THE ENVIRONMENT COURT

CHRISTCHURCH REGISTRY

I MUA I TE KOOTI TAIAO O AOTEAROA

ENV-2017-CHC-090

Under	**the Resource Management Act 1991**
In the matter	**of an appeal pursuant to section 120 of the Act**
Between	**THE ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND INCORPORATED** **Appellant**
And	**WEST COAST REGIONAL COUNCIL AND BULLER DISTRICT COUNCIL** **Respondents**
And	**STEVENSON MINING LIMITED** **Applicant**

SUBMISSIONS IN REPLY ON BEHALF OF STEVENSON MINING LIMITED

30 AUGUST 2022

NATURAL RESOURCES LAW LIMITED

Solicitor: M R Christensen
s 9(2)(a)

PO Box 6643
Upper Riccarton
CHRISTCHURCH 8442

Tel s 9(2)(a)

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INTRODUCTION

1 These submissions in reply comment on the main issues which featured in the hearing. My opening submissions contained detailed references to the evidence from all parties which I will not repeat. However, I submit that the issues identified as the primary issues and discussed in detail there in my opening submissions are those which remain between the parties. Those submissions remain relevant insofar as they describe the reasons why the evidence of the applicant's witnesses is to be preferred.

2 Moreover, my submissions below are to the effect that, in all cases, the applicant's careful and objective evidence was not undermined in any substantive way through questions.

Comparison with other parties' approaches

3 In my opening submissions I commented on five fundamental differences in approach taken by the applicant on the one hand, and by Forest & Bird and the Director-General on the other. The differences in approaches were also evident in the legal submissions and oral evidence of witnesses for those parties.

(a) The scale of assessment used in identifying areas of significant indigenous vegetation

4 The very detailed scale of assessment approach taken by Dr Lloyd and Dr Marshall did not consider the effects on the wider SNAs and that led them inevitably to the conclusion that the proposed rehabilitation is inadequate in re-establishing what is currently present on the site, and that the offsite actions are not adequately like for like in relation to the values within the footprint.

5 On the other hand, the approach adopted by Dr Bramley and Dr Craig which was based on an assessment of the effects on relevant SNAs where those SNAs had been identified at the scale of the ecological district is supported by the EIANZ Guidelines and the RPS. In addition, Dr Bramley also considered effects at the local (ie site) scale.

6 While the vegetation types Dr Bramley identified within the proposed mine footprint could be further subdivided or grouped together in the detailed way used by Dr Lloyd, that would not have provided improved

understanding of the areas of vegetation that are affected by the mine footprint, in terms of being able to appropriately manage effects.

7 The approach used by Dr Bramley and endorsed by Dr Craig properly captured the ecological values identified in Appendix 1 of the RPS and valued species.

8 The scale or lens Dr Bramley has used is not so broad as to be unhelpful in terms of 'measuring what we value', nor is it so narrow that the classifications are not comparable with other estimates, which is central to the issue of determining the nature and magnitude of effects.

(b) Treating the mine footprint as the Significant Natural Area

9 As confirmed in answers to questions, Forest & Bird's and the Director-General's witnesses primarily treated the mine footprint 'at Te Kuha' as the focus of their attention and (with some limited extensions[1]) the relevant 'area of significant indigenous vegetation' and 'significant habitat of indigenous fauna' in terms of the criteria for identifying Significant Natural Areas ('SNA') in Appendix 1 to the RPS.

10 This approach infected their written and oral evidence throughout.

11 While all ecologists agree that the site has certain values set out in Appendix 1 to the RPS, the mine site is but part of the larger relevant 'area of significant indigenous vegetation' and part of larger relevant 'significant habitats of indigenous fauna'. That area and those habitats were identified and described in the evidence of Dr Bramley and Dr Craig.

12 The different approaches taken to this issue by the witnesses are important for two reasons. First, a focus on the mine footprint or 'Te Kuha' meant that the witnesses for Forest & Bird and the Director-General ignored the off-footprint mitigation in their conclusions on residual effects. As I discuss below, while this position was consistent with their counsels' legal submissions, I submit those submissions did not attempt to engage on the substantive issue and instead simply relied on a superficial understanding of 'the point of impact'. Because of that position, those witnesses significantly overstated the residual effects, particularly with respect to invertebrates and avifauna.

[1] Dr Marshall EIC Figure 1 and Mr Chinn EiC Figure 1.

13 Secondly, this issue is important because, as the Court noted, if the mine footprint (or something close to it) is treated as the SNA in question rather than it being part of a larger identified SNA, it becomes much more difficult, if not impossible, to protect or maintain the values of that SNA (because the area will be removed, and rehabilitation is incapable of recreating exactly what is presently there).

(c) Treating RPS policies and offsetting principles as if they were rules

14 The third fundamental difference in approach where I submit Forest & Bird and the Director-General are in error is in relation to how the application of the effects management hierarchy is to be considered and the way in which to assess the appropriateness of the proposed biodiversity offset and biodiversity compensation package.

15 In my opening submissions I addressed the considerations under section 104(1)(a) and 104(1)(b) separately. Forest & Bird and the Director-General have, however, conflated the two considerations. In terms of s 104(1)(a) Forest & Bird's and the Director-General's focus on trying to establish hard and fast definitions for 'mitigation', 'offsetting', and 'biodiversity compensation' is misplaced. Under s104(1)(a) the fine distinctions between 'avoid', 'mitigate', 'offset' and 'compensate' are not critical or determinative in this instance.

16 Under s104(1)(b), the considerations are more defined because the policies in Chapter 7 of the RPS require the explicit application of the effects management hierarchy. However, again, decisions about where mitigation merges into becoming an offset, or what is an offset compared with compensation, require a discretionary judgment based on the evidence. That is particularly so where it has become evident that there are difficulties in interpretation and application of some aspects of policies 7.2, 7.4 and 7.5. Importantly, s104(1)(b) requires the Court to <u>have regard to</u> the objectives and policies of the RPS (my emphasis).

(d) The assumption that declining consent is the best option for protection

17 The evidence for Forest & Bird and the Director-General contained an implicit assumption that protection of the existing biodiversity values in the wider Te Kuha area is best achieved by declining consent to this proposal. That was perhaps most clearly shown in the evidence

provided by Mr Patrick while on the stand. Mr Patrick showed himself to be a passionate advocate for the forest ringlet butterfly. So much so that his advocacy obscured, I submit, a clear an objective analysis of the effects of the proposal and the mitigation and positive measures proposed.

18 Mr Patrick's view was that the butterfly population should simply be left alone and even monitoring the health of the population should not be done (unless of course that monitoring were done by him). He appeared oblivious to the inconsistency of that approach with his acceptance that rats are predators of butterfly caterpillars[2] and rats are present at Te Kuha being poorly controlled at the edge of the 1080 application area. Nor was he prepared to respond to questions about the potential benefits of both mammalian predator and wasp control on the wider population of ringlet butterflies across the Buller Coal Plateau that would occur as required by conditions of consent.[3] Rather, he strangely purported to rely on his personal relationship with the former Director-General to ensure funding to manage this species which is in decline.

19 The evidence of Dr Bramley and Dr Craig that the ecological values of the relevant SNAs will not be maintained or protected if consent is declined was not challenged in cross-examination. The pest control undertaken by the Department of Conservation/OSPRI in 2020 and (they say) planned twice more confirms Dr Craig's and Dr Bramley's evidence. This part of the country suffers the same sort of animal pest and predator pressure as is common elsewhere. There was no cogent reason provided by any witness for Forest & Bird and the Director-General that ongoing pest control was unnecessary at Te Kuha and within the proposed Te Kuha Biodiversity Management Area.

(e) Uncertainty and risk

20 The ecologists advising the Director-General and Forest & Bird adopted a significantly different stance when dealing with risk and uncertainty than the ecologists advising the applicant. However, the evidence of the ecologists advising the Director-General and Forest & Bird for the most part lacked a rigorous assessment based on a transparent and

[2] Mr Patrick EiC para 109.

[3] His evidence was that these are significant predators of the butterfly throughout its range but less so at Te Kuha – para 58 of his EiC.

logical framework. That can be contrasted with the approach of Dr Bramley and Dr Craig who structured their assessment of effects in accordance with the EIANZ Guidelines and adopted well-recognised understandings of the benefits of pest control. It can also be contrasted with the evidence of Dr Simcock and Dr Ross who assessed the proposed rehabilitation having regard to the known success (and failures) of other relevant rehabilitation methods used on other projects.

21 The only reason provided for the ecologists advising Forest & Bird and the Director-General to not use the EIANZ Guidelines[4] was unconvincing.

22 Again as I noted in my opening, their conclusions appeared to be premised on an unstated assumption that all uncertainty is problematic per se. Their evidence did not provide a logical assessment of risk in the commonly understood manner of considering both likelihood and consequences of an event happening. Rather, their approach was generally that unless there is a high (or sometimes absolute) level of certainty of a positive outcome for a particular action proposed, the assumption is that the likelihood of an adverse outcome will be high. As an example, in terms of the efficacy of pest control somehow the effectiveness of pest control if it were undertaken by a consent holder in accordance with the conditions was speculative, but not when the control was or would be undertaken by the Department. Why that might be the case was not explained. I submit that Dr Bramley's and Dr Craig's evidence should be preferred in that regard.

PROTECTION OF AREAS OF SIGNIFICANT INDIGENOUS VEGETATION

Identifying areas of significant vegetation

23 There are two areas of vegetation present within the footprint and in the areas surrounding the mine footprint distinguished by their underlying geology:

(a) Coal measures vegetation; and

[4] In cross-examination of the applicant's witnesses by Mr Anderson that the Guidelines only apply to ecologists advising applicants.

(b) Non-coal measures vegetation (most of which is forest at Te Kuha).

24 Using the criteria in Appendix 1 of the RPS, and Dr Bramley's experience of the appropriate scale for survey and management purposes, it was his evidence that the only SNA intersected by the mine footprint is coal measures vegetation[5] although the SNA includes some areas of non-coal measures vegetation associated with the coal measures vegetation which are significant because of their diversity and pattern, and ecological context.[6]

25 Having said that, Dr Bramley's evidence adopted a conservative approach for the purposes of his analysis by including all non-coal measures forest as if it were an SNA for the purposes of the RPS.[7]

26 Dr Bramley and Dr Craig correctly applied the appropriate scale when identifying what area(s) of significant vegetation would be impacted by the mine and the areal extent of that significant area. The appropriate scale is identified in Appendix 1 to the RPS as generally being the Ecological District. The fact that the words 'ecological district' do not appear in every single sub-clause of Appendix 1 is of no consequence. Overall, the Appendix makes it clear that a wider assessment is required than simply looking at the site affected by a proposal and the immediately surrounding area.

27 The EIANZ Guidelines also advise that the Ecological Districts framework is the appropriate basis for consideration of the ecological context[8].

28 In summary, the approach used by Dr Bramley and endorsed by Dr Craig identifies the ecological values which are significant in terms of the RPS. Every place, when described in detail has some unique ecological features, but there needs to be a comparison with other comparable vegetation in the same Ecological District and over a reasonable time frame. Their position was not challenged in cross-examination.

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[5] Bramley EiC Vegetation paras 136, 137.
[6] Criteria 3 and 4 of Appendix 1 to the RPS.
[7] That was further refined when mapping the vegetation SNA in his supplementary evidence of 4 August 2020.
[8] Dr Bramley EiC Vegetation para 58.

29 Dr Bramley correctly identified the extent of the vegetation SNA in Figure 9 of his 2021 vegetation evidence in chief[9]. The extent of coal measures is the same as shown in Dr Lloyd's Figure 5 of his evidence in chief and was confirmed by Dr Bramley in his supplementary evidence on the SNA dated 4 August 2022.

30 While coal measures vegetation is not all in a single consolidated location, but rather is located across the Ngakawau ED, all the patches share an underlying geology which has contributed to similarities in the soils and growing conditions. Stunted vegetation of the type recognised as coal measures does not occur on more fertile geologies underlain by granite or gneiss which occur elsewhere in the ED. Exactly which species are present within each patch is determined by gradients of other ecological drivers such as slope, altitude, exposure and rainfall. The subset of species making up the communities in each patch derive from the same set of species present in the wider ED. As well as geology, similar patches have in common a number of features (altitudinal range, exposure, rainfall, drainage, fertility and the like). Dr Bramley considers these common ecological drivers and similarities in the composition and structure of the vegetation types to mean they should be treated as one recognisable unit, rather than subdivided as Dr Lloyd as done.

31 Dr Bramley's explanation of why he used the underlying coal measures geology to determine the extent of the coal measures vegetation SNA[10] was not challenged in cross-examination.[11]

32 In contrast, both Dr Lloyd and Dr Marshall focused only on 'Te Kuha' and the area around it. Dr Lloyd considered that the area of significant coal measures vegetation to be an area of some 470ha which overlies coal measures at Te Kuha[12]. Dr Marshall identified a 650 ha area 'SNA' at Te Kuha which included both coal measures and non-coal measures vegetation[13]. For that area, Dr Marshall was of the opinion that the non-

[9] Dr Bramley vegetation EiC paras 88, 94, 205, and reiterated in para 13 of his vegetation rebuttal evidence. That was also the question asked of experts in section 3 page 9 of the JWS vegetation.
[10] Dr Bramley vegetation rebuttal paras 11 and 12.
[11] Compared with questions of Dr Marshall on this point – transcript page 733.
[12] Shown on Figure 7 of Dr Lloyd's evidence in chief.
[13] Shown on Figure 1 of her evidence in chief.

coal measures vegetation met the same significance criteria[14] as Dr Bramley considered were met for the non-coal measures vegetation in linking discrete areas of coal measures vegetation[15].

33 Critically, Dr Bramley's detailed evidence in Appendix 1 of his vegetation evidence in chief on the extent of the coal measures vegetation in the ecological district and the effect of the mine on that overall area was not undermined by cross-examination.

34 The total area of coal measures vegetation in the Ecological District was originally about 9,500 ha of which about 7,120 ha remains. The proposal will result in the removal of a maximum of 144 ha of indigenous vegetation of various types. 121 ha of this vegetation is coal measures vegetation. The coal measures vegetation of Te Kuha which will be removed is 1.8% of the area of significant coal measures vegetation in the Ngakawau Ecological District. That would mean approximately 71% of the coal measures vegetation which was present in pre-human times will remain.[16]

35 As part of the coal measures vegetation, within the mine footprint there are two agreed small areas of wetlands which meet at least one of the criteria in Appendix 2 to the RPS (manuka shrubland – 5.8ha, and wire rush wetland/herbfield – 0.24ha)[17]. There is a difference of expert opinion on the importance of these wetlands to the area of significant vegetation. While they meet the (very generous) criteria for significance in the RPS, Dr Bramley's opinion is that neither area makes an important contribution to the vegetation SNA in the context of Te Kuha, let alone the wider Ngakawau Ecological District.[18] His conclusion was not tested in cross-examination.

36 Much emphasis was also placed by Dr Lloyd and counsel for Forest & Bird on the 'ephemeral wetland' or 'ephemeral pond'. While there is real doubt as to whether this is a pond rather than a wetland (and consequently whether the RPS significance criteria even apply),[19] for

[14] Transcript page 730 line 30 - to page 722 line 25.
[15] The table in Dr Bramley's supplementary evidence on the SNA.
[16] Dr Bramley, Vegetation EiC, Appendix 1 paras 6 – 11 (pages 83 – 85). I note that Dr Lloyd and Dr Marshall consider the important/valuable coal measures are those above 600m asl, for which the percentages are a little different.
[17] Dr Boothroyd, EiC para 85.
[18] Dr Bramley Vegetation EiC paras 132 – 134.
[19] Dr Boothroyd evidence para 88.

practical purposes the ecologists agreed that it should be considered as a wetland.[20] However:

a. the pond is atypical because it is species poor and dominated by an exotic weed[21];

b. there are other examples of ephemeral wetlands across the Buller Coal Plateau;[22] and

c. What Dr Des Smith thought were kiwi probe holes[23] were in fact identified by Dr Boothroyd as koura burrows.[24]

37 Notwithstanding the expert disagreement over the importance of these three areas of 'wetland', because of the discussion at the flora and rehabilitation expert conferencing, the proposed conditions have been strengthened to more explicitly provide for wetlands within the rehabilitated footprint.[25]

Rehabilitation of terrestrial and wetland vegetation

38 The proposed rehabilitation of the mine footprint is part of the mitigation of effects. The rehabilitation proposed is world leading (recognising the practical limits on direct transfer) and builds on experiences and results (both successful and unsuccessful) from previous mining operations on the Buller Coal Plateaux and elsewhere[26]. The proposed closure criteria are stringent and detailed. The rehabilitation plan[27] and closure criteria[28] conditions are critical in this regard.

39 The intended rehabilitation outcome is generally to have lower stature vegetation predominating on shallower slopes, with taller forested areas generally restricted to steeper slopes[29]. The replacement of salvaged soils on low-permeability overburden combined with differences in

[20] JWS Flora section 4 page 9.
[21] Dr Bramley Vegetation EiC para 106, and Vegetation rebuttal evidence para 19.
[22] Dr Bramley Vegetation rebuttal evidence para 17.
[23] Transcript page 623 line 17
[24] Transcript page385 lines 9 – 15.
[25] Conditions 50(d) and 51(b). Dr Simcock rebuttal evidence paras 30 – 32 and 48 – 60. Dr Bramley Vegetation rebuttal evidence para 56.
[26] Dr Simcock EiC para 34; Dr Simcock Rebuttal evidence paras 1, 5, 37 – 39, Appendix 1 and Appendix 2; Dr Bramley Vegetation rebuttal evidence para 22, 27 - 42.
[27] Conditions 50 – 58.
[28] Condition 31(b).
[29] Dr Simcock EiC, para 105.

slopes and catchment sizes create a range of poorly drained soils, so that moisture is retained (produced by a combination of the factors listed above), is more likely to result in this intended outcome.[30] The very high and evenly distributed rainfall means high soil moisture is maintained / continually 'topped up'[31] and poor drainage maintained.

40 Dr Lloyd, Dr Gruner and Dr Marshall were all sceptical about the likelihood of being able to successfully rehabilitate the site to achieve the objectives which have been agreed by all the ecologists. That scepticism derives primarily from their limited experience of other examples of rehabilitation from the Stockton Mine (particularly Dr Lloyd) and in particular, how the methods used relate to methods proposed for Te Kuha. For example, the rehabilitation site relied on by Dr Lloyd has limited relevance to Te Kuha.[32]

41 Their scepticism or concerns about rehabilitation success were in essence threefold:

(a) Potentially unsuitable soil quality, which includes not maintaining highly acid and infertile conditions that favour coal measures vegetation.

(b) That the proposed rehabilitated mine site will not retain sufficient moisture to achieve the outcomes specified in the proposed conditions.

(c) The potential inability to rehabilitate manuka shrubland and wire rush wetland/herbfield, and to recreate an ephemeral pond rather than a permanent pond.

42 The first two issues were addressed in detail by Dr Ross and Dr Simcock in both their evidence in chief and rebuttal evidence[33], and in answers to questions. I commented on their evidence (which responded directly to the concerns raised in other evidence) in my opening submissions, which I do not repeat.[34] Dr Ross' and Dr Simcock's evidence was

[30] Dr Ross rebuttal evidence para 6.
[31] Dr Ross rebuttal evidence paras 24 – 28.
[32] Dr Bramley Vegetation rebuttal evidence paras 27 – 42; Dr Simcock rebuttal evidence Appendix 2 section 4.6 page 29; Dr Ross rebuttal evidence paras 13 - 19.
[33] Dr Boothroyd EiC para 96; Dr Bramley Vegetation rebuttal evidence paras 53 and 56; Dr Simcock rebuttal evidence paras 48 – 60; Dr Ross rebuttal evidence paras 48 – 51.
[34] Applicant's opening submissions paras 115 – 126.

measured, credible and not undermined in cross-examination. In contrast, Dr Lloyd displayed an astounding level of hubris when asked his reasons for disagreeing with that careful and detailed evidence. He was simply of the opinion that he knew better because (in his view) they were not ecologists. That position is simply untenable (at least in relation to Dr Simcock), but more importantly, it simply failed to engage substantially with Dr Simcock's and Dr Ross' evidence. His flippant reference to his "boots going squish, squish"[35] further undermined his credibility.

43 Indeed, some comments made by Dr Lloyd in answers to questions demonstrate his unfamiliarity with mine rehabilitation and what can and cannot be achieved. Unfortunately, he had not seen the changes made to condition 51 after expert conferencing[36]. Dr Lloyd is of the view that the substrate that direct transfer will be put onto will be different'[37] But both Dr Ross' and Dr Pope's evidence comment on the similarity of Paparoa coal measures to Brunner coal measures and that this will be underlying replaced soil or direct transfer (without the granitic fines layer typical of Stockton).

44 Dr Lloyd is not confident that trajectories would be established that will enable the closure criteria to be met[38]. He considers that the closure criteria are not focused on succession outcomes but are instead predicated on achieving closure in 10 years[39]. That, however, is not the case. The closure criteria[40] have been specifically amended to expand measures that together, when met, show succession outcomes)

45 In contrast, Dr Simcock's evidence[41] (which was unaffected by cross-examination) is that succession (and confidence in meeting outcomes) is indicated by requiring the following[42]:

- presence of self-established native seedlings by species

[35] Transcript page 584 line 26.
[36] Transcript page 583 line 1.
[37] Transcript page 578 lines 16 – 19.
[38] Transcript page 582 line 1.
[39] Transcript page 582 lines 2 – 4.
[40] Condition 31(b).
[41] Dr Simcock rebuttal evidence Paras 4, 10 - 12.
[42] Dr Simcock rebuttal evidence para 63 identifies input from Dr Gruner and the JWS Rehabilitation.

- weed assessment and cover
- minimum density of long-lived canopy dominants such as beech and podocarps
- native species dominance
- the inclusion of beech and podocarps measured by minimum cover, and for most ecosystems a minimum height; and
- an engineered the landform that delivers a specified range of slopes.

46 With the combination of these requirements, succession outcomes are both implicit and explicit in the rehabilitation conditions and closure criteria. These requirements are supported by monitoring methods that have demonstrated success at Globe-Progress in the Victoria Forest Park (the only larger mine on DOC estate that is approaching closure[43].

47 Dr Lloyd was also of the opinion that there is 'there is no old direct transfer vegetation and it is 'too early to draw conclusions on how successful it's been for indigenous biodiversity and fauna'[44]. On the contrary, early direct transfer of coal measures-manuka shrubland/low forest at Stockton was completed in 1998, albeit using unspecialised machinery that resulted in higher disturbance and larger gaps. Although not undertaken with the level of understanding and expertise that is now available, that direct transfer shows key outcomes such as survival and regrowth of key plant species (yellow silver pine, wire rush) and the persistence of ephemeral wetlands with ponded water over 25 years.

48 In answer to a question, Dr Gruner claimed that a "slightly increased pH"[45] in Dr Simcock's data for rehabilitated soils at Stockton[46] (increase in mean pH from 4.3±0.2 to 4.7±0.3) and "slightly lower" soil carbon[47] demonstrated soil degradation[48]. These rehabilitated soil pHs are all within the natural topsoil ranges, and are consistent with Dr Ross' data

[43] Dr Simcock rebuttal evidence Appendix 2.
[44] Transcript page lines 20 – 24.
[45] Transcript page 784 line 27.
[46] Dr Simcock rebuttal evidence Appendix 4.
[47] Transcript page 785 line 24
[48] Transcript page 784, line 21ff.

for Escarpment and Waimangaroa on the same soil types[49]. They do not demonstrate soil degradation, as claimed by Dr Gruner.

49 Unlike Dr Marshall and Lloyd who were concerned the soils would be too fertile due to use of Paparoa overburden, Dr Gruner's concern is that these already very infertile soils[50] 'will become even less fertile' because of the loss of organic material. Dr Gruner focused on biological degradation within soil stockpiles stating she would expect those soils to be 'basically biologically dead'[51]. However, she subsequently changed that opinion to 'they die in the middle of the stockpiles and they've found the effect is below 1 metre'[52]. Earlier, Dr Gruner had noted[53] the Stockton Plateau study which had recommended stockpile depth of 2-3m to preserve the quality of soils for rehabilitation'. The average soil stockpile depth at Te Kuha is within this recommended range[54]; however, some much deeper soil stockpiles are provided for in order to optimise direct transfer, indirect transfer and overall rehabilitation outcomes[55] – which is an approach endorsed by Dr Gruner.

50 Both Dr Ross and Dr Simcock also explained how fresh soils retain organic matter. Dr Ross and Dr Simcock agreed that in stockpiles the core degrades, and soils are slow to redevelop organic matter through plant inputs, when rehabilitated. As Dr Ross explained in answers, the anaerobic core of topsoil stockpiles significantly reduces organic matter decomposition (as per wetland hydric soil conditions) but changes the soil chemistry. Organic matter decomposition (hence losses) occurs with the better-drained uppermost layer of mounded stockpiles. When the stockpiled core of topsoil is replaced in rehabilitation, the soil chemistry tends to rebound. If the replaced topsoils remain at or close to saturation, for example on flat to gently sloping sites, the hydric soil conditions will result in a gradual rebound of organic matter levels. If the replaced topsoils become better drained, for example on sloping land, organic matter levels are likely to continue to decline somewhat through

[49] Dr Ross rebuttal evidence Table 2 page 17.
[50] Dr Gruner EiC para 33.
[51] Transcript page 785 line29.
[52] Transcript page 794 lines 9 – 13.
[53] Dr Gruner EiC para 75.
[54] Rehabilitation Management Plan page 31Section 5.5 'Stockpiling - Topsoil'.
[55] Rehabilitation Management Plan page 30 Section 5.5 'Stockpiling – Mixed topsoil and vegetation'.

increased decomposition rates. All this has been allowed for in the rehabilitation planning and scheduling, and is required by the objectives of the rehabilitation[56]. That is, a reduction in soil carbon in stockpiled rehabilitated soils recovers as plants grow. And pH also decreases over time as carbon accumulates under these conditions.[57]

51 The 0.24 ha of wirerush wetland/herbfield is best rehabilitated using direct transfer. In the conditions a minimum of 500m^2 of that is required[58]. As Dr Simcock noted, more of the herbfield could be direct transferred if it were to be stored in intermediate areas. In light of the Court's questions on this issue, Dr Simcock and Ms Rock have recalculated the ability of the mine and rehabilitation scheduling to specifically provide for indirect transfer of manuka shrubland and herbfield using intermediate storage. They advise that all the herbfield can be rehabilitated using indirect transfer on the level, hard surface which is needed to maximise its quality and meet the stringent closure criteria for that vegetation type together with an additional 3 ha of indirect manuka shrubland (stored on parts soil stockpile).

52 Consequently, condition 51(a) should be amended as follows (additions underlined):

> A requirement that the Consent Holder maximise the amount of vegetation direct transfer, but in any event to provide for a minimum of 15 ha of vegetation direct transfer (not including the access road), including a minimum of ~~1~~ 3 ha of yellow silver pine-manuka shrubland, 8 ha of mountain beech – podocarp forest, and ~~500~~ at least 2000 m^2 of wire rush wetland/herbfield. In addition to the above, direct transfer of both yellow silver pine-manuka shrubland and wire rush wetland/herbfield shall be prioritised as much as practicable, as well as the use of a minimum 3 ha of temporary rehabilitation areas for storing in-direct transfer where this does not increase the overall disturbance footprint.

[56] Conditions 50(e) and 50(g). With specific interventions for areas with unsuitable soil quality identified in Section 3.5.3 of the Rehabilitation Management Plan '… changing pre-planting practices to include physical remediation and surface contouring, addition of wood, other organic matter and/or fertilisers to responsive species'.
[57] Transcript page 343 line 29ff.
[58] Condition 51(a).

53 In terms of the recreation of an ephemeral pond, Dr Simcock's evidence is that the ability to rehabilitate this feature is high because the pond and soils are vegetatively simple and creation of water depths and duration have been demonstrated using examples from Stockton. The slowest component for the rehabilitation is adjacent forest which is necessarily limited by the growth rate of forest.

54 The first ephemeral wetlands will be placed between 580-600 m ASL in year 1-2 with non-stockpiled (i.e. 'fresh' soils which have retained their organic matter).

55 Coal measures vegetation is short in stature which is beneficial for direct transfer. Dr Simcock's evidence[59] shows the response of direct transfer over 10-20 years by sites at Stockton such as W6C and R6. The response there shows that input of organic matter (leaves) and /insects is likely to occur over time. The court's visit to W6C, Hook Dump and R6 would have seen direct transfer vegetation overhanging ephemeral and permanent ponds, while the visit to Downers Terrace/Mt Augustus Garden showed approximately 20 year-old planted nursery seedlings overhanging ephemeral and permanent ponds between windrows

56 Dr Simcock stated[60] that several ephemeral wetlands/ponds will be created with a range of water depth/duration. Dr Lloyd and Dr Gruner initially asserted that water does not pond on mine backfill[61], but then Dr Lloyd then agreed that 'permanent ponds may be easy to create on engineered landforms'[62]. Dr Lloyd appeared unaware that designing drainage to achieve an ephemeral outcome is a straight-forward technical solution that stormwater engineers and soil scientists do routinely together. Stockton and Te Kuha have the benefit of a high, even rainfall and low moisture deficits,[63] and backfill landforms have the advantage of a low permeability, simplifying the process[64].

[59] Dr Simcock rebuttal evidence Appendix 2.
[60] Dr Simcock rebuttal evidence para 31-32 and 113 (Figure 6).
[61] Dr Gruner EiC page 42.
[62] Dr Lloyd EiC para 244.
[63] Dr Simcock EiC para 93.
[64] Draft Rehabilitation Management Plan Section 3.5.4.

Addressing residual effects on terrestrial and wetland vegetation

57 Dr Bramley was the only witness to undertake this analysis at the correct scale[65]. His conclusion, using the EIANZ Guidelines, that the residual effect on coal measures vegetation would be low[66], was not affected by cross-examination. While there is no statutory requirement to use these Guidelines, by doing so the basis for his conclusions was transparent and his assessment was clear and ordered. That can be contrasted with the evidence of Dr Lloyd and Dr Marshall who did not use the Guidelines.

58 Nor did cross-examination undermine Dr Bramley's conclusions that, according to the Threatened Environment Classification, following removal of vegetation because of the Te Kuha mine, even in the absence of rehabilitation, coal measures vegetation and habitats will remain in the category of 'less reduced and better protected'.[67]

59 To the extent that the Court considers that is it necessary to address any residual effects on the three types of wetlands (in the form of the time lag between their removal and their rehabilitation within the mine footprint), the applicant proposes aquatic compensation in the form of support of the project to protect and enhance the saltwater marsh near Westport.[68] The quantum of any such compensation has not yet been determined.

Other species of conservation interest and concern

60 The species of conservation concern and species of conservation interest have been considered separately from the 'areas of significant vegetation'. However, as Dr Bramley notes[69], this is somewhat of an artificial distinction because these values, such as Threatened and At Risk plant species, are found within the coal measures vegetation as well.

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[65] The 2022 Vegetation JWS section 13 pages 18 – 20 sets out a table of 'vegetation types' where detailed comments on residual effects are set out. However, this table relates solely to effects within the footprint rather than effects on the relevant SNA(s) including at the level of the Ecological District.
[66] Dr Bramley Vegetation EiC Table 1b page 58.
[67] Dr Bramley Vegetation EiC Appendix 1 para 55.
[68] Dr Bramley Vegetation rebuttal para 57.
[69] Bramley Vegetation EIC para 142

61 A diverse array of species of bryophytes (ie mosses and liverworts) and lichens are also present within the ecosystems on and around the site, some of which are of conservation concern and interest[70].

62 The effect of the proposal on bryophytes within the footprint was also emphasised by the Director-General and Forest & Bird. There is no dispute that the bryophytes found within the footprint are of conservation significance. But again, we see the sole focus of the opposing parties on the mine footprint. While acknowledging the significance of these species[71], Dr Bramley's evidence (again not affected by cross-examination) was that a survey of bryophytes in the Upper Waimangaroa area which was subsequent to the original Te Kuha survey detected a higher overall bryophyte diversity than Te Kuha, including some of the same species, and that the work of Dr Glenny (referenced by the opposing parties) who considered Te Kuha to be 'of exceptional value for bryophytes', should be tempered with the observation that this experience has been typical with bryophytes in the Ngakawau ED, with each new surveyed area exceeding the last in terms of ecological value.[72] Dr Bramley further notes that other bryophyte studies in "the area north of the mine contained topographic features and vegetation types very similar to that found within the footprint, including boulderfields (which are also a key habitat for lichens) and that those areas could be expected to have similar high value for bryophytes."[73]

63 While we don't know where all other bryophytes are located outside the mine footprint, Dr Bramley has identified vascular vegetation (habitat type) as a proxy, and by 'capturing' the coal measures vegetation, Dr Bramley considers we should also have 'captured' every occurrence of the bryophytes/lichen, even those that currently remain undiscovered.

64 Similar to the question of the presence and extent of the habitats of indigenous invertebrates, I submit that the better evidence on bryophytes in terms of the significance criteria in the RPS is Dr Bramley's where he states: "There are substantial areas of coal measures vegetation and the Ngakawau ED generally that still have not

[70] The relevant species are listed in section 6 of the 2022 JWS Flora.
[71] Dr Bramley Vegetation EiC paras 151 – 152 and Appendix 2.
[72] Dr Bramley Vegetation EiC para 101.
[73] Ibid. Also Dr Bramley Vegetation rebuttal evidence paras 61 – 62.

been surveyed in relation to bryophytes and I believe we are not yet in a position to know which are "the best' or "one of the best" habitats. Nonetheless I consider that we should recognise the significance of the coal measures ecosystem generally for bryophytes and manage effects accordingly."[74]

65 Dr Bramley and Dr Simcock's evidence discussed the careful consideration which has been given to bryophytes as part of the rehabilitation of the footprint.[75] They both acknowledge that for bryophytes the rehabilitation methods are unproven,[76] and for that reason Dr Bramley has not taken them into account in his assessment of residual effects. Consequently, Dr Bramley concluded that there are significant residual adverse effects for bryophyte mat communities (located within forested boulderfield) and three species of vascular plant, four species of non-vascular plant and one lichen. These residual effects cannot be confidently offset, and that is the reason why biodiversity compensation has been proposed.[77]

66 All the rehabilitation for bryophytes required by the proposed conditions is entirely discounted by Forest & Bird and the Director-General because of the uncertainties, yet what is proposed is significantly greater than has been required for similar projects to date and will have benefits even if not entirely successful[78].

PROTECTING SIGNIFICANT HABITATS OF INDIGENOUS AVIFAUNA

Identifying significant habitats of avifauna

67 Using the criteria in Appendix 1 of the RPS, neither Dr Bramley nor Dr Craig consider that the mine site is a significant habitat for roroa[79].

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[74] Dr Bramley Vegetation EiC para 102. Dr Bramley Vegetation EiC Appendix 2.
[75] Dr Bramley Vegetation EiC paras 177 – 185. Note the reference in Dr Bramley's para 185 to conditions 51(g)(ii) and (v) should be to condition 51(j)(ii) and (v). Dr Simcock EiC paras 139 – 142, 144, 147. Conditions 31(b), 50(j), 51(f), 51(g)(iv), 51(g)(v), 178, 179, 190.
[76] Dr Bramley Vegetation EiC para 181and vegetation rebuttal evidence paras 71 and 97.
[77] Dr Bramley Vegetation EiC para 29; Dr Bramley Vegetation rebuttal evidence para 52.
[78] Dr Bramley Vegetation EiC para 178.
[79] Section 2 of the 2022 Avifauna JWS.

Nonetheless, they have taken the conservative approach of addressing effects on roroa habitat as if it were part of a wider SNA.

68 While they also disagree with Dr Smith and Ms McDonald who consider that the mine site is a significant habitat for roroa, fernbird and falcon,[80] the conditions proposed by the applicant effectively include all the species in dispute as if they were part of a wider habitat SNA.

69 Ms McDonald for the Director-General raises several concerns about the adequacy of baseline surveys for avifauna.[81] Those issues are responded to in Dr Bramley's avifauna rebuttal evidence where he concludes that there is no material lack of information as to species abundance, richness or distribution in the assessment.[82] That rebuttal evidence was unchallenged in cross-examination.

70 The experts agree that the mine footprint is only a small part of the overall roroa, fernbird and falcon habitat[83]. However, again, it is only Dr Bramley and Dr Craig who identified the habitat SNA as required by Chapter 7 of the RPS.[84]

Effects on the habitats of avifauna

71 The mine will, for a period, reduce the overall area of habitat for species of conservation concern to varying degrees.

72 This loss of habitat could be prolonged (>50 years) for those particular species which are generally restricted to forest, such as rifleman. For more generalist species, or those which prefer open habitat (such as New Zealand pipit) or shrublands (such as fernbird), the rehabilitated habitats will become suitable at varying times into the future from almost immediately (for pipit[85], weka, and fernbird) to 10 – 20 years for species capable of occupying dense shrubland.

73 There were differences between the witnesses about the numbers of birds of different species that will be affected. Both Dr Des Smith and Ms McDonald consider that Dr Bramley has underestimated the level

[80] Section 2 of the 2022 Avifauna JWS.
[81] Ms McDonald EiC paras 28ff.
[82] Dr Bramley Avifauna rebuttal evidence paras 7 – 11.
[83] JWS Avifauna sections 2 and 3.
[84] Dr Bramley EiC Fauna – roroa paras 51 and 59 – 62; fernbird para 76; falcon para 70. Dr Craig EiC paras 76 – 77, 90, 97.
[85] Dr Craig EiC para 108.

and magnitude of effects[86], although neither have undertaken an assessment which is comparable to Dr Bramley's in terms of transparency and clarity. I submit that this is not an issue which needs to be resolved to make a decision on the effects of the proposal. If consent is granted, to inform the Te Kuha Biodiversity Management and Enhancement Plan, additional baseline monitoring of rōroa, forest birds and fernbirds is required to confirm the number of birds present and their physical location.[87] This will better inform the basis for the required management.

Rehabilitation of avifauna habitats

74 Dr Bramley and Dr Simcock provided detailed evidence on the careful consideration which has also been given to how the rehabilitated mine site would best provide habitat for returning birds[88]. That evidence was not challenged in cross-examination.

Off-site pest control - why this is (partly at least) mitigation rather than compensation

75 Counsel for the opposing parties did not engage with the substance of my opening submissions on the 'point of impact' being the relevant habitat or vegetation SNA[89]. Rather, they simply assume that the 'point of impact' means the mine footprint.[90] Even Ms Mealey for the Director-General does not support such a strict interpretation.[91]

76 Actions which are taken within the footprint (including rehabilitation) are most certainly mitigation, but actions taken outside the footprint which lessen or alleviate the effect on the area/SNA in question are also mitigation. Obviously, the further distance from the point of impact or the more divorced from the nature of effect at issue, the more likely a response would be classified as being an offset or compensation, rather than mitigation.

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[86] Dr Bramley Avifauna rebuttal evidence paras 12 – 15.
[87] Condition 175(b).
[88] Dr Bramley EiC Fauna paras 141 – 149. Dr Simcock rebuttal evidence paras 13, 68, 69, Table 2 page 51, and sections 4.1 and 4.1.1 and Figure 21 of Appendix 2.
[89] Applicant's opening submissions paras 133 – 141.
[90] Submissions on behalf of Forest & Bird para 51. Submissions on behalf of the Director-General para 104.
[91] Transcript page 806 lines 1 – 8.

77 Forest & Bird and the Director-General rely on the High Court's decision in *Royal Forest and Bird Protection Society Inc v Buller District Council*.[92] I submit that care needs to be taken with simply applying statements from that decision to the present circumstances. The decision was made ten years ago in the context of the then limited understanding of offsets and compensation and before the concept of the effects management hierarchy was enunciated in policy. Moreover, the question of law raised in that case was about the concept of 'offset mitigation' which seems to be some sort of hybrid between mitigation and offset.[93] Earlier decisions referred to in the decision had considered whether an offset was a form of mitigation[94]. That is no longer an issue – it is clear that the two are legally distinct. That is not an argument put forward by the Applicant here.

78 It is also significant that since the High Court's decision in 2013, it is now clear from the 2020 RPS that the focus is to be on the protection of SNAs – whether habitats or vegetation.

79 In 2013, neither the Environment Court nor the High Court examined the issue from the perspective of the effect of the mine on the SNA in question, and then whether the proposed pest control work around the mine on the Denniston Plateau alleviated or ameliorated that overall effect.[95]

80 In terms of the High Court's decision in the *Escarpment* case, from a legal and planning perspective, the "point of impact" for the purposes of drawing a distinction between mitigation and offsetting should not be "individual plant or animal", but rather should be the SNA in question.

81 In my submission, the correct approach to identifying whether the off-footprint pest control can properly be described as mitigation is to examine:

(a) How will the mine affect the overall SNA habitat for roroa and any other bird habitats which are considered significant?

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[92] [2013] NZHC 1346.
[93] At [61].
[94] At [63] – [70].
[95] The Environment Court's reconsideration of the issue as directed by the High Court is in its second interim decision *Royal Forest and Bird Protection Society Inc v West Coast Regional Council* [2013] NZEnvC 178 at [6] – [19].

(b) Will the proposed pest control serve to moderate the severity of, or alleviate the extent of effects on, the significant values[96] of the avifauna habitat SNA(s)?

82 Dr Bramley discusses the habitats where pest control beyond the mine footprint will result in 'in-kind' positive outcomes and distinguishes them from 'out of kind' compensation[97]. The pest control measures in the wider Te Kuha Biodiversity Management Area are, therefore, mitigation of the effects of the proposal on the significant habitats of roroa and other birds[98].

83 While this is an interesting debate, distinguishing between mitigation and offsets/compensation in this appeal is only potentially of significance insofar as it might constrain the considerations in terms of Policy 7.2 of the RPS, which I discuss further below. That constraint arises, not from the policy itself, but from the Explanation to the Policies in the penultimate paragraph on page 28 of the RPS. Putting aside the legal issue of whether the explanation is correct in law and whether it can constrain the policy, the Applicant does not rely on any off-footprint actions for any of the conservation values/species which are in dispute in terms of Policy 7.2(a).[99] The distinction between mitigation and offsets/compensation is therefore academic as it relates to Policy 7.2(a).

84 In terms of Policy 7.2(d), the distinction may only have relevance to roroa.[100] However, I submit the proposed rehabilitation (on-footprint mitigation) is such that, of itself and in the absence of off-footprint pest control, it means that Policy 7.2(d) is not breached[101]. Moreover, the Director-General and Forest & Bird have again wrongly focussed on the footprint as defining the 'point of impact' rather than 'the local population' which is the wording of the relevant clause in Policy 7.2(d).

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[96] As identified from Appendix 1 to the RPS

[97] Dr Bramley EiC Vegetation paras 243 – 245; Dr Bramley EiC Fauna paras 146 – 182.

[98] Because they mitigate effects on the habitat SNA, and not because "it is in the same ecological district" (submissions on behalf of Forest & Bird para 52).

[99] Applicant's opening submissions para 224; Dr Bramley Vegetation rebuttal evidence paras 58 – 65; Dr Bramley Invertebrate rebuttal evidence paras 49 – 53.

[100] Applicant's opening submissions para233.

[101] Dr Bramley Fauna EiC paras 137 – 140, 147 – 149; Dr Craig rebuttal evidence para 67.

85 For all other purposes (an assessment of effects under s104(1)(a) and consideration against the remainder of the policies in Chapter 7 of the RPS), the distinction between mitigation and offsets/compensation is academic.[102] The distinction may have been more important had Forest & Bird been successful in its argument in the Escarpment High Court appeal that mitigation had a greater status than offsets and compensation. But that argument was unsuccessful.[103]

Addressing the residual effects on avifauna after avoidance and mitigation

86 Again, Dr Bramley is the only witness to have undertaken an effects assessment in accordance with the EIANZ Guidelines[104]. He concludes that the residual effects on the habitats of all relevant bird species are either low or very low.[105]

87 Ms McDonald and Dr Des Smith raised concerns about what they consider to be risks and uncertainties with the proposed pest control.[106] These various technical concerns are responded to by both Dr Bramley[107] and Dr Craig[108] in their rebuttal evidence, and in their answers to questions[109]. In summary, as Dr Craig put it in his evidence: "Properly done intensive pest control as proposed by the applicant will make a significant positive difference in the values of the TKBMA. That is not a guess – it is based on good science from other places." That position was not undermined by the cross-examination of Dr Craig and Dr Bramley.

88 Both Ms McDonald and Dr Des Smith were incorrect in their initial assumption in their evidence that the conditions prevented the use of

[102] For the reasons set out in paras 142 – 143 of my opening submissions.
[103] *Royal Forest and Bird Protection Society Inc v Buller District Council* [2013] NZHC 1346 at [61], [123]; *Royal Forest and Bird Protection Society Inc v West Coast Regional Council* [2013] NZEnvC 178 at [6] – [8], [18] – [19].
[104] Dr Smith criticises Dr Bramley's use of the Guidelines – 2022 Avifauna JWS section 7 page 14, which is addressed by Dr Bramley in Avifauna Rebuttal evidence paras 16 – 19.
[105] Dr Bramley EiC Fauna, Table 1 para 185.
[106] Eg, Dr D Smith EiC paras 35, 68ff, 80; Ms McDonald supplementary evidence para 15; JWS Offsets/Compensation section 5A.
[107] Dr Bramley Avifauna rebuttal evidence paras 20 – 28.
[108] Dr Craig rebuttal evidence paras 35 – 39, 48.
[109] Transcript page 281 line 13 – page 283 line 14; page 284 line 4 – page 291 line 3; page 292 line 13 – page 293 line 20; page 331 – line 28 – page 334 line 11 – page 336 line 8.

aerial 1080[110] and they also incorrectly appear to have thought that the details of the draft management plan were themselves conditions which had to be settled in advance of the decision whether to grant consent, rather than operational details that need to be certified later as meeting the objectives set out in the conditions[111].

89 The Director-General's expert on pest control, Ms McDonald:

a. was not involved in the planning of that operation and did not know the reasons for the New Creek 2020 aerial drop[112] but accepted it must have been because of pest pressure[113] and was targeted at kiwi[114];

b. had not even read the subsequent report on the outcome of that drop (unlike Dr Craig);

c. only knew of the possible future 'plans' by the Department second hand and accepted that there is no guarantee of future drops[115];

d. could not comment on reinvasion rates by rats following aerial operations[116];

e. was unable to say why the map she had provided showed future aerial 1080 being applied to the town of Westport[117];

f. could not make a comparison between the proposed pest control conditions at Te Kuha and any other resource consent (though she

[110] Ms McDonald accepted that there was no prohibition on the use of 1080 – transcript page 755 lines 9 – 18. See also Transcript page 627 line 19 – page 628 line 10.
[111] Conditions 182 – 184 for the mammalian predators and browsers section of the management plan. The management plan must be prepared in consultation with a Technical Advisory Group (condition 169A), the Department of Conservation, the Buller District Council and Te Rūnanga o Ngāti Waewae (condition 170) and be certified by the Consent Authorities prior to any activities being undertaken (conditions 36, 37). The management plans need to be reviewed at least annually (condition 39) and any changes must be the subject of consultation (condition 41).
[112] Transcript page 753, lines 20 – 23.
[113] Transcript page 759 lines 5 – 11.
[114] Transcript page 758 lines 6 – 19.
[115] Transcript page 754 line 14.
[116] Dr Craig rebuttal evidence paras 25 – 30.
[117] Transcript page 753 lines 24 – 33.

did accept that the proposed pest control within the Te Kuha Biodiversity Management Area would have benefits)[118];

g. was unable to comment on the outcomes of the pest control work in the Heaphy which is being funded by the Consent Holder of the Escarpment Mine and what lessons that may have for Te Kuha.

90 In terms of the latter, the conditions proposed for Te Kuha are significantly more detailed and clearer in terms of outcomes required than the similar conditions attached to the Escarpment Mine decision[119].

91 Dr Des Smith for Forest & Bird:

a. Considered 1080 drops to be a "very, very effective tool at reducing predator numbers"[120], but hadn't taken the time to review the report on the efficacy of the New Creek 1080 drop;[121]

b. Considers that trapping rats does not work[122], but seemed unaware that that is not proposed;

c. Considers that that trapping stoats is also ineffective[123] but then states that trapping should be used[124]; and

d. Accepts that feral cats and mustelids move in between three-yearly 1080 drops[125].

92 In contrast to both Ms McDonald and Dr Smith, Dr Craig and Dr Bramley have undertaken a considered and objective appraisal of the relevant matters, including recently published research and monitoring reports for both the New Creek aerial 1080 drop and the Heaphy/Denniston biodiversity management. They neither contradict themselves or each other in their conclusions.

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[118] Transcript page 755 lines 18 – 24.
[119] *West Coast Environmental Network Inc v West Coast Regional Council* [2013] NZEnvC 253 (final decision) condition 155, pages 116 and 117.
[120] Transcript page 623 lines 23 – 25.
[121] Transcript page 627 lines 16 – 18. 640 lines 31 – 34.
[122] Transcript page 627 line 30.
[123] Transcript page 632 lines 19 – 21.
[124] Transcript page 640 line 33.
[125] Transcript page 640 lines 24 – 26.

PROTECTING SIGNIFICANT HABITATS OF INDIGENOUS INVERTEBRATES

Identifying invertebrate SNA(s)

93 The ecologists agree that the mine footprint is (part of) a significant habitat (in terms of the RPS criteria) for Forest Ringlet butterflies, the undescribed Leaf-veined slug, and the Tiger beetle.[126] Dr Victoria Smith, Mr Patrick and Mr Chinn also consider the footprint to be a significant habitat for the Helms Stag Beetle.

94 Dr Bramley's evidence is that the footprint is part of wider habitat within the Ecological District for significant invertebrate species. He uses coal measures vegetation as the indicator of the extent of significant habitats for invertebrates[127]. In contrast, the ecologists advising Forest & Bird and the Director-General have again incorrectly focused on the mine footprint and not considered the wider habitat within the Ecological District as required by the RPS. The exception is Mr Chinn with his Figure 1[128] which shows his estimate of the invertebrate SNA across the Buller Coal Plateau. Mr Chinn's map is congruent with the SNA map prepared by Dr Bramley in his supplementary evidence on the SNA.

Effects on invertebrates

95 All experts agree that in the absence of mitigation and rehabilitation, the mine will remove at least part of significant habitats of some invertebrates[129]. The effects on the wider habitats of those invertebrates (that is, beyond the footprint and edge effects) is unclear because of the practical impossibility of undertaking Ecological District wide surveys for the invertebrates in question.

96 What we do know, however, is that the Applicant has sampled an unknown (and probably small) subset of the total number of species present at the site. And we also know that every time new surveys are undertaken in new locations, a wide array of invertebrates are identified, and often they are new species not previously found or described

[126] Section 2 2022 Invertebrates JWS.
[127] Dr Bramley's supplementary evidence on the SNA includes invertebrate values in the table.
[128] Mr Chinn EiC page 9.
[129] JWS Invertebrates Section 4.

Rehabilitation of invertebrate habitats

97 Research has shown that the recovery of native invertebrate communities in restored sites is considerably accelerated when native plants are actively established – either via direct transfer or by a combination of direct transfer and planting. Direct transfer of vegetation is particularly successful at assisting in community recovery and assists some poorly mobile species to reach rehabilitated sites[130]. That is why there is a requirement that direct transfer be maximised.[131]

98 Considerable thought has been applied to what is necessary to create conditions in the rehabilitated footprint that are suitable for and conducive to reinvasion by invertebrates.[132]

99 The invertebrate communities that will form earliest in response to rehabilitation at Te Kuha will be different to the original undisturbed communities, but they will still have many elements in common and will retain values that are consistent with those in the wider ecological district, including providing food for insectivorous birds and lizards.[133] By adopting a range of methods, which are all required by conditions of consent, the invertebrate population at Te Kuha will continue to be dominated by native species and will become progressively more similar to surrounding communities over time.[134]

100 Mr Chinn's comments about invertebrates not responding to what he called the 'goal oriented' conditions were, I submit, unconvincing.[135] He was not able to offer any amendment which would improve the draft conditions. Dr Victoria Smith accepted that pest control benefits invertebrates.[136]

[130] Ibid, paras 23 – 26.
[131] Condition 51(a).
[132] Dr Bramley Invertebrate EiC paras 58 – 70. Dr Simcock rebuttal evidence paras 24, 55, 68, Table 2 (pages 51, 52)
[133] Dr Bramley Invertebrate rebuttal evidence para 31.
[134] Ibid, para 35.
[135] Transcript page 769 lines 16 – page 770 line 23. Dr Bramley Invertebrates rebuttal evidence para 28.
[136] Transcript page 603 lines 26 – 29.

Mitigation of effects on invertebrate habitats by pest control

101 Studies have shown invertebrate populations are low in the presence of rats and wasps.[137] In my submission, the proposed pest control within the Te Kuha Biodiversity Management Area should be considered mitigation of the effects of the proposal on the significant habitats of invertebrates as identified in Mr Chinn's Figure 1 and Dr Bramley's supplementary evidence on the SNA. Having said that, however, this mitigation was not taken into account by Dr Bramley when undertaking his assessment of residual effects on invertebrates.[138]

102 Mr Patrick is of the opinion that we do not know enough about effects or the forest ringlet butterfly to have any confidence that mitigation will maintain or increase butterfly numbers.[139] At present, Dr Bramley agrees that there is no certainty about that[140]. However, a baseline survey will be required if consent is granted. The purpose of this is to assist in obtaining that information because one of the knowledge gaps is with respect to how much habitat is potentially available and where it is, although butterflies clearly occur in reasonable numbers both inside and outside the footprint. Information about distribution and abundance of habitat will be required to help inform any future management decisions.

Addressing residual effects on invertebrates after avoidance and mitigation

103 Populations of forest ringlet butterflies at individual sites, including at Te Kuha, have an ephemeral quality to them, so the management of them should also be considered across the wider landscape. This is addressed through including specific forest ringlet actions within the management plan. This includes surveys for forest ringlet populations within the proposed Te Kuha Biodiversity Management Area and other areas of the Ngakawau ED and monitoring of wasp numbers so as to identify other important sites for this species that could potentially benefit from targeted wasp and predator control and habitat enhancement.

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[137] Dr Bramley Invertebrate rebuttal evidence para 36, 37; Mr Patrick EiC paras 79, 109.
[138] Dr Bramley Invertebrate EiC Table 2 page 29.
[139] Mr Patrick, EiC para 119. Dr Bramley Invertebrates EiC para 73.
[140] Dr Bramley Invertebrate rebuttal evidence para 46.

104 If Mr Patrick is correct about wasps being attracted to people as a precursor to them predating butterflies, and given the widespread presence of people throughout the butterflies' wider habitat, I submit the best chance for New Zealand to turn around the decline of this species is for the research required to better understand the population and for the necessary actions taken to protect that population from predation, to be funded as a condition of this resource consent.

105 As I noted in my opening, there are, in stark terms, two choices. First, to retain the status quo and decline consent which would be to accept the continued decline of values over the larger area because of mammalian pests and predators, even if the occasional pest control effort were to continue. Or secondly, to grant consent for the removal of vegetation and parts of habitats on the mine footprint. While the rehabilitation of the footprint cannot recreate what is there now and the return of existing values will take varying periods of time, the combination of best practice rehabilitation of the mine site, other mitigation measures, and extensive pest control for at least 35 years over an area of approximately 6000 ha will, despite the loss of particular values, result in an overall net gain in significant ecological values. I submit that it will not only protect, but will enhance, the vegetation and habitat values of the relevant SNAs in the longer term.

ASSESSMENT AGAINST THE PROVISIONS OF THE REGIONAL POLICY STATEMENT

Interpretation of Chapter 7 objectives and policies

106 I note that the RPS was agreed by way of a mediated settlement.[141] In accepting the provisions agreed between the parties, the Court stated:

> *[16] I also recognise that in considering this memorandum, the changes are seen as a package. It is clear that the parties have made concessions in some areas for gains in other areas. That is to be expected with a document as complex as a Policy Statement and the purpose for this Court is not to assess every wording or variance but to be satisfied that overall this advances the purpose*

[141] *Heritage New Zealand Pouhere Taongo v West Coast Regional Council* [2020] NZEnvC 080.

of the Act and represents better provisions than those in the Plan currently.

107 Objective 7.1 is to 'identify' SNAs. The Objective does not require that they be mapped. Policy 1(a) envisages a two-stage process. First, to 'identify' SNAs through either the plan process or resource consent application process. Second, SNAs are to be mapped in the relevant regional plan and district plans through a Schedule 1 process.

108 SNAs can be identified by an applicant or otherwise through the consent process without necessarily mapping them.

109 The purpose of identifying SNAs in Policy 1(a) is so that the remainder of the policies in Chapter 7 can be applied to the circumstances. An SNA can be identified or 'known' in a way which is adequate to apply the other Chapter 7 policies, even if it were not mapped.

110 Once an SNA(s) has been identified through a consent process, the council must then go through a schedule 1 process to map it. It is through that process that affected landowners and others will be able to have their say about the identified values and the areal extent of the proposed SNA. During the Schedule 1 process, the District Council will need to decide if it should add other values (such as for example on the Buller Coal Plateau Powelliphanta snails which are not recorded at Te Kuha but are known to be within the area identified as an SNA (for coal measures and invertebrates) by Dr Bramley).

111 Contrary to the supplementary submissions of opposing parties, I submit that this position is supported by the following provisions:

a. The definition of significant natural areas[142]. There are two types of SNAs:

   (i) Those which have been both identified using the Appendix 1 criteria and also mapped in the district plan; or

   (ii) An area which although not mapped, meets the criteria in Appendix 1. Critically, this second category is an SNA which may not be mapped. Otherwise the words would have read " … or an area which although not included as a SNA in a regional or district plan nevertheless <u>has been</u>

[142] Supplementary submissions on behalf of Forest & Bird para 11.

mapped and meets one or more of those criteria listed in Appendix 1 or 2.:

b. The third paragraph of the Explanation to Policies.[143] Unlike the first sentence, the second sentence does not say "They may also be identified and mapped during resource consent processes…". The sentence in the Explanation highlighted by Mr Anderson makes it clear that the plan distinguished between identification and mapping – and area or habitat can be an SNA even if it is not mapped.

c. The fourth paragraph of the Explanation to Policies.[144] This simply states that best practice is to have SNAs mapped in plans. The second sentence does not say: "It is best practice to map SNAs in plans and during consent processes, so that when…"

112 I submit there is no obligation on an applicant to undertake what is the equivalent of a Schedule 1 process, or for the RPS to impose on an applicant some sort of additional obligation relating to wider consultation[145]. An applicant does, however, have an obligation to identify areas of significant indigenous vegetation and significant habitats of indigenous fauna using the criteria in Appendix 1. The common application of those criteria in consent processes will have the outcome of SNAs being identified in a regionally consistent manner.

113 As I have noted above, for coal measures vegetation Dr Bramley has identified the SNA as all coal measures vegetation, broadly consistent with coal measures geology. I submit that his Figure 7 in his evidence in chief and the description was adequate for the purposes of Policy 1. Nonetheless, he has also gone on and mapped that SNA[146]. It makes no sense to have a multitude of individual discrete SNAs of coal measures vegetation. The essential point is that the SNA is a single consolidated area. The identification of the SNA in this way is enough to be able to properly apply the rest of the Section 7 policies

114 For roroa habitat Dr Craig has identified the significant habitat as including the entire ecological district, extending up into Nelson and well to the east. That is all that is necessary at this stage because that is

[143] Supplementary submissions on behalf of Forest & Bird para 14.
[144] Supplementary submissions on behalf of Forest & Bird para 17.
[145] Supplementary submissions on behalf of Forest & Bird paras 20 – 25.
[146] Dr Bramley supplementary evidence on the SNA.

enough to allow the proper application of the rest of the policies. It will be up to the district council to decide how to map that when it embarks on the Schedule 1 process. In that process, the council is likely to prepare a map of the habitat which extends beyond the ecological district, but an applicant is not required to go beyond the ecological district. Nonetheless, the map of the Ngakawau Ecological District is clear and that can be treated, if it were necessary, to be the map for the purposes of the SNA for roroa habitat.

115 For invertebrates the application of the policies is more of a challenge because of their widespread and cryptic nature. Absence of evidence about their presence is not the same as evidence of absence. The ecologists have (mostly) identified (with some assumptions) that the relevant habitats extend well beyond the mine footprint. It is not reasonably possible to provide a definitive map of the extent of invertebrates' habitats. However, the SNA map by Dr Bramley is a good approximation, as is Figure 1 on page 9 of Mr Chinn's evidence. Again, I submit that is all this applicant could reasonably be expected to do in terms of Policy 1(a) and it is adequate to enable the rest of the policies to be fully applied.

116 Counsel for the Director-General appear to have a difficulty with Dr Bramley's assessment that coal measures vegetation is significant in terms of the Appendix 1 criteria seemingly because coal measures vegetation occupies a larger area than some SNAs which have been identified in other districts.[147] It is curious that the Director-General appears to consider that not all the coal measures vegetation is significant, when that appears to be contrary to the witnesses that have been called on her behalf. How big or small the Denniston Plateau was defined for the purposes of that case in 2013 (part of which includes coal measures vegetation)[148] is irrelevant to the questions asked by the Court about the process for SNAs under the 2020 RPS. Moreover, the Court in the Escarpment case was never presented with evidence as to whether the area identified as significant then using different (non-regionally consistent) criteria extended beyond what was defined for the purposes of that case to be the Denniston Plateau using

[147] Supplementary submissions on behalf of the Director-General paras 15, 23.
[148] Supplementary submissions on behalf of the Director-General paras 23, 37.

geomorphological criteria unrelated to those now found in appendix 1 of the RPS.

117 In summary, the applicant through Dr Bramley has both identified[149] (using the Appendix 1 criteria) and mapped those areas which are SNAs in terms of coal measures vegetation, invertebrates, and the habitat of roroa.

Policies 7.2(a) and 7.2(d)

118 The Chapter 7 policies, including Policy 7.2, are about SNAs. Moreover, Policy 7.2(a) is explicit that the context for consideration is the Ngakawau Ecological District, and not the mine footprint itself, or the Te Kuha area around the proposed mine. Yet, the ecologists' advising Forest & Bird and the Director-General have wrongly concentrated on the mine footprint, and not the effect of the proposal within the context of the ecological district. As I noted in my opening, if the test is about the listed species' or community's ability to persist within the mine site, the proposal is likely to fail (at least until the rehabilitation proposed has reached a state of maturity), just as all mining projects on the West Coast would similarly fail.

119 Nor does their evidence distinguish between preventing a species ability to persist, and having that ability adversely affected for a period of time.

120 Moreover, in reaching their conclusions the ecologists for Forest & Bird and the Director-General completely disregarded both the on-footprint mitigation (the rehabilitation) and the off-footprint mitigation (the pest control of pests affecting those values referred to in these policies). All mitigation is relevant in assessing the project against Policy 7.2. The closure criteria, the rehabilitation conditions, and the pest control conditions, both off and on site, all contribute to whether in the medium and longer term the listed species and communities (not individuals) will

[149] The question of the areal extent of the significant areas was first identified in the Commissioners' Decision (Tab 1) in 2017 – paras [384] – [389]. It was for this reason that Dr Bramley's 2018 evidence and then his updated 2020 evidence specifically considered the areal extent of the wider SNAs within which the mine would be located. Questions were included on that exact issue for expert conferencing. My opening submissions continued the theme of first identifying values of significance and then considering the spatial extent of those areas/habitats. But steadfastly throughout, witnesses for Forest & Bird and the Director-General have resisted lifting their eyes to consider much beyond the footprint.

retain their ability to persist within their natural range within the ecological district.

121 It is of critical importance that the words used in Policy 7.2(a) refer to a 'species' or a 'communities'' ability to persist. This policy is not about individuals or assemblages of plants or animals. The direction in the policy is about preventing an entire species or community becoming extinct within their natural range. Neither counsel nor witnesses for Forest & Bird and the Director-General attempted to address what these words actually mean in their context.

122 Dr Bramley addresses Policy 7.2(a) in detail in his rebuttal evidence. In summary:

(a) None of the invertebrate species within the footprint at Te Kuha will be prevented from persisting within the Ecological District since they will continue to occur at other locations, including within the TKBMA, where they will be protected to a higher degree than they currently are.[150]

(b) None of the bryophyte species or associations present are known to be restricted to the footprint. Removal of vegetation and habitats associated with the mine will not affect the ability of individual species or communities to persist at other suitable habitats within the Ngakawau ED. Moreover, most bryophytes will return to the rehabilitated site over time.[151]

(c) Parkinson's rātā is found throughout the Ngakawau Ecological District at a range of altitudes. The conditions[152] require Parkinson's rata to be present in rehabilitated shrubland habitats at closure.

(d) The ephemeral wetland will be removed, but as set out in Dr Simcock's evidence and as required by conditions, rehabilitation of this wetland types is proposed. [153]

(e) *Mitrasacme montana var. helmsii*, is reported as occurring at Mt William and Mt Frederick. It has been added to the list of species

[150] Dr Bramley Invertebrate rebuttal evidence para 51.
[151] Dr Bramley Vegetation rebuttal evidence para 62.
[152] Condition 31(b).
[153] Condition 51(b). Dr Bramley Vegetation rebuttal evidence para 56.

to be managed within the TKBMEP and the objective is to establish new populations which survive in ecologically appropriate locations.[154]

123 Policy 7.2(d) uses the terms 'a reasonably measurable reduction' and 'local population' when referring to threatened taxa, both of which require a discretionary judgment having regard to all the evidence. That is, the policy is again focused on the relevant population rather than individuals. However, the submissions on behalf of Forest & Bird that the phrase 'a reasonably measurable reduction' be given its 'plain meaning'[155] misses the point, and would mean that any loss of any of the relevant taxa (the loss of a single individual is reasonably measurable on one 'plain reading' of the phrase) would mean the policy was breached.

124 Again, Forest & Bird and the Director-General have concentrated solely on the mine site rather than the 'local population'. And, just like their assessment of Policy 7.2(a) they also failed to have regard to:

a. The rehabilitation of the mine footprint which is intended to establish habitat which is suitable for roroa and other bird species; and

b. The mitigation of the effect of the proposal on the local population of roroa and other birds (which extends well beyond the mine site) by way of off-footprint pest control proposed which is intended (inter alia) to result in the enhancement of the local population of birds.

125 Both measures will not only maintain the local population of roroa and other bird species within their natural range, but they will also enhance those populations.[156]

126 All the vegetation species affected occur outside the footprint. They will be managed via salvage and direct transfer (where possible) to appropriate locations. [157]

[154] Dr Bramley Vegetation rebuttal evidence para 70.
[155] Submissions on behalf of Forest & Bird para 156.
[156] Dr Craig rebuttal evidence paras 67, 68.
[157] Dr Bramley Vegetation rebuttal evidence paras 69 – 71.

Management and protection of SNAs – The use of biodiversity offsetting – Policy 7.4

127 When considering Policy 7.4 mitigation, offsets and compensation can all be considered. But again, witnesses for Forest & Bird and the Director-General ignore both on-footprint rehabilitation and off-footprint pest control (in this context I submit it is immaterial whether that is mitigation, offset, or compensation – the substantive issue is what will the pest control achieve?).

128 Dr Bramley was the only witness who undertook an assessment of what this actually means by way of a modified 'Pilgrim analysis'.[158] Dr Bramley's conclusions from using the Pilgrim analysis is that for all vegetation, avifauna and invertebrate values, the 'limits to offsets' principle is not compromised or breached[159]. Ms Mealey believed Dr Bramley had not correctly applied all three steps of the 'Pilgrim analysis'[160]. That is manifestly inaccurate. Step 1 is fully addressed in the EIANZ Guidelines-based assessment in each of his three primary statements of evidence (in contrast to the ecologists from the opposing parties who did not attempt such an assessment), and steps 2 and 3 are set out in each of his rebuttal statements of evidence.

129 Policy 7.4 is about SNAs. In terms of areas and habitats, maintenance of the relevant biodiversity must relate to the wider SNA.

130 But, again, throughout the opposing ecologists' evidence, and as shown in the submissions of counsel, the biodiversity values within the site (i.e. the mine footprint) are treated as what require 'protection' or 'to be maintained'.

131 Dr Bramley addressed Policy 7.4(d) and the comments of other witnesses in his rebuttal evidence.[161] In summary, Dr Bramley correctly considered 'maintenance' within the context of the relevant SNA[162], rather than simply considering if there is some permanent removal of

[158] Dr Bramley Vegetation Rebuttal evidence paras 83 – 94; Dr Bramley Fauna Rebuttal evidence paras 41 – 51; Dr Bramley Invertebrate Rebuttal evidence paras 54 – 65.
[159] Dr Bramley Vegetation Rebuttal evidence paras 83 – 94; Dr Bramley Fauna Rebuttal evidence paras 41 – 51; Dr Bramley Invertebrate Rebuttal evidence paras 54 – 65.
[160] Transcript page 799 line15ff.
[161] Dr Bramley Vegetation rebuttal evidence paras 72 – 85.
[162] Ms Mealey agrees this is the context to be applied – Ms Mealey EiC para 84.

the value from within the mine footprint. In all instances those values will be maintained within the SNA as a whole. I submit that the proposal is not contrary to Policy 7.4(a).

132 The pest control undertaken by the Department of Conservation in 2020 confirms that there is a pest problem within the wider Te Kuha Biodiversity Management Area. Strategies and methodologies for suppressing pest animals are now well developed nationwide. There is no reason why animal pest control that is undertaken by the Department and a myriad of other organisations and collaborations nationwide will not work here.[163]

133 I submit there is a high level of certainty that the proposed pest control can be successfully delivered.

134 The Applicant has considered the possibility of offsetting the residual effects of the proposal[164]. There are some residual effects related to effects on the habitats of birds that Dr Bramley and Dr Craig consider can be addressed with biodiversity offsets. Dr Baber took a more conservative approach by concluding that while those measures may not strictly be defined as offsets, they are nonetheless as close as possible to an offset and would constitute an offset if the use of a BOAM were not treated as a necessary component in defining what is an offset[165].

135 Policy 7.4 does not require the use of any model. Nor does this policy require that the losses and gains be quantified in some way, as was suggested by Ms Mealey. Nonetheless, the applicant used a model, which has been accepted as valid elsewhere, to 'sense check' the expert opinions of its expert advisors. The validity of a particular model and the appropriateness of the data used as inputs cannot depend on reaching agreement between experts, particularly in a case like this where it is clear that some experts have passionately held views. To require agreement on the use of a model would be to enable Forest & Bird and the Director-General to exercise a veto over the project.

[163] Indeed, Dr Craig considers the work on this project could achieve better results than if it were to be undertaken by the Department.
[164] Policy 7.4(c).
[165] Dr Baber Rebuttal evidence 14 April 2022 para 58.

136 The applicant maintains that the use of the biodiversity compensation model was appropriate but accepts that the Court cannot take the modelling itself into account because the other parties asked no questions about it on the direction of the Court. Nonetheless, the rigour and transparency required by the use of the model provided a useful 'sense-check' to both Dr Bramley and Dr Craig about their expert opinions.

Management and protection of SNAs – The role of biodiversity compensation – Policy 7.5

137 The only substantive difference between the two policies is that Policy 7.5 adds that 'the compensation is at least proportionate to the adverse effect".[166] While this is not simply a matter of the size of the area which is to be the subject of ongoing management, [167] Ms Mealey's evidence implies that a like for like exchange must be made in order for the compensation to be proportionate.[168] That cannot be the case. If there were to be a like for like exchange, then it would be an offset. Dr Craig explains[169] that the work in the TKBMA will 'over compensate' for faunal losses, especially birds. Where a 'like for like' approach is impractical, the emphasis of the compensation is on measures to restore a fully functioning ecosystem around the rehabilitating mine site so that normal ecological processes can determine the final ecosystem.

Conclusion on RPS policies

138 I submit that considering each policy individually, the proposal meets all the requirements of each policy. It is not contrary to any of them. Moreover, the policies in Chapter 7 are not expressed in black and white or 'pass/fail' terms. Rather, to the extent that any specific part of a policy may not be fully met, the question is the degree of non-compliance and the effect of that non-compliance in an overall sense. It is not necessary to achieve total compliance with every aspect of every policy to conclude that, overall, the proposal is not contrary to the objectives and policies.[170]

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[166] Policy 7.5(b).
[167] Ms Mealey EiC para 108.
[168] Ms Mealey EiC paras 110 – 112.
[169] Dr Craig rebuttal evidence paras 73 – 75.
[170] *Brial v Queenstown Lakes District Council* [2021] NZHC 3609, confirmed in *Brial v Queenstown Lakes District Council* [2022] NZCA 206.

THE 2020 NPS FRESHWATER

139 The Court is required to have regard to Policy 6.3.6 of the Regional Land and Water Plan as inserted by the 2020 NPSFM (my emphasis). It is also entitled, as I submitted in my opening, to have regard to the proposed NPSFM amendments[171].

140 I have commented above about the effects on and rehabilitation of wetlands. As I noted, there will, in the medium to longer term, not be a loss of wetland extent because recreated wetlands are a specific requirement of the rehabilitation. The values of those wetlands, will over time, be the same or similar to those removed. However, if aquatic compensation is required to address any values which are lost in the short to medium term, there are opportunities for such compensation by way of supporting enhancement of saltmarsh wetlands near Westport.[172]

ECONOMIC EFFECTS

141 As I noted in opening, there are several evidential matters of disagreement between Mr Copeland and Mr Counsell, which I submit are not material to the decision whether to grant consent.

142 However, there are two areas where the submissions on behalf of Forest and Bird and Mr Counsell's evidence are inconsistent with the law. They are:

(a) the extent to which, if at all, the cost of environmental 'externalities' should be included in a wider economic cost benefit analysis;[173] and

(b) the extent to which the Court should consider the economic feasibility of the project.[174]

143 I addressed both issues in my opening submissions. I submit that those submissions fully respond to the submissions and evidence on behalf of Forest & Bird on these two issues.

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[171] The critical point in these exposure drafts is that both the proposed amendments to the NPSFM and the draft NPSIB provide for a 'consenting pathway' for minerals because minerals are fixed in location.
[172] Dr Bramley Vegetation rebuttal evidence para 57.
[173] JWS Economics section 2.2 and 3.3.
[174] JWS Economics section 4.

LANDSCAPE AND VISUAL EFFECTS

144 There are two key issues which are in dispute between Mr Rough and Mr Brown:

(a) The precise western boundary of the ONL.[175]

(b) The magnitude of visual effects, especially from viewpoints 10 and 11 after remediation has occurred.[176]

The precise western boundary of the ONL

145 There is a difference in opinion about the western boundary of the ONL.[177] As I put it to Mr Brown, there is a choice between his 'West Coast study' line including land which has some values which do not warrant ONL status, and his 'Buller District study' line which would omit some values at the top of the hill which Mr Rough accepts do have high natural character values.[178] Mr Brown accepts that there is no justification for drawing an ONL boundary somewhere between his two lines.[179]

146 Given the very high percentage of land classified as ONL within the Buller District, I submit that Mr Rough's evidence is to be preferred because to include land which does not warrant ONL status would be to undermine the validity of that identification.[180] However, for the reasons I set out in my opening, I submit that at the end of the day whether or not the entire mine site is within the ONL is not determinative of the appropriateness of the proposal in landscape and visual terms.

The magnitude of effects from viewpoints 10 and 11

147 I submit that here, also, Mr Rough's assessment should be preferred. His is the most careful[181], he uses best practice in the form of the ratings in the NZILA 2021 guidelines[182], and he is better informed about the type and extent of remediation and rehabilitation. Unfortunately, Mr

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[175] JWS Landscape section 1.2.
[176] JWS Landscape section 4.3. Mr Brown's evidence, table on page 45.
[177] Explained in Mr Rough's EiC paras 84 – 94, and Mr Rough rebuttal evidence paras 24 – 28.
[178] Transcript page 533, line 5ff; Transcript page 138, line 19ff.
[179] Transcript page 532, lines 24 – 28.
[180] Transcript page 533, lines 22 – 29.
[181] Eg Mr Rough rebuttal evidence paras 57 – 70.
[182] Mr Rough EiC para 146 and Table 1 page 67.

Brown has introduced confusion by his evidence referring back to the assessment scale used in the original landscape report from 2016. His reason for using that scale despite Mr Rough having changed it to align with the NZILA guidelines in his 2020 evidence was unconvincing. The use of the new scale as set out in the NZILA Guidelines is unremarkable and the scale used in the Guidelines and adopted by Mr Rough is not unclear in what it means as Mr Brown implied. There was no legitimate reason for Mr Brown to use the replaced 2016 scale unless when he was drafting his evidence, he was responding to Mr Rough's 2018 evidence rather than his revised and updated 2020 evidence. Continued references throughout his evidence to paragraphs from Mr Rough's 2018 evidence suggests that may well have been the case.

148 It remains unclear why Mr Brown added the word 'very' to the ratings in the table following paragraph 94 of his evidence.[183]

Viewpoint 10

149 This is the location, and its immediate vicinity, from where the mine will be most visible for the greatest duration. Paragraph 71 of the submissions for Forest & Bird states "The effects are expected to reduce over time as rehabilitation is undertaken". Yet in Mr Brown's Table 5[184] his ratings are labelled as being "Out to 35 years" and include five ratings as being "substantial", and three as being "severe", out to that period of time. This is inconsistent with his answers to questions where he accepted that the effects from this viewpoint would reduce before 35 years.[185] Furthermore, this is inconsistent with his table on page 45 of his evidence where he rates the 'Visual Effects After Remediation' from viewpoint 10 as being "moderate – slight".

150 Looking at the photo simulations from Viewpoint 10, even using the definitions in Mr Rough's old rating scale[186] I submit that it is an exaggeration to claim the effect will be severe because "the proposal will not become dominant feature of the scene to which all other elements become subordinate…". In all of the views shown of the project, even when looking at just the central part of the view (i.e. the central portion photo-simulations in Mr Rough's graphic supplement),

[183] Transcript page 544, line 13ff.
[184] Mr Brown evidence page 52.
[185] Transcript page 545 line 33 – page 546, line 1.
[186] Page 5 of the JWS Landscape.

the mine is not the dominant feature because the bulk of the scene is made up of very much more extensive surrounding forest-covered hillsides, below and adjacent to the workings, and also extensive foregrounds. Consequently, I submit that Mr Brown's concerns about the visibility and visual effects of the project while traveling in a car are overstated.[187]

Viewpoint 11

151 Here again, Mr Brown says the effects from this viewpoint are substantial (or 'very' substantial in his table on page 45) 'out to 35 years'[188]. Even more than with viewpoint 10, I submit that his conclusions here are overstated.

152 Mr Brown referred to other places where the effects of mines and quarries remain obvious.[189] Mr Brown referred to the Garvey Creek mine near Reefton. This mine and most quarries around the country are not backfilled to natural ground. That is not the case here. Te Kuha will be required to backfill to meet ground level. This will come at a high cost but is specifically proposed to result in an acceptable visual and landscape outcome.[190]

153 Mr Brown is particularly concerned about the effect on tourists and visitors. On the other hand, Mr Rough points to the fact that the view is experienced for a total of 51 seconds or less and only by people travelling east to west (if they happen to be looking in that specific direction).[191]

154 While people may stop at viewpoint 11 when travelling west to east and look both up and down the river (although it is probably used more by people admiring the upstream river view – looking upstream certainly has much more of the river in the scene), crossing the road to stop there when travelling down the gorge would potentially be dangerous.[192]

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[187] Mr Rough rebuttal evidence paras 38, 55 - 63.
[188] Mr Brown's evidence Table 6 on page 57. Compare with Transcript page 547, lines 17 – 21.
[189] Transcript page 546, lines 20 – 25. Transcript page 554, lines 34 – page 555 line 15.
[190] Conditions 50(a), 50(c), and 52.
[191] Mr Rough rebuttal evidence paras 37 - 38
[192] Mr Rough EiC paras 215 – 216.

155 Mr Brown accepts that in the longer term the visual effects on the ONL as experienced from Viewpoint 11 will be 'slight'.[193] Given that condition 52 requires a landscape architect to advise on the final design of the ridgeline with the express purpose of recreating as natural a morphology as reasonably practicable, I submit that the ridge will look natural to the extent that after rehabilitation one would not know from Viewpoint 11 that the ridgeline had been subjected to mining. It will certainly not be 'substantial' for a 35-year period.[194]

Landscape effects and visual effects

156 Counsel for Forest & Bird asserts that Mr Rough failed to properly consider landscape effects against the agreed values of the ONL and has limited his assessment to visual effects.[195] In paragraph 71 of his submissions, Mr Anderson refers to a large amount of agreement on 'visual effects'. That reference is misplaced. Mr Rough's comments in his EIC and the summary of effects in his Table 1 page 67 relate to landscape and visual effects – Mr Rough has not separately commented on visual effects.

157 In addressing the landscape and visual effects of the proposal Mr Rough's process was to first set out the character and values of the relevant landscape[196]. He then identified aspects of the proposal that would give rise to landscape and visual effects, and how these will be mitigated[197]. And he briefly addressed the mitigating effects that will result from the rehabilitation proposal for the project[198]. Mr Rough then addressed the landscape and visual effects of the proposal from 14 salient and/or representative viewpoints[199] using photo-simulations from ten viewpoints to assist in conveying effects over a period. The landscape and visual effects, at their most obvious and also after rehabilitation, are summarised by Mr Rough in his Table 1[200]. Additionally, Mr Rough assessed, with the aid of video simulations, two

[193] Mr Brown evidence, table at page 45.
[194] Mr Brown evidence, Table 6, Item (a), page 57.
[195] Submissions on behalf of Forest & Bird paras 208 and 209.
[196] Mr Rough EiC paras 56-94.
[197] Mr Rough EiC paras 99-122.
[198] Mr Rough EiC paras 123-131.
[199] Mr Rough EiC paras 132-238.
[200] Mr Rough EiC page 67.

sections of SH 6 from which the closest and most significant views of the project will be afforded[201].

158 While Mr Brown was somewhat critical of the efficacy of photo-simulations, if they are used as Mr Rough indicated they should be,[202] the sequence of images from the ten salient and/or representative viewpoints for which photo-simulations were prepared are perhaps the best way of conveying landscape and visual effects over a period

159 There was some discussion about the role of hydroseeding of exotic grasses and the effects if that were to occur.[203] The use in the questions of the words 'go to plan' and 'back up plan' are misleading. As identified in condition 55 and the draft management plan, and explained by Dr Simcock in answers:

a. Hydroseeding using non-native grasses would only be considered over small areas as part of a hierarchy of erosion control – in which grasses are only one component (wood, rock, wood chip and surface roughening are the main methods along with controls on slope length);

b. In hydroseeding / hydromulching a component that provides short term stabilisation is the choice of mulch, not the grass seed – which is why seed can be excluded from some treatments;

c. Where used, native seedlings are planted shortly afterwards/within the same planting season and these overtop the grasses – and have to meet the closure condition criteria of minimum native cover and minimum weed cover.

160 The native plants selected for rehabilitation deliberately do not include tussocks or grasses (in contrast to Stockton).[204]

Section 104(1)(b) – the Buller District Plan

161 There was no evidence in opposition to Ms Courtier's evidence on the application of the Buller District Plan provisions to assessing whether

[201] Mr Rough EiC paras 239-253.
[202] Mr Rough EiC para 138.
[203] Eg transcript page 142 lines 1 – 14; page 376 line 18ff.
[204] Dr Simcock rebuttal evidence Appendix 2, section 4.1.4(i).

the proposal is an inappropriate development insofar as it is located within an ONL.[205] Her evidence was not tested in questions.

162 Mr Anderson's submissions on this matter[206] quote selectively from my opening[207]. My submission was not that mining in an ONL is appropriate per se – see my para 364. But the point is that mining in an ONL is not inappropriate per se. The District Plan policies help identify the values of the land concerned including by what of the relevant Character Area. One would not expect Mr Rough or Mr Brown to have commented on the mineral values because that is a planning assessment – and that assessment has only been done by Ms Courtier.

163 Simply because the RPS is later in time that the District Plan does not mean "the Buller District Plan can only be given limited weight"[208]. The District Plan is not inconsistent with the RPS in relation to these provisions. Moreover, the newly notified combined district plan not only continues the same policy framework of identifying the importance of minerals to the district and provides that mining in an ONL is a discretionary activity, but actually strengthens that policy position by zoning the mine site a specific new Mineral Extraction Zone, even though it is also identified as an ONL.[209]

CONDITIONS

A charitable trust as a delivery mechanism

164 The applicant proposes that the vehicle for delivering the off-footprint pest control and other positive works (at least in part) be a newly created charitable trust. This is simply the administrative vehicle or mechanism to be used. The applicant would always continue to be responsible and liable for compliance with the conditions, including the ongoing funding of the work. The concept of using a trust as the mechanism to deliver the pest control required by the proposed conditions is intended to enable this work to potentially form part of a larger Buller 'pest free' project in due course, rather than the current ad-hoc approach where

[205] Ms Courtier rebuttal evidence paras 51 -55. Ms Sirtarz was unable to assist – transcript page 662, lines 12 – 25; page 663, line 6 – page 665, line 16.
[206] Opening submissions for Forest & Bird para 218.
[207] Opening submissions for the Applicant paras 359 – 365.
[208] Opening submissions for Forest & Bird para 211.
[209] Transcript page 665, line 17 – page 666, line 20. Exhibit 2 – Mineral Extraction Zone objectives.

each project is stand-alone.[210] Moreover, the trust is intended to provide an opportunity for Ngāti Waewae to take a formal and active role in conservation management, thereby assisting with the exercise of kaitiakitanga.[211]

165 On review, the conditions relating to the proposed trust are unnecessarily detailed and do not make it clear that the proposed trust is intended to have wider powers than merely implementing the conditions of consent for this project. Nor is it adequately clear that the trust may not be the sole mechanism for the delivery of the proposed pest control. Consequently, the Applicant proposes that the conditions be revised to read as follows.

Establishment of Buller Biodiversity Trust

198. As soon as practicable after the grant of this consent and in any event prior to commencement of works being undertaken under this consent (excluding site investigations), the Consent Holder shall establish a charitable trust (the "Buller Biodiversity Trust") on the terms set out in Conditions 199 – 202.

199. The resource management purposes of the Trust shall include (but not be limited to):

(a) to restore, protect and enhance the indigenous biodiversity of the Buller District;

(b) to provide opportunities for manawhenua and communities of the Buller District to contribute to achieving objective (a); and

(c) to provide a mechanism for manawhenua and the communities of the Buller District to assist in the delivery of biodiversity outcomes which may be required through conditions imposed on resource consents or other regulatory authorisations.

Advice Note: For the avoidance of doubt, the Trust may have objects and functions wider than the implementation and delivery of these conditions.

[210] Dr Craig rebuttal evidence paras 44 – 50.
[211] Ms Brewster evidence para 73.

200. *The Trust Deed (or Trust policies which comply with all relevant legal requirements) must provide (inter alia) for the Trust to:*

(a) Be established as an accountable administrative structure; and

(b) Set out the practices and procedures to be adopted (including monitoring and reporting) to ensure that The Trust has the necessary governance, management, financial and operational systems and mechanisms to fully implement any work it may be contracted to deliver for any third parties (including holders of resource consents and access arrangements).

201. *If the Trust is contracted by the Consent Holder to implement any of the conditions of this consent, the Consent Holder shall ensure that the Trust is paid all necessary funds for it to undertake any activities in accordance with, or to meet the conditions of, this consent, prior to those activities being undertaken. If the Trust is so contracted, at least three months prior to the commencement of construction, the Consent Holder shall provide to the Trust the first part payment of $2 (two) million being the sum payable for the first 3 years of operation to implement these conditions, and shall pay the Trust all such other sums as may be required from time to time to comply with these conditions.*

Advice Note: For the avoidance of doubt, the Trust shall have the ability to access additional funding from other sources in addition to the Consent Holder's contribution (including from the Consent Holder itself), but the Consent Holder shall always remain liable for the full costs of complying with these conditions.

202. *The terms of the Trust Deed shall also:*

(a) Require the trustees of the Trust, in relation to their appointment of additional or replacement trustees, to appoint trustees on merit according to their expertise and experience, but to invite and act upon the following nominations:

i. Two trustees from the Consent Holder;
ii. Two trustees from Te Runanga o Ngāti Waewae;
iii. One trustee from the Buller District Council;
iii. One trustee from the Community Liaison Group (established under Condition 71) connected with local community-led conservation projects;

(b) *Provide for the trustees of the Trust to appoint at least one additional, appropriately qualified trustee to be responsible for overseeing the Trust's financial reporting.*

(c) *Prescribe the basic procedures for the trustees of the Trust to govern the Trust and otherwise provide the trustees with the power to regulate their own procedures, provided that:*

i. *No change may be made which would alter the charitable nature of the Trust or the funding the consent holder is required to provide in Condition 199 above; and*
ii. *The Trust is to operate for a minimum period of 35 years following the grant of resource consent.*

(d) *Provide for the appointment of a person to hold the position of operations manager / project coordinator and to be responsible for:*

i. *Strategic and operational planning;*
ii *Implementation of project initiatives; and*
iii. *Ongoing evaluation against the measurable targets.*

(e) *Require annual reporting regarding the distribution of the trust fund for the purposes of complying with the conditions of this consent and reporting against the measurable targets to:*

i. *The Consent Holder;*
ii. *Te Runanga o Ngati Waewae;*
iii. *Buller District Council; and*
iv. *The CLG (established under Condition 71).*

Advice Note: For the avoidance of doubt, the role of the Council nominated trustee identified in Condition 202 is separate from and unrelated to Council's regulatory functions regarding the conditions of this consent.

203. *The establishment, funding, and activities of the Buller Biodiversity Trust does not absolve the Consent Holder of accountability for meeting the consent conditions. Compliance with the conditions of consent including the achievement of consent Conditions 165 - 191, is the responsibility of the Consent Holder, no matter the existence or otherwise of the Trust.*

166 Having said all that, while the Applicant is committed to establishing a trust for the reasons set out in Ms Brewster's evidence[212], it need not be imposed by way of condition. If the Court considered it preferable, conditions 198 to 203 could simply be deleted. That would make it beyond debate that the consent holder is responsible for compliance with the conditions. What mechanism or vehicle the consent holder chooses to use to achieve that would, like most consents, be at the discretion of the consent holder and not be mandated by the conditions.

Adaptive management

167 Counsel for Forest & Bird is critical of proposed conditions with respect to the concept of adaptive management. It appears that the concerns relate specifically to the rehabilitation of the site as habitat for invertebrates[213] although there is reference to 'the rarer species of bryophyte'[214]. I have set out in my opening submissions and in these submissions in reply why the proposal appropriately avoids, remedies and mitigates effects on bryophytes and fauna, and is also consistent with the policies in Chapter 7 of the RPS. This is irrespective of the success of the specific rehabilitation proposed for bryophytes. That is, that consent is appropriate, even if the rehabilitation cannot result in the establishment of certain species of bryophytes.

168 In my submission, the same applies to invertebrates, although the likelihood of achieving positive results with the rehabilitation is much more certain.

169 Three is no justification for considering that rehabilitation of the site as habitats of birds will not be successful.

170 Unlike the decision referred to in counsel for Forest & Bird's opening, (including the Supreme Court's decision in *Save Our Sounds*, the adaptive management referred to here by Dr Bramley does not relate to uncertainty about the type and level of effects. The effects are identified by Dr Bramley. Rather, adaptive management in this situation is simply providing both flexibility and direction in the conditions to ensure that all is reasonably done to result in the most favourable rehabilitation

[212] Ms Brewster evidence paras 73, 74.
[213] Submissions on behalf of Forest & Bird paras 226, 237 – 240. The butterfly is the only example provided.
[214] Para 225.

outcome, rather than the minimum acceptable, and the pest control achieves the outcomes specified in the conditions.

171 For the rehabilitation, the objectives are clear (and agreed)[215], the requirements for the rehabilitation management plan are detailed[216], and the closure criteria and detailed and certain[217]. Adaptive management in this context involves receiving advice from an independent technical advisory group[218], annual reporting by way of an annual plan[219] and an annual monitoring report[220] finalising and then annually reviewing[221] the rehabilitation management plan in consultation with an ecologist on behalf of the Department[222] to ensure that the management plan continually provides the best means by which the conditions can be met.

172 In terms of the proposed pest control, adaptive management in this instance simply provides flexibility and direction in the conditions to ensure that the measures are adjusted if necessary so that the objectives set out in the conditions are met[223]. This again involves receiving advice from an independent technical advisory group[224], annual reporting by way of an annual plan[225] and an annual monitoring report,[226] finalising and then annually reviewing[227] the rehabilitation management plan in consultation with the Department[228] to ensure that the management plan continually provides the most effective means by which the conditions can be met.

173 For the pest control work, there is an added safeguard with the requirement that in addition to baseline surveys there must be independent reports provided to the councils at years 3, 5, 10 and 15

[215] Condition 50.
[216] Condition 51.
[217] Condition 51(b).
[218] Condition 51A.
[219] Conditions 63(a), (b), (j).
[220] Conditions 69(a), (h).
[221] Condition 39.
[222] Condition 58.
[223] Conditions 174, 174(d), 176, 180, 182, 182A, 183(b), 185, 185A, 191.
[224] Condition 169A.
[225] Conditions 63(e), (j).
[226] Condition 69(a).
[227] Condition 39.
[228] Condition 170.

about the adequacy of the pest control work in meeting the conditions[229]. These reports then provide the councils with specific power (if it is needed) to amend the conditions to ensure the objectives are met[230]. Such amendment could include increasing the area of the Te Kuha Biodiversity Management Area, requiring the pest control to continue for longer than 35 years, or setting out specific targets and methods which must be met or used. This additional power (beyond the conditions relating to rehabilitation) recognises there is a level of uncertainty in the existing populations of invertebrates, and the precise extent to which (but not the fact of) the pest control will benefit invertebrate populations

Third party approvals

174 Opposing counsel submit that condition 167 is unlawful because the mine is on both public conservation land and land owned by the Buller District Council[231]. To access any of the site will require an access arrangement. While the submissions focus on condition 167, it is in fact a submission that all conditions are unlawful – that is because all conditions need to be undertaken on or in relation to land not owned by the Applicant, and cannot be actioned unless an access arrangement is obtained.

175 This is an untenable assertion. It amounts to a submission that the District Council and Ministers have a veto over all conditions imposed by the Court, and that as a matter of law an access arrangement must be obtained first. That is not the law, and it is not, in my experience, 'unusual'[232] that resource consents are obtained (or at least sought) prior to access arrangement. The required approvals under different statutory processes operate independently. All necessary approvals are required before the activity can proceed. The *Dart River Safaris* decision has no applicability to the present circumstances.

176 In the present case, an application for an access arrangement was made to the Ministers contemporaneously with the resource consent applications. As Ms Brewster explained[233], the access arrangement

[229] Conditions 169, 184.
[230] Conditions 15, 17.
[231] Submissions on behalf of Forest & Bird paras 242 – 247. Submissions on behalf of the Director-General paras 136 – 140.
[232] Submissions on behalf of the Director-General para 137.
[233] Transcript page 66 lines 1 – 18.

application took some years to get before the Ministers for decision, and when it did, despite requests from the Applicant the Ministers were not made aware of the conditions of consent imposed by the council commissioners and made their decision in the abstract and without the benefit of the extensive and detailed conditions which define and constrain both the activity and how the effects are to be addressed.

30 August 2022

Mark Christensen

Counsel for Stevenson Mining Limited