Native vegetation gain scoring manual

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For more information contact the DEPI Customer Service Centre 136 186

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Cover image: Tree Ferns in tall forest, central Victoria

Contents

1. Introduction

1.1 What is a native vegetation offset?

In Victoria, landowners wishing to remove, lop or destroy native vegetation are required to obtain a planning permit. *Permitted clearing of native vegetation – Biodiversity assessment guidelines* (the Guidelines) is an incorporated document in all planning schemes in Victoria. The Guidelines set out how biodiversity should be considered by responsible or referral authorities when assessing an application for a planning permit to remove native vegetation.

The objective of the native vegetation permitted clearing regulations is:

> *No net loss in the contribution made by native vegetation to Victoria's biodiversity.*

When a permit is granted to remove native vegetation an offset is generally required. An offset is an undertaking to protect and manage native vegetation. These protection and management activities improve the condition of the native vegetation at the site. This improvement increases the contribution that the site makes to Victoria's biodiversity. This is referred to as 'gain.' The requirement to offset the removal of native vegetation is key to delivering the no net loss objective of the regulations. To ensure this objective is achieved the offset must make a contribution to Victoria's biodiversity that is equivalent to the contribution made by the native vegetation that is to be removed.

Rules that dictate the offset requirements when native vegetation removal is permitted are specified in the Guidelines. There are three components of these rules, known as offset requirements:

1. the type of offset that must be secured (specific or general)
2. the amount of gain required to offset the removal of native vegetation (measured in biodiversity equivalence units)
3. the required attributes of the native vegetation located on the offset site.

This document sets out how to determine if a site will be eligible as an offset and how to calculate the amount of gain that a landowner can generate.

The gain generated by offsets and described in this document relates to the increase in the contribution made by native vegetation to Victoria's biodiversity only, other considerations (e.g. soil protection) are not covered.

1.2 What is gain?

Gain is the predicted improvement in the contribution to Victoria's biodiversity made by native vegetation at a site due to active management and increased security of the native vegetation.

Gain is generated by landowners agreeing to:

- increase the protection of native vegetation on their land
- forgo allowable land uses that would result in a decline in the condition of native vegetation if they continued
- perform management actions which maintain and improve the current condition of native vegetation on a specific site.

Landscape scale information is used to determine the relative importance of a site in terms of its contribution to Victoria's biodiversity. This is factored into the overall gain a site can deliver and as a result, sites that are more important for Victoria's biodiversity are able to generate greater gain.

1.3 How is gain measured?

Gain is determined by combining site and landscape scale information to get an overall measure of predicted improvement in a site's contribution to Victoria's biodiversity (see Figure 1).

Gain is measured in biodiversity equivalence units. The loss in the contribution made by native vegetation to Victoria's biodiversity at a clearing site is also measured in biodiversity equivalence units. This enables a comparison of losses and gains in order to achieve the no net loss objective.

The process of calculating the gain an offset site can generate is called gain scoring.

Site gain

Site gain refers to the improvement in condition, security and extent of native vegetation that is predicted to occur at the site level as a result of active management and increased protection. Site gain is measured in habitat hectares. The habitat hectare is a metric that combines the condition and extent of native vegetation. Any site of native vegetation has a current condition score that can be improved by management actions and improved protection measures. Site gain is the predicted increase in the condition of the site, multiplied by the site's area. Further information about habitat hectares is available in the *Habitat hectares manual*.

Landscape scale information

The contribution that an offset site makes to Victoria's biodiversity goes beyond gains achieved at the site level. For example, some sites are better connected to other areas of native vegetation in the landscape, or provide more important habitat for rare or threatened species than other sites. This landscape value of a site is captured in two scores:

- the *strategic biodiversity score* which quantifies the site's importance for Victoria's biodiversity relative to other locations across the landscape
- a *habitat importance score* which is a measure of the importance of a location in the landscape for the persistence of a particular rare or threatened species.

More information about combining site gain and landscape scale information is provided in Section 5.

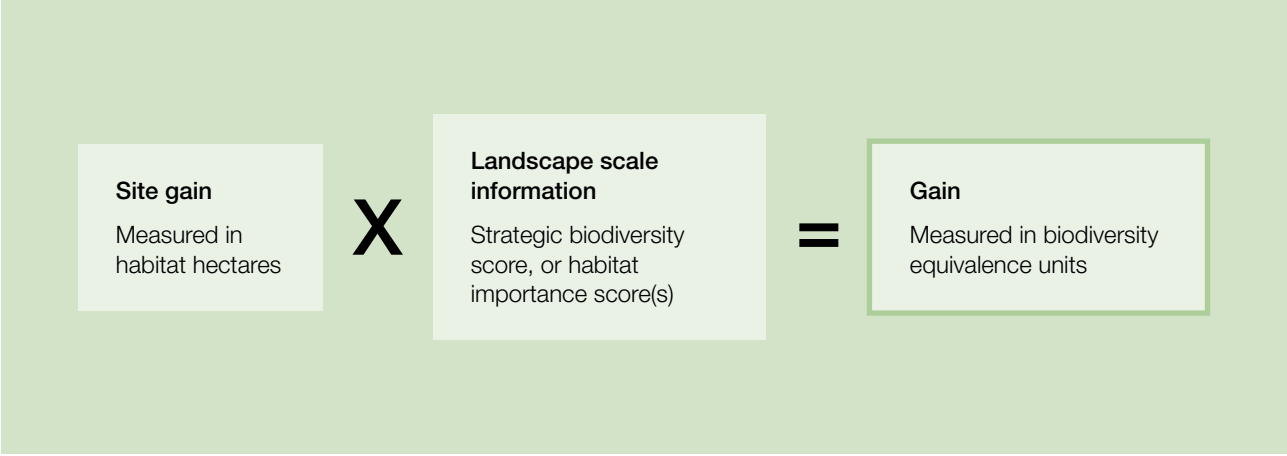
1.4 Gain scoring for sites unrelated to offsets

Gain scoring can be used to measure predicted improvement in native vegetation from landowner commitments on sites unrelated to offsets. An example of this could be government incentive programs where landowners are required to demonstrate the gains that they can deliver.

While the broad steps for calculating gain outlined in Section 2 are likely to be relevant, they may be differently applied. For example, incentive programs will have their own set of eligibility criteria, and may choose a different measurement of landscape scale importance that suits the program's purpose.

It should also be noted that incentive programs will consider whether prior management gain and security gain, and the related commitments, will be applicable.

Figure 1: Calculation of gain



2. Gain scoring for offset sites

Section 2.1 sets out the standard steps for gain scoring. Section 2.2 sets outs the simplified steps for first party general offset sites.

2.1 Gain scoring steps

1. Determine if the site is eligible (Section 3)
2. Determine the site's current condition score by undertaking a habitat hectares assessment (see *Habitat hectares manual*)
3. Landowner agrees to appropriate security and management commitments (Section 4)
4. Calculate the site gain using the gain calculator (Section 5.1 and Section 6)
5. Determine the site's landscape scale information; this includes its strategic biodiversity score, and if it is habitat for rare or threatened species habitat importance scores for each species. (Section 5.2)
6. Calculate gain for the offset site (Section 5.3)

2.2 Simplified approach to gain scoring for first party general offset site

Some landowners that require a general offset may be able to offset the removal of native vegetation on land within their ownership. In this case, a simplified gain scoring approach using modelled site condition is used:

1. Determine if the site is eligible (Section 3)
2. Determine the modelled condition score for the site from the *Native vegetation condition map*
3. Landowner agrees to all minimum commitments and eliminating woody weeds as an additional commitment (Section 4)
4. Calculate the site gain using the gain calculator (Section 5.1 and Section 6)
5. Determine the site's landscape scale information (it's strategic biodiversity score) (Section 5.2)
6. Calculate gain for the offset site (Section 5.3)

3. Site eligibility

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This section outlines the criteria that a site must comply with to be eligible as an offset (for gain scoring of sites unrelated to offsets, refer to the specific program for eligibility criteria).

These criteria must be applied before gain is calculated (i.e. before Section 5 of this manual). A site that is not eligible cannot be used as an offset. It can be determined before conducting a site assessment if a site meets some eligibility criteria, however a site assessment may be required to determine if other eligibility criteria are met.

For first party offsets the responsible authority will check a site's eligibility. For potential credit sites (where a landowner wishes to sell gain to another landowner who needs an offset), a site's eligibility will be checked by the native vegetation credit register (NVCR). The NVCR may have additional criteria for credit sites to those described below, refer to published NVCR information for further detail.

For an offset to satisfy the requirement of a permit to remove native vegetation, the offset must meet the offset requirements that relate to the vegetation that was removed, as set out in the Guidelines.

Eligibility criteria include consideration of:

- current land use and future land use (where known)
- existing offsets or other existing agreements
- threats to native vegetation condition
- security
- minimum management actions
- revegetation.

These criteria are described below.

3.1 Current land use and future land use

An area of native vegetation will be eligible to be an offset if there are no current and future land use(s) identified that are incompatible with managing native vegetation for conservation. Incompatible current and future land use include:

- fuel reduction activities requiring removal of logs or trimming/clearing of understorey plants or trees
- horse-riding, cycling or motorised vehicle use off established tracks
- infrastructure easements
- areas identified for other uses that are incompatible with managing native vegetation for conservation, including those with a public acquisition overlay for creation of a road or with approval to undertake activities that will damage native vegetation (e.g. extractive industries works approvals)
- other ongoing land uses that are likely to degrade vegetation condition or restrict improvement in vegetation condition.

3.2 Existing offsets or existing agreements

An area of native vegetation is eligible to be an offset if it has not already been used to offset the clearance of native vegetation or species habitat required by Victorian regulations.

An area of vegetation will be eligible if it is not subject to a current agreement under an incentive or grant program to undertake actions which are equivalent to the commitments specified in Section 4.

3.3 Threats to native vegetation condition

An area of native vegetation is eligible to be an offset if the landowner can control significant threats to the condition of the native vegetation. Significant threats to the condition of native vegetation impact on a landowner's ability to complete management commitments.

The assessor should consider whether site management will be significantly affected by one of the following threats, and whether the management activities agreed to by the landowner could control the threat:

- high levels of continued nutrient run off
- secondary salinity with a high likelihood of the effect increasing
- continuing significant erosion which is uncontrollable without affecting native vegetation
- significant invasion from pest animals such as rabbits, deer, goats and pigs
- extensive die-back or other plant diseases
- planned disturbance regimes incompatible with native vegetation objectives such as fuel reduction burning or flooding.

3.4 Security

Table 1 sets out the requirements for different security standards.

Table 1: Offset security standards

Offset security standard	Requirements
A	Enter into a security agreement that meets the following security standards: 1. Contains a legally enforceable provision 2. Has no termination date 3. Is implemented by a statutory body on the list of statutory bodies that have agreed to the *Agreement with the Secretary to the Department of Environment and Primary Industries (DEPI) for implementing offsets on freehold land*. DEPI maintains an up to date list of the statutory bodies who have provided written confirmation to the agreement. The list is available on the DEPI website.
B	Security agreement is registered on the land title.
C	Transferring freehold land to a Crown land conservation reserve, to be implemented and managed under the *Integrity framework for Crown land offsets.*
NVCR	See native vegetation credit register published information for required security standards.

Table 2 describes the standard of security required to be eligible for different offset types.

Table 2: Security required to be eligible as an offset

Type of offset	Security required
First party general offset	An area of vegetation on freehold land will be eligible if: Offset security standard A is implemented
First party specific offset	An area of vegetation on freehold land will be eligible if: Offset security standards A and B are implemented
Non-credit third party offset	An area of vegetation on freehold land will be eligible if: Offset security standards A and B are implemented
Credits	An area of vegetation on freehold land will be eligible if: Offset security standards A, B and NVCR are implemented OR Offset security standard C and NVCR are implemented.
Crown land offset	An area of vegetation on Crown land will be eligible if it is implemented under the *Integrity framework for Crown land offsets.* The integrity framework specifies the circumstances where Crown land can be used as an offset.

3.5 Minimum management requirements, management plan and site assessment

For an area of native vegetation to be eligible, the landowner must agree to the inclusion of minimum, ongoing commitments in the security agreement (specified in Section 4). A management plan must be included in the security agreement for the site. A management plan includes the maintenance gain commitments (which are ongoing for offset sites) and the 10 year improvement gain commitments. It also includes a 10 year schedule of management actions to implement the commitments.

This ensures gain in native vegetation condition is maintained. A habitat hectares assessment to determine site condition and an assessment of weed cover is required unless it is a first party general offset site. Table 3 details these requirements, and Section 4 provides more details. The required habitat hectares assessment should only be done once it has been determined that the site meets all other criteria.

Table 3: Habitat hectares assessment and weed cover assessment and management plan requirements for an offset

Type of offset	Habitat hectares assessment to determine site condition and an assessment of weed cover	Management plan required
First party general	None required	10 year management plan developed using the first party general offset management plan template
First party specific	Required to be done by a native vegetation assessor in accordance with the *Habitat hectares manual*. The assessor must be currently recognised by the DEPI competency check program	10 year management plan with schedule developed using the standard offset management plan template
Third party	Required to be undertaken by a native vegetation assessor in accordance with the *Habitat hectares manual*. The assessor must be currently recognised by the DEPI competency check program	

3.6 Revegetation

Minimum size

Revegetation must be done in accordance with the minimum planting standard specified in Appendix 2 and revegetation sites must meet the following size requirements:

- At least 1 hectare in size
- Have an average width of at least 20 metres
- Have a perimeter to area ratio of 1:20. Perimeter to area ratio can be calculated by dividing the area (metres^2) by the perimeter (metres).

4. Landowner commitments to generate site gain

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Once it is determined that a site meets the eligible criteria described in Section 3, a habitat hectares assessment should be undertaken (if required by Table 3) in accordance with the *Habitat hectares manual*. This will determine the current condition and extent of the native vegetation on the site.

Landowners must have an understanding of what different security and management commitments entail, and whether they are appropriate for their site. Appendix 1 provides guidance about different management commitments, and related issues, and what should be considered when deciding upon appropriate security and management commitments.

It is particularly important that landowners are aware of the obligations required by these commitments as they will form part of the security agreement. Failure to undertake the commitments would breach the security agreement and could result in enforcement action to rectify the breach.

Sections 4.1 and 4.2 set out commitments which apply to all offset sites. Section 4.3 sets out commitments for maintenance and improvement gains which are specific to different types of vegetation.

4.1 Commitments for prior management gain

Prior management gain acknowledges management undertaken by landowners on a freehold site since statewide planning permit controls for native vegetation removal were introduced in 1989. Prior management gain only applies to remnant vegetation, and is only available once.

Landowners who agree to protect remnant vegetation on freehold land will generate prior management gain. Table 4 provides the minimum commitment required for prior management gain.

Table 4: Commitments for prior management gain

Prior management gain – minimum commitment
• Protect remnant vegetation on freehold land

4.2 Commitments for security gain

Landowners can generate security gain by increasing the protection of native vegetation on a site. Landowners can generate security gain by registering a security agreement on the land title (for example under Section 69 of the *Conservation Forests and Lands Act 1987*); transferring freehold land to a secure Crown land reserve managed for conservation purposes; or by reclassifying Crown land to a reservation managed for conservation purposes.

A site must meet the offset eligibility criteria to be used as an offset. The eligibility criteria for security is separate to the commitments required to generate security gain. Table 5 lists the security commitments required to generate security gain.

Table 5: Security gain commitments

Security gain – minimum commitment
• Register a permanent security agreement on the land title which meets the eligibility requirements in Section 3. OR • Acceptance by the government of transfer of freehold land to Crown land reserved as any park under the *National Parks Act 1975* or Crown land reserved for the purpose of conservation under the *Crown Land (Reserves) Act 1978*, which are the following paragraphs within subsection 4(1): (l) the preservation of areas of ecological significance; (m) the conservation of areas of natural interest or beauty or of scientific historic or archaeological interest; (ma) carbon sequestration in vegetation and soil; (n the preservation of species of native plants; (o) the propogation or management of wildlife or the preservation of wildlife habitat; OR any land referred to in sections 44 or 46

4.3 Commitments for maintenance and improvement gains

Maintenance gain results from avoiding the decline in vegetation condition that is predicted to occur over a 10 year period. The predicted decline in condition is based on the combined effect of allowable land uses and threats. Landowners can generate maintenance gain by agreeing to forgo currently allowed land uses and control threats that affect vegetation condition.

Improvement gain results from management commitments that improve the current vegetation condition.

Maintenance and improvement gains are only generated where the commitments are beyond the landowner's current legal management obligations (duty of care).

A landowner's legal management obligations include:

- legislative requirements, particularly the *Catchment and Land Protection Act 1994*
- requirements of existing agreements or contracts that apply to the site
- planning scheme requirements to retain native vegetation.

Site gain will result when a landowner agrees to all minimum commitments (see Table 7 to Table 11). For some habitat components, a landowner can also agree to additional and optional commitments to generate improvement gain.

Improvement gain commitments include eliminating herbaceous and grassy high threat weeds to less than one per cent cover. However, where these have become well established, it is unreasonable to expect landowners to eliminate some herbaceous and grassy high threat weeds without causing unacceptable collateral damage to the surrounding native vegetation. For this reason, a list of herbaceous and grassy high threat weeds where there is a reasonable expectation that the weed can be eliminated to less than one per cent cover has been developed. These weeds are called gain scoring target weeds (GS target weeds). The expectation to eliminate herbaceous and grassy high threat weeds is limited to the GS target weeds listed in Appendix 3, unless the weed is new and emerging. All new and emerging weeds should be eliminated to less than one per cent.

Improvement gain can also be generated by eliminating all woody weeds.

Vegetation types

Maintenance and improvement commitments vary across four broad vegetation types (see Table 6). To determine which commitments apply to a site, assessors are required to know which vegetation type the site falls in.

Table 6: Vegetation types and descriptions

Vegetation type	Included in the vegetation type
Woody vegetation	Heathlands, shrublands, scrubs, thickets, woodlands, swamps where tree canopy cover is naturally present, forests and rainforests.
High rainfall volcanic plains or Gippsland plains grassland vegetation	Grassland vegetation with an annual rainfall above 500mm and where Kangaroo Grass is naturally dominant.
Other grassland vegetation	Terrestrial grassland vegetation where Kangaroo Grass is not naturally the dominant species (includes vegetation with an annual rainfall above 500mm) Terrestrial grassland vegetation with an annual rainfall below 500mm.
Non-woody wetland vegetation	Swamps where tree canopy cover is naturally absent (including lignum swamp), salt marshes, samphire shrublands, grasslands reliant on flooding, grassy or sedge wetlands and herblands.

Woody vegetation

Landowners can generate site gain by agreeing to all minimum commitments and at least one of the additional commitments in Table 7. Landowners can also agree to additional and optional commitments listed in Table 7 to generate improvement gain.

Table 7: Commitments to generate maintenance and/or improvement gain in remnant woody vegetation

Minimum commitments to generate site gain	Additional commitments to generate site gain	Optional commitments to generate site gain
• Retain all standing trees (dead or alive) AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover (see Appendix 3) AND • Retain logs and fallen timber AND • Exclude stock AND • Control rabbits	• Eliminate all GS target weeds to < 1% cover (see Appendix 3) OR • Eliminate all woody weeds to < 1% cover	• Undertake supplementary planting in accordance with the minimum standard (see Appendix 2) OR • Undertake supplementary planting to the higher standard where past performance can be demonstrated (see Appendix 2) OR • Introduce logs

Revegetation of woody vegetation

Landowners can generate site gain by agreeing to all minimum commitments in Table 8. Landowners can also agree to optional commitments listed in Table 8 to generate improvement gain.

Table 8: Commitments to generate maintenance and/or improvement gain from revegetation of woody vegetation

Minimum commitments to generate site gain	Optional commitment to generate site gain
• Undertake revegetation in accordance with the minimum standard (see Appendix 2) AND • Retain all standing trees (dead or alive) AND • Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover (see Appendix 3) AND • Retain logs and fallen timber AND • Control rabbits	• Undertake revegetation to the higher standard where past performance can be demonstrated (see Appendix 2)

High rainfall volcanic plains or Gippsland plains grassland

Landowners will generate site gain where they agree to all minimum commitments in Table 9. Landowners can also agree to additional or optional commitments listed in Table 9 to generate improvement gain.

Table 9: Commitments to generate maintenance and/or improvement gain in high rainfall volcanic plains or Gippsland plains grassland

Minimum commitments to generate site gain	Additional commitments to generate site gain	Optional commitments to generate site gain
• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover (see Appendix 3) AND • Control rabbits AND EITHER • Undertake periodic biomass management at agreed timing/ frequency OR • Undertake biomass management with no periodic schedule	• Eliminate all GS target weeds to < 1% cover (see Appendix 3) OR • Eliminate all woody weeds to < 1% cover	• Undertake supplementary planting to the minimum standard where past performance can be demonstrated (see Appendix 2)

Other grassland vegetation

Landowners can generate site gain where they agree to all minimum commitments in Table 10. Landowners can agree to additional commitments to generate improvement gain. Landowners can also agree to optional commitments listed in Table 10 to generate improvement gain where they can demonstrate past performance in supplementary planting to a higher standard.

Table 10: Commitments to generate maintenance and/or improvement gain in other grassland vegetation

Minimum commitments to generate site gain	Additional commitments to generate site gain	Optional commitments to generate site gain
• Ensure that *perennial* weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover (see Appendix 3) AND • Control rabbits AND EITHER • Exclude stock and ensure that *annual* weed cover does not increase beyond the current level OR • Monitor *annual* weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock	• Eliminate all GS target weeds to < 1% cover (see Appendix 3) OR • Eliminate all woody weeds to < 1% cover	• Undertake supplementary planting to the minimum standard where past performance can be demonstrated (see Appendix 2)

Non-woody wetland vegetation

Landowners can generate site gain where they agree to all minimum commitments Table 11. Landowners can agree to additional commitments to generate improvement gain. Landowners can also agree to optional commitments listed in Table 11 to generate improvement gain.

Table 11: Commitments to generate maintenance and/or improvement gain in non-woody wetland vegetation

Minimum commitments to generate site gain	Additional commitments to generate site gain	Optional commitments to generate site gain
• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover (see Appendix 3) AND • Control rabbits	• Eliminate all GS target weeds to < 1% cover (see Appendix 3) OR • Eliminate all woody weeds to < 1% cover	• Undertake supplementary planting to the minimum standard where past performance can be demonstrated (see Appendix 2)

5. Calculating gain

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5.1 Site gain

Site gain refers to the improvement in condition and/or extent that is predicted to occur at the site level because of active management and increased security. To determine site gain, the predicted improvement is applied to the current condition and extent of native vegetation (determined via the habitat hectares assessment or from the native vegetation condition map). Each of the security and management commitments are predicted to deliver a specific amount of improvement, dependent on the vegetation type and the current condition of the vegetation. The predicted improvements from each of the commitments are combined to determine the site gain. Further information about the logic of gain scoring is available in Appendix 4. DEPI has developed the gain calculator to assist in the calculation of site gain. Instructions for the use of the calculator are in Section 6.

5.2 Landscape scale information

Landscape scale information is used to measure the contribution that native vegetation makes to Victoria's biodiversity. This information is combined with site gain to get a comprehensive understanding of the increased contribution that native vegetation makes to biodiversity at an offset site.

There are two types of offsets that may be required:

- general offsets
- specific offsets

Different landscape scale information is used to calculate gain for each type of offset. How gain is calculated for general offsets and specific offsets is outlined below.

General offsets

General offsets are required when the native vegetation to be removed is not important habitat for rare or threatened species. All sites of native vegetation that are eligible to be offsets can be general offsets. The gain that general offsets can deliver is measured in general biodiversity equivalence units.

To calculate gain in general biodiversity equivalence units the strategic biodiversity score is used. The strategic biodiversity score of native vegetation at a site is a measure of the site's importance for Victoria's biodiversity, relative to other locations across the landscape.

Specific offsets

Specific offsets are required when the native vegetation to be removed is important habitat for one or more rare or threatened species. Specific offsets must be located within habitat for the species that is impacted by the removal of native vegetation (see the Guidelines for more information). Where offset sites are habitat for rare or threatened species they can be used as specific offsets. The habitat importance models show where locations are habitat for rare or threatened species. Each location that is habitat for a rare or threatened species has a habitat importance score for that species. A site may be habitat for multiple species and will have a habitat importance score for each of these species. This habitat importance score is a measure of the importance of a location as a habitat for a particular rare or threatened species.

The gain that a specific offset can deliver is measured in specific biodiversity equivalence units. Where an offset site is habitat for multiple rare or threatened species, it will deliver specific biodiversity equivalence units of gain for each of these species.

To calculate gain in specific biodiversity equivalence units, the habitat importance score for each relevant species is used.

5.3 Calculating gain (biodiversity equivalence units)

The site gain and landscape scale information are combined as follows to calculate gain.

General offsets

To determine the amount of gain available for a general offset the site gain is multiplied by the site's strategic biodiversity score (obtained from the *Strategic biodiversity map*):

$$\textbf{Gain}_{\text{General biodiversity equivalence units}} = \text{site gain} \times \text{strategic biodiversity score}^{1}$$

Specific offsets

To determine the amount of gain available for a specific offset the site gain is multiplied by the habitat importance score for each rare or threatened species that the site provides habitat for. If the site is habitat for more than one species a separate amount of gain must be calculated for each species. The habitat importance score(s) are obtained from the *Habitat importance maps* and *Highly localised habitat maps.*

$$\textbf{Gain}_{\text{Specific biodiversity equivalence units}} = \text{site gain} \times \text{habitat importance score}_{\text{specific species}}^{2}$$

Use of offset sites

It is important to note the following:

- Where an offset site is habitat for rare or threatened species, the landowner can choose if they wish to use (or sell) the site as a general offset or a specific offset, or a combination of the two types of offsets.
- One offset site can be broken into parts based on locations, and these parts can be used to satisfy various offset requirements.
- Once the offset site, or part of the offset site, has been used to offset the removal of native vegetation it cannot be used as an offset again. If part of the general or specific biodiversity equivalence units are used, any remaining general or specific biodiversity units will be reduced by the amount used as an offset.
- When an offset requirement is for multiple rare or threatened species habitats, it can be satisfied with one offset that is habitat for the same group of species, or from a number of separate offsets sites that are habitat for these species.

1 The weighted average strategic biodiversity score for the site is used.

2 The weighted average habitat importance score for each species is used.

6. Using the gain calculator

The following steps are a guide to using the gain calculator which is available on the DEPI website www.depi.vic.gov.au

Terms in **bold** are defined in the glossary in Appendix 5.

Step 1. Enter site details

1. Enter the site's **name/EOI code**, **site code** and **site location/address**.
2. Enter your details in the user details section.
3. Select the appropriate **proposal type** for the site by clicking on the tick box for either **offset** or **incentive** program.
4. Select the appropriate **current land tenure** type for the site by clicking on the tick box for either **crown** or **freehold**.
5. Select the **bioregion** the site is located in from the drop down list.
6. Select the appropriate **property size** by clicking on the tick box for < 10 ha or ≥ 10 ha.
7. Save by clicking on save site info.

The remaining steps apply for each individual zone within the site.

Save each zone as you go.

Step 2. Enter zone details

8. Enter a **habitat zone identifier** ('a' to 'z').
9. Select the appropriate **management type** for the zone by clicking on the tick box for either **remnant** or **revegetation**.
10. Select the zone's **Ecological Vegetation Class (EVC)** from the drop down box (alphabetically ordered).

If the required EVC is not available in the drop down list, choose other.

Enter the EVC name and standardiser in the space provided.

11. If one or more of the listed overlays applies to the zone click on the tick box for 'yes'. Otherwise tick 'no'.

Overlays are considered to apply if they cover 50 per cent or more of the zone.

12. Select the appropriate **patch size class** for the zone by clicking on the tick box for < 5ha, 5-20 ha OR > 20ha.

Step 3. Enter the current condition score

13. Enter the zone's assessed attribute scores in the appropriate spaces.

Step 4. Select management commitments

14. Select the **management commitments** that the landowner has agreed to for the zone by clicking on the tick boxes for each relevant commitment.

Step 5. Site gain

15. Ensure that all the zone's data has been entered correctly.
16. Click on calculate site gain. The zone's site gain will appear where indicated.

Step 6. Gain

17. Input the appropriate landscape scale information (see Section 5.2) where indicated.
18. Click on calculate gain. The zones' gain will appear where indicated.

Appendix 1:
Description of management commitments

The following section provides information on specific management issues and the commitments that relate to those issues.

Developing a site management plan for the purpose of conservation requires careful consideration of the threats and management issues that affect a site. The management plan should describe how the landowner intends to achieve the commitments and include a schedule of the management actions.

The landowner should discuss a range of considerations with the assessor before agreeing to a commitment. For each commitment, there are a number of general issues that should be discussed, see below. Some commitments have specific issues that should also be discussed. These are described further in the description of management commitments and related issues section.

General considerations

For each site, assessors and landowners should consider the following questions.

Threats

- What existing threats must the landowner manage to achieve the commitment?
- Are there other threats that are likely to arise that will require management to achieve the commitment?
- What are the consequences of not managing the threats?

Practicality

- How difficult is it to achieve the commitment?
- What resources would the landowner require to achieve the commitment?
- Can the landowner undertake the commitment using standard approaches, given the timeframes, resources and difficulty?
- Can the landowner provide enough time and labour to achieve the commitment?
- Does the landowner require additional advice or guidance to achieve the commitment?
- Can the landowner undertake the commitment and minimise collateral damage to native vegetation?

Description of management commitments and related issues

Control and eliminate weeds

Vegetation type: All

Weeds can have a significant impact on native vegetation. Landowners must meet their obligations under the *Catchment and Land Protection Act 1994* (CaLP Act) with respect to eradicating regionally prohibited weeds and preventing the growth and spread of regionally controlled weeds. In the context of managing native vegetation, weeds are not restricted to those listed under the CaLP Act. Control of CaLP Act weeds is part of the landowner's legal management responsibilities (duty of care). As such, control of CaLP Act weeds alone does not generate site gain.

The minimum commitment for weed control is to ensure that the weed cover does not increase beyond the current level and to monitor for any new and emerging weeds that may colonise the site during the management period and eliminate them before they become established. For additional site gain, landowners may also choose to eliminate all woody weeds or eliminate all gain scoring target weeds (GS target weeds). DEPI has prepared a guide listing GS target weeds.

In some cases, GS target weeds may be particularly difficult to eliminate or control. This could be due to the species being well-established on a site or due to its biology. For example, it is often difficult to control Chilean Needle-grass once it has become established. To determine if elimination to less than one per cent cover will be feasible, the assessor should consider the:

- current cover of the GS target weed species
- predicted response of the species to the control methods
- size of the area to be managed
- extent of GS target weeds in the vicinity and their potential to invade the site
- landowner's capacity to effectively implement the control method.

Landowners and assessors should also consider how the proposed method for managing weeds may impact native plants and animals. In some instances, a landowner may not be able to commit to eliminating weed species if there is potential to cause significant damage to native plants and animals. On some sites, weeds provide habitat for native animals and therefore removal of weed species can be detrimental. In most cases, the preferred approach is to remove the weeds and progressively plant suitable indigenous species in their place. The management plan should describe how habitat will be progressively replaced as the weeds are removed.

Landowners can generate maintenance gain where they agree to the following minimum commitments:

Ensure that weed cover does not increase beyond current level

AND

Monitor for any new and emerging weeds and eliminate to less than one per cent cover.

The amount of improvement gain available for weed management will depend on the current condition score and the commitment that the landowner agrees to. Where the cover of weeds is lower (lack of weeds score is 9 to 15) landowners should generally be able to eliminate all GS target weeds. As such, where the landowner is confident, they can agree to either of the following commitments:

Eliminate all GS target weeds (less than one per cent cover)

OR

Eliminate all woody weeds (less than one per cent cover)

For habitat zones where the cover of high threat weeds is higher (lack of weeds score of < 9) landowners are unlikely to be able to eliminate all woody weeds, but generally should be able to eliminate all woody weeds. Consequently, landowners only have a choice of one commitment:

Eliminate all woody weeds (less than one per cent cover)

Control annual weeds in other grassland vegetation by strategic grazing

Vegetation type: Other grassland vegetation

Weeds can have a significant impact on native vegetation condition. Landowners must meet their obligations under the CaLP Act with respect to eradicating regionally prohibited weeds and preventing the growth and spread of regionally controlled weeds. In the context of managing native vegetation, weeds are not restricted to those listed under the CaLP Act. Control of CaLP Act weeds alone does not generate site gain.

The minimum commitment for weed control is to ensure that the weed cover does not increase beyond the current level and to monitor for any new and emerging weeds that may colonise the site during the management period and eliminate them before they become established.

Control of annual grassy weeds may be difficult in other grassland vegetation (< 500 mm rainfall) where the existing seed bank of annual weeds may be considerable. Landowners may use strategic grazing as a tool to control annual weeds and supplement it with targeted weed control. Strategic grazing can be particularly useful in reducing flowering of annual weeds when applied at the right time. When successfully applied, strategic grazing can deplete the seed source of annual weeds to the point where the landowner can control the annual weeds by targeted weed control alone.

The general strategy for reducing flowering of annual weeds is to introduce a high density of stock for a short period before flowering and seeding. It should be noted that strategic grazing is less desirable than targeted weed control, as it carries a much higher risk of irreversible damage from stock. Many native species also flower at the same time as annual weeds. As such, strategic grazing will inevitably reduce seed set of native species as well as annual weeds. Strategic grazing should only be implemented when cover of annual weeds is above 25 per cent.

When deciding whether to use strategic grazing for control of annual weeds in other grassland vegetation, assessors should carefully analyse the positive and negative effects of grazing on habitat condition and species diversity. In particular, they should consider:

- the tolerance of both exotic and native species to grazing
- the palatability of the exotic species compared to native species found on site
- the flowering season and the seed source of exotic and native species
- the likely response to grazing of exotic and native species (particularly native herbs and smaller life forms)
- when strategic grazing is likely to be required
- the capacity of the landowner and the resources required to undertake strategic grazing
- the methods for monitoring changes in weed cover and identifying when cover of annual weeds reaches 25 per cent.

Where strategic grazing of annual weeds is considered suitable, landowners may generate maintenance gain in other grassland vegetation where they agree to:

Ensure that perennial weed cover does not increase beyond the current level

AND

Monitor for any new and emerging weeds and eliminate (less than one per cent cover)

AND

Monitor annual weed cover. If proportion of annual weeds is greater or equal to 25 per cent of the total vegetation cover, control by strategic grazing, at all other times exclude stock.

Control rabbits

Vegetation type: All

The CaLP Act lists rabbits as an established pest animal and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land.

It should be noted that landowners cannot rely on myxomatosis and the rabbit calicivirus diseases alone to effectively control rabbits. Integrated rabbit control should be implemented to control rabbits in native vegetation. In native vegetation integrated rabbit control should include a combination of:

- fumigating and hand collapsing warrens
- destruction of surface harbour
- baiting.

Integrated rabbit control must be carefully implemented in native vegetation to ensure that the condition of native vegetation or habitat for indigenous species is not degraded.

Fumigating rabbits is effective when combined with collapsing and destroying warrens.

Warrens are key to rabbit survival and breeding; dense rabbit populations are not possible without warrens. In native vegetation, warrens should be destroyed by shovel, mattock, or pick to the point that they cannot be repopulated by rabbits. This may take several years. Ripping with machinery is not an option in most cases as it will damage native vegetation.

Surface harbour significantly enhances the survival of young dispersing rabbits and provides excellent protection for rabbits from predators and climatic extremes. Therefore destruction of surface harbour is a key component of integrated rabbit control. It should be noted that surface harbour provides habitat for indigenous animal species as well as rabbits. Fallen timber, rocks and indigenous shrubs should be retained but, landowners should progressively remove introduced weeds and any discarded building/fencing materials. Landowners should consider planting indigenous species or introducing nest boxes to replace any lost habitat for indigenous animal species.

Shooting is only effective when rabbits are at extremely low population levels and should not be used in isolation.

Landowners must commit to rabbit control in order to generate improvement gain for a number of habitat components. The minimum commitment is to:

Control rabbits

Logs

Vegetation type: Woody vegetation

Logs affect soil moisture, structure and nutrition; enhance recruitment of some plant species; and provide habitat for many animals, from invertebrates to reptiles to ground-dwelling mammals.

Landowners may generate site gain from introducing logs where the habitat zone has a low understorey score (0 or 5) and it is considered that logs can be introduced in a way that will have a minimal impact on existing native vegetation. In addition, logs must be from tree genera indigenous to the introduction site (understorey or canopy trees) and must be sourced from a permitted clearing site – landowners cannot simply move logs from other patches of native vegetation.

These limitations generally mean that this commitment is usually more feasible where the clearing site is located close to the offset site. Landowners who are thinking about introducing logs should consider:

- if logs can be sourced from a permitted clearing site
- whether the logs are from trees indigenous to the site
- the logistics of introducing logs without causing collateral damage.

The methods for introduction of logs must be outlined in the management plan.

Where the understorey score is 0 or 5 landowners may generate improvement gain where they agree to:

Retain logs and fallen timber

AND

Introduce logs removed/felled from impact site

Biomass management

Vegetation type: High rainfall volcanic plains or Gippsland plains grassland vegetation

In high rainfall volcanic plains or Gippsland plains grassland vegetation thatching by Kangaroo Grass (*Themeda triandra*) can lead to reductions in plant populations and species diversity. As Kangaroo Grass leaves wither and dry they thatch over the surrounding open spaces, reducing the amount of area available for recruitment of other native species. As a result, biomass management is generally required in high rainfall grasslands where Kangaroo Grass is dominant.

The objective of biomass management is to maintain and improve species richness, diversity of life forms and variety of habitats.

Grazing and burning are the most common techniques to manage biomass. Slashing and removal of thatch is also an option provided there is strict slasher hygiene to ensure that no weeds are transferred. The choice of technique should take into account the past management of the site. For example, a grassland community that was periodically burnt in the past may contain species that are sensitive to grazing.

Landowners should monitor the effects of biomass management to allow for management approaches to be modified to ensure species diversity is maintained and structural diversity is improved.

When deciding which biomass management technique to use, assessors should consider:

- the potential for 'thatching over' of Kangaroo Grass
- the past management of the grassland
- the tolerance of both exotic and native species to grazing or burning
- the flowering season and the seed source of both exotic and native species
- the optimum frequency or timing of biomass management
- the capacity of the landowner and the resources required to undertake the biomass management technique
- the methods for monitoring changes in vegetation cover due to grazing to identify when it is approaching 70 per cent.

Most native species require biomass management to open up available space (bare ground) to enable germination. However, native plants benefit from a break in grazing while flowering and seeding. For most high rainfall volcanic plains or Gippsland plains grasslands the best time to graze is usually from late summer to late winter, on an annual basis. However, this will depend on site conditions and rainfall patterns. In some high rainfall volcanic plains or Gippsland plains grassland sites, the vegetation may have been modified to the point where Kangaroo Grass is absent or only a minor component. On these sites, introducing stock on an annual basis for biomass management may be detrimental to vegetation condition and species diversity because grazing animals may selectively graze the smaller (more palatable) native species. When deciding whether to use grazing for biomass management where Kangaroo Grass is not clearly dominant, assessors should carefully assess the potential positive and negative effects of grazing on habitat condition and species diversity and decide if an alternative biomass management technique may be more appropriate. To minimise significant impacts on native plants and animals from grazing, landowners must maintain the total vegetation cover above 70 per cent.

If it is determined that biomass management is still important in maintaining diversity and reducing Kangaroo Grass thatch, but annual grazing is likely to result in a decline in diversity, the following options should be considered:

- irregular grazing to control biomass build-up (2 to 5 years between grazing events) after monitoring by a suitably qualified ecologist
- mosaic burning (scheduled every 2 to 5 years)
- slashing and removing thatch.

If using burning, landowners must only undertake mosaic burns. The optimal season and frequency for burning high rainfall volcanic plains or Gippsland plains grasslands is 2 to 5 years in autumn (although burning in spring can sometimes be beneficial). This will vary on each site and must be decided on a case by case basis. Landowners should also consider the impacts of burning the grassland on habitat for native animals.

Landowners may generate site gain if they undertake biomass management (by grazing, mosaic burning or slashing and removal of thatch) at an agreed time and frequency. A reduced amount of site gain may be generated if biomass management is undertaken without an agreed schedule. If the landowner is considering managing biomass without a schedule, the assessor and landowner should discuss:

- the relative benefits of periodic biomass management at an agreed timing and frequency compared with biomass management with no schedule
- the methods for monitoring changes in vegetation cover and determining when biomass management should begin or end
- the strategy for biomass management.

For high rainfall volcanic plains or Gippsland plains grassland vegetation, landowners may generate maintenance and improvement gain where they agree to:

Ensure that weed cover does not increase beyond current level

AND EITHER

Periodic biomass management at agreed timing/frequency

OR

Undertake biomass management with no periodic schedule

Revegetation

Vegetation type: Woody vegetation

Revegetation can create habitat for native plants and animals, assist wildlife movement and reduce soil erosion. Landowners who intend to generate site gain from revegetation must follow the minimum standard in Appendix 2.

The minimum standard requires revegetation of woody habitat components and large tufted graminoids only. This is because of the risk of failure associated with establishing smaller graminoids, herbs and prostrate shrubs.

In some cases, a landowner may propose a higher standard of revegetation with a greater range of life forms or species than that required by the minimum standard. Revegetation is considered to be of a higher standard where landowners establish a minimum of 10 understorey species indigenous to the EVC of the following life forms: medium shrub, small shrub and large tufted graminoid (where appropriate). Landowners must ensure that the 10 understorey species are established by the end of the 10 year management period.

Revegetation to the higher standard should only be considered where the landowner can demonstrate past performance in achieving revegetation with a greater range of life forms or species, or success in establishing difficult species. If the landowner proposes to undertake revegetation to the higher standard, the assessor should consider:

- the landowner's past performance in revegetating a diversity of life forms or species
- the ability to source at least 10 understorey species indigenous to the EVC from stock of local provenance
- whether a staged approach to planting may be required

In addition to improvement gains in the site condition components, revegetation can generate improvement gains in landscape context. The amount of improvement gain depends on the size, shape and location of the revegetation site in relation to other native vegetation.

Landowners can generate improvement gain for revegetation where they agree to:

Undertake revegetation in accordance with the minimum standard

OR

Undertake revegetation to the higher standard where past performance can be demonstrated

Supplementary planting

Vegetation type: All

In some cases, it may be considered desirable to introduce life forms and/or species that would have occurred on a site but are now absent.

Site gains for supplementary planting of understorey species can be generated where the understorey score is low (0 or 5). Site gains for supplementary planting of canopy tree species can be generated where there is no tree canopy cover (score is 0).

Site gains from supplementary planting are generally only available in woody vegetation. In exceptional circumstances, supplementary planting may be appropriate in non-woody vegetation if past performance can be demonstrated.

Supplementary planting must occur outside of the tree drip-line and not harm or replace existing native vegetation.

To determine if supplementary planting is appropriate, assessors should consider whether key woody life-forms such as small shrubs, medium shrubs, understorey trees or canopy trees are missing, and if there is available space for planting (bare ground outside drip line of canopy trees).

Supplementary planting must meet the standards outlined in the *Revegetataion and supplementary planting standard* in Appendix 2. The species, plant numbers and areas to be planted must be detailed in the management plan.

In woody vegetation, where the understorey score is 0 or 5 or where tree canopy cover score is 0, landowners may generate improvement gain where they agree to:

Undertake revegetation in accordance with the minimum standard

OR

Undertake revegetation to the higher standard where past performance can be demonstrated

In non-woody vegetation types where the understorey score is 0 or 5, landowners may generate improvement gain where they agree to:

Undertake supplementary planting to the minimum standard where past performance can be demonstrated

Appendix 2:
Revegetation and supplementary planting standard

The standard outlines the minimum requirements for the proposed revegetation or supplementary planting to qualify to generate site gain. This includes the appropriate 10 year survival target and the minimum diversity relevant to the vegetation type.

The recommended range of species should be chosen with reference to the appropriate EVC benchmark for the site. In order to develop an appropriate revegetation species list for the site, consideration should also be given to the relevant floristic community, local environmental and site conditions, ease of propagation and likely availability from nurseries.

The planting standard does not require the planting of herbs, prostate shrubs or medium or small grasses.

Generating site gain from revegetation of grassland vegetation is not currently an option provided. This is due to the difficulty and uncertainty in achieving a sufficient survival target to allow ongoing management.

The survival targets are the number of plants required to be surviving at the end of 10 years. To ensure they meet the survival target, landowners may need to establish a greater number of plants than the target survival number. Lower than expected germination rates or attrition of planted species within a habitat component category will require landowners to replant the necessary number within that habitat component to ensure that target survival numbers are met.

1.1 Standard for survival targets

10 year survival targets are based on the appropriate EVC benchmark.

Assessors should select the EVC that formerly occupied the site. This should be by reference to the pre-1750 EVC mapping layer unless on ground evidence suggests otherwise.

The target number of overstorey (trees) plants/ha are as follows:

- 50 plants/ha for woodlands
- 100 plants/ha for dry forests
- 150 plants/ha for riverine/lowland/foothill forests
- 200 plants/ha for damp/wet forests.

The required target number of understorey plants/ha for each habitat component are calculated according to Table 12 below. The benchmark per cent cover for each understorey habitat component is used.

Table 12: 10-year survival target number of plants for understorey habitat components

Understorey habitat component	Target no. of plants / ha (for each 5% cover in EVC benchmark)	Notes
Understorey tree > 5 m tall (T)	50 plants	Assume 10 plants / ha where benchmark cover is 1%
Medium shrub 1-5 m tall (MS)	200 plants	Assume 40 plants / ha where benchmark cover is 1%
Small shrub < 1 m tall (SS)	500 plants	Assume 100 plants / ha where benchmark cover is 1%
Large tufted graminoid (LTG) (grasses and grass-like tussocks > 1 m tall)	500 plants	Apply only where benchmark cover for LTG habitat component is 10% or greater

Target number of plants

If the required number of small shrub is not available, increasing the number of plants in other habitat components can then be considered.

Large tufted graminoids

Revegetation standards will generally require the use of woody species only although large, robust tussock-forming grasses/sedges/rushes may also be applicable in certain environments (e.g. streams, riparian areas). Large tufted graminoids planting can be increased in fertile environments to compete with weeds.

1.2 Minimum standards for target diversity

Species selection will be subject to site characteristics, ease of propagation and/or likely availability from regional nurseries. If the diversity of small shrub is not available increasing the number of plants in other habitat components should be considered.

The target diversity of understorey plants/ha for each habitat component are calculated according to Table 13 below. The benchmark per cent cover for each understorey habitat component is used.

Table 13: 10 year survival target diversity of plants for understorey habitat components

Understorey habitat component	Target diversity minimum standard	Target diversity higher standard
Understorey tree > 5 m tall (T)	At least 6 species	At least 10 species
Medium shrub 1-5 m tall (MS)		
Small shrub < 1 m tall (SS)		
Large tufted graminoid (LTG) (grasses and grass-like tussocks > 1 m tall)		

Appendix 3:
List of gain scoring target weeds (GS target weeds)

The following is a list of high threat weeds that DEPI expects landowners can reasonably eliminate to less than one per cent cover, and to the point of no visible plants remaining after 10 years of site management and 6–12 months after the last site treatment.

Scientific name	Common name
Acanthus mollis	Bear's Breeches
Agapanthus praecox	Common Agapanthus
Agave americana	American Aloe
Alternanthera philoxeroides	Alligator Weed
Alternanthera pungens	Khaki Weed
Ambrosia psilostachya	Cuman Ragweed
Anredera cordifolia	Madeira Vine
Aptenia cordifolia	Heart-leaf Ice-plant
Artemisia verlotiorum	Chinese Wormwood
Arum italicum	Italian Cuckoo-pint
Berkheya rigida	African Thistle
Brassica tournefortii	Mediterranean Turnip
Calystegia silvatica	Greater Bindweed
Carpobrotus aequilaterus	Angled Pigface
Carrichtera annua	Wards Weed
Centaurea melitensis	Malta Thistle
Chasmanthe floribunda	African Cornflag
Claytonia perfoliata	Miner's Lettuce
Clematis vitalba	Old Man's Beard
Convolvulus arvensis	Common Bindweed
Cortaderia jubata	Pink Pampass-Grass
Cortaderia selloana	Pampas Grass
Crassula ericoides	Reptile Crassula
Crassula multicava	Shade Crassula
Crassula muscosa	Rattail Crassula
Crassula tetragona	Shrubby Crassula
Crocosmia x crocosmiiflora	Montbretia
Cycloloma atriplicifolium	Winged Pigweed
Cynara cardunculus	Artichoke Thistle
Delairea odorata	Cape Ivy
Dipogon lignosus	Common Dipogon
Drosanthemum candens	Rodondo Creeper

Scientific name	Common name
Euphorbia lathyris	Caper Spurge
Fallopia convolvulus	Black Bindweed
Fallopia japonica	Japanese Knotweed
Ferraria crispa	Black Flag
Foeniculum vulgare	Fennel
Galenia pubescens	Coastal Galenia
Gazania linearis	Gazania
Gazania rigens	Coastal Gazania
Hyacinthoides non-scripta	English Bluebell
Ipomoea indica	Blue Morning-glory
Ipomoea purpurea	Tall Morning-glory
Lampranthus immelmaniae	Lampranthus
Lampranthus tegens	Little Noon-flower
Leucanthemum vulgare	Ox-eye Daisy
Lonicera japonica	Japanese Honeysuckle
Marrubium vulgare	Horehound
Myosotis sylvatica	Wood Forget-me-not
Osteospermum fruticosum	Shrubby Daisybush
Pennisetum clandestinum	Kikuyu
Phyla canescens	Fog-fruit
Senecio angulatus	Climbing Groundsel
Solidago canadensis	Canada Goldenrod
Tradescantia fluminensis	Purple Heart
Vaccaria hispanica	Cowherb
Verbena bonariensis	Purple-top Verbena
Vinca major	Blue Periwinkle
Vinca minor	Dwarf Periwinkle
Watsonia borbonica	Rosy Watsonia
Watsonia meriana	Bulbil Watsonia
Watsonia versfeldii	Pink Watsonia
Xanthium occidentale	Noogoora Burr
Xanthium orientale	Californian Burr

The following is a list of high threat weeds that DEPI expects landowners may, in some circumstances, be able to eliminate, where the level of weed abundance allows for elimination to less than one per cent cover.

Scientific name	Common name
Achnatherum caudatum	Espartillo
Agrostis capillaris	Brown-top Bent
Agrostis gigantea	Rep-top Bent
Allium triquetrum	Angled Onion
Ammophila arenaria	Marram Grass
Anthoxanthum odoratum	Sweet Vernal-grass
Arrhenatherum elatius	False Oat Grass
Arundo donax	Giant Reed
Asparagus asparagoides	Bridal Creeper
Asparagus declinatus	Bridal Veil
Asparagus scandens	Asparagus Fern
Avena sterilis	Sterile Oat
Brachypodium distachyon	False Brome
Briza maxima	Large Quaking-grass
Briza minor	Lesser Quaking-grass
Bromus madritensis	Madrid Brome
Bromus rubens	Red Brome
Cabomba caroliniana	Green Cabomba
Carex divisa	Divided Sedge
Carex flacca	Blue Sedge
Carex punctata	Dotted Sedge
Crassula alata	Three Part Crassula
Crassula natans	Crassula
Cynodon dactylon	Couch
Dactylis glomerata	Cocksfoot
Echium plantagineum	Paterson's Curse
Egeria densa	Dense Waterweed
Ehrharta calycina	Perennial Veldt-grass
Ehrharta erecta	Panic Veldt-grass
Ehrharta longiflora	Annual Veldt-grass
Ehrharta villosa	Pyp Veldt-grass
Eichhornia crassipes	Common Water Hyacinth
Elodea canadensis	Canadian Pondweed

Scientific name	Common name
Equisetum spp.	Horsetails
Eragrostis curvula	African Love-grass
Eragrostis mexicana	Mexican Love-grass
Festuca arundinacea	Tall Fescue
Freesia alba x Freesia leichtlinii	Freesia
Galium aparine	Cleavers
Galium murale	Small Goosegrass
Gladiolus tristis	Evening-flower Gladiolus
Gladiolus undulatus	Wild Gladiolus
Glyceria declinata	Manna Grass
Glyceria maxima	Reed Sweet-grass
Glyceria notata	Floating Sweet-grass
Gymnocoronis spilanthoides	Senegal Tea
Hieracium aurantiacum	Orange Hawkweed
Holcus lanatus	Yorkshire Fog
Hydrocleys nymphoides	Water Poppy
Hypericum perforatum	St. John's Wort
Ipheion uniflorum	Spring Star-flower
Iris pseudacorus	Yellow Flag Iris
Ixia maculata	Yellow Ixia
Ixia polystachya	Variable Ixia
Juncus acutus	Spiny Rush
Lolium rigidum	Wimmera Rye-grass
Lophopyrum ponticum	Tall Wheat-grass
Ludwigia palustris	Marsh Seedbox
Medicago minima	Little Medic
Medicago polymorpha	Burr Medic
Medicago truncatula	Barrel Medic
Mesembryanthemum aitonis	Angled Ice-Plant
Mesembryanthemum crystallinum	Common Ice-Plant
Mesembryanthemum nodiflorum	Slenderleaf iceplant
Moraea flaccida	One-leaf Cape-tulip
Moraea setifolia	Thread Iris
Nassella charruana	Lobed Needle-grass

Scientific name	Common name
Nassella hyalina	Cane Needle-grass
Nassella leucotricha	Texas Needle-grass
Nassella neesiana	Chilean Needle-grass
Nassella tenuissima	Mexican Feather Grass
Nassella trichotoma	Serrated Tussock
Neatostema apulum	Hairy Sheepweed
Oxalis pes-caprae	Soursob
Paspalum dilatatum	Paspalum
Paspalum distichum	Knotgrass
Pennisetum alopecuroides	Swamp Foxtail-grass
Pennisetum macrourum	African Feather-grass
Pennisetum villosum	Feathertop
Phalaris aquatica	Toowommba Canary-grass
Phalaris arundinacea	Reed Canary-grass
Phalaris canariensis	Canary Grass
Phalaris minor	Lesser Canary-grass
Phalaris paradoxa	Paradoxical Canary-grass
Piptatherum miliaceum	Rice Millet
Psilocaulon granulicaule	Wiry Noon-flower
Ranunculus repens	Creeping Buttercup
Sagittaria graminea	Arrowhead
Salvinia molesta	Salvinia
Senecio madagascariensis	Madagascar Groundsel
Sparaxis bulbifera	Harlequin Flower
Sparaxis tricolor	Tricolor Harlequin-flower
Spartina anglica	Common Cord-grass
Spartina x townsendii	Townsend's Cord-grass
Stenotaphrum secundatum	Buffalo Grass
Suaeda baccifera	Berry Seablite
Suaeda maritima	Annual Seablite
Thinopyrum junceiforme	Sea Wheat-grass
Trifolium subterraneum	Subterranean Clover
Typha latifolia	Lesser Reed-mace
Vulpia bromoides	Squirrel-tail Fescue
Zantedeschia aethiopica	White Arum-lily

Appendix 4:
Description of scoring site gain logic

Contents

1. Introduction

This document provides the method for the calculation of site gain from landowner commitments to protect and manage native vegetation. Landowners and assessors can use the Department of Environment and Primary Industries (DEPI) gain calculator which includes the scoring method specified here.

This document specifies:

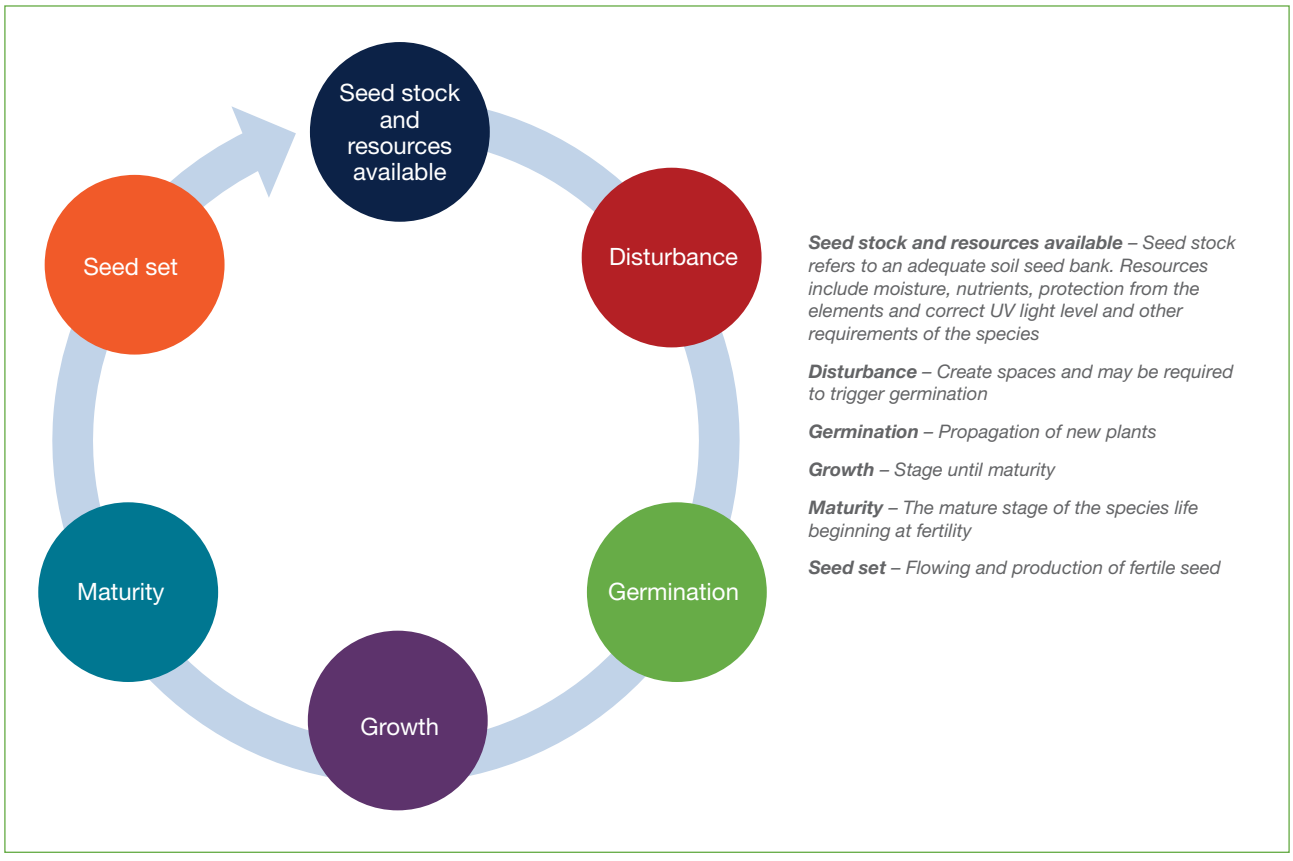
- the considerations used in the prediction of the amount of site gain
- the information used to calculate site gain
- when site gain is available
- how much site gain is generated from landowner commitments.

2. Introduction to the process of change in vegetation condition

The recruitment cycle

The recruitment cycle is the continuous process that plants go through to propagate, reach maturity and recruit new individuals through seeding. Figure 2 is a simplified version of the natural recruitment cycle.

Figure 2: Simplified view of the natural recruitment cycle



Vegetation communities require an uninterrupted natural cycle of recruitment to maintain a healthy diversity and abundance of species. The response to environmental influences is generally similar across species in particular vegetation types e.g. species in wetlands respond positively to flooding.

The recruitment cycle could be applied at many scales; from a single species, to a habitat component, to all habitat components on a site, and ultimately higher than a site level. To enable transfer of data between scoring site gain and the habitat hectares assessment method, the recruitment cycle and effects of threats should also be assessed at a habitat component level. Management commitments will be assessed at a site level as landowners have control of management commitments for a site.

Threats and the recruitment cycle

Allowable land uses such as grazing and threatening processes such as weed invasion can interrupt the natural recruitment cycle. Threats can affect different stages of the cycle, and some affect multiple stages.

Land uses and threatening processes have a different degree of impacts on the recruitment cycle in different vegetation types.

The gain scoring method expects that these threats will have measurable loss in condition over time. The amount of loss will vary from site to site. For the purpose of scoring site gain, the predicted loss has been estimated for four broad vegetation types. A more refined view across vegetation types of predicted loss in condition from threats will be developed when more detailed data becomes available.

Species within a vegetation community often have one of the following symbiotic relationships with other species in the same community:

- one species benefits but the other is neither positively or negatively affected
- both species benefit
- one species benefits at the expense of another or is parasitic on another species.

These relationships usually play out in a species recruitment cycle. When a species has its recruitment cycle interrupted by threats, the species will eventually have a smaller presence or become absent. As this occurs, other species in symbiotic relationships with the affected species may also have their recruitment cycles affected. This can become a feedback loop which causes vegetation condition to decline at a faster rate as it becomes of a lower condition. Removing the threats which cause these disruptions is key to ending this feedback loop.

At this stage the site gain scoring only considers site scale threats as adequate data for landscape scale threats is not available to effectively consider them. Filling this data gap is a priority to improve gain scoring at a site.

3. Prediction of site gain

Site gain is measured using the habitat hectares assessment method. It is a requirement of the *Permitted clearing of native vegetation – Biodiversity assessment guidelines* that gains and losses are assessed and measured in the same metrics. This allows a determination of when an offset site provides equivalent contribution to Victoria's biodiversity as the native vegetation removed.

Site gain results from landowner commitments to protect, maintain and improve vegetation condition. Site gain is available where the commitments are higher than the landowner's current legal management responsibilities (duty of care). Activities that landowners undertake to meet their current duty of care will not generate site gain. Section 5 of this appendix describes in detail the availability of site gain on freehold land based on duty of care and the commitments described in this section.

Site gain consists of four types gain:

Prior management gain

Prior management gain acknowledges management undertaken by landowners on a freehold site since State-wide planning permit controls for native vegetation removal were introduced in 1989. Prior management gain only applies to remnant vegetation.

Security gain

Security gain results from increasing the protection of native vegetation on a specific site. Landowners can generate security gain by registering a security agreement on the land title (for example under Section 69 of the *Conservation Forests and Lands Act 1987*). Landowners can also generate security gain by transferring freehold land to a secure Crown land reserve managed for conservation purposes.

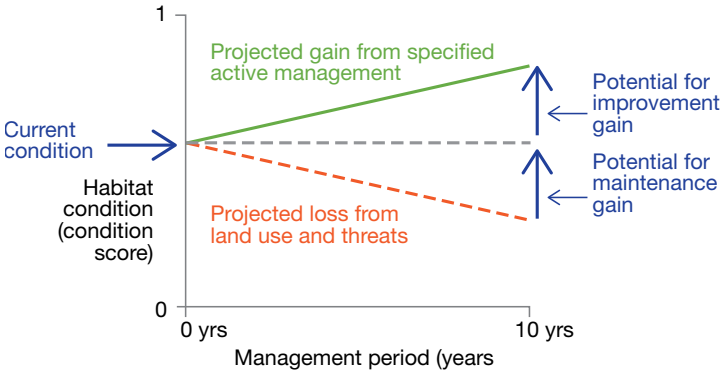
Maintenance gain

Maintenance gain results from avoiding the decline in vegetation condition that is predicted to occur (see Figure 3). The predicted decline is based on the combined effect of allowable land uses and threats. Landowners can generate maintenance gain by agreeing to forgo currently allowed land uses that affect the vegetation condition and agree tcontrol threats that affect vegetation condition.

Improvement gain

Improvement gain results from management commitments that improve the current vegetation condition (see Figure 3). Landowners can generate improvement gain where they agree to commitments to improve the vegetation that are beyond their existing legal management obligations (duty of care).

Figure 3: Maintenance and improvement gains



Maintenance gain commitments

Maintenance gain commitments avoid a decline in vegetation condition predicted to occur over a 10 year period. There are a number of management commitments landowners could undertake on a site to intervene with threats affecting the natural recruitment cycle. DEPI predicts site gain where there is known to be a high level of certainty that the commitments will be effective in stoping threats. For this reason, DEPI has a set list of maintenance gain commitments, see Table 7 to Table 11 in the manual and Appendix 1 for more detail. For the rating of success intervening threats has at a site level see Table 14. See also Table 15 for the predicted impact of threats on the condition score determined though the habitat hectares assessment method.

Table 14: Assumed effectiveness of maintenance gain commitments in stopping threats in woody vegetation

Vegetation type	Threat	Commitments to stop threat			Effect of commitment in stopping the threat and protecting vegetation condition
Woody vegetation, high rainfall volcanic plains or Gippsland plains grassland, non-woody wetland vegetation	Increasing weed cover	Ensure that weed cover does not increase beyond the current level	AND	Monitor for any new and emerging weeds and eliminate to < 1% cover	100%*
Woody vegetation and non-woody wetland vegetation	Grazing pressure	Exclude stock	AND	Control rabbits	100%*
Woody vegetation	Tree removal	Retain all standing trees (dead or alive)			100%*
	Log removal	Retain logs and fallen timber			100%*
High rainfall volcanic plains or Gippsland plains grassland	Lack of recruitment and micro-habitats due to thatching of Kangaroo Grass	Undertake periodic biomass management at agreed timing/frequency			100%*
		Undertake biomass management with no periodic schedule			50%*
	Lack of recruitment and micro-habitats due over grazing	Undertake periodic biomass management at agreed timing/frequency			100%*
		Undertake biomass management with no periodic schedule			50%*
Other grassland vegetation	Increasing weed cover	Ensure that perennial weed cover does not increase beyond the current level	AND	Exclude stock and ensure that annual weed cover does not increase beyond the current level AND Monitor for any new and emerging weeds and eliminate to < 1% cover	100%*
			AND	Monitor annual weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock AND Monitor for any new and emerging weeds and eliminate to < 1% cover	50%*

*Contribution of individual commitments to stopping the threat yet to be distinguished

Table 15: Predicted decline in condition over 10 years from threats

Vegetation type	Threat	Predicted decline over 10 years of affected habitat components from threat
Woody vegetation	Tree removal	Average of 10% depending on size of patch
	Log removal	10%
	Increasing weed cover and grazing pressure*	10%
Other grassland vegetation	Increasing weed cover and grazing pressure*	50%
Non-woody wetland vegetation		
High rainfall volcanic plains or Gippsland plains grassland	Increasing weed cover, lack of recruitment due to thatching of Kangaroo Grass, risk of over grazing*	50%

* The contribution of each individual threats to the predicted decline yet to be distinguished

The amount of site gain predicted for maintenance gain commitments is the amount of avoided decline in condition from threats multiplied by the predicted success of management commitments. See Section 5 of the manual for the resulting site gain.

DEPI will review the prediction of site gain on basis of enough scientific research being published that provides an updated view of:

- the effect of threats on the natural recruitment cycle, habitat components and the condition of vegetation
- what threats the commitment will address
- the effectiveness of the commitment listed in this document or others commitments not listed, the time it takes to take effect, what management is required to ensure it take effect and the level of certainty.

Improvement gain commitments

Improvement gain commitments result in an improvement in the condition of native vegetation when the condition of the vegetation is below benchmark conditions. These commitments can improve the vegetation condition by directly adding to the condition. However, most improvement gain commitments enable an improvement in the vegetation condition. The actual improvement in the condition happens when environmental conditions are favourable for a range of indigenous species. See Section 4 of the manual for predicted improvement in the habitat hectares score.

Where vegetation condition is already at benchmark, no improvement gain is available.

Eliminating high threat weeds is known to have a positive effect in enabling the improvement of vegetation condition. However, it is unreasonable to expect landowners to eliminate some high threat weeds without causing unacceptable collateral damage to the surrounding native vegetation. For this reason, DEPI has engaged experts to develop a list of high threat weeds where there is a reasonable expectation that the weed can be eliminated to less than one per cent cover. This list in included in Appendix 3.

The amount of improvement gain available for weed management will depend on the current condition score and the commitment that the landowner agrees to. Where the cover of high threat weeds is lower (lack of weeds score is 9 to 15) landowners should generally be able to eliminate all GS target weeds.

For habitat zones where the cover of high threat weeds is higher (lack of weeds score of < 9) landowners are unlikely to be able to eliminate all GS target weeds, but generally should be able to eliminate all woody weeds.

Proposing other management commitments

Other management commitments may require further study through scientific research to determine their effectiveness and certainty. This may include commitments for offsets of particular threatened species. The commitments listed in this document will improve the condition of vegetation, which in turn will increase the condition of the habitat for the majority of species. However, some other commitments may be particularly effective in increasing the condition of rare or threatened species habitat. This habitat may be a particular habitat component or another habitat attribute which is not recorded in the habitat hectares assessment. If it is not recorded in the habitat hectares assessment, a clear method of assessing the site gain and the relationship with habitat hectares assessment method would be required. Where enough research has been published that demonstrates proven effectiveness of commitments, DEPI will review and consider updating the site gain scoring methodology.

Standards for management commitments

The standards for how landowners implement management commitments aim to ensure that the commitment is effective in addressing the threat at a habitat level, not a species specific level. However, it should be noted that the standards for management commitments may also be updated with information on how the commitments are implemented. This can be to avoid impacts on particular threatened species, or possibly to benefit a particular threatened species. It should be noted that this can sometimes be a trade-off between benefiting one species and avoiding impacts on another threatened species. If DEPI does update the standard it will ensure that any amendments still allow for the effective intervention of the threats it is addressing. This is because gain in vegetation condition are predicted on the successful intervention of threats to vegetation condition assessed in the habitat hectares assessment method.

4. Availability of site gain

Commitments and legal management responsibilities

The commitments described in Table 7 to Table 11 in the manual provide a basis for determining the availability of site gain. Site gain is available where the commitments are higher than the landowner's current legal management responsibilities (duty of care). Activities that landowners undertake to meet their current duty of care will not generate site gain.

Prior management gain

Landowners who agree to protect remnant vegetation on freehold land will be credited with prior management gain. It is not available for revegetation sites (see Table 16).

Table 16: Availability of prior management gain on freehold land

Management type	Availability
Revegetation site	Not available
Remnant vegetation	Available

Security gain

Security gain is available on freehold land where the owner of the land agrees to commitments to protect the site in perpetuity (see Table 17).

Table 17: Availability of security gain on freehold land

Management type	Availability
Revegetation site	Available
Remnant vegetation	Available

Maintenance gain

Maintenance gain is generally available on freehold land for management of remnant native vegetation. On freehold land being revegetated, maintenance gain is only available for retention of existing logs.

Some planning scheme overlays increase the legal management responsibilities and therefore affect the availability of maintenance gain. For example, under an Environmental Significance Overlay (ESO) a landowner is required to obtain a planning permit to remove standing trees (dead or alive). The commitments to *retain all standing trees* OR *retain all standing large trees* do not generate maintenance gain where an ESO applies, as this is the landowner's duty of care under the ESO.

To determine the availability of maintenance gains on freehold land, first determine whether the area is covered by one of the following overlays:

- Environmental Significance Overlay (ESO)
- Vegetation Protection Overlay (VPO)
- Significant Landscape Overlay (SLO)
- Erosion Management Overlay (EMO)
- Salinity Management Overlay (SMO)

If none of the overlays listed above apply to the site, it will fall under the 'All other freehold land' category. Use Table 18 to determine the availability of maintenance site gain on freehold land.

Table 18: Availability of maintenance gain on freehold land

Management type	Habitat Component	Availability	
		Category	
		Freehold land covered by an ESO, VPO, SLO, EMO or SMO	All other freehold land
Revegetation	Revegetation of canopy and understorey species	Not available	Not available
	Logs	Available	Available
Remnant vegetation	Large tree	Not available	Generally not available[3]
	Tree canopy cover	Not available	Generally available[4]
	Understorey	Available	Available
	Lack of weeds	N/A	N/A
	Recruitment	Available	Available
	Organic litter	Available	Available
	Logs	Available	Available

3 Maintenance gain is not available for large trees unless the relevant EVC benchmark specifies that the benchmark diameter at breast height (DBH) for a large tree is less than 40 cm AND where the site is on contiguous land in the same ownership with an area equal to or more than 10 ha.

4 Maintenance gain is available for tree canopy cover where the site is on contiguous land in the same ownership with an area equal to or more than 10 ha.

Improvement gain

Improvement gain is generally available on freehold land (see Table 19).

Table 19: Availability of improvement gains on freehold land

Management type	Habitat Component	Availability
Revegetation	Revegetation of canopy and understorey species	Available
	Logs	Available for introduction from an approved log source (see section 4.1 of this appendix)*
Remnant vegetation	Large trees	N/A
	Tree canopy cover	Available
	Understorey	Available
	Lack of weeds	Available
	Recruitment	Available
	Organic litter	Available
	Logs	Available for introduction from an approved log source (see section 4.1 of this appendix)*

* Introduction of logs is only available in woody vegetation where the understorey score is low (< 10), the logs are sourced from an approved clearing, the general of the trees is indigenous to the site, and logs can be introduced without damaging existing vegetation.

Summary of available site gain on freehold land

Table 20 provides a summary of the available site gain on freehold land.

Table 20: Summary of available site gain on freehold land

Management type	Gain type	Availability
Revegetation	Prior management	Not available
	Security	Available
	Maintenance	Available for logs only
	Improvement	Available
Remnant vegetation	Prior management	Available
	Security	Available
	Maintenance	Available in most cases, see Table 9
	Improvement	Available

5. Tables of predicted site gain from landowner commitments

5.1 Calculating prior management gain

Protection of remnant native vegetation on freehold land can generate prior management gain. Prior management gain is only available once. Once the landowner has agreed to the minimum commitment, the resulting amount of prior management gain can be determined using Table 21.

Commitment required to generate prior management gain on freehold land

Minimum commitment – prior management gain	• Protect remnant vegetation

Table 21: Calculating prior management gain on freehold land

Prior management gain per hectare (/100)
10% of current (standardised) condition score

5.2 Calculating security gain

Security commitments for freehold land

The owner of the land can generate security gain where they increase the protection of the site with an on-title agreement or by transferring freehold land to the Crown. In such cases, the owner of the land must agree to forgo certain entitlements in perpetuity in order to qualify for security gain.

Once the eligibility criteria has been met, and once the owner of land has agreed to the minimum commitment, the resulting amount of security gain can be determined using Table 22.

Commitments required to generate security gain on freehold land

Minimum commitment – security gain	A Register one of the following security agreements, with a 10-year management plan, on the land title; agreement under Section 69 of the *Conservation Forests and Lands Act 1987*, agreement under Section 173 of the *Planning and Environment Act 1987*, or a conservation covenant under the *Victorian Conservation Trust Act 1972*. OR B Transfer of freehold land to a Crown land reserved as: National Parks, State Parks, Wilderness Parks, Coastal Parks reserved under the *National Parks Act 1975,* or Crown land reserved for the purpose of conservation under the *Crown Land (Reserves) Act 1978.*

Table 22: Calculating security gain on freehold land

Minimum commitments required to generate security gain	Security gain per hectare (/100)
Register one of the following security agreements, with a 10 year management plan, on the land title; agreement under Section 69 of the *Conservation Forests and Lands Act 1987*, agreement under Section 173 of the *Planning and Environment Act 1987*, or a conservation covenant under the *Victorian Conservation Trust Act 1972*.	10% of current (standardised) condition score
Transfer of freehold land to Crown land reserved as any park reserved under the *National Parks Act 1975*, or Crown land reserved for the purpose of conservation under the *Crown Land (Reserves) Act 1978,* which are the following paragraphs within subsection 4(1): (l) the preservation of areas of ecological significance; (m) the conservation of areas of natural interest or beauty or of scientific historic or archaeological interest; (ma) carbon sequestration in vegetation and soil; (n the preservation of species of native plants; (o) the propagation or management of wildlife or the preservation of wildlife habitat; OR any land referred to in sections 44 or 46	10% of current (standardised) condition score

5.3 Calculating maintenance and improvement gains in woody vegetation

Assessors should use the woody vegetation scoring site gain section for the following vegetation types:

- heathlands
- shrublands
- scrubs
- thickets
- woodlands
- swamps where tree canopy cover is naturally present
- forests
- rainforests.

Large trees

Large trees maintenance gain

Large tree maintenance gain is generally not available. If available, once the landowner has agreed to the minimum commitment, the resulting amount of large tree maintenance gain can be determined using Table 23.

Commitment required to generate maintenance gain for large trees in woody vegetation

Minimum commitment – large trees	• Retain all standing large trees (dead or alive)

Table 23: Calculating maintenance gain for large trees in woody vegetation

Condition score	Size of remnant patch		
Large trees	< 5ha	5 < 20ha	≥ 20ha
	Gain score / ha (/100)		
0	0	0	0
1	1	0.5	0.25
2	2	1	0.5
3	3	1.5	0.75
4-6	2.5	1.25	0.63
7-10	2	1	0.5

Large trees improvement gain

No improvement gains are possible for large trees over the 10-year management period. This is because the timeframe required to observe gains in large trees is longer than the management period.

Tree canopy cover

Tree canopy cover maintenance gain

Once the landowner has agreed to the minimum commitment, the resulting amount of tree canopy cover maintenance gain can be determined using Table 24.

Commitment required to generate maintenance gain for tree canopy cover in woody vegetation

Minimum commitment – tree canopy cover	• Retain all standing canopy trees (dead or alive)

Table 24: Calculating maintenance gain for tree canopy cover in woody vegetation

Condition score	Size of remnant patch		
Tree canopy cover	< 5ha	5 < 20ha	≥ 20ha
	Gain score / ha (/100)		
1	0.2	0.1	0.05
2	0.4	0.2	0.1
3	0.6	0.3	0.15
4	0.8	0.4	0.2
5	1	0.5	0.25

Canopy cover improvement gain

Once the landowner has agreed to the minimum commitments, the resulting amount of tree canopy cover improvement gain can be determined using Table 25.

Commitments required to generate improvement gain for tree canopy cover in woody vegetation

Minimum commitments – tree canopy cover	• Retain all standing canopy trees (dead or alive) AND • Exclude stock AND • Control rabbits
	AND (OPTIONAL)
Optional commitment – tree canopy cover	A Undertake supplementary planting in accordance with the minimum planting standard (See Appendix 2)

Table 25: Calculating improvement gain for tree canopy cover in woody vegetation

Condition score Tree canopy cover	Additional commitment	Gain score / ha (/100)
0	A	0.6
1-3	None	0.4
4-5	N/A	0

Understorey

Understorey maintenance gain

Once the landowner has agreed to the minimum commitments, the resulting amount of understorey maintenance gain can be determined using Table 26.

Commitments required to generate maintenance gain for understorey in woody vegetation

Minimum commitments – understorey	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover

Table 26: Calculating maintenance gain for understorey in woody vegetation

Condition score Understorey	Gain score / ha (/100)
0	0
5	0.5
10	1
15	1.5
20	2
25	2.5

Understorey improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of understorey improvement gain can be determined using Table 27.

Commitments required to generate improvement gain for understorey in woody vegetation

Minimum commitments – understorey	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – understorey	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover
	AND (OPTIONAL)
Optional commitment – understorey	C Undertake supplementary planting in accordance with the minimum planting standard (see Appendix 2)

Table 27: Calculating improvement gain for understorey in woody vegetation

Condition score		Additional and optional commitments	Gain score / ha (/100)
Understorey	Lack of Weeds		
0-5	< 9	B	1.25
	9-15	A	2.5
		B	1.25
		A AND C	3.5
		B AND C	2.25
10-20	< 9	B	2.5
	9-15	A	5
		B	2.5
25	0-15	N/A	0

Lack of weeds

Lack of weeds maintenance gain

Maintenance gain is not applicable for the lack of weeds component.

Lack of weeds improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of lack of weeds improvement gain can be determined using Table 28.

Commitments required to generate improvement gain for lack of weeds in woody vegetation

Minimum commitments – lack of weeds	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – lack of weeds	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 28: Calculating improvement gain for lack of weeds in woody vegetation

Condition score Lack of weeds	Additional commitment	Gain score / ha (/100)
< 9	B	2
9-15	A	4
	B	2

Recruitment

Recruitment maintenance gain

Once the landowner has agreed to the minimum commitments, the resulting amount of recruitment maintenance gain can be determined using Table 29.

Commitments required to generate maintenance gain for recruitment in woody vegetation

Minimum commitments – recruitment	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover

Table 29: Calculating maintenance gain for recruitment in woody vegetation

Condition score Recruitment	Gain score / ha (/100)
0	0
1	0.1
3	0.3
5	0.5
6	0.6
10	1

Recruitment improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of recruitment improvement gain can be determined using Table 30.

Commitments required to generate improvement gain for recruitment in woody vegetation

Minimum commitments – recruitment	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – recruitment	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 30: Calculating improvement gain for recruitment in woody vegetation

Commitment required to score improvement site gain for habitat zone				Gain score / ha (/100)
Condition score			Additional commitments	
Recruitment	Understorey	Lack of weeds		
0-6	0	0-15	N/A	0
	5-25	9-15	A	4
		< 9	B	2
10	0-25	0-15	N/A	0

Organic litter

Organic litter maintenance gain

Once the landowner has agreed to the minimum commitments, the resulting amount of organic litter maintenance gain can be determined using Table 31.

Commitments required to generate maintenance gain for organic litter in woody vegetation

Minimum commitments – organic litter	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Retain leaf litter

Table 31: Calculating maintenance gain for organic litter in woody vegetation

Condition score Organic litter	Gain score / ha (/100)
0	0
2	0.2
3	0.3
4	0.4
5	0.5

Organic litter improvement gain

Once the landowner has agreed to the minimum commitments, the resulting amount of organic litter improvement gain can be determined using Table 32.

Commitments required to generate improvement gain for organic litter in woody vegetation

Minimum commitments – organic litter	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Retain leaf litter AND • Control rabbits

Table 32: Calculating improvement gain for organic litter in woody vegetation

Condition score Organic litter	Gain score / ha (/100)
0-4	2
5	0

Logs

Log maintenance gain

Once the landowner has agreed to the minimum commitment, the resulting amount of log maintenance gain can be determined using Table 33.

Commitment required to generate maintenance gain for logs in woody vegetation

Minimum commitments – logs	• Retain logs and fallen timber

Table 33: Calculating maintenance gain for logs in woody vegetation

Condition score		Gain score / ha (/100)
Tree canopy score	Logs	
0	0	0
	2	2
	3	3
	4	4
	5	5
1-5	0	0.4
	2	2.4
	3	3.4
	4	4.4
	5	5

Log improvement gain

Once the landowner has agreed to the minimum commitments, the resulting amount of log improvement gain can be determined using Table 34.

Commitments required to generate improvement gain for logs in woody vegetation

Minimum commitments – logs	• Retain logs and fallen timber AND • Introduce logs from a permitted clearing site

Table 34: Calculating improvement gain for logs in woody vegetation

Condition score		Gain score / ha (/100)
Understorey	Logs	
0-5	0-3	2
	4 or 5	0
10-25	0-5	0

5.4 Calculating maintenance and improvement gains in high rainfall volcanic plains or Gippsland plains grassland vegetation

In general, assessors should use the high rainfall grassland section for the following vegetation types:

- Grassland vegetation with an annual rainfall above 500mm and where Kangaroo Grass is naturally dominant. These vegetation communities occur in the volcanic plains (excepting Balliang – Melton – Werribee rainshadow area) and Gippsland plains.

Understorey

Understorey maintenance gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of understorey maintenance gain can be determined using Table 35.

Commitments required to generate maintenance gain for understorey in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – understorey	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – understorey	A Undertake periodic biomass management at agreed timing/frequency OR B Undertake biomass management with no periodic schedule

Table 35: Calculating maintenance gain for understorey in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score (non- standardised) Understorey	Additional commitments	Gain score / ha (/100)
0	N/A	0
5	A	2.5
	B	1.25
10	A	5
	B	2.5
15	A	7.5
	B	3.75
20	A	10
	B	5
25	A	12.5
	B	6.25

Understorey improvement gain

Once the landowner has agreed to the minimum commitments and either A or B and C or D of the additional commitments, the resulting amount of understorey improvement gain can be determined using Table 36.

Commitments required to generate improvement gain for understorey in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – understorey	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – understorey	A Undertake periodic biomass management at agreed timing/frequency OR B Undertake biomass management with no periodic schedule
	AND EITHER
Additional commitments – understorey	C Eliminate all GS target weeds to < 1% cover OR D Eliminate all woody weeds to < 1% cover
	AND (OPTIONAL)
Optional commitment – understorey	E Undertake supplementary planting to the minimum standard where past performance can be demonstrated (see Appendix 2)

Table 36: Calculating improvement gain for understorey in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score (non-standardised)		Additional and optional commitments		Gain score / ha (/100)
Understorey	Lack of weeds			
0-5	< 9	A	D	0.63
		B		
	9-15	A OR B	C	1.25
			D	0.63
			C AND E	2.25
			D AND E	1.63
10-20	< 9	A	D	1.25
		B	D	0.63
	9-15	A	C	2.5
			D	1.25
		B	C	1.25
			D	0.63
25	0-15	N/A	N/A	0

Lack of weeds

Lack of weeds maintenance gain

Maintenance gain is not applicable available for to the lack of weeds component.

Lack of weeds improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of lack of weeds improvement gain can be determined using Table 37.

Commitments required to generate improvement gain for lack of weeds in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – lack of weeds	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – lack of weeds	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 37: Calculating improvement gain for lack of weeds in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score (non- standardised) Lack of weeds	Additional commitments	Gain score / ha (/100)
< 9	B	1
9-15	A	2
	B	1

Recruitment

Recruitment maintenance gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of recruitment maintenance gain can be determined using Table 38.

Commitments required to generate maintenance gain for recruitment in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – recruitment	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – recruitment	A Undertake periodic biomass management at agreed timing/frequency OR B Undertake biomass management with no periodic schedule

Table 38: Calculating maintenance gain for recruitment in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score (non-standardised)	Additional commitments	Gain score / ha (/100)
Recruitment		
0	N/A	0
1	A	1
	B	0.5
3	A	1.5
	B	0.75
5	A	2.5
	B	1.25
6	A	3
	B	1.5
10	A	5
	B	2.5

Recruitment improvement gain

Once the landowner has agreed to the minimum commitments and either A or B and C or D of the additional commitments, the resulting amount of recruitment improvement gain can be determined using Table 39.

Commitments required to generate improvement gain for recruitment in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – recruitment	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – recruitment	A Undertake periodic biomass management at agreed timing/frequency OR B Undertake biomass management with no periodic schedule
	AND EITHER
Additional commitments – recruitment	C Eliminate all GS target weeds to < 1% cover OR D Eliminate all woody weeds to < 1% cover

Table 39: Calculating improvement gain for recruitment in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score			Additional commitments		Gain score / ha (/100)
Recruitment	Understorey	Lack of weeds			
0-6	0-5	0-15	N/A	N/A	0
	10-25	< 9	A	D	1
			B	D	0.5
		9-15	A	C	2
				D	1
			B	C	1
				D	0.5
10	0-25	0-15	N/A	N/A	0

Organic litter

Organic litter maintenance gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of organic litter maintenance gain can be determined using Table 40.

Commitments required to generate maintenance gain for organic litter in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – organic litter	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – organic litter	A Undertake periodic biomass management at agreed timing/frequency OR B Undertake biomass management with no periodic schedule

Table 40: Calculating maintenance gain for organic litter in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score (non-standardised) Organic litter	Additional commitments	Gain score / ha (/100)
0	N/A	0
2	A	1
	B	0.5
3	A	1.5
	B	0.75
4	A	2
	B	1
5	A	2.5
	B	1.25

Organic litter improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of organic litter improvement gain can be determined using Table 41.

Commitments required to generate improvement gain for organic litter in high rainfall volcanic plains or Gippsland plains grassland vegetation

Minimum commitments – organic litter	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – organic litter	A Undertake periodic biomass management at agreed timing/frequency OR B Undertake biomass management with no periodic schedule

Table 41: Calculating improvement gain for organic litter in high rainfall volcanic plains or Gippsland plains grassland vegetation

Condition score (non-standardised) Organic litter	Additional commitments	Gain score / ha (/100)
0-4	A	1
	B	0.5
5	A OR B	0

5.5 Calculating maintenance and improvement gain other grassland vegetation

Assessors should use the other grassland scoring site gain section for the following vegetation types:

- terrestrial grassland vegetation where Kangaroo Grass is not naturally the dominant species and generally does not require biomass management, or
- terrestrial grassland vegetation with annual rainfall below 500mm

Understorey

Understorey maintenance gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of understorey maintenance gain can be determined using Table 42.

Commitments required to generate maintenance gain for understorey in other grassland vegetation

Minimum commitments – understorey	• Ensure that *perennial* weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – understorey	A Exclude stock and ensure that *annual* weed cover does not increase beyond the current level OR B Monitor *annual* weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock

Table 42: Calculating maintenance gain for understorey in other grassland vegetation

Condition score (non- standardised) Organic litter	Additional commitments	Gain score / ha (/100)
0	N/A	0
5	A	2.5
	B	1.25
10	A	5
	B	2.5
15	A	7.5
	B	3.75
20	A	10
	B	5
25	A	12.5
	B	6.25

Understorey improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of understorey improvement gain can be determined using Table 43.

Commitments required to generate improvement gain for understorey in other grassland vegetation

Minimum commitments – understorey	• Ensure that perennial weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Minimum commitments – understorey	• Exclude stock and ensure that annual weed cover does not increase beyond the current level OR • Monitor annual weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock
	AND EITHER
Additional commitments – understorey	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover
	AND (OPTIONAL)
Optional commitment – understorey	C Undertake supplementary planting to the minimum standard where past performance can be demonstrated (see Appendix 2)

Table 43: Calculating improvement gain for understorey in other grassland vegetation

Condition score		Additional commitments	Gain score / ha (/100)
Recruitment	Lack of weeds		
0-5	< 9	B	0.63
	9-15	A	1.25
		B	0.63
		A AND C	2.25
		B AND C	1.63
10-20	< 9	B	1.25
	9-15	A	2.5
		B	1.25
25	0-15	N/A	0

Lack of weeds

Lack of weeds maintenance gain

Maintenance gain is not available for the lack of weeds component.

Lack of weeds improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of lack of weeds improvement gain can be determined using Table 44.

Commitments required to generate improvement gain for lack of weeds in other grassland vegetation

Minimum commitments – lack of weeds	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – lack of weeds	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 44: Calculating improvement gain for lack of weeds in other grassland vegetation

Condition score (non-standardised) Lack of weeds	Additional commitments	Gain score / ha (/100)
< 9	B	1
9-15	A	2
	B	1

Recruitment

Recruitment maintenance gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of recruitment maintenance gain can be determined using Table 45.

Commitments required to generate maintenance gain for recruitment in other grassland vegetation

Minimum commitments – recruitment	• Ensure that perennial weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – recruitment	A Exclude stock and ensure that annual weed cover does not increase beyond the current level OR B Monitor annual weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock

Table 45: Calculating maintenance gain for recruitment in other grassland vegetation

Condition score (non-standardised) Recruitment	Additional commitments	Gain score / ha (/100)
0	N/A	0
1	A	1
	B	0.5
3	A	1.5
	B	0.75
5	A	2.5
	B	1.25
6	A	3
	B	1.5
10	A	5
	B	2.5

Recruitment improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of recruitment improvement gain can be determined using Table 46.

Commitments required to generate improvement gain for recruitment in other grassland vegetation

Minimum commitments – recruitment	• Ensure that perennial weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Minimum commitments – recruitment	• Exclude stock and ensure that annual weed cover does not increase beyond the current level OR • Monitor annual weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock
	AND EITHER
Additional commitments – recruitment	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 46: Calculating improvement gain for recruitment in other grassland vegetation

Condition score			Additional commitments	Gain score / ha (/100)
Recruitment	Understorey	Lack of weeds		
0-6	0-5	0-15	N/A	0
	10-25	< 9	B	1
		9-15	A	2
			B	1
10	0-25	0-15	N/A	0

Organic litter

Organic litter maintenance gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of organic litter maintenance gain can be determined using Table 47.

Commitments required to generate maintenance gain for organic litter in other grassland vegetation

Minimum commitments – organic litter	• Ensure that perennial weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – organic litter	A Exclude stock and ensure that annual weed cover does not increase beyond the current level OR B Monitor annual weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock

Table 47: Calculating maintenance gain for organic litter in other grassland vegetation

Condition score (non-standardised) Organic litter	Additional commitments	Gain score / ha (/100)
0	N/A	0
1	A	1
	B	0.5
3	A	1.5
	B	0.75
4	A	2
	B	1
5	A	2.5
	B	1.25

Organic litter improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of organic litter improvement gain can be determined using Table 48.

Commitments required to generate improvement gain for organic litter in other grassland vegetation

Minimum commitments – organic litter	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Minimum commitments – organic litter	• Exclude stock and ensure that annual weed cover does not increase beyond the current level OR • Monitor annual weed cover. If proportion of annual weeds ≥ 25% of the total vegetation cover, control by strategic grazing. At all other times exclude stock
	AND EITHER
Additional commitments – organic litter	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 48: Calculating improvement gain for organic litter in other grassland vegetation

Condition score (non-standardised) Organic litter	Additional commitments	Gain score / ha (/100)
0-4	A	1
	B	0.5
5	A OR B	0

5.6 Calculating maintenance and improvement gain in non-woody wetland vegetation

Non-woody wetland scoring site gain

Assessors should use the non-woody wetland scoring site gain section for following vegetation types:

- swamp where tree canopy cover is naturally absent (includes lignum swamp)
- salt marshes
- samphire shrublands
- grasslands reliant on flooding
- grassy or sedge wetlands
- herblands.

Understorey

Understorey maintenance gain

Once the landowner has agreed to the minimum commitments, the resulting amount of understorey maintenance gain can be determined using Table 49.

Commitments required to generate maintenance gain for understorey in non-woody wetland vegetation

Minimum commitments – understorey	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover

Table 49: Calculating maintenance gain for understorey in non-woody wetland vegetation

Condition score (non-standardised) Understorey	Gain score / ha (/100)
0	0
5	2.5
10	5
15	7.5
20	10
25	12.5

Understorey improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of understorey improvement gain can be determined using Table 50.

Commitments required to generate improvement gain for understorey in non-woody wetland vegetation

Minimum commitments – understorey	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – understorey	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover
	AND (OPTIONAL)
Optional commitment – understorey	C Undertake supplementary planting to the minimum standard where past performance can be demonstrated (see Appendix 2)

Table 50: Calculating improvement gain for understorey in non-woody wetland vegetation

Condition score		Additional commitments	Gain score / ha (/100)
Understorey	Lack of weeds		
0-5	< 9	B	0.63
	9-15	A	1.25
		B	0.63
		A AND C	2.25
		B AND C	1.63
10-20	< 9	B	1.25
	9-15	A	2.5
		B	1.25
25	0-15	N/A	0

Lack of weeds

Lack of weeds maintenance gain

Maintenance gain is not available for the lack of weeds component.

Lack of weeds improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of lack of weeds improvement gain can be determined using Table 51.

Commitments required to generate improvement gain for lack of weeds in non-woody wetland vegetation

Minimum commitment – lack of weeds	• Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover
	AND EITHER
Additional commitments – lack of weeds	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 51: Calculating improvement gain for lack of weeds in non-woody wetland vegetation

Condition score (non-standardised) Lack of weeds	Additional commitments	Gain score / ha (/100)
< 9	B	1
9-15	A	2
	B	1

Recruitment

Recruitment maintenance gain

Once the landowner has agreed to the minimum commitments, the resulting amount of recruitment maintenance gain can be determined using Table 52.

Commitments required to generate maintenance gain for recruitment in non-woody wetland vegetation

Minimum commitments – recruitment	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover

Table 52: Calculating maintenance gain for recruitment in non-woody wetland vegetation

Condition score (non-standardised) Recruitment	Gain score / ha (/100)
0	0
1	0.5
3	1.5
5	2.5
6	3
10	5

Recruitment improvement gain

Once the landowner has agreed to the minimum commitments and one of the additional commitments, the resulting amount of recruitment improvement gain can be determined using Table 53.

Commitments required to generate improvement gain for recruitment in non-woody wetland vegetation

Minimum commitments – recruitment	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Control rabbits
	AND EITHER
Additional commitments – recruitment	A Eliminate all GS target weeds to < 1% cover OR B Eliminate all woody weeds to < 1% cover

Table 53: Calculating improvement gain for recruitment in non-woody wetland vegetation

Condition score			Additional commitments	Gain score / ha (/100)
Recruitment	Understorey	Lack of weeds		
0-6	0-5	0-15	N/A	0
	10-25	< 9	B	1
		9-15	A	2
			B	1
10	0-25	0-15	N/A	0

Organic litter

Organic litter maintenance gain

Once the landowner has agreed to the minimum commitments, the resulting amount of organic litter maintenance gain can be determined using Table 54.

Commitments required to generate maintenance gain for organic litter in non-woody wetland vegetation

Minimum commitments – organic litter	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Retain leaf litter

Table 54: Calculating maintenance gain for organic litter in non-woody wetland vegetation

Condition score (non-standardised)	Gain score / ha (/100)
Organic litter	
0	0
2	1
3	1.5
4	2
5	2.5

Organic litter improvement gain

Once the landowner has agreed to the minimum commitments, the resulting amount of organic litter improvement gain can be determined using Table 55.

Commitments required to generate improvement gain for organic litter in non-woody wetland vegetation

Minimum commitments – organic litter	• Exclude stock AND • Ensure that weed cover does not increase beyond the current level AND • Monitor for any new and emerging weeds and eliminate to < 1% cover AND • Retain leaf litter AND • Control rabbits

Table 55: Calculating improvement gain for organic litter in non-woody wetland vegetation

Condition score (non-standardised) Organic litter	Gain score / ha (/100)
0-4	1
5	0

5.7 Calculating maintenance and improvement gain for revegetation sites

Calculating improvement gain for revegetation of canopy and understorey habitat components

Once the landowner has agreed to the minimum commitment and additional commitments, the resulting amount of improvement gain can be determined using Table 56.

Commitments required to generate improvement gain for revegetation sites

Minimum commitment – revegetation	• Control rabbits
	AND EITHER
Additional commitments – revegetation	A Undertake revegetation to the minimum standard OR B Undertake revegetation to the higher standard where past performance can be demonstrated (see Appendix 2)

Table 56: Calculating site gain for revegetation sites.

Additional commitment	Gain score / ha (/100)
A	7
B	10

Log maintenance gain for revegetation sites

Once the landowner has agreed to the minimum commitment, the resulting amount of log maintenance gain can be determined using Table 57.

Commitment required to generate maintenance gain for logs for revegetation sites

Minimum commitment – logs	• Retain logs and fallen timber

Table 57: Calculating maintenance gain for logs for revegetation sites

Length of logs as proportion of benchmark length present	Gain score / ha (/100)
< 10%	0
< 50%, large logs absent	2
≥ 50%, large logs absent	3
< 50%, large logs present	4
≥ 50%, large logs present	5

Log improvement gain for revegetation sites

Once the landowner has agreed to the minimum commitments, the resulting amount of log improvement gain for the revegetation site can be determined using Table 58.

Commitments required to generate log improvement gain for revegetation sites

Minimum commitments – logs	• Retain logs and fallen timber AND • Introduce logs from permitted clearing site

Table 58: Calculating improvement gain from introduction of logs into revegetation sites.

Length of logs as proportion of benchmark length present	Gain score / ha (/100)
> 10%	2

Summary of site gain for revegetation sites

Table 59 provides a summary of the site gain score per hectare (/100) achievable from revegetation proposals over the 10 year establishment period.

Table 59: Summary of potential site gain for revegetation sites

Habitat component	Potential revegetation gain / ha (/100)
Potential revegetation site condition gain/ha	7-10
Potential maintenance and improvement gain for logs	0-7
Total potential revegetation gain/ha range	7-15

5.8 Calculating the overall site gain

This section outlines the steps to calculate the overall habitat hectares of site gain. The total site gain per hectare will typically be between 10 per cent and 30 per cent of the current condition score.

1. Sum maintenance and improvement gain per hectare (/100)

Sum the maintenance gain for each habitat component to create an un-standardised subtotal of maintenance site gain.

Un-standardised subtotal of maintenance gain per hectare (/100)

= large trees maintenance gain + tree canopy cover maintenance gain + understorey maintenance gain + recruitment maintenance gain + organic litter maintenance gain + log maintenance gain

Sum the improvement site gain for each habitat component to create an un-standardised subtotal of improvement gain.

Un-standardised subtotal of improvement gain per hectare (/100)

= tree canopy cover improvement gain + understorey improvement gain + lack of weeds improvement gain + recruitment improvement gain + organic litter improvement gain + log improvement gain + special case commitments

2. Standardise the subtotals of maintenance and improvement gain

The subtotals of maintenance and improvement gain per hectare (/100) will require standardising if the EVC benchmark does not include all habitat components. If so, multiply the subtotals of the maintenance and improvement gain by the site condition standardiser (see Table 60). Please note that prior management gain and security gain do not require standardising.

Standardised subtotal of maintenance gain per hectare (/100)

= un-standardised subtotal of maintenance gain per hectare (/100) × site condition standardiser

Standardised subtotal of improvement gain per hectare (/100)

= un-standardised subtotal of improvement gain per hectare (/100) × site condition standardiser

Table 60: Site condition standardisers

Habitat components not part of EVC benchmark	Standardiser
Large trees (75/65)	1.15
Large trees and logs (75/60)	1.25
Large trees, tree canopy cover and logs (75/55)	1.36

3. Shorter management periods (if applicable)

Maintenance and improvement gain are calculated on the basis of 10 years of management. If the site has a management plan with a management period shorter than 10 years, divide the number of years of the management period by 10 to get a decimal. For example, for a 5 year management period this would be 5/10 equalling 0.5. To determine the correct gain, multiply this decimal by the total maintenance gain /ha (/100) and the total improvement gain / ha (/100).

Standardised subtotal of maintenance gain per hectare (/100) for shorter management period

= (management period / 10) × standardised subtotal of maintenance gain per hectare (/100)

Standardised subtotal of improvement gain per hectare (/100) for shorter management period

= (management period / 10) × standardised subtotal of improvement gain per hectare (/100)

4. Sum the site gain and divide by 100 to get decimal value of the overall site gain per ha

Prior management, security, maintenance and improvement gain should be added together to get the total site gain / ha (expressed as 1 –100).

Overall site gain per hectare (/100)

= prior management gain + security gain + standardised subtotal of maintenance gain + standardised subtotal of improvement gain

To translate the overall site gain per hectare (/100) to a decimal value, divide the overall site gain/ha by 100 to create a score from 0.001 to 1.

Decimal overall site gain per hectare

= sum of overall site gain per hectare (/100) divided by 100

5. Overall site gain in habitat hectares

The decimal value of site gain/ha (0.###) should be multiplied by size of the habitat zone in hectares to determine the **overall site gain in habitat hectares (#.###)**.

Please note site gain in habitat hectares are rounded to two decimal places. As such, habitat zones with a HHa score of less than 0.0005 HHa will round to zero.

Overall site gain in habitat hectares

= **decimal overall site gain** per hectare × site area (ha)

Appendix 5: Glossary

Canopy tree – A tree, greater than five meters in height, that is normally found in the upper layer of a vegetation type. Canopy trees are specified within each Ecological Vegetation Class in Victoria.

Condition score – A condition score indicates the quality of vegetation within a habitat zone relative to the Ecological Vegetation Class benchmark. The condition score is the sum of the site condition score and landscape context score. It is expressed on a scale of zero to one.

Crown land – Land owned by the government.

Current land tenure – The legal regime in which the land is owned.

Diameter at Breast Height (DBH) – A measurement of the size of the main tree trunk. Assessments in accordance with the Habitat hectares manual measure DBH at 1.3 metres above the ground.

Ecological Vegetation Class (EVC) – A native vegetation type classified on the basis of a combination of its floristic, life form, environmental and ecological characteristics.

Ecological Vegetation Class Benchmark – A reference point for each vegetation type that represents the average condition of mature stands that are likely to reflect pre-settlement circumstances.

First party general offsets – An offset located on land within the same ownership as the party who has a general offset requirement.

First party specific offsets – An offset located on land within the same ownership as the party who has a specific offset requirement.

Freehold land – Land over which the Crown has granted an interest, usually known as 'ownership' of land.

Gain – Predicted improvement in the contribution to Victoria's biodiversity achieved from an offset, calculated by combining site gain with the strategic biodiversity score or habitat importance score of the site. Gain is measured in biodiversity equivalence score or units.

General biodiversity equivalence score/units – Score or units used to quantify the relative overall contribution of a site to Victoria's biodiversity.

General offset – An offset that is required when a proposal is not deemed, by application of the specific-general offset test, to have a significant impact on habitat for any rare or threatened species.

Gain scoring target weeds (GS target weeds) – A plant that meets the definition of a high threat weed and has a reasonable expectation that it can be eliminated.

Habitat hectare – Combined measure of condition and extent of native vegetation. This measure is obtained by multiplying the site's condition score (measured between 0 and 1) with the area of the site (in hectares).

Habitat hectares assessment method – A site based measure of the condition of native vegetation with reference to the benchmark for the same type of native vegetation. The assessment generates a condition score of between 0 and 1.

Habitat importance map – A map that indicates the importance of locations as habitat for a particular rare of threatened species. This map is based on modelled data.

Habitat importance score – Measure of the importance of the habitat located on a site for a particular rare or threatened species.

Habitat zone – A habitat zone is a discrete area of native with similar biodiversity strategic score and habitat importance score within a land parcel. This is the base spatial unit for gain scoring.

Habitat zone identifier – A code that uniquely identifies a zone within a site. (e.g. 'a').

High threat weeds – Weed species that are introduced species (including non-indigenous 'natives') with the ability to outcompete and substantially reduce one or more indigenous habitat components in the longer term, assuming ongoing current site characteristics and disturbance regime.

Improvement gain – Improvement gain results from management commitments that improve the current vegetation condition. Landowners can generate improvement gain where they agree to commitments to improve the vegetation that are beyond their existing legal management obligations (duty of care).

Indigenous species – Indigenous species occur naturally within a particular area. While this particular area may be broad (e.g. indigenous to Australia), it is most often used to refer to the local area. For example, plants that occur naturally in a particular water catchment.

Landowner – Owner of land.

Landscape scale information – Mapped or modelled information based on data collected across the landscape rather than just on a particular site.

Legal management responsibility – A landowner's legal management responsibilities are duties or obligations under legislation, the local planning scheme or agreements applying to a property.

Loss – Loss in the contribution to Victoria's biodiversity when native vegetation is fully or partially removed, as measured in biodiversity equivalence score or units.

Management commitments – Maintenance and/or improvement gain commitments.

Management gain – Maintenance gain results from avoiding the decline in vegetation condition that is predicted to occur over a 10 year period. The predicted decline is based on the combined effect of allowable land uses and threats. Landowners can generate maintenance gain by agreeing to forgo currently allowed land uses that affect the vegetation condition and agree to control threats that affect vegetation condition.

Name / EOI Code – A code that identifies the management plan / landowner agreement for the site in question (e.g. BB-1234, TFN-C1234).

Native vegetation – Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.

Native vegetation credit – Gains in the contribution that native vegetation makes to Victoria's biodiversity that are registered on the native vegetation credit register. Native vegetation credits are offered for sale to parties who are required to offset the removal of native vegetation.

Native Vegetation Credit Register – A statewide register of native vegetation credits that meet minimum standards for security and management of sites. The register is administered by the Department of Environment and Primary Industries and records the creation, trade and allocation of credits to meet specific offset requirements.

No net loss – An outcome where a particular gain in the contribution to Victoria's biodiversity is equivalent to an associated loss in the contribution to Victoria's biodiversity from permitted clearing.

Offset – Protection and management (including revegetation) of native vegetation at a site to generate a gain in the contribution that native vegetation makes to Victoria's biodiversity. An offset is used to compensate for the loss to Victoria's biodiversity from the removal of native vegetation.

Patch size – Total area of contiguous native vegetation adjoining the habitat zone.

Perennial – A perennial plant is a plant that lives for more than two years. Perennials include species that are always visible e.g. shrubs and trees, but also include species that are not always visible above the ground.

Permit – A legal document that gives permission for a use or development on a particular piece of land.

Permitted clearing – Removal of native vegetation for which a planning permit has been granted to remove native vegetation.

Planning scheme – Policies and provisions for the use, development and protection of land in a local government area.

Prior management gain – Prior management gain acknowledges management undertaken by landowners on a freehold site since statewide planning permit controls for native vegetation removal were introduced in 1989. Prior management gain only applies to remnant vegetation.

Property size – Total area of a property.

Proposal type – Gain may be calculated for the purpose of native vegetation offsetting, or as part of participation in an incentive program.

Rare or threatened species – A species that is listed in:

- DEPI's Advisory List of Rare or Threatened Plants in Victoria as 'endangered', 'vulnerable', or 'rare', but does not include the 'poorly known' category
- DEPI's Advisory List of Threatened Vertebrate Fauna in Victoria as 'critically endangered', 'endangered' or 'vulnerable', but does not include 'near threatened' or 'data deficient' categories
- DEPI's Advisory List of Threatened Invertebrate Fauna in Victoria as 'critically endangered', 'endangered' or 'vulnerable', but does not include 'near threatened' or 'data deficient' categories.

Referral authority – An authority that a permit application is referred to for decision under Section 55 of the *Planning and Environment Act 1987*. All referral requirements are specified in Clause 66 of planning schemes.

Remnant patch of native vegetation – Either:

- an area of native vegetation[5], with or without trees, where at least 25 per cent of the total perennial understorey plant cover is native plants, or
- an area with three or more indigenous canopy trees where the tree canopy cover is at least 20 per cent.

Responsible authority – The authority charged with the responsibility for administering and enforcing particular aspects of a planning scheme.

Revegetation – Revegetation is the establishment of native vegetation to a minimum standard in formerly cleared areas outside a remnant patch.

Security Agreement – An ongoing enforceable legal agreement between a landowner and a statutory body which places legal obligations on the landowner to protect and manage native vegetation. Includes agreements under:

- Section 69 of the Conservation, Forests and Land Act 1987
- Section 3A under the Victorian Conservation Trust Act 1972
- Section 173 of the Planning and Environment Act 1987.

Security commitments – Landowner commitments required to generate security gain are security commitments.

Security gain – Security gain results from increasing the protection of native vegetation on a specific site. Landowners can generate security gain by registering a security agreement on the land title (for example under Section 69 of the *Conservation Forests and Lands Act 1987*). Landowners can also generate security gain by transferring freehold land to a secure Crown land reserve managed for conservation purposes.

Site gain – Predicted improvement in the condition, or the condition and extent, of native vegetation at a site (measured in habitat hectares) generated by the landowner committing to active management and increased security.

Site Location / Address – The street address of the property.

Specific offset – An offset that is targeted to a particular species (or multiple species) impacted by the removal of native vegetation.

Specific biodiversity equivalence score/units – With reference to a specific species, a score or units used to quantify the relative contribution of a site to Victoria's biodiversity.

5 Continuous and unbroken native vegetation. A break in remnant patch will occur where the definition of remnant path has not been made for a continuous width of at least 10m.

Strategic biodiversity map – A map that shows the relative value of a location in the landscape with regard to its condition, extent, connectivity and the support function it plays for species. The map is based on modelled data.

Strategic biodiversity score – A score that quantifies the relative value of a location in the landscape with regard to its condition, extent, connectivity and the support function it plays for species.

Strategic grazing – A tool to aid in the control of annual weeds and supplement targeted weed control by reducing the seed set of annual weeds. Usually conducted by introducing high stocking rates for a short period just before or at the flowering period of annual weeds.

Statutory body – The statutory body is responsible for administration, monitoring and compliance of the security agreement. This includes:

- Department of Environment and Primary Industries for agreements under Section 69 of the *Conservation, Forests and Land Act 1987*
- Trust for Nature for conservation covenants under section 3A under the *Victorian Conservation Trust Act 1972*
- Local councils for agreements under Section 173 of the *Planning and Environment Act 1987.*

Understorey – The lower layers of vegetation, including the shrub layer, grass layer and ground layer. The understorey may comprise native and non-native species.

For more information call the
Customer Service Centre **136 186**

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