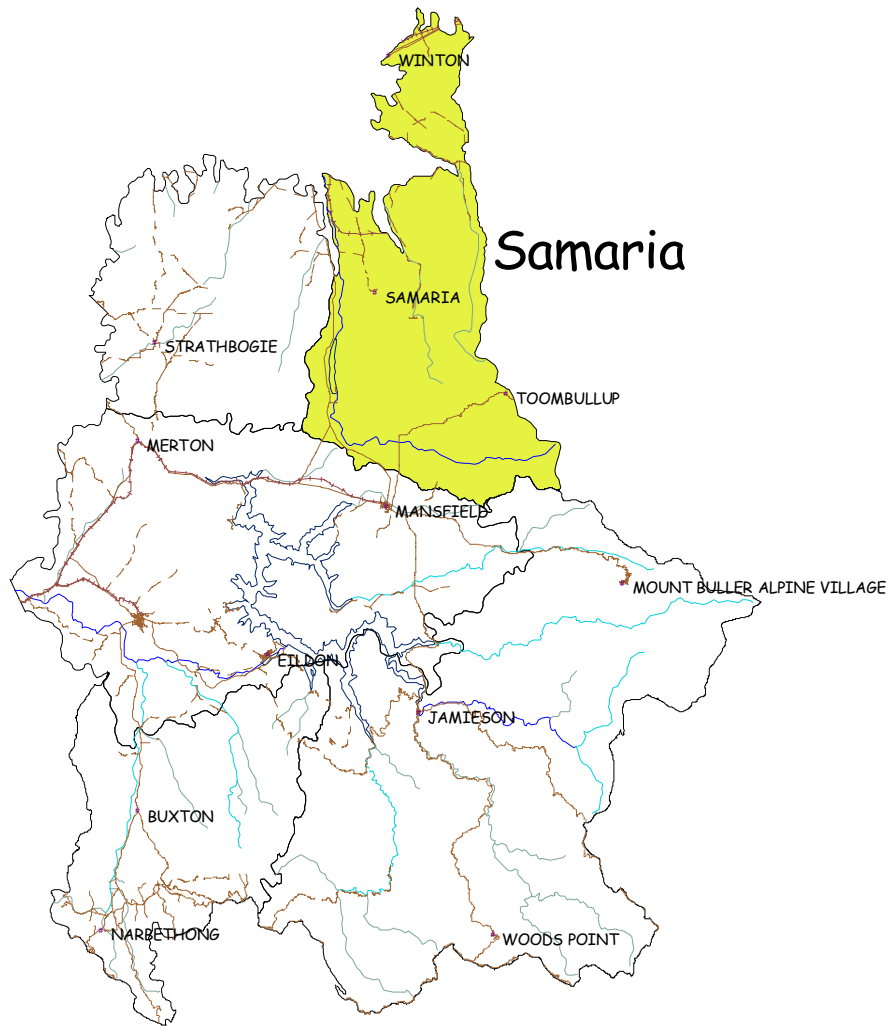


9. Samaria Landscape Zone



9. Samaria Landscape Zone

9.1 Samaria Landscape Zone description

Samaria Landscape Zone is bounded to the west by the interface between Goulburn Broken CMA and North East CMA, to the east by the border of the Goulburn Broken CMA area (north of Glenrowan), to the south by the interface between Lake Eildon and Jamieson Landscape Zones occurring just north of Mansfield, and to the north by the distinction between the Central Victorian Uplands and Victorian Riverina bioregions.

Benalla Rural City and Mansfield Shire overlays the zone, and Benalla and Toombullup are major towns on the margins of the zone (north and east respectively) (Map 14). Other townships include Yarck, Moornag, Mallum, Samaria, Wrightly, Lima South, Barjarg, Tabletop, Bridge Creek, Nillahcootie and Barwite. The Daung Wurrung (Taungurong) Aboriginal tribe is from the Samaria Landscape Zone (Clark, 1996) with the current administrative boundaries including the Camp Jungai Co-operative Ltd., Rumbalara Aboriginal Co-operative Ltd., Shepparton Aboriginal Arts Council Co-operative and Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc. (Map 15).

The Central Victorian Uplands bioregion occupies the majority of the western half of the zone with Highlands - Northern Fall bioregion occurring throughout the Tolmie Highlands to the east and occurs in association with the stream systems of Middle and Ryan Creeks. Lake Nillahcootie (D9) a major irrigation storage, is located on the riverine plain of the Broken River in the Central Victorian Uplands bioregion.

Pre-1750, Herb-rich Foothill Forest (lc-HNF) dominated the Highlands - Northern Fall bioregion within this zone and remains significantly represented throughout the Tatong State Forest blocks in this zone (Maps 43 and 44). Riparian and Damp Forest along Ryan's Creek also still occur within the State Forest.

Box Ironbark Forest (v-CVU) and Gilgai Plain Woodland/Wetland Mosaic (e-CVU) around Glenrowan West in the Lurg hills have been heavily cleared. Large areas of Valley Grassy Forest (v-CVU), Grassy Dry Forest (d-CVU) and Heathy Dry Forest (lc-CVU) occurred pre-1750 to the north of the Central Victorian Uplands / Highlands - Northern Fall bioregion interface. Some of these EVCs are still present in northern State Forest blocks south and east of Tatong, however most have been cleared, fragmented or severely modified on private land (Map 45).

The southern reaches of the zone outside State Forest are predominantly held under private land, and subsequently the riparian environments have suffered from extensive agricultural land use. Land for Wildlife has 156 registered properties within the Benalla Rural City and Mansfield Shire totalling 19,072 ha of which 2,988 ha are retained for wildlife habitat and 925 ha has been restored (F. Nichols, pers. comm.) (Map 16).

Spring Creek supported Riparian Forest, Riparian Forest/Swampy Riparian Woodland/Riparian Shrubland/Riverine Escarpment Scrub/Disturbed Mosaic, Montane Riparian thicket and Swampy Riparian Woodland. However, this area is now cleared and severely disturbed. Extensive Plains Grassy Woodland stretching towards the Mansfield Plain from Bridge Creek to Barwite and Floodplain Riparian Woodland occurring along the Broken River has also been depleted and now only exists in sparse small isolated remnants near Lima South (Floodplain Riparian Woodland) and Nillahcootie (Plains Grassy Woodland).

Riverine Escarpment Scrub which occurred along the Broken River from north of Barjarg South to Nillahcootie has been inundated by the formation of Lake Nillahcootie.

9. Samaria Landscape Zone

9.1 Samaria Landscape Zone description (cont'd)

The central areas of Samaria Landscape Zone have a relatively high level of biodiversity. The wetlands of Lake Nillahcootie provide habitat for a variety of waterfowl, and disused railway reserves north-east of Swanpool contain threatened flora species. State Forest and reserves such as Mount Samaria and Hat Hill support a variety of wildlife and threatened flora such as Broom Scale-rush, Cliff Cudweed, Dookie Daisy, Highland Bush-pea and Stalked Guinea Flower (Map 47).

Similar to other zones, dryland salinity, particularly around Samaria and Tatong, as well as sheet erosion in cleared agricultural areas threaten biodiversity values. Weeds, particularly blackberries in disturbed areas, are also of concern. Fire risk is high throughout the State Forests and larger reserves such as Mount Samaria State Park.

Table 29. Total area of pre-1750 and extant EVCs in the Samaria 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	22	D	Grassy Dry Forest	21441	11115
6	47	V	Valley Grassy Forest	21123	1472
6	20	LC	Heathy Dry Forest	12062	6512
14	55	E	Plains Grassy Woodland	8074	9
4	61	V	Box Ironbark Forest	4528	59
6	23	D	Herb-rich Foothill Forest	4149	3024
15	56	E	Floodplain Riparian Woodland	1925	160
14	235	E	Gilgai Plain Woodland/Wetland Mosaic	1625	1
21	82	E	Riverine Escarpment Scrub	1470	8
6	127	E	Valley Heathy Forest	821	68
5	175	E	Grassy Woodland	712	154
15	68	E	Creepline Grassy Woodland	535	20
9	18	V	Riparian Forest	372	240
6	21	LC	Shrubby Dry Forest	322	291
4	72	V	Granitic Hills Woodland	229	89
9	84	V	Riparian Forest/Swampy Riparian Woodland/Riparian Shrubland/Riverine Escarpment Scrub/Disturbed Mosaic	135	39
21	73	LC	Rocky Outcrop Shrubland/Herbland Mosaic	13	13
17	7	V	Clay Heathland	1	0
7	29	LC	Damp Forest	<1	<1
			TOTAL	79537	23274
99	58	NA	Cleared Severely Disturbed	0	1176
99	987	NA	Plantation (undefined)	0	429
99	997	NA	Private Land No Tree Cover	0	54304
99	998	NA	Water Body - Natural or man made	0	354

9. Samaria Landscape Zone

9.1 Samaria Landscape Zone description (cont'd)

Table 30. Total area of pre-1750 and extant EVCs in the Samaria Landscape zone, within the Highlands - Northern Fall bioregion

EVC Group	EVC #	EVC Bioregional Conservation Status	EVC Name	Pre-1750 Area (ha)	Current Area (ha)
6	23	LC	Herb-rich Foothill Forest	23988	18546
6	21	LC	Shrubby Dry Forest	3761	3527
6	20	LC	Heathy Dry Forest	1494	1407
7	29	LC	Damp Forest	1445	1417
6	22	LC	Grassy Dry Forest	1326	1145
9	18	LC	Riparian Forest	281	239
8	41	LC	Montane Riparian Thicket	225	177
8	83	V	Swampy Riparian Woodland	120	102
11	36	LC	Montane Dry Woodland	112	112
9	84	D	Riparian Forest/Swampy Riparian Woodland/Riparian Shrubland/Riverine Escarpment Scrub/Disturbed Mosaic	49	15
6	47	E	Valley Grassy Forest	47	17
21	73	R	Rocky Outcrop Shrubland/Herbland Mosaic	25	25
12	43	LC	Sub-alpine Woodland	6	6
17	7	V	Clay Heathland	<1	0
			TOTAL	32879	26734
99	58	NA	Cleared Severely Disturbed	0	639
99	987	NA	Plantation (undefined)	0	3479
99	997	NA	Private Land No Tree Cover	0	2001
99	998	NA	Water Body - Natural or man made	0	26

Table 31. Total area and number of current EVCs in each conservation status in the Samaria Landscape zone.

EVC Bioregional Conservation Status	Hectares (CVU)	Number of EVCs (CVU)	Hectares (HNF)	Number of EVCs (HNF)
Endangered	420	7	17	1
Vulnerable	1899	5	102	1
Depleted	14136	2	15	1
Rare	0	0	25	1
Least Concern	6256	4	26538	9

9. Samaria Landscape Zone

9.1 Samaria Landscape Zone description (cont'd)

Table 32. List of current threatened flora the Samaria 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 (CVU)	BNA Unassessed (HNF)	Species No.
<i>Thesium australe</i>	Austral Toad-flax	Vul	v	L		56	Un		3389
<i>Poa sieberiana</i> var. <i>cyanophylla</i>	Blue-leaf Tussock-grass		r				Un	Un	4866
<i>Lepyrodia anarthria</i>	Broom Scale-rush		r				Un	Un	1966
<i>Euchiton umbricola</i>	Cliff Cudweed		r				Un	Un	1475
<i>Asplenium trichomanes</i>	Common Spleenwort		r				Un	Un	294
<i>Thelymitra X irregularis</i>	Crested Sun-orchid		r				Un	Un	3371
<i>Brachyscome gracilis</i>	Dookie Daisy		v	L			Un		459
<i>Boronia nana</i> var. <i>nana</i>	Dwarf Boronia		r				Un	Un	4277
<i>Eleocharis plana</i>	Flat Spike-sedge		v				Un	Un	1144
<i>Wurmbea biglandulosa</i> ssp. <i>biglandulosa</i>	Glandular Early Nancy		r				Un	Un	3580
<i>Arthropodium</i> sp. 2 (<i>greenish flowers</i>)	Greenish-flower Vanilla-lily		k				Un	Un	5376
<i>Pultenaea williamsonii</i>	Highland Bush-pea		r				Un	Un	4863
<i>Hypsela tridens</i>	Hypsela		k				Un	Un	1757
<i>Eucalyptus alligatrix</i> ssp. <i>limaensis</i>	Lima Stringybark	Vul	e				Un	Un	4685
<i>Hibbertia</i> sp. 1 (<i>Eastern Highlands</i>)	Mt Samaria Guinea-flower		v				Un	Un	5670
<i>Eucalyptus sideroxylon</i> s.s.	Mugga		r				Un	Un	4493
<i>Goodenia macbarronii</i>	Narrow Goodenia	Vul	v	L		72		Un	1513
<i>Astrotricha linearis</i>	Narrow-leaf Star-hair		r				Un	Un	309
<i>Olearia speciosa</i>	Netted Daisy-bush		k				Un	Un	2326
<i>Baumea planifolia</i>	Rough Twig-sedge		k				Un	Un	3722
<i>Poa labillardierei</i> var. <i>acris</i>	Sharp Mountain Tussock-grass		v				Un	Un	2583
<i>Desmodium varians</i>	Slender Tick-trefoil		k				Un	Un	4425
<i>Hibbertia pedunculata</i>	Stalked Guinea-flower		r				Un	Un	1672
<i>Ranunculus collinus</i>	Strawberry Buttercup		r				Un	Un	2887
<i>Brachyscome ptychocarpa</i>	Tiny Daisy		r				Un	Un	472
<i>Billardiera scandens</i> var. <i>brachyantha</i>	Velvet Apple-berry		r				Un	Un	4290
<i>Isolepis victoriensis</i>	Victorian Club-sedge		k				Un	Un	1788
<i>Goodia medicaginea</i>	Western Golden-tip		r				Un	Un	1518

9. Samaria Landscape Zone

9.1 Samaria Landscape Zone description (cont'd)

Table 33. List of current threatened fauna in the Samaria 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 (CVU)	BNA Unassessed (HNF)	Species No.
<i>Ninox connivens connivens</i>	Barking Owl		EN	L				Un	246
<i>Oxyura australis</i>	Blue-billed Duck		EN	L			Un	Un	216
<i>Coturnix ypsilophora australis</i>	Brown Quail		NT				Un	Un	10
<i>Phascogale tapoatafa tapoatafa</i>	Brush-tailed Phascogale		VU	L		79			1017
<i>Burhinus grallarius</i>	Bush Stone-curlew		EN	L		78	Un	Un	174
<i>Geopelia cuneata</i>	Diamond Dove		NT				Un	Un	31
<i>Stagonopleura guttata</i>	Diamond Firetail		VU				Un	Un	652
<i>Canis lupus dingo</i>	Dingo		DD				Un	Un	1835
<i>Rhinolophus megaphyllus megaphyllus</i>	Eastern Horseshoe Bat		VU	L				Un	1303
<i>Stictonetta naevosa</i>	Freckled Duck		EN	L		105	Un	Un	214
<i>Synemon plana</i>	Golden Sun Moth	CE	End	L		106		Un	5021
<i>Ardea alba</i>	Great Egret		VU	L			Un	Un	187
<i>Pomastostomus temporalis temporalis</i>	Grey-crowned Babbler		EN	L		34	Un	Un	443
<i>Coracina maxima</i>	Ground Cuckoo-shrike		VU	L			Un	Un	423
<i>Litoria raniformis</i>	Growling Grass Frog	Vul	EN				Un	Un	3207
<i>Sterna nilotica macrotarsa</i>	Gull-billed Tern		EN				Un	Un	111
<i>Aythya australis</i>	Hardhead		VU				Un	Un	215
<i>Melanodryas cucullata cucullata</i>	Hooded Robin		NT				Un	Un	385
<i>Varanus varius</i>	Lace Goanna		VU				Un	Un	2283
<i>Rallus pectoralis pectoralis</i>	Lewin's Rail		VU				Un	Un	45
<i>Egretta garzetta nigripes</i>	Little Egret		EN				Un	Un	185
<i>Macquaria australasica</i>	Macquarie Perch	End	EN	L					4096
<i>Galaxias olidus</i>	Mountain Galaxias		DD	L				Un	4036
<i>Maccullochella peelii</i>	Murray Cod		EN	L					4094
<i>Euastacus armatus</i>	Murray Spiny Cray		Ins				Un	Un	5041
<i>Biziura lobata</i>	Musk Duck		VU				Un	Un	217
<i>Nycticorax caledonicus hillii</i>	Nankeen Night Heron		NT				Un	Un	192
<i>Grantiella picta</i>	Painted Honeyeater		VU	L				Un	598
<i>Phalacrocorax varius</i>	Pied Cormorant		NT				Un	Un	99
<i>Ninox strenua</i>	Powerful Owl		VU	L		92			248
<i>Xanthomyza phrygia</i>	Regent Honeyeater	End	CR	L	Y	41	Un	Un	603
<i>Gadopsis marmoratus</i>	River Blackfish		CR						4127
<i>Platalea regia</i>	Royal Spoonbill		VU				Un	Un	181
<i>Pseudomys fumeus</i>	Smoky Mouse	End	EN				Un	Un	1458
<i>Chthonicola sagittata</i>	Speckled Warbler		VU				Un	Un	504
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll	Vul	EN	L		15	Un		1008
<i>Lophoictinia isura</i>	Square-tailed Kite		VU						230
<i>Lathamus discolor</i>	Swift Parrot	End	EN	L	Y	169	Un	Un	309
<i>Maccullochella macquariensis</i>	Trout Cod	End	CR	L	Y	38			4093
<i>Neophema pulchella</i>	Turquoise Parrot		NT	L			Un	Un	302
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle		VU	L		60	Un	Un	226

9. Samaria Landscape Zone

9.2 Samaria Landscape Zone priorities

9.2.1 Summary of priority biodiversity actions for Samaria Landscape Zone:

- Encourage, support and expand voluntary landholder participation in community habitat conservation projects (especially benefiting Regent Honeyeater, Grey-crowned Babbler and Squirrel Glider) in Lurg hills area (Raven 1997).
- Encourage Land for Wildlife extension staff and the Department of Sustainability and Environment Links Officers and Catchment and Agricultural Services officers to focus on private landholders in the Tatong and Bridge Creek areas in an effort to increase connectivity between fragmented state forest blocks.
- Continue to implement the Mount Samaria State Park Management Plan (NRE 1996b) and work towards feral pig eradication. Ensure ongoing protection and management for vulnerable EVCs including Swampy Riparian Woodland and Valley Grassy Forest.
- Confirm status of Spot-tailed Quoll at Mount Samaria State Park.
- Monitor and/or restrict water-based recreation on Lake Nillahcootie and the surrounding buffer to protect water fowl, River Blackfish, Trout Cod and Murray Cod habitats.
- Protect and enhance large areas of native vegetation on private land through incentives, purchase, covenants (Trust for Nature) or land management agreements.
- Encourage land managers to produce and implement management plans focused on protecting and enhancing flora and fauna values as well as mitigating threatening processes at the representative bushland and flora reserves throughout the zone.
- Improve community understanding of management of native biodiversity on private land.

9. Samaria Landscape Zone

9.3 Private Land

Land Tenure Details:

This tenure type includes all private land in the zone, with associated creek lines, and occupies a substantial amount of the total zone area. Extensive areas of private land occur from Lurg to Glenrowan West in the zone's north and Nillahcootie to Tabletop in the south. Opportunities for conservation are abundant on private land surrounding Mount Samaria State Park (A5) and amongst fragmented State Forest blocks between Tatong and Mollyullah and south around Bridgecreek. Large remnants of Heathy Dry Forest and Grassy Dry Forest occur on private land west of Ryans Creek. Another substantial remnant of Heathy Dry Forest lies north of Samaria Bushland Reserve (I64).

Land Manager:

Private landholders.

Stakeholders:

Key Lc, Benalla Rural City, Mansfield Shire, DSE, DPI, CFA.

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: Heathy Dry Forest (lc-CVU, lc-HNF), Grassy Dry Forest (d-CVU, lc-HNF), Valley Grassy Forest (v-CVU), Granitic Hills Woodland (v-CVU), Floodplain Riparian Woodland (e-CVU), Grassy Woodland (e-CVU), Herb-rich Foothill Forest (d-CVU, lc-HNF), Shrubby Dry Forest (lc-CVU, lc-HNF), Box Ironbark Forest (v-CVU), Damp Forest (lc-HNF), Riparian Forest (v-CVU), Valley Heathy Forest (e-CVU), Riverine Escarpment Scrub (e-CVU), Floodplain Riparian Woodland (e-CVU).

Threatened flora: Austral Toad-flax (eIV, unr -CVU), Wallaby Grass *Austrodanthonia induta proscera* (consn. status¹, unr-CVU), Blue-leaf Tussock Grass (r, unr-HNF), Common Starwort (consn. status², unr-CVU), Dookie Daisy (v, 4B-HNF), Glandular Early Nancy (r, unr-HNF), Mugga (r, unr-CVU), Narrow Goodenia (vIV, 3A-CVU), Slender Sword-sedge (k, unr-HNF), Slender Tick-trefoil (k, unr-HNF), Velvet Apple Berry (r, unr-HNF), Western Golden-tip (r, unr-CVU).



Goodia medicaginea (Photo: Jeff Jeanes)

¹ Currently there is no accepted conservation status for this species.

² The oversight of this species appearing on the database as a threatened taxon is being addressed by staff at DSE.

9. Samaria Landscape Zone

9.3 Private Land (cont'd)

Threatened fauna: Dingo (dd, unr-CVU), Spot-tailed Quoll (el, unr-CVU), Squirrel Glider (el, unr-CVU), Australasian Shoveler (v, unr-CVU), Barking Owl (el, unr-CVU), Blue-billed Duck (vl, unr-CVU), Brown Quail (dd, unr-HNF), Bush Stone-curlew (el, unr-CVU), Diamond Dove (v, unr-CVU), Freckled Duck (el, unr-CVU), Great Egret (el, unr-CVU, unr-HNF), Grey-crowned Babbler (el, unr-CVU), Ground Cuckoo-shrike (e, unr-CVU), Gull-billed Tern (en, unr-HNF), Hardhead (v, unr-CVU), Lewin's Rail (en, unr-CVU), Little Egret (cel, unr-CVU), Musk Duck (v, unr-CVU, unr-HNF), Nankeen Night Heron (v, unr-CVU), Painted Honeyeater (vl, unr-CVU), Pied Cormorant (lr-nt, unr-CVU, unr-HNF), Regent Honeyeater (celE, unr-CVU), Royal Spoonbill (v, unr-CVU, unr-HNF), Speckled Warbler (v, unr-CVU, unr-HNF), Swift Parrot (elE, unr-VU), Turquoise Parrot (lr-ntl, unr-CVU), White-bellied Sea Eagle (el, unr-CVU), Tree Goanna (dd, unr-CVU), Warty Bell Frog (v, unr-CVU), Mountain Galaxias north eastern Victoria (ddl, 3B-CVU, unr-HNF), River Blackfish (dd, unr-CVU), Macquarie Perch (elE, unr-CVU), Golden Sun Moth (el, unr-CVU).



Dingo (Photo: DSE/Lumsden)

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 about 2 ha in the zone, and use voluntary programs, incentives or planning controls, as appropriate, to protect biodiversity values.
- Continue to identify and monitor sites in Lurg-Glenrowan West area used by Regent Honeyeater for winter feeding and breeding, and encourage and assist landholders to maintain this habitat.
- 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.
- Highlight the need to protect habitats over 2 ha in extent at or near Grey-crowned Babbler or Squirrel Glider colonies, especially patches adjoining roadsides.
- Urge Benalla Rural City and Mansfield Shire to develop or upgrade local conservation strategies.
- 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.

9. Samaria Landscape Zone

9.3 Private Land (cont'd)

- Adhere strictly to Native Vegetation Retention Controls, focusing particular effort on retaining large trees and woodlots near Grey-crowned Babbler or Squirrel Glider colonies, and on habitat regularly used by the 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.
- Ensure landholders are informed regarding correct usage of 1080 bait to minimise uptake by non-target species when controlling introduced animals (Murray 1998), particularly those landholders adjacent to Mount Samaria National Park.

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, enhanced flow regimes and the removal of water contaminants have been recommended for the Mountain Galaxias north eastern Victoria (1-CVU).
- Intended changes to stocking levels, excluding grazing and weed control have been recommended for the management of Narrow Goodenia (3-CVU).
- Introduced herbivore and kangaroo control, as well as changes to stocking levels and excluding grazing have been recommended for the Dookie Daisy (1-HNF).

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, in Tabletop, Mollyullah and Ryans Creek, as well as landholders between State Forest blocks along Spring Creek near Wrightly.
- 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 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.

9. Samaria Landscape Zone

9.3 Private Land (cont'd)

- 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).

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

- FFG Action Statement – Austral Toad-flax (56).
- FFG Action Statement – Bush Stone-curlew (78).
- FFG Action Statement – Freckled Duck (105).
- FFG Action Statement – Golden Sun Moth (106).
- FFG Action Statement – Grey-crowned Babbler 34).
- FFG Action Statement – Narrow Goodenia (72).
- 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 – Squirrel Glider (166).
- FFG Action Statement – Swift Parrot (169).
- FFG Action Statement – White-bellied Sea-eagle (60).
- Recovery Plan – Regent Honeyeater (Menkhorst *et al.* 1999).
- Recovery Plan – Swift Parrot (SPRT 2000).
- 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).
- Management plan for the Grey-crowned Babbler in Victoria (Robinson and Davison in prep.).
- JAMBA – Great Egret.
- CAMBA – Great Egret, White-bellied Sea-eagle.
- Goulburn Broken Regional Catchment Strategy Draft (Goulburn Broken CMA 2002).
- Goulburn Broken CMA Draft Native Vegetation Plan, Volume 1 and 2 (Goulburn Broken CMA 2000).



Swift Parrot (Photo: Mike Carter)

9. Samaria Landscape Zone

9.3 Private Land (cont'd)

- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).
- 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).

9. Samaria Landscape Zone

9.4 Public Land Water Frontage

Land Tenure Details:

Eight segments of Public Land Water Frontage occur in the zone. Linear stretches of Public Land Water Frontage include those along Holland and Ryans Creeks south of Winton, Holland/Spring Creek at Wrightly and three segments along the Broken River south of Lake Nillahcootie. One isolated Public Land Water Frontage area occurs along Four Mile Creek in Lurg.

Land Manager:

Land Victoria.

Stakeholders:

Key GBCMA, DSE, Private.

Other VEAC, Benalla Rural City, Mansfield Shire, Lc, Weed Action Groups, Rabbit Action Groups, LFW, GAV, CVA, GNP, VFF, VAA.

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: Valley Grassy Forest (v-CVU).

Threatened flora: Dookie Daisy (v, unr-CVU).

Threatened fauna: Mountain Galaxias north eastern Victoria (ddl, 3B-CVU), River Blackfish (dd, 2B-CVU).



River Blackfish (Photo: DSE)

Recommended actions:

Protection of existing remnants:

- Protect and enhance status of Public Land Water Frontage in the zone, giving priority to the tributaries of Seven Mile Creek.
- Identify high value water frontage sites and encourage removal of licensed grazing in order to permit natural regeneration of remnants.
- Enhance awareness of landholders and key stakeholders of the potential biodiversity linkage value of these frontages once restored.

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

- Control introduced predators to benefit Mountain Galaxias (1-CVU).
- Control introduced predators, control weeds in riparian zones and remove water contaminants to benefit River Blackfish (2-CVU).

9. Samaria Landscape Zone

9.4 Public Land Water Frontage (cont'd)

Restoration of strategic vegetation blocks or linkages:

- Initiate weed control, particularly Blackberries and revegetation of degraded creek line frontages, giving priority to sections where increased connectivity will be most strategic and potentially effective.
- 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).
- Goulburn Broken Regional Catchment Strategy Draft (Goulburn Broken CMA 2002).
- Goulburn Broken CMA Draft Native Vegetation Plan, Volume 1 and 2 (Goulburn Broken CMA 2000).
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a)
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Victorian Recreational Fishing Guide 2002-2003 (NRE 2002e).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).

9. Samaria Landscape Zone

9.5 Water Production

Land Tenure Details:

The tenure is represented in the zone by Lake Nillahcootie irrigation storage (D9) on the Broken River, and Lake McCall-Say (D1, 364 ha) and Loombah Weir (D2, 155 ha) Both D1 and D2 are situated on Ryan's Creek encompassed by Tatong State Forest (E1) and supply water to Benalla. Lake Nillahcootie occurs between Tallangalook State Forest (E1) and Mount Samaria Bushland Reserve (I64). D1, D2 and D9 are all important areas for biodiversity within the zone, not only providing linkages between larger remnant blocks, but also containing associated catchment areas (D1 and D2).

Land Manager:

Goulburn-Murray Water, DSE Forests.

Stakeholders:

Key DSE, DPI, GBCMA.

Other VEAC, CVA, CFA, FNC, BG, TSN, 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: Damp Forest (lc-HNF), Floodplain Riparian Woodland (e-CVU), Grassy Dry Forest (d-CVU), Heathy Dry Forest (lc-CVU, lc-HNF), Herb-rich Foothill Forest (d-CVU, lc-HNF), Riverine Escarpment Scrub (e-CVU), Riparian Forest (v-CVU, lc-HNF).

Threatened flora: None recorded.

Threatened fauna: Great Egret (el, unr-CVU), Pied Cormorant (lr-nt, unr-CVU), Royal Spoonbill (v, unr-CVU), White-bellied Sea Eagle (el, unr-CVU), Warty Bell Frog (vV, unr-CVU), Trout Cod (ceIE, 2A-CVU, 1A-HNF), Mountain Galaxias north eastern Victoria (ddl, 3B-CVU), Murray Cod (vl, 1B-CVU), River Blackfish (dd, 2B-CVU).



Royal Spoonbill (Photo: Peter Menkhorst)

Recommended actions:

Protection of existing remnants:

- Ascertain biodiversity values, or potential values, of buffer vegetation in D1, D2 and D3 and ensure that any such values are protected appropriately.
- Maintain management of buffer zones to ensure continued protection of water quality.
- Ensure managers are aware of existing or potential threatened flora and fauna within the D1 and D2 catchment areas.

9. Samaria Landscape Zone

9.5 Water Production (cont'd)

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 and remove water contaminants to benefit Murray Cod (3-CVU) and River Blackfish (2-CVU)
- Supplement Murray Cod (3-CVU), River Blackfish (2-CVU) and Trout Cod (3-CVU, 4-HNF) habitat.
- Enhance flow regimes, relocate and reintroduce Trout Cod to appropriate habitats (3-CVU, 4-HNF).
- Control introduced predators and control weeds in riparian zones to benefit River Blackfish (2-CVU).



Trout Cod (Photo: DSE)

Restoration of strategic vegetation blocks or linkages:

- Encourage collaboration with adjoining landholders to restore connectivity via creek line and other remnants.

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 – Trout Cod (38).
- FFG Action Statement – White-bellied Sea-eagle (60).
- Recovery Plan – Trout Cod (*Maccullochella macquariensis*) (Brown *et al.* 1998).
- JAMBA – Great Egret.
- CAMBA – Great Egret, White-bellied Sea-eagle.
- 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).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Victorian Recreational Fishing Guide 2002-2003 (NRE 2002e).

9. Samaria Landscape Zone

9.6 Hancock Victorian Plantations Pty Ltd

Land Tenure Details:

Six blocks of softwood plantations managed by Hancock Victorian Plantations occur in this zone, mainly to the east of Mount Samaria between Wrightly and Bridge Creek in the Highlands - Northern Fall bioregion. These areas mainly adjoin State Forest, Other Public Land plantations managed by the Department of Sustainability and Environment (Forests), and also private land. The area previously contained Herb-rich Foothill Forest interspersed with Grassy Dry Forest (Ic-HNF) and Shrubby Dry Forest (Ic-HNF).

Land Manager:

HVP.

Stakeholders:

Key DSE Forests, GBCMA, CFA.

Other VEAC, GAV, CVA, TSN, GNP.

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: Herb-rich Foothill Forest (Ic-HNF).

Threatened flora: None recorded.

Threatened fauna: Great Egret (el, unr-CVU), Speckled Warbler (v, unr-CVU), Mountain Galaxias north eastern Victoria (ddl, unr-CVU).



Speckled Warbler (Photo: DSE/McCann)

Recommended actions:

Protection of existing remnants:

- Ensure adequate fire protection and preventative management is in place.
- Encourage Hancock Victorian Plantations staff to record fauna sightings.
- Encourage liaison with the Department of Sustainability and Environment concerning identification and protection of biodiversity.
- 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. Refer to 'Other Policies'.

9. Samaria Landscape Zone

9.6 Hancock Victorian Plantations Pty Ltd (cont'd)

Restoration of strategic vegetation blocks or linkages:

- Ensure filter strips and buffer zones are in place and conserved to protect adjoining remnants from weed infestation, erosion and the spread of plant pathogens.

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).
- JAMBA – Great Egret.
- CAMBA – Great Egret.
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).

9. Samaria Landscape Zone

9.7 State Forest

Land Tenure Details:

This tenure consists of 3,500 ha on the plateau north of Tolmie (LCC 1984). Later a further 3,050 ha of public land adjoining the softwood plantations (refer to Other Public Land and Hancock Victorian Plantations tenure boxes) was designated State Forest (E1).

Land Manager:

DSE Forests.

Stakeholders:

Key GBCMA.

Other VEAC, VNPA, CVA, GNP, FNC, VAA, TSN.

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: Creekline Grassy Woodland (e-CVU), Damp Forest (lc-HNF), Granitic Hills Woodland (v-CVU), Grassy Dry Forest (d-CVU, lc-HNF), Heathy Dry Forest (lc-CVU, lc-HNF), Herb-rich Foothill Forest (d-CVU, lc-HNF), Montane Dry Woodland (lc-HNF), Montane Riparian Thicket (lc-HNF), Riparian Forest (v-CVU, lc-HNF), Riparian Forest/Swampy Riparian Woodland/Riparian Shrubland/Riverine Escarpment Scrub Mosaic (v-CVU, d-HNF), Shrubby Dry Forest (lc-HNF), Swampy Riparian Woodland (v-HNF), Sub-alpine Woodland (lc-HNF).

Threatened flora: Common Starwort (consn. status³, unr-CVU), Dookie Daisy (v, unr-CVU), Large Velvet Wallaby-grass *Austrodanthonia pilosa var paleacea* (consn. status⁴, unr-HNF), Narrow-leaf Star-hair (r, unr-CVU), Slender Sword-sedge (k, unr-CVU), Velvet Apple-berry (r, unr-CVU), Highland Bush-pea (rK, unr-HNF), Tiny Daisy (r, unr-HNF).

Threatened fauna: Brush-tailed Phascogale (vl, 4B-CVU), Eastern Horse-shoe Bat (vl, 2B-HNF), Smoky Mouse (enE, 2A-HNF), Bush Stone-curlew (el, unr-HNF), (el, unr-HNF), Powerful Owl (el, 2A-CVU, 1A-HNF), Speckled Warbler (v, unr-CVU), Turquoise Parrot (lr-ntl, unr-CVU), Trout Cod (celE, 3A-HNF), Mountain Galaxias north eastern Victoria (ddl, 4B-CVU, unr-HNF), River Blackfish (dd, 3B-CVU).



Turquoise Parrot (Photo: Len Robinson)

³ The oversight of this species appearing on the database as a threatened taxon is being addressed by staff at DSE.

⁴ Currently under taxonomic revision, if accepted it will probably be classified at least as threatened.

9. Samaria Landscape Zone

9.7 State Forest (cont'd)

Recommended actions:

Protection of existing remnants:

- Retain hollow-bearing trees and stags for Powerful Owl habitat throughout Ryans, Evans and Stockyard Creeks' Catchments.
- Maintain firebreaks and ensure burning regimes consider requirements for threatened flora such as Dookie Daisy, Narrow-leaf Star-hair, Slender Sword-sedge, Velvet Apple-berry, Highland Bush-pea and Tiny Daisy.
- 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.
- Application of Code of Forestry Practices (Government of Victoria 1996).
- Implement the North East Forest Management Plan for the Benalla-Mansfield Forest Management Area (NRE 2001b).

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

- Fire control/exclusion has been recommended for the Smoky Mouse (3-HNF).
- Predator control, ecological burning and removal of water contaminants have been recommended for the River Blackfish (1-CVU).
- Predator Control has been recommended for the Brush-tailed Phascogale (1-CVU).
- Retain fallen logs and hollow-bearing trees within Priority Management Areas as well as providing management prescriptions for controlled burns and firewood harvesting to benefit the Brush-tailed Phascogale (NRE 2001b).
- Predator control has been recommended for the Mountain Galaxias north eastern Victoria (1-CVU), but no actions listed for within the Highlands - Northern Fall.
- Powerful Owl (4-HNF, 3-CVU) and Eastern Horse-shoe Bat (2-HNF) no actions listed.
- Retain hollow-bearing trees and provided buffers within Special Protection Zones to benefit the Powerful Owl and Eastern Horse-shoe Bat as specified in NRE (2001b).



Brush-tailed Phascogale (Photo: Peter Robertson)

9. Samaria Landscape Zone

9.7 State Forest (cont'd)

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.
- Outline the benefits to flora and fauna in a wider conservation context and concentrate these efforts in areas where State Forest blocks are most fragmented such as in the north between Tatong and Molyulluh, centrally along Spring Creek, and to the south between Toombullup and Bridge Creek.

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

- FFG Action Statement – Brush-tailed Phascogale (79).
- FFG Action Statement – Bush Stone-curlew (78).
- FFG Action Statement – Powerful Owl (92).
- FFG Action Statement – Predation by Cat (80).
- FFG Action Statement – Predation by Red Fox (44).
- FFG Action Statement – Trout Cod (38).
- JAMBA – Great Egret.
- CAMBA – Glossy Ibis, Great Egret.
- Recovery Plan – Trout Cod (*Maccullochella macquariensis*) (Brown *et al.* 1998).
- 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 Marsupials and Monotremes (Maxwell *et al* 1996).
- The Action Plan for Australian Rodents (Lee 1995).
- 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).
- Forest Management Plan – North East (NRE 2001b).



Smoky Mouse (Photo:
DSE/McCann)

9. Samaria Landscape Zone

9.8 Other Public Land

Land Tenure Details:

This tenure includes five large blocks of pine plantation (F1) north of Tolmie interspersed between Hancock Victorian Plantations softwood plantations and State Forest (E1) blocks (refer to relevant tenure summaries). Overall, this area contains at least 4,414 ha (LCC 1984) of softwood plantations, although some of this is managed by Hancock Victorian Plantations. A racecourse and oval (M4) and Gravel Reserve (U3, 2ha) occur at Winton. U3 at Winton is recommended for revegetation and (unspecified) public use. Several other areas have been identified by LCC (1984) as Other Public Land utilised for agriculture (Q1) and Other Public Land U1 and U4 occurring at Lurg and north of Samaria. Toombullup Historic Area (N1, 270ha) occurs amongst pine plantations in the west and State Forest in the east. Two mineral and stone production areas (R5) occur in this zone, one off the Samaria Road south of Karn and one in Mount Samaria State Park. Two areas of Other Public Land, not recognised by LCC (1984) and designated 'Unknown' land manager/tenure occur in this tenure: one adjoining the north east corner of Mount Samaria State Park (A5), and one adjoining the Department of Sustainability and Environment softwood plantations to the south east of A5.

Land Manager:

DSE Forests, PV.

Stakeholders:

Key GBCMA.

Other VEAC, Benalla Rural City, Mansfield Shire, FNC, BG, TSN, VNPA.

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: Box Ironbark Forest (v-CVU), Creekline Grassy Woodland (e-CVU), Damp Forest (lc-HNF), Grassy Dry Forest (d-CVU, lc-HNF), Heathy Dry Forest (lc-CVU, lc-HNF), Herb-rich Foothill Forest (d-CVU, lc-HNF), Montane Riparian Thicket (lc-HNF), Shrubby Dry Forest (lc-HNF), Valley Grassy Forest (v-CVU).

Threatened flora: Highland Bush-pea (rK, unr-HNF).

Threatened fauna: None recorded.

Recommended actions:

Protection of existing remnants:

- Ensure Shire staff are aware of biodiversity values of Other Public Land (e.g. U1 areas) in the zone.

9. Samaria Landscape Zone

9.8 Other Public Land (cont'd)

- Maintain protective buffering in N1 from softwood plantations (F1) on the western boundary.
- Protect any remnant vegetation from extraction works in R5.
- Remove or phase-out grazing in Q1.
- Identify land managers in the two 'Unknown' areas within the tenure to identify and protect biological values.

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:

- Encourage collaboration with landholders adjoining Q1, U1 and U4 to restore connectivity via remnants occurring along creek or drainage lines and roads.
- For those areas of plantation (F1) adjoining private land, encourage land managers and landholders to maintain linkages between buffer areas and private land remnants.

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 Regional Catchment Strategy Draft (Goulburn Broken CMA 2002).
- Goulburn Broken CMA Draft Native Vegetation Plan, Volume 1 and 2 (Goulburn Broken CMA 2000).
- Victoria's Native Vegetation Management. A framework for Action (NRE 2002a).
- 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).

9. Samaria Landscape Zone

9.9 Local Government

Land Tenure Details:

The tenure includes municipal roadsides and township land throughout the zone. The predominant Shires in this zone are Benalla Rural City and Mansfield Shire. Many linkages remain between roadsides and remnants on small and large public land blocks. No distinct areas of Local Government land were identified, however the tenure was included due to the conservation value of roadsides in the area. Remnant patches of Valley Heathy Forest (e-CVU) and Valley Grassy Forest (v-CVU) occur along the Samaria Road between Karn and Samaria.

Land Manager:

Benalla Rural City and Mansfield Shire.

Stakeholders:

Key DSE, DPI, GBCMA, Private, CFA, RCC.

Other 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: Valley Heathy Forest (e-CVU), Grassy Dry Forest (d-CVU), Heathy Dry Forest (lc-CVU), Valley Grassy Forest (v-CVU): Samaria Road; Grassy Dry Forest (d-CVU), Heathy Dry Forest (lc-CVU): Swanpool Road; Box Ironbark Forest (v-CVU) along several roads between Lurg and Glenrowan West; Herb-rich Foothill Forest (d-CVU).

Threatened flora: None recorded.

Threatened fauna: None recorded.

Recommended actions:

Protection of existing remnants:

- Assist Shires to develop, or update existing, roadside conservation plans and encourage integration with voluntary efforts on adjacent freehold. Promote voluntary programs (e.g. Land For Wildlife) and planning overlays, as tools to assist Shires in protecting and managing roadsides.
- Identify in Shire roadside conservation plans known and likely sites of Grey-crowned Babbler, Squirrel Glider, Brush-tailed Phascogale and threatened flora and map roads of high conservation significance.
- 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.

9. Samaria Landscape Zone

9.9 Local Government (cont'd)

- 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.
- Generally exclude grazing on or near roadsides having native vegetation elements of conservation significance, even if the community is fragmented and degraded.
- 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 Benalla Rural City, Mansfield Shire and the Department of Sustainability and Environment of a Public Authority Management Agreement to protect and maintain roadsides having significant conservation values (Davidson 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, refer to 'Other Policies' 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) to develop and continue implementing local revegetation strategies targeting key roadside habitats, and extend existing roadside/creek line habitat linkages known or likely to support threatened taxa.
- In expanding linear habitat networks, utilize nodes on creek-crossings, intersections with other road reserves or patches on adjacent freehold.
- Also liaise with landholders to fence across paddock corners at key intersections of roadside tree lines, to maximize habitat availability for fauna and reduce Squirrel Glider mortality (van der Ree 1999).
- Encourage Shires, in conjunction with community groups, to apply for Land For Wildlife status where suitable (e.g. cemeteries and some roadsides).

9. Samaria Landscape Zone

9.9 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).
- Roadside Assessment Handbook (Roadsides Conservation Advisory Committee 2000a).
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Roadside marking of Special Environmental Areas (Roadsides Conservation Advisory Committee 2000b).
- Roadside Handbook (VicRoads 1992).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).

9. Samaria Landscape Zone

9.10 Parks and Reserves

Land Tenure Details:

The zone contains three Bushland Reserves including the Samaria Bushland Reserve (I64, 7 ha), Moorngag Bushland Reserve (I66, 75 ha) and I65 (9 ha) west of I66. Mount Samaria State Park (A5) is the largest area within this tenure (7,600 ha) and includes a Reference Area (B3, Blue Range Reference Area) and boundaries of another State Park area. A diversity of vegetation types occur here, including large areas of old growth forests as well as low open forests of Red Stringybark and Long-leaf Box with grassy understorey to tall open forests of Candlebark with shrubby understorey (LCC 1984). An area of Yellow Box Grassy Woodland (d-HNF, e-CVU), otherwise not well represented on public land, also occurs at Mount Samaria. An unconfirmed record of Spot-tailed Quoll has been recently collected from Mount Samaria (S. Smith, pers.comm.). Hat Hill Flora and Fauna Reserve (H2, 760 ha) occurs to the south-east of A5 and provides important reptile habitat throughout the range of altitudes and rocky outcrops (LCC 1984).

Land Manager:

PV.

Stakeholders:

Key DSE, DPI, GBCMA.

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

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-HNF): A5, unnamed Reference Area; Grassy Dry Forest (d-CVU, lc-HNF): I66, H2, unnamed Reference Area; Heathy Dry Forest (lc-CVU, lc-HNF): I66, A5; Herb-rich Foothill Forest (d-CVU, lc-HNF): A5, H2, unnamed Reference Area; Rocky Outcrop Shrubland/Herbland Mosaic (lc-CVU, r-HNF): A5; Shrubby Dry Forest (lc-HNF): A5, unnamed Reference Area Swampy Riparian Woodland (v-CVU): A5; Valley Grassy Forest (v-CVU): I65, A5. Grassy Woodland (d-HNF, e-CVU): A5 (S. Smith pers. comm.).

Threatened flora: Blue-leaf Tussock-grass (r, unr-CVU, unr-HNF), Broom Scale-rush (r, unr-HNF), Cliff Cudweed (r, unr-HNF), Dark Wire-grass (r, unr-CVU), Dookie Daisy (v, 3B-HNF, unr-CVU), Highland Bush-pea (rK, unr-HNF), Large velvet Wallaby-grass *Austrodanthonia pilosa* var *paleacea* (consn. status⁵, unr-HNF), Narrow-leaf Star-hair (r, unr-HNF), Rough Twig-sedge (k, unr-HNF), Stalked Guinea-flower (r, unr-HNF), Strawberry Buttercup (r, unr-HNF), Slender Sword-sedge (k, unr-CVU), Velvet Apple Berry (r, unr-CVU).



Hibbertia pedunculata
(Photo: John Eichler)

⁵ Currently under taxonomic revision, if accepted it will probably be classified at least as 'Threatened' (D. Cameron, pers. comm.).

9. Samaria Landscape Zone

9.10 Parks and Reserves (cont'd)

Threatened fauna: Brown Quail (dd, unr-HNF), Great Egret (el, unr-HNF), Gull-billed Tern (en, unr-HNF), Musk Duck (v, unr-HNF), Pied Cormorant (lr-nt, unr-HNF), Powerful Owl (el, 4A-CVU, 1A-HNF), Royal Spoonbill (v, unr-HNF), Square-tailed Kite (el, unr-CVU), Mountain Galaxias north eastern Victoria (ddl, 4B-CVU), Murray Spiny Cray (dd, unr-CVU).



Gull-billed Tern (Photo: Mike Carter)

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.
- As far as possible, determine measures appropriate to protect known and likely habitat of threatened flora taxa recorded from the tenure, and incorporate this information into the reserve management planning process.
- Closely monitor apiculture activities within the tenure and control feral bee infestations where necessary.
- Remove or phase out domestic grazing from all reserves in the tenure.
- Continue appropriate active management for introduced plant and animal species in all parks and reserves, particularly foxes, wild dogs and pigs at Mount Samaria.
- Produce and implement a Sambar Deer monitoring program at Mount Samaria.
- Monitor trout-free (Brown and Rainbow Trout) waterways for health of native fish populations and maintain existing barriers (natural and artificial) in upper catchments to ensure that upstream remains trout free.



Sambar Deer (Photo: Greg Young)

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

- Powerful Owl (2-CVU, 2-HNF) no listed actions.
- Retain hollow-bearing and dead trees to benefit Powerful Owl and provide habitat for main food source of arboreal mammals (NRE 2001b).
- Control introduced predators and exclude grazing from riparian zones to benefit the Mountain Galaxias (1-CVU)
- Exclude grazing, control introduced herbivores and kangaroo populations and change stocking levels to benefit the Dookie Daisy (1-HNF).

9. Samaria Landscape Zone

9.10 Parks and Reserves (cont'd)

- **SPECIAL NOTE:** The listed and recommended BNA management action for the Mountain Galaxias, Barred Galaxias and River Blackfish often includes “*enhance flow regimes and remove in-stream barriers*” as a high priority. The Upper Goulburn study area is an example where it is necessary to introduce a qualifier regarding such management recommendations. Enhancing flow regimes and removing instream barriers in the upper catchments of river systems would be detrimental to conservation efforts for these species. Removal of barriers in upper catchments may allow downstream predatory species to migrate into the upper reaches of the system. So in this particular study area, and for all zones, “*enhance flow regimes and remove instream barriers*” is not a recognised management action for the Mountain Galaxias, Barred Galaxias or River Blackfish.

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. For more isolated patches, investigate options for buffer establishment on adjacent land.

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 – Powerful Owl (92).
- JAMBA – Great Egret.
- CAMBA – Great Egret.
- The Action Plan for Australian Birds 2000 (Garnett and Crowley 2000).
- Goulburn Broken Regional Catchment Strategy Draft (Goulburn Broken CMA 2002).
- Goulburn Broken CMA Draft Native Vegetation Plan, Volume 1 and 2 (Goulburn Broken CMA 2000).
- Victoria’s Native Vegetation Management. A framework for Action (NRE 2002a)
- Revegetation Guide for the Goulburn Broken Catchment (Earl *et al.* 2001).
- Mount Samaria State Park Management Plan (NRE 1996b).
- Victorian Recreational Fishing Guide 2002-2003 (NRE 2002e).
- Local Government and Landcare Action Plan for Nature Conservation in the Goulburn-Broken Catchment (Raven 1997).