

Anna Paris

From: Brian Patrick <Brian.Patrick@wildlands.co.nz>
Sent: Thursday, 7 June 2018 3:25 PM
To: Philip Grove
Subject: Appendix Two Simons Pass Station entomological report

Hi Philip

I have read the report now and make the following responses to your queries:

1. Taxonomic focus:

- while beetles is a diverse group nationally it is poorly known in such places as Mackenzie Basin while moths and butterflies (Lepidoptera) have been the subject of long-term studies (E.G. White at Tara Hills; B.H. Patrick in several publications for DoC and popular books “Wild Rivers” 2001, “Rivers Rare” 2017...)
- few of the beetles recorded are associated with particular indigenous plants and therefore habitats so it is just a bare list of species not an ecological list
- Lepidoptera would have been a useful addition to beetles as diverse in such ecosystems, well-studied, better connected and associated with available natural habitats and the indigenous flora and there are many local endemics to Mackenzie Basin
- expertise in Lepidoptera is (was) available such as myself. I carried out two studies in Mackenzie Basin over 2017-2018 summer
- light trapping for Lepidoptera would have proved very informative as to biodiversity, local endemism and connections to the available habitats and indigenous flora. This point is covered to some degree in bullet point at bottom of page 6

2. Habitats:

- Lepidoptera would have proved more diverse over the timing of this survey, and therefore would have provided more connections to the indigenous flora and habitats and local stories of biodiversity of both their habitats and the species themselves
- Report does not tell me about the habitats on the property and what invertebrates characterise each

3. General comments:

- lack of entomological references to this study. I know of many relevant ones such as; Mackenzie Basin PNAP study, threatened species of Mackenzie Basin, popular books and Mackenzie Basin general invertebrate studies.....(E.G. White etc.)
- correction; bottom of page 3. 2018 should read 2017
- spider numbers don't add up
- need references for new species of grasshoppers in the species list – inconsistent terminology used
- timing; survey would be more appropriately carried out over the full summer – say three periods between October and March to fully characterise the invertebrate fauna – NZ fauna very seasonal and many local endemics emerge as adults at other times of the year to this study
- overall low diversity detected so above comment relevant
- overall I don't think this particular study will allow the measuring of the statement in the **Introduction** “promoting and achieving the recovery of the indigenous dryland ecosystems....”.

Overall I don't think the information in this report is adequate to direct development and successful implementation of a **Dryland Recovery Management Plan** as required.

Thank you for opportunity to comment. I hope this is useful to you

Regards
Brian

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