

**IN THE ENVIRONMENT COURT
AT CHRISTCHURCH
I TE KŌTI TAIAO O AOTEAROA
KI ŌTAUTAHI**

Decision No. [2023] NZEnvC 68

IN THE MATTER of the Resource Management Act 1991

AND an appeal under s120 of the Act

BETWEEN ROYAL FOREST AND BIRD
PROTECTION SOCIETY OF NEW
ZEALAND INCORPORATED

(ENV-2017-CHC-90)

Appellant

AND WEST COAST REGIONAL
COUNCIL AND BULLER
DISTRICT COUNCIL

Respondents

AND STEVENSON MINING LIMITED

Applicant

Before: Environment Judge P A Steven
Environment Commissioner J T Baines
Environment Commissioner S Myers

Hearing: in Christchurch on 1 August 2022

Appearances: P D Anderson & W D Jennings for the appellant
M Wakefield & R Mortiaux for the respondents
M G Christensen for the applicant
V Tumai and D van Mierlo for the Director-General of
Conservation
C Baxter for herself

Last case event: 1 September 2022

Date of Decision: 19 April 2023

Date of Issue: 19 April 2023

ROYAL FOREST & BIRD v WCRC & BDC & STEVENSON MINING – DECISION



DECISION OF THE ENVIRONMENT COURT

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REASONS

Introduction

[1] Resource consents are sought to enable open cast mining of an area of land comprising approximately 144ha, situated on Te Kuha escarpment spanning the ridge slightly to the east, to overlook the Buller Gorge and covering the slopes downwards to the west that form the backdrop to Westport.

[2] This is not the first coal mine in this part of Buller District, with Stockton, Denniston, Escarpment and Sullivan all situated to the north of the proposed Te Kuha site, but generally not as visible from most public viewpoints¹ as the proposed Te Kuha mine site.

[3] The mine is within a mining permit 41-289 that covers approximately 884ha.

[4] Twelve hectares of the total mining footprint is Department of Conservation (DoC) administered stewardship land, with the remainder being administered by the Buller District Council as a local purpose reserve except for approximately 2ha of private land which is the site of the proposed rail load-out.

The Te Kuha mine project overview

[5] Te Kuha Limited Partnership is a limited partnership between Stevenson Group Limited and Wi Pere Holdings Limited Partnership and is the owner of Rangitira Developments Limited which holds the mining permit 41-289 over the Te Kuha prospect.

[6] Te Kuha Limited Partnership has appointed Stevenson Mining Limited as the project co-ordinator and mine operator. Stevenson Mining is the applicant for

¹ Brown EIC at [147].

the resource consents and other necessary approvals for the Te Kuha mine, including the land access arrangements.

[7] The mine design, which has been designed to a concept level, is based on mining the overlapping Brunner and Paparoa pits individually, subject to further design following further geological and geotechnical drilling. However, there would be no increase in the size of the mine footprint as the coal resource is constrained by outcrop and geological information from drill holes.

[8] The pits overlap to the north of the mine footprint, which impacts on the design of the Paparoa pit as it has been designed to advance beneath the Brunner pit when it has been completed.

[9] Drilling and blasting will be used to remove overburden and coal, with blasted rock removed by excavator and loaded into haul trucks while coal will be extracted and hauled to the Run of Mine (ROM) pad for crushing and screening. No washing is required due to the low ash content.

[10] The mining will occur in strips with vegetation, soils and overburden being removed in each advancing strip as coal is mined along each strip in a south to north direction.

[11] Excavated soil will be salvaged with some of the vegetation. This will be used in rehabilitation either being reused immediately where achievable, or stock-piled for future use in the rehabilitation. This will occur progressively each year as extraction advances.

Stevenson Group

[12] Stevenson is a New Zealand owned business with a long history of successful quarry management in New Zealand.² The Stevenson Group comprises

² Bragg EIC at [3].

two businesses – mining and property – and operates two of the largest aggregate quarries in the country. Stevenson Mining Limited is a fully owned subsidiary of Stevenson Group and has had a long involvement in the mining industry throughout the country.

Location

[13] The Te Kuha area is located at the southern end of the Ngakawau Ecological District.

[14] The proposed Te Kuha coal mine is to be located on the crest of a ridge some 10km southeast of Westport and 2km north of the Lower Buller Gorge at a point where the Buller coal measures overlap with the Paparoa coal measures.

[15] The mining footprint occupies native forest-covered land on the crest, and either side, of a ridge of coastal hillslopes, which form a backdrop to Westport and its surroundings. The ridgeline forms the southern portion of a coastal escarpment which extends from the Buller River north to the Ngakawau River.

[16] The area of the mine footprint has been subjected to very little human activity, thus possessing very high naturalness and high visual amenity. We say more about these ecological and landscape values further on.

Coal geology

[17] The proposal is in the southwestern sector of the extensive Buller coal field which extends northwards from Te Kuha and includes the Stockton and Denniston Plateaux where mining is active.

[18] The coal at Te Kuha sits at an elevation of approximately 600m-800m above sea level on the coastal range between Mt Rochfort to the north and Buller River to the south, and includes Brunner coal measures that occur throughout the Buller coal field overlying (deeper) Paparoa coal measures that have not been

identified elsewhere in the Buller coal field.

[19] Te Kuha is the only coal deposit in New Zealand where Brunner and Paparoa coal measures occur together, and which are able to be mined by open-cast methods. The Te Kuha deposit is not continuous with the rest of the Buller coal field.

[20] The vegetation of the proposed mine footprint is an example of coal measures vegetation in the Ngakawau Ecological District, which is the only ecological district in New Zealand defined by the presence of extensive elevated coal measures geology with its associated landforms, vegetation and flora.

[21] The total extent of the Brunner coal measures on the West Coast is approximately 26,585ha distributed in individual patches of varying sizes.³

[22] The underlying geological characteristics allow for confident prediction of weekly acidic to alkaline mine drainage chemistry rather than strongly acidic mine drainage which is characteristic of mines in Brunner coal measures only, due to the presence of the Paparoa coal measures which contain excess acid neutralising capacity to enable management of the acid from the Brunner rocks.

[23] A further feature is that Te Kuha coal is of high quality for steel manufacture which has particular value as a bulk export commodity to overseas markets.

[24] Indeed, the low sulphur content of the Te Kuha coal resource presents opportunities for the production of different coal products, particularly in enabling extraction of higher sulphur coal deposits, some of which are not currently mined,

³ Coal measures describes geological sediments laid down in a depositional environment in which coal can form, although coal measures may not necessarily contain coal. See Bramley EIC vegetation at [37].

although when blended with the Te Kuha coal would become a viable product for export.

Key components of mining proposal

[25] Key components of the mine footprint are the two mine pits (Brunner and Paparoa), overburden placement areas, engineered landforms (ELFs), and soil stockpile areas, diversion drains and in-pit sumps. Ex-pit water management infrastructure includes a water treatment plant (WTP) and dual sump system.

[26] Coal mining activities would take place concurrently, although the Brunner coal measures would need to be exhausted prior to accessing the underlying Paparoa pit comprising the Paparoa coal measures.

[27] Activities associated with the proposal are:

- (a) development of mine infrastructure, including the access/haul road, ex-pit sumps, stormwater and mine water management drains;
- (b) removal of vegetation and soils and associated ecosystems;
- (c) excavation of overburden and coal;
- (d) transportation, processing and loading-out of coal;
- (e) deposition of overburden, soil and rehabilitation material as part of temporary storage and permanent placement within ELFs;
- (f) management of dust;
- (g) water treatment;
- (h) management of weeds and pests at the site;
- (i) rehabilitation of the site during and after coal extraction; and
- (j) ongoing habitat enhancement measures (primarily pest control) over an additional area of 3,597ha adjoining the Te Kuha mine site (the enhancement area), which, including the rehabilitated mine site, brings the total area of management to 6,907ha.⁴

⁴ Bramley EIC vegetation at [246]; Brewster EIC at [16]; Bramley rebuttal avifauna at Appendix 2.

[28] The enhancement area is now proposed to be located on an adjoining area of land at Te Kuha, on the Denniston Plateau.⁵ It includes an additional 3,597ha in the Te Kuha area.

[29] The mine is planned to be producing coal over a 16-year period, with rehabilitation being carried out progressively during that period. A further 10-year period is anticipated to finish all post-mining rehabilitation and aftercare of the site and to achieve the 'closure' requirements proposed in conditions.

Background

[30] The appeal is from a decision of Hearing Commissioners who made a first instance decision on the proposal by decision dated 21 November 2017. For various reasons, a hearing of the appeal has taken longer than would ordinarily be anticipated, although it is sufficient to note that in the meantime key changes have been made to the overall proposal and to the statutory context in which the proposal is now to be considered.

[31] When the matter was first heard, the applicant proposed, in addition to a rehabilitation programme, a programme of biodiversity management and habitat enhancement (the Te Kuha Biodiversity Management Area) together with an off-site mitigation and/or compensation proposal to address residual adverse effects at Orikaka, (the Orikaka Habitat Enhancement Plan), which had an overall objective of enhancing the population of birds and invertebrates within the habitat enhancement area.

[32] The current proposal includes an off-footprint environmental compensation and mitigation package in an area adjacent to the mine footprint between the proposed mine and the Escarpment Mine to the north, with the change having been prompted by discussions with the expert advisors to the

⁵ Bramley EIC vegetation at [246].

Minister of Conservation through the appeal process.⁶

[33] Other aspects of the proposal remain the same, except that a significantly revised set of conditions is now proposed.

Commissioners' decision

[34] The decision of the commissioners followed a public notification of the proposal during which submissions were lodged by various parties. A hearing was held in September 2017. Whereas submissions were lodged in support of the proposal, a large number of submissions were lodged generally raising issues in relation to:

- (a) the destruction of a high value natural area and habitat of threatened species;
- (b) the impossibility of rehabilitating the site to its pristine pre-mining condition;
- (c) the effects of climate change;
- (d) the effects on the natural value of a highly visible landscape and agreed outstanding natural landscape;
- (e) the loss of, and effect on, waterways and aquatic habitat;
- (f) the effects of noise and dust; and
- (g) the effects on health.

[35] All but the last two of these matters are raised by the appeal.

[36] The proposal was considered as a full discretionary activity having bundled all of the resource consents required from each of the councils. In terms of the effects of particular interest in this appeal, particularly the impacts on terrestrial

⁶ Memorandum of counsel for the applicant, dated 9 February 2021, at [5].

ecology, the commissioners had to take into account the mitigation measures proposed.

[37] The decision records that an extensive and detailed rehabilitation programme was proposed to reduce the extent and severity of adverse effect. This was accompanied by a programme of biodiversity management and a habitat enhancement proposal, acknowledging that many of the ecological effects could not in all likelihood be rehabilitated or formally offset.

[38] The commissioners did not consider in any detail, the categorisation of these various measures in the “effects hierarchy”; that is, whether as mitigation, remediation, offsets or environmental compensation measures. However, this is an issue that now has to be considered, due to the differing policy context in which these matters arise for our evaluation.

[39] The rehabilitation programme addressed by the commissioners had included species’ relocation and management, as well as plant, pest and predator control within and beyond the mine footprint and was referred to by the commissioners as a “mitigating measure” to address the adverse effects of habitat removal.

[40] Additionally, the applicant proposed the Orikaka Habitat Enhancement Area as an offset to the long-term loss of, or significant changes to the coal measures vegetation, invertebrate communities, ecological integrity and connectivity that could not be rehabilitated or formally offset.

[41] The commissioners’ decision addressed the implications of *R J Davidson Family Trust v Marlborough District Council*⁷ where the High Court held that the reasoning in *King Salmon* applied in the decision-making process on a resource consent application, as well as the plan-making context.

⁷ *R J Davidson Family Trust v Marlborough District Council* [2017] NZHC 52.

[42] The commissioners considered whether there was any invalidity, incomplete coverage or uncertainty in meaning within the relevant planning documents, the Director-General noting that these included a proposed regional policy statement and a proposed district plan. Neither had completed the hearing process and accordingly, the commissioners had to consider, in exercising their discretion under s104B, whether resort should be had to Part 2.

[43] However, the commissioners approached the Regional Policy Statement (RPS) and District Plan (DP) as giving effect to Part 2 such that there was no need to refer back to it in coming to a judgment informed by the relevant matters articulated in s104.

[44] The commissioners considered that the DP provisions addressing landscape and visual effects were complete and fully guided them in what the plan indicates is inappropriate development in terms of s6(b) RMA, while the objectives and policies in relation to ecology reiterated the s6(c) considerations in play.

[45] In terms of the landscape effects, these were inexorably linked to the ecological effects as assessed by the ecologists, with the Ecological Rehabilitation Concept Plan assuming particular importance. It was agreed that the rehabilitation would not restore what would be lost by the proposal.

[46] Based upon feedback from the ecologists, the landscape architects agreed that the rehabilitation would conceal most of the project's impacts within 35-50 years, although the landscape and amenity effects over that period, which were not agreed, were the subject of findings.

[47] The commissioners note that the differences from many of the viewpoints considered by the experts, before and after the operational phase of the mine, related to the wider perceptual and associational aspects of the physical intervention that is entailed by the mining.

[48] When looking at the statutory instruments as a whole and guided by Policy

9.1 of the RPS in particular,⁸ two matters were found to have assumed some importance to their consideration:

- (a) the practicality of locating the development away from the significant areas of vegetation or habitat; and
- (b) the extent to which the development provides public benefit.

[49] Referring to the district plan objectives in relation to mineral resources, including the explanation and reasons, the commissioners concluded that:⁹

The proposal would enable people and communities to provide for their economic and social wellbeing. This must be done while avoiding, remedying or mitigating adverse effects and with the requirement that the mine site be rehabilitated where practical. ...

[50] The commissioners then cite a passage from the explanation and reasons for that objective, drawing attention to the statement that:¹⁰

The Council is particularly concerned about long-term effects on resources while recognising that mining, by its very nature, will generally have some short-term effects.

[51] The commissioners conclude:

[455] In balancing the matters required under the statutory instruments, we are conscious of the fact that, over the last four years, Buller has faced significant employment losses (in excess of approximately 1,000 redundancies). While the mine would not fill the gap, we are satisfied that, in economic terms, the mine proposal at Te Kuha would help to potentially offset some of those losses.

[456] Undoubtedly there would be adverse effects, but those adverse effects would be tempered considerably over time by the mitigation, rehabilitation and

⁸ At [451].

⁹ At [453].

¹⁰ At [454].

compensation measures proposed. At the end of the day, the vegetation and habitats, and the ONL and landscape, would retain the necessary characteristics to ensure their significant status is protected.

[52] We note that the current version of NPSFM and RPS became operative after the commissioners' decision. Accordingly, the s104 matters requiring consideration are materially different, such that little weight can be given to the commissioners' decision in terms of s290A.

Parallel process to gain access rights

[53] At the time of the Council hearing, access arrangements had been explored with DoC in relation to the 12ha of stewardship land, although a formal application in relation to the amended proposal had not been formally lodged with the then Minister of Conservation and then Minister of Energy and Resources (the Minister) pursuant to the Crown Minerals Act 1991.¹¹

[54] A further application was lodged with Buller District Council for access over an area of the local purpose reserve, although that was placed on hold pending legal proceedings which have been determined. The application is yet to be reactivated.¹² These applications for access arrangements will follow an independent process although these need not be further considered by the court.

Planning requirements

[55] Under the Buller District Plan, the site is within a Rural Zone, being one of three zones within an (overall) Rural Character Area defined in the plan.

[56] Under the DP, the Te Kuha site is in the Rural Character Area and is a

¹¹ After the first application was declined in June 2018 in relation to the original proposal.

¹² The application was placed on hold pending proceedings in the senior courts in relation to matters of statutory interpretation. See *Rangitira Developments Ltd v Sage & Anor* [2020] NZHC 1503 and *Rangitira Developments Ltd v Royal Forest and Bird Protection Society of New Zealand Inc* [2020] NZSC 66.

restricted discretionary activity. This activity status is not altered by being identified as within an ONL.

[57] Provision 5.3.1.8 introduces the Rural Character Area provisions and states:

Within the Rural Character Area significant mineral resources exist. These resources have the potential to contribute to the social and economic wellbeing of the District. It is in the District's best interests that these be identified and where feasible be utilised, provided that the adverse effects are avoided, remedied or mitigated and having regard to the natural areas and habitats in the Rural Character Area. The rules provide for the prospecting, exploration and mining of mineral resources within the Character Area, subject to compliance with standards and District-wide rules.

[58] This area is described as being extensive extending from the coastal plains, inland up wide river valleys on river flats and terraces and includes extensive areas of both indigenous and introduced species forest.

[59] The Rural Zone covers a significant portion of the district and includes conservation land. Under this zone, mining and indigenous vegetation removal are classified as restricted activities, although the proposal triggers other district plan rules, triggering overall discretionary activity status when bundled.

[60] There is also a proposed district plan which is currently undergoing a rolling review of various chapters, and which commenced in 2015. That process has been overtaken by the preparation of a combined district plan (Te Tai o Poutini Plan) which is intended to cover the entire West Coast region, presently open for public consultation. No weight can be given to that plan at this early stage.

[61] Resource consents are required from the West Coast Regional Council and the Buller District Council covering a:

- (a) land use consent – for all mining and associated activities including earthworks, land disturbance and vegetation clearance, removal of

- overburden and coal, coal crushing and screening, construction of the access haul road, rehabilitation and construction and operation of a coal load-out site;
- (b) land use consent – to build structures and undertake activities in, on and over the beds of streams and creeks;
 - (c) water permit – for the diversion and taking of mine water, stormwater and groundwater from within the active pit, access and haul roads and overburden placement areas;
 - (d) discharge permit – for the discharge of treated mine water and stormwater from the treatment system to Camp and West Creeks;
 - (e) discharge permit – for the deposition of overburden, limestone sediment that may contain water treatment chemicals, soil, and other material to engineered landforms and overburden placement areas within the mine disturbance footprint; and
 - (f) discharge permit – for the discharge of dust, vehicle emissions and other fugitive emissions to air.

Activity status

[62] Bundled together over each of the relevant regional and district plans, the proposal retains discretionary activity status overall.

Overview of issues in dispute

[63] The primary matters in dispute relate to ecology and landscape, although there are differing opinions expressed on the economic effects of the proposal as well.

[64] A comprehensive suite of conditions is proposed to constrain the proposal and require the avoidance, remediation and mitigation of effects. Once those measures have been applied, the mitigation package proposes offset of and compensation for residual effects. Precisely which of the measures should be treated as remediation, mitigation or offsets in the ss 104(1)(a) and (b) context was

the subject of dispute between the parties as well.

Relevant planning instruments

[65] Planning/policy instruments required to be considered are:

- (a) the National Policy Statement for Freshwater Management 2020 (NPSFM);
- (b) the West Coast Regional Policy Statement 2020 (RPS);
- (c) the Regional Land and Water Plan (RLWP);
- (d) the Regional Air Quality Plan (RAQP);
- (e) the Operative Buller District Plan (DP); and
- (f) the Proposed Buller District Plan (pDP).

Rehabilitation

[66] Rehabilitation is clearly a key component of the proposal aimed at mitigating adverse effects. The plan for rehabilitation is based upon the work of Dr Simcock, who is one of New Zealand's rehabilitation specialists and has worked with other mining operations on the Buller coal plateau and elsewhere.

[67] Dr Simcock, who is an ecologist and soil scientist with Manaaki Whenua Landcare Research Limited, has been involved with researchers studying mine rehabilitation methods at opencast coal mines, including trials of different root zones, establishment of nursery-raised beech, and direct vegetation transfer with pakihī vegetation.

[68] Dr Simcock has applied best practice rehabilitation methods and techniques building on her experiences and results from other mining operations. She gave a description of the areas requiring rehabilitation, and the features of Te Kuha that influence the planned outcomes, including the soils. She explained:

- (a) how rehabilitation differs from restoration;

- (b) the proposed measures to avoid and minimise adverse effects;
- (c) the rehabilitation objectives, outcomes and methods;
- (d) management of the risks to achieving the rehabilitation outcomes; and
- (e) the closure criteria for terrestrial rehabilitation.

[69] Her evidence, along with the content of the rehabilitation plan, drew heavily on the expertise of Dr Ross, Dr Bramley, Dr Craig, Mr Toft, Mr Rough and Ms Rock (in relation to mine planning).

[70] The rehabilitation plan will incorporate direct vegetation transfer (DVT) as much as practicable. This involves transfer of sods directly from source to final placement. Because of the complexity of the existing ecosystem within the mine footprint, the opportunity for DVT is somewhat limited and recreating exactly what is there at present is not, and could not be, the goal.

[71] However, the rehabilitation plan will aim to restore natural processes which go as far as is reasonably practicable towards re-establishing similar ecosystems to those presently existing.¹³

[72] The overall goal of rehabilitation is to recreate five vegetation types and six habitat features for fauna within specified vegetation types, with the rehabilitated vegetation types encompassing the range of the vegetation associations currently present.

[73] The five types of ecosystems for rehabilitation are:

- (a) Herbfield;
- (b) Rockfield – comprising aspects of sandstone erosion pavement, gravel field, large rock outcrops and forested boulderfield;
- (c) Shrubland – aspects of taller coal measures, southern rata/mountain beech, shorter coal measures, mānuka scrub, mānuka wetland

¹³ Agreed by the ecologists.

- shrubland and mānuka scrub off coal measures;
- (d) Forest – including aspects of mountain beech/pink pine, rimu/hard beech, forested boulderfield; and
 - (e) Ephemeral wetland.

[74] In general terms, the rehabilitation outcome would involve lower stature vegetation predominantly on the shallower slopes rather than taller forested areas; rehabilitating the site with poorly drained soils so that moisture is retained, and by recreating wetlands in the rehabilitated footprint. However, the rehabilitated vegetation types encompass a range of vegetation associations currently present.

[75] Details of the rehabilitation methods and objectives to be achieved are addressed by Dr Simcock and Dr Ross in relation to soil quality and soil hydrology in particular, and will be discussed further on in this decision.

Off-site mitigation/compensation – proposed Te Kuha Biodiversity Management Area (TKBMA)

[76] The applicant has proposed a compensation package to address residual adverse effects, in the form of predator control targeting possums, deer, mustelids, feral goats, pigs, rodents, hares and wasps, to be undertaken in accordance with the Te Kuha Biodiversity Management and Enhancement Plan (the Predator Control Plan).

[77] Pest control is proposed within an area of more than 6,000ha for 35 years in the TKBMA connecting biodiversity management surrounding the mining area with the Denniston Biodiversity Enhancement Area further north. Target species are roroa, lizards, bryophytes, the forest ringlet butterfly, Helm’s stag beetle, the leaf veined slug, key vegetation species (including weeds) and mammalian predators and browsers.¹⁴

¹⁴ Bramley EIC vegetation at [255].

[78] There is little data available about the particular fauna values within the TKBMA and the data about vegetation are sparse and high level.¹⁵ Baseline surveys are proposed in the management plan.

Is the Predator Control Plan mitigation or compensation?

[79] In the s104 context, the applicant contends that the Predator Control Plan proposed for within the TKBMA can be considered to result in positive effects. the applicant also agrees that s104(ab) does not apply, due to the lodgement date of the original application.¹⁶ However, nothing much turns on that as the positive effects are able to be considered under s104(1)(a).

[80] The appellant contends that the offsetting measures proposed by the application can be considered to yield positive effects, albeit not as mitigation or offsetting of adverse effects, invoking support from the decision in *Royal Forest and Bird Protection Society of New Zealand Inc v Buller District Council*.¹⁷

[81] Mr Anderson drew on that decision as support for the position that mitigation does not include habitat enhancement outside the area where the habitat would be destroyed by a proposal.

[82] To give context to that proposition, the High Court had addressed an example of an opencast mining proposal that would destroy the habitat of an important species of snails which would be considered an adverse effect not mitigated by enhancing the habitat of snails elsewhere in the environment, while leaving open the possibility that such an arrangement could be considered to be mitigation where the population whose environment was to be destroyed was lifted and placed in the new environment.¹⁸

¹⁵ Bramley EIC vegetation at [253].

¹⁶ Due to the transitional arrangements in s2 Resource Legislation Amendment Act 2017.

¹⁷ [2013] NZRMA 293.

¹⁸ *Royal Forest and Bird Protection Society of NZ Inc v Buller District Council* [2013] NZRMA 293 at [72].

[83] Given that the overall activity status is discretionary, Mr Christensen submits that nothing much turns on how these measures are treated in the context of s104(1)(a).¹⁹

[84] However, while correct in the s104(1)(a) context, as we go on to explain, it does become necessary to distinguish between mitigation, remediation, offsets and compensation when considering these measures against the policy suite in chapter 7 of the RPS. These provisions contain an internal effects management hierarchy albeit with a gateway controlling entrance to the offsetting and compensation policies.

[85] Accordingly, we have marshalled our consideration of the s104(1)(a) adverse effects of the proposal within this policy framework as we are obliged to do.

[86] We acknowledge that in the context of s104(1)(b) the RPS is an instrument we are required to “have regard to” rather than “give effect to”, although we agree with the appellant that these provisions are deserving of considerable weight. We note that the RPS provisions are not yet reflected in either of the regional or district plans.

Key adverse ecological effects

[87] The following key issues to be decided by the court have particular relevance under Chapter 7 of the RPS and/or the NPSFM, and will be primarily considered in the context of that policy framework, although the wetland issues are primarily governed by the NPSFM and RLWP.

[88] The issues are:

¹⁹ The application was lodged prior to the introduction of this provision under the Resource Legislation Amendment Act 2017.

- (a) what are the ecological values affected by the proposal?
- (b) what is the nature and scale of the SNA?
- (c) is the proposed activity designed in a way that does not cause ‘the prevention of an indigenous species’ or a community’s ability to persist in their habitats within their natural range in the Ecological District? (RPS Policy 7.2(a));
- (d) is the proposed activity designed in a way that does not cause a reasonably measurable reduction in the local population of threatened taxa in the DoC Threat Categories 1 – nationally critical, 2 – nationally endangered, and 3a – nationally vulnerable? (RPS Policy 7.2(d));
- (e) whether the ecological effects can be avoided, mitigated, and compensated for? (RPS Policies 7.3-7.9);
- (f) does the proposed activity avoid loss of extent of natural inland wetlands? (RLWP and NPSRM).

Ecology witnesses

[89] Ecological evidence was presented by a number of experts on vegetation, avifauna, invertebrates, and rehabilitation, namely:

- (a) Dr Bramley, a consulting terrestrial ecologist appearing for the applicant;
- (b) Dr Simcock, an ecologist and soil scientist with Manaaki Whenua Landcare Research;
- (c) Dr Lloyd, a principal ecologist with Wildland Consultants, appearing for Forest and Bird;
- (d) Dr Gruner, a science and technical advisor at the Department of Conservation;
- (e) Ms McDonald, a science technician with the Department of Conservation;
- (f) Mr Patrick, a specialist in New Zealand moths and butterflies, appearing for Forest and Bird;

- (g) Dr Marshall, a technical advisor at the Department of Conservation;
- (h) Mr Chinn, a technical advisor at the Department of Conservation;
- (i) Dr Smith, a principal ecologist with Wildland Consultants, appearing for Forest and Bird;
- (j) Dr Craig, a retired professor of environment management at Auckland University.

Ecological context

[90] To provide a meaningful description of a site, it is useful to place it within its broader ecological context, particularly its status within the ecological district.²⁰ The Te Kuha mine site is located at the southern end of the Ngakawau Ecological District,^{21 22} within the North Westland Ecological Region, with parts of the access road and proposed coal loadout site located within the adjacent Foulwind Ecological District.²³ The mine site is within the Water Conservation Reserve and the access road in the Ballarat Conservation Area.

[91] Ngakawau Ecological District is characterised by the presence of Brunner coal measures – coal bearing rock formed 40-50 million years ago. The mine site overlies the southern-most outcrop of these Brunner coal measures.²⁴ Soils on the sandstones of the Brunner coal measures are very infertile, acidic (pH 4-4.97) and poorly drained. At higher altitudes, they become skeletal, i.e. shallow and without soil horizons, and in many places, un-weathered rock is exposed on the surface.²⁵

²⁰ EIANZ Guidelines.

²¹ Located mostly within the Ecological District (ED), based on the Director-General's remapping of ED boundary (Marshall EIC at [29]).

²² Ngakawau Ecological District covers approximately 48,750ha and most of ED remains in indigenous vegetation, with approximately 7,120ha of indigenous vegetation overlying coal measures (Bramley EIC vegetation at [41], [43], [54]).

²³ Bramley EIC vegetation at [35].

²⁴ Gruner EIC at [31].

²⁵ Gruner EIC at [33].

[92] The Te Kuha mine site is almost entirely covered in indigenous forest and shrubland. It is part of the extensive area of indigenous vegetation across the ecological district, and on the gently sloping Brunner coal measure landforms. Beyond the Ngakawau Ecological District this vegetation extends north to Mokihinui and beyond to Kahurangi National Park, east to the Lyell Range, Newton River and beyond, and south (across the Buller River) to the Paparoa Wilderness Area and Victoria Forest Park and beyond.

[93] The vegetation is predominantly indigenous, well connected, buffered from adjoining land uses, demonstrates ecological gradients and provides additional habitat for the suite of species which occur at Te Kuha.

Coal measures vegetation

[94] The vegetation affected by the proposed mining activities is largely coal measures vegetation on Brunner coal measures geology, although the proposed access road passes through taller forest that is not over coal measures geology.²⁶

[95] The Te Kuha coal resource is an outlier at the southern-most extent of the Buller Coal Plateau.²⁷ Te Kuha area is the only area in New Zealand where Brunner and older Paparoa coal measures occur together. Within the mine site, Brunner coal measures are the dominant surface rock. The underlying Paparoa coal measures are exposed in a narrow band along its south-eastern boundary.²⁸

[96] Coal measures parent material develops acidic and infertile soils. Combined with altitudinal elevation and poor drainage in a cool, wet and windy environment, this creates distinctive vegetation, with respect to species composition and

²⁶ Lloyd EIC at [37].

²⁷ 'Buller Coal Plateau' is defined in the JWS Flora and refers to elevated areas of coal measures vegetation. This includes the Stockton Plateau, the Denniston Plateau, the land between Stockton and Denniston, the western slopes of the range between Mt Rochfort and Te Kuha, the upper Waimangaroa Valley and the western slopes of the Mt William Range as defined in the 2013 – 2015 'Buller Plateau' discussions, and as shown in Figure 2 to Dr Bramley's vegetation evidence.

²⁸ Gruner EIC at [32].

structure (typically low growing). The vegetation growing on the coal measures is referred to by the ecologists as coal measures vegetation.

[97] The coal measures vegetation in the Ngakawau Ecological District is characterised by a mosaic of tussock land, manuka shrubland, distinctive low forest and is very different from the taller forest on surrounding granite, gneiss and greywacke.²⁹ It includes alpine and subalpine species not usually found at this altitude.³⁰

[98] The total extent of Brunner coal measures on the West Coast is approximately 26,585ha distributed in patches of varying size between Golden Bay and Ross, with the majority located within or near the Buller Coal Plateau, and within the Ngakawau Ecological District.

[99] Te Kuha is separated from the nearest similar coal measures ecosystem at Mt Rochfort by approximately 2.5km.³¹

Ecological values of Te Kuha site

[100] The Te Kuha ridgeline forms the southern portion of a coastal escarpment which extends from the Buller River north to the Ngakawau River and is less than 10km from the sea. It faces west with mostly gentle slopes (<18°), with the highest point on the ridgeline reaching 805 m asl. A small portion of the application area lies on the other side of the ridgeline with steep slopes of 30-40° facing south-east.³² The Te Kuha site (c.500-800 metres above sea level) is at lower elevation compared to some other parts of the Buller Coal Plateau.

²⁹ Bramley EIC vegetation at [40]-[41]; McEwan M. 1987: The Ecological Regions and Districts of New Zealand – referred to in Marshall EIC at [33].

³⁰ Bramley EIC vegetation at [42].

³¹ Lloyd EIC at [172].

³² Gruner EIC at [30].

[101] The ecologists agreed with Dr Bramley's description that the habitats at Te Kuha within and surrounding the mine site are almost entirely natural (except for the presence of exotic mammals) and have a high degree of intactness and ecological integrity with a near absence of exotic plant species and a relatively low number of exotic bird and invertebrate species.

[102] The ecological evidence discussed the distinctiveness and uniqueness of the coal measures vegetation and the ecological values at Te Kuha, and whether there were species and habitats found only at Te Kuha or whether the values were shared with other parts of the Brunner coal plateau.

[103] As described by Dr Bramley, the vegetation and fauna at the mine site and more generally at Te Kuha have features in common with habitats across the Buller Coal Plateau. In comparison with Stockton and Denniston, Te Kuha has experienced little human disturbance with differences in abundance of bryophyte, lichen and invertebrate communities, and some plants being more abundant at Te Kuha (e.g. Parkinson's rata).³³

[104] Dr Lloyd describes these features as differentiating Te Kuha and being much more intact and natural than the Denniston and Stockton Plateaux.³⁴

[105] Dr Lloyd describes the Denniston and Stockton Plateaux as having been significantly and extensively modified by historic disturbance, with fire and open cast mining removing large areas of former coal measures vegetation and significantly modifying the original vegetation structure and composition, and with a range of exotic plant species having invaded widely over these areas.

[106] Dr Lloyd describes the Te Kuha site as differing strongly from the Denniston and Stockton Plateaux in that it is primarily covered with indigenous forest and scrub. In comparison, the Denniston and Stockton Plateaux now

³³ Bramley EIC vegetation at [51]-[52].

³⁴ Lloyd EIC at [60].

support extensive areas of open rock and coal measures grassland on gently sloping plateau landforms, with intact forest often limited to fire refuges in incised gullies.³⁵

[107] Dr Gruner explains that a key feature of the biodiversity of the Te Kuha area is the high degree of connectivity at a landscape scale. Indigenous ecosystems are contiguous from below 100 m asl near the coast and the Buller River up to the ridgeline at 800 m asl, and then east into the Cascade Creek catchment. She describes the gradient of ecosystems on the western slopes as an important feature as it represents an intact altitudinal sequence of ecosystems on the coastal slopes of the Ngakawau Ecological District. In most other places these gradients have been disturbed, especially at higher altitudes, by coal mining and other development.³⁶

[108] Dr Bramley views the vegetation intersected by the mine as part of a larger area of significant vegetation, and that other similarly high value areas of coal measures vegetation, which are representative and intact, include Mt William, parts of Denniston Plateau (south of Whareata Gorge, including the gorge itself), parts of Stockton Plateau (Solid Energy Deed area) and areas in between (extensive parts of Deep Creek catchment), and Mt Rochfort (with wider altitudinal range and higher diversity).^{37 38}

Vegetation/flora values

[109] The diversity of vegetation and habitat types present at the mine site is described in the evidence and summarised here.

[110] The Te Kuha site supports significant flora values, with a high degree of diversity from tall forest and stunted forest, over dense scrub and open shrubland to low wetland and herbfield vegetation. Evidence from tree cores is that sampled

³⁵ Lloyd EIC at [63]-[64].

³⁶ Gruner EIC at [34]-[35].

³⁷ Bramley EIC at [100].

³⁸ Transcript p 519.

pink pine at Te Kuha is mostly 400-500 years old, with mountain beech, pahautea (*Libocedrus bidwillii*), and yellow-silver pine as good evidence of the stability of similar forest at Te Kuha for several hundred years.³⁹

[111] Fourteen ecosystem/vegetation types (and their key characteristics) were described by the ecologists in the JWS.

[112] A high number of vascular plant species have been recorded in the area. A number of “Threatened” and “At Risk” vascular and non-vascular plant species have been identified, including bryophytes and lichens. These are collectively referred to as species of conservation concern in the JWS.⁴⁰

[113] Vascular species of conservation concern which occur at Te Kuha include *Euphrasia wettsteiniana*, *Mitrasacme montana* var. *helmsii*, *Dracophyllum densum*, *Gleichenia inclusisora*, *Carex carsei* and *Metrosideros parkinsonii*.⁴¹

[114] Dr Lloyd observed *Mitrasacme montana* var. *helmsii* (Threatened – Nationally Endangered) in a rock crevice on a sandstone boulder on the main ridge in the eastern part of the proposed mine site, and *Astelia subulata* (At Risk – Naturally Uncommon) on sandstone erosion pavement on the eastern margin of the proposed mine site.⁴² *Mitrasacme montana* var. *helmsii* is endemic to northern Westland, mainly on the Denniston and Stockton Plateaux, but also with rare occurrences on the Paparoa Range.

[115] Parkinson’s rata (*Metrosideros parkinsonii*; Threatened - Nationally Vulnerable) is relatively common within forest at Te Kuha, whereas it is only sparsely present in forest on the Denniston and Stockton Plateaux.

³⁹ Lloyd EIC at [139].

⁴⁰ This means species which are regarded as ‘threatened’ or ‘at risk’ in the latest DoC status update.

⁴¹ Bramley EIC vegetation at [22].

⁴² Lloyd EIC at [110].

[116] The Buller Coal Plateau is recognised as providing nationally important habitats for bryophyte (moss and liverwort) species.⁴³ Data for Te Kuha is more extensive than other parts of the plateau. It is described as having an unusually rich and diverse bryophyte flora, providing habitat for a number of Threatened and At-Risk taxa⁴⁴ including the threatened liverwort species (*Pseudolopocles denticulate* (Threatened - Nationally Critical).

[117] Key habitats for bryophytes are coal measures forest, mānuka shrubland, and wire rush wetland. The ‘block forest’ (forest on sandstone boulderfield) at Te Kuha was considered a critically important habitat for bryophytes because of the deep, permanently moist gaps between large sandstone blocks beneath the forest canopy.⁴⁵ A 2015 report identified the Te Kuha ridgeline as the habitat for the unusually luxuriant bryophyte cover, with forested boulderfields and other ecosystems, forming bryophyte boulder field mat communities.

[118] The forested boulderfield habitat is described as being unique in New Zealand. Data from surveys in 2017 north of the mine site indicate that there may be similar boulderfield habitats here, where the nationally critical liverwort species has been found, however this requires further work to confirm.⁴⁶

Fauna – avifauna

[119] Te Kuha is described as having a relatively intact avifauna in terms of species composition and the habitats within and surrounding the mine site are almost entirely natural.⁴⁷ Te Kuha supports comparable species richness to the tall forests of the Heaphy Valley.⁴⁸

⁴³ Bramley EIC vegetation at [45].

⁴⁴ JWS Terrestrial flora.

⁴⁵ Lloyd EIC at [129]-[130].

⁴⁶ Transcript p 228.

⁴⁷ Bramley EIC Fauna at [36] and [37].

⁴⁸ McDonald EIC at [39].

[120] All (fauna-avifauna) experts agreed that the following bird species of conservation concern are present within the mine site: roroa (Great Spotted kiwi), New Zealand Falcon, South Island Fernbird, New Zealand Pipit, South Island robin, Kea, Kaka, Black shag, and Long-tailed cuckoo. All agree that the site provides part of a significant habitat for roroa (*Apteryx haastii*) (Threatened – Nationally Vulnerable). Kaka are likely to visit the area and Australasian bittern may also be present.

[121] The mosaic of diverse habitat types present in the coal measures ecosystem at Te Kuha creates an unusual situation where forest birds, such as robin (*Petroica australis*) and rifleman (*Acanthisitta chloris*), live alongside fernbirds (*Bowdleria punctata*) residing in open scrub, next to sparsely vegetated habitats preferred by pipits (*Anthus novaeseelandiae*).⁴⁹

[122] Ms McDonald undertakes the monitoring of the Director-General's 1080 operations on the West Coast.⁵⁰ She considers the roroa population at Te Kuha is distinctive as roroa display genetic isolation by distance, and the roroa at Te Kuha are at the southern limit of the Westport population.⁵¹ She considers there are up to 10 pairs of roroa in the Te Kuha area and the ephemeral wetland and lower gradient areas could provide good foraging habitat. She confirmed that the plateau up to Denniston provides a continuum of habitat for roroa. Stoats are a major predator of roroa and the 1080 control programme in the New Creek area is specifically targeted to protecting roroa.⁵²

Fauna – invertebrates

[123] All experts were agreed that the mine footprint is part of a 'significant habitat' and refuge for:

⁴⁹ McDonald EIC at [37].

⁵⁰ Transcript p 751.

⁵¹ McDonald EIC at [59].

⁵² Transcript pp 756-758.

- (a) Forest Ringlet butterfly;
- (b) undescribed leaf-veined slug ('Slug');
- (c) Tiger beetle.⁵³

[124] It is likely to be a habitat for other, as yet undiscovered invertebrates as well.

Forest Ringlet Butterfly

[125] The forest ringlet butterfly is New Zealand's rarest butterfly (ranked as At Risk – Relict).⁵⁴ All experts agree with Mr Patrick, a specialist in New Zealand moths and butterflies, that the footprint of the mine site is the largest-known population of the forest ringlet butterfly remaining nationwide (as in the last decade the butterfly's spatial extent was much wider).⁵⁵

[126] Mr Patrick considers the population at Te Kuha is nationally significant. He describes the habitat that it occupies as an intact, extensive, and high-quality natural example of its habitat. It is iconic and the only species within a genus that is only found in New Zealand. Its disappearance has been documented from large areas across the North Island. Mr Patrick discovered the population at Denniston years ago and considers the population there is disappearing.⁵⁶

Invertebrates

[127] The array of invertebrates found within the proposed Te Kuha mine footprint include an assemblage of species characteristic of the north-western

⁵³ JWS Invertebrates and entomology.

⁵⁴ Patrick EIC – recommended increased threat status to Threatened - Nationally Vulnerable (at [58] and [59]).

⁵⁵ Patrick EIC at [20] and JWS Invertebrates and entomology.

⁵⁶ Transcript pp 652-653.

South Island, mixed with main divide-western South Island species, and more widespread species.

[128] Added to this mix is an undescribed leaf-veined slug which, at this point in time, is only known from within the proposed mine footprint, making it potentially a locally endemic species and therefore making Te Kuha unique for its invertebrate assemblage.⁵⁷

[129] Distributions of the undescribed slug, snail and tiger beetle species in the wider landscape, both within the Ngakawau Ecological District and North Westland Ecological Region, are unknown, and information on these and many other invertebrate groups is limited in terms of biogeography and conservation.⁵⁸

[130] There is a paucity of knowledge of the invertebrates in the areas surrounding Te Kuha, in the wider Ngakawau Ecological District, and North Westland Ecological Region.⁵⁹

Offsetting and compensation – the Predator Control Plan

[131] Our consideration of s104(1)(a) effects will be undertaken within the policy framework of Chapter 7 of the RPS which follows the effects management hierarchy. However, we also need to understand which measures are proposed as mitigation and which are offsets and compensation, as offsets and compensation cannot be considered in Policy 7.2 of the RPS as we discuss in following sections of this decision.

[132] As Mr Christensen notes, nothing much turns on how these measures are understood under s104(1)(a) as a discretion exists to consider any positive effect.

⁵⁷ Patrick EIC at [18].

⁵⁸ Patrick EIC at [43].

⁵⁹ Patrick EIC at [48].

What are the offsets and compensation measures proposed?

[133] A compensation package of pest control in the TKBMA is proposed to address the residual effects of the activity including the uncertainty of the mitigation and rehabilitation.

[134] Ms Mealey, a Technical Advisor in Ecology at the Department of Conservation, sets out the effects management measures proposed. She agrees with the applicant that remediation includes vegetation direct transfer, habitat creation, weed control, rehabilitation.⁶⁰ Mitigation includes plant salvage, lizard salvage, ro-roa relocation, new salvage techniques for bryophytes and important plant species.

[135] After taking into account the mitigation and remediation actions Dr Bramley explains that there will still be residual adverse effects on the ecological intactness and connectivity of the site, with significant effects on coal measure vegetation, invertebrates, bryophyte communities and some other species.

[136] Dr Bramley considers that the long-term loss of, or significant changes to, the coal measures vegetation (including bryophyte communities), ecological integrity and connectivity cannot be formally offset, as it is not possible to replace the fine scale mosaic of physical conditions which gives rise to the full range of variations in vegetation.⁶¹ He concludes that there will be a net loss of coal measures vegetation and bryophyte communities.⁶²

[137] The Predator Control Plan would comprise management for 35 years of over 6,000ha of indigenous forest, scrub, shrubland including coal measures vegetation, adjacent to the mine site. Pest control would be via hunting, trapping

⁶⁰ Mealey EIC at Table 1.

⁶¹ Bramley EIC vegetation at [243].

⁶² Bramley EIC vegetation at [245].

and poison bait stations. The TKBMA would adjoin managed areas at Mt Rochfort.

[138] All ecologists agreed that the TKBMA is a good place for compensation of residual effects to happen.⁶³ The location is in line with best practice as it contains similar ecology, is adjacent to the impact site and connects with other ecologically managed areas.⁶⁴ There was however some concern that the effects of the proposal would last for longer than the 35 years of the proposed management and that there is a lack of baseline data to consider if gains will be achieved.

[139] Ecologists also agreed that there are significant residual adverse effects and that these effects cannot be effectively offset. What was not agreed was whether the measures proposed for the TKBMA can be considered as a package of mitigation as well as compensation.

[140] Dr Bramley describes it as a package of mitigation, offsets and compensation, proposing high intensity mitigation actions as well as ecological compensation to account for residual effects.⁶⁵

[141] Ms Mealey considers the Predator Control Plan is compensation and not mitigation, as mitigation minimises activity at the site of impact and pest control seeks to enhance biodiversity rather than reduce an effect. She considers the TKBMA abuts the footprint but is not the site of impact.

[142] Dr Baber agreed with the ecologists for Forest and Bird and Department of Conservation, that biodiversity offsetting principles should be adhered to.

[143] The TKBMA was considered by all the ecologists to be big enough, however ecologists for the appellant and Forest and Bird considered that it was

⁶³ JWS Avian fauna.

⁶⁴ Mealey EIC at [16].

⁶⁵ Bramley EIC vegetation at [29].

not clear what the additional benefits would be. They considered there was a lack of detail as to how the pest control would be achieved and what benefits it would have to biodiversity.

New Zealand guidance on offsetting

[144] New Zealand guidance on offsetting is derived from the Business and Biodiversity Offsets Programme (BBOP)⁶⁶ which explains that mitigation addresses effects at the point of impact, whereas biodiversity offsetting seeks to address the residual effects on biodiversity at one site by improving the state of biodiversity at another site.

[145] The aim is to achieve no net loss and preferably a net gain. The biodiversity values being lost and gained (exchanged) should be the same, or in other words, these should be a 'like for like' exchange of values. The gain should also be quantifiable according to BBOP.⁶⁷

[146] The BBOP further states that:

Biodiversity Compensation seeks to provide a positive outcome (gain) for biodiversity that is commensurate to the biodiversity lost. Compensation is the final action in the effects management hierarchy (the last resort), as it carries the most risk with regard to biodiversity outcomes. It is typically undertaken away from the impact site.

Limits to offsets

[147] We accept that there are limits to offsets. The applicant's experts applied the Pilgrim evaluation in determining the likely success of an offset measure.

⁶⁶ Business and Biodiversity Offsets Programme established by a not-for-profit organisation in the United States in 2004, operating at an international scale, although it was not universally applied by the parties and nor has it been adopted by any of the RMA instruments we are concerned with.

⁶⁷ Biodiversity offsetting under the Resource Management Act. A guidance document 2018.

Broadly speaking, this analysis conceptualises offsetability, combining biodiversity values and the likelihood of offset success. The evaluation incorporates a sliding scale; the lower the conservation values involved, the greater the ability that a measure will qualify as an offset.

[148] This has to be decided case by case. Equally, (provided extinction of a species is not an outcome) the higher one gets towards irreplaceable values or highly vulnerable values, the harder it becomes to demonstrate that a measure is within the limits to offsets.

[149] The Offsets/Compensation JWS states that “to qualify as a biodiversity offset, the action taken to secure the biodiversity gain must adhere to the matters listed in Policy 7.4(c) of the RPS”. While that is said in the context of the policy evaluation context (per s104(1)(b)), we have applied that stricture to our consideration of the offset as a positive effect (per s104(1)(a)).⁶⁸

Our evaluation of the Predator Control Plan

[150] The Predator Control Plan has been proposed by the applicant as a mixed mitigation/offset/compensation package, whereas ecologists for the appellant and Department of Conservation consider it to be strictly compensation and not offsets or mitigation.

[151] The Predator Control Plan would be providing positive effects in the form of compensation for the residual adverse effects of the project, and to address the uncertainty of the success of remediation and rehabilitation. Remaining residual adverse effects include effects on coal measure vegetation, bryophyte communities, some vascular and nonvascular plant species and one lichen species.

[152] For roroa and other avifauna there will be benefits of the proposed pest

⁶⁸ While noting that contradictory conclusions could possibly be reached were we not to undertake our evaluation in that manner.

control and this will extend across the management area. The design of the TKBMA follows best practice and is adjacent to and abuts the Te Kuha site. The disagreement amongst the ecologists appears to be whether the pest control will have benefits over and above the 1080 control already undertaken by Department of Conservation in the area, and what the benefits for biodiversity will be.

[153] The local population of roroa and other bird species will be impacted in the short term by the loss of habitat however roroa are likely to recolonise the rehabilitated habitat and to benefit from the additional pest control within the local area and across over 6,000ha.

[154] There will be residual adverse effects which cannot be offset, on coal measure vegetation, invertebrates, bryophyte communities and threatened vascular and non-vascular plant species. While presented as a mixed package, the Predator Control Plan and the pest control in the TKBMA is proposed as compensation for addressing these residual effects, including on avifauna.

[155] There is uncertainty as to the benefits of the Predator Control Plan for addressing effects on these values. As we discuss later in the decision compensation for these effects cannot be considered under the RPS.

Biodiversity Compensation Model – discussion

[156] A Biodiversity Compensation Model (BCM) was developed by the applicant’s ecologists in response to what Mr Christensen described as criticism from the ecologists from the appellant and DoC about the type and amount of the mixed mitigation/offset/compensation package proposed. These parties contended that the package could not include a biodiversity offset component because the evidence supporting the same did not include a ‘loss gain calculation’.⁶⁹

[157] This criticism stems from the second principle of “additionality” derived

⁶⁹ Bramley rebuttal biodiversity offsets/compensation modelling at [2].

from BBOP. However, this criticism was strongly refuted by the applicant's experts, who noted that:

- (a) simply undertaking a modelling exercise in relation to the effects on the habitats of avifauna does not turn compensatory measures into offsets;
- (b) there is no requirement for a model to be used in order to establish an offset;
- (c) it is sufficient that there is an "explicit statement of losses and gains and the principle of 'like-for-like' must be complied with".

[158] While we might be inclined to agree with the applicant, we note that as a further response to Ms Mealey's criticism of the characterisation of the pest control measures as offsets, Dr Baber had undertaken a modelling exercise using the BCM to look at what could be expected as outcomes of the post control measure for the bird species. He preferred to call the entire package compensation, although that did not mean that consideration of offsets had simply been skipped.⁷⁰

[159] Dr Baber explained that the specific Biodiversity Offset Accounting Model (BOAM) advocated by the experts was incapable of practical application given the absence of sufficient quantitative information required for qualifying as an offset.⁷¹

[160] The experts had a fundamental disagreement on the applicant's use of the BCM model. They could not agree on the data inputs into the model, or more fundamentally, the mathematical precision of the model or its transparency, despite further conferencing directed by the court.

[161] The appellant called Dr Giejsztowt, a highly qualified expert with technical expertise as a statistician and conceptual ecologist, and with extensive experience

⁷⁰ Baber rebuttal at [58].

⁷¹ Baber rebuttal at [58].

in the development and use of mathematically formalised concepts for input into statistical models in an ecological context.

[162] Dr Giejsztowt was engaged to peer review the applicant's use of the BCM, after the evidence was exchanged and after the ecologists had caucused, during which the BCM was introduced. Dr Giejsztowt was also highly critical of the applicant's use of the BCM. Her evidence was that in comparison to mathematical models, the BCM is not a tool that is "fit for purpose" in the context of the applicant's proposal, or more widely, because:

- (a) it is highly sensitive to input error given that it is reliant on expert opinion rather than measurable ecological parameters as inputs;
- (b) it is not transparent;
- (c) it has been erroneously parameterised by Dr Baber;
- (d) it is structurally and conceptually flawed, as the mathematical formulation within the tool leads to the use of ecological evaluations that under-represent existing ecological value and over-estimate the relative value of the particular interventions; and
- (e) it is a tool of impermissibly low standard in the wider context of the discipline of ecological modelling.

[163] The court explained to the parties that it could not make a decision on the dispute over the construction and functionality of the BCM or whether a BOAM should be used, as raised in the evidence of Dr Giejsztowt, as it is not within the court's functions or expertise. Accordingly, we directed further caucusing of the experts at the start of the hearing anticipating a narrowing of the issues between the experts on what are complex and technical issues regarding the applicant's use of the BCM.

[164] As it transpired, little progress was made and agreement was limited to the following:

- (a) that the inclusion of some kind of confidence interval or standard

- error would improve transparency of the BCM;
- (b) that like for unlike trades, e.g. trading birds for vegetation and invertebrates, sits outside the model;
 - (c) there is a need for more stringent definitions around input values, with the majority agreeing that transparency would be increased if real world values were used;
 - (d) that a standardised methodology for presenting results in the context of model error and assumptions is needed.

[165] For the applicant, Mr Christensen had opened on the basis that as there is no statutory or policy requirement to use any type of model to demonstrate the acceptability of a proposed biodiversity offset, it was sufficient to rely on the expert evidence from Dr Bramley about the appropriateness of the proposed offset compensation measures.

[166] Mr Christensen referred to other Environment Court decisions where the use of biodiversity offset modelling had been proposed, including a decision on the Escarpment Mine⁷² where differing circumstances were said to apply.⁷³

[167] Escarpment Mine approached its use with caution, stating that the court was not the forum to settle vigorous technical scientific debates between ecologists as to the appropriate methodology for use of the model then proposed.⁷⁴

[168] Given the extent of disagreement amongst the experts over the applicant's use of the BCM used by the applicant, we have come to the same conclusion as in Escarpment Mine. Accordingly, we are left with the competing opinions of the ecology experts on the likelihood of the expected outcomes and have come to a

⁷² *West Coast Environmental Network Inc v West Coast Regional Council and Buller District Council* [2013] NZEnvC 47

⁷³ Applicants opening submissions at [204].

⁷⁴ *West Coast Environmental Network Inc v West Coast Regional Council and Buller District Council* [2013] NZEnvC 47 at [218]-[220].

decision based on that body of expert opinion evidence with no further reference to the use of the BCM.

RPS – relevant policies on ecological issues

[169] As earlier noted, the RPS is critical to our evaluation of the adverse ecological effects of the mining proposal. In the context of this proposal, they are important provisions in the s104(1)(b) context, given that they are yet to be given effect to in either the regional or district plans.

[170] Chapter 7 of the RPS sets the objectives and policies to identify SNAs, achieve the protection of SNA, and maintain indigenous biodiversity.

[171] The chapter 7 policies implement objectives which (relevantly) are to:

- (a) identify in regional and district plans, and through the resource consent process, areas of significant indigenous vegetation and significant habitats of indigenous fauna in a regionally consistent manner (Objective 1); and
- (b) protect significant indigenous vegetation and significant habitats of indigenous fauna (Objective 2); and
- (c) provide for sustainable subdivision, use and development to enable people and communities to maintain or enhance their economic, social and cultural wellbeing in areas of significant indigenous vegetation and significant habitats of indigenous fauna.

[172] All three objectives are implemented by Policies 7.1-7.6.

[173] In light of the foregoing ecological background, it is relevant to consider closely the wording of Policy 7.2 of the RPS and its relationship with subsequent Policies 7.3, 7.4 and 7.5.

[174] Policies 7.1, 7.2, 7.3, 7.4, 7.5 state as follows:

Policy 7.1:

- a. Areas of significant indigenous vegetation and significant habitats of indigenous fauna will be identified using the criteria in Appendix 1; they will be known as Significant Natural Areas (SNAs), and will be mapped in the relevant regional plan and district plans.
- b. Significant wetlands will be identified using the criteria in Appendix 2; they will be known as Significant Natural Areas (SNAs), and will be mapped in the relevant regional plan.

Policy 7.2: Activities shall be designed and undertaken in a way that does not cause:

- a. The prevention of an indigenous species or a community's ability to persist in their habitats within their natural range in the Ecological District; or
- b. A change of the Threatened Environment Classification to category two or below at the Ecological District Level; or
- c. Further measurable reduction in the proportion of indigenous cover on those land environments in category one or two of the Threatened Environment Classification at the Ecological District Level; or
- d. A reasonably measurable reduction in the local population of threatened taxa in the Department of Conservation Threat Classification Categories 1 – nationally critical, 2 – nationally endangered, and 3a – nationally vulnerable.

Policy 7.3: Provided that Policy 7.2 is met, when managing the adverse effects of activities on indigenous biological diversity within SNAs:

- a. Adverse effects shall be avoided where possible; and
- b. Adverse effects that cannot be avoided shall be remedied where possible; and
- c. Adverse effects that cannot be remedied shall be mitigated;
- d. In relation to adverse effects that cannot be avoided, remedied or mitigated, biodiversity offsetting in accordance with Policy 7.4 is considered; and
- e. If biodiversity offsetting in accordance with Policy 7.4 is not achievable for any indigenous biological diversity attribute on which there are residual adverse effects, biodiversity compensation in accordance with Policy 7.5 is considered.

Policy 7.4: Provided that Policy 7.2 is met, and the adverse effects on a SNA cannot be avoided, remedied or mitigated, in accordance with Policy 7.3, then consider biodiversity offsetting if the following criteria are met:

- a. Irreplaceable or significant indigenous biological diversity is maintained; and
- b. There must be a high degree of certainty that the offset can be successful delivered; and
- c. The offset must be shown to be in accordance with the six key principles of:
 - i. **Additionality:** the offset will achieve indigenous biological diversity outcomes beyond results that would have occurred if the offset was not proposed;
 - ii. **Permanence:** the positive ecological outcomes of the offset last at least as long as the impact of the activity, preferably in perpetuity;
 - iii. **No-net-loss:** the offset achieves no net loss and preferably a net gain in indigenous biological diversity;
 - iv. **Equivalence:** the offset is applied so that the ecological values being achieved are the same or similar to those being lost;
 - v. **Landscape context:** the offset is close to the location of the development; and
 - vi. The delay between the loss of indigenous biological diversity through the proposal and the gain or maturation of the offset's indigenous biological diversity outcomes is minimised.
- d. The offset maintains the values of the SNA.

Policy 7.5: Provided that Policy 7.2 is met, in the absence of being able to satisfy Policies 7.3 and 7.4, consider the use of biodiversity compensation provided that it meets the following:

- a. Irreplaceable or significant indigenous biological diversity is maintained; and
- b. The compensation is at least proportionate to the adverse effect; and
- c. The compensation is undertaken where it will result in the best practicable ecological outcome, and is preferably:
 - i. Close to the location of development; or
 - ii. Within the same Ecological District; and
- d. The compensation will achieve positive indigenous biological diversity outcomes that would not have occurred without that compensation; and

- e. The positive ecological outcomes of the compensation last for at least as long as the adverse effects of the activity; and
- f. The delay between the loss of indigenous biological diversity through the proposal and the gain or maturation of the compensation's indigenous biological diversity outcomes is minimised.

[175] All parties agree that Policy 7.2 operates in the form of a 'gateway' to the application of policies that follow in this policy suite. The appellant goes further and contends that this policy sets 'bottom lines' that dictate the outcome of the consenting process, such that if the policy is not met, consent for the proposal must be declined regardless of whether other policies support a grant of consent.

Significant Natural Areas (SNAs)

[176] Neither the regional nor district plans have mapped SNAs in accordance with Policy 7.1 RPS. Accordingly, an SNA affected by a proposal is left to be identified through the resource consent process. Absent that identification, the remaining policies cannot be applied in any meaningful way.

[177] It was clear that much of the ecologists' evidence had not followed the policy direction in the RPS to identify SNAs in a regionally consistent manner before considering the remaining Chapter 7 policy suite. The evidence (including the relevant discussions in the JWS) focused primarily on values *within and around* the footprint of the Te Kuha site; whether these values are significant; and the effects of the mining proposal on those values.⁷⁵

[178] The ecologists all agree⁷⁶ that the Te Kuha mine footprint is part of and includes areas of significant indigenous vegetation which meet significance

⁷⁵ The ecologists define the 'mine site' or 'footprint', as that area and including the access road which is impacted by physical works, but not including surrounding areas impacted by 'edge effects'. 'Te Kuha' was defined by the ecologists as the mining footprint and surrounding areas between approximately the Buller River and the peak south of Mt Rochfort, and including (but not limited to) the Mining Permit area (JWS Terrestrial Flora).

⁷⁶ JWS Terrestrial flora.

criteria.⁷⁷ There were however divergent opinions regarding the scale and extent of the relevant SNA that the Te Kuha site is a part of. The ecologists also disagreed about the scale for assessing the ecological effects of the proposal including for the purposes of considering the remaining Chapter 7 policy suite.

What is the extent of the SNA?

[179] The ecologists for Forest and Bird and the Director-General consider that the vegetation on the mine site at Te Kuha is the area of significant indigenous vegetation and significant habitat of indigenous fauna.

[180] In contrast, the ecologists for the applicant consider the mine site is part of a larger SNA encompassing the coal measure vegetation and adjoining vegetation across the plateau.

[181] Dr Bramley considered that the sole area of significant vegetation affected by the proposal is the coal measures vegetation which extends across the plateau, excluding areas mined.⁷⁸ During the hearing he produced a map that identified the extent of this SNA area. This extends from Te Kuha to the Mokihinui River (45km to the north) and covers over 31,000ha.⁷⁹ Dr Bramley's mapping was based upon the mapping of the coal measures geological layer.

[182] Dr Marshall identified approximately 650ha at Te Kuha as SNA, including the coal measure vegetation within and outside the mine footprint and the altitudinal gradient from the top of the ridgeline to 20 m asl, incorporating an area of lowland forest in the Foulwind Ecological District.^{80 81}

⁷⁷ In Appendix 1 of the RPS.

⁷⁸ Bramley EIC vegetation at [54].

⁷⁹ Transcript p 522.

⁸⁰ Marshall EIC at [66] and Fig 1.

⁸¹ Marshall supplementary evidence at [7].

[183] Dr Lloyd defined a 470ha area of coal measures vegetation and habitat at Te Kuha as significant although his focus was on the site at Te Kuha where the mining activities are proposed. He excluded areas that have been affected by historic fires at Te Kuha.⁸²

[184] Dr Lloyd was critical of Dr Bramley's map as it was unclear to him as to the distribution of the significant values within the entire mapped area. He considered that the distribution of indigenous fauna remains unclear (e.g. lizards, Powelliphanta snails and other invertebrates).

[185] He also considered that it failed to reflect the variation within the SNA in terms of the condition of coal plateau ecosystems in that some areas are very intact and others quite modified.⁸³ He considered that the geological maps should not be used as the basis for identification of an SNA as it is not accurate as the coal measures vegetation which exists outside of the mapped area of coal measures.

[186] Dr Marshall agreed that vegetation on the coal measures is a nationally significant feature. The ecological district is the only district in New Zealand defined by coal measures. It is highly unlikely that any of the coal measures vegetation, except areas that are modified, would not be significant.

[187] However, Dr Marshall explained that if she was to map the SNA, this would more likely involve a series of SNAs that incorporated more than just coal measures vegetation values incorporating habitat for threatened species of fauna which are not captured by coal measures vegetation. She would consider other ecological values such as temperature and altitudinal gradients as also influencing the boundaries of an SNA.⁸⁴

⁸² Lloyd EIC at [221]-[222], Fig 7.

⁸³ Transcript pp 560-561.

⁸⁴ Transcript p 740.

[188] Dr Bramley confirmed the area he had mapped as SNA includes areas of exotic forest⁸⁵ and areas of gorse and pasture. He accepted that these could be excluded by mapping a series of smaller SNAs following the extent of the coal measures vegetation.⁸⁶

[189] The avifauna experts agreed that the proposed mine footprint at Te Kuha forms part of a wider SNA for roroa habitat.⁸⁷

[190] Mr Chinn mapped habitat for invertebrates extending across the plateau including Stockton and Denniston. He considered the Te Kuha area habitat more intact and less disturbed than areas outside of this as depicted on Dr Bramley's map.⁸⁸ He confirmed that there are similar invertebrates found across the alpine and subalpine areas of the plateau and Paparoa Ranges, but with differences in population composition and genetic differences within a species between populations.⁸⁹

[191] We heard that the Escarpment Mine decision defined the Denniston plateau as an area of high significance, as a 1,750ha feature, although we note that the decision predates the current version of the RPS.⁹⁰

Our evaluation of competing SNAs

[192] We accept the submission that there is no minimum or maximum size for an SNA, as significance is a relative term and should not be determined by reference to numbers or class size but by value/s.⁹¹

⁸⁵ Transcript p 508.

⁸⁶ Transcript p 523.

⁸⁷ JWS Avian fauna p 7.

⁸⁸ Transcript pp 776-777.

⁸⁹ Transcript p 774.

⁹⁰ Director-General of Conservation closing submissions at [23].

⁹¹ Director-General of Conservation closing submissions at [13].

[193] We consider that the area of significant indigenous vegetation and significant habitat that meets criteria in Appendix 1 of the RPS, *includes* the Te Kuha site but is much wider than this and will include the series of coal measures vegetation across the Brunner coal plateau. It will also include adjoining non coal measure indigenous forest and shrubland where these form important altitudinal sequences, ecotones and habitats for fauna.

[194] The ecologists confirmed at the hearing that all areas of unmodified natural coal measures vegetation, given their significance and rarity, are likely to be significant. An SNA, or series of SNAs across the coal plateau should exclude areas that have been mined and extensively modified.

[195] Dr Bramley described a very large SNA, incorporating all of the coal measures vegetation and adjoining habitats. However, we do not consider that the SNA would be one large homogeneous area, with similar values across it. Nor do we agree that the SNA is limited to the Te Kuha site, as proposed by Dr Lloyd.

[196] We find that the RPS requires a wider regionally consistent approach to delineating SNAs for the purpose of an evaluation under the policies within chapter 7. Those provisions cannot be considered in any meaningful sense if they are approached having (only) asked the question whether the site where the mine (or other activity where consent is being sought) is proposed has significant natural values.

[197] As it has been described to us, the coal measures and adjoining vegetation contains a diversity of values and habitats. There are similarities and differences in the species composition across the plateau which is likely to contain particular values within it. Some areas within the plateau are likely to be more sensitive than others.

[198] There will be areas of specific and distinctive value within the wider coal plateau, including habitat for invertebrates, bryophytes, avifauna, and areas of

higher value for their naturalness, diversity and intactness, e.g. Mt William, Te Kuha, and Mt Rochfort.

[199] Conceivably, there could be a series of SNAs as described by Dr Marshall, or a subset of higher value areas of coal measures vegetation within a larger area. The connectivity, and gradients present across the plateau area are important to consider. A small SNA focused on Te Kuha is not appropriate.

[200] We have assessed the values as described at Te Kuha, which lie within a wider SNA and have also considered its wider context within the coal plateau. We conclude that the Te Kuha site contains particular values that are distinct from the Denniston and Stockton Plateaux (such as its intactness and naturalness, and communities of bryophytes and invertebrates) but that it is part of a wider coal measures SNA, or series of SNAs that encompasses undisturbed coal measures vegetation and adjoining vegetation and habitats and altitudinal gradients.

[201] The full extent of the SNA or series of SNAs would need to be mapped through a plan change process incorporating a full assessment of the ecological values present across the coal measures and surrounding habitats, and an assessment against the criteria in Appendix 1.

[202] Finalising the SNA mapping process through a plan change allows for consultation with affected landowners and a final delineation of boundaries.

RPS Policy 7.2(a)

[203] This requires consideration of whether the proposed activity is designed and undertaken in a way that does not cause ‘the prevention of an indigenous species’ or a community’s ability to persist in their habitats within their natural range in the Ecological District’.

[204] We accept Mr Christensen’s submission that if the test is about the listed species’ or community’s ability to persist *within the mine site* as opposing parties

contend, the proposal is likely to fail, at least until the rehabilitation has reached a state of maturity, as all mining projects on the West Coast would similarly fail. However, he submits that the policy is explicit in that the context for consideration is the relevant ecological district, and not the site of the mine (or any other) proposal and we agree.

[205] We also consider that, as with all of these policies, a long-term approach must be taken to a consideration of effects.⁹² This assessment must account for all aspects of the design and undertaking of the proposal, including all measures to mitigate the adverse effects of the proposal. This necessarily includes rehabilitation of the mine site.

[206] The more vexing question is whether the off-footprint pest control measures should also be brought to account in considering Policy 7.2, particularly in relation to invertebrates and avifauna. Mr Christensen considers that all aspects of the proposal can be considered, including the pest control measures proposed for the TKBMA.

[207] We found the assessment of Policy 7.2, and what the clauses in it means from an ecological perspective, was brief if not lacking in most of the ecological and planning evidence, with discussion of each of Policies 7.2(a) and (d) in particular often being conflated such that it was difficult to find the witnesses view on each one.

[208] The differing approaches to this policy turn (in part) on an understanding of the 'point of impact' and whether any aspect of the off-footprint pest control measures within the TKBMA should be considered as mitigation, off-setting or compensation, or a combination of all three.⁹³

⁹² *West Coast Environmental Network Inc v West Coast Regional Council and Buller District Council* [2013] NZEnvC 47.

⁹³ Applicant closing submissions at [12].

[209] The appellant considers that Policy 7.2 excludes consideration of offsetting or compensation measures, relying on text in the explanation of the policy rather than the wording of the policy itself.

[210] A contrary position was taken by the experts for the applicant who considered the positive effects of the mitigation and compensation could be factored into the assessment under Policy 7.2.⁹⁴ The applicant's counsel submitted that:⁹⁵

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

Our approach to the Policy 7.2(a) evaluation

[211] We consider that applying the n correctly, and understanding the difference between mitigation, offsets and compensation is important given that Policy 7.3 of the RPS requires that effects on SNAs are first avoided, remedied, mitigated, and in relation to residual effects they are to be offset or compensated in terms of Policies 7.4 and 7.5. However, that policy is only reached if the gateway "tests" in relation to the adverse effects of a proposal are met.

[212] Policy 7.2 is worded such that all aspects of "the design and undertaking" of a proposal should be considered, although this is contradicted by the explanation to this policy which states that "... decision-makers need to take into account any measure, (except indigenous biological diversity offsetting or biodiversity compensation) proposed to prevent the effects in Policy 2 from occurring".

⁹⁴ JWS Offsets/compensation p 12.

⁹⁵ Applicant closing legal submissions at [120].

[213] This is the text that also refers to the policy establishing “bottom lines”.

[214] On the appellant’s reading of this policy, it is difficult to reconcile it with Policy 7.3, particularly given the stringency of the tests in 7.2(c) and (d) that refer to the absence of a “measurable reduction” in particular species or taxa. If these provisions are not able to be met, the effects management hierarchy set out in the subsequent policies (7.3, 7.4 and 7.5) are never reached.

[215] We are not inclined to allow the explanatory text for the policy to influence its meaning in a way that the text of the policy is unable to support. However, reading the policies as a coherent whole, we lean towards the appellant’s approach that offsetting and compensation cannot be factored into the consideration of a proposal in terms of an assessment under Policy 7.2.

[216] This means we must decide what measures are mitigation, or offsets and compensation, despite this distinction being less important in the context of s104(1)(a).⁹⁶ Understood in this way, it is far from clear whether it would be possible to reach the offsetting and/or compensation policies if any of the outcomes in Policy 7.2 result from a proposal, given the stringency of the tests.

Ecological District boundary

[217] There was a difference of opinion between the ecologists as to whether the Te Kuha mine site is primarily within the Buller or Ngakawau Ecological District. This resulted in some level of confusion with the application of the policies where the ecological district was the relevant scale.

[218] Dr Lloyd describes the site as being primarily in the Buller Ecological District, based on the original 1987 mapping of boundaries, but having ecological

⁹⁶ We note that differing, and potentially problematic issues arise under this policy suite for proposals where s104(1)(ab) applies, given its mandatory terms.

affinities with the Ngakawau Ecological District.⁹⁷ Dr Marshall and Dr Bramley agreed that Te Kuha is most appropriately considered as part of Ngakawau Ecological District, based on refined and updated boundaries from the 1998 PNA survey.^{98 99}

[219] Dr Marshall provides the clearest description of the ecological context, as follows:¹⁰⁰

The Te Kuha site (almost entirely within the Ngakawau Ecological District (E.D) as defined in the 1:50 000 scale maps referred to in the West Coast Regional Policy Statement). The Ngakawau E.D is described in, and defined by the geology, topography, and vegetation (McEwan 1987). A small part of the mine site is on the eastern edge of the ridgeline of the Te Kuha site and is in the Buller Ecological District and the road below 150 m a.s.l is in the Foulwind Ecological District (**Figure 3**).

[220] We conclude from the evidence of Dr Marshall and Dr Bramley that the site is primarily in the Ngakawau Ecological District, with a small part in the Buller Ecological District and with the road in the Foulwind Ecological District. We find that this is the relevant context for an assessment under Policy 7.2(a).

Ecological evidence on RPS Policy 7.2(a)

[221] We note that there was no agreement amongst the ecologists whether the proposal was consistent with Policy 7.2(a).¹⁰¹ In considering Policy 7.2(a), we have based our judgement on the ecological evidence of the descriptions of the species, populations and communities affected, and whether the proposal has been

⁹⁷ Lloyd EIC at [43].

⁹⁸ Marshall EIC at [22] and Figure 3.

⁹⁹ Bramley EIC vegetation at [22].

¹⁰⁰ Marshall EIC at [33].

¹⁰¹ JWS Terrestrial flora p 23.

designed and undertaken in a way that does not prevent an indigenous species or community from persisting in its natural range in the ecological district.

[222] Ecologists for the applicant consider that the proposal is consistent with the policy having accounted for the rehabilitation and compensation measures addressing residual effects. However, we have concluded that compensation measures are unable to be considered in this context.

[223] Ecologists for the appellant and for the Director-General considered that the proposal, including the proposed rehabilitation, will prevent several plant communities and their characteristic species assemblage from persisting in their habitats within their natural range in the ecological district. This includes the bryophyte communities, Parkinson's rātā (*Metrosideros parkinsonii*) and the invertebrate assemblages.

[224] Dr Marshall considers the proposed activity would be inconsistent with this policy as it would result in the loss of:

- (a) the ridgeline and boulderfield habitat for byrophytes;
- (b) potentially the best population of Parkinson's rata within the ecological district.¹⁰²

[225] She considers the bryophyte and lichen associations on the mine footprint are one of the best in the ecological district. There is a high risk that the population of Parkinson's rata within the Ngakawau Ecological District will not persist at the Te Kuha site in the long term. She explains that the proposal will prevent the bryophyte community from persisting by removing its habitat, and potentially prevent a species from persisting by reducing its habitat.¹⁰³

[226] Similarly, Dr Gruner considers that the distinct bryophyte communities

¹⁰² Marshall EIC at [99].

¹⁰³ Marshall EIC at [99].

might become locally extinct as they have not been found elsewhere in the ecological district.¹⁰⁴

[227] Dr Lloyd considers that the loss of the forested boulderfield with its extensive, luxuriant, species-rich bryophyte community would contravene Policy 7.2(a), as this community had no analogue elsewhere in New Zealand and there is no evidence of similar communities in the Buller or Ngakawau Ecological Districts.¹⁰⁵ He considers that these communities might become locally extinct as a result of the proposal.

[228] Dr Lloyd observed *Mitrasacme montana* var. *helmsii* in a rock crevice on a sandstone boulder on the main ridge in the eastern part of the site. He describes the herb species as endemic to northern Westland, mainly on the Denniston and Stockton Plateaux but also with rare occurrences in the Paparoa Range.¹⁰⁶ He concluded that its loss from Te Kuha could result in its loss from the Buller Ecological District, as the species is extremely uncommon in the Paparoa Ranges.¹⁰⁷

[229] Dr Bramley agrees that the species is one of conservation concern confirmed as present at Te Kuha, and grows in *Chionochloa* grassland, cushion bogs, herbfields and sandstone areas.¹⁰⁸

[230] Dr Bramley considers that 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 ecological district. He states that the Parkinson's rata is common at Te Kuha and is found at a range of locations throughout the Ngakawau Ecological District, including Mt Rochfort. He

¹⁰⁴ Gruner EIC at [225].

¹⁰⁵ Lloyd EIC at [357].

¹⁰⁶ Lloyd EIC at [111]-[113].

¹⁰⁷ Lloyd EIC at [358].

¹⁰⁸ Bramley EIC vegetation at [145].

considers that the Parkinson's rata will continue to persist around Te Kuha and will be targeted through rehabilitation.¹⁰⁹

[231] As to the *Mitrasacme montana* var. *helmsii*, Dr Bramley states that it has been reported at Mt William and Mt Frederick. He also considers that it can be protected via salvage and direct transfer.¹¹⁰ However, Dr Lloyd notes that the large boulder habitats where this species has been found cannot be rehabilitated.¹¹¹ We also note that Dr Bramley concludes that these boulder habitats have a low certainty of success for rehabilitation.

[232] Dr Bramley concludes, as have the other ecologists, that the bryophyte communities at Te Kuha are of high ecological value, that rehabilitation cannot reinstate these communities, direct transfer has a low certainty of success, and their loss within the footprint will be long term and permanent.¹¹²

[233] All experts were also agreed that introduction and propagation of rare bryophytes is uncertain.¹¹³ However, Dr Bramley considers that none of the bryophyte species present at Te Kuha are known to be restricted to the mine footprint.

[234] When questioned at the hearing, Dr Bramley confirmed that Te Kuha contains one of two forested boulderfields found on the coal measures, with the second being outside of the footprint and just north of Te Kuha. A 2017 survey found that this is likely to contain a similar community.¹¹⁴ He expects that bryophytes will return to the rehabilitated site over time, although the rarer and

¹⁰⁹ Bramley rebuttal vegetation at [62]-[63].

¹¹⁰ Bramley rebuttal vegetation at [70].

¹¹¹ Lloyd EIC at [111].

¹¹² Bramley EIC vegetation at [199].

¹¹³ JWS Terrestrial flora.

¹¹⁴ Transcript p 228.

more specialised ones will be the slowest, and in the case of the boulderfield mats, they will never return because of a lack of boulder forest.

[235] Dr Bramley identified significant residual effects for bryophyte communities and does not consider these effects can be effectively offset (consequently he proposes high intensity mitigation and compensation to account for the residual effects).¹¹⁵ He said that some of the mitigation approaches are untested in relation to bryophytes and carry an element of uncertainty as to their outcome, and therefore proposes an additional 3,597ha of pest control which is contiguous with the area proposed for mitigation.¹¹⁶ However, we repeat that compensation cannot be considered in this stage of the assessment under Policy 7.2.

Invertebrates

[236] Dr Smith, Mr Patrick and Mr Chinn consider the proposal is inconsistent with Policy 7.2 as a whole.¹¹⁷ Dr Smith considers the proposal will prevent an indigenous community of invertebrates and its species from persisting in their habitats within their natural range, but was not specific as to which species or communities. Mr Chinn considers that the mining excavation will irreversibly remove habitat or a considerable portion of habitat for the Helms' stag beetle, the habitat of the leaf-veined slug (threat status: unknown) and the habitat components of the forest ringlet butterfly (Threatened: At Risk – Relict) at the application site, and that this would be inconsistent with Policy 7.2(a).¹¹⁸

[237] We heard that an undescribed species of leaf veined slug was collected from the mine footprint in tall forest in 2013, but further surveys have failed to detect

¹¹⁵ Bramley rebuttal vegetation at [52].

¹¹⁶ Bramley EIC vegetation at [29]-[31].

¹¹⁷ JWS Invertebrates and entomology p 12.

¹¹⁸ Chinn EIC at Table 3.

any more slugs since then.¹¹⁹

[238] The footprint of the mine site is the largest known population of forest ringlet butterfly remaining nationwide (as in the last decade the butterfly's spatial extent was much wider),¹²⁰ and the habitat at Te Kuha is considered significant nationally for forest ringlet butterflies.¹²¹

[239] Dr Bramley considers none of the invertebrate species at Te Kuha, including the butterfly, will be prevented from persisting within the Ecological District as they will continue to occur at other locations, including within the TKBMA, where they will be protected to a higher degree than they presently are.¹²²

[240] We note however, that compensation for residual effects on invertebrates in the TKBMA needs to be addressed in Policy 7.5 and not Policy 7.2, assuming that this later policy is reached.

Our findings – Policy 7.2(a)

[241] We conclude from the evidence of the ecologists that the loss of the bryophyte community, being one of only two similar associations known on the coal measures, would impact on the ability of the bryophyte community to persist in its habitat within its natural range in the Ecological District, and is inconsistent with Policy 7. 2(a).

[242] We also conclude that this will likely be the case for the Helm's stag beetle and the forest ringlet butterfly, as the butterfly population at Te Kuha is described as the largest known population remaining for the species. We are unable to make

¹¹⁹ Bramley EIC invertebrates at [26].

¹²⁰ Patrick EIC at [20] and JWS Invertebrates and entomology.

¹²¹ Bramley EIC invertebrates at [52] and Patrick EIC at [22].

¹²² Bramley rebuttal invertebrates at [51].

a reliable finding one way or another as to whether the undescribed slug will be lost.

[243] Whether the proposal will be inconsistent with the policy for other communities and species is more uncertain. This could be possible for Parkinson's rata, as the mine site is described as containing possibly the largest population of the species in the ecological district. The applicant has a primary responsibility for providing the evidential basis to support an evaluation of the proposal, and we do not have the evidence for the Ngakawau Ecological District as a whole.

Policies 7.2(b) and 7.2(c)

[244] RPS Policies 7.2(b) and (c) specify that activities shall be designed and undertaken in a way that does not cause:

A change of the Threatened Environment Classification to category two or below at the Ecological District Level; (Policy 7.2(b)).

Further measurable reduction in the proportion of indigenous cover on those land environments in category one or two of the Threatened Environment Classification at the Ecological District Level; (Policy 7.2(c)).

[245] The proposal would be consistent with Policies 7.2(b) and 7.2(c) as the site is not within Threatened Environment Categories 1 and 2 (where indigenous vegetation cover is less than 20%); indigenous vegetation cover is high, and the loss of indigenous cover would not trigger a change in its classification.¹²³

Policy 7.2(d)

[246] This asks whether the proposed activity is designed to be undertaken in a way that does not cause:

¹²³ Lloyd EIC at [359]; Bramley EIC vegetation at [221].

A reasonably measurable reduction in the local population of threatened taxa in the Department of Conservation Threat Categories 1 – nationally critical, 2 – nationally endangered, and 3a – nationally vulnerable.

[247] This limb of the policy applies a test at the ‘local population’ scale, rather than across the ecological district or SNA.

[248] Dr Gruner concludes that the proposal will lead to a measurable reduction in the local populations of threatened flora taxa in categories ‘Nationally Critical’, ‘Nationally Endangered’ and ‘Nationally Vulnerable’ as follows:

- (a) one threatened bryophyte (*Pseudolophocolea denticulata* – Nationally Critical) and one threatened lichen species (*Austropeltum glareosum* – Nationally Endangered) would likely be permanently lost from the application area;
- (b) one threatened vascular plant species (*Mitrasacme montana* var. *helmsii* – Nationally Endangered) would be at high risk of loss, as it occurs in rocky habitat that cannot be rehabilitated.¹²⁴

[249] Of the threatened taxa at the site, Dr Lloyd considers that the loss of a very good population of Parkinson’s rata from the mine site would represent a measurable reduction in its local population and thus contravene Policy 7.2(d). He concludes that this also would be the case for the loss of *Mitrasacme montana* var. *helmsii*.¹²⁵

[250] Dr Bramley does not consider that a reasonably measurable reduction in Parkinson’s rata will occur within the ecological district, as the proportion removed at Te Kuha would be minor.¹²⁶ He concludes that *Mitrasacme montana* var. *helmsii* is also found at Mt William and Mt Frederick and that it will be managed by salvage

¹²⁴ Gruner EIC at [225].

¹²⁵ Lloyd EIC at [360].

¹²⁶ Bramley rebuttal vegetation at [69].

and direct transfer.¹²⁷ However, he acknowledges that techniques for salvage of *Mitrasacme montana* var. *helmsii*, as explained above, are also uncertain.

[251] We note that Dr Bramley has interpreted ‘a measurable reduction of a local population’ as being assessed within the Buller Coal Plateau or the ecological district.¹²⁸ However, the policy test is at the local population level and not the ecological district.

[252] None of the invertebrate species present are in the threat categories listed in 7.2(d).¹²⁹ Mr Patrick explains the threat status of forest ringlet butterfly is being reviewed and is likely to change, however at present it is in the category of ‘At Risk – Relict’.

[253] Ms McDonald considers the proposal is inconsistent with Policy 7.2(d) with regard to roroa (Threatened – Nationally Vulnerable) as there will be a measurable reduction in the local population of roroa at Te Kuha mine site and a measurable reduction in the proportion of suitable habitat for roroa.¹³⁰ Based on her experience researching roroa in the wild, she considers the correct scale to assess effects of the proposal on roroa includes the mine footprint and adjacent territories surrounding the mine footprint that may be negatively affected by individuals displaced by the proposal. In her opinion, this constitutes the ‘local population’ referred to in RPS 7.2(d).¹³¹

[254] Ms McDonald considers that the loss of even a few individuals of roroa as a result of the proposal will equate to a reasonably measurable reduction of roroa, at both the local population and ecological district levels.¹³²

¹²⁷ Bramley rebuttal vegetation at [70].

¹²⁸ Bramley rebuttal invertebrate at [52].

¹²⁹ Threat status as listed in Chinn EIC at Table 1.

¹³⁰ McDonald EIC at Appendix 2.

¹³¹ McDonald supplementary evidence at [22].

¹³² McDonald supplementary evidence at [23].

[255] Dr Craig and Dr Bramley consider a ‘measurable reduction’ should relate to the Mt William-Orikaka population, not just that at the Te Kuha site in the context of the assessment under Policy 7.2(d).¹³³ The witnesses do not agree that individual birds would be lost due to mining activities, as a condition proposed by the applicant requires surveying and removal of roroa in the footprint, opining that the project is consistent with the policy above.¹³⁴

[256] Dr Bramley discusses his experience of roroa numbers being relatively stable in the presence of mining and with kiwi management, including at Cypress Mine.¹³⁵

[257] However, Ms McDonald says it is far from certain that capture of all, or any birds will be successful, and the expectation that all birds that will be disturbed by mining activities will be captured is over-optimistic.¹³⁶

[258] There was disagreement amongst the ecologists as to whether the pest control proposed in the TKBMA would provide additional benefits to the 1080 control being undertaken in the area by Department of Conservation. Dr Bramley considers that tracking data for rodents and mustelids in the Te Kuha area has shown that native species and habitats in the TKBMA would benefit from a wider range of pest control in addition to the 1080 control undertaken by DoC. He is confident that it will achieve additional biodiversity outcomes to the existing predator control undertaken by Department of Conservation in the area using aerial 1080.

[259] There was criticism from the ecologists for the appellant and Department of Conservation that there is a lack of detail around how the proposed pest control

¹³³ Mt William-Orikaka population is identified by DoC as a distinct sub-population and is bigger than the ED population and one of four sub-populations. (JWS Avian fauna p 15).

¹³⁴ JWS Avian fauna p 15.

¹³⁵ Bramley EIC fauna at [171].

¹³⁶ McDonald EIC at [86].

will be delivered and what it will achieve.¹³⁷

Our findings – Policy 7.2(d)

[260] We consider that a measurement of local population will differ based upon the particular species. For the poorly mobile invertebrates and for bryophytes and species with restricted distribution, the population could cover an area smaller than the mine site whereas for more mobile species, such as roroa, it will be larger, whilst not spanning the ecological district level.

[261] For roroa, the local population will include adjacent territories surrounding the mine. This population is part of a significant wider population across the north-west of the South Island.¹³⁸

[262] We conclude that there will be loss of habitat at Te Kuha and impacts on the local population in the short term through disruption and displacement of individuals/pairs affected by the mining activities.

[263] We consider that roroa in the long term are likely to reinhabit the rehabilitated mine site. While we agree that the proposed pest control measures will benefit the roroa population across the extent of the management area we have declined to account for this measure in this context as it is presented as compensation.

[264] That said, nothing much turns on how the Predator Control Plan measure is treated in considering the effects on the roroa population as our more relevant finding is that there will not be a measurable reduction in the local roroa population for the purposes of our evaluation under Policy 7.2(d).

¹³⁷ D Smith EIC at [92].

¹³⁸ Current estimates of roroa population are approximately 14,000 individuals limited to 848,000ha of remote, mainly mountainous terrain of the northwest South Island – as described in McDonald EIC at [44].

[265] However, the loss and reduction in populations of threatened vascular and non-vascular plant species from the Te Kuha site from within the footprint, will result in a measurable reduction in the local population and be inconsistent with Policy 7.2(d). These are:

- (a) the threatened bryophyte species *Pseudolophocolea denticulata* – (Nationally Critical);
- (b) *Austropeltum glareosum* – (Nationally Endangered);
- (c) Parkinson's rata *Metrosideros parkinsonii* – (Nationally Vulnerable); and
- (d) *Mitrasacme montana var. helmsii* – (Nationally Endangered).

[266] Rehabilitation and salvaging options (i.e., all the proposed mitigation measures) are uncertain for these species whereas compensation cannot be considered at all.

[267] We note that the experts disagreed which of the ecosystems containing these species could be rehabilitated with certainty over a 50 to 100-year timeframe.

[268] Some consider that either no rehabilitation of any of these ecosystem types is possible or that it had a low certainty of success, although some of them considered that there was a medium or high certainty of success for many ecosystem types except for the forested boulderfield, the large rock outcrops, and sandstone erosion pavement.

[269] All ecologists agreed that mānuka scrub, including off coal measures could be rehabilitated with a high chance of success.¹³⁹

Our overall evaluation – Policy 7.2(a) and (d)

[270] It is of concern to the court that there are particular unique and intact ecological values described at Te Kuha, including the bryophyte and invertebrate

¹³⁹ JWS Rehabilitation p 10.

communities and other threatened plant species, and uncertainty as to whether they exist elsewhere (and in similar numbers) in the coal measures. We consider that access to that information across the relevant ecological district is key to a reliable evaluation under this policy suite.¹⁴⁰

[271] The loss of the forested boulderfield community and habitat for threatened lichen and bryophytes *could* result in policies 7.2(a) and (d) not being met, resulting in prevention of the bryophyte community persisting in the ecological district, and a measurable reduction in the local population of the threatened lichen and bryophyte species.

[272] The bryophyte community at Te Kuha is described as being one of only two similar communities present within the coal plateau. The community cannot be recreated and the applicant is relying on direct transfer (with unknown results) and compensation through the Predator Control Plan to address the residual effects although that compensation is not able to be considered in this policy context.

[273] As to the habitat for avifauna and roroa, this is broader and extends across the ecological district and beyond. Policy 7.2 is not infringed in relation to the habitat for these species. The ecologists disagreed on whether the proposed pest control will be effective on top of 1080 control undertaken by DoC targeting roroa.

[274] We consider that the bait stations and trapping proposed will provide additional benefits to the 1080 control undertaken by the Director-General. The TKBMA site is immediately adjacent to and contiguous with the Te Kuha site and would qualify as a mitigation measure that can be considered here, as it will benefit the local populations of roroa.

¹⁴⁰ If the SNAs were identified in the relevant plans, this information would likely be available to an applicant, although absent that, an applicant will have to undertake the requisite surveys if a reliable assessment is to be made under this policy suite.

[275] However, the Predator Control Plan has been proposed by the applicant as compensation for addressing residual effects of the project, including for avifauna. That said, nothing much turns on whether this is accounted for in this evaluation (as mitigation of the effects on the habitat of roroa), given that our overall evaluation is that the gateway tests in Policy 7.2 are unable to be met in relation to other species, in particular:

- 7.2(a) as per our findings in [241]-[243]; and
- 7.2(d) as per our findings in [265].

[276] Accordingly, the remaining policies are not able to be considered in light of our findings.

[277] There is limited information available on the invertebrate communities and threatened species present in the coal measures. Studies have been undertaken primarily where there have been development proposals. As described to us at the hearing, the community of forest ringlet butterfly (threat status – ‘At Risk – Relict’) at Te Kuha is the largest remaining population, with the Denniston Plateau population and others within its range being on the decline or having disappeared.

[278] Comprehensive survey information is needed to map and describe ecological values across the ecological district in a regionally consistent manner, focusing in particular on areas that have been identified as containing the most intact ecosystems. As stated above, we consider that this information is key to a reliable assessment of any proposal in light of this policy suite.

Wetlands

[279] The ecologists agree that there are three wetland areas within the mine site footprint:

- (a) mānuka shrubland (5.78ha);
- (b) wire rush wetland (0.24ha); and

(c) ephemeral tarn (0.06ha).¹⁴¹

[280] Dr Lloyd describes them as follows:

mānuka shrubland

[281] This is the most extensive of the three wetland types. It is present in the upper part of the Te Kuha site, comprising 50-100cm tall mānuka above abundant tangle fern (*Gleichenia dicarpa*) and wire rush (*Empodisma minus*). Open areas within this shrubland support wire rush, *Carpha alpina*, *Drosera spathulata*, *Celmisia dubia*, and *Machaerina teretifolia*. All of these plant species are adapted to growth in wet conditions and typical of wetland vegetation. Mānuka shrubland occurs on wet, peaty soils.

wire rush wetlands

[282] These wetlands are dominated by wire rush, with prominent tangle fern, scattered emergent mānuka and yellow silver pine (*Lepidothamnus intermedius*).

[283] Other species in these wetlands include *Carpha alpina*, *Drosera spathulata*, *Celmisia dubia*, *Oreobolus strictus*, *Donatia novae-zelandiae*, *Pentachondra pumila*, *Brachyglottis bellidioides* var *crassa*, *Schizaea australis*, and *Euphrasia townsonii*, and the threatened (Nationally Vulnerable) native eyebright, *Euphrasia wettsteiniana*. These wire rush wetlands occur in shallow depressions in the upper part of the site, within and just outside the mine footprint.

ephemeral wetland

[284] Dr Lloyd describes ephemeral wetlands as being formed in closed depressions lacking a surface outlet, in climates where seasonal variation in rainfall and evaporation leads to ponding in winter and spring, and with fluctuation so

¹⁴¹ JWS Terrestrial flora p 9.

pronounced that it can lead to complete drying in summer months or in dry years.¹⁴² This wetland area occurs in a closed basin. Historic aerial imagery shows that this wetland is sometimes completely dry and sometimes fully inundated, consistent with ephemeral wetland status.

Effects of proposal on wetlands

[285] The ecologists agree that the proposal will result in the removal of the three wetland types within the mine footprint, although the applicant proposes to remedy this loss through rehabilitation of the mine site.¹⁴³

Wetland rehabilitation

[286] There was discussion as to whether the wire rush wetland could be avoided altogether, although we were told that this is not possible as it is part of the mine dumping area.¹⁴⁴ Instead, the applicant proposes to replace the wetland by creating up to 1800m² of smaller individual wetlands with varying durations and depths of water ponding.¹⁴⁵

[287] Dr Bramley describes the proposed rehabilitation as follows:¹⁴⁶

In the case of the wire rush wetland/herbfield, this would be via salvage, storage and indirect transfer. With respect to the ephemeral pond it would be via creation of ephemeral ponds ... With respect to mānuka shrubland it will be via a combination of planting and DT to poorly drained generally flat and gently sloping land as described in the evidence of Dr Simcock and Dr Ross.

[288] Rehabilitation of the wire rush wetland can only be established by DVT and

¹⁴² Lloyd EIC at [104].

¹⁴³ JWS Terrestrial flora.

¹⁴⁴ Transcript p 43.

¹⁴⁵ Simcock rebuttal at [54].

¹⁴⁶ Bramley rebuttal vegetation at [56].

the potential extent of such DVT is limited by the storage area available.¹⁴⁷ During the course of the hearing Dr Simcock considered that further there is potential to direct transfer most of the wire rush wetland to an intermediate storage area if that became available, although that could not be guaranteed.

[289] We note that the applicant proposes¹⁴⁸ amending the conditions to allow for more of the mānuka shrubland and all of the wire rush wetland to be rehabilitated through direct transfer using intermediate storage.

[290] The amended conditions for the Rehabilitation Plan would require:

... a minimum of 15 ha of vegetation direct transfer (not including the access road), including a minimum of 3 ha of yellow silver pine-manuka shrubland, 8 ha of mountain beech – podocarp forest, and at least 2000 m² 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.

[291] At the hearing, Dr Simcock explained that to date the yellow silver pine forest has been prioritised over wetlands as it is older, more complex, takes longer to regrow, and with lichens, bryophytes, and liverworts that are of high value.¹⁴⁹

[292] Witnesses for and supporting the appellant expressed opposing views as to the proposal to rehabilitate wetland types on the site. Dr Marshall considers that it is not possible to restore or rehabilitate the ephemeral wetland.¹⁵⁰ Dr Ross considered that ephemeral wetlands can be restored but will not be exactly the same as at Te Kuha, as it takes decades for vegetation to establish thereby

¹⁴⁷ Simcock rebuttal at [51].

¹⁴⁸ Applicant submissions in reply at [52].

¹⁴⁹ Transcript p 363; Simcock rebuttal at [51].

¹⁵⁰ Marshall EIC at [87] and [88].

facilitating replacement of the ecosystem that currently exists.¹⁵¹

[293] Dr Lloyd was also not convinced that the rehabilitated areas would retain sufficient moisture to keep wetland vegetation remaining as wetland.¹⁵² He considers that it is difficult to replicate the fluctuating water regime of the ephemeral wetland. He also considers it difficult to recreate suitable hydrology to maintain the wire rush wetland and mānuka dominant wetlands on gently sloping sites.¹⁵³

[294] Dr Gruner agreed and considers that uncertainty and risk is highest for all three wetland ecosystems as rehabilitation would require reinstatement of specific hydrological conditions.¹⁵⁴

[295] However, Dr Ross considers that the rehabilitated directly transferred coal measures vegetation with attached soils into salvaged and stockpiled soils, will remain wet and saturated and very unlikely to dry out.

[296] Dr Ross attributed this to the very high water retentive, slow to very slow permeability soils at the Te Kuha site, impedance to water flow between replaced soils and compacted overburden substrates, and the high precipitation (averaging over 5000mm pa) and excess rain over evapotranspiration.¹⁵⁵

[297] Dr Bramley considers that there will be no loss of wire rush wetland as it will be stored and relocated, but that for the other wetland types there will be loss in the short-medium term as rehabilitation proceeds for ephemeral wetlands and manuka shrubland habitats.¹⁵⁶ We further note that in reply submissions, the applicant has also offered additional aquatic compensation in the form of support

¹⁵¹ Transcript pp 340-341.

¹⁵² Transcript p 580.

¹⁵³ Lloyd EIC at [342]-[346].

¹⁵⁴ Gruner supplementary at [16].

¹⁵⁵ Ross EIC at [30].

¹⁵⁶ Bramley rebuttal vegetation at [56].

of the project to protect and enhance the saltwater marsh near Westport.¹⁵⁷

Wetland planning provisions

[298] We have considered the effects on the wetlands in the context of the relevant planning provisions as we have earlier done with other ecological effects.

[299] Planning provisions of relevance in the NPSFM, RPS, RLWP, DP and the pDP were identified by the planners in the JWS.¹⁵⁸ Overall, we found there was a lack of clarity and discussion in the planning and ecological evidence of the implications of wetland provisions in the NPSFM, NES, RPS, and RLWP.

2022 Amendments to the NPSFM and NES

[300] On 8 December 2022 the government announced changes to both the NPSFM and the NES, with the amended provisions coming into force on 5 January 2023. These were foreshadowed at the hearing before the court. On 25 January 2023 the court invited all parties to provide brief written legal submissions on the relevance and implications of these changes and all parties responded by 3 February 2023.

[301] We record that the Director-General,¹⁵⁹ the two councils¹⁶⁰ and the applicant¹⁶¹ all state explicitly that the court must have regard to the amended NPSFM.

[302] Although not using the same phraseology used in these provisions, in opposing the mining proposal the appellant placed a clear emphasis on NPSFM

¹⁵⁷ Applicant submissions in reply at [59].

¹⁵⁸ JWS Planning at Appendix 1.

¹⁵⁹ Legal submissions from the Director-General of Conservation, dated 3 February 2023, at [3].

¹⁶⁰ Legal submissions from the respondents, dated 3 February 2023, at [11].

¹⁶¹ Legal submissions from Stevenson Mining Limited, dated 3 February 2023, at [8].

Policy 3.22, Policy 6.3.6 in the RLWP as well as NES regulations 45 and 53.¹⁶²

[303] We set out key wetland provisions of these instruments below, incorporating the changes notified on 8 December 2022 to the NPSFM and NES.

NES

[304] In the JWS, the planners were of the understanding that the NES (prior to the amendments) did not apply to the proposal as it came into force after the original application was lodged. Nevertheless, it was considered initially by the applicant's planner under the provisions for specified infrastructure.¹⁶³

[305] Ms Clark, planner for WCRC did however provide an evaluation of the relevant provisions of the NES in her evidence-in-chief. Were the NES to apply, she stated that Regulation 53 would be triggered as the earthworks associated with the proposal are likely to fall within a natural wetland and would result in drainage or partial drainage of a wetland. This would result in the proposal being a prohibited activity.¹⁶⁴

[306] We note that Regulation 45D(7) would now preclude any applications for new coal mines from 5 January 2023, although due to the lodgement date of the original application this regulation does not apply.

[307] We agree that the NES has no application to the proposal and for that reason, it is not further discussed.

¹⁶² NES regulations 45 and 53 relate to defining possible consenting pathways for consent applications in the vicinity of natural inland wetlands.

¹⁶³ Sitarz EIC at [6.39]; Clark EIC at [16] and [138]; Courtier EIC at [125].

¹⁶⁴ Clark EIC at [23].

NPSM

Policy 3.21

[308] Policy 3.21 of the NPSFM now defines a natural inland wetland as such:

natural inland wetland means a wetland (as defined in the Act) that is not:

- (a) in the coastal marine area; or
- (b) a deliberately constructed wetland, other than a wetland constructed to offset impacts on, or to restore, an existing or former natural inland wetland; or
- (c) a wetland that has developed in or around a deliberately constructed water body, since the construction of the water body; or
- (d) a geothermal wetland; or
- (e) a wetland that:
 - (i) is within an area of pasture used for grazing; and
 - (ii) has vegetation cover comprising more than 50% exotic pasture species (as identified in the *National List of Exotic Pasture Species* using the *Pasture Exclusion Assessment Methodology* (see clause 1.8)); unless
 - (iii) the wetland is a location of a habitat of a threatened species identified under clause 3.8 of this National Policy Statement, in which case the exclusion in (e) does not apply.

Policy 6

[309] Policy 6 of the NPSFM¹⁶⁵ remains unchanged and is that:

There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.

Policy 3.22

[310] Similarly, there is no change to the primary policy intent for Policy 3.22. In summary, the policy that, from its inception in 2020, required all regional councils

¹⁶⁵ In Part 2: Objectives and policies, NPSFM.

to include the following policy (or words to the same effect) in its regional plan –

The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:

...

[311] These provisions are of central importance to this case.

[312] We note that the policy has always included a series of exceptions, although Policy 3.22(1)(e) has been amended by the addition of a further exception in relation to mining activities where:

...

- (e) the regional council is satisfied that:
 - (i) the activity is necessary for the purpose of:
 - (A) the extraction of minerals (other than coal) and ancillary activities; or
 - (B) the extraction of coal and ancillary activities as part of the operation or extension of an existing coal mine; and
 - (ii) the extraction of the mineral will provide significant national or regional benefits; and
 - (iii) there is a functional need for the activity to be done in that location; and
 - (iv) the effects of the activity will be managed through applying the effects management hierarchy; or

...

Other relevant instruments

Chapter 7 RPS

[313] We earlier referred to the provisions in Chapter 7 of the RPS. This includes provisions that relate to wetlands as a potential type of SNA. Policy 7.1(b) of the RPS states:

Significant wetlands will be identified using the criteria in Appendix 2; they will be known as Significant Natural Areas (SNAs), and will be mapped in the relevant regional plan.

[314] Although the Chapter 7 provisions were discussed by the experts in relation to biodiversity values, their consideration did not universally extend to the protection of wetlands where discussion was rightly focused on the NPSM and its partial implementation in RLWP.

[315] However, for completeness, we note that Chapters 7, 7A (on Natural Character) and 8 (on Land and Water) have provisions of relevance to wetlands at the Te Kuha Site. These were also not addressed in any of the evidence before the court.

Chapters 7A and 8 RPS

[316] Chapter 7A contains an objective¹⁶⁶ which is to:

Protect the natural character of the region's wetlands, and lakes and rivers and their margins, from inappropriate subdivision, use and development; and

[317] Objective 4 in Chapter 8 is similarly expressed:

Identify and protect the significant values of wetlands and outstanding freshwater bodies.

[318] Policy 6 in Chapter 8 is also relevant and is to:

Identify the significant values of wetlands and outstanding freshwater bodies in regional plans and protect those values.

¹⁶⁶ Objective 7A, Objective 1.

Discussion – RPS

[319] As to the relevant RPS provisions, the applicant acknowledges that:¹⁶⁷

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)¹⁶⁸.

[320] However, counsel submits that s104(1)(b) requires the court to *have regard to* the RPS objectives and policies distinguishing this from the more directive *give effect to*.

[321] Ms Courtier acknowledges the relevance of Policy 7A.2, but then focused on the Buller River and not on wetlands when considering the same.

[322] For the Regional Council, Ms Clark confirmed that according to Policy 7.1(b) RPS, SNAs that are wetlands would be mapped and eventually included in regional plans, and that this would be done in a regionally consistent manner.¹⁶⁹

[323] We understand that the intention is that the District Council would identify Wetland SNAs following a similar process to the identification of wetlands in the RLWP, but that so far that identification has been limited to the wetlands within the Grey District.¹⁷⁰

[324] Dr Lloyd considers that the loss of the ephemeral wetland would be inconsistent with Policy 7.2(a).

¹⁶⁷ Supplementary submissions at [35].

¹⁶⁸ Boothroyd EIC at [85].

¹⁶⁹ Transcript pp 429-430.

¹⁷⁰ Transcript p 738.

RLWP

[325] Policy 6.3.4 of the RLWP is the more relevant provision as it applies to wetlands not identified within the regional policy as contemplated by the abovementioned provisions in Chapter 7 of the RPS. It states:

To provide protection for any wetlands not in Schedule 1 or 2 that are shown to meet any one of the ecological criteria in Schedule 3, and to identify and protect the values of those wetlands and their margins to ensure their natural character and ecosystems (including ecosystem functions and habitats) are sustained.

[326] Policy 6.3.4 has to be read alongside Policy 6.3.6. We acknowledge that the amended wording of the NPSFM has not yet been incorporated into the RLWP, although the primary ‘avoid’ intent of the policy is reflected in Policy 6.3.6 and is written in language that is consistent with the former NPSFM Policy 3.22 and states:

Policy 6.3.6 The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:

- (a) the loss of extent or values arises from any of the following:
 - (i) the customary harvest of food or resources undertaken in accordance with tikanga Māori
 - (ii) restoration activities
 - (iii) scientific research
 - (iv) the sustainable harvest of sphagnum moss
 - (v) the construction or maintenance of wetland utility structures (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020
 - (vi) the maintenance or operation of specified infrastructure, or other infrastructure (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020
 - (viii) natural hazard Works (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020); or
- (b) the West Coast Regional Council is satisfied that:

- (i) the activity is necessary for the construction or upgrade of specified infrastructure; and
- (ii) the specified infrastructure will provide significant national or regional benefits; and
- (iii) there is a functional need for the specified infrastructure in that location; and
- (iv) the effects of the activity are managed through applying the effects management hierarchy.

[327] The RLWP provisions were considered in the Planners JWS.

[328] The planners disagreed on whether protection of the wetlands is able to be achieved as required by Policy 6.3.4.

[329] All planners agreed that the proposal does not come within the exception for specified infrastructure as referred to in Policy 6.3.6(b) RLWP.

[330] There was also disagreement amongst the ecologists and planners whether the proposal would contravene Policy 6.3.6.

[331] Policy 6.3.6(b) provides an exception for 'specified infrastructure' and for the effects of an activity meeting this definition to be managed through applying the effects management hierarchy available for the specified infrastructure exception.¹⁷¹

[332] Dr Bramley considers that where there is a loss of wetland extent and values the applicant should look to apply the effects management hierarchy.¹⁷² Accordingly, he considers that for the wire rush wetland/herbfield there will be no loss, as it will be moved and stored and then relocated to its final site.

[333] For each of the other types, Dr Bramley considers that there will be a loss

¹⁷¹ Effects management hierarchy is defined in Policy 3.21(1) NPSFM.

¹⁷² Bramley rebuttal vegetation at [57].

in the short to medium term, although as rehabilitation proceeds, the ephemeral ponds will be returned quite quickly with the mānuka shrubland habitats developing in the longer term.¹⁷³

[334] Countering this view, Ms Sitarz considered that the proposal does not meet any exemptions within Policy 6.3.6 that would enable the application of the effects management hierarchy as it operates as a “bottom line”, much like Policy 7.2 of the RPS.¹⁷⁴ Dr Lloyd was of a similar view.¹⁷⁵

[335] Notably however, the Planning JWS records agreement that the proposal does not come within the definition of specified infrastructure such that the effects management hierarchy available to those infrastructure activities is unable to be invoked.¹⁷⁶

Significance of the Wetlands at Te Kuha

[336] Although there is protection of all wetlands under the NPSM, we note the disagreement between the experts as to the significance of the wetlands on the Te Kuha site. The ecologists agree that the proposal *will* result in the removal of all wetlands present at Te Kuha, all coming within the definition of an ‘inland natural wetland’ as defined by Policy 3.21 of the NPSM; and the definition of ‘wetlands’ in the RMA. They did not agree that all are significant using the criteria in Schedule 3 of the RLWP.

[337] Dr Lloyd considers that the ephemeral wetland is the only one of its type in the coal plateau. The ephemeral wetland is described by both Dr Lloyd and Dr Marshall as an example of an originally rare ecosystem with a threat status of

¹⁷³ Bramley rebuttal vegetation at [56].

¹⁷⁴ Sitarz supplementary at [5.19].

¹⁷⁵ Lloyd EIC at [353].

¹⁷⁶ JWS Planning p 11.

Critically Endangered.¹⁷⁷ The wetland is also considered to provide feeding habitat for roroa.¹⁷⁸

[338] Dr Bramley did not entirely agree. He does not consider the ephemeral wetland is a rare habitat in the ecological district, as vegetation within it does not comprise indigenous vegetation. However, he considers that it is one of the highest value habitats in the site because of its value as habitat for aquatic invertebrates (North Island koura).¹⁷⁹ Dr Bramley agreed that the ephemeral wetland is an ecosystem type identified as nationally critical.¹⁸⁰ He describes other ephemeral wetlands including within the Solid Energy area and at Mt William north.

[339] However, Dr Lloyd considers that the ephemeral wetland is the only one in the relevant Ecological Districts and is not convinced there are others elsewhere in the Buller coal plateau.¹⁸¹

[340] Dr Simcock agreed that the ephemeral wetland is considered of high ecological value and included as a specific rehabilitation type in the proposed Rehabilitation Plan.¹⁸²

[341] Dr Boothroyd considers that the mānuka shrubland and wire rush wetlands are significant using the criteria in the RLWP.¹⁸³ Dr Marshall and Dr Bramley agreed.¹⁸⁴

[342] However, overall Dr Bramley considers the presence of wetlands does not elevate the significance of the vegetation at Te Kuha. His view is that the sole area

¹⁷⁷ Lloyd EIC at [99] and Marshall EIC at [61].

¹⁷⁸ Lloyd EIC at [89], McDonald at [15].

¹⁷⁹ Bramley EIC at [157]; Simcock rebuttal at [30].

¹⁸⁰ Transcript p 219.

¹⁸¹ Transcript p 561.

¹⁸² Simcock rebuttal at [30].

¹⁸³ Boothroyd EIC at [89].

¹⁸⁴ Marshall EIC at [77]; Bramley EIC vegetation at [81].

of significant vegetation which is affected by the proposal is coal measures vegetation. He considers that the NPSFM does not alter the already recognised high ecological value of the site.

[343] Ms Courtier acknowledges the relevance of the ‘no further loss’ policy under the NPSFM¹⁸⁵, but then explains that “the avoidance of effects on wetlands and streams has been prioritised where at all possible”¹⁸⁶, while acknowledging that:¹⁸⁷

[t]he proposal will lead to the unavoidable loss of intermittent watercourses (headwaters of Camp and Landslide Creeks) and wetland areas in the upper catchments at Te Kuha. The loss of the upper catchment intermittent streams and wetland areas will be remedied through the rehabilitation of the mine site.

Is rehabilitation of wetlands able to overcome removal/loss?

[344] In the context of all relevant plan provisions on wetlands, the applicant had relied on rehabilitation of wetlands *and* on an interpretation that the proposed mine might be accorded the status of ‘specified infrastructure’¹⁸⁸ in order to come within Policy 6.3.6 RLWP.

[345] To mitigate the loss of the wetland, the mine rehabilitation plan proposes recreation of ephemeral ponds, rehabilitation of mānuka wetlands, and a combination of direct transfer and indirect transfer using intermediate storage to be used for rehabilitating the wire rush wetland.

[346] Direct transfer of vegetation and soils represents best practice, however as discussed by the ecologists this will only be used over a minimum of 15ha, (not including on the access road), and the majority of soils will be stockpiled (up to

¹⁸⁵ Courtier EIC at [82].

¹⁸⁶ Courtier EIC at [85].

¹⁸⁷ Courtier EIC at [84].

¹⁸⁸ Courtier EIC at [122]-[125].

18 years) before use.¹⁸⁹

[347] The ecologists agreed that the wire rush wetland is best rehabilitated by direct transfer and that this has a medium chance of success. The estimated chance of success for mānuka shrubland wetland and ephemeral wetland rehabilitation by the ecologists ranged from low to medium.¹⁹⁰

[348] There was disagreement as to whether recreation of ephemeral wetlands would be successful. The proposed creation of a series of ephemeral ponds would not be the same as what would be lost at the Te Kuha site.

[349] Ms Clark, Ms Inward and Ms Courtier agreed that “in the long term the rehabilitation could be considered to not result in a loss of wetlands, however, in the short term there will be a loss”.

[350] Ms Yozin and Ms Sitarz disagreed and consider that the proposal does not meet the policy due to loss in extent of wetlands and the loss not being avoided by rehabilitation.¹⁹¹

Our evaluation - s104(1)(b)

[351] Having considered all the submissions and evidence on the NPSFM and mindful that its provisions have partially been implemented in the RLWP (which we discuss further below) we make the following observations of the implications of the NPSFM to the proposal before the court:

- (a) the strong ‘avoid’ language which was in the previous version of the NPSFM did not change at all as a result of the amendment;
- (b) neither the original exceptions nor the amended exceptions in Policy 3.22 provide any consenting pathway for a new coal mine and

¹⁸⁹ JWS Rehabilitation p 12.

¹⁹⁰ JWS Rehabilitation p 10.

¹⁹¹ JWS Planning p 6.

- this is acknowledged by the applicant;¹⁹²
- (c) the amended NPSFM contains no transitional provisions, meaning that it took immediate effect, and must be had regard to by the court. We consider it is deserving of considerable weight, and counts against a grant of consent;
 - (d) the Te Kuha proposal is not an existing coal mine and could not claim such status while still subject to the appeal currently before the court.

[352] Although Policy 3.22(1)(e) of the NPSFM also now includes a further exception for some mining activity, this is not able to be invoked in this case. Furthermore, we accept the submissions of the Director-General¹⁹³ that if the Te Kuha proposal is to meet the requirements of the exception in cl 3.22(1)(e), it would have to meet the effects-based requirements of each of sub paragraphs (i)(B), (ii), (iii) and (iv).

[353] We find that the exception in Policy 6.3.6(b) of the RLWP which provides for the effects management hierarchy do not apply to this proposal. Moreover, the wording in Policy 6.3.6 is that there is *no* loss of wetland extent, means exactly that.

[354] As with the NPSFM, we consider that under the RLWP there is no ability to take a long-term approach invoking the effects management hierarchy as is (in some limited instances) available to other biodiversity values in Chapter 7 of the RPS and in Policy 6.3(6)(b).

[355] That said, we find that while rehabilitation will address some of the loss in extent of wetlands over time, the chance of success is likely to have mixed results.

[356] We further consider that additional aquatic compensation would not address the loss in extent of the natural inland wetlands at the site, and would not

¹⁹² Legal submissions from Stevenson Mining Limited, dated 3 February 2023, at [8].

¹⁹³ Legal submissions from Director-General of Conservation, dated 3 February 2023, at [9].

meet Policy 6.3.6, as the effects management hierarchy cannot here be applied.

[357] Accordingly, we find that:

- (a) the immediate and direct loss of wetlands as a result of the proposed activity would contravene Policy 6.3.6 of the RLWP and Policy 6 of the NPSFM; and
- (b) the proposal does not meet any exemptions within Policy 6.3.6 RLWP that would enable the application of an effects management hierarchy.

Landscape and visual amenity effects

The activities of interest

[358] To recap on earlier narrative, the development trajectory proposed for Te Kuha involves opencast extraction of coal over a 16-year period, with rehabilitation being carried out progressively during that period, while a further 10-year period is anticipated to finish all post-mining rehabilitation and aftercare of the site and to achieve the ‘closure’ requirements.¹⁹⁴

[359] Ms Brewster identifies various activities¹⁹⁵ that will generate effects on the landscape values associated with the site, as well as the visual amenity experienced across the visual catchment. These have been set out in paragraph [27].

The relevant timeframe for consideration

[360] There is no dispute between the landscape experts that during the establishment and operational lifetime of the proposed mine, these activities will generate significant changes to the landscape on and around the mine site, which

¹⁹⁴ Brewster EIC at [17].

¹⁹⁵ Brewster EIC at [16].

will in turn be obvious to the naked eye across a broad visual catchment in the district.

[361] We are also mindful of the fact that depending on which landscape expert's opinion we reference, the proposed mine site either intersects with or is totally within an area that both experts have identified as an ONL. Thus, a question raised for the court is whether or not there are likely to be significant, long-term, adverse effects on the associated landscape values and levels of visual amenity. We will return to this question in due course.

[362] As agreed in the Landscape and Visual Effects JWS, such long-term landscape outcomes are closely linked to the ecological outcomes, particularly as they relate to the mosaic of vegetation that can be expected to evolve over time on the modified and rehabilitated mine site.¹⁹⁶ It was for the ecologists to determine the appropriateness of the plant species to be employed for revegetation and related mitigation.¹⁹⁷

[363] The landscape experts accept that it will take between 35 and 50 years to achieve full coverage of the former quarry site and cut surfaces, this being the relevant timeframe for our consideration and for assessing the proposal in its statutory context.

The importance of successful ecological rehabilitation

[364] The importance of successful landform and vegetation rehabilitation outcomes for their landscape and visual amenity consequences is reinforced and made explicit in the applicant's proposed Rehabilitation Management Plan. Five objectives of the draft plan stand out in this regard:¹⁹⁸

- a) Reinstatement of the ridgeline profile;

¹⁹⁶ Resulting from caucusing of the landscape experts.

¹⁹⁷ JWS Landscape and Visual Effects at 4.2.

¹⁹⁸ Simcock rebuttal. Draft Te Kuha Rehabilitation Management Plan at pp 9-10.

- b) Varied topography, across the ELF and back fill areas to create a topographic pattern that abuts natural ground levels and that integrates with surrounding existing topography, creates habitat diversity, and avoids an engineered appearance – specifically uniform terrace slopes and lengths and uniform bench widths shall be avoided;
- ...
- f) Incorporation of rock landscape features in the finished landform as far as practicable;
- ...
- h) Establish root zones and topography that support targeted native ecosystems and ecosystem mosaics and support a high degree of naturalness in the short and longer term. Naturalness means landforms will not include permanent highwalls, pit lakes or extensive linear features, avoiding consistent bench widths or terrace slopes;
- i) Establish self-sustaining native vegetation that is likely to develop into a mosaic of native vegetation associations that will be as similar as possible to the original vegetation and that are no more vulnerable than at present to fire, weeds, drought, and pest animals;

[365] There are elements of ecological rehabilitation where the likelihood of success is critical to acceptable long-term outcomes for landscape and visual amenity. With the benefit of the court’s site visit, the evidence suggests that changes in ridge profile, rehabilitated topography and vegetation mosaic are likely to be key aspects for our consideration.

The expert landscape evidence

[366] The two landscape experts appearing in this case – Mr Peter Rough (PR) and Mr Stephen Brown (SB) – are both experienced practitioners in their discipline. It is therefore of little surprise that there is much that is agreed between them in their assessments, including the values and attributes of the ONL associated with the Te Kuha site,¹⁹⁹ the importance of the Lower Buller Gorge²⁰⁰

¹⁹⁹ Landscape and Visual Effects JWS, at section 1.3, pp 3-4

²⁰⁰ Landscape and Visual Effects JWS, at section 1.4, p 4

and in particular the ‘gateway’ function²⁰¹ served by the stretch of road between Norris Creek to Windy Point and the status of the stretch of SH6 between Norris Creek and Berlins, a nationally important highway (i.e. of more than district or regional significance) because of its high scenic qualities.²⁰² Regarding the integrity of the landscape assessment methodology, they agreed on the adequacy of the range of viewpoints considered,²⁰³ the close correlation between the two rating scales of significance²⁰⁴ adopted by the two experts, as well as the adequacy of the photo simulations and video-simulations used for assessing the haul road.^{205,206} The experts also reached considerable agreement on how the ONL is appreciated²⁰⁷ by those travelling through the Lower Buller Gorge, as well as the extended time-frame for rehabilitation works to conceal most of the mine site and haul road earthworks.²⁰⁸

[367] Since these aspects of agreement are important to our deliberations on landscape issues, as background to our evaluation of their evidence we summarise their aspects of agreement (See Appendix 4) and also the key aspects of disagreement, and the reasons for this.

²⁰¹ Landscape and Visual Effects JWS, at section 2.1, pp 4-5.

²⁰² Landscape and Visual Effects JWS, at section 2.2, p 5.

²⁰³ Landscape and Visual Effects JWS, at section 3.1, p 5.

²⁰⁴ Landscape and Visual Effects JWS, at section 3.2, pp 5-6.

²⁰⁵ Landscape and Visual Effects JWS, at section 4.1, p 6.

²⁰⁶ We note Mr Brown’s expressed reservations.

²⁰⁷ Landscape and Visual Effects JWS, at section 5.1, p 8.

²⁰⁸ Landscape and Visual Effects JWS, at section 5.4, p 9.

[368] The experts presented their detailed assessments^{209 210} of landscape and visual amenity effects in relation to 13 common viewpoints.²¹¹ For nine of the 13 viewpoints they agree that the effects in the long term, after rehabilitation/remediation, will be either ‘very low’ or ‘nil’ (PR) or ‘negligible’ or ‘none’ (SB). We observe that, with two exceptions,²¹² the viewpoints for which the experts’ effects assessments are in complete agreement, are the more distant viewpoints, ranging in ‘distance from Trig M’ between 9.88km and 21.32km.

Aspects of disagreement – the most critical viewpoints

[369] In light of the foregoing summary of the nature and extent of landscape expert consensus, we now turn to the key points of disagreement, which are both time-related and viewpoint-specific. Spatially, the disagreements are focused primarily on the landscape and visual amenity effects of the proposal:

- (a) on the Lower Buller Gorge – the Scenic Reserve experience when travelling on SH 6 in either direction; and
- (b) the agreed ONL that abuts the northern flanks of the Scenic Reserve.

[370] Both agree that there will be adverse temporary effects and these need to be taken into account.²¹³ In doing so, they draw contrasting conclusions:²¹⁴

SB considers that the exposure to the mine during its operation represents a

²⁰⁹ Rough EIC at Table 1; Brown EIC at Table at [94].

²¹⁰ We note that, while both experts have made assessments comparing effects “at their most obvious” with effects “after rehabilitation” (in the case of PR) or “After Remediation” (in the case of SB), Mr Rough’s table headings state “landscape & visual effects” while Mr Brown’s state only “Visual Effects”. However, the Landscape Assessment Guidelines handed up during the hearing usefully state (at [6.25]) “Visual effects are effects on landscape values as experienced in views. They are a technique to help understand landscape effects. They are a subset of landscape effects”.

²¹¹ We note that Mr Rough includes an additional viewpoint – 10A, Buller River Layby. For viewpoint locations, refer to Mr Rough’s Graphic Supplement, dated 20 August 2021, at Sheet 31.

²¹² Viewpoint 1, Sergeants Hill, is at a distance of 6.82km from Trig M while Viewpoint 12, Mt Rochfort, is at a distance of 4.86km, according to Mr Rough’s Table 1.

²¹³ JWS Landscape and Visual Effects at 5.3.

²¹⁴ JWS Landscape and Visual Effects at 5.3.

fundamental change to the landscape of the Mt William Range and the mouth of the Lower Buller Gorge, (more so when viewed from the west), and related effects will leave a lasting impression.

PR considers that in the context of a West Coast highway experience, the temporary effects will be of a 'low' order.

[371] They also disagree on the extent to which the proposed rehabilitation measures would maintain and restore the values of the proposed ONL:²¹⁵

SB: even if there is effective rehabilitation in the long term, the mine will have a significant impact on the integrity and values of the ONL for decades to come, and rehabilitation will not completely offset these concerns. SB considers that the project will result in a fundamental change to part of the ONL and surrounding landscapes, and cannot accommodate the scale of these changes, regardless of the rehabilitation proposed.

PR is satisfied that the rehabilitation of the site landforms, together with revegetation of the mine site and haul road, would result in a level of effect in relation to the ONL that is acceptable.

Our evaluation on landscape

[372] As acknowledged, our determination on this aspect is related ultimately to our findings regarding ecological effects of the proposed mining and rehabilitation, particularly in respect of vegetation cover.

[373] We have not been assisted by the different approaches taken by the two landscape experts to presenting their more detailed assessments of the Lower Buller Gorge experience. While both experts have much to say about the landscape characteristics and values of naturalness and intactness, and the visual cohesion and amenity derived from these, they have presented their assessments in distinctly different ways. While both ways have their potential limitations, these

²¹⁵ JWS Landscape and Visual Effects at 5.4.

differences in approach make the court's task of weighing up the relative merits of the evidence more difficult.

[374] Mr Rough focusses his detailed assessment explicitly on viewpoints²¹⁶ 9, 10, 10A,²¹⁷ 11 and 13, for which he has provided a selection of photo-simulations and video simulations. Viewpoints 10 and 10A are particularly relevant for viewers travelling eastwards through the Gorge, while viewpoint 11 relates to the viewer experience travelling westwards and viewpoint 13 gives insights into viewer experience looking northwards from Buckland Peaks.

[375] Furthermore, in relation to each of these viewpoints (except viewpoint 9), Mr Rough sets out an explicitly staged assessment over a 35-year period, each supported by a corresponding photo simulation, linking directly to his assumptions about the mine development and rehabilitation sequence.²¹⁸

[376] Mr Brown is critical of these photo simulations and video simulations as:²¹⁹

... In my opinion, neither fully captures or addresses the essence of the experience of approaching the gorge mouth from Westport. They lack the 3-dimensional qualities of actual views and the line of sight in both still frame images and videos is fixed, without the ability to turn and focus on points of interest or disturbance in the landscape.

[377] While we accept that point in a literal sense, we do not take Mr Rough's assessments to be based simply on what is contained in those simulation exhibits, which are a tool for communicating information. Mr Rough has visited all

²¹⁶ For comparison with the viewpoints over which the experts agree their effects assessments, these 4 viewpoints are at distances of 8.94km (#9), 6.3km (#10), 4.7km (#10A), 4.8km (#11) and 9.7km (#13) respectively from Trig M as shown in Mr Rough's Table 1.

²¹⁷ An additional viewpoint sought by Mr Brown – see Brown EIC at [95].

²¹⁸ For example, Mr Rough provides commentary at the following stages for viewpoint 10 – for years 1, 3, 13, 15, 17, 19 and 35.

²¹⁹ Brown EIC at [106].

locations on several occasions and gained the 3-dimensional experience alluded to by Mr Brown.

[378] It must be added that the court has done likewise. Furthermore, in respect of Mr Brown's 'line-of-sight' criticism, we are inclined to conclude that the fixed, still-frame images are just as likely to emphasise the noticeability of the landscape disturbances associated with the mine site by presenting them in a more limited visual context than would be apparent when the viewer has the ability to turn their head and thereby take in a much wider visual context.

[379] With reference to Mr Brown's assessment approach, as presented in his statement of evidence, we note particularly Tables 3, 5 and 6:

- (a) Table 3: describes in considerable detail, for the key landscape characteristics and values, their significance and the key catchments and audiences they relate to. These descriptions are particularly helpful for contextualising the location and associated views;
- (b) for all relevant landscape characteristics in Table 3,²²⁰ Table 5 describes his assessment of the effects of the mining proposal as experienced when approaching the mouth of the Lower Buller Gorge (travelling in an easterly direction), summarising the same over an initial 35 years²²¹ using the rating scale adopted by Mr Rough;²²²
- (c) for all relevant landscape characteristics in Table 3, Table 6 similarly describes his assessment of the effects of the mining proposal as experienced when travelling through the Lower Buller Gorge in a westerly direction.²²³

[380] While Mr Brown's descriptions are rich in detail, two aspects are concerning

²²⁰ Ten of the twelve agreed characteristics.

²²¹ Brown EIC at [110].

²²² However, this refers to Mr Rough's rating scale used in his 2018 statement of evidence, not his 2022 updated evidence.

²²³ In the same way as for Table 5.

due to the lack of sufficient clarity as to:

- (a) the extent of relevant views which is important to understanding how views of the mining operation are likely to interact with the existing visual amenity values in the Lower Buller Gorge; and
- (b) how the scale of adverse landscape and visual effects might change over time, which is linked to assumptions about the effectiveness of vegetative rehabilitation.

[381] We understand that, for many of the characteristics and values identified, the potential for the proposal to have any effect on these characteristics will depend on visibility, particularly the ability to see any part of the mine or access/haul road as part of any nominated view.

[382] What is not always clear from Mr Brown's descriptions is the specific viewpoint location or, perhaps more relevantly, the stretches of road that provide any possibility of viewing the same.

[383] For example, what is the spatial extent intended by phrases²²⁴ such as "near the mouth of the Lower Buller Gorge" or "the approaches to the gorge entrance" or "the approach to the Buller Gorge" or "views into the mouth of the Buller Gorge and up and down its length" or "views either side of the highway" or "successive views up and down the scenic reserve".

[384] We accept that any view of a mining operation in the existing landscape would potentially have an adverse effect on visual amenity. From the evidence we have read, there are clear limits to the opportunities for seeing the proposal when passing through the Lower Buller Gorge. It is therefore difficult to know which views identified by Mr Brown are likely to be affected by the intrusion of all or any

²²⁴ Phrases occur in Table 3 of Mr Brown's EIC.

part of the mine or access/haul road.²²⁵

[385] Of greater concern is the approach in his Table 5 assessments, due to the failure to attempt to describe any difference between the visual effects at their most obvious and the visual effects after remediation in the same way as he did in his October 2016 peer review report.²²⁶ Rather, he has presented a summary evaluation “over an initial 35 years”.²²⁷

[386] His Table 6 assessments are on the same basis, although for two of the characteristics he does provide a more specific, limited timeframe for the effect.²²⁸ However, even in these instances, there is no change in his rating between the limited timeframe and the whole 35-year period. It is therefore difficult to know what assumptions Mr Brown has made about the effectiveness of proposed rehabilitation, although, as noted above, he appears not to rule out the possibility that rehabilitation may have some degree of success in remediation.

[387] We now turn our attention to the details of their respective assessments.

[388] Mr Rough assesses viewpoints 9, 10 and 10A when travelling eastwards towards the Gorge and viewpoint 11 when travelling westwards. He describes the nature of the landscape changes he expects to be visible from each of the viewpoints in turn at stated times in the future (out to 35 years), and the associated sequences of landscape and visual amenity effects.

²²⁵ For example, in Table 5, Mr Brown references Mr Rough’s Viewpoint 10 (Sheets 63 and 64) in support of his discussion about the potential adverse effects of the mine on public perceptions of the Buller River as a whole, yet these photo-simulations do not show the “*clear fast flowing river and its exposed shingle beaches*” at all.

²²⁶ Brown EIC at [94].

²²⁷ Brown EIC at [110].

²²⁸ Brown EIC at pp 57-58. In Table 6, under (a) “In particular, the outline and progressive lowering of Te Kuha’s profile would be apparent from Years 1 to approximately 19, more obviously so through to Year 11 or 12 due to the obvious cut and ‘hip’ on the western skyline.” and under (b) “The current vegetative sequence across the ridge and slopes around the mine would be visibly disturbed and through to around Year 13, at least, would tend to highlight the disruptive presence of mining activity on and near the skyline”.

[389] Mr Brown makes occasional references in Table 5 to two specific viewpoints²²⁹ relevant to eastward travel on SH 6 but references no specific viewpoints in Table 6 relevant to westward travel.

[390] We viewed the four MP4 video simulations prepared by Mr Rough and confirmed by Mr Brown as “analogous with the experience of travelling along SH 6 in both directions”.²³⁰ We drove the same stretches of road (each direction) several times in order to simulate the experiences referred to by the landscape experts.²³¹

[391] We summarise the experts’ conclusions from their assessments of landscape and visual amenity effects for these five viewpoints in the following table (Table 1).

[392] In doing so, we are mindful that four of the five viewpoints are located on SH 6, between the junction with SH 67 (west of the gorge) and Berlins (east of the gorge) and therefore relate to what they have agreed “could be considered a nationally important highway (i.e., of more than district or regional significance) because of its high scenic qualities”.²³²

Table 1: Summary comparing the landscape and visual amenity assessments for five key viewpoints

Viewpoint	Effects at their most obvious	Effects after rehabilitation	Notes
VP9 SH 67	SB: “substantial” ²³³	SB: “moderate- slight”	Neither expert provides a detailed, staged assessment over time

²²⁹ Brown EIC at Table 5 makes reference to Viewpoint 10 (twice) and 10A (once) when discussing and rating his 10 chosen Landscape Characteristics/Values.

²³⁰ Brown EIC at [89].

²³¹ As part of our site visit.

²³² JWS Landscape and Visual Effects at 2.2.

²³³ Brown EIC at [94].

Viewpoint	Effects at their most obvious	Effects after rehabilitation	Notes
Crossroads subdivision	PR: “moderate” ²³⁴	PR: “very low”	
VP10 SH 6 Norris Creek	SB: “very substantial” ²³⁵	SB: “moderate-slight”	SB challenges the accuracy of the visual simulations of the haul road; “appreciably affect ... for at least 35 years” ²³⁶ PR challenges SB’s assumptions PR provides staged assessments and a series of 11 photo-simulations. Experts conclude similar level of residual effects in the long term.
	PR: “high” ²³⁷	PR: “low-moderate reducing to very low”	
VP10A Buller River layby	SB: “substantial” ²³⁸	SB: “slight-‘negligible’ on a permanent basis”	Questionable assumptions by SB regarding duration of effects from vehicle movements/lights post mining operations ²³⁹ PR provides staged assessments and a series of 3 photo-simulations. Both experts conclude the same level of residual effect in the long term.
	PR: “moderate” ²⁴⁰	PR: “very low”	
VP11 Lower Buller	SB: “substantial to potentially severe” ²⁴¹	SB: “slight” ²⁴²	PR provides staged assessments and a series of 11 photo-simulations.

²³⁴ Rough amended EIC, dated 29 July 2022, at Table 1.

²³⁵ Brown EIC at [94].

²³⁶ Brown EIC at [105].

²³⁷ Rough amended EIC at Table 1.

²³⁸ Brown EIC at [95].

²³⁹ Brown EIC at Table 5(b). See also Rough rebuttal at [14].

²⁴⁰ Rough amended EIC at Table 1.

²⁴¹ Brown EIC at [119]. See also Table 6(a), (c) and (i) regarding potential duration of effects.

²⁴² Brown EIC at [94].

Viewpoint	Effects at their most obvious	Effects after rehabilitation	Notes
Gorge	PR: “high” ²⁴³	PR: “low”	Both experts conclude the same level of residual effect in the long term.
VP13 Buckland Peaks	SB: “severe” ²⁴⁴ PR: “high” ²⁴⁵	SB: “moderate to slight (over time)” PR: “low-moderate reducing to very low”	PR provides staged assessments and a series of 7 photo-simulations. Experts conclude similar level of residual effects in the long term.

[393] We note that Mr Brown acknowledges “there are more similarities than differences in relation to the impact ratings attributed to the various (sic) by Peter Rough and myself”.²⁴⁶ He qualifies this conclusion, stating “I don’t believe that the ratings alone address the significance of the changes anticipated” and listing five matters, including the haul road, the experience of approaching the Lower Buller Gorge from the west and from the east, the temporary nature of the anticipated effects and Westport’s long association with mining.²⁴⁷

[394] Having reviewed all the evidence and given particular attention to these locations in the court’s site visit, we are inclined to the view that Mr Brown’s assessments do not pay sufficient attention to the long-term outcomes, and therefore overstate the significance of adverse effects by focusing on the more immediate and significant landscape and visual effects which are not disputed.

[395] Referring to resurgent tourist numbers, Mr Brown states:²⁴⁸

For these visitors, the sights and sounds of both the gorge and Te Kuha would remain, as now, a largely one-off experience: they would see the gorge once or

²⁴³ Rough amended EIC at Table 1.

²⁴⁴ Brown EIC at [96].

²⁴⁵ Rough amended EIC at Table 1.

²⁴⁶ Brown EIC at [97].

²⁴⁷ Brown EIC at [97].

²⁴⁸ Brown EIC at [124].

twice and that experience imparts an enduring memory of their time in the Buller District – one that is then frequently relayed to friends and family. For these visitors, rehabilitation makes no difference, as that one-time exposure to the mine, its haul road, lighting, vehicles or other mining paraphernalia and effects leaves a permanent impression.

[396] We are not persuaded by this conclusion – for two reasons:

- (a) firstly, it lacks any supporting empirical evidence;
- (b) secondly, while we respect Mr Brown's professional opinions on landscape matters, we believe that such a conclusion – in terms of popular perceptions and the durability of fleeting impressions – strays outside his area of stated expertise.

Overall evaluation of the proposal

[397] We are required to exercise our discretion whether to grant or refuse consent under s104B RMA. Our consideration of any actual potential effects on the environment in the context of s104(1)(a) has for the most part been through the lens of the objectives and policies of the relevant statutory instruments and notably the NPSFM, RPS and RLWP. On the basis of our findings earlier set out, these provisions all militate against a grant of consents for the mining proposal.

[398] Due to the wording of the policies in Chapter 7 RPS, and the very directive approach of the NPSFM in relation to biodiversity values, we are prevented from accounting for the offsetting and/or compensatory measures proposed by the applicant in terms of our consideration of the proposal under those instruments, notwithstanding their relevance as positive effects in the context of s104(1)(a).

[399] However, it is for the court to decide what weight should be given to the matters of relevance identified in s104. We find that these positive effects relevant in the s104(1)(a) context do not overcome our effects based findings on ecological effects that have informed our s104(1)(b) evaluation.

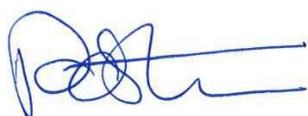
[400] We are mindful that there are some objectives and policies to be found in the Buller District plan that support the mining proposal, and as the commissioners found to be the case in the decision under appeal including the positive economic effects for the community of Westport, about which we find in favour of the applicant including the positive effects of the TKBMA. The economic matters are not specifically addressed in our decision although we have considered the same.

[401] We are mindful that the commissioners found that some of the provisions of the DP in particular were found to support a grant of consent in the decision under appeal. They noted the focus on “ensuring an appropriate balancing as between providing for the economic and social wellbeing of the community and ensuring that the impact of mining activities is mitigated”. However, none of those provisions, which remain operative, overcome the barriers to a grant of consent under the superior instruments on biodiversity values and wetlands mentioned above.

[402] Accordingly, we have come to a decision that differs from that arrived at by the commissioners, mostly due to the existence of the instruments that were not in force when their decision was made. We conclude that resource consents should not be granted for the mining proposal and accordingly the appeal against the commissioner’s decision is successful.

[403] Costs are reserved.

For the court



P A Steven
Environment Judge

