6	2.1	3.4
Seven Oaks Lane	High							
Seven Oaks Road	High							
Shaws Road						High		
Simpson Street			High					
Singer Rd				High				
Skeltons Road						Very High		
Skeltons Road (unformed)						Medium		
Skurkas Road					Very High			
Sobeys Rd				High				
Sommerville Road			Medium					
South Durham Bridge Rd					High			
Spencer Street			High					
Spratlings Rd		High		High				
Springs Road	High							
State Forest Rd				Very High				
Stockyard Road					High			
Strickland Road	High		High					
Stringybark Drive	High							
Sullivans Rd				Medium				
Thomas Rd				Very High				
Thorpes Rd				Very High				
Tinworth Avenue			High					
Tom Robinsons Lane				High	High			
Triggs Road						High		
Tudors Lane		High						
Waddell Rd		Medium						
Wades Lane				Very High				
Walshes Lane					High			
Webbs Hill Road			High		Very High			
Wells Rd				Medium				
White Swan Road	High							
Whites Road (unformed)						Medium		
Wide Road					Medium			
Wiggins Road						Medium		
Wilson Street			High					
Wirreanda Drive			Very High					
Woodlands Estate Rds				Medium				
Woolshed Road						High		
Wyuna Crescent		Medium						
Yankee Flat Road			High					
Yendon No 2 Road						High		
Yendon No1 Road			Medium					
York Street			High					

Appendix 2 Declared noxious weeds of the Corangamite CMA region

Source: Department of Primary Industries (DPI 2008)

Scientific name	Common name	Category
<i>Acroptilon repens</i>	Hardheads/Russian Knapweed	Regionally prohibited
<i>Ailanthus altissima</i>	Tree of Heaven	Restricted
<i>Allium triquetrum</i>	Angled Onion	Restricted
<i>Allium vineale</i>	Wild Garlic	Restricted
<i>Alternanthera pungens</i>	Khaki Weed	Restricted
<i>Amsinckia spp.</i>	Amsinckia	Regionally prohibited
<i>Asphodelus fistulosus</i>	Onion Weed	Restricted
<i>Calicotome spinosa</i>	Spiny Broom	Regionally controlled
<i>Cardaria draba</i>	Hoary Cress	Regionally controlled
<i>Carduus tenuiflorus</i>	Slender/Shore Thistle	Restricted
<i>Carthamus lanatus</i>	Saffron thistle	Restricted
<i>Cenchrus longispinus</i>	Spiny Burr Grass/Gentle Annie	Restricted
<i>Centaurea calcitrapa</i>	Star Thistle	Restricted
<i>Centaurea solstitialis</i>	St Barnaby's thistle	Regionally prohibited
<i>Cestrum parqui</i>	Chilean Cestrum	Restricted
<i>Chondrilla juncea</i>	Skeleton Weed	Restricted
<i>Chrysanthemoides monilifera</i>	Boneseed/Bitou Bush	Regionally controlled
<i>Cirsium arvense</i>	Californian/Perennial Thistle	Regionally controlled
<i>Cirsium vulgare</i>	Spear Thistle	Restricted
<i>Conium maculatum</i>	Hemlock	Regionally controlled
<i>Convolvulus arvensis</i>	Bindweed	Restricted
<i>Crataegus monogyna</i>	Hawthorn	Restricted
<i>Cuscuta spp.</i>	Dodder	Restricted
<i>Cynara cardunculus</i>	Artichoke Thistle	Regionally controlled
<i>Cytisus scoparius</i>	English Broom	Regionally controlled
<i>Datura ferox</i>	Thorn Apple (long-spine)	Restricted
<i>Datura innoxia</i>	Thorn Apple (recurved)	Restricted
<i>Datura stramonium</i>	Thorn Apple (common)	Restricted
<i>Diploaxis tenuifolia</i>	Sand Rocket/Sand Mustard	Restricted
<i>Dipsacus fullonum ssp. fullonum</i>	Wild Teasel	Restricted
<i>Dittrichia graveolens</i>	Stinkwort	Restricted
<i>Echium plantagineum</i>	Paterson's Curse	Regionally controlled
<i>Echium vulgare</i>	Viper's Bugloss	Regionally controlled
<i>Emex australis</i>	Spiny Emex	Restricted
<i>Eragrostis curvula</i>	African Lovegrass	Regionally controlled
<i>Foeniculum vulgare</i>	Fennel	Regionally controlled
<i>Genista linifolia</i>	Flax-leaved Broom	Regionally controlled
<i>Genista monspessulana</i>	Cape Broom	Regionally controlled
<i>Homeria flaccida (Moraea flaccida)</i>	Cape Tulip (one-leaf)	Regionally controlled
<i>Homeria miniata (Moraea miniata)</i>	Cape Tulip (two-leaf)	Regionally prohibited
<i>Hypericum androsaemum .</i>	Tutsan	Restricted
<i>Hypericum perforatum</i>	St. John's Wort	Regionally controlled
<i>Hypericum tetrapterum</i>	St. Peter's Wort	Restricted
<i>Ibicella lutea</i>	Devil's Claw (yellow-flower)	Restricted
<i>Juncus acutus</i>	Spiny Rush	Restricted
<i>Lavandula stoechas</i>	Topped Lavender	Restricted
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	Regionally controlled
<i>Lycium ferocissimum</i>	Boxthorn	Regionally controlled

Scientific name	Common name	Category
<i>Marrubium vulgare</i>	Horehound	Regionally controlled
<i>Melianthus comosus</i>	Tufted Honeyflower	Restricted
<i>Nassella trichotoma</i>	Serrated Tussock	Regionally controlled
<i>Onopordum acanthium</i>	Scotch/Heraldic Thistle	Regionally controlled
<i>Onopordum acaulon</i>	Stemless Thistle	Restricted
<i>Onopordum illyricum</i>	Illyrian Thistle	Restricted
<i>Opuntia monacantha (Opuntia vulgaris)</i>	Prickly Pear (drooping)	Restricted
<i>Opuntia robusta</i>	Wheel Cactus	Restricted
<i>Opuntia stricta</i>	Prickly Pear (erect)	Restricted
<i>Oxalis pes-caprae</i>	Soursob	Restricted
<i>Pennisetum macrourum</i>	African Feather Grass	Regionally prohibited
<i>Physalis viscosa</i>	Prairie Ground Cherry	Regionally controlled
<i>Picnonum acarna (Cirsium acarna)</i>	Soldier Thistle	Restricted
<i>Proboscidea louisianica</i>	Devil's Claw (purple-flower)	Restricted
<i>Reseda luteola</i>	Wild Mignonette	Restricted
<i>Rosa rubiginosa</i>	Sweet Briar	Regionally controlled
<i>Rubus fruticosus</i>	Blackberry	Regionally controlled
<i>Salpichroa origanifolia</i>	Pampas Lily-of-the-Valley	Restricted
<i>Scolymus hispanicus</i>	Golden Thistle	Regionally controlled
<i>Senecio jacobaea</i>	Ragwort	Regionally controlled
<i>Senecio pterophorus</i>	African Daisy	Regionally prohibited
<i>Silybum marianum</i>	Variegated Thistle	Restricted
<i>Solanum elaeagnifolium</i>	Silverleaf Nightshade	Regionally controlled
<i>Solanum linnaeanum</i>	Apple of Sodom	Restricted
<i>Solanum rostratum</i>	Buffalo Burr	Restricted
<i>Tribulus terrestris</i>	Caltrop	Regionally controlled
<i>Ulex europaeus</i>	Furze/Gorse	Regionally controlled
<i>Verbascum thapsus</i>	Great Mullein	Restricted
<i>Watsonia meriana var 'Bulbillifera'</i>	Wild Watsonia	Regionally controlled
<i>Xanthium spinosum</i>	Bathurst Burr	Regionally controlled
<i>Xanthium strumarium</i>	Noogoora Burr/Californian Burr	Regionally prohibited

Appendix 3 Local Action Plan Template

Landcare Group Local Action Plan

Action plan timeframe:	Time period to which plan applies
Area covered by action plan:	Description of area to which plan applies
Action plan version:	Version number eg. 1-1 (allows tracking of updates and amendments)
Approval date:	Date of finalisation and approval by group/organisation members

PART 1

Insert appropriate sub-catchment/s information from Leigh Catchment Plan

- Sub-catchment map
- Sub catchment Features and Landuse Summary
- Environmental Asset Summary
- Threat Summary
- Activity summary (LCG projects 1997-2007)
- NRM activity summary (LCG projects 1997-2007)
- Appendix 4 Conservation status and weed category definitions
- Attach Section 6 Actions and Table 6-1 for cross referencing

PART 2

Identify what action(s) your landcare group intends to undertake from the Leigh Catchment Plan (Section 6 Actions) and apply them where you can to specific sites, or list as specific issues.

1.List of your priority SITES. Please complete and add sites as necessary.

Site 1: (add site name)
(Add description of site including location, site history, environmental features and values and previous natural resource management works),
Threat(s) (list hreatening processes that are affecting the site)

List of actions/ tasks planned to be undertaken at above site. Please complete.

Proposed LCG actions	Description and methods	Stakeholders/ Partners	Timelines
List of actions to improve site and mitigate threats Table 6-1 reference no.	Further detail of actions and methods required to achieve action (eg establish stock proof fencing on east side of riparian zone).	List of other groups, agencies or individuals that could assist or support the action(s)	Proposed completion date

2..List of your priority ISSUES. Please complete and add issues as necessary.

Issue 1 : (add name of issue)
Add description of issue
Threat(s)

Proposed LCG actions	Description and methods	Stakeholders/Partners	Timelines
List actions that address issue Table 6.1 reference no	Further detail of actions and methods required to achieve action	List of other groups, agencies or individuals that could assist or support the action(s)	Proposed completion date

Appendix 4 Conservation status and weed category definitions

EVC bioregional conservation status (BCS)

X	possibly extinct	probably no longer present in the bioregion OR if present, below the resolution of available mapping
E	endangered	less than 10% of former range OR less than 10% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status e.g. 10 to 30% pre-European extent remains and severely degraded over a majority of this area; OR naturally restricted EVC reduced to 30% or less of former range and moderately degraded over a majority of this area; OR rare EVC cleared and/or moderately degraded over a majority of this area)
V	vulnerable	10 to 30% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status e.g. greater than 30% and up to 50% pre-European extent remains and moderately degraded over a majority of this area; OR greater than 50% pre-European extent remains and severely degraded over a majority of this area; OR naturally restricted EVC where greater than 30% pre-European extent remains and moderately degraded over a majority of this area; OR rare EVC cleared and/or moderately degraded over a minority of former area)
D	depleted	greater than 30% and up to 50% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status e.g. greater than 50% pre-European extent remains and moderately degraded over a majority of this area)
R	rare	rare (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as endangered, vulnerable or depleted
LC	least concern	greater than 50% or pre-European extent exists and subject to little to no degradation over a majority of this area
na	not applicable	the map unit is not a distinct native vegetation type and BCS is not applicable, OR a mosaic / complex that has no extant occurrence and BCS of the components cannot be determined

Threatened fauna status definitions

¹ Victorian Rare or Threatened animal status (DSE 2007): c = Critically Endangered e = Endangered v = Vulnerable n = Near Threatened	² Flora and Fauna Guarantee Act 1988 (Vic): L = listed as threatened under schedule 1 of the Act	³ <i>Environment Biodiversity and Conservation Act 1999</i> (Cwth): C = listed as critically endangered E = listed as endangered V = listed as vulnerable CD = listed as Conservation Dependent
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Threatened flora status definitions

¹ Victorian Rare or Threatened plant status (DSE 2005a): x = Presumed extinct in Victoria e = Endangered v = Vulnerable r = Rare in Victoria k = Poorly Known in Victoria	² Flora and Fauna Guarantee Act 1988 (Vic): L = listed as threatened under schedule 1 of the Act N = nominated for listing as threatened X = rejected for listing as threatened	³ <i>Environment Biodiversity and Conservation Act 1999</i> (Cwth): X = Extinct C = listed as critically endangered E = listed as endangered V = listed as vulnerable
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CaLP Act declared weed definitions

Regionally Prohibited Weeds	Regionally Prohibited weeds are not widely distributed in a Region but are capable of spreading further. It is reasonable to expect that they can be eradicated from a Region and they must be managed with that goal. Land owners must take all reasonable steps to eradicate Regionally Prohibited weeds on their land.
Regionally Controlled Weeds	These weeds are usually widespread and are considered important in a particular Region. To prevent their spread, continuing control measures are required. Land owners have the responsibility to take all reasonable steps to prevent the growth and spread of Regionally controlled weeds on their land.
Restricted Weeds	Includes plants that pose an unacceptable risk of spreading in the State or to other parts of Australia if they were to be sold or traded in Victoria, and are a serious threat to another State or Territory of Australia. Trade in these weeds and their propagules, either as plants, seeds or contaminants in other materials is prohibited