Appendix 7: Examples of vegetation quality assessment life forms
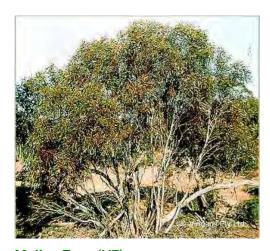
Trees

Canopy Tree

Canopy species that reaches ≥ 80% of EVC benchmark tree height – see EVC benchmark description.

Understorey Tree or Large Shrub (T)

Single-stemmed woody plant > 5 m tall that does not form part of tree canopy.

Mallee Tree (MT)

Multi-stemmed woody plant > 3 m tall. Can be a canopy tree or an understorey life form that does not form part of tree canopy.

Appendix 7: Examples of vegetation quality assessment life forms

Shrubs

Medium Shrub (MS)

Woody plant between 1 m and 5 m tall.

Small Shrub (SS)

Woody plant between 0.2 m and 1 m tall.

Prostrate Shrub (PS)

Prostrate or trailing woody plant ≤ 20 cm tall.

Appendix 7: Examples of vegetation quality assessment life forms

Herbs

Large Herb (LH)

Non-woody, non-grass like plant
> 50 cm tall.

Medium Herb (MH)

Non-woody, non-grass like plant
between 5 cm and 50 cm tall.

Small or Prostrate Herb (SH)

Non-woody, non-grass like plant
≤ 5 cm tall.

Appendix 7: Examples of vegetation quality assessment life forms

Graminoids

Large Tufted Graminoid (LTG)

'Tussock' grass or grass-like plant
> 1 m tall.

Medium to Small Tufted Graminoid (MTG)

'Tussock' grass or grass-like plant
between 10 cm and 1 m tall.

Tiny Tufted Graminoid (TTG)

'Tussock' grass or grass-like plant
≤ 10 cm tall.

Large Non-tufted Graminoid (LNG)

'Non-tussock' grass or grass-like plant
> 1 m tall.

Medium to Tiny Non-tufted Graminoid (MNG)

'Non-tussock' grass or grass-like plant,
≤ 1 m tall.

Appendix 7: Examples of vegetation quality assessment life forms

Other life forms

Tree Fern or Palm (TF)

Trunked ferns and palms.

Hummock Grass (HG)

Arid zone tussock grass that forms a 'ring' over time.

Ground Fern (GF)

Tufted and rhizomatous (non-trunked) ferns.

Appendix 7: Examples of vegetation quality assessment life forms

Other life forms

Epiphyte (EP)

Plant growing entirely upon another plant (roots not in the ground or water).

Scrambler or Climber (SC)

Woody or non-woody plants with climbing or scrambling habit.

Mosses, Lichens & Liverworts (BL)

Non-vascular plants with observable vertical height.

Soil Crust (S/C)

Non-vascular plants forming a hard crust on soil surface (no observable vertical height).

Herbs

Appendix 8: Vegetation Quality Field Assessment Sheet

Vegetation Quality Field Assessment Sheet
Version 1.3 - October 2004

Department of Sustainability and Environment

Site Name/No. .... Location .... Date ....

Assessor(s) .... Map Name/No. .... AMG ....

Tenure .... EVC .... Bioregion ....

------------------------------------ **'Site Condition Score'** ------------------------------------

Large Trees   *Score* [ ]

Category & Description	% Canopy Health*		
	> 70%	30-70%	< 30%
None present	0	0	0
> 0 to 20% of the benchmark number of large trees/ha	3	2	1
> 20% to 40% of the benchmark number of large trees/ha	4	3	2
> 40% to 70% of the benchmark number of large trees/ha	6	5	4
> 70% to 100% of the benchmark number of large trees/ha	8	7	6
≥ the benchmark number of large trees/ha	10	9	8

Large trees are defined by diameter at breast height (dbh)
- see EVC benchmark.

* Estimate proportion of an expected healthy canopy cover that is present
(i.e. not missing due to tree death or decline, or mistletoe infestation).

Tree Canopy Cover   *Score* [ ]

Category & Description	% Canopy Health *		
	> 70%	30-70%	< 30%
< 10% of benchmark cover	0	0	0
< 50% or > 150% of benchmark cover	3	2	1
≥ 50% or ≤ 150% of benchmark cover	5	4	3

Tree canopy is defined as those canopy tree species reaching ≥ 80% of mature
height - see EVC benchmark description.

* Estimate proportion of an expected healthy canopy cover that is present
(i.e. not missing due to tree death or decline, or mistletoe infestation).

Lack of Weeds   *Score* [ ]

Category & Description	'high threat' weeds*		
	None	≤ 50%	> 50%
> 50% cover of weeds	4	2	0
25 - 50% cover of weeds	7	6	4
5 - 25% cover of weeds	11	9	7
< 5% cover of weeds**	15	13	11

* proportion of weed cover due to 'high threat' weeds - see EVC benchmark for guide.

'High threat' weed species are defined as those introduced species (including
non-indigenous 'natives') with the ability to out-compete and substantially
reduce one or more indigenous life forms in the longer term assuming on-going
current site characteristics and disturbance regime.

The EVC benchmark lists typical weed species for the EVC in the bioregion and
provides an estimate of their 'invasiveness' and 'impact'. In general, those weed
species considered to have a *high impact* are considered *high threat* regardless
of their invasiveness.

** if total weed cover is negligible (<1%) and high threat weed species are
present then score '13'.

Understorey Life forms

LF Code from EVC benchmark	# spp observed / Benchmark spp.	% cover observed / Benchmark % cover	Present (✓)	Modified (✓)
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		
	/	/		

Present — For life forms with benchmark cover of < 10%, considered 'present' if
- any specimens are observed.
For life forms with benchmark cover of ≥ 10%, considered 'present' if
- the life form occupies at least 10% of benchmark cover.

Modified (apply only where life form is 'present') — For life forms with benchmark cover of <10%, then considered substantially 'modified' if the life form has either:
- < 50% of the benchmark species diversity; or
- no reproductively-mature specimens are observed.
For life forms with benchmark cover of ≥ 10%, then considered substantially 'modified' if the life form has either:
- < 50% of benchmark cover; or
- < 50% of benchmark species diversity; or
- ≥ 50% of benchmark cover due largely to immature canopy specimens but the cover of reproductively-mature specimens is < 10% of the benchmark cover.

Understorey   *Score* [ ]

Category & Description		Score
All strata and lifeforms effectively absent		0
Up to 50% of life forms present		5
≥ 50% to 90% of lifeforms present	• of those present, ≥ 50% substantially modified	10
	• of those present, < 50% substantially modified	15
≥ 90% of lifeforms present	• of those present, ≥ 50% substantially modified	15
	• of those present, < 50% substantially modified	20
	• of those present, none substantially modified	25

Victoria The Place To Be

Vegetation Quality Field Assessment Sheet
Version 1.3 - October 2004

Recruitment   *Score*

Category & Description			High diversity*#	Low diversity*#
No evidence of a recruitment 'cohort'+	within EVC not driven by episodic events		0	0
	within EVC driven by episodic events^	clear evidence of appropriate episodic event	0	0
		no clear evidence of appropriate episodic event	5	5
Evidence of at least one recruitment 'cohort' in at least one life-form	proportion of native woody species present that have adequate recruitment*	< 30%	3	1
		30 – 70%	6	3
		≥ 70%	10	5

+ 'cohort' refers to a group of woody plants established in a single episode (can include suppressed canopy species individuals).
^ refer to EVC benchmark for clarification.
* treat multiple eucalypt canopy species as one species.
* high diversity defined as ≥ 50% of benchmark woody species diversity.

Species Recruitment

Woody species recorded in habitat zone	Adequate Recruitment (✓)
Eucalypt canopy (combined species)	
number of woody spp. in EVC benchmark (SS and taller)	

Organic Litter   *Score*

Category & Description	Dominated by native organic litter	Dominated by non-native organic litter
< 10% of benchmark cover	0	0
< 50% or > 150% of benchmark cover	3	2
≥ 50% or ≤ 150% of benchmark cover	5	4

Logs   *Score*

Category & Description	Large logs present*	Large logs absent#
< 10% of benchmark length	0	0
< 50% of benchmark length	3	2
≥ 50% of benchmark length	5	4

Large logs defined as those with diameter ≥ 0.5 of benchmark large tree dbh.
* present if large log length is ≥ 25% of EVC benchmark log length.
# absent if large log length is < 25% of EVC benchmark log length.

--------------------------------------- **'Landscape Context Score'** ---------------------------------------

Patch Size   *Score*

Category & Description	
< 2 ha	1
Between 2 and 5 ha	2
Between 5 and 10 ha	4
Between 10 and 20 ha	6
≥ 20 ha, but 'significantly disturbed'*	8
≥ 20 ha, but not 'significantly disturbed'*	10

* 'significantly disturbed' defined as per RFA 'Old Growth' analyses eg. roading, coupes, grazing etc. – effectively most patches within fragmented landscapes.

Distance to Core Area   *Score*

Distance	Core Area not significantly disturbed*	Core Area significantly disturbed*
> 5 km	0	0
1 to 5 km	2	1
< 1 km	4	3
contiguous	5	4

* defined as per RFA 'Old Growth' analyses.

Neighbourhood   *Score*

Radius from site	% Native* vegetation	Weighting	
100 m		0.03	
1 km		0.04	
5 km		0.03	
		subtract 2 if the neighbourhood is 'significantly disturbed'	
		Add Values and 'round-off'	

* to nearest 20%.
Multiply % native vegetation x Weighting for each radius from the zone (eg. 40% x 0.03 = 1.2); then add values to obtain final Neighbourhood Value.

Final Habitat Score

Component	'Site Condition Score'							'Landscape Context Score'		Total
	Large Trees	Tree Canopy Cover	Lack of Weeds	Understorey	Recruitment	Organic Litter	Logs	Patch Size	Neighbourhood	Distance to Core Area	100
Score											

www.dse.vic.gov.au

66

Appendix 9: Worked example of a Vegetation Quality Field Assessment Sheet

Vegetation Quality Field Assessment Sheet
Version 1.3 - October 2004

Department of Sustainability and Environment

Site Name/No. SMITH'S BUSH (GIP001) Location SOMEWHERE Date 30/6/04

Assessor(s) A PERSON Map Name/No. WARRAGUL 8021 AMG / MGA 39000 576000

Tenure PRIVATE EVC LOWLAND FOREST Bioregion GIPPSLAND PLAIN

------------------------------------ **'Site Condition Score'** ------------------------------------

Large Trees   Score: 6

Category & Description	% Canopy Health*		
	> 70%	30-70%	< 30%
None present	0	0	0
> 0 to 20% of the benchmark number of large trees/ha	3	2	1
> 20% to 40% of the benchmark number of large trees/ha	4	3	2
> 40% to 70% of the benchmark number of large trees/ha	(6)	5	4
> 70% to 100% of the benchmark number of large trees/ha	8	7	6
≥ the benchmark number of large trees/ha	10	9	8

Large trees are defined by diameter at breast height (dbh)
- see EVC benchmark.
* Estimate proportion of an expected healthy canopy cover that is present (i.e. not missing due to tree death or decline, or mistletoe infestation).

Tree Canopy Cover   Score: 4

Category & Description	% Canopy Health *		
	> 70%	30-70%	< 30%
< 10% of benchmark cover	0	0	0
< 50% or > 150% of benchmark cover	3	2	1
≥ 50% or ≤ 150% of benchmark cover	5	(4)	3

Tree canopy is defined as those canopy tree species reaching ≥ 80% of mature height - see EVC benchmark description.
* Estimate proportion of an expected healthy canopy cover that is present (i.e. not missing due to tree death or decline, or mistletoe infestation).

Lack of Weeds   Score: 7

Category & Description	'high threat' weeds*		
	None	≤ 50%	> 50%
> 50% cover of weeds	4	2	0
25 - 50% cover of weeds	7	6	4
5 - 25% cover of weeds	11	9	(7)
< 5% cover of weeds**	15	13	11

* proportion of weed cover due to 'high threat' weeds - see EVC benchmark for guide.

'High threat' weed species are defined as those introduced species (including non-indigenous 'natives') with the ability to out-compete and substantially reduce one or more indigenous life forms in the longer term assuming on-going current site characteristics and disturbance regime.

The EVC benchmark lists typical weed species for the EVC in the bioregion and provides an estimate of their 'invasiveness' and 'impact'. In general, those weed species considered to have a *high impact* are considered *high threat* regardless of their invasiveness.

** if total weed cover is negligible (<1%) and high threat weed species are present then score '13'.

Understorey Life forms

LF Code from EVC benchmark	# spp observed / Benchmark spp.	% cover observed / Benchmark % cover	Present (✓)	Modified (✓)
IT	2 / 2	/ 5	✓	
T	1 / 2	<5 / 10	✓	✓
MS	7 / 7	30 / 30	✓	
SS	3 / 5	10 / 10	✓	
PS	− / 2	/ 5	✗	
LH	1 / 1	/ 1	✓	
MH	4 / 7	<5 / 10	✓	✓
SH	0 / 7	− / 5	✗	
LTG	1 / 2	− / 15	✗	
LNG	1 / 1	5 / 5	✓	
MTG	2 / 7	<5 / 15	✓	✓
MNG	2 / 1	5 / 1	✓	
GF	1 / 2	10 / 15	✓	
SC	2 / 3	/ 1	✓	
BL	/ na	10 / 10	✓	
	/	/	12/15	3/12

Present
For life forms with benchmark cover of < 10%, considered 'present' if
• any specimens are observed.
For life forms with benchmark cover of ≥ 10%, considered 'present' if
• the life form occupies at least 10% of benchmark cover.

Modified
(apply only where life form is 'present')
For life forms with benchmark cover of <10%, then considered substantially 'modified' if the life form has either:
• < 50% of the benchmark species diversity; or
• no reproductively-mature specimens are observed.
For life forms with benchmark cover of ≥ 10%, then considered substantially 'modified' if the life form has either:
• < 50% of benchmark cover; or
• < 50% of benchmark species diversity; or
• ≥ 50% of benchmark cover due largely to immature canopy specimens but the cover of reproductively-mature specimens is < 10% of the benchmark cover.

Understorey   Score: 15

Category & Description		
All strata and Life forms effectively absent		0
Up to 50% of life forms present		5
≥ 50% to 90% of Life forms present	• of those present, ≥ 50% substantially modified	10
	• of those present, < 50% substantially modified	(15)
≥ 90% of Life forms present	• of those present, ≥ 50% substantially modified	15
	• of those present, < 50% substantially modified	20
	• of those present, none substantially modified	25

Victoria The Place To Be

67

Vegetation Quality Field Assessment Sheet
Version 1.3 - October 2004

Recruitment — *Score* [6]

Category & Description			High diversity*◇	Low diversity*◇
No evidence of a recruitment 'cohort'+	within EVC not driven by episodic events		0	0
	within EVC driven by episodic events^	clear evidence of appropriate episodic event	0	0
		no clear evidence of appropriate episodic event	5	5
Evidence of at least one recruitment 'cohort' in at least one life-form	proportion of native woody species present that have adequate recruitment◇	< 30%	3	1
		30 - 70%	(6)	3
		≥ 70%	10	5

+ 'cohort' refers to a group of woody plants established in a single episode (can include suppressed canopy species individuals).
^ refer to EVC benchmark for clarification.
◇ treat multiple eucalypt canopy species as one species.
* high diversity defined as ≥ 50% of benchmark woody species diversity.

Species Recruitment

Woody species recorded in habitat zone	Adequate Recruitment (✓)
Eucalypt canopy (combined species)	✓
WATTLE — SPIKEY	✓
TREE EVERLASTING	
PEA NO. 1	✓
PEA NO. 2	
LEPTOSPERMUM	✓
DOGWOOD	
WATTLE — FLAT PHYLLODES	✓
BLACKWOOD	
BANKSIA SPINULOSA	
	5/10
number of woody spp. in EVC benchmark (SS and taller)	15

Logs — *Score* [2]

Category & Description	Large logs present*	Large logs absent#
< 10% of benchmark length	0	0
< 50% of benchmark length	3	(2)
≥ 50% of benchmark length	5	4

Large logs defined as those with diameter ≥ 0.5 of benchmark large tree dbh.
* present if large log length is ≥ 25% of EVC benchmark log length.
# absent if large log length is < 25% of EVC benchmark log length.

Organic Litter — *Score* [5]

Category & Description	Dominated by native organic litter	Dominated by non-native organic litter
< 10% of benchmark cover	0	0
< 50% or > 150% of benchmark cover	3	2
≥ 50% or ≤ 150% of benchmark cover	(5)	4

'Landscape Context Score'

Patch Size — *Score* [4]

Category & Description	
< 2 ha	1
Between 2 and 5 ha	2
Between 5 and 10 ha	(4)
Between 10 and 20 ha	6
≥ 20 ha, but 'significantly disturbed'*	8
≥ 20 ha, but not 'significantly disturbed'*	10

* 'significantly disturbed' defined as per RFA 'Old Growth' analyses eg. roading, coupes, grazing etc. – effectively most patches within fragmented landscapes.

Distance to Core Area — *Score* [1]

Distance	Core Area not significantly disturbed*	Core Area significantly disturbed*
> 5 km	0	0
1 to 5 km	2	(1)
< 1 km	4	3
contiguous	5	4

* defined as per RFA 'Old Growth' analyses.

Neighbourhood — *Score* [ ]

Radius from site	% Native vegetation*	Weighting	
100 m	100	0.03	3
1 km	40	0.04	1·6
5 km	20	0.03	0·6
subtract 2 if the neighbourhood is 'significantly disturbed'			-2
Add Values and 'round-off'			3

* to nearest 20%.
Multiply % native vegetation x Weighting for each radius from the zone (eg. 40% x 0.03 = 1.2); then add values to obtain final Neighbourhood Value.

Final Habitat Score

Component	'Site Condition Score'							'Landscape Context Score'			Total
	Large Trees	Tree Canopy Cover	Lack of Weeds	Understorey	Recruitment	Organic Litter	Logs	Patch Size	Neighbourhood	Distance to Core Area	100
Score	6	4	7	15	6	5	2	4	3	1	53

www.dse.vic.gov.au