



# Heads of Agreement Native Vegetation and Threatened Species Offset Management

**Independence Stockman Project Pty Ltd**

and

**Alpine Shire Council**

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# Heads of Agreement

Date

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Parties

**Independence Stockman Project Pty Ltd**

ACN 124 695 567 of Suite 4 Level 5, 85 South Perth Esplanade, South Perth, Western Australia

**(Company)**

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**Alpine Shire Council**

of Cnr Churchill Avenue and Hawthorn Lane, Bright, Victoria

**(Council/Landowner)**

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Recitals

- A. The Company is proposing to undertake the Project at the Mining Site in East Gippsland, Victoria.
- B. The Company must prepare an Environmental Effects Statement (EES) to obtain approval for the Project from the Minister for Planning under the *Environmental Effects Act 1978* (Vic).
- C. As part of the EES process, under the Framework and the EPBC Act, the Company must secure the Offsets to account for necessary removal of native vegetation associated with the Project.
- D. Council is established by, and enters into this Agreement in the exercise of its powers under, the *Local Government Act 1989* (Vic).
- E. Council is the Landowner of the Offset Land, and enters into this Agreement with the Company to facilitate the security of appropriate Offsets associated with the Offset Land.
- F. DELWP is the authority responsible for administering the Framework and is the referral authority for the EES process in relation to the associated native vegetation removal required for the Project.
- G. The Offset Land is suitable for the purpose of providing Offsets in accordance with the EES process, the Framework and the EPBC

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Act.

- H. The Company wishes to purchase the Offsets from the Landowner in accordance with this Agreement.
- I. The Landowner and the Landowner's agents are able to provide maintenance and management services such as those referred to in the Offset Proposal.
- J. This Agreement sets out the preliminary terms and further agreements and documents required to complete the purchase by the Company from the Landowner of the Offsets located on the Offset Land.

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The parties agree, in consideration of, among other things, the mutual promises contained in this agreement as follows:

## 1. Definitions and interpretation clauses

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### 1.1 Definitions

In this agreement:

- (a) Terms defined in this Agreement, any Act, Regulation or in the Framework have that defined meaning. If a term is not so defined it has its ordinary meaning.
- (b) All amounts stated in this Agreement are in Australian Dollars.
- (c) In this Agreement:

**Agreement** means this Heads of Agreement and any schedules and annexures.

**Business Day** means a day that is not a Saturday, Sunday or a public holiday in Melbourne.

**Claim** means any claim, action, proceeding or demand made against the person concerned, however it arises and whether it is present or future, fixed or unascertained, actual or contingent.

<b>Completion Date</b>	means the date on which the Landowner Agreement is executed by all relevant parties or such other date as may subsequently be agreed between the parties in writing.
<b>EPBC Act</b>	means the <i>Environment Protection &amp; Biodiversity Conservation Act 1999</i> (Cth).
<b>Mining Site</b>	means a mining site located on mining tenement MIN5523 in East Gippsland, Victoria associated with the Project.
<b>DELWP</b>	means the Victorian Department of Environment, Land, Water and Planning.
<b>Framework</b>	means the Victorian Government Native Vegetation Management Framework or any subsequent or similar Victorian native vegetation/biodiversity framework which refers to and describes Victorian native vegetation offset requirements (to the extent that any Framework applies to the Project).
<b>Habitat Hectare</b>	means a site based measure of quality and quantity of native vegetation that is assessed in the context of the relevant native vegetation type, as referred to and defined in the Offset Proposal
<b>Landowner Agreement</b>	means an Agreement of the type referred to as a Landowner Agreement in clause 5.1 of this Agreement.
<b>Native Vegetation Credit</b>	means a certificate, credit, extract or other document which may be recorded and traded with the approval of DEPI, which is evidence of the biodiversity value of an Offset.
<b>Offsets</b>	means the offsets required for the Project as part of the EES, to be located on the Offset Land, as referred to and described in the Offset Proposal.
<b>Offset Land</b>	means the specific subject land owned by the Landowner on which the Offsets are located which is an area of 2.1 hectares equating to 0.7 Habitat Hectares of remnant native vegetation, known as the Alpine Shire Property at Dinner Plain (being Lot 1 PS527332 Great Alpine Road, Victoria) and being part of the land described in Certificate of Title Volume 11336 Folio 799 and referred to in the Offset Proposal, which is available for use as an offset. Exact boundaries of the Offset Land are yet to be determined, however the indicative location of the land is shown

on the maps included in the Offset Proposal.

**Offset Proposal** means the Stockman Project Offset Proposal: Alpine Sphagnum Bogs and Associated Fens, Sub-alpine Wet Heathland, Montane Swamp, prepared by Ethos NRM Pty Ltd dated August 2013 and which quantifies the offset requirement and broad obligations of the offset landowner.

**Offset Management Plan** means the Vegetation Offset Management Plan, to be prepared in accordance with the Offset Proposal prepared by Ethos NRM Pty Ltd dated August 2013, , and which will also be referred to in the Landowner Agreement which confirms the presence of native vegetation on the Offset Land and provides specific actions that will include but not be limited to:

- (a) protect and improve current site quality;
- (b) maintenance of canopy cover and diversity of understorey life forms;
- (c) ensure weed cover does not increase and monitor for establishment of any new weed species;
- (d) maintain and increase the recruitment of mature plant species;
- (e) eradicate 'high threat' woody weeds and control other weed cover;
- (f) retain all fallen timber and leaf litter;
- (g) control all grazing and browsing threats; and
- (h) control pest and feral animals.

**Project** means the Company's activities involving the mining and production of zinc and copper concentrate:

- (a) located on mining tenement MIN5523 in East Gippsland, Victoria; and
- (b) known as the 'Stockman Project'.

**Responsible Authority** means DELWP or its successor.

## 1.2 Rules for interpreting this Agreement

Headings are for convenience only, and do not affect interpretation. The following rules also apply in interpreting this Agreement, except where the context makes it clear that a rule is not intended to apply.

- (a) A reference to:
  - (i) legislation (including subordinate legislation) is to that legislation as amended, re-enacted or replaced, and includes any subordinate legislation issued under it;
  - (ii) a document, Framework, or agreement, or a provision of a document, Framework, or agreement, is to that document, Framework, agreement or provision as amended, supplemented, replaced or novated;
  - (iii) a party to this Agreement or to any other document or agreement, except where the context otherwise requires, includes the party's executors, administrators, successors and permitted assigns and substitutes;
  - (iv) a person includes any type of entity or body of persons, whether or not it is incorporated or has a separate legal identity, and any executor, administrator or successor in law of the person;
  - (v) a party is to a party to this Agreement; and
  - (vi) anything (including a right, obligation or concept) includes each part of it.
- (b) A singular word includes the plural, and vice versa.
- (c) A word which suggests one gender include the other genders.
- (d) If a word is defined, another part of speech has a corresponding meaning.
- (e) If an example is given of anything (including a right, obligation or concept), such as by saying it includes something else, the example does not limit the scope of that thing.
- (f) The word **agreement** includes an undertaking or other binding arrangement or understanding, whether or not in writing.
- (g) Words defined in *A New Tax System (Goods and Services Tax) Act 1999* (Cth) have the same meaning in clauses about GST.

## 2 Status of this Agreement

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This Agreement is legally binding on all parties and their successors in title.

### **3. Purpose**

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This Agreement represents a preliminary Heads of Agreement in relation to the purchase of the Offsets by the Company from the Landowner.

### **4. Sale of agreed Offsets**

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#### **4.1 Offsets to be secured**

- (a) The parties agree that the Company will purchase the Offsets from the Landowner located on the Offset Land (as referred to and described in the Offset Proposal and Offset Management Plan) for the purposes of satisfying the requirements of the Framework, the EES process, and the EPBC Act as applicable to the Project.
- (b) The parties agree that the recognition of Offsets are subject any requirements of the EES process, the EPBC Act, the Framework and any other requirements published by DELWP from time to time.

#### **4.2 Offsets to be protected**

- (a) Subject to clause 4.2(b), the Landowner must not destroy, remove, kill, cull or damage, transfer, assign rights to, or otherwise affect in any way:
  - (i) the Offsets; or
  - (ii) the Offset Land;without the prior written consent of DELWP.
- (b) Clause 4.2(a) does not apply to the Landowner:
  - (i) undertaking the requirements of the Offset Management Plan;
  - (ii) in circumstances where the Landowner's actions are necessary:
    - (A) to protect life or limb; or
    - (B) in order to maintain access tracks or other public infrastructure; or
    - (C) to enhance biodiversity values on land; or
  - (iii) if the action is required by a fire prevention notice or other notice issued under law or where the action is in accordance with any relevant fire prevention plan implemented by a public authority; or
  - (iv) in an emergency situation.



- (c) In the event that the Landowner undertakes any actions which have the effect of permanently reducing, altering or damaging the offsets, the Landowner agrees:
  - (i) to fully assist the Company to source and provide alternative but similar offsets (with the same or similar habitat-hectare value); and
  - (ii) in the event that the Landowner is unable to assist the Company in a manner that results in appropriate offsets being obtained, the Landowner agrees to refund to the Company the full amount of all monies that the Company has paid to the Landowner since the date of this Agreement.

#### 4.3 Consideration payable

The parties agree that:

- (a) subject to this clause and clause 4.4, the consideration payable to the Landowner (**Consideration**) shall be payable in accordance with Schedule 2;
- (b) the Consideration described in clause 4.3(a) is payable unless the parties subsequently agree in writing to revised or different Consideration.

#### 4.4 Completion

Unless otherwise specified in this Agreement, the parties agree that:

- (a) subject to the provisions of this clause, the Completion Date must be no later than 60 months from the date of this Agreement;
- (b) the Completion Date may be extended by written agreement between the parties;
- (c) In the event that Completion does not occur within 60 months from the date of this Agreement, for any reason whatsoever, and the Completion Date has not been extended in accordance with clause 4.4(b), the Company may terminate this Agreement by serving written notice to the Landowner;
- (d) this Agreement may be terminated by either party by serving written notice on the other party if, prior to Completion, the Company forms the opinion that the Project is unlikely to proceed; and:
  - (i) the Company provides written notice to the Landowner of this opinion; and
  - (ii) the Completion Date has not been extended in accordance with clause 4.4(b);
- (e) if the Agreement is terminated in accordance with this clause the parties shall have no claim against each other stemming from the failure of payment to be made or Completion to occur;

- (f) the Company may assign or otherwise deal with its rights under this document in its absolute discretion; and
- (g) the Company must ensure that DELWP is provided with a copy of this Agreement.

#### 4.5 Payment

The parties agree that:

- (a) subject to clause 4.3 and 4.4; Consideration is payable as detailed in Schedule 2;
- (b) this Agreement is conditional upon:
  - (i) DELWP providing written confirmation to the parties that the Offset Management Plan and the sufficiency and condition of the Offsets is acceptable; and
  - (ii) execution of the Landowner Agreement by all relevant parties;
- (c) if any of the conditions referred to in clause 4.3(a) are not satisfied by the Completion Date or such later date as may be agreed to by the parties in writing, then either party may terminate this Agreement.

### 5. Further commitments of the parties

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#### 5.1 Further documents and agreements

The parties agree that the detailed terms and conditions regarding the implementation of the Offset Management Plan and the sale of the Offsets is (or is to be outlined in the following documents:

Document	OetaUs
1. Offset Proposal	Completed by Ethos NRM Pty Ltd engaged at the cost of the company and accepted by DELWP prior to the date of this Agreement.
2. Offset Management Plan	To be completed, in accordance with the Offset Proposal, by Ethos NRM Pty Ltd engaged at the cost of the Company The Offset Management Plan refers to and includes all relevant requirements set out in the Framework.

Document	Details
3. Landowner Agreement	To be executed by the relevant parties and registered on the title to the Offset Land to bind the Landowner and the Landowner's successors in title to secure the offsets and implement the requirements of the Offset Management Plan.
4. Financial Contract	To be executed by the relevant parties at the time of executing the Landowner Agreement, to provide the substantive financial terms of the purchase of the Offsets.

## 6. Warranties

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### 6.1 Warranties

- (a) The Landowner warrants that the Offset Land contains (to the best knowledge of the Landowner) the Offsets referred to and described in the Offset Proposal.
- (b) Without limiting the operation or effect of this Agreement, the Owner warrants that apart from the Owner and any other person who has consented in writing to this Agreement, no other person has any interest, either legal or equitable, in the Offset Land which may be affected by this Agreement.

## 7. Circumstances beyond the control of the Landowner

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### 7.1 Effect of exceptional circumstances

In exceptional circumstances:

- (a) which for the avoidance of doubt refers to circumstances which continue for less than 30 days, where all or part of the Offsets or Offset Land is damaged or affected by exceptional circumstances beyond the Landowner's reasonable control (including but not limited to war, riot, insurrection, fire, plague or natural disaster):
  - (i) such that it is not possible for the Landowner to carry out the requirements of the Offset Management Plan in any particular year; and
  - (ii) the Landowner immediately serves written notice on the Company when it first becomes aware of the exceptional circumstances (providing substantive details of the exceptional circumstances on the notice);

- (iii) the Landowner will not be required to provide a replacement or substitute Offset or actively manage the affected area for the duration of the exceptional circumstances;
- (iv) only in these exceptional circumstances and subject to the Landowner's compliance with the terms of this Agreement, the Company will not be entitled to a refund of monies that it has paid to the Landowner as at the date that notice is received by the Company; and the Landowner will not be entitled to receive payment of any further monies under this Agreement from the date that notice is received by the Company unless:
  - (A) DELWP provides written advice and confirmation to the Company:
    - (1) as to the sufficiency and condition of the Offsets remaining as a result of the exceptional circumstances; and
    - (2) that the Offsets are suitable for the Company's continued use as an offset for the purposes of the EES, the Framework, and the Project.

## **7.2 Effect of exceptional circumstances continuing for more than 30 days**

- (a) For exceptional circumstances such as those referred to in clause 7.1 but which continue for a period of 30 days or more:
  - (i) this Agreement may be terminated by the Company serving written notice on the Landowner;
  - (ii) only in these exceptional circumstances and subject to the Landowner's compliance with the terms of this Agreement, the Company will not be entitled to any refund of monies that it has paid to the Landowner as at the date that notice of termination is received by the Landowner; and
  - (iii) the Landowner will not be entitled to receive payment of any further monies under this Agreement from the date that the notice of termination is received by the Landowner.

## **8. Release and indemnity**

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### **8.1 Release**

The Landowner, to the full extent permitted by law, releases and forever discharges the Company from all Claims and Losses which the Landowner has, or at any future time may have or may bring, or but for this Agreement might have had or brought, against the Company in relation to:

- (a) the Landowner breaching this Agreement; and/or
- (b) any negligent act or omission of the Landowner.

## **8.2 Indemnity**

The Landowner, to the full extent permitted by law, indemnifies, and agrees to keep indemnified, the Company against:

- (a) any Claim made against the Company;
- (b) any Loss suffered or incurred by the Company; and
- (c) any obligation, duty or liability otherwise incurred by the Company,

which arises from or in relation to:

- (d) the Landowner breaching any clause of this Agreement; and/or
- (e) any negligent act or omission of the Landowner.

## **9. GST**

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### **9.1 Definitions**

In this clause:

**GST** means the goods and services tax as imposed by the GST Law together with any related interest, penalties, fines or other charges;

**GST Amount** means any Payment (or the relevant part of the Payment) multiplied by the appropriate rate of GST (currently 10%);

**GST Law** has the meaning given to that term in *A New Tax System (Goods and Services Tax) Act 1999* (Cth), or, if that Act does not exist for any reason, means any Act imposing or relating to the imposition or administration of a goods and services tax in Australia and any regulation made under that Act;

**Payment** means an amount payable under or in connection with this Agreement by the Company to the Landowner including an amount payable by way of indemnity, reimbursement or otherwise, other than a GST Amount;

**Tax Invoice** has the meaning given to that term by the GST Law;

**Taxable Supply** has the meaning given to that term by the GST Law.

## 9.2 **Payment of GST**

The parties agree that:

- (a) all Payments have been calculated without regard to the impact of GST;
- (b) if the whole or a part of a Payment is the consideration for a Taxable Supply, for which the payee is liable to pay GST, the payer must pay to the payee an additional amount equal to the GST Amount at settlement; and
- (c) the payee will provide to the payer a Tax Invoice.

## 10. **General**

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### 10.1 **Giving effect to this Agreement**

- (a) Each party must do anything (including execute any document), and must ensure that its employees and agents do anything (including execute any document), that the other party may reasonably require to give full effect to this Agreement.
- (b) The parties must keep each other informed of the progress towards satisfaction of the terms and conditions and must provide all reasonable assistance to each other as is necessary to satisfy those conditions.

### 10.2 **Waiver and variation**

- (a) A right may only be waived in writing, signed by the party giving the waiver, and:
  - (i) no other conduct of a party (including a failure to exercise, or delay in exercising, the right) operates as a waiver of the right or otherwise prevents the exercise of the right;
  - (ii) a waiver of a right on one or more occasions does not operate as a waiver of that right if it arises again; and
  - (iii) the exercise of a right does not prevent any further exercise of that right or of any other right;
- (b) a variation or amendment of any term of this Agreement must be in writing and signed by the parties.

### 10.3 **Approvals and further action**

The parties agree to cooperate and consult and each to use all reasonable endeavours to obtain any regulatory or internal approvals, clearances or consents reasonably necessary for the arrangements set out in this Agreement to proceed.

#### 10.4 **Operation of this Agreement**

Any right that a person may have under this Agreement is in addition to, and does not replace or limit, any other right that the person may have.

Any provision of this Agreement which is unenforceable or partly unenforceable is, where possible, to be severed to the extent necessary to make this Agreement enforceable, unless this would materially change the intended effect of this Agreement.

#### 10.5 **Governing law and jurisdiction**

This Agreement is governed by the law in force in Victoria.

#### 10.6 **Time of the essence**

Time is of the essence of this Agreement.

#### 10.7 **Counterparts**

This Agreement may be executed in counterparts. All counterparts together will be taken to constitute one instrument.

#### 10.8 **Notices**

- (a) A notice, consent or other communication under this Agreement is only effective if it is:
  - (i) in writing, signed by or on behalf of the person giving it;
  - (ii) addressed to the intended recipient at the address shown below or the address last notified by the intended recipient to the sender;
  - (iii) either:
    - (A) delivered or sent by pre-paid mail (by airmail, if the addressee is overseas) to that person's address; or
    - (B) sent by fax to that person's fax number and the machine from which it is sent produces a report that states that it was sent in full;
- (b) A notice, consent or other communication that complies with this clause is regarded as given and received:
  - (i) if it is delivered or sent by fax:
    - (A) by 5.00 pm (local time in the place of receipt) on a Business Day - on that day; or

(8) after 5.00 pm (local time in the place of receipt) on a Business Day, or on a day that is not a Business Day - on the next Business Day; and

(ii) if it is sent by mail:

(A) within Australia - three Business Days after posting; or

(8) to or from a place outside Australia - seven Business Days after posting.

(c) The address details for the parties are as follows:

INFORMATION WITHHELD DUE TO PRIVACY REASONS

\_\_\_\_\_

\_\_\_\_\_



## Schedule 1      Offset Proposal

The following report is to be inserted in the final document:

### **STOCKMAN PROJECT**

#### **Offset Proposal:**

**Alpine Sphagnum Bogs and Associated Fens**

**Sub-alpine Wet Heathland**

**Montane Swamp**

Prepared by:    Ethos **NRM** Pty Ltd

Date:            August 2013

File name:      8040B IGO Montane Swamp Offset Proposal final.pdf



**ETHOS NRM**

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## **STOCKMAN PROJECT**

### **Offset Proposal:**

**Alpine Sphagnum Bogs and Associated Fens**

**Sub-alpine Wet Heathland**

**Montane Swamp**



**Prepared For: Independence Group N/L**

**August 2013**

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**ENVIRONMENTAL, PLANNING & NATURAL RESOURCE MANAGEMENT  
CONSULTANTS**

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Cover Photo: OHZ4 (Proposed Offset Site at Dinner Plain Property owned by Alpine Shire)

Ethos NRM Pty Ltd				
Document Control				
Client	Independence Group NIL			
Title	Stockman Project: Offset Proposal for Alpine Sphagnum Bogs and Associated Fens, Sub-alpine Wet Heathland, Montane Swamo			
Author	Kerry Spencer			
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**ETHOS NRM**

ENVIRONMENTAL, PLANNING & NATURAL RESOURCE MANAGEMENT CONSULTANTS

## EXECUTIVE SUMMARY

The Stockman Project, which is being undertaken by Independence Group NL (IGO) proposes to carry out underground mining operations to source copper and zinc from two prospects known as Currawong and Wilga within State Forest, approximately 19km south-east of Benambra.

State Policy (known as the *Framework*) for vegetation removal requires that a three step hierarchical approach to vegetation removal is undertaken that being; avoid all vegetation removal, and where this is not practicable, minimise vegetation removal and/or offset vegetation loss. Avoidance and mitigation measures are also the primary strategy for managing impacts on protected matters under the EPBC Act – Environmental Offset Policy. Details of avoidance and mitigation measures can be found in the Stockman Project: Terrestrial Vegetation Assessment Report (Ethos, 2013).

This report documents an offset proposal demonstrating how the proposed removal, to enable expansion of the existing Tailings Storage Facility (TSF), of 0.36 ha of Sub-alpine Wet Heathland or *Alpine Sphagnum Bogs and Associated Fens*, will be compensated for in order to meet both State and Commonwealth offset obligations.

Sub-alpine Wet Heathland is one of 19 Sub-alpine Treeless Vegetation types (EVCs) within the Victorian Alps bioregion, all of which have limited geographic distribution. Sub-alpine Wet Heathland is listed as Endangered in the Victorian Alps bioregion. The EVC Sub-alpine Wet Heathland (within the Victorian Alps bioregion) and specifically the area to be removed for the TSF has been determined by Ethos NRM to meet both the Environmental Protection and Biodiversity Conservation EPBC Act 1999 listed '*Alpine Sphagnum Bogs and Associated Fens*' ecological community and also the floristic community "Montane Swamp Complex" which is listed under the Flora Fauna Guarantee Act 1988 (FFG). Vegetation offsets are also required under the EPBC Act and are a means to compensate for impacts on matters of National Environmental Significance protected under the EPBC Act (SEWPC, 2012).

Both State legislation and Commonwealth legislation require that the provision of offsets meet certain 'like for like' criteria. A State offset requirement of 0.62 Habitat Hectares (HHa) of Very High Conservation Significance Sub-alpine Wet Heathland (Ecological Vegetation Class EVC 210) has been calculated as the required offset to compensate for the loss of 0.36 hectares of the same EVC.

IGO does not possess any Sub-alpine Wet Heathland on the private land they own near the Stockman Project. Investigations into sourcing an appropriate offset site to compensate for the removal of *Alpine Sphagnum Bogs and Associated Fens* (Sub-alpine Wet Heathland EVC 210) have been undertaken by Ethos NRM and IGO. Trust for Nature has recently assisted in more targeted efforts to directly contact landholders around Dinner Plain where suitable vegetation types on private land were identified.

Vegetation within the Alpine Shire Property at Dinner Plain (Lot 1 PS527332 Great Alpine Road) has been assessed by Ethos NRM (2012 field survey) as meeting both the State and Commonwealth offset obligations for removal of 0.36 ha of Sub-alpine Wet Heathland as part of the Stockman Project. The entire property is approximately 160 ha, however the offset area required is significantly smaller and would comprise of the following suitable vegetation types and area:

- 2.08 ha of Sub-alpine Wet Heathland.
- These above areas would be protected via either a Section 173 Agreement under the Planning and Environment Act 1987 or another "permanent and ongoing" security arrangement.

Diversity of flora species and quality scores within the proposed offset areas was very high. A high cover (40+%) of Sphagnum Moss was recorded within the offset areas, including very large and old hummocks which were over 1m in height. In some areas the Sphagnum Moss cover was extensive and provided a continuous cover across the ground, through which shrub and graminoid species were growing. Four rare and one threatened floristic species were recorded within the offset areas. The condition and size of the proposed offset site has been determined by Ethos NRM to meet all 'like for like' Framework (DNRE, 2002) requirements.

Quantification of the potential gains which could be achieved within the proposed offset sites using the DSE Gain Calculator achieved a score of 0.74 HHa. **This exceeds the required 0.62 HHa of State offset.** To achieve the gains a number of management actions and Landowner commitments need to be applied to the Offset Site over a ten year period. Security of the offset site is proposed to be achieved via either a Section 173 Agreement under the Planning and Environment Act 1987 or another approved "permanent and ongoing" security arrangement attached to the property title.

The proposed offset site has also been determined to meet the requirements of the EPBC Offset Criteria and in summary the offset site is: of better quality habitat than the impact site; has higher species diversity, structure and patch size; one of a number of sites located in close proximity; of high importance for the provision of habitat for rare and threatened flora and fauna species.

The proposed offset will comprise of 100% direct offsets as it includes an area of 2.08 hectares of '*Alpine Sphagnum Bogs and Associated Fens*' community, which is more than 5 times the area being removed (0.36 hectares). After inputting the required variables to the EPBC Gain Calculator, the proposed offset at Dinner Plain:

- Compensates for 117.17% of the loss.
- Meets the minimum 90% direct offset requirement.
- Requires no other indirect compensatory measure.

**Hence the proposed offset at Dinner Plain, owned by the Alpine Shire, of 2.08 hectares of '*Alpine Sphagnum Bogs and Associated Fens*' (Sub-alpine Wet Heathland) will meet both the EPBC and State Offset Requirements to compensate for the loss of 0.36 hectares of which will be removed to enable expansion of the existing TSF for the Stockman Project.**

**An area of 0.24 hectares (OHZ2 and OHZ3) of '*Alpine Sphagnum Bogs and Associated Fens*' (Sub-alpine Wet Heathland), remains available for future use as an offset.**

# 1 INTRODUCTION

## 1.1 Background

Independence Group NL (IGO) proposes to develop the Stockman Project, an underground mining operation to source copper and zinc from two prospects known as Currawong and Wilga. The proposed project will be located within State Forest, approximately 19 km east of the township of Benambra in East Gippsland, Victoria.

Ethos NRM Pty Ltd, Environmental Planning and Natural Resource Management Consultants have been engaged to prepare the Terrestrial Vegetation Assessment Report to accompany the EES (Environmental Effects Statement). The Terrestrial Vegetation Assessment Report (Ethos, 2013) documents findings from the assessment of vegetation taxa and communities that are present within the project and adjoining areas. The report describes the composition, distribution, status of the native vegetation and the condition and impacts resulting from the project. Mine infrastructure, including the expansion of the existing Tailings Storage Facility, will result in the loss of vegetation, and in particular, an area of Sub-alpine Wet Heathland, which is listed under State and Commonwealth legislation.

Avoidance and mitigation or minimisation measures are the primary strategy for managing impacts on native vegetation or protected matters under both State and Commonwealth legislation. The Terrestrial Vegetation Assessment Report (Ethos, 2013) details in **Section 6.1.1** and **6.1.2** avoidance and minimisation measures for vegetation removal (including *Alpine Sphagnum Bogs and Associated Fens* at the Tailings Storage Facility) for the Stockman Project. As impacts have been minimised as far as practical for the project, an offset proposal has been developed to meet State and Commonwealth requirements.

IGO have the ability to meet the majority of their native vegetation offset requirements on private land with remnant vegetation purchased near the mine site. However private land purchased by IGO does not possess any Sub-alpine Wet Heathland, which due to its State and Commonwealth listing, must be offset to compensate for its loss and meet 'like for like' offset criteria.

## 1.2 Objective

This "offset proposal" documents how IGO propose to meet State and Commonwealth offset obligations to compensate for the loss of 0.36 hectares of Sub-alpine Wet Heathland (*Alpine Sphagnum Bogs and Associated Fens*). Specifically the purpose of this report is to:

- Document steps taken to source an appropriate offset for the loss of Sub-alpine Wet Heathland (*Alpine Sphagnum Bogs and Associated Fens*).
- Respond to DSE verbal request for a documented offset proposal demonstrating how the loss of Sub-alpine Wet Heathland (*Alpine Sphagnum Bogs and Associated Fens*) will be offset.
- Address the Commonwealth requirement to provide a documented 'offset proposal'.
- Provide details of a specific offset site at Dinner Plain that meets both State and Commonwealth offset obligations.

Refer to Figure 1 for location of both the removal site (TSF) and the proposed offset site (Dinner Plain).

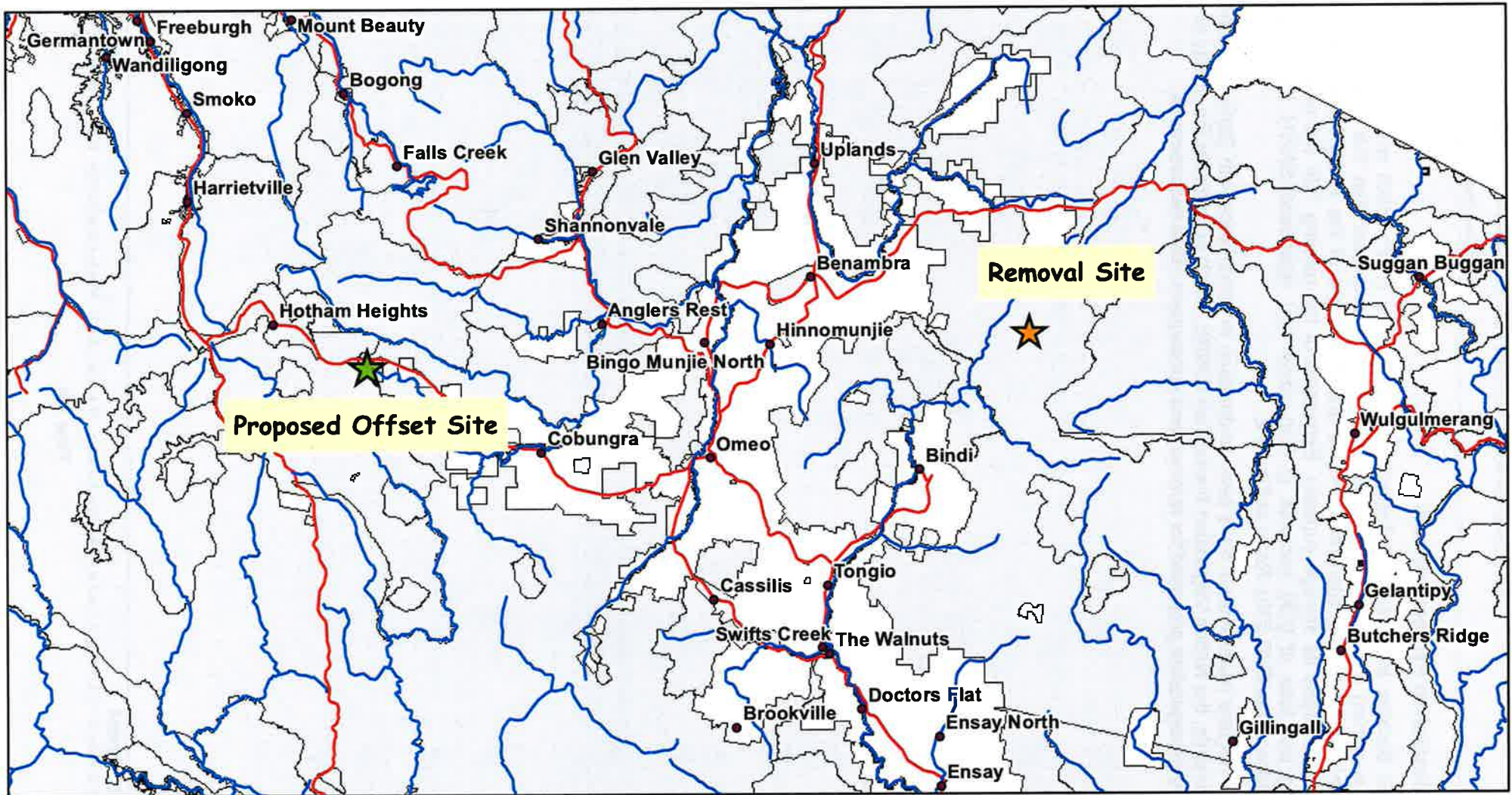
### **1.3 Stockman Project Impacts**

Lake St Barbara is an existing Tailings Storage Facility (TSF) which was used during previous mining activity by Denehurst Pty Ltd. It is proposed that this TSF will be recommissioned for the Stockman Project and the height of the embankment will be raised to increase its storage capacity. Expansion of the existing TSF will result in the flooding and loss of 0.36 hectares of Sub-alpine Wet Heathland SAWH (Ecological Vegetation Class EVC 210). Refer to Figure 2.

Habitat Hectare assessments have been undertaken in accordance with State legislative requirements, the Native Vegetation Framework (DNRE, 2002) to calculate the quality and quantity of vegetation proposed for removal and subsequent offset requirements.



**Stockman Project**  
**Figure 1. Locality Map**  
**Proposed Removal and Offset Sites of Sub-alpine Wet Heathland**



**Legend**

- Hydrology
- Roads
- Public Land



Date: 19/12/12  
 Map Produced by: Ethos NRM  
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Datum: GDA 94 MGA Zone 55

## 2 VEGETATION TYPE AND DESCRIPTION

### 2.1 Assessment Methodology

Vegetation assessment of both the TSF and Offset site has been undertaken using Habitat Hectare Assessment Methodology in accordance with the prescribed methods by DSE (Department of Sustainability and Environment). Flora species lists have also been collected at each site and area provided in Appendix 1.

#### 2.1.1 Victorian Alps Bioregion

Both the removal and proposed offset sites are located within the Victorian Alps bioregion. Victorian Alps bioregion consists of a series of high plateaus and peaks along the Great Dividing Range. Palaeozoic deposits predominantly of granitic and basaltic origin give rise to friable leached earths, loams and peaty soils (Tenosols and Organosols). The vegetation associated with the subalpine plateaus is Sub-alpine Woodland, Treeless Sub-alpine Mosaic and Sub-alpine Grassland ecosystems. The upper slopes and generally surrounding sub-alpine areas are dominated by Montane Dry Woodland, Montane Damp Forest, Montane Wet Forest and Montane Grassy Woodland ecosystems (DSE, 2012). The surrounding forest areas of the highlands form the largest continuous area of public land in Victoria and a large percentage of the area may be snow-covered for up to four months of the year.

The Victorian Alps bioregion extends over 3000 square kilometres above 1200 m in altitude. The true alpine treeless area consists of a series of disjunct high altitude plateaus. Many of Victoria's major river systems, including the Tambo, Mitchell, Murray, Goulburn, Ovens, King and Kiewa, have their headwaters in the alpine and sub-alpine areas (DSE, 2012).

### 2.2 Ecological Vegetation Class (EVC)

Due to the different ways that vegetation is described and classified at a bioregional, state and federal level, the terminology used to describe vegetation at any one site may differ. Within the current Victorian classification system of Ecological Vegetation Classes, the EVC Sub-alpine Wet Heathland (within the Victorian Alps bioregion) is comparable to both the Environmental Protection and Biodiversity Conservation EPBC Act 1999 listed '*Alpine Sphagnum Bogs and Associated Fens*' ecological community and also the floristic community "Montane Swamp Complex" which is listed under the Flora Fauna Guarantee Act 1988 (FFG).

Sub-alpine Wet Heathland is one of 19 Sub-alpine Treeless Vegetation types (EVCs) within the Victorian Alps bioregion. The geographic distribution of Sub-alpine Wet Heathland is very limited and within the Victorian Alps bioregion it covers a very small area. Sub-alpine Wet Heathland is a treeless community characterised by a dense layer of low heathy shrubs to 2 m tall, a diversity of sedges, rushes and sphagnum moss. It is found at montane elevations along drainage lines where cold air collects at night and the tree-line becomes inverted. The EVC often exists in close association with other Sub-alpine Treeless Vegetation (EVC 44).

Sub-alpine Wet Heathland EVC consists of a mixture of shrub species such as; Mountain Baeckea (*Baeckea utilis*), Myrtle Tea Tree (*Leptospermum myrtifolium*), Coral Heath (*Epacris gunnii*), Small Fruit Hakea (*Hakea microcarpa*), Heath Milkwort (*Comesperma retusum*) and Drumstick Heath (*Epacris breviflora*). Growing under and amongst these species are *Sphagnum* spp. Bogs. The percentage of shrub cover appears to be influenced by altitude and temperature, the higher the altitude and colder temperature, the less shrub cover occurring within this community.

### 2.3 Conservation Status

The Conservation Status is a rating of an EVC which ranges from Least Concern (the lowest) to Endangered (the highest) and is determined at a bioregional level based on how commonly it occurs, the current level of depletion and the level of degradation of condition of typical remaining stands.

Sub-alpine Wet Heathland is listed as “Endangered” within the Victorian Alps bioregion.

### 2.4 Conservation Significance

Conservation Significance is a rating ascribed to a Habitat Zone (patch of uniform vegetation) ranging from Low to Very High. Table 5 of the *Framework* enables the Conservation Significance of an area to be determined according to the relationship between the Conservation Status of the vegetation present and the quality of the vegetation as determined by the Habitat Score (DNRE, 2002).

The areas of Sub-alpine Wet Heathland which will be removed are of VERY HIGH Conservation Significance. Additionally the vegetation removal site has been determined to be the Best 50% and Remaining 50% of habitat for a number of rare & threatened flora and fauna species which have been recorded within close proximity to Lake St Barbara.

The process for applying offset ‘like for like’ criteria for vegetation/habitat type and threatened species is based on the key driver of the conservation significance rating. Described in the *Conservation Significance and Like for Like Fact Sheet (2)* (DSE, Feb 2010a). If the highest or equal highest conservation significance rating of the clearing site is due to the EVC Bioregional Conservation Status x Habitat Score then the ‘like for like’ rules for the offset follow the vegetation type requirements only ie. the same vegetation/habitat type is required, the offset must contain the same EVC.

### 2.5 Offset Requirement

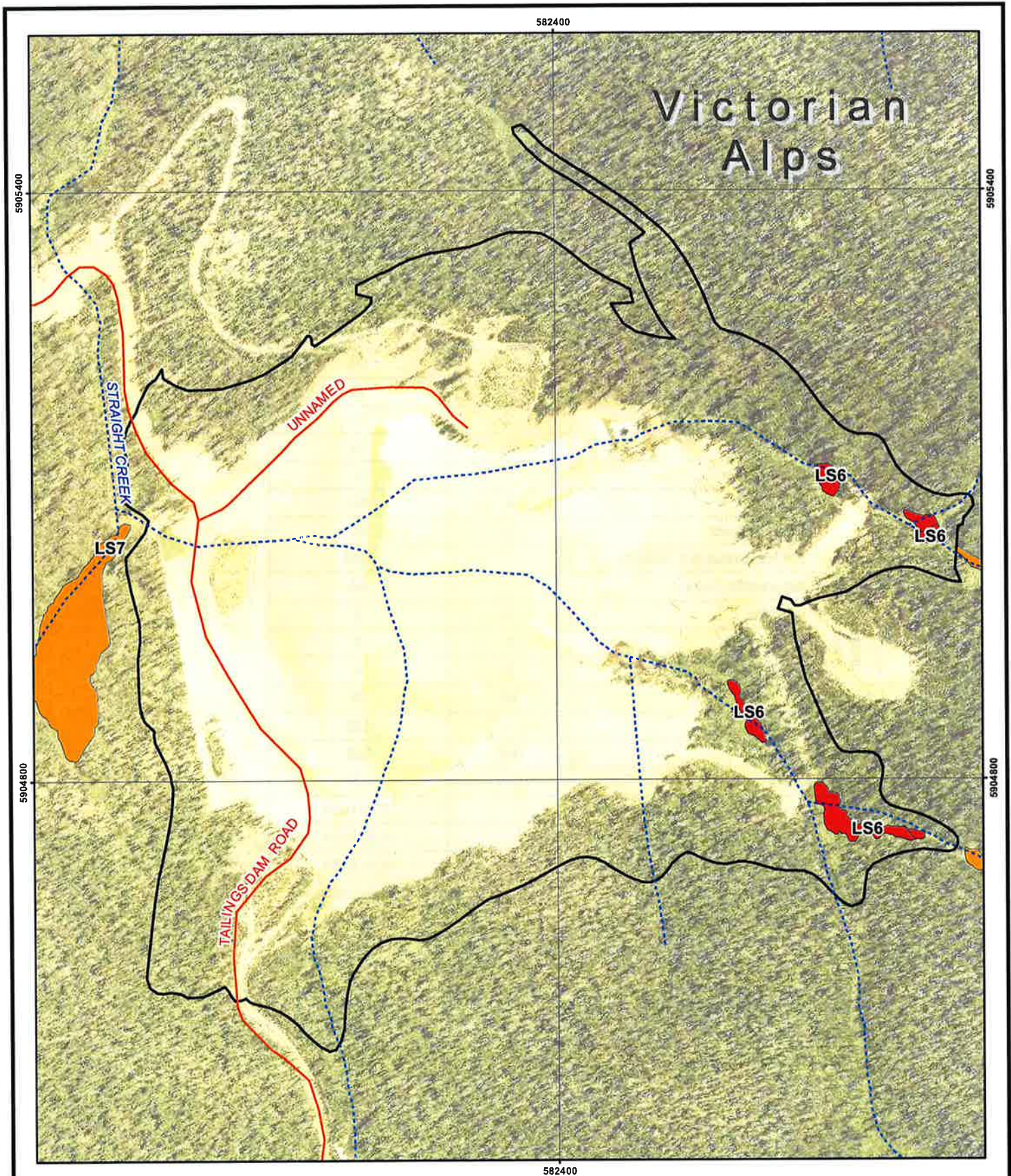
An offset requirement of 0.62 Habitat Hectares of Very High Conservation Significance vegetation has been calculated to offset the loss of 0.36 hectares of Sub-alpine Wet Heathland. The area of Sub-alpine Wet Heathland proposed for removal has been assessed by Ethos NRM to meet both the descriptions for *Alpine Sphagnum Bogs and Associated Fens* and *Montane Swamp Complex* listed under the EPBC and FFG Acts respectively. Hence an offset must be provided which will meet both State Framework and Commonwealth EPBC requirements.

Table 1 provides detail on the proposed removal of Sub-alpine Wet Heathland at Lake St Barbara for expansion of the TSF and Figure 2 illustrates the areas of impact.

**Table 1. Proposed Removal of Sub-alpine Wet Heathland (Stockman Project)**

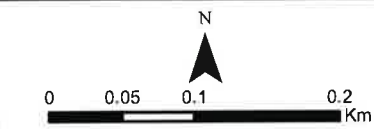
		Lake St Barbara Expansion	
<b>Habitat Zone</b>		<b>LS6<sup>1</sup></b>	
<b>Bioregion</b>		VA	
<b>EVC #: Name</b>		<b>SWH</b>	
<b>EVC Bioregional Conservation Status</b>		Endangered	
		<b>Max Score</b>	<b>Score</b>
Site Condition	Large Old Trees	10	N/A
	Canopy Cover	5	N/A
	Understorey	25	20
	Lack of Weeds	15	13
	Recruitment	10	10
	Organic Matter	5	5
	Logs	5	N/A
	<b>Total Site Score</b>	<b>75</b>	<b>48</b>
	EVC standardiser (e.g. 75/55) [1]		75/55
	<b>Adjusted Site Score</b>		<b>N/A</b>
Landscape value	Patch Size	10	8
	Neighbourhood	10	8
	Distance to Core	5	4
<b>Habitat Score</b>		<b>100</b>	<b>85</b>
<b>Habitat points = #/100</b>		<b>1</b>	<b>0.85</b>
Habitat Zone area (ha)		(#. #)	0.36
<b>Habitat Hectares</b>		<b>(#. #)</b>	<b>0.31</b>
Conservation Significance	<b>Conservation status x Habitat Score</b>		VERY HIGH
	<b>Threatened Species Rating - Flora</b>		VERY HIGH
	<b>Threatened Species Rating - Fauna</b>		VERY HIGH
	<b>Other Site Attribute Rating</b>		EPBC listed community
	<b>Overall Conservation Significance (highest rating)</b>		<b>VERY HIGH</b>
<b>Net Outcome</b>		2	
<b>Gain Target (Hha)</b>		<b>0.62</b>	
<b>No. of Large Old Trees to be removed in each Habitat Zone</b>		N/A	
<b>Tree protection multiplier</b>		N/A	
<b>Large Old Trees to be protected</b>		<b>N/A</b>	

<sup>1</sup> This data is based on field survey and assessment undertaken in 2009 and 2011.



**Figure 2: Stockman Project: Impacts to Alpine Sphagnum Bogs and Associated Fens, Sub-alpine Wet Heathland, Montane Swamp.**

- - - - Hydrology
- — — Roads & Tracks
- Impact Footprint
- Areas of Removed Sub-alpine Wet Heathland
- Retained Areas of Sub-alpine Wet Heathland



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Date: 5/08/2013      Image Date: Nov 2007

Coordinate System:  
GDA 94 MGA Zone 55



Map Produced by: Ethos NRM,  
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## 2.6 EPBC Listed Ecological Community “Alpine Sphagnum Bogs and Associated Fens”

*Alpine Sphagnum Bogs and Associated Fens* is a Threatened Ecological Community listed as Endangered under the EPBC Act 1999. It is a treeless vegetation type generally found in high altitude drainage lines or gullies where the inversion of cold air into the gully restricts growth of eucalypt canopy species. This community is found in small pockets across Tasmania, Victoria, New South Wales and the Australian Capital Territory (DEWHA, 2008a).

*Alpine Sphagnum Bogs and Associated Fens* Endangered ecological community is identified in the EPBC Conservation Advice by the presence of ‘*Sphagnum* spp. on a peat substratum’, (DEWHA, 2008a). Fens can be described as semi-permanent to permanent pools of water, generally found in the wettest areas along watercourses or on valley floors. Bogs are found in similar sites where there is poor drainage and the water table is at or near the surface.

### 2.6.1 Criteria for EPBC Act 1999 Listing

Generally, listed ecological communities under the EPBC Act 1999, have a condition threshold (criteria) which describes the features an area of this ecological community needed to obtain protection (DEWHA, 2008b). No condition threshold has been identified for the *Alpine Sphagnum Bogs and Associated Fens* ecological community. The Approved Listing Advice (DEWHA, 2008a) states that no condition threshold has been provided for this community because:

- A large percentage of the community is held within National Park.
- The condition of the community is so highly modified it is not possible to determine what is natural.
- Of the significant impacts of the 2003 and 2006 wildfires, the community will require adequate time to recover before assessing.

Although *Sphagnum* spp. are a key component of this ecological community, there are some sites for example at the Stockman Project site which are dominated by shrubs or *Restionaceae* spp., where *Sphagnum* spp. are only a minor component. In addition Sphagnum moss may have been depleted or lost due to site disturbance and therefore in order to determine whether the site meets the community criteria, a number of other key species must be present (see **Appendix 3**) and a peat substratum evident (DEWHA, 2008a).



Vegetation is categorised differently between different states and can be either very broad or specific. In Victoria, classification of vegetation is undertaken via EVCs. The EPBC Policy Statement for *Alpine Sphagnum Bogs and Associated Fens* lists a number of EVCs (EVCs), including Sub-alpine Wet Heathland that are the floristic equivalents to the threatened community (DEWHA, 2009). Sub-alpine Wet Heathland is the EVC which has been recorded along Straight Creek and tributaries above Lake St Barbara, within the Stockman Project site.

## 2.6.2 EPBC Significant Impact Criteria

Determination of whether an action is likely to have a significant impact on a protected matter such as *Alpine Sphagnum Bogs and Associated Fens* is based on a number of criteria (DEWHA, 2008). Referral of the Stockman Project to the Commonwealth was undertaken in 2010 and it was determined that the project was a “controlled action”.

Expansion of the existing TSF would result in vegetation removal, including 0.36 hectares of *Alpine Sphagnum Bogs and Associated Fens* which is considered to be a significant impact because; there will be a reduction in the extent of this ecological community and increasing its fragmentation within the Straight Creek’s catchment.

## 2.7 FFG Listed Montane Swamp Complex

Montane Swamp Complex is a Threatened floristic community protected under the FFG Act 1988 which has been recorded at the Lake St Barbara and Straight Creek proposed Tailings Storage Facility sites. Few known sites of ‘Montane Swamp’ exist within the Tambo/Nunniong region and past survey information undertaken in 1988 by McMahon and Carr (McMahon and Carr, 1988) found seven major sites ranging in size from 0.5 - 21 hectares. An estimated total of 44 hectares of ‘Montane Swamp’ was recorded during their survey, of which 21 hectares was removed to enable construction of the Tailings Storage Facility now known as Lake St Barbara, (McMahon and Carr, 1988) during past mining activity within the Stockman Project site. Limited information and mapping currently exist on the distribution and condition of this community within the Tambo/Nunniong region.

Due to the lack of mapping or available information on the full extent and location of this community within and around the project area, Ethos NRM has undertaken additional surveys in order to confirm existing and potentially unmapped sites of *Alpine Sphagnum Bogs & Associated Fens* ecological community.

## 3 STEPS UNDERTAKEN TO SOURCE OFFSET

Detailed below are the chronological steps which have been undertaken, by IGO and Ethos NRM, as part of the investigation into sourcing an appropriate offset site to compensate for the removal of Sub-alpine Wet Heathland EVC 210 (*Alpine Sphagnum Bogs and Associated Fens*).

<b>2009</b>
Letter sent to Bushbroker to request a search for offsets, including Sub-alpine Wet Heathland. No sites containing the target EVC were listed.
<b>2010</b>
Referral (in Draft format) of the Stockman Project forwarded to the Commonwealth for assessment of potential impacts to EPBC listed <i>Alpine Sphagnum Bogs and Associated Fens</i> resulting from enlargement of the existing TSF (Lake St Barbara). Project determined a “controlled action”.
IGO purchase private property near the Stockman Project to meet vegetation offset obligations; this property however contained no Sub-alpine Wet Heathland.
Infrastructure components of project and options for TSF explored.

Desktop analysis to find locations where Sub-Alpine Wet Heathland may occur on nearby public land (as part of determination of the significance of impact at a local scale).	
Potential impacts to Sub-Alpine Wet Heathland quantified and investigation commenced to source an offset. Limited mapping of this community was available due to the small scale and size that it exists, both desktop analysis and field surveys of sub-alpine areas around the project site were undertaken by Ethos NRM.	
As part of the desktop analysis of identifying potential sites where Sub-Alpine Wet Heathland occurs the following process was undertaken.	
	Identification of the relevant EVCs within each bioregion that are considered the floristic equivalent of EPBC Alpine Sphagnum Bogs and Associated Fens as identified in the EPBC Policy Statement (DEWHA, 2007). These included; EVC 171 – Alpine Fen, EVC 210 – Sub-Alpine Wet Heathland, EVC 221 – Sub-alpine Wet Heathland/Alpine Fen Mosaic, EVC 288-61 – Alpine Valley Peatland (Raised Bog), EVC 288-62 – Alpine Valley Peatland (Valley Bog), EVC 917 – Sub-Alpine Wet Sedgeland (wetland EVC only) and EVC 1011 – Alpine Peaty Heathland.
	Review of Native Vegetation Plans for East Gippsland CMA, Goulburn CMA, Port Phillip CMA, North East CMA and West Gippsland CMA. This has provided baseline area (hectares) of the extent of Sub-alpine Wet Heathland (EVC 210) Alpine Sphagnum Bogs and Associated Fens and equivalent EVCs, and their occurrence on public or private land.
	Air photo interpretation of high resolution colour aerial imagery surrounding the project site was undertaken. This has enabled identification of treeless vegetation along or near watercourses/gullies that may constitute 'Sub-alpine Wet Heathland'. Potential sites which were identified on aerial imagery were then field verified.
	Interrogation of DSE online Biodiversity Interactive Mapping Tool to identify the location of Sub-alpine Wet Heathland (EVC 210) and Alpine Sphagnum Bogs and Associated Fens and equivalent EVCs on private land.
	Desktop GIS and database analysis identified eleven potential sites comprising approximately 580 hectares of EVC with <i>Alpine Sphagnum Bogs and Associated Fens</i> on private property. Six sites are within the Victorian Alps Bioregion, four sites are within the Highlands Northern Fall Bioregion and one site is within the Monaro Tablelands Bioregion. Calculation of approximate area of EVC within private property was undertaken through interrogation of DSE online Biodiversity Interactive Mapping Tool, CMA Native Vegetation Plans and GIS mapping data. The closest sites were located approximately 50km to the east of the Stockman Project site, near the localities of Cobungra and Dinner Plain.
<b>2011</b>	
Draft EES documents prepared.	
Local Real Estate agents were approached and provided with broad maps of areas of interest (these were locations Ethos NRM had identified as having potential Sub-alpine Wet Heathland). IGO requested the Real Estate agents to provide details on any private land for sale near the identified areas which was for sale. No properties were listed for sale.	
<b>2012</b>	

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Ethos NRM requested a search for offsets be undertaken through ES VegetationLink for Sub-alpine Wet Heathland. We provided background information to enable ES VegetationLink to better understand the nature and distribution of Sub-alpine Wet Heathland. We received confirmation from ES VegetationLink that they have no clients with land containing Sub-alpine Wet Heathland.	
Trust for Nature (TfN) were engaged to assist in approaching landholders in the Gippsland area, specifically Dinner Plain, of whom whose properties were identified as having potential <i>Alpine Sphagnum Bogs and Associated Fens</i> . In some instance three attempts were made to find the landholders, as several addresses were incorrect and letters returned.	
The following tasks were undertaken by TfN:	
	Search of their database to confirm that there are no existing covenanted properties with Sub-Alpine Wet Heathland EVC that could be used as a potential offset by Independence Group.
	Using the Ethos NRM supplied spatial mapping and EVC information, together with local staff knowledge, identify potential private property landowners that could be approached by TfN to determine if they are interested in covenanting a portion of their property for the purposes of a 3rd party offset.
	7 properties were identified with potential Alpine Sphagnum Bogs and Associated Fens at Dinner Plain.
	Title searches were used to identify the owners.
	A letter was sent via registered mail to each of the seven owners asking for an Expression of Interest EOI in having a conservation covenant on their property with the offer of potential financial benefit.
	Out of the seven letters, 3 were returned to sender and five were signed as received.
	The closing date to contact TfN by with any Expression of Interest was Friday 27 July 2012. No EOI's were received.
	The Alpine Shire was contacted and a request to confirm the contact details of the 7 property owners was made.
	A further set of letters was sent out to the same landholders.
	Contact was then successful with four landholders and site inspections have been undertaken at each property to determine the presence of Sub-alpine Wet Heathland, general suitability and extent of the vegetation type as an offset.
	Three sites were found to have suitable areas of Sub-alpine Wet Heathland, and two properties have areas which would meet the entire offset requirement.
	Discussions have now been entered into with these two landholders to locate the offset on their property, and the following sections of this report provide more detail on the suitability and extent of the Alpine Shire Property for use as an offset.

## 4 OFFSET PROPOSAL

The following sections detail how a proposed offset site at Dinner Plain will meet both State and Commonwealth Offset requirements for removal of 0.36 hectares of Sub-alpine Wet Heathland or 'Alpine Sphagnum Bogs and Associated Fens'.

### 4.1 Proposed Offset Site

Ethos NRM, in association with Trust for Nature, have identified a suitable offset site located at Dinner Plain off the Great Alpine Road (Lot 1 PS527332). The property and proposed offset site is located within remnant sub-alpine vegetation above 1400m elevation. Vegetation on the property comprises of Sub-alpine Woodland, and a mosaic of sub-alpine treeless vegetation including areas of: Sub-alpine Wet Heathland, Alpine Grassland and Alpine Damp Grassland.

Ethos NRM have undertaken field survey and investigation of the site in both August and December 2012.

The property is private land owned by the Alpine Shire Council and is zoned Special Use Zone (SUZ2) within the Alpine Planning Scheme.

The purpose of SUZ2 is to:

- Identify land that is used for the provision of infrastructure and support facilities for Dinner Plain Village.
- Provide recreation facilities ancillary to the Dinner Plain village.
- Provide for educational and accommodation facilities that are sympathetic and complimentary to the alpine environment which are not appropriate in the Special Use Zone 1.



A WMO Wildfire Management Overlay exists over the entire property and there are areas within or near the property which are identified as areas of cultural heritage sensitivity.

### 4.2 Size and Location of Offset

The entire property is approximately 160 ha in size, however the offset area is significantly smaller and would comprise of the following suitable vegetation type and area:

- 2.08 ha of Sub-alpine Wet Heathland.
- The above area will be protected via either a Section 173 Agreement under the Planning and Environment Act 1987 or an alternative "permanent and ongoing" security arrangement.

Refer to attached figure for location of offset area buffer, which is an additional area of protection around the Sub-alpine Wet Heathland.

### 4.3 Vegetation Quality and Description

Four patches of Sub-alpine Wet Heathland (SAWH) have been assessed within the Alpine Shire Property, Zones OHZ1, OHZ2, OHZ3 and OHZ4. The most eastern and largest patch (OHZ1) was of lowest quality, due to a higher weed cover. OHZ4 which had the lowest weed cover had the highest quality score. Diversity of flora species within both zones was very high. Table 2 below details the zones of SAWH assessed, their area, and habitat or quality score. Refer to Appendix 1 for species list and Appendix 3 for Habitat Hectare Score Sheets.

**Table 2: Sub-alpine Wet Heathland Zones Assessed**

Zone	EVC	Conservation Status	Habitat Score	Area (ha)	Proposed Offset Area
OHZ1	SAWH (EVC 210)	Endangered	77/100	1.23	Yes
OHZ2	SAWH (EVC 210)	Endangered	84/100	0.11	No
OHZ3	SAWH (EVC 210)	Endangered	84/100	0.13	No
OHZ4	SAWH (EVC 210)	Endangered	87/100	0.85	Yes
<b>TOTAL</b>				<b>2.32</b>	<b>2.08</b>

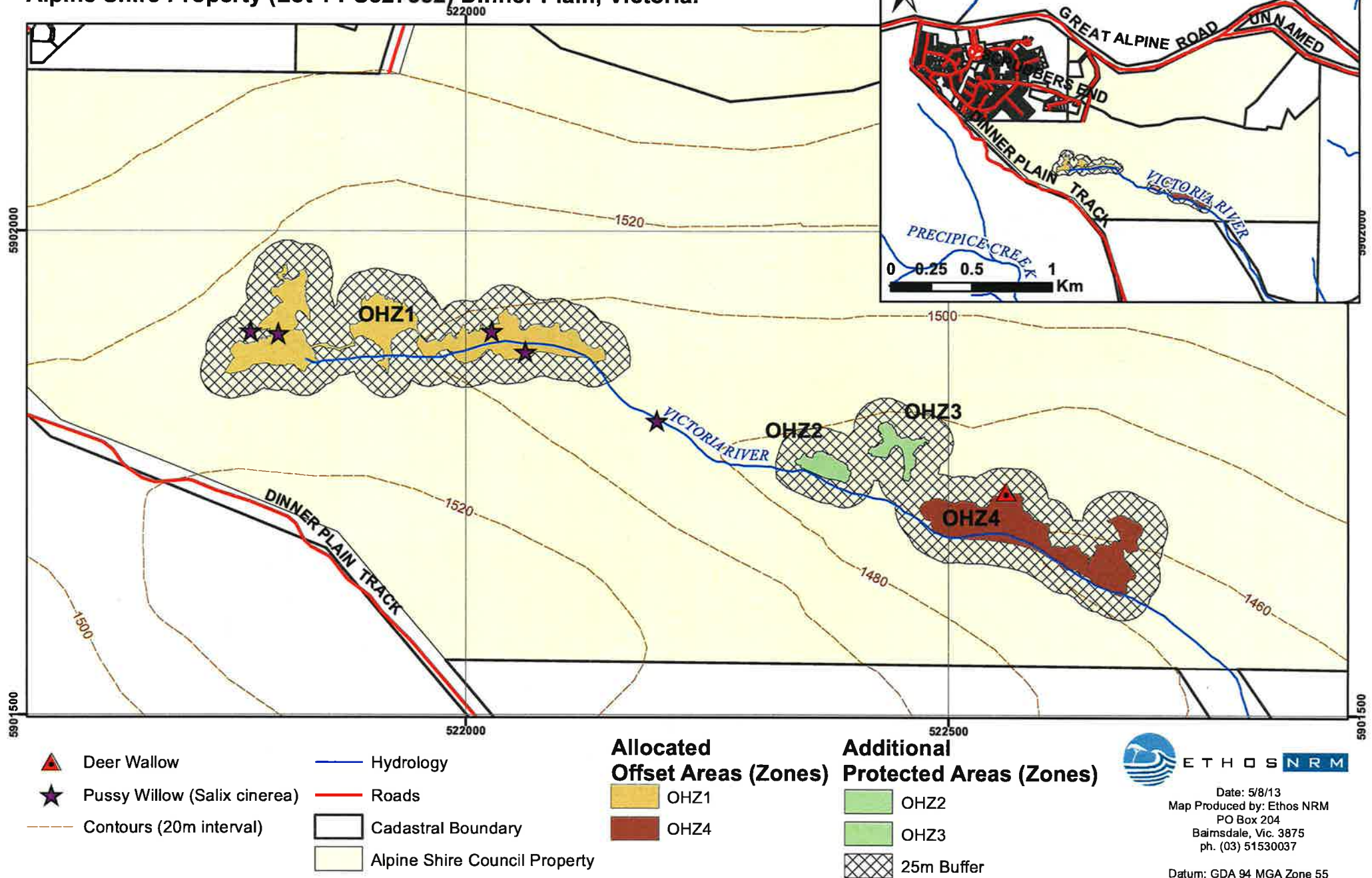
Only two areas (OHZ1 and OHZ4) totally 2.08 hectares, of Sub-alpine Wet Heathland assessed will be required to offset the loss of 0.36 hectares of similar vegetation for the Stockman Project (Figure 3). The additional two areas would be available for future offset requirements if the project configuration changes or additional loss of SAWH occurs.

All proposed offset habitat zones comprised of almost identical floristic and structural composition. Closer to the stream bed (Victoria River), the height and cover of shrubs was lower and dominated more by a higher percentage of graminoid and herbaceous species. As the community extended towards the surrounding Snow Gum woodland, the shrub layer height and density increased. The medium shrub layer was dominated by a senescing dense cover of Alpine Bottle-brush (*Callistemon pityoides*) and other abundant shrubs species such as: Candle Heath (*Richea continentis*), Swamp Heath (*Epacris paludosa*), Ace of Spades (*Epacris gunnianum*), Alpine Grevillea (*Grevillea australis*) and Alpine Baeckea (*Baeckea gunniana*).



A very high diversity of herbaceous species were also recorded within all zones and common species included; Golden Moths (*Diuris lanceolata*), Silver Daisy (*Celmisia astelifolia* spp. agg), Gunn's Willow-herb (*Epilobium gunnianum*), Victoria Buttercup (*Ranunculus victoriensis*), and Mat Water-milfoil (*Myriophyllum pendunculatum*). A high cover (40+%) of Sphagnum Moss was recorded at all habitat zones, including very large and old hummocks which were over 1m in height. In some areas the Sphagnum Moss cover was extensive and provided a continuous cover across the ground, through which shrub and graminoid species were growing.

**Stockman Project**  
**Figure 3. Proposed Sub-alpine Wet Heathland Offset Area**  
**Alpine Shire Property (Lot 1 PS527332) Dinner Plain, Victoria.**



#### 4.4 Rare and/or Threatened Floristic Species Recorded

A number of rare and threatened flora species were recorded during the field survey and are detailed within Table 3 below.

Lady's Mantle (*Alchemilla sp.1*) is pictured adjacent and was recorded within Offset Habitat Zone 1 (OHZ1) near the Victoria River. In addition Alpine Bootlace-bush (*Pimelea axiflora subsp. alpina*), Victoria Buttercup (*Ranunculus victoriensis*), and Eichler's Buttercup (*Ranunculus eichlerianus*) are all 'rare' species within Victoria which have been recorded within the offset zones 1 and 4. Spreading Bittercress (*Cardimine astoniae*) is listed as 'vulnerable' and was recorded within OHZ1.



Table 3. Rare and/or Threatened Species recorded

Scientific Name	Common Name	Rare or Threatened Species Status	Habitat Zone OHZ1	Habitat Zone OHZ4
<i>Alchemilla sp.1</i>	Lady's Mantle	r	x	
<i>Cardimine astoniae</i>	Spreading Bittercress	v	x	
<i>Pimelea axiflora subsp. alpina</i>	Alpine Bootlace-bush	r	x	x
<i>Ranunculus victoriensis</i>	Victoria Buttercup	r	x	x
<i>Ranunculus eichlerianus</i>	Eichler's Buttercup	r, FFG	x	

R = rare, v = vulnerable, FFG = Listed under Flora and Fauna Guarantee Act

## 5 STATE OFFSET REQUIREMENTS

Sub-alpine Wet Heathland is listed as Endangered in the Victorian Alps bioregion. A net gain target of 0.62 HHa (Habitat Hectares) has been determined to be required to offset the loss of 0.36 hectares of Sub-alpine Wet Heathland for expansion of the existing TSF as part of the Stockman Project. The Conservation Significance of the area of Sub-alpine Wet Heathland is Very High.

Calculation of the value of an offset (area of vegetation) is undertaken by ascribing points to management and improvement activities within a site. The offset is then managed proactively for a period of 10 years to ensure quality is maintained, and protected in perpetuity by way of a formal agreement or caveat.

### 5.1 Gain Scoring

Gain scoring is a measure of the potential for a land manager to meet their vegetation management requirements detailed in the *Framework*. Gains for management actions have been calculated using the DSE developed Gain Calculator (Microsoft Excel Spread sheet). This provides for a measurable, repeatable gain calculation on the basis of the current condition of the site, as detailed in Table 4 below. Appendix 4 provides copies of the gain calculations at OHZ1, OHZ2, OHZ3 and OHZ4.

Table 4: Gains Available from Offsets Using the DSE Developed Excel Spread sheet

OFFSET IDENTIFIER		OH Zone 1				OH Zone 2 & 3			OH Zone 4		
EVC Number		210				210			210		
EVC name (Initials)		Sub-alpine Wet Heathland				Sub-alpine Wet Heathland			Sub-alpine Wet Heathland		
Current habitat score of zone <sup>1</sup>		0.##				0.77			0.87		
Conservation Significance <sup>2</sup>		Very High				Very High			Very High		
		Possible Score	Current Score	Current Score	Current Score	Current Score	Maintenance	Improvement	Current Score	Maintenance	Improvement
Site Condition <sup>3</sup>	Large Old Trees	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Canopy Cover	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Understorey	25	25	2.5	0	25	2.5	0	25	2.5	0
	Lack of Weeds	15	7	n/a	4.0	11	n/a	4.0	13	n/a	4.0
	Recruitment	10	6	0.6	4.0	6	0.6	4.0	6	0.6	4.0
	Organic Matter	5	5	0.5	-	5	-	-	5	0.5	-
	Logs	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maintenance & improvement totals				3.6	8.0		3.1	8.0		3.6	8.0
Total unadjusted site condition gain				12.4			12.4			12.4	
Site Condition score out of? <sup>4</sup>				55			55			55	
Adjusted total site condition gain <sup>5</sup>				15.78			15.10			15.78	
Prior Management Gain <sup>6</sup>				7.7			8.4			8.7	
Improved Security Gain* <sup>7</sup>				7.7			8.4			8.7	
Total habitat gain points out of 100 <sup>8</sup>				31.18			31.90			33.18	
Rate of gain per hectare - HHA/ha <sup>9</sup>				0.31			0.33			0.33	
Area of the offset zone (ha)				1.23			0.24			0.85	
Gain available (In HHA) <sup>10</sup>				0.38			0.08			0.28	

1 The habitat score of the offset zone using the habitat hectare method as a 2 decimal place number between 0.00 and 1.00

2 The conservation significance of the site as assessed using Table 5, page 53 for the Framework

3 Substitute the appropriate maintenance and improvement gain points associated with the management proposed for the offset zone as identified in the DSE Vegetation Gain Approach manual - Mar 2006

4 For EVCs where all 7 site condition components are present in the EVC Benchmark, this is 75. It may be as low as 55 for treeless EVCs.

5 The site condition gain will adjust automatically if the default "75" that the score is out of is reduced (eg to 65 if there are no large old trees, or to 55 if there are no trees at all in the EVC benchmark)

6 Only available on freehold land - see DSE gain guide - equals 10% of the current habitat score for the offset zone ( See point 1 above)

7 Only available if the site is to be made legally more secure such as by an on-title conservation agreement or reservation etc, or the works are in a secure reserve - (see the DSE Vegetation Gain Approach manual)

8 Totals the gain points available from the 4 possible sources (maintenance, improvement, prior management and security)

9 Converts the gain points to a rate of gain in Habitat Hectares per hectare (HHA/ha) by dividing the total gain points by 100 and rounding to 3 decimal places

10 The total gain available from the offset zone = the rate of gain per hectare (9) multiplied by the area of the offset zone in hectares rounded to two decimal places.

**The gain calculations above show that there is a potential gain of 0.74 habitat hectares within the Offset Zone 1, 2, 3 and 4, which exceeds the required 0.62 habitat hectare of offset. The additional 0.12 habitat hectares are available for future use as an offset if required.**

To achieve the gains outlined in Table 4, the Management Actions and Landowner commitments need to be applied to the Offset Site over a ten year period.

A vegetation 'offset', as per the Framework (DNRE, 2002) must meet certain 'like for like' criteria and is graded according to the Conservation Significance of the vegetation removed. The following sections summarise the rationale for achieving this offset in the

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context of the proposed clearing of 0.36 hectares of Sub-alpine Wet Heathland for expansion of the TSF for the Stockman Project.

## 5.2 Like for Like Criteria

### 5.2.1 Vegetation or Habitat type of Offset

**Requirement:** For clearing vegetation of Very High Conservation Significance, the offset area must be in the same vegetation/habitat type in the same Bioregion.

*Response: The proposed offset site is within the same bioregion, the Victorian Alps. The entire offset is within the same EVC, that being Sub-alpine Wet Heathland.*

### 5.2.2 Landscape Role

**Requirement:** For clearing of vegetation of Very High Conservation Significance the landscape role requires that the offset site be within similar or more effective ecological function and land protection function as impacted by the loss.

*Response: The offset site is within an area of similar effective ecological function and land protection function as the loss site. It is located at the most upper reach of the Victoria River.*

### 5.2.3 Quality Objectives for Offset

**Requirement:** For clearing of vegetation of Very High Conservation Significance the area of vegetation must be at least 90% of the quality being lost.

*Response: The proposed offset site is on average 96% of the quality of vegetation lost. The Habitat Hectare score of the vegetation proposed for removal is 85/100 and the offset site Habitat Hectare scores are 77/100 (OHZ1) and 87/100 (OHZ4).*

### 5.2.4 Proportion of revegetation included in offset

For clearing of vegetation of Very High Conservation Significance only 10% of the proposed offset can be revegetation. This is calculated in Habitat Hectares.

*Response: No revegetation is proposed as part of the offset.*

### 5.2.5 Vicinity

**Requirement:** For clearing of vegetation of Very High Conservation Significance, the gain must be within the same bioregion and within the same priority landscape zone as the loss where considered appropriate by the planning authority.

*Response: The proposed offset site is within the same bioregion, the Victorian Alps and within the same Landscape Zone (Alpine) for Bioregional Action Planning.*

### 5.2.6 Timing

**Requirement:** For clearing of vegetation of Very High Conservation Significance, the offset is to be initiated prior to loss.

*Response: Following approval of the Stockman Project, the offset will be initiated prior to the loss of vegetation.*

### 5.2.7 Security of Gain

**Requirement:** Offsets are required to be secure and ongoing. Security of an offset on freehold land can be achieved through a number of different mechanisms such as; Section 173 agreement of the Planning and Environment Act 1987, Section 69 agreement under the Conservation Forests and Lands Act 1987 or conservation covenant under Victorian Conservation Trust Act 1972.

**Response:** *It is proposed that the offset will be secured by means of a Trust for Nature Covenant under the Victorian Conservation Trust Act 1972 or alternative security arrangement (as listed above).*

## 6 COMMONWEALTH VEGETATION OFFSET REQUIREMENTS

Both State and Commonwealth legislation require that the provision of vegetation offsets have 'like for like' context. The project, including impacts to *Alpine Sphagnum Bogs and Associated Fens* ecological community, has been referred for approval under the EPBC Act 1999. In October this year the Commonwealth released the Environmental Protection and Biodiversity Conservation Offset Policy (SEWPAC, 2012a).

Vegetation offsets under the EPBC Act are a means to compensate for impacts on matters of National Environmental Significance protected under the EPBC Act (SEWPAC, 2012a) and are not considered a mitigation measure. The following guidelines have been identified by SEWPAC for provision of offsets:

- Direct offsets must comprise of a minimum of 90% of the offset package.
- Direct offsets must achieve a conservation gain; which is a benefit to the protected matter (positive management actions which improve the viability of a protected matter or avert the future loss, degradation or damage of the protected matter).
- Offsets should align with conservation priorities of the impacted protected matter.
- Indirect offsets or other compensatory measures might include funding for research or educational programs.
- Offsets should have defined measures of success and be monitored.
- State offsets can contribute to the EPBC offset requirement.

The tool to determine the size and type of offset required for the EPBC Act is a Risk Based Calculator which considers a wide range of ecological variables and the probability of achieving a measureable conservation gain. In this case the calculator is used to identify the area of offset required to compensate for the loss of 0.36 ha of *Alpine Sphagnum Bogs and Associated Fens* ecological community (Refer to Appendix 5). A Commonwealth Offset also has annual reporting requirements, of which the results are to be registered on a database and made publicly available.

Specific offset requirements have been identified within the EPBC Offset Policy and the sub-sections below identify how they are met via the proposed offset site at Dinner Plain.

### 6.1 Offsets must deliver an overall conservation outcome that improves or maintains the viability of the protected matter.

Offsets for impacts to threatened ecological communities must meet as a minimum the quality of the habitat at the impact site. The quality score (out of 10) for an area of habitat or community is a measure of how well a particular site supports a threatened community and contributes to ongoing viability (SEWPAC, 2012b).



Table 5 below details how the quality of 'Alpine Sphagnum Bogs and Associated Fen' proposed impact site (Stockman Project) and offset site (at Dinner Plain) compare with regards to site condition and context. Appendix 5 details the inputs to the EPBC Calculator.

**Table 5. Achievement of Offset Conservation Outcome**

Quality Component		Impact Site Quality	Offset Site Quality
Site Condition	Structure	8/10	7/10 and 8/10
	Diversity	7/10	10/10
	Habitat Features	7/10	9/10
Site Context	Connectivity	9/10	9/10
	Importance of Site	7/10	8/10
	Threats	6/10	6/10

The scoring reflects a measure (# / 10 where 10 is the highest quality) which has been determined using components of the Victorian Framework Habitat Hectare Scoring system and additional detail is provided below in Section 6.1.1. and 6.1.2.

### 6.1.1 Site Condition

#### What is the structure and condition of the vegetation on site?

The listing advice for this community places high importance on the presence of *Sphagnum spp.* on a peat substratum, with shrubs or graminoids dominated by species such as *Empodisma minus* or *Epacris spp* (DEWHA, 2009).

The offset areas meet the EPBC structure and condition of vegetation for listing of this site as an area of 'Alpine Sphagnum Bogs and Associated Fens'. On-site evidence clearly demonstrates (see adjacent pictures and Appendix 2) clearly illustrates the peat substratum and the extensive cover of Sphagnum Moss (40+% cover) across the offset areas. The offset areas at Dinner Plain provide a greater cover of Sphagnum Moss and overall site condition and diversity than the vegetation removal areas at Lake St Barbara.



#### What is the diversity of relevant habitat species present (including both endemic and non-endemic)?

Species lists have been collected at each offset zone and within Offset Zones and an average of 45 native flora species were recorded, compared to 28 at the removal site (TSF). Refer to Appendix 1 and 2. Six introduced flora species have been recorded within the offset zones.

DSE Sub-alpine Wet Heathland EVC 210 Benchmark has been used to a measure of the diversity of species within the impact and offset site. The diversity of Medium Shrubs, Small Shrubs and Medium Herbs was recorded at greater than



2x the number of species within the DSE EVC benchmark requirement. Prostrate shrubs, Large Herbs, Large Tufted Graminoids, Medium Tufted Graminoids, Medium Non-tufted Graminoids, Ground Ferns have all met or surpassed the benchmark species diversity at the offset zones.

#### **What relevant habitat features are on the site?**

Within the offset site there is a diversity of habitats which may be dominated within a small area by Sphagnum hummocks, grasses or heathy shrubs to combine in a complex and diverse arrangement of species.

The large Sphagnum hummocks at the Dinner Plain proposed offset site, provide a constantly moist environment for shrubs, herbs and graminoids to grow. Additionally the upper reaches of the Victoria River flows through the site, and along this watercourse there are moister and small semi-permanent pools of water which favour sedge and grass species.

The offset area provides habitat for 4 'rare' and 1 'threatened' flora species recorded during field survey by Ethos NRM (2012), and there is suitable habitat for a number of rare and/or threatened fauna species which have been recorded within 5km of the site. Of particular importance is habitat suitable for the Alpine Tree Frog (*Litoria verreauxii alpina*) and Alpine Water Skink (*Eulamprus kosciuskoi*) which are listed as Critically Endangered under the FFG Act 1988. The Alpine Tree Frog is also listed as vulnerable under the EPBC Act 1999.

#### **6.1.2 Site Context**

##### **What is the connectivity with other suitable/known habitat or remnants?**

The proposed offset sites are similar to the removal areas, as they are small patches of 'Alpine Sphagnum Bogs and Associated Fens' located within a sub-alpine environment on a drainage line which at a coarse scale comprises of a number of tree-less vegetation communities (Sub-alpine Wet Heathland, Alpine Damp Grassland and Alpine Grassland).

The proposed offset zones are a subset of a series of patches of 'Alpine Sphagnum Bogs and Associated Fens' located along the upper reach of the Victoria River. Ethos NRM (2012) have surveyed a number of the properties along this upper section of the river and recorded an additional 4 sites of 'Alpine Sphagnum Bogs and Associated Fens' within 2km of the proposed offset area. Aerial imagery indicates there is likely to be more sites located along the Victoria River and its tributaries.

DSE Habitat Hectare Scoring provides a measure of connectivity which can be used to compare both sites. The relevant measure used is known as 'neighbourhood', which scores the percentage of native vegetation surrounding the site (in a radius) at three intervals; 100m, 1km and 5km. OHZ1 scored 7/10 and OHZ4 scored 8/10, the lower score within OHZ1 was due to the closer proximity (within 1km) to Dinner Plain village.

Hence all offset zones have very high connectivity scoring due to their close proximity to other areas of native vegetation and importantly are closely located to other 'Alpine Sphagnum Bogs and Associated Fens' located sites within existing protected areas of National Park.

##### **What is the importance of the site in relation to the overall species population or the occurrence of the community?**

Geographically the offset site is located within its known range of occurrence in sub-alpine elevations. The proposed offset site is located within close proximity to a number of other areas of small sites of 'Alpine Sphagnum Bogs and Associated Fens' situated within both private and public land ownership along the upper reaches of the Victoria River. The offset

site has a high level of importance as it provides habitat for a number of known rare and threatened flora species which have been recorded on site.

It appears that the offset site was not impacted severely by the 2003 and 2006 fires which burnt across the Victorian Alps, as there are old senescing Callistemon shrubs beneath which very old and established Sphagnum hummocks area present. Hence the intact nature of these 'bogs' has provided them with greater resistance to weed establishment and impacts from grazing animals (which are mostly present around the perimeter of the sites).

#### **What threats occur on or near the site?**

Current threats to the offset site include; pest plants and pest animals such as horses, cattle and deer. Evidence of grazing by deer, and a nearby wallow was recorded at the proposed offset site. The main weed threats to the offset site are from Willows and Ox-eye Daisy. Grey Sallow (*Salix cinerea*) was recorded within and adjoining the proposed offset zones and is a high threat weed to this ecological community. A number of the willows recorded were mature and producing seed. Three willows were recorded within the proposed offset areas and 2 were recorded within 200m of the offset area. This species has the potential to produce large quantities of seedling and thrives in a moist environment such as 'Alpine Sphagnum Bogs and Associated Fens'. One of the Key Priority Actions for this community is to eradicate or control threat from *Salix spp.* (DEWHA, 2008a).

Ox-eye Daisy (*Leucanthemum vulgare*) is a Weed of National Significance (WONs) and is listed as Restricted under the CALP Act. Ox-eye Daisy is an erect perennial herb which grows 30-90cm in height. It flowers late summer or early spring, grows in dense clusters, and has a very high potential to outcompete and exclude all other herbaceous native vegetation. This weed is a very high threat to the offset site if the population is not controlled. Ox-eye Daisy is a prolific seeder and can also reproduce vegetatively via root tubers. A small population of this weed was recorded within 50m of the OHZ1 site, on the Alpine Shire Property, near the Dinner Plain Track.

#### **6.2 Offset must be built around direct offsets but may include other compensatory measures.**

The proposed offset will comprise of 100% direct offsets as it includes an area of 2.08 hectares of 'Alpine Sphagnum Bogs and Associated Fens' community, which is more than 5 times the area being removed (0.36 hectares).

#### **6.3 Offsets must be in proportion to the level of statutory protection that applies to the protected matter.**

For protected matters of higher conservation status, the offset must be greater than those of lower status. This is a **generic input** captured within the Offset Assessment Guide, 'Annual Probability of Extinction' calculation component of the Offset Calculator.

#### **6.4 Offsets must be of a size and scale proportionate to the residual impacts on the protected matter.**

The physical area of the proposed offset site is 2.08 hectares, which is more than 5 x the size of the area which will be impacted on (0.36 hectares).

It is proposed, that the offset will be secured in perpetuity via a Section 173 Agreement under the Planning and Environment Act 1987 or an alternative permanent and ongoing security arrangement.

The offset will address the following key Priority Actions (DEWHA, 2008a):

- Eradicate or at least control weed infestations within the ecological community using appropriate methods, especially at sites where new threats (eg. *Salix spp.*) are currently becoming established.
- Manage known sites of *Alpine Sphagnum Bogs and Associated Fens* to prevent introduction of new invasive weeds (*Leucanthemum vulgare*), which could become a threat.
- Prevent grazing pressure at known occurrences of *Alpine Sphagnum Bogs and Associated Fens*, through exclusion fencing or other barriers.
- Increase public awareness of and appreciation for the *Alpine Sphagnum Bogs and Associated Fens* ecological community.

### **6.5 Offsets must effectively account for and manage the risks of the offset not succeeding.**

Two levels of risk are applied, the first (and highest) relates to the ability of the offset to adequately compensate for the impact and the second is whether the offset will be successful over a period of time.

#### **Time Horizon**

A maximum 'risk-related time horizon' of 20 years has been input to the calculator as the site will be secured in perpetuity, and a 10 year period to achieve the ecological benefit of the offset. This 10 year period is consistent with the State Offset Management Plan requirements where ecological gain is calculated over a ten year period and achieved through active management and improvement of the quality of an offset area. Refer to Section 7 for details on the type of improvement and management proposed for the offset site and covenant area.

#### **Start Value**

The proposed area of the offset is 2.08 hectares and the quality of the offset has been scored at 8/10. Refer to Section 6.1 for details on the quality of the site.

#### **Future Value & Risk of Loss without Offset**

The risk of loss of the offset (if the site is not used as an offset) has been estimated to be 20%. This is due to a number of factors including:

- The lack of a formal protection mechanism currently in place to protect the Dinner Plain proposed offset site from rezoning or clearing.
- Any small annual mean increase in temperature associated with climate change which could facilitate the invasion of new weed species (McDougall & Walsh, 2007).
- Increasing pressures from tourism and the popularity of high mountain environments and recreational activities which in turn increases development pressure within private land (McDougall & Walsh, 2007).
- Detrimental impacts from grazing and trampling by heavy hooved animals (DEWHA, 2008a.).
- No formal protection available for Mineral Exploration Activity.

### **Future Value & Risk of Loss with Offset**

The risk of loss of with the offset has been estimated to be 10%. This reduction in the risk of loss is due to a number of factors including:

- Implementation of a formal 'on-title security mechanism' to protect the Dinner Plain proposed offset site in perpetuity from rezoning, clearing or detrimental recreational development.
- Management of the potential and existing threats to the offset site will increase the quality of the area by both reducing weed cover and removing grazing/trampling impacts which can result in compaction of soil, spread of weeds, alteration of natural water flow and browsing on flora species.

Securing the permanent protection of the offset site from future development and active management of the site to reduce pest plant and animal impacts will also ensure the long-term future value of the offset site. Hence the quality of the site could increase from 8/10 to 9/10 over the ten year period if the offset actions are implemented.

### **Confidence in Result**

The level of certainty that the proposed offset will decline in quality without the offset in place is 50%, as the potential rate of future detrimental impacts from climate change are unknown. The level of certainty that the proposed offset will be successful in achieving an increase in quality is estimated to be around 75%, as the improvements to quality of the site through pest plant and animal control are achievable gains over the 10 year time period.

### **6.6 Offsets must be additional to what is already required.**

The conservation gain is additional to what is already required given the land current status (private land), zoning and environmental planning laws (local and state). These gains are detailed in Section 5. Additionally the offset site is part of a State offset requirement, which is permitted to contribute towards and EPBC Act offset.

### **6.7 Offsets must be efficient, effective, timely, transparent, scientifically robust and reasonable.**

The proposed offset will be efficient and timely, as it will be implemented before the impact occurs. The conservation gains which will be achieved through management and improvement actions have been determined using the State Native Vegetation Gain Approach (DSE, 2004) scoring system which provides a rigorous, scientific, objective assessment methodology.

### **6.8 Offsets must have transparent governance arrangements, including being able to be readily measured, monitored, audited and enforced.**

The State Native Vegetation Gain Approach (DSE, 2004) identifies calculated gains from improved vegetation management, and details measurable standards required to be achieved at the end of a 10 year period. Gains achieved after 10 years must then be maintained in perpetuity. These gains are detailed in Section 5.1 of this report. Annual reporting over a 10 year period is required as part of the State Offset guidelines.

Independent auditing of the proposed offset site will be undertaken by a third party other than IGO, and agreed to by DSE and the Commonwealth, to ensure that transparent information is gathered.

## 6.9 Offset Gain Calculator

The EPBC Gain Calculator provides a tool to quantify how a proposed offset will compensate for impacts on a protected matter. The Gain Calculator has been used to provide an indication of whether the proposed offset meets the EPBC Offset quality, size and other requirements.

## 6.10 Gain Calculator Outcome

Following input of the variables to the EPBC Gain Calculator, the proposed offset at Dinner Plain:

- Compensates for 117.17% of the loss (Appendix 5).
- Meets the minimum 90% direct offset requirement.
- Requires no other indirect compensatory measure.

**Hence the proposed offset of 2.08 hectares of '*Alpine Sphagnum Bogs and Associated Fens*' ecological community at Dinner Plain (Alpine Shire Property) will meet the EPBC Offset Requirement to compensate for the loss of 0.36 hectares of '*Alpine Sphagnum Bogs and Associated Fens*' which will be removed to enable expansion of the existing TSF for the Stockman Project.**

## 7 PROPOSED OFFSET ACTIONS / COMMITMENTS

Location of a 'Native Vegetation Offset' on the proposed Alpine Shire property at Dinner Plain will require a commitment to undertake key conservation management actions over a period of 10 years to increase the quality of the offset site. Then, in perpetuity, the offset site must be managed to ensure that the gains in quality are achieved and maintained.

### 7.1 Potential Offset Management Actions / Commitments

The Offset Site must be secured and managed for the purposes of conservation in perpetuity. Once a signed agreement is made between the Alpine Shire and IGO for use of the site as an offset, the responsibility for management and achieving the offset gains detailed below is that of the Alpine Shire (or landowner).

**The proposed offset area will be larger than the actual offset area of 2.08 hectares as it will include a buffer of 25m around the perimeter of the offset site, which will add an additional 7 hectares, creating a combined total offset area of 9.3 hectares.**

**Targets for the offset site are provided below, and are based on the 'Framework' principles:**

1. Excluding stock (fencing) from the offset area.
2. Retain all fallen timber, branches and leaf litter.
3. Retention of all standing trees dead or alive. Although this is a treeless EVC, this is relevant to scattered Snow Gums which are located near the perimeter of the offset area.
4. Reduce the existing high threat herbaceous and woody weed cover to <1% cover. Monitor for establishment of any new weed species and eradicate high threat woody weeds and control all other weed cover. Grey Sallow (*Salix cinerea*) was recorded within and near the offset area and is a high threat woody weed which would be required to be eradicated.
5. Monitor for establishment of any new high threat weed species including Ox-eye Daisy (*Leucanthemum vulgare*) and woody weeds to ensure their eradication (<1% cover).
6. Control any grazing and browsing threats (such as rabbits, hares, cattle, horses and/or deer). Browsing by deer and horses was observed within the offset areas. A deer wallow was recorded on the perimeter of OHZ4.
7. Feral (as listed under the Catchment and Land Protection Act 1994) animal populations (rabbits and foxes) must be controlled.
8. Protection and improvement of the current site quality in all offset areas.
9. Maintenance of canopy cover and diversity of under-storey life forms in all offset areas.
10. Maintenance and improvement of recruitment of woody plant species in all offset areas.
11. The landowner will continue to actively manage the Offset Site after the completion of Year 10 as specified in this Offset Plan, such that:
  - a. Vegetation quality and cover does not decrease below the level attained at the completion of Year 10.
  - b. Weed cover does not increase beyond the level attained at the completion of Year 10.

12. Any proposed uses or development of the site which conflict with the landowner commitments are not allowed.

## **7.2 Security of Offset**

In order to meet both State and Commonwealth Offset requirements for securing the offset site. Security of an offset on freehold land can be achieved through a number of different mechanisms such as; Section 173 agreement under the Planning and Environment Act 1987, Section 69 agreement under the Conservation Forests and Lands Act 1987 or conservation covenant under Victorian Conservation Trust Act 1972.

The proposed security mechanism Section 173 agreement under the Planning and Environment Act 1987 which is a permanent, legally-binding agreement, placed on a property's title to ensure the offset area is protected forever.



## 8 REFERENCES

- DNRE 2002. **Victoria's Native Vegetation Management - A Framework for Action**, Department of Natural Resources and Environment, State Government, Victoria.
- DPI 2012 **Bioregions of Victoria** – Victorian Resources Online. [http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/biodiversity\\_bioregions\\_vic](http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/biodiversity_bioregions_vic). Department of Primary Industries.
- DEWHA. 2008a. **Approved Conservation Advice for the Alpine Sphagnum Bogs and Associated Fens ecological community**. Prepared by Department of Environment, Water, Heritage and the Arts.
- DEWHA 2008b **Matters of National Environmental Significance – Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy** Department of Prepared by Department of Environment, Water, Heritage and the Arts.
- DEWHA. 2009. **Alpine Sphagnum Bogs and Associated Fens EPBC Act Policy Statement 3.16**. Prepared by Department of Environment, Water, Heritage and the Arts.
- DSE 2004. **Native Vegetation – Vegetation Gain Approach – technical basis for calculating gains through improved native vegetation management and revegetation**. Department of Sustainability and Environment, State Government, Victoria.
- DSE 2006, **Native Vegetation – Guide for assessment of referred planning permit applications**, Department of Sustainability and Environment, State Government, Victoria.
- DSE 2007, **Native Vegetation – Guide for assessment of referred planning permit applications**, Department of Sustainability and Environment, State Government, Victoria.
- DSE 2010a, **Native Vegetation Offsets – Conservation Significance and Like-for-Like, Fact Sheet 2**. Department of Sustainability and Environment, State Government, Victoria, Feb 2010..
- DSE 2010b. **Victorian Flora Site Database**. © The State of Victoria, Department of Sustainability and Environment (accessed via the 'Flora Information System', [December 2010] - © Viridans Biological Databases). The contribution of the Royal Botanical Gardens Melbourne to the database is acknowledged.
- DSE 2012. **Victoria's Bioregions**. Retrieved December 4, 2012 from Department of Sustainability and Environment. <http://www.dse.vic.gov.au/DSE/nrence.nsf/Link/EE160E06AD95CA20CA257131000E4170544ABC860B2506F7CA257004002550CC>.
- Ethos NRM (2011) **Draft Stockman Project: Terrestrial Vegetation Assessment**. Prepared for Independence Group N/L, September 2011.
- McDougall & Walsh (2007) **Treeless Vegetation of the Australian Alps**.
- McMahon A.R.G. & Carr (1988) **The Benambra Project – Wilga and Currawong Modified Project Description Vegetation Data and Assessment of Significance Additional Flora Survey**. Prepare for Kinhill Engineers Pty Ltd. June 1988.

**SEWPAC 2012a Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy** Department of Sustainability, Environment, Water, Population and Communities, Commonwealth of Australia.

**SEWPAC 2012b Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy – How to use Offsets Guide and Calculator.** Department of Sustainability, Environment, Water, Population and Communities, Commonwealth of Australia.

Walsh, N.G. and Entwisle, T.J. (eds)(1994). ***Flora of Victoria. Volume 2. Ferns, Conifers, and Monocotyledons.*** Inkata Press.

Walsh, N.G. and Entwisle, T.J. (eds)(1996). ***Flora of Victoria. Volume 3. Dicotyledons. Winteraceae to Myrtaceae.*** Inkata Press.

Walsh, N.G. and Entwisle, T.J. (eds)(1999). ***Flora of Victoria. Volume 4. Dicotyledons. Comaceae to Asteraceae.*** Inkata Press.

## 9 APPENDICES

### 9.1 Appendix 1: Flora Species List

Flora Recorded at both the Impact (2011) and Offset Site (2012) by Ethos NRM							
Genus	Species	Common Name	Lifeform Type	Rare or Threatened Species Listing	Offset Sites (Dinner Plain)		Stockman Project Impact Site (TSF)
					SAWH OHZ 1	SAWH OHZ 2, 3 & 4	LS6
<i>Acaena</i>	<i>ovina</i>	Sheeps Burr	MH		X	X	
<b>*Acetosella</b>	<b>vulgaris</b>	<b>Sheep Sorrel</b>	<b>MH</b>		<b>X</b>	<b>X</b>	<b>X</b>
<i>Aciphylla</i>	<i>gracialis</i>	Mountain Celery	MH		X		
<i>Acrothamnus</i>	<i>hookeri</i>	Mountain Beard-heath	MS		X	X	
<i>Alchemilla</i>	<i>sp.1</i>	Lady's Mantle	MH	r	X		
<i>Arthropodium</i>	<i>milleflorum</i>	Pale Vanilla Lily	MH				X
<i>Asperula</i>	<i>gunnii</i>	Mountain Woodruff	MH		X	X	
<i>Asperula</i>	<i>sp.</i>	Woodrush	MH		X	X	X
<i>Austrofestuca</i>	<i>hookeriana</i>	Hooker Fescue	MTG				
<i>Astelia</i>	<i>alpina ver. Novae-hollandiae</i>	Silver Astelia	MH		X	X	
<i>Baeckea</i>	<i>gunniana</i>	Alpine Baeckea	MS		X	X	X
<i>Baeckea</i>	<i>utilis s.l.</i>	Mountain Baeckea	MS				X
<i>Baloskion</i>	<i>australe</i>	Mountain Cord-rush	MNG		X	X	X
<i>Blechnum</i>	<i>penna-marina subsp. Alpina</i>	Alpine Water-fern	GF		X	X	X
<i>Bossiaea</i>	<i>foliosa</i>	Leafy Bossiaea	MS		X	X	
<i>Brachyscome</i>	<i>sp.</i>	Daisy	MTG		X		
<i>Callistemon</i>	<i>pityoides</i>	Alpine Bottle-brush	MS		X	X	
<i>Cardimine</i>	<i>astoniae</i>	Spreading Bittercress	MH	v	X		
<i>Carex</i>	<i>appressa</i>	Tall Sedge	MTG		X	X	X
<i>Carex</i>	<i>longebrachiata</i>	Bergalia Tussock	LTG		X	X	
<i>Carex</i>	<i>gaudichaudina</i>	Tufted Sedge	MTG		X	X	
<i>Cassinia</i>	<i>aculeata</i>	Dogwood	MS				X
<i>Celmisia</i>	<i>astelifolia spp. Agg</i>	Silver Daisy	MH		X	X	
<b>*Cerastium</b>	<b>sp.</b>	<b>Chickweed</b>	<b>MH</b>		<b>X</b>	<b>X</b>	
<b>*Cirsium</b>	<b>vulgare</b>	<b>Spear Thistle</b>	<b>LH</b>				<b>X</b>
<i>Comesperma</i>	<i>retusum</i>	Mountain Milkwort	SS				X
<i>Coronidium</i>	<i>scorpoides s.s</i>	Button Everlasting	MH				X
<i>Cotula</i>	<i>alpina</i>	Alpine Cotula	SH		X	X	
<i>Craspedia</i>	<i>sp.</i>	Billy Buttons	MH		X	X	X
<i>Deschampia</i>	<i>cespitosa</i>	Tufted Hair-grass	MTG		X		
<i>Deyeuxia</i>	<i>brachyathera</i>	Short Bent-grass	MTG				
<i>Diuris</i>	<i>lanceolata</i>	Golden Moth	MH		X		
<i>Drosera</i>	<i>peltata</i>	Sundew	MH				
<i>Eleocharis</i>	<i>gracilis</i>	Slender Spike-sedge	MNG				
<i>Empodisma</i>	<i>minus</i>	Spreading Rope-rush	MNG		X	X	X
<i>Epacris</i>	<i>breviflora</i>	Drumstick Heath	SS				X

Genus	Species	Common Name	Life-form Type	Rare or Threatened Species Listing	Offset Site (Dinner Plain)		Impact Site (TSF)
					SAWH OHZ 1	SAWH OHZ 2, 3 & 4	LS6
<i>Epacris</i>	<i>gunniana</i>	Ace of Spades	SS		X	X	
<i>Epacris</i>	<i>paludosa</i>	Swamp Heath	MS		X	X	X
<i>Epilobium</i>	<i>gunnianum</i>	Gunn's Willow-herb	MH		X	X	X
<i>Eucalyptus</i>	<i>pauciflora</i>	Snow Gum	IT		X	X	
<i>Euchiton</i>	<i>sphaericus</i>	Common Cudweed	MH				X
<i>Gahnia</i>	<i>sieberiana</i>	Red-fruit Sedge	MTG				X
<i>Geranium</i>	<i>sp</i>	Crane's bill	MH		X	X	
<i>Gonocarpus</i>	<i>micranthus</i>	Creeping Raspwort	SH				
<i>Grevillea</i>	<i>australis</i>	Alpine Grevillea	MS		X	X	
<i>Hakea</i>	<i>microcarpa</i>	Small-fruit Hakea	MS			X	X
<b>*Holcus</b>	<b><i>lanatus</i></b>	<b>Yorkshire Fog Grass</b>	<b>MTG</b>		<b>X</b>	<b>X</b>	<b>X</b>
<i>Hovea</i>	<i>montana</i>	Alpine Rusty-pods	MS		X		
<i>Hydrocotyle</i>	<i>algida</i>	Mountain Pennywort	SH				
<i>Hydrocotyle</i>	<i>tripartita</i>	Slender Pennywort	SH				X
<i>Hydrocotyle</i>	<i>sibthorpiodes</i>	Shinning Pennywort	SH		X	X	
<i>Isolepis</i>	<i>sp.</i>	Club-Sedge	MNG				
<i>Juncus</i>	<i>sp.</i>	Rush	MTG		X	X	X
<i>Lagenophora</i>	<i>stipitata</i>	Blue-bottle Daisy	SH				X
<i>Leptospermum</i>	<i>myrtifolium</i>	Myrtle Tea-tree	MS				X
<i>Leptospermum</i>	<i>grandifolium</i>	Mountain Tea-tree	MS				
<i>Leucopogon</i>	<i>sp.</i>	Heath	MS				X
<i>Lobelia</i>	<i>pedunculata</i>	Matted Pratia	SH				
<i>Luzula</i>	<i>modesta</i>	Woodrush	MH				
<i>Microtis</i>	<i>unifolia</i>	Common Onion-orchid	MH				
<i>Myriophyllum</i>	<i>pendunculatum</i>	Mat Water-milfoil	SH		X	X	
<i>Olearia</i>	<i>algida</i>	Mountain Daisy-bush	MS				X
<i>Olearia</i>	<i>eurobescens</i>	Moth Daisy-bush	MS		X		
<i>Olearia</i>	<i>myrsinoides</i>	Silky Daisy-bush	SS				
<i>Oreomyrhis</i>	<i>ciliate</i>	Bog Carraway	SH		X	X	X
<b>Phalaris</b>	<b><i>aquatica</i></b>	<b>Canary Grass</b>	<b>MTG</b>			<b>X</b>	
<i>Pimelea</i>	<i>axiflora</i> subsp. <i>Alpina</i>	Alpine Bootlace-bush	MS	r	X	X	
<i>Poa</i>	<i>clivicola</i>	Fine-leaf Snow Grass	MTG	r			
<i>Poa</i>	<i>constiniana</i>	Bog Snow Grass	MTG		X	X	
<i>Poa</i>	<i>ensiformis</i>	Sword Tussock Grass	MTG				
<i>Poa</i>	<i>hiemata</i>	Soft Snow-grass	MTG		X		
<i>Poa</i>	<i>fawcettiae</i>	Horny Snow Grass	MTG		X	X	
<i>Poa</i>	<i>phillipsiana</i>	Blue Snow-grass	MTG		X	X	
<i>Poa</i>	<i>sieberana</i> var. <i>sieberana</i>	Grey Tussock Grass	MTG				

Genus	Species	Common Name	Lifeform Type	Rare or Threatened Species Listing	Offset Site (Dinner Plain)		Impact Site (TSF)
					SAWH OHZ 1	SAWH OHZ 2, 3 & 4	LS6
<i>Polystichum</i>	<i>proliferum</i>	Mother Shield-fern	GF		x	x	
<b>*Prunella</b>	<b>vulgaris</b>	<b>Self-heal</b>	<b>MH</b>				
<i>Pultenaea</i>	<i>foliosa</i>	Small-leaf Bush-pea	SS				
<i>Pultenaea</i>	<i>juniperiana s.l.</i>	Prickly Bush-pea	SS				
<i>Ranunculus</i>	<i>collinus</i>	Strawberry Buttercup	MH	r			
<i>Ranunculus</i>	<i>victoriensis</i>	Victoria Buttercup	MH	r	x	x	
<i>Ranunculus</i>	<i>pimpinellifolius</i>	Bog Buttercup	SH		x	x	x
<i>Ranunculus</i>	<i>eichlerianus</i>	Eichler's Buttercup	MH	r, FFG	x		
<i>Richea</i>	<i>continentis</i>	Candle Heath	MS		x	x	
<i>Rubus</i>	<i>parvifolius</i>	Small-leaf Bramble	SC				
<b>*Rubus</b>	<b>fruticosus spp. agg</b>	<b>Blackberry</b>	<b>SC</b>				
<b>*Salix</b>	<b>cinerea</b>	<b>Grey Sallow</b>	<b>MS</b>		x		
<i>Scleranthus</i>	<i>biflorus</i>	Twin-flower Knawel	MH				
<i>Schoenus</i>	<i>apogon</i>	Common Bog-sedge	TTG				
<i>Senecio</i>	<i>gunnii</i>	Mountain Fireweed	LH		x	x	
<i>Senecio</i>	<i>sp.</i>		MH		x	x	x
<i>Sphagnum</i>	<i>sp.</i>	Sphagnum Moss			x	x	x
<i>Stellaria</i>	<i>pungens</i>	Prickly Star-wort	MH				
<b>*Taraxacum</b>	<b>sp.</b>	<b>Dandelion</b>	<b>MH</b>		x	x	x
<i>Tasmania</i>	<i>zerophila</i>	Alpine Pepper	MS		x	x	
<b>*Trifolium</b>	<b>repens</b>	<b>Clover</b>	<b>MH</b>		x	x	x
<i>Utricularia</i>	<i>dichotoma s.l.</i>	Fairies Aprons	MH				
<i>Viola</i>	<i>betonicifolia</i>	Showy Violet	MH				
<i>Xerochrysum</i>	<i>subundulatum</i>	Orange Everlasting	MH/LH				

**\* Introduced species**  
**SH = Small Herb, MH = Medium Herb, LH = Large Herb, GF = Ground Fern, MTG = Medium Tufted Graminoid, MNG = Medium Non-tufted Graminoid, SS = Small Shrub, MS = Medium Shrub, IT = Immature Tree (Note: flora category recorded at time of survey)**  
**r = rare in Victoria, v = vulnerable in Victoria, FFG = Listed under FFG Act 1988**

## 9.2 Appendix 2: EPBC Alpine Sphagnum Bogs and Associated Fens key flora species

Scientific Name	Common Name	Bogs	Fens	Offset Site (Dinner Plain)	
				OHZ1	OHZ 2, 3 & 4
<b>Shrubs</b>					
<i>Baeckea gunniana</i>	Alpine Baeckea	✓		✓	✓
<i>Baeckea utilis</i>	Mountain Baeckea	✓			
<i>Callistemon ptyoides</i>	Alpine Bottlebrush	✓		✓	✓
<i>Epacris gunnii</i>	Coral Heath	✓		✓	✓
<i>Olearia algida</i>	Alpine Daisy bush	✓			
<i>Oxylobium ellipticum</i>	Common Shaggy Pea	✓			
<i>Richea continentis</i>	Candle Heath	✓		✓	✓
<b>Herbs</b>					
<i>Asperula gunnii</i>	Mountain Woodruff	✓		✓	✓
<i>Brachyscome obovata</i>	Baw Daw Daisy		✓		
<i>Deschampsia caespitosa</i>	Tufted Hairgrass		✓		
<i>Epilobium gunnianum</i>	Willow Herb	✓	✓	✓	✓
<i>Gonocarpus micranthus</i>	Creeping Raspwort	✓			
<i>Lobelia surrepens</i>	Mud Pratia		✓		
<i>Nertera granadensis</i>	Matted Nertera	✓			
<i>Oreomyrrhis ciliate</i>	Bog Carraway	✓	✓	✓	✓
<i>Psychrophila introloba</i>	Marsh Marigold	✓			
<b>Grasses, Sedges, Rushes</b>					
<i>Astelia alpine</i>	Pineapple Grass	✓			
<i>Balaskion australe</i>	Mountain Cordrush	✓		✓	✓
<i>Carex appressa</i>	Tall Sedge	✓		✓	✓
<i>Carex echinata</i>	Star Sedge		✓		
<i>Carex gaudichaudiana</i>	Fen Sedge/Tufted Sedge	✓	✓	✓	✓
<i>Carpha nivicola</i>	Broad-leaf Flower-rush	✓	✓		
<i>Empodisma minus</i>	Spreading Rope-rush	✓	✓	✓	✓
<i>Isolepis crassiuscula</i>	Alpine Clusedge		✓		
<i>Juncus falcatus</i>	Sickle Leaf-rush		✓		
<i>Luzula modesta</i>	Bog Woodrush	✓		✓	✓
<i>Poa costiniana</i>	Prickly Snow Grass	✓		✓	✓
<b>Ferns</b>					
<i>Blechnum penna-marina</i>	Alpine Water Fern	✓		✓	✓
<b>Mosses</b>					
<i>Sphagnum cristatum</i>	Sphagnum moss	✓	✓	✓	✓
<i>Sphagnum novozelandicum</i>	Sphagnum moss	✓	✓	✓	✓

Source: (DEWHA, 2008b)

### **9.3 Appendix 3: Habitat Hectare Sheets (Offset Site – Dinner Plain)**

# Vegetation Quality Field Assessment Sheet

Version 1.3 - October 2004

Department of  
Sustainability and  
Environment

Site Name/No. OHZ1

Location Dinner Plain

Date 13-12-12

Assessor(s) Elaine Munn K.S.

Map Name/No. \_\_\_\_\_

AMG \_\_\_\_\_

Tenure Private

EVC Sub-alpine Wet heathland

Bioregion Victorian Alps

## 'Site Condition Score'

### Large Trees

Score

NA

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

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

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

### Understorey Life forms

LF Code from EVC benchmark	# spp observed / Benchmark spp.	% cover observed / Benchmark % cover	Present (✓)	Modified (✓)
MS	9/9	45/15	✓	✗
SS	10/2	10/10	✓	✗
PS	1/1	1/1	✓	✗
LH	2/1	2/1	✓	✗
MH	17/8	15/15	✓	✗
SH	5/4	5/10	✓	✗
LTA	0/1	-/1	✗	-
MTE	6/4	15/10	✓	✗
MNG	3/2	15/15	✓	✗
GF	2/1	4/1	✓	✗
BL	-/na	50/40	✓	✗
/	/	/		
/	/	/		
/	/	/		
/	/	/		
/	/	/	10/11	0/10

For life forms with benchmark cover of < 10%, considered 'present' if

#### Present

- any specimens are observed.

For life forms with benchmark cover of ≥ 10%, considered 'present' if

- the life form occupies at least 10% of benchmark cover.

For life forms with benchmark cover of < 10%, then considered substantially 'modified' if the life form has either:

#### Modified

(apply only where life form is 'present')

- < 50% of the benchmark species diversity; or
- no reproductively-mature specimens are observed.

For life forms with benchmark cover of ≥ 10%, then considered substantially 'modified' if the life form has either:

- < 50% of benchmark cover; or
- < 50% of benchmark species diversity; or
- ≥ 50% of benchmark cover due largely to immature canopy specimens but the cover of reproductively-mature specimens is < 10% of the benchmark cover.

### Tree Canopy Cover

Score

NA

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

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

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

### Lack of Weeds

Score

7

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

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

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

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

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

### Understorey

Score

25

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



# Vegetation Quality Field Assessment Sheet

Version 1.3 October 2004

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

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

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

Woody species recorded in habitat zone	Adequate Recruitment
Eucalypt canopy (combined species)	(M)
<i>Richea continentalis</i>	✓
<i>Epacris paludosa</i>	✓
<i>Baeckea gunniana</i>	✓
<i>Callistemon pityoides</i>	X
(r) <i>Pimelea axiflora subsp. alpina</i>	✓
<i>Greenlea australis</i>	✓
<i>Epacris gunnii</i>	✓
<i>Tasmanian zerophila</i>	X
<i>Acrothamnus hookeri</i>	X
<i>Horca rostrata</i>	X
<i>Olearia eucladocera</i>	X
number of woody spp. in EVC benchmark (SS and taller)	7

Logs		Score	NA	
Category & Description		Large logs present* <sup>‡</sup>	Large logs absent <sup>‡</sup>	
< 10% of benchmark length		0	0	
< 50% of benchmark length		3	2	
≥ 50% of benchmark length		5	4	

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

## 'Landscape Context Score'

Patch Size		Score	8	
Category & Description				
< 2 ha		1		
Between 2 and 5 ha		2		
Between 5 and 10 ha		4		
Between 10 and 20 ha		6		
≥ 20 ha, but 'significantly disturbed' <sup>*</sup>		8		
≥ 20 ha, but not 'significantly disturbed' <sup>*</sup>		10		

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

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

\* defined as per RFA 'Old Growth' analyses.

Neighbourhood		Score	7	
Radius from site	% Native vegetation* <sup>‡</sup>	Weighting		
100 m	100	0.03	3.0	
1 km	80	0.04	3.2	
5 km	100	0.03	3.0	
subtract 2 if the neighbourhood is 'significantly disturbed'			-2	
<b>Add Values and 'round-off'</b>			<b>7</b>	

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

Final Habitat Score											
Component	'Site Condition Score'						'Landscape Context Score'			Total	
	Large Trees	Tree Canopy Cover	Lack of Weeds	Understorey	Recruitment	Organic Litter	Logs	Patch Size	Neighbourhood		Distance to Core Area
Score	/	/	7	25	6	5	/	8	7	4	77

Handwritten: 15/15/15  
42 x 1.36

# Vegetation Quality Field Assessment Sheet

Version 1.3 - October 2004

Department of  
Sustainability and  
Environment

Site Name/No. 0422+3

Location Digger Plain

Date 13-12-12

Assessor(s) Philip Hancocks

Map Name/No. \_\_\_\_\_

AMG \_\_\_\_\_

Tenure Private

EVC Sub-alpine wet heathland

Bioregion Victorian Alps

## 'Site Condition Score'

### Large Trees

Score

11A

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

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

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

### Understorey Life forms

LF Code from EVC benchmark	# spp observed / Benchmark spp.	% cover observed / Benchmark % cover	Present (✓)	Modified (✓)
MS	8/4	45/15	✓	✗
CS	11/2	10/10	✓	✗
PS	1/1	1/1	✓	✗
LH	1/1	1/1	✓	✗
M4	16/2	10/5	✓	✗
SH	5/4	5/10	✓	✗
LTG	0/1	-/1	✗	-
MTE	6/4	15/10	✓	✗
MNG	3/2	10/15	✓	✗
GF	2/1	2/1	✓	✗
BL	-/10x	55/40	✓	✗
/	/	/		
/	/	/		
/	/	/		
/	/	/		
/	/	/	10/11	0/10

**Present**  
For life forms with benchmark cover of < 10%, considered 'present' if  
• any specimens are observed.

For life forms with benchmark cover of ≥ 10%, considered 'present' if  
• the life form occupies at least 10% of benchmark cover.

**Modified**

(apply only where life form is 'present')

For life forms with benchmark cover of < 10%, then considered substantially 'modified' if the life form has either:  
• < 50% of the benchmark species diversity; or  
• no reproductively-mature specimens are observed.

For life forms with benchmark cover of ≥ 10%, then considered substantially 'modified' if the life form has either:  
• < 50% of benchmark cover; or  
• < 50% of benchmark species diversity; or  
• ≥ 50% of benchmark cover due largely to immature canopy specimens but the cover of reproductively-mature specimens is < 10% of the benchmark cover.

### Tree Canopy Cover

Score

11A

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

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

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

### Lack of Weeds

Score

11

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

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

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

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

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

### Understorey

Score

25

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

# Vegetation Quality Field Assessment Sheet

Version 1.3 October 2004

## Recruitment

Score

6

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

- \* 'cohort' refers to a group of woody plants established in a single episode (can include suppressed canopy species individuals).
- <sup>^</sup> refer to EVC benchmark for clarification.
- treat multiple eucalypt canopy species as one species.
- \* high diversity defined as  $\geq 50\%$  of benchmark woody species diversity.

## Species Recruitment

### Woody species recorded in habitat zone

Adequate Recruitment  
(✓)

Eucalypt canopy (combined species)

*Halca microcarpa*  
*Acrothamnus holoseri*  
*Bossiara foliosa*

X  
X  
X

number of woody spp. in EVC benchmark (55) and taller

7

6/11

## Organic Litter

Score

5

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

## Logs

Score

4

Category & Description	Large logs present*	Large logs absent*
< 10% of benchmark length	0	0
> 50% of benchmark length	1	2
> 50% of benchmark length	5	3

- large logs defined as those with diameter  $\geq 0.5$  of benchmark large tree dbh
- \* present if large log length is  $\geq 25\%$  of EVC benchmark log length
- \* absent if large log length is  $\geq 25\%$  of EVC benchmark log length

## Landscape Context Score

### Patch Size

Score

10

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

- \* 'significantly disturbed' defined as per RFA 'Old Growth' analyses (e.g. trampling, coupes, grazing etc.) - effectively most patches within fragmented landscapes

### Distance to Core Area

Score

4

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

- \* defined as per RFA 'Old Growth' analyses.

## Neighbourhood

Score

8

Radius from site	% Native vegetation*	Weighting	Score
100 m	100	0.01	3.0
1 km		0.04	
5 km		0.01	

subtract 2 if the neighbourhood is 'significantly disturbed'

Add Values and 'round-off'

8

- \* to nearest 20%

Multiply % native vegetation  $\times$  Weighting for each radius from the core (e.g.  $100 \times 0.01 = 1.0$ ); then add values to obtain final 'neighbourhood' score

## Final Habitat Score

Component	'Site Condition Score'						'Landscape Context Score'		Total		
	Large Trees	Tree Canopy Cover	Lack of Weeds	Understorey	Recruitment	Organic Litter	Logs	Patch Size		Neighbourhood	Distance to Core Area
Score	/	/	11	25	6	5	/	8	8	4	24

117 x 1.36

# Vegetation Quality Field Assessment Sheet

Version 1.3 - October 2004

Department of  
Sustainability and  
Environment

Site Name/No. OH24

Location Dinner Plain

Date 13-12-12

Assessor(s) Ernie HRCO & S.

Map Name/No. \_\_\_\_\_

AMG \_\_\_\_\_

Tenure private

EVC Sub-alpine wet heathland

Bioregion Victorian Alps

## 'Site Condition Score'

### Large Trees

Score

11A

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

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

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

### Understorey Life forms

LF Code from EVC benchmark	# spp observed / Benchmark spp.	% cover observed / Benchmark % cover	Present (✓)	Modified (✓)
MS	9/4	15/15	✓	✗
SS	10/3	40/50	✓	✗
PS	1/1	1/1	✓	✗
LH	1/1	1/1	✓	✗
MU	16/8	10/15	✓	✗
SH	4/4	10/10	✓	✗
LTG	0/1	-/1	✗	-
MTE	6/4	20/10	✓	✗
MIG	3/2	10/15	✓	✗
GF	1/1	1/1	✓	✗
BL	-/100	35/40	✓	✗
	1	1		
	1	1		
	1	1		
	1	1		
	1	1		
	1	1	10/11	0/10

#### Present

For life forms with benchmark cover of < 10%, considered 'present' if

- any specimens are observed.

For life forms with benchmark cover of ≥ 10%, considered 'present' if

- the life form occupies at least 10% of benchmark cover.

#### Modified

(apply only where life form is 'present')

For life forms with benchmark cover of < 10%, then considered substantially 'modified' if the life form has either:

- < 50% of the benchmark species diversity; or
- no reproductively-mature specimens are observed.

For life forms with benchmark cover of ≥ 10%, then considered substantially 'modified' if the life form has either:

- < 50% of benchmark cover; or
- < 50% of benchmark species diversity; or
- ≥ 50% of benchmark cover due largely to immature canopy specimens but the cover of reproductively-mature specimens is < 10% of the benchmark cover.

### Tree Canopy Cover

Score

11A

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

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

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

### Lack of Weeds

Score

13

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

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

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

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

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

### Understorey

Score

25

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

# Vegetation Quality Field Assessment Sheet

Version 1.3 October 2004

## Recruitment

Score 6

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

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

## Species Recruitment

Woody species recorded in habitat zone	Adequate Recruitment
Eucalypt canopy (combined species)	(✓)
<i>Acrothamnus hookeri</i>	x
number of woody spp. in EVC benchmark (see table)	7

6/9

## Organic Litter

Score 5

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

## Logs

Score 3

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

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

## 'Landscape Context Score'

## Patch Size

Score 8

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

\* 'significantly disturbed' defined as per RFA Old Growth analysis of nearby coupes, grazing etc. = effectively most patches within fragmented landscapes

## Distance to Core Area

Score 4

Distance	Core Area not significantly disturbed*	Core Area significantly disturbed*
< 5 km	0	0
5 to 10 km	2	1
> 10 km	4	1
contiguous	5	10

\* defined as per RFA Old Growth analysis

## Neighbourhood

Score 8

Radius from site	% Native vegetation	Weighting	Score
100 m	100	0.05	2.0
1 km		0.08	4.0
5 km		0.05	3.0
subtract 2 if the neighbourhood is 'significantly disturbed'			-2
Add Values and 'round-off'			8

\* to nearest 20%

Multiply % native vegetation x weighting for each radius from the site (eg. 10% x 3.0) = 0.3. Then add up scores of the four Neighbourhoods

## Final Habitat Score

Component	'Site Condition Score'						'Landscape Context Score'		Total		
	Large Trees	Tree Canopy Cover	Lack of Weeds	Understorey	Recruitment	Organic Litter	Logs	Patch Size		Neighbourhood	Distance to Core Area
Score	/	/	13	25	6	5	/	8	8	4	87

49 x 1.3 =

## **9.4 Appendix 4: Offset Zone Gain Calculations (DSE Gain Calculator)**

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details

NAME or EOI CODE:

SITE CODE (number):

SITE LOCATION/ADDRESS:

PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)

Zone Type:

**STEP 3** Select bioregion:

**STEP 4** Select EVC

Sub-alpine Wet Heathland  BCS:

If "Other" is selected:  
 - enter EVC & Standardiser:  
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place (or revegetation area)

**STEP 6** Select current land tenure:

**STEP 7** Select current planning controls

no entitlement to graze with domestic stock  
 no entitlement to remove trees - alive  
 no entitlement to remove trees - dead  
 no entitlement to remove dead vegetation  
 no entitlement to remove fallen timber  
 requirement for regular fuel reduction  
 other - please insert

Enter other:

**STEP 8** Select proposal type:

**STEP 9** Select total patch size class - including adjoining zones:

**STEP 11** Choose the appropriate management options as required

(a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*  
 (b)  Retain all standing trees - dead or alive  
 (c)  Retain all fallen timber/branches/wood litter  
 (d)  Eliminate high threat woody weeds & control pest animals  
 (e)  Eliminate all identified high threat weeds & control pest animals  
 (f)  Supplementary planting  
 (g)  Any additional site-specific management actions  
 (h)  If (h) is selected, select management actions from below:

Ecological thinning  
 Ecological burning  
 Ecological fencing  
 Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10** Current Habitat Score

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	20	25	
Lack of weeds	15	13	7	
Recruitment	10	6	6	
Organic litter	5	5	5	
Logs	5	na		
Landscape context	25	20	19	
Standardised Habitat Score	100	77		

**STEP 12** Gain Scores for Remnant Management

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	2.5		0		
Lack of weeds	na		4		
Recruitment	0.8		4		
Organic litter	0.5		0		
Logs	na		na		
Total	3.8		8		

**STEP 13** Choose security arrangement:

Standardised Sum Main + Impr Gain/ha	15.78
Prior Mgt Gain/ha	7.7
Security Gain/ha	7.7
<b>Total Gain/ha</b>	<b>31.18</b>

Calculating the total gain  
**Total Gain (HHa) 0.38**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:

# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details  
**NAME or EOI CODE:**   
**SITE CODE (number):**   
**SITE LOCATION/ADDRESS:**   
**PROPERTY SIZE:** >= 10 Ha

**STEP 2** Habitat zone code (a-e)  2  
 Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:   
 If "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

- (a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*
- (b)  Retain all standing trees - dead or alive
- (c)  Retain all fallen timber/branches/leaf litter
- (d)  Eliminate high threat woody weeds & control pest animals
- (e)  Eliminate all identified high threat weeds & control pest animals
- (f)  Supplementary planting
- (g)  Any additional site-specific management actions
- (h)  If (h) is selected, select management actions from below:
  - Ecological thinning
  - Ecological burning
  - Ecological focking
  - Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:  
  
 \* All grassland management actions must ensure no further weed spread

**STEP 10**  
**Current Habitat Score**

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na	na	
Tree canopy cover	5	na	na	
Understorey	25	20	25	
Lack of weeds	15	13	11	
Recruitment	10	6	6	
Organic litter	5	5	5	
Logs	5	na	na	
Landscape context	25	20	20	
Standardised Habitat Score	100		84	

**STEP 12**  
**Gain Scores for Remnant Management**

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na	na	na	na	
Tree canopy cover	na	na	na	na	
Understorey	2.5	0	4	4	
Lack of weeds	na	na	4	4	
Recruitment	0.6	0	0	0	
Organic litter	0	0	0	0	
Logs	na	na	na	na	
<b>Total</b>	<b>3.1</b>		<b>8</b>		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	15.10
Prior Mgt Gain/ha	8.4
Security Gain/ha	8.4
<b>Total Gain/ha</b>	<b>31.90</b>

Calculating the total gain  
**Total Gain (HHa) 0.04**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:



# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details  
**NAME or EOI CODE:**   
**SITE CODE (number):**   
**SITE LOCATION/ADDRESS:**   
**PROPERTY SIZE:**

**STEP 2** Habitat zone code (a-z)  3  
 Zone Type

**STEP 3** Select bioregion

**STEP 4** Select EVC  BCS:   
 If "Other" is selected:  
 - enter EVC & Standardiser: EVC:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place  ha  
 (or revegetation area)

**STEP 6** Select current land tenure

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert:

Enter other:

**STEP 8** Select proposal type

**STEP 9** Select total patch size class - including adjoining zones

**STEP 11** Choose the appropriate management options as required

- (a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*
- (b)  Retain all standing trees - dead or alive
- (c)  Retain all fallen timber/branches/leaf litter
- (d)  Eliminate high threat woody weeds & control pest animals
- (e)  Eliminate all identified high threat weeds & control pest animals
- (f)  Supplementary planting
- (g)  Any additional site-specific management actions
- (h)  If (h) is selected, select management actions from below:
  - Ecological thinning
  - Ecological burning
  - Ecological flooding
  - Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10**  
 Current Habitat Score

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	20	25	
Lack of weeds	15	13	11	
Recruitment	10	6	6	
Organic litter	5	5	5	
Logs	5	na		
Landscape context	25	20	20	
<b>Standardised Habitat Score</b>	<b>100</b>	<b>84</b>		

**STEP 12**  
 Gain Scores for Remnant Management

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	2.6		0		
Lack of weeds	na		4		
Recruitment	0.6		4		
Organic litter	0		0		
Logs	na		na		
<b>Total</b>	<b>3.7</b>		<b>8</b>		

**STEP 13** Choose security arrangement

Standardised Sum Main + Impr Gain/ha	15.10
Prior Mgt Gain/ha	8.4
Security Gain/ha	8.4
<b>Total Gain/ha</b>	<b>31.90</b>

Calculating the total gain  
**Total Gain (HHa) 0.04**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:



# DSE Gain Calculator

Version 1.2, October 2008

[About DSE Gain Calculator](#)

**STEP 1** Enter site details  
 NAME or EOI CODE:   
 SITE CODE (number):   
 SITE LOCATION/ADDRESS:   
 PROPERTY SIZE:

**STEP 2** Habitat zone code (a-z)    
 Zone Type:

**STEP 3** Select bioregion:

**STEP 4** Select EVC:  BCS:   
 if "Other" is selected:  
 - enter EVC & Standardiser: EVC:  Standardiser:   
 - enter assessed habitat scores manually under STEP 10, based on EVC BCS.

**STEP 5** Enter size of habitat zone, to one decimal place (or revegetation area)

**STEP 6** Select current land tenure:

**STEP 7** Select current planning controls

- no entitlement to graze with domestic stock
- no entitlement to remove trees - alive
- no entitlement to remove trees - dead
- no entitlement to remove dead vegetation
- no entitlement to remove fallen timber
- requirement for regular fuel reduction
- other - please insert:

Enter other:

**STEP 8** Select proposal type:

**STEP 9** Select total patch size class - including adjoining zones:

**STEP 11** Choose the appropriate management options as required

- (a)  Exclude stock and ensure that weed cover does not increase beyond current levels\*
- (b)  Retain all standing trees - dead or alive
- (c)  Retain all fallen timber/branches/leaf litter
- (d)  Eliminate high threat woody weeds & control pest animals
- (e)  Eliminate all identified high threat weeds & control pest animals
- (f)  Supplementary planting
- (g)  Any additional site-specific management actions
- (h)  If (h) is selected, select management actions from below:
  - Ecological thinning
  - Ecological burning
  - Ecological foxtailing
  - Other

\*For Grassland type EVC's only  
 Replace management option (a) above with:

\* All grassland management actions must ensure no further weed spread

**STEP 10** Current Habitat Score

Attribute	Max	Default	Assessed	Comments
Large Trees	10	na		
Tree canopy cover	5	na		
Understorey	25	20	25	
Lack of weeds	15	13	13	
Recruitment	10	6	6	
Organic litter	5	5	5	
Logs	5	na		
Landscape context	25	20	20	
Standardised Habitat Score	100	67		

**STEP 12** Gain Scores for Remnant Management

Attribute	Maintenance Gain/ha		Improvement Gain/ha		Comments
	Calculated	Assessed	Calculated	Assessed	
Large Trees	na		na		
Tree canopy cover	na		na		
Understorey	2.5		0		
Lack of weeds	na		4		
Recruitment	0.6		4		
Organic litter	0.5		0		
Logs	na		na		
Total	3.6		8		

**STEP 13** Choose security arrangement:

Standardised Sum Main + Impr Gain/ha	15.78
Prior Mgt Gain/ha	8.7
Security Gain/ha	8.7
<b>Total Gain/ha</b>	<b>33.18</b>

Calculating the total gain  
**Total Gain (HHa) 0.28**

**STEP 14** User details

USER NAME:   
 ORGANISATION:   
 CONTACT TELEPHONE:   
 CONTACT EMAIL:

## **9.5 Appendix 5: Offset Zone EPBC Calculator**

# Offsets Assessment Guide

For use in determining offsets under the Environment Protection and Biodiversity Conservation Act 1999  
2 October 2012

This guide relies on Measures being enabled in your browser.

Offset of National Environmental Objectives	
Name	Alpine Sphagnum Bog and
EPBC Act status	Endangered
Annual probability of extinction based on IUCN category definition	1.2%

Key to Cell Colours
User input required
Input data list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source	
<b>Ecological communities</b>						
Area of community	Yes	Removal of area of 'spine bog' to enable expansion of Tailings Storage Facility for Stockmen Project	Area	0.36	Hectares	Site condition is high (9/10), Site context is high (9/10), Species stocking rate is medium (6/10), site condition is most important factor
			Quality	7	Scale 0-10	
			Total quantum of impact	0.25	Adjusted hectares	
<b>Threatened species habitat</b>						
Area of habitat	No		Area			
			Quality			
			Total quantum of impact	0.00		
<b>Protected matter attributes</b>						
Number of burrows e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
<b>Threatened species</b>						
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																		
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source		
<b>Ecological Communities</b>																		
Area of community	Yes	0.25	Adjusted hectares	1.22 hectares of 'spine bog' at Dinosaur Plains	20	Start area (hectares)	2.08	Risk of loss (% without offset)	20%	Risk of loss (% with offset)	10%	0.21	90%	0.10	0.08	0.30	117.17%	Yes
						Future area without offset (adjusted hectares)	1.7	Future area with offset (adjusted hectares)	1.9									
						Future quality without offset (scale of 0-10)	8	Future quality with offset (scale of 0-10)	9									
Area of habitat	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
<b>Threatened species habitat</b>																		
Area of habitat	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
<b>Threatened species</b>																		
Number of burrows e.g. Nest hollows, habitat trees	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Condition of habitat Change in habitat condition, but no change in extent	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Birth rate e.g. Change in nest success	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Mortality rate e.g. Change in number of road kills per year	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
Number of individuals e.g. Individual plants/animals	No				20	Start area (hectares)		Risk of loss (% without offset)		Risk of loss (% with offset)								
						Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
						Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of burrows	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	0				\$0.00		\$0.00
Area of community	0.252	0.30	117.17%	Yes	\$0.00	N/A	\$0.00
					\$0.00	\$0.00	\$0.00

## Schedule 2 Payment Schedule

Financially sensitive information

Financially Sensitive Information



# Signing page

Executed as an agreement

Executed by Independence Stockman  
Project Pty Ltd ACN 124 695 567 in  
accordance with section 127(1) of the  
Corporations Act 2001 (Cth) by:

---

Director

---

Full name (print)

---

Director/Secretary

---

Full name (print)

**The Common Seal** of the **Alpine Shire** )  
**Council** was hereunto affixed this )  
day of                    201, in the presence )  
of:- )