

Summary Statement of Evidence - Andrew Wells

- [1] Rocky Point is in the early transitional stages of indigenous vegetation recovery following years of severe human-induced degradation of soils and vegetation, including fire and introduction of browsing mammals. This recovery process involves succession from predominantly non-woody vegetation such as cushionfields to woody vegetation dominated by kānuka.
- [2] Prior to human settlement, Rocky Point would have supported forest and scrub vegetation communities across almost the entire site. The few exceptions to this are the cushionfield-herbfield communities on localised areas of saline soils and persistence of shrubland and cushion plants on postglacial stony terrace escarpments. Diverse closed canopy forest would have been present in areas of deeper soils (gullies and toeslopes), grading into scrub on thin soils in shaded sites, and low growing shrubland on north facing slopes with thin soils.
- [3] A biodiversity offset framework was developed to deal with residual ecological effects associated with the proposed development. This framework involves planting woody vegetation communities at locations in Rocky Point and Bendigo Hills Estate, along with an ecological and vegetation management plan outlined in Mr Beale's evidence. Biodiversity information for the offset model was obtained from vegetation plots.
- [4] Two offset models were used, one based on effects on kānuka scrub-shrubland, and one based on effects on cushionfield dominated by *Raoulia australis*. The two models had different benchmarks. The scrub-shrubland model incorporated an indigenous closed-canopy forest benchmark on deeper, moister soils. The cushionfield model incorporated a shrubland benchmark on thinner, drier soil. The cushionfield offsetting model anticipates replacement of *Raoulia australis* cushionfield with indigenous shrubland/woodland as it is clear that the cushionfield community is induced.
- [5] The mix of species suggested for the proposed offset is based on 19 species that are present today in the wider area and that were also key components of pre-settlement vegetation.
- [6] The proposed offsetting is appropriate when considered in terms of the offsetting principles of the NPSIB and Otago Regional Policy Statement. The irreplaceability and

vulnerability of the indigenous biodiversity affected are not sufficiently high to exclude offsetting as a legitimate way of dealing with the residual effects.

- [7] The offsetting model outcomes show that no net loss of indigenous biodiversity will be achieved through implementing the proposed offset actions, and a 'net gain' in indigenous biodiversity as set out in the principles for offsetting contained in Appendix 3 of the NPSIB.
- [8] The proposed offset will lead to significantly greater gains in biodiversity values than can be obtained solely from the proposed minimisation and remediation measures. Furthermore, I consider that these gains in indigenous biodiversity represent important long-term benefits for the ecology of the area that would not occur in a scenario where Rocky Point remains under a farming regime.

Responses to key points relating to biodiversity offsetting raised by Mr Ewans

- [9] I provide responses to key points relating to biodiversity offsetting raised by Mr Ewans in his submission prepared on behalf of the Director-General of Conservation.
- [10] I agree that the possible effects of stock exclusion and herbivory are not straightforward for threatened/at risk species in cushionfield habitat, and that in some instances removal of all herbivory may be detrimental to some species. However, when considered at an overall ecosystem level, I consider that stock exclusion and herbivore control do provide a long-term positive effect for overall indigenous biodiversity values (both flora and fauna). It is also noted that removal of all herbivory will not be practical to achieve, as feral animal browsers such as rabbits won't be excluded.
- [11] Regarding Mr Ewans comments that the cushionfield communities are rare and irreplaceable, I reaffirm my opinion presented in my evidence that the cushionfields represent an early successional plant community that is being succeeded by kānuka and other woody species and therefore the cushion vegetation is not rare or irreplaceable. Diverse woody offset communities allow for a net biodiversity gain to be achieved in 30 years. But it would be very difficult to achieve such an outcome if early successional communities were used as offsets, because there would not be measurable gains in attributes, and ongoing weeding of kānuka would be required. Replicating the cushionfields at offset sites is also not in my opinion sound ecological practice as the replicated cushionfields would themselves be succeeded within a relatively short period

of time. My estimate of a 50-year timeframe for colonisation of much of the remaining cushionfield is based on observations of woody vegetation development in the Rocky Point/Bendigo area over the past 50 years.

[12] In saying this, I also reiterate that in ecosystem types where cushionfields form the expected climax mature vegetation (e.g. saline soils), then the cushionfields are rare and irreplaceable and development impacts on these saline habitats must be avoided.

[13] The offsetting approach of replacing early successional communities with later successional communities is typical and a widely used approach. It was recently agreed among several expert ecologists experienced in biodiversity offsetting as being appropriate in the expert conferencing outcome for a windfarm in Southland¹, as quoted below:

• *Matters raised by GU and DOC and any other commenters to be addressed:*

o The appropriateness of restoring and protecting biodiverse communities similar to the original vegetation – rather than concentrating on retaining transitional or mosaic communities that have resulted from human-induced modification.

35. GU, NG, KL, CM, JG, RB, CG and DS agree that it is appropriate to restore and protect biodiverse communities to support the transition to original vegetation types, such as the benchmarks used in the offsetting models.

[14] The above expert conferencing panel statement further validates the conclusion in my evidence that the proposed offsets are legitimate for the affected cushionfield communities and are not more akin to compensation.

[15] Also on this basis, I do not consider that Mr Ewans' comparison between cushionfield decline and removal of a degraded wetland is appropriate in the context of offsetting. While I agree that significance assessments require consideration within the present-day context, in relation to offsetting I reaffirm the conclusion from paragraph 61 of my evidence:

“This...is not applicable with respect to designing an offset or compensation proposal. Such proposals seek a net gain in biodiversity values, which often requires consideration

¹ *Joint statement of experts on the topic of offsetting/compensation.* Before the expert consenting panel in the matter of the COVID-19 Recovery (Fast-track Consenting) Act 2020 AND IN THE MATTER of an application by Contact Energy Limited for resource consents to construct and operate a wind farm on land in Oware, Southland.

of aspects of the ecology of the project area that are not currently present but if present would be of high ecological value.”

- [16] Offsetting is based on predictive models which are by nature future based. In addition, offsetting must achieve a net gain and therefore possible future net loss such as through exotic species invasion is at odds with the offsetting process.
- [17] Mr Ewans is correct that the offset sites at Bendigo Hills Estate were not assessed for spring annuals. I appreciate Mr Ewans thorough approach in recognising this. These sites were selected and surveyed during autumn and winter of 2024, outside of the spring annual season. In other regards, I remain confident that these offset sites have been adequately assessed and show exotic dominance. I have inspected these sites several times, including undertaking walk over surveys, RECCE plot surveys and soil profile analyses.
- [18] I undertook a walk over spring annual survey of these offset sites on 12 November 2024, with Mr Beale. This survey covered suitable habitat over most of the extent of the sites, targeting in particular kānuka shrub fringes, bare ground, and damp patches. One small population of spring annuals (New Zealand mouse tail and *Myosotis brevis*) was found immediately adjoining the road that passes through Hemlock Gully, in damp modified habitat formed around the culvert on both sides of the road. Small populations were also found on the fringes of two kānuka shrubs at the upper Panorama Flat site within a slightly damper area of hillslope. These areas are shown in the figure at the end of this summary statement. No other occurrences of spring annuals were observed. While it is inevitable that some individuals may have been missed, I consider that it is unlikely that the survey missed important occurrences of spring annuals present in 2024, although note that spring annual emergence may differ between years.
- [19] Any offset plantings will avoid these small areas of spring annuals. The few existing scattered shrubs (kānuka, *Olearia lineata*) within the offset sites will be retained. It is reiterated that areas at Pylon Flat with cushionfield coverage have been removed from the offset site. Therefore, in response to the concerns raised by Mr Ewans and Ms Wardle, I am confident that ‘leakage’ will be negligible.
- [20] I would also like to thank Mr Ewans for providing the additional survey data for spring annual plant populations within the development area and wider Rocky Point. This shows that some populations of these species additional to those noted in the survey of Mr

Simpson and Mr Beale are present at Rocky Point, both within and outside of the development area.

- [21] The combined results of the Rocky Point spring annual surveys and previous surveys in the district indicate that the spring annuals are abundant within Rocky Point and Bendigo Hills Estate, and across the wider Bendigo kānuka shrublands and cushionfields within Dunstan Ecological District including public conservation land (Bendigo Scenic Reserve and Bendigo Historic Reserve). Mr Ewans also considers that it is highly likely that further survey work in the area by suitably qualified and experienced botanists would uncover further substantial populations of all these species. This indicates that these species are a widespread component of the overall successional kānuka shrubland-cushionfield vegetation mosaic across this part of the district. The district contains abundant suitable microsites and habitat for these species.
- [22] Because of these factors, I do not consider that the loss of some populations of spring annuals within the impact area at Rocky Point would be detrimental to the overall wellbeing of these species in the Rocky Point/Bendigo Hills Estate area, or adversely affect in any meaningful way the importance of the wider area nationally for the conservation of the spring annuals. This is the same conclusion I reached in my evidence regarding the loss of *Raoulia australis*.
- [23] I therefore reaffirm the conclusion reached in my evidence that the impacted kānuka shrubland-cushionfield vegetation communities do not have irreplaceability or vulnerability values such that offsetting is inappropriate and avoidance is required. This is also consistent with the NPSIB requirement to consider indigenous biodiversity overall.
- [24] It is also noted that the offset plantings will, over time, be likely to create new habitat for spring annuals, through the formation of large areas of additional fringes around shrubs where bare ground is likely to form. The dappled light under shrubs and within small 'micro-hollows' naturally present and created through planting also provide good habitat for these species. As outlined in my evidence, the aim of the cushionfield offset plantings is to create open shrubland communities; such communities are likely to provide such areas of good habitat for spring annuals and other threatened grass/herb species over the long term. This habitat is much more suitable for spring annuals than the current relatively dense exotic-dominant grassland and herbfield and would make an important contribution to providing new areas of habitat.

[25] While I acknowledge the additional populations of spring annuals and other species noted by Mr Ewans, and the potential loss of individuals of these species, I maintain confidence that the proposed mitigation package (including the offsets) outlined in Mr Beale's evidence contains sufficient positive outcomes to result in the long-term maintenance of overall indigenous biodiversity at the site and an overall net biodiversity gain.

[26] I consider that my statement in paragraph 62 of my evidence is relevant to this also:

“Woody vegetation is the most depleted vegetation type in Central Otago, retaining only c.1.3% of its original extent across the whole non-alpine region. Many of the species formally abundant in Central Otago are consequently now very uncommon or locally extinct. One of the highest ecological priorities in Central Otago is retaining the existing cover of woody vegetation and increasing its cover and diversity through ecological restoration.”

Andrew Wells

15 November 2024

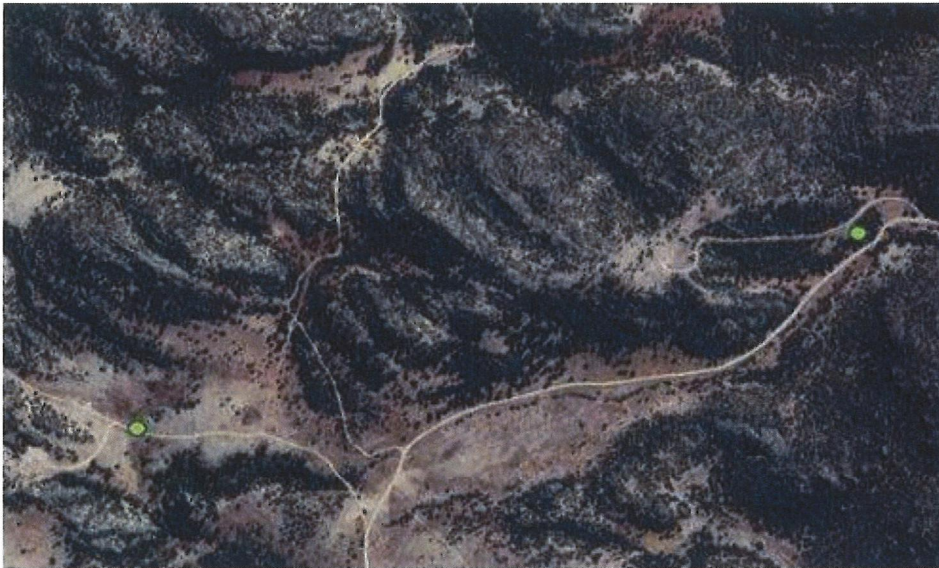


Figure: Locations of New Zealand mouse tail found at the offset sites during the field survey on 12 November 2024.



Plate: Several specimens of New Zealand mouse tail in muddy ground by the culvert at Hemlock Gully site, observed 12 November 2024.