

BEFORE THE MANAWATU-WANGANUI REGIONAL COUNCIL

In the matter of the Resource Management Act 1991

and

In the matter of Submissions and further submissions made by **TRUSTPOWER LIMITED & MERIDIAN ENERGY LIMITED** to the Manawatu-Wanganui Regional Council on the Proposed Horizons One Plan – Biodiversity Provisions.

SUPPLEMENTARY EVIDENCE OF MATIU PARK
Ecologist

1 December 2008

1 Introduction

- 1.1 This supplementary evidence has been prepared jointly for Meridian Energy Limited (“Meridian”) and TrustPower Limited (“TrustPower”). I have previously provided a brief of evidence for each party on 11 July 2008.
- 1.2 In my original evidence I discussed the strengths and limitations of the proposed One Plan (“Plan”) approach. Despite the limitations I am generally supportive of the approach, as a broad brush tool for identifying areas of potential ecological significance, at a regional scale, and in the absence of field based surveys.
- 1.3 My original evidence also discussed the consistency of the habitats identified in Schedule E with section 6(c) of the RMA; how significance is usually determined by ecologists under section 6(c) of the RMA; the activity status classifications for rare, threatened and at-risk habitat types; and the values and benefits of biodiversity offsets.
- 1.4 Since my original evidence was filed, I have attended a number of pre-hearing meetings and caucusing on the biodiversity provisions for both TrustPower and Meridian. This included attending the initial pre-hearing meeting on 5 June 2008, caucusing between the energy generators on 7 August, caucusing of ecological experts on 11 August 2008 and the pre-hearing meeting for all submitters at Horizons Regional Council on 22 October 2008.
- 1.5 In preparing this evidence, I have read the revised version of the Glossary (4 November), the revised versions of Chapters 7 and 12 (5 November), the revised Schedule E as attached to Ms Maseyk’s evidence and supplementary recommendations, and the revised version of Schedule E dated 20 November 2008.
- 1.6 I am providing this evidence in my capacity as an expert evaluating the issues Meridian and TrustPower have asked me to consider. In preparing my evidence, I have consulted other ecologists within Boffa Miskell Limited (“BML”). My colleague Stephen Fuller, a senior ecologist at BML, is also presenting ecological evidence today for TrustPower and Meridian. The evidence of Mr. Fuller discusses the concept of ecological sustainability and the application of ecological assessment criteria in more detail. Mr. Fuller

has reviewed this brief of evidence. As consulting ecologists working on a range of projects from significant natural area surveys to assessments of ecological effects, small-scale rural to multi-region infrastructure projects, and under a variety of legislative frameworks we approach this debate from the point of view of practitioners looking for a workable, defensible, and realistic planning framework under which to conduct assessments of ecological significance and of effects on ecological values.

2 Scope of Supplementary Evidence

2.1 Following on from the caucusing of experts and numerous pre-hearing meetings on the biodiversity provisions of the Plan over the past few months, substantial changes have been recommended as outlined in the documents referred to above. My supplementary evidence addresses those changes, and provides comment on whether or not I support these recommended changes.

2.2 These changes can be summarised as follows:

(a) Revisions to Schedule E, including:

- Clarification of the habitat types in Schedule E;
- Addition of a number of new habitat types to Schedule E;
- The addition or refinement of inclusion or exclusion criteria in Table E.2;
- Development of habitat types to incorporate threatened species (Table E.3);

(b) Revisions to the criteria for assessing ecological significance;

(c) Revisions to the provisions relating to biodiversity offsets.

2.3 I will address each of these areas in turn.

3 Schedule E

Clarification of habitat types and revised definitions in Table E.1

- 3.1 I support the recommended changes made to the habitat types in Table E.1 and concur with the evidence and supplementary recommendations of Ms. Maseyk that these changes improve 'clarity, content and usability'. I consider the clarifications made, the increased details for habitat type descriptions provided, the increased use of references, and the general improvements to the layout all assist in making Schedule E more understandable.

Addition of new habitat types in Table E.1

- 3.2 With the exception of those habitat types that seek to protect bare substrate, I support the addition of the remainder of the new habitat types recommended for the reasons outlined in the evidence and supplementary recommendations provided by Ms. Maseyk.
- 3.3 The inclusion of the naturally rare habitat type "*cliffs, scarps and tors*" is defined as being "*Where bare substrate, lichenfield, tussockland, herbfield, shrubland or scrub occurs on cliffs (including coastal cliffs), scarps or tors of any rock type*". As currently worded, the definition of '*cliffs, scarps and tors*' would include large areas of rock outcrops in the Region irrespective of their vegetation cover or lack of. In effect this category would be protecting substrates because they have the *potential* to be habitat. In my experience, large areas of bare substrate will have little or no ecological or biodiversity values, either in terms of significant indigenous vegetation, or in terms of providing significant habitat for indigenous fauna. Accordingly, I do not consider this approach to be consistent with section 6(c) of the RMA.
- 3.4 I am generally comfortable with the inclusion of the habitat types 'tussockland below the treeline' and 'kowhai broadleaved forest' in Table E.1. However, I have some concerns with the intention that these habitat types (via their identification in Schedule E) ought to be considered "significant" under section 6(c) of the RMA. In my view, the reality may often be different. I provide more detail on the implications of with this approach in my discussion of the significance assessment criterion in Policy 12-7.

Table E.2

- 3.5 I support the proposed changes to Table E.2 and consider that the revised habitat types provide the intended clarity based on vegetation community classes as recommended in my original evidence.
- 3.6 However, to reduce uncertainty as to interpreting what habitat types are included or excluded from Table E.2, I consider that a number of the terms used need to be defined in the Glossary. The following terms are listed in Table E.2, but are no longer included within either the separate Glossary to Schedule E or the primary Glossary: 'treeland', 'tussockland', 'rushland', 'scrub', 'shrubland' and 'herbfield'.

Development of habitat types to incorporate threatened species

- 3.7 As outlined in my original evidence, I support the rationalisation of Table E.3 and the incorporation of threatened species through existing or new habitat types. For the reasons outlined in my original evidence and the supplementary statement and evidence of Ms. Maseyk, I support the removal of Table E.3 and the development of habitat types that specifically provides habitat for threatened species.

4 Criteria for assessing ecological significance

- 4.1 In my earlier evidence I spent some time (parts 7 and 8) discussing the matters that ought to inform a decision as to whether an area is "significant" or not.
- 4.2 As outlined by Ms. Maseyk there are two quite distinct roles for assessment criteria in plans - firstly for determining the ecological values or significance of a site; and then for assessing the effects of an activity on the ecological values of a site.
- 4.3 The Plan presents a novel approach to biodiversity protection at a regional level through the use of Schedule E as a determinant of ecological significance. As noted in my original evidence, Schedule E is firstly used to make a broad brush assessment of the regional ecological significance of a site through habitat type in Table E.1 and the size of this habitat type in Table E.2 (the first role). Schedule E then determines the activity status for

each habitat type. Policy 12-7 is then proposed to be used as an assessment tool to confirm or determine otherwise the regional significance of each site and then assess the effects of an activity (the second role). However, Policy 12-7 does not provide for this confirmation of significance through field verification because Schedule E has already determined the significance of a site. Therefore, Policy 12-7 is really only a tool for assessing the effects of an activity rather than allowing for a full and proper assessment of significance. In my opinion, once consent is required by Schedule E, Policy 12-7 should be used to direct a decision-maker to assess the significance of a site and confirm section 6(c) status. Following this determination of significance, subsequent policies should then require an assessment of effects on the site.

- 4.4 However, as outlined in my original evidence, Schedule E uses a representation of regional significance based largely on predictive modelling or the presence of threatened species. Despite the recommended changes to the biodiversity provisions, it is my opinion that the Plan approach does not consider the full suite of assessment criteria typically used to assess a site. My view remains that while Schedule E may be an appropriate starting point for an assessment of significance, it cannot be relied upon to indicate significance with any certainty in a given situation. Whether a site is truly significant remains to be determined at a site specific level.
- 4.5 The role of Policy 12-7 is unclear because Schedule E purports to be determinative of significance. This uncertainty is not helped by the various intended uses of the assessment criteria and the location of Policy 12-7 within a section of the Plan dealing with consent decision-making for activities where there is a requirement to assess adverse effects. For example, the supplementary statement and evidence of Ms. Maseyk introduces the Policy 12-7 criteria as 'Criteria for assessing the value of a site'. However, the section 42A officer's report heads Policy 12-7 "*Criteria for assessing ecological significance*". The policy itself goes on to say "*The ecological values of Rare Habitats, Threatened Habitats and At-Risk Habitats, and the determination of adverse effects on such habitats shall be assessed against the following criteria:*"
- 4.6 If Policy 12-7 is meant to perform the dual roles I have discussed above (ie, outline the matters to be considered to determine significance as well as

effects) it needs to be added to. I maintain the view expressed in my original evidence that the condition of a site needs to be taken into account in deciding whether or not that site is in fact significant.

The Policy 12-7 assessment of significance

- 4.7 My understanding is that Policy 12.7 is intended to provide guidance for an assessment of the effects of land use activities because the Plan provisions are predicated on the belief that Schedule E habitats all qualify as 'significant' under section 6(c). As previously stated, I disagree with this proposition.
- 4.8 In my view, Schedule E should be recognised as a starting point but that further enquiry needs to be made at a site specific level before significance can actually be established. To enable a consistent approach to this, the assessment criteria outlined in Policy 12.7 should be more comprehensive so that section 6(c) status can properly be confirmed.
- 4.9 I support the intent of Policy 12-7 and the clarifications recommended by the statement and supplementary evidence of Ms. Maseyk, but I consider that it still does not fulfil the role I have outlined above because it does not include the full suite of assessment criteria that would typically be used to determine significance of a site. As currently proposed, it does not take matters any further than Schedule E. Fundamental omissions from my perspective relate to taking into account the condition of a habitat and its actual representativeness and ecological sustainability.

Representativeness

- 4.10 For the initial assessment of significance I agree that the key criteria are representativeness, rarity/distinctiveness and ecological context. However, it is my opinion that the criterion "Representativeness" is being inappropriately applied in the Plan by using the word to mean "under-represented". The criterion reads:

"Representativeness – The site comprises habitat type that is under-represented (20% or less of known or likely former cover). LENZ land environments, national spatial databases, and predictive models will be used to assess representativeness".

4.11 Representativeness (of the range of biological diversity) is generally considered to be the over-riding criterion for ecological evaluation. Accordingly, it is my opinion that the narrow definition employed has a number of implications for the use of the term to both assess a site's significance and to assess the effects of an activity on a site's values. In my opinion, representativeness should mean the degree of similarity between the current community and its original state. A 1990 scientific review of significance assessment included the following definition:

*"Representativeness - some measure of the degree to which the site being assessed is typical of, or represents, a vegetation type or habitat type that was present in the wider area at some time in the past."*¹

4.12 The elements that are missing from the current criteria to determining a site's significance are condition and whether the site is typical of a habitat type in the past. In some instances, these elements are incorporated in a discussion of representatives. As an example of how other regional councils have incorporated representativeness, I provide the example from the Waikato Regional Policy Statement assessment criteria²:

Representativeness - It is an area of indigenous vegetation or habitat that is a healthy and representative example of its type because:

- *its structure, composition, and ecological processes are largely intact;*
and
- *if protected from the adverse effects of plant and animal pests and of adjacent landuse (e.g. stock, discharges, erosion), can maintain its ecological sustainability over time.*

4.13 Similarly, the Bay of Plenty Regional Policy Statement uses the following criterion:

*"Indigenous vegetation or habitat of indigenous fauna containing associations of indigenous species representative, typical or characteristic of the natural diversity of the region or any relevant ecological districts."*³

4.14 An example of how representativeness is used by ecologists to determine significance can be provided by regenerating shrubland in pasture. At a

¹ O'Connor, K.F., Overmars, F.B., Ralston, M.M. (1990): Land Evaluation for Nature Conservation. A scientific review compiled for application in New Zealand. Conservation Science Series Publication No. 3. Department of Conservation. Wellington.

² Environment Waikato 2002: Waikato Regional Policy Statement.

³ This definition is from the Bay of Plenty Regional Policy Statement (2005).

recent hearing in Wellington the issue of representativeness was argued in relation to regenerating shrubland in pasture. Opponents to a consent argued that tauhinu shrubland was a form of grey scrub, that grey scrub was a regionally rare plant community, and therefore triggered section 6(c) consideration. In fact tauhinu is a browse resistant and aggressive pioneer, whose natural habitats are unstable sites such as coastal foredunes, actively eroding coastal escarpments, and braided river beds. Historical conversion of lowland forests to pasture created entirely new habitats which tauhinu was well adapted to exploit, often in association with gorse and broom. These tauhinu dominated shrublands in pasture are not representative of the original distribution, community composition, or genesis of "tauhinu grey scrub". In this example, the Council Commissioners agreed with the applicant's view that the shrubland was not representative.

4.15 In this instance, the Plan has chosen not to include these criteria within the representativeness criterion. If they are not incorporated within this criterion, it remains my opinion that they should be incorporated via another criterion.

4.16 There is an attempt to provide for an assessment of biological representativeness in the last bullet of the "Ecological Context" assessment criteria, but the wording only talks of species diversity for 'large' sites. It is my opinion that similar wording should be included within the 'representativeness' criterion.

4.17 Adding to this uncertainty is the inconsistent application of the term 'representative' within the biodiversity provisions of the Plan. For example, the difference between its application under Policy 12-7 and the use of the term in Objective 7-1(c) and Policy 7-4(a) as follows [emphasis added]:

"Enhancing the function of the best representative examples of Rare and Threatened Habitats..." [Objective 7-1(c)]

'The Regional Council shall aim to improve the health and function of the best representative examples of rare and threatened habitats and at-risk habitats...' [Policy 7-4(a)]

4.18 The two provisions above are better aligned with my understanding of representativeness and how this term should be incorporated in Policy 12-7. In my opinion, the term 'best representative examples' provides for the assessment of a site's condition compared with other sites and

acknowledges that some sites will be better than others, in terms of their structure, composition, and ecological processes remaining largely intact. In my opinion, this interpretation is also consistent with the intent of the Department of Conservation’s Protected Natural Areas Programme (under Reserves Act 1977) [emphasis added]:

“Ensuring as far as possible, the survival of all indigenous species of flora and fauna, both rare and commonplace, in their natural communities and habitats, and the preservation of representative samples of all classes of natural ecosystems and landscapes which in their aggregate originally gave New Zealand its own recognisable character.” (Section 3(1)(b)).

4.19 A second concern with this criterion is that it requires representativeness to be assessed using only spatial databases and predictive models. This step has already been undertaken at the global scale for identifying rare, threatened, and at-risk habitats in Schedule E. Policy 12.7 should be looking to field assessment for verification of these values, not continuing its reliance on geospatial models.

4.20 In my view, it would be more appropriate to provide the following criterion, or similar, to better reflect the intended meaning and use of the word “representative”:

<u>Criteria</u>	<u>Explanation</u>
<u>Representativeness</u>	<u>The site comprises habitat type that is under-represented (20% or less of known or likely former cover; and</u> <u>The site is an area of indigenous vegetation that comprises indigenous species diversity structure, composition, and ecological processes typical of its habitat type.</u>

4.21 In addition, as per my original evidence, I consider a separate criterion ‘Ecological sustainability’ should be added to Policy 12-7 that includes those factors about a site’s condition etc. and ecological viability. If Policy 12-7 is to have the dual role intended (i.e. outline the matters to be considered to determine significance as well as the effects of activities on these values), assessment of ecological sustainability becomes a fundamental assessment criterion.

4.22 My colleague Stephen Fuller will now discuss in more detail the application of ecological sustainability as a criterion in significance assessment. The supplementary statement and evidence of Ms. Maseyk asserts that “*Schedule E provides a list of habitat types that are considered to be significant (as per section 6(c) of the RMA)*”. While I support the use of Schedule E as a broad brush tool for predicting potential ecological significance at the regional scale, it is my opinion that it does not apply the full suite of ecological assessment criteria necessary to determine a site’s significance. In practice, confirmation of a site’s significance requires field verification having regard to relevant criteria.

4.23 Although I consider the rare and threatened habitat types listed in Schedule E are likely to constitute significant indigenous vegetation or habitat for significant indigenous fauna, there will be instances where this is not the case. For example, a ‘*cliff, scarp or tor*’ comprising on only bare substrate that has been grazed for 100 years and is also isolated from other areas that may provide habitat linkages. It is my opinion, therefore, that habitat type alone cannot be determinative of ecological significance and other ecological criteria are required – particularly for at-risk habitat types. This point is noted in the original evidence of Ms. Maseyk through the following statement:

“Activities within patches of habitat type classified as At Risk (by definition of less than 50% of former cover remaining) require a resource consent, although there is potential that any given patch may not be considered ecologically significant when assessed against the criteria presented in Table 7.1” [para 118]

4.24 Consideration of Ms. Maseyk’s statement is particularly important given the addition of a number of new at-risk habitat types, such as ‘tussockland below the treeline’. Under the recommended revisions to Schedule E, grazed red tussock grassland would meet the criterion for ‘*tussockland below the treeline*’ (and therefore becoming at-risk habitat under Table E.1) as long as it was greater than 0.5ha in area (under Table E.2).

4.25 As discussed earlier, I consider the ‘representativeness’ criterion has been inappropriately applied by using the word to mean “under-represented”. Accordingly, relying on the habitat type solely meeting the

'representativeness' or 'rarity/distinctiveness' criterion is a fundamental limitation of the Schedule E approach, particularly for 'at-risk' habitats where greater than 20% of this habitat remains. It is therefore my opinion that the Schedule E approach to justifying a site being significant solely for 'representativeness' (based on a habitat type being less than 20% of its original state) irrespective of condition is inconsistent with the intent of this ecological criterion.

5 Biodiversity offsets.

- 5.1 I support the recommended revised approach to providing for biodiversity offsets through the revised Policy 12-4(c) and Policy 12-6(c). The proposed approach is consistent with developing best practice (Norton, 2008⁴ in press, Business and Biodiversity Offsets Program, 2008⁵).
- 5.2 As discussed in some detail in my original evidence, the use of biodiversity offsets can provide a useful mechanism by which the effects of an activity can be mitigated through the protection and/or enhancement of other areas, particularly in those situations where adverse effects cannot be avoided or remedied. The use of biodiversity offsets requires ecological input to ensure that the offset suitably corresponds to the effects of an activity. Accordingly, the reference to 'ecologically relevant locality' is supported as this requires the informed judgement of an ecologist.
- 5.3 However, I consider that the 'and' between 'providing for the net gain within the same habitat type' and 'providing for the net gain within the same ecological relevant locality as the affected habitat' should be replaced with an 'or' in Policy 12-4, consistent with Policy 12-6. As discussed in my original evidence, there will be some instances where a net gain to the same habitat type cannot be achieved as a result of total loss or modification of a rare and threatened habitat type. However, in my opinion this should not preclude the use of biodiversity offsets as the permanent protection of other habitat types within the 'ecologically relevant locality' will have some good

⁴ Norton, D. 2008: Biodiversity Offsets: Two New Zealand Case Studies and an Assessment Framework. In press Environmental Management Journal.

⁵ Thresholds Consultation Working Group, 2008. Business and Biodiversity Offsets Program (BBOP) Consultation paper: Thresholds for Biodiversity Offsets.

biodiversity gains, particularly for those sites whose long-term viability is uncertain without intervention. In my opinion, this revised approach would provide the necessary flexibility by which to undertake biodiversity offsets. It does not, however, mean that an offset can be found in every case.

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