Biodiversity impact and offset requirements report

This report **does not represent an assessment by DELWP** of the proposed native vegetation removal. It provides additional biodiversity information to support moderate and high risk-based pathway applications for permits to remove native vegetation under clause 52.16 or 52.17 of planning schemes in Victoria.

Date of issue: **04/11/2016** **DELWP ref: EHP_0544**
Time of issue: **9:08 am**

Project ID	EHP8512_Paynesville

Summary of marked native vegetation

Risk-based pathway	**Moderate**
Total extent	4.498 ha
Remnant patches	2.035 ha
Scattered trees	35 trees
Location risk	A

Strategic biodiversity score of all marked native vegetation	0.162

Offset requirements if a permit is granted

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

Offset type	**General offset**
General offset amount (general biodiversity equivalence units)	0.257 general units
General offset attributes	
Vicinity	East Gippsland Catchment Management Authority (CMA) **or** East Gippsland Shire Council
Minimum strategic biodiversity score	0.130[1]

See Appendices 1 and 2 for details in how offset requirements were determined.

NB: values presented in tables throughout this document may not add to totals due to rounding

[1] Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

Next steps

Any proposal to remove native vegetation must meet the application requirements of the moderate risk-based pathway and it will be assessed under the moderate risk-based pathway.

If you wish to remove the marked native vegetation you are required to apply for a permit from your local council. Council will then refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

The biodiversity assessment report from NVIM and this biodiversity impact and offset report should be submitted with your application for a permit to remove native vegetation you plan to remove, lop or destroy.

The Biodiversity assessment report generated by the tool within NVIM provides the following information:

- The location of the site where native vegetation is to be removed.
- The area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation – Biodiversity assessment guidelines*
- The risk-based pathway of the application for a permit to remove native vegetation

This report provides the following information to meet application requirements for a permit to remove native vegetation:

- Confirmation of the risk-based pathway of the application for a permit to remove native vegetation
- The strategic biodiversity score of the native vegetation to be removed
- Information to inform the assessment of whether the proposed removal of native vegetation will have a significant impact on Victoria's biodiversity, with specific regard to the proportional impact on habitat for any rare or threatened species.
- The offset requirements should a permit be granted to remove native vegetation.

Additional application requirements must be provided with an application for a permit to remove native vegetation in the moderate or high risk-based pathways. These include:

- A habitat hectare assessment report of the native vegetation that is to be removed
- A statement outlining what steps have been taken to ensure that impacts on biodiversity from the removal of native vegetation have been minimised
- An offset strategy that details how a compliant offset will be secured to offset the biodiversity impacts of the removal of native vegetation.

Refer to the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* and for a full list and details of application requirements.

Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

Appendix 1 – Biodiversity impact of removal of native vegetation

Habitat hectares

Habitat hectares are calculated for each habitat zone within your proposal using the extent and condition scores in the GIS data you provided.

Habitat zone	Site assessed condition score	Extent (ha)	Habitat hectares
1-1-PA	0.270	0.778	0.210
2-2-PW	0.240	0.274	0.066
3-3-PC	0.340	0.428	0.146
4-4-PB	0.120	0.067	0.008
5-5-AH	0.390	0.014	0.006
6-6-PD	0.170	0.058	0.010
7-7-DS	0.310	0.003	0.001
8-8-PE	0.310	0.206	0.064
9-9-PA	0.270	0.206	0.056
10-2-TR	0.200	0.070	0.014
11-3-TR	0.200	0.070	0.014
12-15-TR	0.200	0.070	0.014
13-16-TR	0.200	0.070	0.014
14-20-TR	0.200	0.070	0.014
15-23-TR	0.200	0.070	0.014
16-24-TR	0.200	0.070	0.014
17-25-TR	0.200	0.070	0.014
18-26-TR	0.200	0.070	0.014
19-27-TR	0.200	0.070	0.014
20-28-TR	0.200	0.070	0.014
21-29-TR	0.200	0.070	0.014
22-30-TR	0.200	0.070	0.014
23-31-TR	0.200	0.070	0.014
24-32-TR	0.200	0.070	0.014
25-33-TR	0.200	0.070	0.014
26-38-TR	0.200	0.070	0.014
27-39-TR	0.200	0.070	0.014
28-40-TR	0.200	0.070	0.014
29-41-TR	0.200	0.070	0.014

Habitat zone	Site assessed condition score	Extent (ha)	Habitat hectares
30-42-TR	0.200	0.070	0.014
31-43-TR	0.200	0.070	0.014
32-44-TR	0.200	0.070	0.014
33-45-TR	0.200	0.070	0.014
34-46-TR	0.200	0.070	0.014
35-47-TR	0.200	0.070	0.014
36-48-TR	0.200	0.070	0.014
37-49-TR	0.200	0.070	0.014
38-50-TR	0.200	0.070	0.014
39-51-TR	0.200	0.070	0.014
40-52-TR	0.200	0.070	0.014
41-53-TR	0.200	0.070	0.014
42-54-TR	0.200	0.070	0.014
43-55-TR	0.200	0.070	0.014
44-56-TR	0.200	0.070	0.014
TOTAL			**1.058**

Impacts on rare or threatened species habitat above specific offset threshold

The specific-general offset test was applied to your proposal. The test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the specific offset threshold. The threshold is set at 0.005 per cent of the total habitat for a species. When the proportional impact is above the specific offset threshold a specific offset for that species' habitat is required.

The specific-general offset test found your proposal does not have a proportional impact on any rare or threatened species' habitats above the specific offset threshold. No specific offsets are required. A general offset is required as set out below.

Clearing site biodiversity equivalence score(s)

The general biodiversity equivalence score for the habitat zone(s) is calculated by multiplying the habitat hectares by the strategic biodiversity score.

Habitat zone	Habitat hectares	Proportion of habitat zone with general offset	Strategic biodiversity score	General biodiversity equivalence score (GBES)
1-1-PA	0.210	100.000 %	0.150	0.031
2-2-PW	0.066	100.000 %	0.161	0.011
3-3-PC	0.146	100.000 %	0.162	0.024
4-4-PB	0.008	100.000 %	0.158	0.001
5-5-AH	0.006	100.000 %	0.171	0.001
6-6-PD	0.010	100.000 %	0.145	0.001
7-7-DS	0.001	100.000 %	0.145	0.000

Habitat zone	Habitat hectares	Proportion of habitat zone with general offset	Strategic biodiversity score	General biodiversity equivalence score (GBES)
8-8-PE	0.064	100.000 %	0.162	0.010
9-9-PA	0.056	100.000 %	0.167	0.009
10-2-TR	0.014	100.000 %	0.178	0.003
11-3-TR	0.014	100.000 %	0.167	0.002
12-15-TR	0.014	100.000 %	0.187	0.003
13-16-TR	0.014	100.000 %	0.187	0.003
14-20-TR	0.014	100.000 %	0.124	0.002
15-23-TR	0.014	100.000 %	0.143	0.002
16-24-TR	0.014	100.000 %	0.100	0.001
17-25-TR	0.014	100.000 %	0.171	0.002
18-26-TR	0.014	100.000 %	0.182	0.003
19-27-TR	0.014	100.000 %	0.173	0.002
20-28-TR	0.014	100.000 %	0.166	0.002
21-29-TR	0.014	100.000 %	0.165	0.002
22-30-TR	0.014	100.000 %	0.172	0.002
23-31-TR	0.014	100.000 %	0.170	0.002
24-32-TR	0.014	100.000 %	0.177	0.002
25-33-TR	0.014	100.000 %	0.177	0.002
26-38-TR	0.014	100.000 %	0.186	0.003
27-39-TR	0.014	100.000 %	0.186	0.003
28-40-TR	0.014	100.000 %	0.178	0.003
29-41-TR	0.014	100.000 %	0.176	0.002
30-42-TR	0.014	100.000 %	0.173	0.002
31-43-TR	0.014	100.000 %	0.195	0.003
32-44-TR	0.014	100.000 %	0.190	0.003
33-45-TR	0.014	100.000 %	0.203	0.003
34-46-TR	0.014	100.000 %	0.176	0.002
35-47-TR	0.014	100.000 %	0.164	0.002
36-48-TR	0.014	100.000 %	0.161	0.002
37-49-TR	0.014	100.000 %	0.161	0.002
38-50-TR	0.014	100.000 %	0.154	0.002
39-51-TR	0.014	100.000 %	0.180	0.003
40-52-TR	0.014	100.000 %	0.169	0.002

Habitat zone	Habitat hectares	Proportion of habitat zone with general offset	Strategic biodiversity score	General biodiversity equivalence score (GBES)
41-53-TR	0.014	100.000 %	0.172	0.002
42-54-TR	0.014	100.000 %	0.172	0.002
43-55-TR	0.014	100.000 %	0.100	0.001
44-56-TR	0.014	100.000 %	0.100	0.001

Mapped rare or threatened species' habitats on site

This table sets out the list of rare or threatened species' habitats mapped at the site beyond those species for which the impact is above the specific offset threshold. These species habitats do not require a specific offset according to the specific-general offset test.

Species number	Species common name	Species scientific name
10045	Lewin's Rail	Lewinia pectoralis pectoralis
10187	Eastern Great Egret	Ardea modesta
10197	Australasian Bittern	Botaurus poiciloptilus
10212	Australasian Shoveler	Anas rhynchotis
10215	Hardhead	Aythya australis
10216	Blue-billed Duck	Oxyura australis
10217	Musk Duck	Biziura lobata
10220	Grey Goshawk	Accipiter novaehollandiae novaehollandiae
10226	White-bellied Sea-Eagle	Haliaeetus leucogaster
10230	Square-tailed Kite	Lophoictinia isura
10238	Black Falcon	Falco subniger
10498	Chestnut-rumped Heathwren	Calamanthus pyrrhopygius
10598	Painted Honeyeater	Grantiella picta
11061	Common Dunnart	Sminthopsis murina murina
11280	Grey-headed Flying-fox	Pteropus poliocephalus
11455	New Holland Mouse	Pseudomys novaehollandiae
12283	Lace Monitor	Varanus varius
501120	Bushy Hedgehog-grass	Echinopogon caespitosus var. caespitosus
505337	Austral Crane's-bill	Geranium solanderi var. solanderi s.s.

Appendix 2 – Offset requirements detail

If a permit is granted to remove the marked native vegetation the permit condition will include the requirement to obtain a native vegetation offset.

To calculate the required offset amount required the biodiversity equivalence scores are aggregated to the proposal level and multiplied by the relevant risk multiplier.

Offsets also have required attributes:

- General offsets must be located in the same Catchment Management Authority (CMA) boundary or Local Municipal District (local council) as the clearing and must have a minimum strategic biodiversity score of 80 per cent of the clearing.[2]

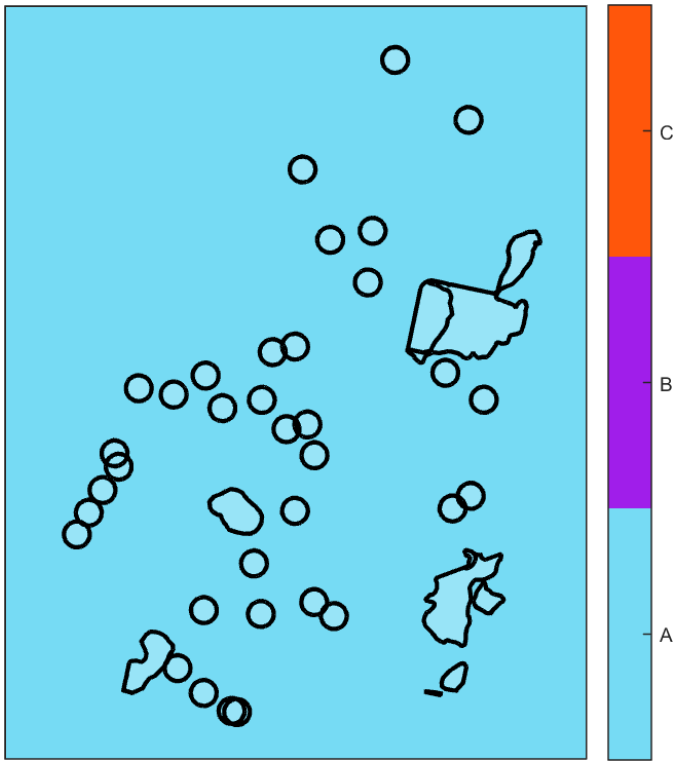
The offset requirements for your proposal are as follows:

Offset type	Clearing site biodiversity equivalence score	Risk multiplier	Offset requirements	
			Offset amount (biodiversity equivalence units)	Offset attributes
General	0.171 GBES	1.5	0.257 general units	Offset must be within East Gippsland CMA or East Gippsland Shire Council Offset must have a minimum strategic biodiversity score of 0.130

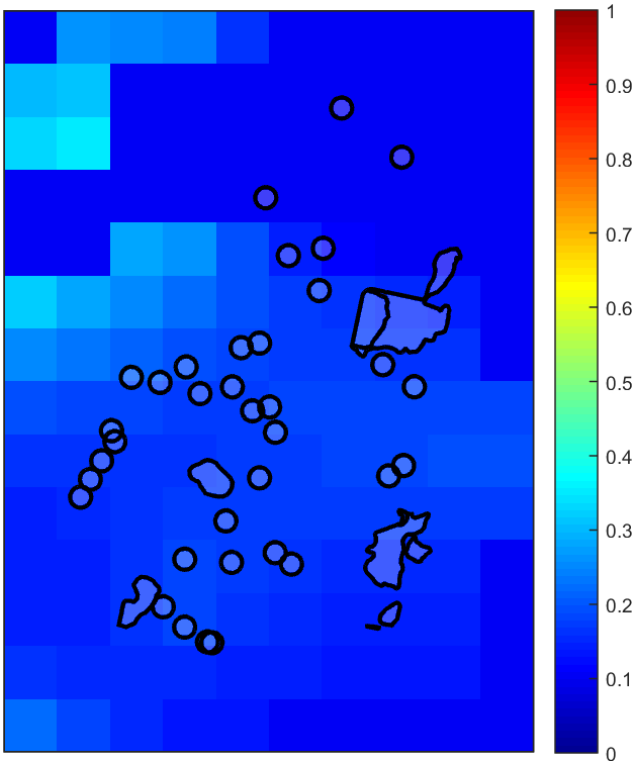
[2] Strategic biodiversity score is a weighted average across habitat zones where a general offset is required

Appendix 3 – Images of marked native vegetation

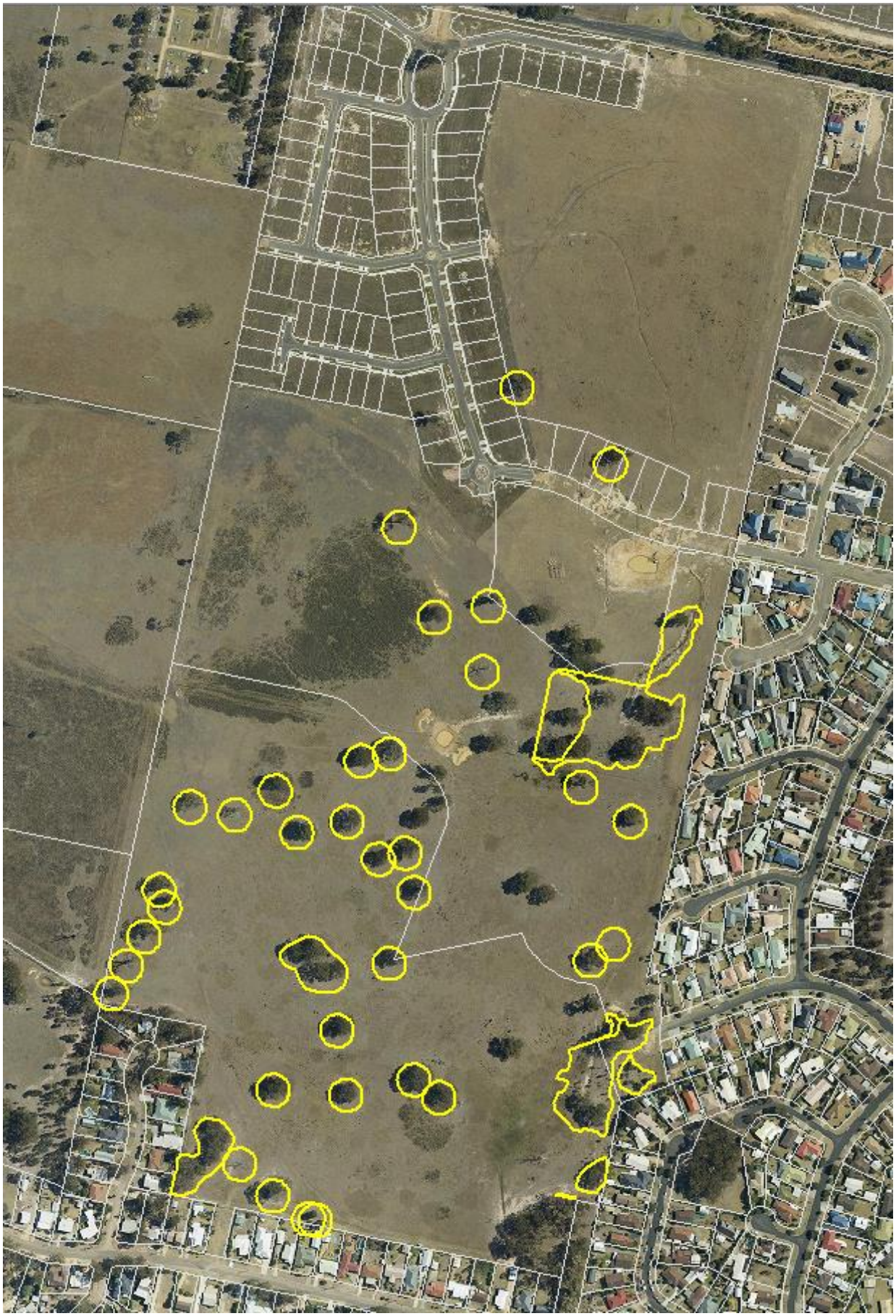
1. Native vegetation location risk map



2. Strategic biodiversity score map



3. Aerial photograph showing marked native vegetation



Glossary

Condition score

This is the site-assessed condition score for the native vegetation. Each habitat zone in the clearing proposal is assigned a condition score according to the habitat hectare assessment method. This information has been provided by or on behalf of the applicant in the GIS file.

Dispersed habitat

A dispersed species habitat is a habitat for a rare or threatened species whose habitat is spread over a relatively broad geographic area greater than 2,000 hectares.

General biodiversity equivalence score

The general biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed makes to Victoria's biodiversity. The general biodiversity equivalence score is calculated as follows:

$$\boldsymbol{General\ biodiversity\ equivalence\ score} = \boldsymbol{habitat\ hectares} \times \boldsymbol{strategic\ biodiversity\ score}$$

General offset amount

This is calculated by multiplying the general biodiversity equivalence score of the native vegetation to be removed by the risk factor for general offsets. This number is expressed in general biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation.

$$\boldsymbol{Risk\ adjusted\ general\ biodiversity\ equivalence\ score} = \boldsymbol{general\ biodiversity\ equivalence\ score\ clearing} \times \mathbf{1.5}$$

General offset attributes

General offset must be located in the same Catchment Management Authority boundary or Municipal District (local council) as the clearing site. They must also have a strategic biodiversity score that is at least 80 per cent of the score of the clearing site.

Habitat hectares

Habitat hectares is a site-based measure that combines extent and condition of native vegetation. The habitat hectares of native vegetation is equal to the current condition of the vegetation (condition score) multiplied by the extent of native vegetation. Habitat hectares can be calculated for a remnant patch or for scattered trees or a combination of these two vegetation types. This value is calculated for each habitat zone using the following formula:

$$\boldsymbol{Habitat\ hectares} = \boldsymbol{total\ extent}\ (\boldsymbol{hectares}) \times \boldsymbol{condition\ score}$$

Habitat importance score

The habitat importance score is a measure of the importance of the habitat located on a site for a particular rare or threatened species. The habitat importance score for a species is a weighted average value calculated from the habitat importance map for that species. The habitat importance score is calculated for each habitat zone where the habitat importace map indicates that species habitat occurs.

Habitat zone

Habitat zone is a discrete contiguous area of native vegetation that:

- is of a single Ecological Vegetation Class
- has the same measured condition.

Highly localised habitat

A highly localised habitat is habitat for a rare or threatened species that is spread across a very restricted area (less than 2,000 hectares). This can also be applied to a similarly limited sub-habitat that is disproportionately important for a wide-ranging rare or threatened species. Highly localised habitats have the highest habitat importance score (1) for all locations where they are present.

Minimum strategic biodiversity score

The minimum strategic biodiversity score is an attribute for a general offset.

The strategic biodiversity score of the offset site must be at least 80 per cent of the strategic biodiversity score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic value that is comparable to, or better than, the native vegetation to be removed. Where a specific and general offset is required, the minimum strategic biodiversity score relates only to the habitat zones that require the general offset.

Offset risk factor

There is a risk that the gain from undertaking the offset will not adequately compensate for the loss from the removal of native vegetation. If this were to occur, despite obtaining an offset, the overall impact from removing native vegetation would result in a loss in the contribution that native vegetation makes to Victoria's biodiversity.

To address the risk of offsets failing, an offset risk factor is applied to the calculated loss to biodiversity value from removing native vegetation.

$$\boldsymbol{Risk\ factor\ for\ general\ offsets} = \mathbf{1.5}$$

$$\boldsymbol{Risk\ factor\ for\ specific\ offset} = \mathbf{2}$$

Offset type

The specific-general offset test determines the offset type required.

When the specific-general offset test determines that the native vegetation removal will have an impact on one or more rare or threatened species habitat above the set threshold of 0.005 per cent, a specific offset is required. This test is done at the permit application level.

A general offset is required when a proposal to remove native vegetation is not deemed, by application of the specific-general offset test, to have an impact on any habitat for any rare or threatened species above the set threshold of 0.005 per cent. All habitat zones that do not require a specific offset will require a general offset.

Proportional impact on species

This is the outcome of the specific-general offset test. The specific-general offset test is calculated across the entire proposal for each species on the native vegetation permitted clearing species list. If the proportional impact on a species is above the set threshold of 0.005 per cent then a specific offset is required for that species.

Specific offset amount

The specific offset amount is calculated by multiplying the specific biodiversity equivalence score of the native vegetation to be removed by the risk factor for specific offsets. This number is expressed in specific biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation.

$$\boldsymbol{Risk\ adjusted\ specific\ biodiversity\ equivalence\ score} = \boldsymbol{specific\ biodiversity\ equivalence\ score\ clearing} \times \mathbf{2}$$

Specific offset attributes

Specific offsets must be located in the modelled habitat for the species that has triggered the specific offset requirement.

Specific biodiversity equivalence score

The specific biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed makes to the habitat of the relevant rare or threatened species. It is calculated for each habitat zone where one or more species habitats require a specific offset as a result of the specific-general offset test as follows:

$$\textbf{Specific biodiversity equivalence score} = \textbf{habitat hectares} \times \textbf{habitat importance score}$$

Strategic biodiversity score

This is the weighted average strategic biodiversity score of the marked native vegetation. The strategic biodiversity score has been calculated from the *Strategic biodiversity map* for each habitat zone.

The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The *Strategic biodiversity map* is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

Total extent (hectares) for calculating habitat hectares

This is the total area of the marked native vegetation in hectares.

The total extent of native vegetation is an input to calculating the habitat hectares of a site and in calculating the general biodiversity equivalence score. Where the marked native vegetation includes scattered trees, each tree is converted to hectares using a standard area calculation of 0.071 hectares per tree. This information has been provided by or on behalf of the applicant in the GIS file.

Vicinity

The vicinity is an attribute for a general offset.

The offset site must be located within the same Catchment Management Authority boundary or Local Municipal District as the native vegetation to be removed.