

8. Lake Eildon Landscape Zone



8. Lake Eildon Landscape Zone

8.1 Lake Eildon Landscape Zone description

Lake Eildon Landscape Zone is centrally located within the five other South East Goulburn Broken Landscape Zones, and shares boundaries with Strathbogie, Samaria, Buxton and Jamieson Landscape Zones, usually at the interface of the Central Victorian Uplands and Highlands - Northern Fall bioregions. The boundary between Lake Eildon Landscape Zone and Samaria Landscape Zone follows that between the Upper Goulburn Implementation Committee and the Mid Goulburn Broken Implementation Committee.

Major towns in the zone include Merton, Bonnie Doon, Mansfield, Alexandra and Eildon. Benalla Rural City and Mansfield and Murrindindi Shires overlay the zone (Map 14). The Daung Wurrung (Taungurong) Aboriginal tribe/language group occurs throughout the Lake Eildon Zone (Clark 1996) with the current administrative boundaries including the Camp Jungai Co-operative Ltd., Coranderrk Koori Co-operative Ltd. and Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc. (Map 15). Major tributaries of the Goulburn include the Delatite, Howqua, Jamieson and Big Rivers.

The zone consists entirely of the Central Victorian Uplands bioregion and is dominated by Lake Eildon Reservoir and surrounding Lake Eildon National Park (Map 39). The area is a focus for water-based recreation and tourism activities. To the north-east towards Merton, and north-west, towards Mansfield, the landscape has been extensively cleared for agriculture. Land for Wildlife have 143 properties registered throughout the Shire of Murrindindi, totalling 12,039 ha; 3,090 ha of this total is retained for wildlife habitat and 848 ha has been restored (F. Nichols, pers. comm.) (Map 16).

Valley Grassy Forest dominates the east of the Lake Eildon Landscape Zone, from Merrijig to Brackbridge, as well as north-west, from Maindample to Gobur, interspersed with Grassy Dry Forest (Map 37). These areas are mainly freehold and have experienced varying degrees of land use changes – predominantly agricultural grazing. Lake Eildon Zone has undergone considerable physical change since the damming of the Goulburn River and flooding of the Goulburn floodplain at Lake Eildon. The expanse of Floodplain Riparian Woodland that existed from Molesworth to Eildon has been greatly reduced and many hectares of primarily Floodplain Riparian Woodland, Grassy Dry Forest, Plains Grassy Woodland and Valley Grassy Forest were inundated, however these EVCs are still represented within the Lake Eildon National Park. Plains Grassy Woodlands extended from Mansfield to Maindample. Grassy Woodland/Plains Grassy Woodland remnants occur on private land around Mansfield and in the north-west corner of the zone near Merton. Scattered remnants of White Box Woodland occur throughout the zone including Murrindindi Shire land at Alexandra. River Red Gums occur at low elevations and are more extensive on private land on the Mansfield Plains.

To the south of Maindample and in the west between Yarck and Alexandra, Plains Grassy Woodland interspersed with Grassy Woodland occurs, the majority on which is now freehold and has been subject to clearing and agricultural practices.

Lake Eildon Landscape Zone has high biodiversity values with numerous threatened species recorded in and around the Lake Eildon National Park. Leafy Greenhood is being monitored by the Upper Goulburn Field Naturalists (in association with the Department of Sustainability and Environment and Parks Victoria) at Woolshed Inlet, Lake Eildon, where breeding records of Powerful Owl also occur. White-bellied Sea-eagles also breed around the Lake Eildon area near the Delatite River arm, and on the Acheron River. Common Bent-wing Bats and Eastern Horse-shoe bats are known to utilise old mine shafts in the Lake Eildon National Park and lake buffer zone.

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8.1 Lake Eildon Landscape Zone description (cont'd)

The Spotted Tree Frog also occurs from the Whites Creek area of Lake Eildon National Park and is monitored in the vicinity by the Department of Sustainability and Environment, who are also in the process of removing pine plantations near Lake Eildon and replanting native forest (S. Smith pers. comm.).

The zone also contains part of the Cluster 9 population of Striped Legless Lizard around Merton and Alexandra on private land (Smith and Robertson 1999). The species is being monitored in the area by Landcare Groups through the Threatened Species Network.

A Brush-tailed Phascogale core management area occurs in good stands of old growth forest at the Enterprise Block of Lake Eildon National Park (S. Smith, pers. comm.).

Threats to biodiversity in the Lake Eildon Landscape Zone include tourism and recreational impacts to water quality and the flora and fauna of Lake Eildon National Park. Weed infestations in disturbed areas (e.g. St. John's Wort) also pose a threat.

Table 25. Total area of pre-1750 and extant EVCs in the Lake Eildon Landscape zone, within the Central Victorian Uplands bioregion

EVC Group	EVC #	EVC Bioregional Conservation Status	EVC Name	Pre-1750 Area (ha)	Current Area (ha)
6	47	V	Valley Grassy Forest	55720	2771
6	22	D	Grassy Dry Forest	37689	19052
14	55	E	Plains Grassy Woodland	36858	577
5	175	E	Grassy Woodland	23613	407
6	23	D	Herb-rich Foothill Forest	15153	7784
15	56	E	Floodplain Riparian Woodland	13599	1059
8	126	E	Swampy Riparian Complex	2612	338
9	18	V	Riparian Forest	976	174
6	20	LC	Heathy Dry Forest	716	382
15	68	E	Creepline Grassy Woodland	509	2
7	29	LC	Damp Forest	356	330
19	74	E	Wetland Formation	310	0
9	84	V	Riparian Forest/Swampy Riparian Woodland/Riparian Shrubland/Riverine Escarpment Scrub/Disturbed Mosaic	277	2
8	83	E	Swampy Riparian Woodland	206	1
6	21	LC	Shrubby Dry Forest	145	22
19	125	E	Plains Grassy Wetland	10	0
21	82	E	Riverine Escarpment Scrub	6	3
			TOTAL	188757	33611
99	982	NA	No EVC assigned - need editing	0	21
99	987	NA	Plantation (undefined)	0	3090
99	58	NA	Cleared Severely Disturbed	0	709
99	989	NA	Cleared/Severely Disturbed due to Power Easement	0	101
99	997	NA	Private Land No Tree Cover	0	140110
99	998	NA	Water Body - Natural or man made	0	11823

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8.1 Lake Eildon Landscape Zone description (cont'd)

Table 26. Total area and number of current EVCs in each conservation status in the Lake Eildon Landscape zone.

EVC Bioregional Conservation Status	Hectares	Number of EVCs
Endangered	2387	7
Vulnerable	2946	3
Depleted	26834	2
Rare	0	0
Least Concern	735	3

Table 27. List of current threatened flora the Buxton Landscape Zone (NRE 2002c* & SAC 2002# and EA 2003*).

Latin Name	Common Name	Australian Status [♦]	Victorian Status [*]	FFG Act [#]	Recovery Plan [♦]	Action Statement No. [*]	BNA Unassessed	Species No.
<i>Lotus australis</i>	Austral Trefoil		k				Un	2057
<i>Discaria pubescens</i>	Australian Anchor Plant		r	L		47	Un	1072
<i>Eucalyptus crenulata</i>	Buxton Gum	End	e	L		1		1265
<i>Glycine latrobeana</i>	Clover Glycine	Vul	v	L				1456
<i>Hypsela tridens</i>	Hypsela		k				Un	1757
<i>Leptorhynchos elongatus</i>	Lanky Buttons		e				Un	1941
<i>Solanum cinereum</i>	Narrawa Burr		k				Un	3172
<i>Amphibromus pithogastrus</i>	Plump Swamp Wallaby-grass		e	L		109		3624
<i>Bossiaea riparia</i>	River Leafless Bossiaea		r				Un	441
<i>Amphibromus fluitans</i>	River Swamp Wallaby-grass	Vul	k	X			Un	3623
<i>Desmodium varians</i>	Slender Tick-trefoil		k				Un	4425
<i>Fimbristylis aestivalis</i>	Summer Fringe-sedge		k				Un	1367
<i>Cullen tenax</i>	Tough Scurf-pea		e	L			Un	2776
<i>Goodia medicaginea</i>	Western Golden-tip		r				Un	1518
<i>Prasophyllum sp. aff. validum</i>	Woodland Leek-orchid	Vul	e				Un	4067

Table 28. List of current threatened fauna in the Lake Eildon Landscape Zone (EA 2003*, DSE 2003^, NRE 2002d* & SAC 2002#).

Latin Name	Common Name	Australian Status [♦]	Victorian Status ^{^*}	FFG Act [#]	Recovery Plan [♦]	Action Statement No. [*]	BNA Unassessed	Species No.
<i>Anas rhynchotis</i>	Australasian Shoveler		VU				Un	212
<i>Ninox connivens connivens</i>	Barking Owl		EN	L				246
<i>Falco subniger</i>	Black Falcon		VU				Un	238
<i>Oxyura australis</i>	Blue-billed Duck		EN	L			Un	216
<i>Coturnix ypsilophora australis</i>	Brown Quail		NT				Un	10

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8.1 Lake Eildon Landscape Zone description (cont'd)

Table 28. List of current threatened fauna in the Lake Eildon Landscape Zone (EA 2003*, DSE 2003^, NRE 2002d* & SAC 2002#) (cont'd).

Latin Name	Common Name	Australian Status*	Victorian Status^*	FFG Act#	Recovery Plan*	Action Statement No.*	BNA Unassessed	Species No.
<i>Phascogale tapoatafa tapoatafa</i>	Brush-tailed Phascogale		VU	L		79		1017
<i>Miniopterus schreibersii oceanensis</i>	Common Bent-wing Bat (eastern)	CD	VU	L				1341
<i>Sminthopsis murina murina</i>	Common Dunnart		VU					1061
<i>Hemiphysalia mirabilis</i>	Damselfly		Vul	L		46		5002
<i>Stagonopleura guttata</i>	Diamond Firetail		VU				Un	652
<i>Rhinolophus megaphyllus megaphyllus</i>	Eastern Horseshoe Bat		VU	L			Un	1303
<i>Galaxias rostratus</i>	Flat-headed Galaxias		DD				Un	4037
<i>Pseudemoia rawlinsoni</i>	Glossy Grass Skink		NT					2683
<i>Plegadis falcinellus</i>	Glossy Ibis		NT				Un	178
<i>Macquaria ambigua</i>	Golden Perch		VU				Un	4095
<i>Synemon plana</i>	Golden Sun Moth	CE	End	L		106		5021
<i>Ardea alba</i>	Great Egret		VU	L			Un	187
<i>Litoria raniformis</i>	Growling Grass Frog	Vul	EN				Un	3207
<i>Aythya australis</i>	Hardhead		VU				Un	215
<i>Melanodryas cucullata cucullata</i>	Hooded Robin		NT				Un	385
<i>Ardea intermedia</i>	Intermediate Egret		CR	L			Un	186
<i>Varanus varius</i>	Lace Goanna		VU				Un	2283
<i>Acrodipsas brisbanensis</i>	Large Ant Blue		R/R	L		70		5006
<i>Gymnobelideus leadbeateri</i>	Leadbeater's Possum	End	EN	L	Y	62	Un	1141
<i>Rallus pectoralis pectoralis</i>	Lewin's Rail		VU				Un	45
<i>Ixobrychus minutus dubius</i>	Little Bittern		EN				Un	195
<i>Egretta garzetta nigripes</i>	Little Egret		EN				Un	185
<i>Macquaria australasica</i>	Macquarie Perch	End	EN	L				4096
<i>Galaxias olidus</i>	Mountain Galaxias		DD	L				4036
<i>Maccullochella peelii</i>	Murray Cod		EN	L				4094
<i>Biziura lobata</i>	Musk Duck		VU				Un	217
<i>Nycticorax caledonicus hillii</i>	Nankeen Night Heron		NT				Un	192
<i>Grantiella picta</i>	Painted Honeyeater		VU	L				598
<i>Rostratula benghalensis australis</i>	Painted Snipe		CR				Un	170
<i>Phalacrocorax varius</i>	Pied Cormorant		NT				Un	99
<i>Ninox strenua</i>	Powerful Owl		VU	L		92		248
<i>Xanthomyza phrygia</i>	Regent Honeyeater	End	CR	L	Y	41	Un	603
<i>Gadopsis marmoratus</i>	River Blackfish		CR					4127
<i>Platalea regia</i>	Royal Spoonbill		VU				Un	181
<i>Pseudomys fumeus</i>	Smoky Mouse	End	EN				Un	1458
<i>Tyto tenebricosa tenebricosa</i>	Sooty Owl		VU	L			Un	253
<i>Chthonicola sagittata</i>	Speckled Warbler		VU				Un	504
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll	Vul	EN	L		15	Un	1008
<i>Delma impar</i>	Striped Legless Lizard	Vul	EN	L	Y	17		2159
<i>Chlidonias hybridus javanicus</i>	Whiskered Tern		NT				Un	110
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle		VU	L		60	Un	226

8. Lake Eildon Landscape Zone

8.2 Lake Eildon Landscape Zone priorities

8.2.1 Summary of priority biodiversity actions for Lake Eildon Landscape Zone:

- Identify and manage, in association with landholders, Grassy Woodland/Plains Grassy Woodland remnants on private land around Mansfield.
- Continue support/coordination of voluntary groups monitoring Leafy Greenhood and White-bellied Sea-eagles at Woolshed Inlet and Lake Eildon.
- Continue Threatened Species Network-funded monitoring for Striped Legless Lizard around Merton, Bonnie Doon and Alexandra.
- Prioritise surveying to locate and assess management requirements for White Box Woodland, Grassy Woodland and Plains Grassy Woodland remnants on freehold.
- Ensure protection of breeding sites for threatened fauna such as the Powerful Owl at the 'Enterprise Block' and White-bellied Sea-eagle at the Acheron River and Delatite Arm.
- Identify remnants providing habitat for Regent Honeyeater and encourage protection and restoration by landholders.
- Protect isolated reserves such as The Paps (G34) and Loyola Bushland Reserves (G50 and G51) from degradation.
- Protect remaining remnants along Spring Creek, Godfrey, Middle and Johnson Creeks Public Land Water Frontage Reserves and where appropriate implement revegetation programs to improve continuity.
- Contribute continual monitoring of Spotted Tree Frog populations and protect habitat at Whites Creek, Eildon National Park.
- Improve community understanding of management of native biodiversity on private land.

8. Lake Eildon Landscape Zone

8.3 Private Land

Land Tenure Details:

This tenure type includes all private land in the zone, with associated creek lines, and occupies the majority of the total zone area. Extensive clearing for agriculture, has occurred across freehold, particularly around Bonnie Doon and Merton. Private land in this tenure contains the recognized Cluster 9 (Smith and Robertson 1999) population of Striped Legless Lizard occurring at Merton and Spring Creek Rd near Alexandra. Records also occur on a Killingworth Dairy Farm. Private land in this zone is important regarding remnant Grassy Woodland (e-CVU) and Plains Grassy Woodland (e-CVU) EVCs, particularly between Gobur to just west of Nillahcootie. Plains Grassy Woodland (e-CVU) occurs south west of Taggerty. More extensive remnants of Grassy Dry Forest (d-CVU) occur north west of Cathkin, while substantial remnants of Grassy Dry Forest (d-CVU) and Grassy Woodland (e-CVU) occur north east of Fawcett. Large patches of Herb-rich Foothill Forest (d-CVU), Damp Forest (lc-CVU) and Grassy Dry Forest (d-CVU) occur to the west of Lake Eildon. Some grassy woodland remnants have an intact grassy component but a cleared overstorey while in others, the woodland component remains but the grassland is removed or degraded. Potential habitat exists for the Hemiphysalis Damsely through the billabongs along the floodplains in this zone. It is also likely that unidentified populations of Warty Bell Frog also exist on water bodies on private land. The Goulburn River Floodplain was identified by Raven (1997) as a potential project area for Landcare and other community groups due to remnant vegetation and continuity of various habitats including wetlands, billabongs and marshes, both on public and private land (Raven 1997).

Land Manager:

Private landholders.

Stakeholders:

Key Lc, Benalla Rural City and Mansfield and Murrindindi Shires, DSE, DPI, GBCMA.

Other TFN, LFW, BG, GAV, CVA, GNP, FNC, VAA, VFF.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: Grassy Woodland (e-CVU), Plains Grassy Woodland (e-CVU), Herb-rich Foothill Forest (d-CVU), Damp Forest (lc-CVU), Grassy Dry Forest (d-CVU), Plains Grassy Woodland (e-CVU), Riparian Forest (v-CVU), Swampy Riparian Complex (e-CVU), Heathy Dry Forest (lc-CVU), Valley Grassy Forest (v-CVU).

8. Lake Eildon Landscape Zone

8.3 Private Land (cont'd)

Threatened flora: Broom Bitter-pea (r, unr-CVU), Common Starwort (consn. status¹, unr-CVU), Clover Glycine (vV, 3B-CVU), Australian Anchor Plant (v, 2C-CVU), Plump Swamp Wallaby-grass (elK, unr-CVU), River Swamp Wallaby Grass (kV, unr-CVU), Slender Tick-trefoil (k, unr-CVU), Weak daisy (v, 1B-CVU), Western Golden Tip (r, unr-CVU).



Daviesia genistifolia s.s.
(Photo: Ted Rotherham)

Threatened fauna: Brush-tailed Phascogale (vI, 2B-CVU), Common Bent-wing Bat (vI, 4B-CVU), Common Dunnart (dd, unr-CVUeast), Eastern Horse-shoe Bat (vI, unr-CVU), Spot-tailed Quoll (elV, unr-CVU), Australasian Shoveler (v, unr-CVU), Blue-billed Duck (vI, unr-CVU), Brown Quail (dd, unr-CVU), Glossy Ibis (v, unr-CVU), Great Egret (el, unr-CVU), Hardhead (v, unr-CVU), Lewin's Rail (en, unr-CVU), Little Bittern (en, unr-CVU), Musk Duck (v, unr-CVU), Nankeen Night Heron (v, unr-CVU), Painted Honeyeater (vI, 4B-CVU), Painted Snipe (e, unr-CVU), Pied Cormorant (Ir-nt, unr-CVU), Regent Honeyeater (celE, unr-CVU), Royal Spoonbill (v, unr-CVU), Sooty Owl (vI, unr-CVU), Speckled Warbler (v, unr-CVU), Whiskered Tern (Ir-nt, unr-CVU), White-bellied Sea-eagle (el, unr-CVU), Striped Legless Lizard (elV, 3B-CVU), Tree Goanna (dd, unr-CVU), Warty Bell Frog (vV, unr-CVU), Flat-headed Galaxias (dd, unr-CVU), Golden Perch (v, unr-CVU), Macquarie Perch (elE, unr-CVU), Murray Cod (vI, unr-CVU), River Blackfish (dd, unr-CVU), Hemiphysalis Damsel (vI, 1B-CVU), Golden Sun Moth (el, unr-CVU).



Glossy Ibis (Photo: Virridans
Biological Databases)

Recommended actions:

Protection of existing remnants:

- Support the development of Local Area Plans and Whole Farm Plans.
- Continue to support and provide expertise to networks such as Landcare, Trust for Nature and Land For Wildlife ensuring extension officers can liaise effectively with landholders for the best conservation outcomes.
- Assess all freehold remnants greater than 2 ha in the zone, and use voluntary programs, incentives or planning controls, as appropriate to protect biodiversity values.
- Encourage landholders to control introduced plant and animal species according to CaLP Act 1994 obligations through use and expansion of Weed Action Groups and Rabbit Action Groups, particularly throughout freehold adjacent to State Forest, A5 and H2
- Urge Benalla Rural City and Mansfield and Murrindindi Shires to develop or upgrade local conservation strategies.

¹ The oversight of this species appearing on the database as a threatened taxon is being addressed by staff at DSE.

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8.3 Private Land (cont'd)

- Ensure landholders and Shire staff have access to Goulburn Broken CMA Draft Native Vegetation Plan, Volume 1 and 2 (Goulburn Broken CMA 2000) and the Shire planning staff understand Net Gain concepts and Native Vegetation Retention Controls, as well as being aware of locations of freehold remnants having threatened biodiversity values.
- Adhere strictly to Native Vegetation Retention Controls, focusing particular effort on retaining large trees and woodlots and on habitat regularly used by Regent Honeyeater.
- Protect and enhance status of unreserved stream frontages which connect or extend existing Public Land Water Frontage reserves on the Broken River.
- Promote exclusion of stock from remnants (Davidson 1996).
- Assess current status of remnant native grasslands on freehold.
- Encourage Landcare groups and Threatened Species Network to protect Striped Legless Lizard on private land.
- Generally exclude grazing on or near roadsides having native vegetation elements of conservation significance, even if the community is fragmented and degraded.

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

- Predator control, grazing exclusion, weed control and ecological burning have been recommended for the management of the Common Dunnart (dd, unr-CVUeast, 1-CVUwest).
- Predator control and habitat supplementation have been recommended for the Painted Honeyeater (1-CVU).
- Predator control, intended change to stocking levels, grazing exclusion and weed control have been recommended for the conservation of the Striped Legless Lizard (1-CVU). Grazing and/or burning in areas of native grassland should be permitted only when there is a clear ecological gain for Striped Legless Lizard and after consultation with the Department of Sustainability and Environment personnel.
- Continue to work with private landholders, Benalla Rural City and Mansfield and Murrindindi Shires to implement Cluster 9 management area (Smith and Robertson 1999) for the Striped Legless Lizard.
- Grazing exclusion, enhanced flow regimes and removal of water contaminants have been recommended for the Hemiphysalis Damselfly (3-CVU).
- Intended change to stocking levels, grazing exclusion, weed control and ecological burning have been recommended for the Clover Glycine (1-CVU).
- No management actions have been listed for the Brush-tailed Phascogale (2-CVU), Common Bent-wing Bat (1-CVU), Australian Anchor Plant (1-CVU) or the Weak Daisy (3-CVU): refer to 'Other policies' below.



Discaria pubescens (Photo: John Eichler)

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8.3 Private Land (cont'd)

Restoration of strategic vegetation blocks or linkages:

- Encourage and assist landholders to conserve strategic freehold remnants, and maintain and enhance connectivity between public land blocks, particularly in the Fawcett area north of Alexandra, as well as landholders between Middle and Godfrey Creeks near Gobur.
- Encourage and assist landholders with significant freehold remnants to restore and expand existing habitats, and improve connectivity to any nearby remnants on freehold, road reserves or other tenure.
- Urge and assist Landcare groups, Land For Wildlife extension officers and Trust for Nature officers to inform landholders of their potential role in conserving biodiversity, and to coordinate their involvement for the best possible outcome. Also stress the importance of retaining scattered paddock trees, dead trees and stags.
- Co-ordinate restoration and revegetation initiatives to assist landholders and the Shire in consolidating local remnants.
- On freehold land abutting roadside habitats of Squirrel Glider or Grey-crowned Babbler, promote and assist establishment of buffer strips (at least 15 m wide and 500 m long) which have preferably been neither ploughed nor ripped.
- In consultation with the Goulburn Broken CMA, develop habitat management plans for streamsides on freehold, with particular emphasis upon protecting and expanding habitat nodes (e.g. creek line-roadside intersects).



Squirrel Glider (Photo: DSE/Lumsden)

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Australian Anchor Plant (47).
- FFG Action Statement – Brush-tailed Phascogale (79).
- FFG Action Statement – Golden Sun Moth (106).
- FFG Action Statement – Hemiphysalis Damsel (46).
- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- FFG Action Statement – Regent Honeyeater (41).
- FFG Action Statement – Striped Legless Lizard (17).
- FFG Action Statement – White-bellied Sea Eagle (60).
- Recovery Plan – Regent Honeyeater (Menkhorst *et al.* 1999).
- Recovery Plan – Striped Legless Lizard 1999-2003 (Smith and Robertson 1999).

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8.3 Private Land (cont'd)

- JAMBA – Great Egret.
- CAMBA – Glossy Ibis, Great Egret, White-bellied Sea Eagle.
- The Action Plan for Australian Bats (Duncan *et al.* 1999).
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).
- The Action Plan for Australian Freshwater Fishes (Wager and Jackson 1993).
- The Action Plan for Australian Frogs (Tyler 1997).
- The Action Plan for Australian Marsupials and Monotremes (Maxwell *et al.* 1996).
- The Action Plan for Australian Reptiles (Cogger *et al.* 1993).
- Goulburn Broken CMA Native Vegetation Plan Vol 1 and 2 (Goulburn Broken CMA 2000).
- Goulburn Broken Regional Catchment Strategy Draft (Goulburn Broken CMA 2002)
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).



Lewin's Rail (Photo: Mike Carter)

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8.4 Public Land Water Frontage

Land Tenure Details:

Numerous Public Land Water Frontage Reserves occur throughout the zone. In the very south, Public Land Water Frontage reserves occur along Rubicon River and Swamp Creek south of Thornton. Two disconnected Public Land Water Frontage sections occur along Spring Creek north of Koriella and Public Land Water Frontage extend along Johnsons Creek from the Goulburn River, branching out to connect to G105 and run alongside G106. Other water courses possessing Public Land Water Frontage reserves include tributaries of Godfrey Creek near Gobur, U.T. Creek east of Alexandra, Hayfield, Tallangalook and Doolum Creeks running into Lake Eildon near Bonnie Doon, and the Delatite River and Wild Dog Creek to the east of Lake Eildon. Some Public Land Water Frontage areas (e.g. G15 near Gobur) are impacted by grazing due to these areas being fenced into adjoining private land. In such cases the opportunity to revegetate is low and boundaries are not being recognised or maintained.

Land Manager:

Land Victoria.

Stakeholders:

Key GBCMA, DSE, DPI, Private.

Other VEAC, Benalla Rural City and Mansfield and Murrindindi Shires, Lc, Weed Action Groups, Rabbit Action Groups, LFW, GAV, CVA, GNP, VFF, VAA, BG, FNC, SIG.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: Floodplain Riparian Woodland (e-CVU), Herb-rich Foothill Forest (d-CVU), Plains Grassy Woodland (e-CVU), Riparian Forest (v-CVU), Riparian Forest/Swampy Riparian Woodland Mosaic (v-CVU), Swampy Riparian Complex (e-CVU), Valley Grassy Forest (v-CVU).

Threatened flora: None recorded.

Threatened fauna: Australasian Shoveler (v, unr-CVU), Hardhead (v, unr-CVU), Speckled Warbler (v, unr-CVU), Glossy Grass skink (lr-nt, unr-CVU), Murray Cod (vl, 1B-CVUeast).

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8.4 Public Land Water Frontage (cont'd)

Recommended actions:

Protection of existing remnants:

- Protect and enhance status of Public Land Water Frontage in the zone, giving priority to the tributaries of the Goulburn and Delatite Rivers.
- In order to permit natural regeneration of remnants, exclude or scale down licensed grazing from water frontage (particularly wetlands and ephemeral soaks) depending on the intensity of weed invasion as well as the weed and remnant species present.
- Enhance awareness of landholders and key stakeholders of the potential biodiversity linkage value of these frontages, once restored.
- Support voluntary stakeholder groups in weed control activities.
- Retain River Red Gums and hollow-bearing trees and stags.
- Pursue LCC (1994) recommendation that indigenous vegetation is maintained or restored along Public Land Water Frontage reserves, particularly in areas such as G15 near Gobur on Godfrey's Creek Public Land Water Frontage reserves.

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

- Enhance flow regimes, remove water contaminants and supplement habitat to benefit Murray Cod (3).
- Also refer to "Other Policies", below.



Murray Cod (Photo: DSE)

Restoration of strategic vegetation blocks or linkages:

- Initiate weed control and revegetation of degraded creek line frontages, giving priority to sections where increased connectivity will be most strategic and potentially effective (e.g. between Public Land Water Frontage sections of Spring Creek, Public Land Water Frontage along Delatite River towards Lake Eildon and U.T. Creek towards Lake Eildon).
- Identify adjoining or strategic landholdings and easements having potential connectivity value, and encourage complementary revegetation using incentives and voluntary programs.

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).

8. Lake Eildon Landscape Zone

8.4 Public Land Water Frontage (cont'd)

- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Victorian Recreational Fishing Guide 2002-2003 (NRE 2002e).
- Delatite River: Assessment of Environmental Flows. (Goulburn-Murray Water and Water Ecoscience 2002).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).

8. Lake Eildon Landscape Zone

8.5 Water Production

Land Tenure Details:

The tenure is represented in the zone by Eildon Reservoir (D2). The reserve provides habitat for a range of threatened water bird and fish species, as well as other fauna species occurring in the 200 m terrestrial buffer zone. As well as being Victoria and the Goulburn Irrigation District's main water storage, Lake Eildon is extensively utilized for water-based recreation. Goulburn-Murray Water also manage additional land behind the township of Eildon where populations of Bird-orchids and diverse herbage flora occurs (Raven 1997).

Land Manager:

Goulburn-Murray Water, DSE.

Stakeholders:

Key GBCMA, DPI.

Other VEAC, Benalla Rural City and Mansfield and Murrindindi Shires, FNC, BG, TSN, PV, VAA, CFA, BEAM.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: No current EVCs listed.

Threatened flora: None recorded. Leafy Greenhood occurs in the 200 m buffer of Eildon Reservoir (LCC 1994, P. Lade, pers. comm.).

Threatened fauna: Common Bent-wing Bat (vl, unr-CVU), Eastern Horseshoe Bat (vl, unr-CVU), Spot-tailed Quoll (elV, unr-CVU), Great Egret (el, unr-CVU), Hardhead (v, unr-CVU), Nankeen Night Heron (v, unr-CVU), Regent Honeyeater (celE, unr-CVU), Royal Spoonbill (v, unr-CVU), Speckled Warbler (v, unr-CVU), White-bellied Sea-eagle (el, unr-CVU), Golden Perch (v, unr-CVU), Murray Cod (vl, 1B-CVU), Large Ant-blue Butterfly (rl, unr-CVU).



Spot-tailed Quoll (Photo: Ian McCann)

Recommended actions:

Protection of existing remnants:

- Maintain status of D2, to conserve and enhance wetland habitat values for flora, fish and waterbirds whilst providing for recreation and water supply purposes.

8. Lake Eildon Landscape Zone

8.5 Water Production (cont'd)

- Ascertain the biodiversity value or potential of the buffer vegetation and ensure that any such values are protected appropriately.
- Support continued surveying and monitoring efforts for the conservation of the Leafy Greenhood and White-bellied Sea-eagle.
- Update or establish a management plan for Lake Eildon.
- Maintain monitoring of tourist and visitor access to the lake and buffer zones so that conservation of biodiversity values and water quality are not compromised.
- Restrict access to known breeding sites of water birds.
- Encourage Goulburn-Murray Water to manage access issues (e.g. off-road vehicle use and rubbish dumping) on their land behind Eildon Township.
- Encourage and support Goulburn-Murray Water to enforce access restrictions, particularly regarding trail bikes in the buffer zone at Lake Eildon National Park including the sensitive dry lake beds and banks of the lake itself.

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

- Remove water contaminants and supplement suitable habitat to benefit Murray Cod (3).
- Also refer to “Other Policies”, below.

Restoration of strategic vegetation blocks or linkages:

- Encourage collaboration with adjoining landholders and land managers to restore connectivity via creek lines and other remnants.

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Large Ant-blue Butterfly (70).
- FFG Action Statement – Leafy Greenhood (54).
- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- FFG Action Statement – Regent Honeyeater (41).
- FFG Action Statement – Spot-tailed Quoll (15).
- FFG Action Statement – White-bellied Sea-eagle (60).
- Recovery Plan – ‘Butterfly Community No 1’, a Threatened Butterfly Community at Mt Piper in Central Victoria (New 1998)
- Recovery Plan – Regent Honeyeater (Menkhorst *et al.* 1999)
- JAMBA – Great Egret.



8. Lake Eildon Landscape Zone

8.5 Water Production (cont'd)

- CAMBA – Great Egret, White-bellied Sea-eagle.
- The Action Plan for Australian Bats (Duncan *et al.* 1999).
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).
- The Action Plan for Australian Marsupials and Monotremes (Maxwell *et al.* 1996).
- Protect Leafy Greenhood within the buffer zone of Eildon Reservoir (LCC 1994).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).

8. Lake Eildon Landscape Zone

8.6 State Forest

Land Tenure Details:

This tenure includes three isolated State Forest Blocks (E1), one north east of Ancona, and two north of Howqua. Regent Honeyeaters have been recorded at the block at Howqua. Some portions of larger State Forest blocks such as Toolangalook to the north, Mt Torbreck/Rubicon in the south and Howqua River west of Lake Eildon are included in the zone. A large area of State Forest occurs to the north of Lake Eildon National Park and is bordered by both the park and Hancock Victorian Plantations. These areas support a wide range of threatened flora and fauna.

Land Manager:

DSE Forests.

Stakeholders:

Key GBCMA, PV.

Other VEAC, TSN, BEAM, FNC, BG CVA.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: Damp Forest (lc-CVU), Grassy Dry Forest (d-CVU), Herb-rich Foothill Forest (d-CVU), Plains Grassy Woodland (e-CVU), Valley Grassy Forest (v-CVU).

Threatened flora: None recorded.

Threatened fauna: Regent Honeyeater (ceIE, unr-CVU), Sooty Owl (vl, unr-CVU).

Recommended actions:

Protection of existing remnants:

- Retain hollow-bearing trees and stags for Sooty Owl habitat and for arboreal mammals.
- Maintain firebreaks and ensure burning regimes consider requirements for threatened flora.
- Ensure buffer zones on adjoining private land and plantations provide adequate protection to E1 remnant vegetation and act as a sufficient barrier to weeds and the disturbances generated from softwood production and harvesting.



Sooty Owl (Photo: Ed McNabb)

8. Lake Eildon Landscape Zone

8.6 State Forest (cont'd)

- Implement Central Highlands Forest Management Plan (NRE 1998) and North East Forest Management Plan (NRE 2001c).
- Application of Code of Forestry Practices (Government of Victoria 1996).

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

- No specific BNA management actions listed. See 'Other Policies', below.

Restoration of strategic vegetation blocks or linkages:

- Encourage adjoining landholders to maintain and enhance habitat linkages to improve connectivity between remnants occurring on their land and E1, particularly surrounding the isolated blocks at Ancona and Howqua.
- Encourage and support Weed Action Groups and Rabbit Action Groups.

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- FFG Action Statement – Regent Honeyeater (41).
- Recovery Plan – Regent Honeyeater (Menkhorst *et al.* 1999).
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Central Highlands Forest Management Plan (NRE 1998).
- North East Forest Management Plan (NRE 2001b).

8. Lake Eildon Landscape Zone

8.7 Other Public Land

Land Tenure Details:

The tenure includes several service and utilities areas including the Cathkin and Alexandra Cemeteries (M19²) and Snobs Creek Fish Hatchery and Research Station (M21³, 200 ha). A buffer strip of 200 m wide on both banks extends 6 km upstream of Snobs Creek to protect the water supply to the hatchery. Other Public Land in this zone includes various recreational facilities such as tennis courts, showgrounds and the golf course at Alexandra. Several electricity (TXU) easements (M7) pass through plantations at Lake Eildon, as well as through Bushland Reserves G105 and G108. Two areas designated for extracting earth resources occur south of Mansfield and on the eastern boundary (L7⁴, 10 ha) of Lake Eildon National Park. Part of the Tallarook to Mansfield Disused Rail Reserve (J15⁵) occurs throughout the zone from Cathkin to Mansfield (Laurie 1993a, b and c). Numerous sections of the rail reserve have been recognised as having medium and/or high conservation values due to remnant native grass species (Laurie 1993a, b and c). High conservation areas include just west of Cathkin township, east and west of Merton township, a section from Koriella to just west of Crusoe Lane, a section adjacent to the Goulburn Valley Highway between Cathkin and the junction of the Goulburn Valley and Maroondah Highways and north of Durham Lane to McGuigans Road (Laurie 1993a, b and c). Several small blocks of uncategorised land (N1) also represent this tenure in this zone, as well as any disused roads and roadsides under the jurisdiction of VicRoads such as the Maroondah and Goulburn Valley Highways. Eastern Horseshoe Bats have been recorded using old mine adits in an area (N1) of uncategorised Crown Land at Gobur (S. Smith, pers. comm.).

Land Manager:

Land Victoria, TXU, DSE Forests, VicRoads.

Stakeholders:

Key Benalla Rural City and Mansfield and Murrindindi Shires, CMA, CFA, VicTrack.

Other VEAC, VAA, BG, TSN, GNP, FNC, Private.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: Floodplain Riparian Woodland (e-CVU), Grassy Dry Forest (d-CVU), Grassy Woodland (e-CVU), Herb-rich Foothill Forest (d-CVU), Plains Grassy Woodland (e-CVU), Riparian Forest (v-CVU), Valley Grassy Forest (v-CVU).

Threatened flora: None recorded.

² Not shown on map – refer to LCC reports

³ Ibid

⁴ Ibid

⁵ Ibid

8. Lake Eildon Landscape Zone

8.7 Other Public Land (cont'd)

Threatened fauna: Brush-tailed Phascogale (vl, unr-CVU), Musk Duck (v, unr-CVU), Regent Honeyeater (celE, unr-CVU), Speckled Warbler (v, unr-CVU), Warty Bell Frog (vV, unr-CVU), Eastern Horseshoe Bat (vl, unr-CVU).



Warty Bell Frog (Photo: DSE/Clemann)

Recommended actions:

Protection of existing remnants:

- Through negotiations with various land manager stakeholders, identify 'Unknown' or 'Uncategorised' Other Public Land in the tenure, particularly large areas such as to the north and east of Mansfield and north of Gobur to identify and bring about the protection of biodiversity values.
- Identify, protect and monitor sites of occurrence of threatened EVCs and significant taxa.
- Ensure TXU maintenance staff are aware of threatened taxa when undergoing management of easements, selectively slashing where appropriate and conducting works in a manner conducive to decreasing risk of weed propagation.
- Ensure VicTrack planning and maintenance staff are aware of the site location and significance of remnant vegetation nodes, notably on sections of J15 rail reserves near Merton and Cathkin.
- Encourage VicTrack to negotiate with the Department of Sustainability and Environment a Public Authority Management Agreement to protect biodiversity values within the rail reserve, and to liaise with Shires and VicRoads (if appropriate) over roadside conservation plans pertaining to management of the road reserves adjacent to the disused rail reserve.
- Ensure grounds staff at local cemeteries are aware of the significance of native grasses and employ slashing techniques sympathetic to their conservation. Encourage Local Government Authorities or volunteer conservation groups to conduct inventories of remnant grasses at cemetery sites.
- Encourage the Department of Sustainability and Environment to licence dis-used road reserves, and excluding grazing and/or fence those with remnant vegetation.

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

- No specific BNA management actions listed. Refer to "Other Policies", below.

Restoration of strategic vegetation blocks or linkages:

- Restore native vegetation and expand patch size on small blocks within the tenure, giving priority to those remnants with potential to link to adjacent or nearby habitats, such as roadsides or creek lines.

8. Lake Eildon Landscape Zone

8.7 Other Public Land (cont'd)

- Encourage and assist VicTrack and VicRoads land managers to expand or extend linear remnants on rail reserves and Highways, and to consolidate with any adjoining habitat on road reserves or freehold land.
- In consultation with licensees, improve habitat quality and connectivity of unused roads and rail reserves retaining native vegetation.

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Brush-tailed Phascogale (79).
- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- FFG Action Statement – Regent Honeyeater (41).
- Recovery Plan – Regent Honeyeater (Menkhorst *et al.* 1999).
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).
- The Action Plan for Australian Marsupials and Monotremes (Maxwell *et al.* 1996).
- ECC (2000) proposal to redesignate most O4 reserves as Community Use Areas, and one (6 km N Chesney) as NFR.
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).
- Goulburn Broken CMA Native Vegetation Plan Vol 1 and 2 (Goulburn Broken CMA 2000).
- Goulburn Broken Regional Catchment Strategy Draft (Goulburn Broken CMA 2002)
- Resource inventory for the Tallarook to Mansfield Disused Railway Line: Part 1 Yea-Cathkin. (Laurie 1993a).
- Resource inventory for the Tallarook to Mansfield Disused Railway Line: Part 2 Cathkin-Alexandra. (Laurie 1993b).
- Resource inventory for the Tallarook to Mansfield Disused Railway Line: Part 3 Cathkin-Mansfield. (Laurie 1993c).
- Roadside Assessment Handbook (Roadside Conservation Advisory Committee 2000a).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).



Regent Honeyeater (Photo: Shepherd)

8. Lake Eildon Landscape Zone

8.8 Local Government

Land Tenure Details:

The predominant Shires in this zone are Benalla Rural City and Mansfield Shire to the east and Murrindindi to the west. The tenure includes municipal roadsides and township land throughout the zone of both Shires. There are some good examples of Grassy Woodland (e-CVU) and Plains Grassy Woodland (e-CVU) EVCs and Striped Legless Lizards have been confirmed on roadsides at Bonnie Doon and Merton (S. Smith pers. comm.). Council land opposite McKenzie Reserve has good quality remnants of White Box Grassy Woodland (e-CVU). While species such as the Lace Monitor and the Brush-tailed Phascogale were not recorded from the Department of Sustainability and Environment's Corporate Database, suitable roadside habitat does exist throughout the zone.

Land Manager:

Benalla Rural City and Mansfield and Murrindindi Shires.

Stakeholders:

Key DSE, DPI, GBCMA, CFA.

Other VEAC, Private, BG, LFW, FNC, CVA, GAV.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: Floodplain Riparian Woodland (e-CVU). Plains Grassy Woodland (e-CVU): Springs Creek Rd. Swampy Riparian Complex (e-CVU): Webbs Lane. Valley Grassy Forest (v-CVU): various roads in the Thornton area along the Goulburn River. Plains Grassy Woodland (e-CVU): Thoms Lane. Grassy Dry Forest (d-CVU), Swampy Riparian Complex (e-CVU): Stony Creek Rd. Swampy Riparian Complex (e-CVU), Valley Grassy Forest (v-CVU): Monkey Gully Rd.

Threatened flora: None recorded.

Threatened fauna: None recorded. Striped Legless Lizard (eIV, unr-CVU) (S. Smith pers. comm.).



Striped Legless Lizard (Photo: Peter Robertson)

Recommended actions:

Protection of existing remnants:

- Generally exclude grazing on or near roadsides having native vegetation elements of conservation significance, even if the community is fragmented and degraded. Grazing and/or burning in areas of native grassland should be permitted only when there is a clear ecological gain and after consultation with Department of Sustainability and Environment personnel.

8. Lake Eildon Landscape Zone

8.8 Local Government (cont'd)

- Ensure the Country Fire Authority are aware of significant roadside areas and employ control burning on these sites that is sympathetic to the conservation of threatened flora and fauna.
- Ensure that Shire staff (especially road crews as well as construction and other contractors) are aware of significant habitat and taxa on roadsides, and that they avoid ground disturbance due to fire protection works, utility works or road maintenance (Davidson 1996).
- Erect signage to identify significant roadside areas.
- Protect existing roadside remnants, giving priority to those having mature and hollow-bearing trees, and tall shrubby understorey with sparse grassy ground layer. Prevent removal from roadside habitats of fallen timber, logs or dead-standing trees which provide wildlife habitat for species such as the Lace Monitor and Brush-tailed Phascogale.
- Encourage establishment between Local Government Authorities and the Department of Sustainability and Environment of a Public Authority Management Agreement to protect and maintain roadsides having significant conservation values (Davidson 1996) in Benalla Rural City and Mansfield Shire.
- Encourage Murrindindi Shire to conduct roadside surveys and produce a Roadside Management Plan to identify and manage significant roadside areas.
- Continue to support and encourage Murrindindi Shire to manage and enhance the remnant White Box Grassy Woodland community opposite McKenzie Reserve and assist with the proposal to transfer to Crown land.

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

- No specific BNA recommendations listed; refer to 'Other Polices' below.

Restoration of strategic vegetation blocks or linkages:

- In determining priorities for roadside habitat restoration in the zone, give special consideration to those areas where roadside biodiversity values have the greatest potential to complement existing remnants on adjacent tenures (Raven 1997).
- Encourage collaboration between Shires and adjoining landholders (particularly where Land for Wildlife properties are established and Trust for Nature Covenants exist) to develop and continue implementing local revegetation strategies targeting key roadside habitats.
- Encourage Shires, in conjunction with community groups, to apply for Land For Wildlife status on Crown Land (e.g. cemeteries and some roadsides).
- Extend and expand existing roadside/creek line habitat linkages likely to support Brush-tailed Phascogale.
- In expanding linear habitat networks, utilize nodes on creek-crossings, intersections with other road reserves or patches on adjacent freehold.

8. Lake Eildon Landscape Zone

8.8 Local Government (cont'd)

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- Goulburn Broken CMA Native Vegetation Plan Vol 1 and 2 (Goulburn Broken CMA 2000).
- Goulburn Broken Regional Catchment Strategy Draft (Goulburn Broken CMA 2002).
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).
- Roadside Assessment Handbook (Roadsides Conservation Advisory Committee 2000a).
- Roadside marking of Special Environmental Areas (Roadsides Conservation Advisory Committee 2000b).
- Roadside Handbook (VicRoads 1992).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).

8. Lake Eildon Landscape Zone

8.9 Parks and Reserves

Land Tenure Details:

The zone contains minor sections of the original Lake Eildon National Park (A15, 29,500 ha) as well as the LCC recommended additions (LCC 1994) of Fraser National Park (A16, 3,990 ha) and Mount Pinninger (A17, 165 ha). Lake Eildon National Park is heavily visited for recreation and tourism, as well as being Victoria's primary water storage. Together, A15, 16 and 17 provide important habitat for many threatened flora and fauna. The zone contains numerous Bushland Reserves (BR), including Gobur (G102, 12.67 ha), Loyola (G50, 22 ha and G51, 58.48 ha), Delatite (G52), Eildon (G119, 117.48 ha), Maintongoon (G49 21.62 ha, G105 910 ha, G106 420 ha and G108 500 ha) and Merton (G103, 10 ha). Heritage River Reserve (G33) occurs along the Goulburn River throughout the zone. The White-bellied Sea-eagle has been recorded breeding along this heritage river reserve where the Acheron meets the Goulburn just north of Acheron. Other areas representing this tenure include The Paps Natural Feature and Scenic Reserve (G34, 208 ha) between Maindample and Mansfield. Restoration work has taken place since gravel extraction practises ceased and the Large Ant-blue Butterfly has been recorded here (Britton and New, 1992 and 1993). Other reserves include McKenzie Flora Reserve (C7, 40 ha) on Main Street in Alexandra and Molesworth Wildlife Reserve (C21, 30 ha) along the Goulburn River at Molesworth. C7 supports diverse wildflower populations and contains remnant Grassy Woodland EVC that is otherwise depleted in the surrounding area. Significant species occurring in the McKenzie Flora Reserve are listed in (Edwards 2002). Leafy Greenhood populations are being surveyed east of Eildon and at the Strathbogies in this zone (P. Lade, pers. comm.).

Land Manager:

PV.

Stakeholders:

Key GBCMA, VNPA, DSE.

Other VEAC, VNPA, VAA, TSN, BG, GNP, FNC, Private, Benalla Rural City and Mansfield and Murrindindi Shires, BEAM.

Threatened Biodiversity Assets (in brackets: Cons status Vic - lower case, Aust - upper case; followed by BNA priority / risk rankings for threatened taxa = 1A, 2B, etc., or un - unassessed):

EVCs: Damp Forest (lc-CVU): Lake Eildon National Park; Grassy Dry Forest (lc-CVU): G34, G51, G52, G119, G105, G106, G108, Yarck Nature Conservation Reserve, Lake Eildon National Park; Floodplain Riparian Woodland (e-CVU): unnamed Heritage River; Grassy Woodland (e-CVU): C7, G34; Heathy Dry Forest (lc-CVU): Lake Eildon National Park; Herb-rich Foothill Forest (d-CVU): G34, G51, G52, G119, G108, G105, Yarck Nature Conservation Reserve, Lake Eildon National Park, Molesworth Bushland Reserve; Plains Grassy Woodland (e-CVU): unnamed Heritage River; Riparian Forest (v-CVU): G108, Lake Eildon National Park; Swampy Riparian Complex (e-CVU): G108, G106; Valley Grassy Forest (v-CVU): G34, G106, G51, C7, Lake Eildon National Park; Wet Forest (lc-CVU): unnamed Heritage River.

8. Lake Eildon Landscape Zone

8.9 Parks and Reserves (cont'd)

Threatened flora: None recorded. Leafy Greenhood (vl, unr-CVU) (P. Lade, pers. comm.).

Threatened fauna: Brush-tailed Phascogale (vl, 4B-CVU), Australasian Shoveler (v, unr-CVU), Black Falcon (e, unr-CVU), Barking Owl (el, 4A-CVU), Great Egret (el, unr-CVU), Hardhead (v, unr-CVU), Little Egret (cel, unr-CVU), Musk Duck (v, unr-CVU), Nankeen Night Heron (v, unr-CVU), Pied Cormorant (lr-nt, unr-CVU), Powerful Owl (el, 4A-CVU), Regent Honeyeater (celE, unr-CVU), Royal Spoonbill (v, unr-CVU), Speckled Warbler (v, unr-CVU), White-bellied Sea-Eagle (el, unr-CVU). Large Ant-blue Butterfly (rl, unr-CVU) (S. Smith pers. comm.).



Little Egret (Photo: DSE/Menkhurst)

Recommended actions:

Protection of existing remnants:

- Assess condition and habitat values on all reserves within the tenure, and ensure that protection of biodiversity values is adequate.
- Reassess grazing activities and associated impacts along the Goulburn River Heritage River Reserve (G33).
- Employ burning and grazing regimes that are sympathetic to the conservation requirements of threatened flora, particularly in relevant Bushland Reserves throughout the zone.
- Closely monitor apiculture activities within the tenure (notably in Bushland Reserves), and control feral bee infestations where necessary.
- Monitor Sambar Deer impacts on flora and fauna in Lake Eildon National Park and employ active management if appropriate.
- Continue active weed management in A15, 16 and 17 and Bushland Reserves.
- Encourage liaison with land managers and adjacent landholders regarding the control of introduced plant and animals as well as the recording of threatened species in adjacent freehold.
- Along with the Department of Sustainability and Environment, encourage and guide other voluntary stakeholder groups (e.g. Broadford Environmental Action Movement, Threatened Species Network, Botanic Guardians, Greening Australia Victoria, Conservation Volunteers Australia) in on-ground protection/surveying and monitoring efforts in the tenure areas.
- Establish or update Environmental Management Plans for all Bushland Reserves.
- Safeguard old mine shafts in A15 and A16 from tourism impacts to ensure habitat for the Common Bent-wing Bat.
- Encourage Delatite Reserve Project involving pre-1750 revegetation and pine removal.

8. Lake Eildon Landscape Zone

8.9 Parks and Reserves (cont'd)

- Protect from fire any mature 'key' eucalypt species for Regent Honeyeater such as Red Ironbark, White Box and Yellow Box.
- Encourage and support Parks Victoria to enforce access restrictions, particularly regarding trail bikes in Lake Eildon National Park including the sensitive dry lake beds and banks of the lake itself.
- Encourage and/or facilitate the formation of a consultative committee to complete the Delatite River Stream Flow Management Plan.

Management to enhance remnants for threatened taxa (BNA response level in brackets: 4 = full commitment, 3 = substantive participation, 2 = opportunistic action, 1 = watching brief):

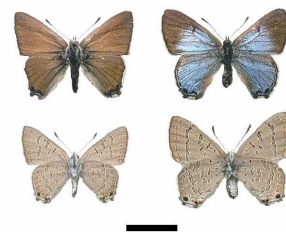
- Predator control has been recommended for management of the Brush-tailed Phascogale (1-CVU).
- No actions have been listed for the Barking Owl (2-CVU) or the Powerful Owl (2-CVU); refer to 'Other Policies' below.

Restoration of strategic vegetation blocks or linkages:

- Investigate with adjoining landholders or other land managers any options to bolster connectivity adjacent to existing remnants, especially along drainage lines and roadside reserves and particularly in the vicinity of G51 and G52 Bushland Reserves and the three Maintagoon Bushland Reserve blocks G106 and G105 along Johnson Creek. For more isolated patches (e.g. G34, G50, C7) investigate options for buffer establishment on adjacent land.
- Enhance continuity between Heritage River (G33) and adjacent Public Land Water Frontage reserves along the Goulburn River.
- Continue to revegetate and monitor restoration work at The Paps (G34).

EXISTING POLICIES, PLANS OR PROGRAMS supporting one or more of the recommended actions:

- FFG Action Statement – Brush-tailed Phascogale (79).
- FFG Action Statement – Large Ant-blue Butterfly (70).
- FFG Action Statement – Leafy Greenhood (54).
- FFG Action Statement – Powerful Owl (92).
- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- FFG Action Statement – Regent Honeyeater (41).
- FFG Action Statement – White-bellied Sea Eagle (60).



Large Ant-Blue Butterfly (Photo: Viridans Biological Databases)

8. Lake Eildon Landscape Zone

8.9 Parks and Reserves (cont'd)

- JAMBA – Great Egret.
- CAMBA – Great Egret, White-bellied Sea Eagle.
- Recovery Plan – Regent Honeyeater (Menkhorst *et al.* 1999).
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).
- The Action Plan for Australian Butterflies (Sands and New 2002).
- The Action Plan for Australian Marsupials and Monotremes (Maxwell *et al.* 1996).
- ECC (2000) proposal to re-categorise BRs *169-70, H87-88 and 90-91 as NFRs; and FFR G10 together with BRs H93-95, 97 and 99 as Mt Meg NCR. Also to enlarge Warby Range SP (A3) by amalgamation with several other public land blocks (G11, F1 and M2) to the north (not in this zone).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).
- Lake Eildon National Park Management Plan (NRE 1997d).
- Victorian Recreational Fishing Guide 2002-2003 (NRE 2002e).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).