Wilsons Lead Road and Tauranga Bay Road

Ecological Impact Assessment

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Introduction

Tauranga Bay Holdings owns a property at the corner of Tauranga Bay Road (SH67A) and Wilson Lead Road and proposes to subdivide the property into 21 Lots for residential properties, with part-shared accessways and reserves identified. The proposed subdivision is approximately 10.5 hectares in size, and is covered almost entirely in rank grass pasture, except for two defined areas of wetland which drain northwards. The property, here also referred to as the Project Area, is surrounded by freehold properties on all sides with formed roads within road reserve immediately abutting the north-east and western boundaries of the property.

The property falls within Buller District administrative area the Foulwind Ecological District. While the Buller District Plan currently sets out objectives and policies which provide the framework for managing natural and physical resources within the Buller District, this will be replaced in the future by the proposed Te Tai o Poutini Plan (pTTPP). Some sections of the pTTPP have already taken effect. This plan will combine the three district plans on the West Coast. The operative District Plan and the pTTPP must both be consistent with the existing West Coast Regional Policy Statement which also gives direction on appropriate land-use throughout the wider region.

This report included an on-site investigation of values, a desk-top exercise compiling additional relevant ecological information, followed by a general assessment of the significance of vegetation and habitats identified and recommendations with respect to minimising potential adverse effects.

The scope of this report includes:

- Description of the Environment, including context within the Foulwind Ecological District.
- A description of the vegetation and flora found within the Project Area; including special attention given to species listed as Threatened or At Risk, as well as species at their distributional limit.
- Verification of wetland presence, including defining these areas as a mapped overlay within the proposed subdivision. Areas deemed to be natural inland wetlands are assessed further to determine whether these meet the criteria of significance according to the Regional Policy Statement (RPS).
- A compilation of all bird species noted whilst on-site and a literature search to determine whether species additional to those seen may be present.
- An assessment of any waterways within the Project Area to determine the importance of these for aquatic life. Two minor catchments drain the proposed subdivision and these were visually inspected to determine whether there was merit in further survey for aquatic life.
- Literature search of lizards and assessment of lizard habitat likely to be present within the study area.

- A high-level consideration of measures to avoid, remedy and/or mitigate the anticipated adverse effects.

An initial site visit was undertaken to determine whether the two wetland areas are drained by waterways that might support aquatic fish or invertebrates and whether to undertaken eDNA sampling to inform this aspect. This is discussed in more detail in 4.3. Two site visits were undertaken, with a preliminary visit on the 10th December 2024 to inspect the area for possible wetland presence, followed by the main visit on 9th January 2025, when the main on-site assessment was undertaken.

1 Proposed Works

The operative Buller District Plan states that subdivision on land areas zoned as rural are discretionary activities. While the pTTPP defines the project Area as 'General Rural', subdivision under the proposed plan will limit Lot sizes to a ten-hectare minimum.

The Plan identifies the Project Area as falling within the coastal zone and this limits the amount of indigenous vegetation clearance to just 500m^2 per title in any three-year period[1]. However, the preliminary site visit confirmed that there are no areas of contiguous indigenous vegetation within the Project Area and this aspect is therefore not considered of any pertinence.

The proposed subdivision will provide for titles ranging in size from many that are 4000m^2 or slightly greater, through to the largest at 5854m^2 in size. The main accessway will be formed off Wilsons Lead Road and provide access to titles extending off either side of this central road formation. Dwellings will be required to be self-sufficient with respect to utilities such as water-supply and treatment of grey and wastewater. Electricity will likely be provided to the subdivision, though individuals may choose to generate their own. Stage 1 of the proposed development will focus on proposed Lots 1 to 8, while Stage 2 will encompass proposed Lots 9 to 23.

The detail around utilities has yet to be finalised and these aspects, including their potential for causing adverse effects, are considered at only a high level at this early stage. Proposed mitigation, for the purposes of this report, therefore focus mainly on the immediate direct effects from vegetation clearance and earth-movement for dwelling establishment, and potential effects on any fauna within, or within close proximity to, the Project Area. Mitigation measures are outlined which seek to avoid or minimise any potential adverse effects on ecology, as well as identifying opportunities for enhancement where they exist and making recommendations to achieve desirable ecological outcomes.

[1] Eco-R2, this clause has taken effect.

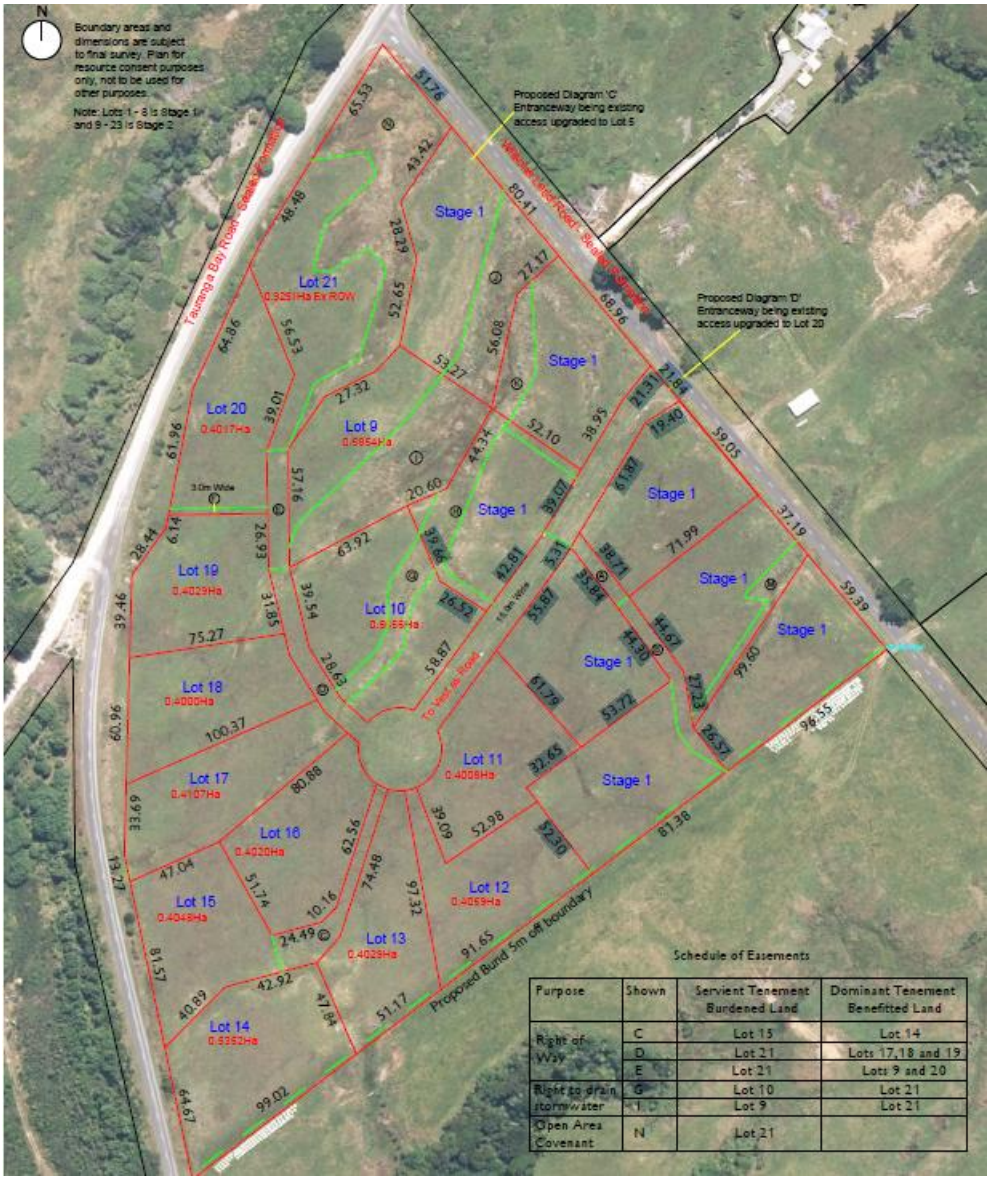

Figure 1. Scheme Plan for proposed subdivision (25 March 2025) Eliot Sinclair acknowledged.

2 Existing Environment

The Project Area consists of Section 41 13711 is 10.48 hectares in size and falls within the middle of the Foulwind Ecological District (Figure 2). This has relevance when considering and comparing the ecological values within the Project Area with those of other areas in the district (chapter 5). The site comprises flat to gently undulating ground at about 40m in elevation, approximately 1000 to 1200m from the coast at Tauranga Bay. The land is predominantly covered by exotic pasture species with some indigenous sedges and shrubs in places, while the two main gully systems in the north-west are dominated by sedges and rushes. The vegetation is described in more detail in 4.1.

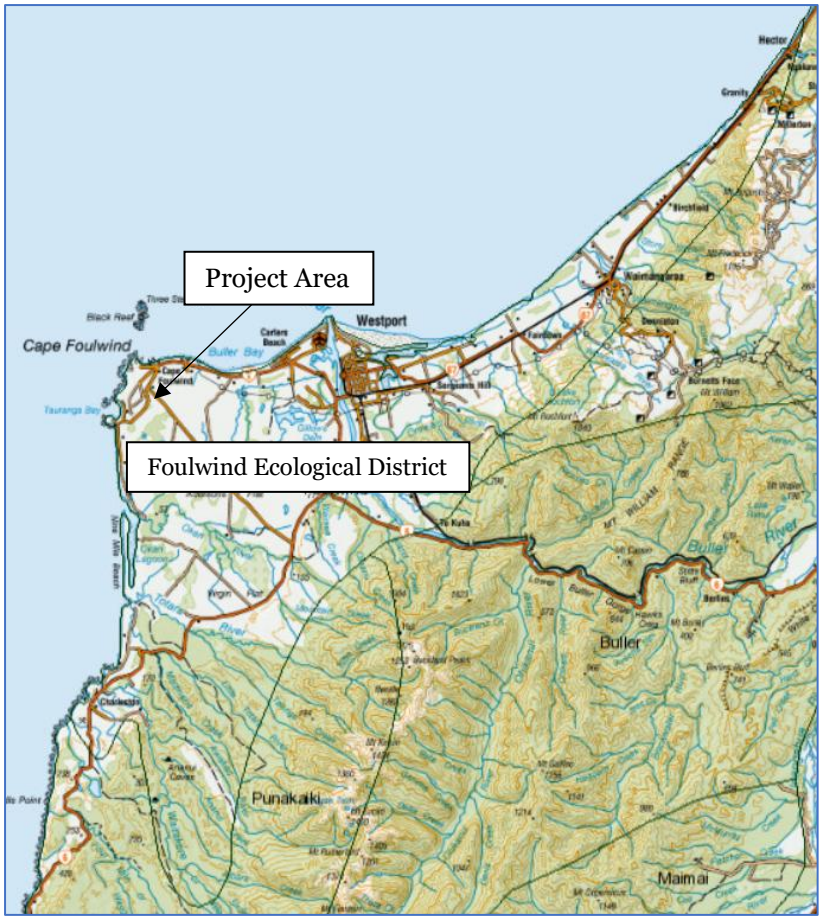

Figure 2. Foulwind Ecological District and location of Project Area. DOCmaps acknowledged.

The key criteria on which Foulwind Ecological District is defined relate to topography (low-lying, rolling and flat), geology (terraces) and vegetation (McEwan, 1987).

The topography of the Foulwind Ecological District is predominantly made up of coastal plains and interglacial marine terraces surrounding Cape Foulwind and is crossed by the Buller River and several smaller rivers. Within the Project Area the topography is flat to gently-sloping, undulating terrain, with gullies incised to about 5m or so in depth. The geology is entirely late Pleistocene ocean beach deposits comprising coastal marine sands and gravels. The vegetation of the district would originally have been largely podocarp-hardwood forest of which some cutover areas remain. By contrast, the Project Area retains no original forest or forest components and the only area that was given special attention was the wet depressions where indigenous wetland flora was considered likely to be present.

The Threatened Environment classification is that of least concern i.e. >30% left and >20% protected (https://ourenvironment.scinfo.org.nz).

The Land Environments New Zealand (LENZ) classification for the property is entirely 01.3a. Environment O1.3a is well represented on the West Coast comprising 20,408 ha in area, and is characterised by mild temperatures, moderate solar radiation, high monthly water balance ratios and landforms comprising flat coastal plains. Moderately fertile soils are mostly sand-derived.

There are no known rare terrestrial ecosystems within the land area of interest (Williams *et al*, 2007), nor does the WCRC Land and Water Plan list any schedule 1 or 2 wetlands within

the Project Area. The nearest listed wetland is Silverstream Swamp, 1.3km to the south-east of the eastern property boundary.

3 Methodology

3.1 Vegetation

Details of vegetation composition and structure were compiled during the two site visits, whereby a walk-through survey of the property was undertaken and note was made of any species currently listed as Threatened or At Risk (according to de Lange *et al*, 2024), any plants at or near their distributional limit, or otherwise noteworthy. Vegetation noted on site was identified to species level, while tier height and stature of dominant species was noted as appropriate.

The degree of naturalness, and physical, biotic and human impacts and current use were noted. The presence of invasive species was noted also as this is relevant to consideration of eradication and enhancement objectives in the longer term.

Wetland identification was undertaken by referencing wetland delineation protocols (Clarkson, 2014). This methodology is based upon the prevalence or dominance of species that are usually found within wetland environments.

3.2 Avifauna

Birds observed during site visits were recorded as point observations and note was made of the general abundance of species noted. All birdlife was identified to species level, and these are ascribed a threat status according to Robertson *et al*, 2021.

3.3 Aquatic biota

The waterways within the Project Area were assessed and considered for their potential as aquatic habitats. Observations of the waterways showed low-volume and sluggish waterflow, captured by two small-diameter culverts. Only a very small volume of water enters either of the two culverts, during normal seasonal conditions. The vegetation occupying the drainage basins from which these small flows issue is dense and considered unlikely to support native fish and few aquatic invertebrates.

3.4 Lizards

While a number of lizard species are present in the wider vicinity of the Project Area, it is anticipated that the property likely supports few if any herpetofauna since the grasslands have been intensively farmed until recently. This management, which includes grass mowing and grazing that reduces the vegetation to a low stature, is not conducive to the survival of lizard species. A desktop assessment of the Project Area was undertaken for native lizards in the vicinity and reference is made to known populations of lizards nearby.

4 Results and potential effects

4.1 Vegetation

The project area comprises two main vegetation types: these are exotic grassland and wetland associations. The Project Area has been subject to historic vegetation clearance with imagery from 1951 showing that forest had been removed by this time (Figure 3).

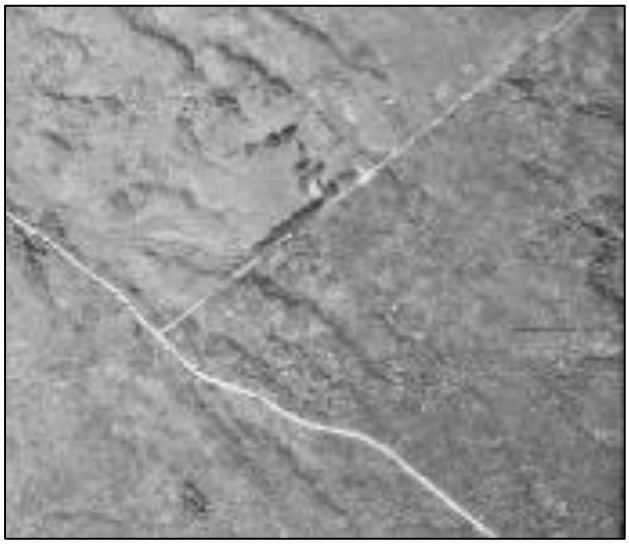

Figure 3. Aerial image taken in 1951 showing property devoid of forest, but with likely rough shrubland and mixed grass covering the area of interest. Retrolens acknowledged.

4.1.1 Exotic grassland

Exotic grassland is fairly uniform across the property with composition typically including sweet vernal (Anthoxanthum odoratum), narrow-leaved plantain (Plantago lanceolata), buttercup (*Ranunculus repens*) dandelion (*Taraxicum officinale*), lotus (*Lotus pedunculata*) and self-heal (*Prunella vulgaris*). The exotic soft rush (*Juncus effusus*) was observed in damper depressions while patches of the native, grass-leaved rush (*Juncus planifolius*) were observed throughout, also on moist terrain (Figure 4).

Figure 4. Typical exotic grassland on rolling terrain (looking south from the centre of the property) with dark brown patches of flat-leaved rush (*Juncus planifolius*).

There were few other notable species across the proposed subdivision. A small manuka (*Leptospermum scoparium*) was observed in the south-west, ferns were occasionally observed on the banks of drainage basins included native shield fern (*Polystichum vestitum*), lime fern (*Pakau pennigera)*, kiokio (*Austroblechnum novae-zelandiae*) and wheki-hard tree fern (*Dicksonia squarrosa*).

Figure 5. Typical grassland with gorse and ragwort on the shoulders of small gullies and drainage basins.

Invasive species observed include gorse (*Ulex europaeus*) and ragwort (*Senecio jacobea*) which are more common on the shoulders of drainage basins (Figure 5). Gorse was also quite common on the fringes of wetland, along with dense blackberry (*Rubus fruticosus*) while Yorkshire fog (*Holcus lanatus*) occupied this moister ground also but was more common away from the denser shrubby growth of the blackberry.

Vegetation would be modified through activities undertaken on individual titles, with levelling and drainage of properties being anticipated and earthworks to prepare sites for the establishment of dwellings, utility buildings and gardens. However, there are few indigenous elements identified within any of the Lots proposed for development, with the exception of

proposed Lots 5 and 9, which include 'wetland 2' within their boundaries. Wetland 1 falls within a Lot 23 which has been set aside for reserve. Activities undertaken within the former would be limited by restrictions imposed by the NES-F (2020).

4.1.2 Wetland

Two distinct areas of wetland were identified within the Project Area. These are both of a similar nature, that is *Isolepis prolifer* rushland grading through to *Juncus bulbosus* rushland (Figure 6 and 7).

Figure 6. Wetland areas within the Project Area also showing the two culverts that drain the low-volume flows beneath Wilson's Lead Road, draining in a north-eastly direction.

Isolepis prolifer is an indigenous wetland species that tends to occupy very wet swales or depressions although it is also able to withstand temporal drying out. For this reason, it is often seen in drainage ditches on farms in the Buller, since this species is also able to recover from stock browsing on the succulent foliage. This association appears to have arisen as a result of the natural drainage within the two small gullies in the north-west of the property

being impeded (Figure 8), through the formation of Wilsons Lead Road. This is despite the installation of culverts to capture the natural flow and direct it beneath the road.

Figure 7. Approximate wetland boundaries (southern-most part of each is truncated by the field of view) in the north-west of the property. The bright green portions of the wetland are dominated by *Isolepis prolifer* while brown portions are dominated by exotic *Juncus bulbosus* and *Myosotis scorpioides*.

Figure 8. *Isolepis prolifer* association within 'wetland 1' (looking south-west), showing exotic grassland beyond.

Other species observed include the exotic *Juncus bulbosus* and water forget-me-not (*Myosotis scorpioides*) and these species tend to predominate on areas where the water-depth is not as great. These tend to have a presence where the water depth is not so great. The native sedge *Carex virgata* occupies the more incised gully situations where narrow

fingers extend southward from the two wetlands (Figure 9) and at this site was growing on firmer ground, though it often prefers swampy openings within native forest.

Figure 9. The native sedge *Carex virgata* occupying the narrower gullies around the drainage basins of wetlands 1 and 2. Gorse (sprayed) and ragwort are evident beyond.

The two wetland areas fall beyond any areas deemed suitable for building upon. As noted above (in 4.1.1), 'wetland 1' falls within a proposed reserve designated as Lot 23 while 'wetland 2' falls along(but outside of) the eastern portion of Lots 5 and 9 and extends a short distance into proposed Lots 4 and 8. There is considered to be adequate area for the establishment of a modest dwelling, on each of the proposed Lots, on the ridge crest between these two wetlands.

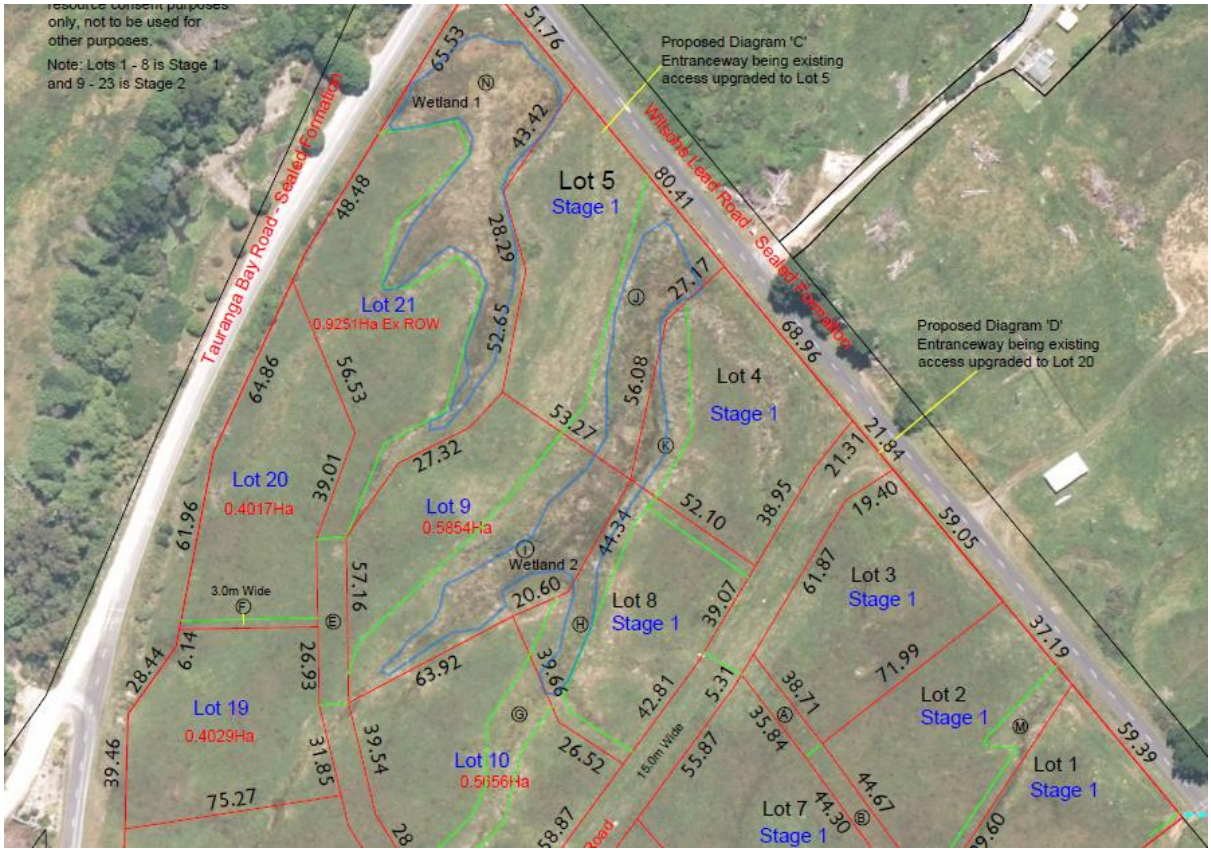

Figure 2. Proposed subdivision showing overlay of wetland areas (blue outlines) over proposed subdivision boundaries. Elliot Sinclair basemap.

The wetlands identified within the Project Area are assessed for significance in 5.3, since the NES-F (2020) contains provisions around restricted activities with respect to natural inland wetlands. Regulations 52-54 of the NES relating to activities around wetlands are pertinent and outlined in 5.3.

4.2 Avifauna

A total of just eight bird species were encountered during field work within the Project Area while another eight are likely to use the habitat present but were not observed during the time on site (Table 1). Of this total, eight are endemic or native while the remainder are widespread introduced species. None of the avifaunal species observed, or likely to be present, are listed as Threatened or At Risk (according to Robertson *et al*, 2021).

Table 1. Bird species recorded (squares highlighted green) or likely within the Project Area; * denotes indigenous species while Taonga species are denoted by #.

Species	Common and/or Māori name	Threat Status[2]	Notes
Alauda arvensis	Eurasian skylark	Introduced and Naturalised	grassland
Anthus novaeseelandiae	Australasian pipit, pīhoihoi	Native, not threatened	grassland
Carduelis carduelis	goldfinch	Introduced and Naturalised	grassland
Carduelis flammea	lesser redpoll	Introduced and Naturalised	grassland
*Circus approximans**	Australasian harrier, kāhu#	Native, not threatened	Throughout
Emberiza citrinella	yellowhammer	Introduced and Naturalised	grassland
Fringilla coelebs	chaffinch	Introduced and Naturalised	grassland
*Gallirallus australis**	weka #	Endemic, Not Threatened	grassland
*Hirundo neoxena**	welcome swallow	Native, not threatened	Occasional over wetlands
*Porphyrio melanotus**	Australasian swamphen pūkeko#	Native, Not threatened	Likely in places but not observed.

[2] According to Robertson, H.A., Baird, K., Dowding, J.E., Elliot, G.P., Hitchmough, R.A., Miskelly, C.M., McArthur, N., O'Donnell, C.F.J., Sagar, P. M.,Scofield, R.P. Taylor, G.A. 2017. Conservation Status of New Zealand Birds, 2016. New Zealand Threat Classification Series 19. Department of Conservation.

*Rhipidura fuliginosa**	New Zealand fantail pīwakawaka #	Endemic, Not Threatened	Occasional around shrubland i.e. gorse and blackberry
*Tadorna variegata**	Paradise shelduck pūtakitaki#	Native, Not Threatened	Likely on grassland
Turdus merula	blackbird	Introduced and Naturalised	grassland
Turdus philomelos	song Thrush	Introduced and Naturalised	Occasional in grassland
*Vanellus miles**	spur-winged plover	Native, not Threatened	Likely on grassland.
*Zosterops lateralis**	silvereye	Native, Not Threatened	Occasional in shrubland

While roroa/great-spotted kiwi (*Apteryx maxima*) are not present within the property boundary, this highly-ranked species is present quite close-by, with observations within one kilometre to the south and south-west (Nichol, 2020). Kiwi are currently unlikely to undertake forays onto the property from nearby, due to the lack of concealment opportunities, but it is possible that as the subdivision is developed, the establishment of amenity plantings and the likes could result in kiwi utilising the proposed Project Area. Roroa are listed as Threatened: Nationally vulnerable (Robertson *et al*, 2021) and two kiwi surveys[3] undertaken in 2023 and 2024, surveying between Carters Beach and the Totara river, confirmed that there are a number of breeding pairs in relict coastal forest and shrubland. Roroa, like other flightless birds, are vulnerable to predation by dogs and it is important that any dogs living in the area are kept under control at all times. This aspect is discussed in 5.5.2.

4.3 Aquatic biota

The wetlands and draining seepage water-ways were assessed as unlikely to support a biodiverse macroinvertebrate or fish fauna and no additional sampling or survey was undertaken.

4.4 Native lizards

The lizard fauna of the West Coast is unique in having a number of lizard species with very localised populations, species known from only a few specimens or species otherwise restricted in habitat. Within the Buller region, there are records of species described only relatively recently i.e. the cobble skink from Granity. Survey work undertaken on the nearby Kawatiri Coastal Trail resulted in the finding of Nationally Critical Hokitika skink *Oligosoma aff. infrapunctatum* 'Hokitika' (Hitchmough *et al*, 2021) as well as (At Risk: Declining) Newman's speckled skink *Oligosoma newmani*.

[3] Kiwi surveys co-ordinated by the author and engaging a team of 20 or more people have been undertaken over a single suitable night in spring, supported by the Charleston to Westport Coastal Trail Trust.

Gecko species such as the West Coast green gecko (*Naultinus tuberculatus)* and the forest gecko (*Mokopirirakau granulatus)* tend to utilise shrubland habitat for feeding and utilise the flaky bark on trees, flat rocks or other objects to conceal themselves at other times. There is relatively little shrubland within the Project Area and what exists is mainly patchy gorse and blackberry. While both species may provide habitat, these shrublands have arisen as isolated patches and the lack of connectivity with better-quality habitat nearby means that overall there is low probability of gecko species occurring within the proposed subdivision area.

The two lizard species that might find habitat within the Project Area are the Northern grass skink (*Oligosoma polychroma)* and the Newman's speckled skink (*Oligosoma newmani*) (Table 2).

Table 2. Lizard species potentially within the study area. The cell shading for a particular species indicates the degree of threat to that species (with darker shading signifying a greater threat).

Species	Common and/or Māori name	Threat Status	Notes
Oligosoma newmani	Newman's speckled skink	At Risk: Declining	Coastal scrubland, rank grassland, rocky outcrops and cobble banks.
Oligosoma polychroma	Northern grass skink	Not Threatened	Widespread distribution and habitat; dunelands through to forest and alpine.

While northern skink and Newman's skink find suitable habitat within grassed areas, especially where there are sun-basking opportunities, like geckos, they need concealment opportunities such as fissured rocks and logs etc. Both skink species listed above are strongly heliothermic (avid sun-baskers), live for about three to four years in the wild and feed on small invertebrates, worms, nematodes and soft fruits (van Winkel, 2018). Grassed areas that are actively grazed or mown are unlikely to contain skinks and so the grazing management with cattle over the last few years has likely minimised the chances of there being skinks present.

5 Significance of vegetation and habitats, terrestrial and freshwater indigenous biodiversity

5.1 Significance against BDC criteria

The Project Area falls within the administrative area of the Buller District Council (BDC). Policy 4.8.7.2 of the operative Buller District Plan states that "the adverse effects of land use activities on natural habitats and ecosystems shall be taken into account when considering development proposals." The Buller District Plan will in the near future be replaced with the Te Tai o Poutini Plan (TTPP), a region-wide planning document and some parts of this proposed plan have taken effect immediately. This includes 1) natural vegetation clearance and 2) earthworks and native vegetation clearance next to waterways.

Protection of significant natural areas is core to the operative District Plan, Regional Policy Statement (2020) and proposed TTPP. It is therefore appropriate to assess the values of the study area against BDC and Regional Policy Statement Criteria for assessing significance (Tables 3 and 4). The property is largely homogenous in nature in having, for the most part, been modified to a significant degree over in the past and the property continuing to be grazed by domestic stock. By contrast a proportion of the wetland areas are too wet for stock to safely penetrate, especially in close proximity to the culverts at the northern end. When considering the significance of vegetation and habitats, areas identified as wetlands are, in addition, considered separately.

Table 3. Criteria against which a measurement of significance is made according to BDC Plan.

Criteria	Explanation	Project Area	Significance rating for various areas
Representativeness	*The area is one of the best examples of an association of species which is typical of the ecological district*	Very little indigeneity and therefore doesn't trigger this criteria.	**Not significant**
Distinctiveness:	*The area has indigenous species or an association of indigenous species which is unusual or rare in the ecological district, or endemic, or reaches its distributional limit.*	No species of distinctiveness noted.	**Not Significant**
Intactness:	*The area has a cover of predominantly indigenous vegetation, is little modified by human activity, and is not affected in a major way by weed or pest species.*	Little indigenous vegetation and heavily modified overall. Scattered indigenous elements and no particular areas identifiable as characteristically indigenous.	**Not significant**
Size	*The area of indigenous vegetation or habitat is 5ha or more in size or together with adjacent indigenous habitat is larger than 5ha; or in the case of natural wetlands is larger than 1ha in size.*	Overall area is 10.5hectares. The proportion of the area that is indigenous is certainly much less than 5ha.	**Not Significant**
Protected status	*The area has been set aside by statute or covenant for protection or preservation.*	Not currently protected.	**Not significant**
Connectivity	*The area is connected to one or more other*	Little connectivity with adjacent areas,	**Not Significant**

	significant areas in a way (through ecological processes) which make a major contribution to the overall functioning of those areas.	especially since main habitat within Project Area is highly modified and low biodiversity.	
Threat	*The area supports an indigenous species or community of species which is threatened within the Ecological district or ecological region or threatened nationally.*	None present	**Not Significant**
Migratory habitat	*The area is important as habitat for significant migratory species or for feeding, breeding or other vulnerable stages of indigenous species, including indigenous freshwater fish.*	Not known to be significant for any species.	**Not significant**
Scientific or Cultural Value	*The area is a scientific reference area, is listed as a geopreservation site, or has significant amenity value.*	No designation or public amenity value due to its being in private ownership.	**Not significant.**

The Project Area triggers none of the nine criteria for significance due to the high level of modification, little connectivity or representativeness etc and only a few indigenous elements are present throughout.

5.2 Significance against RPS criteria

The West Coast Regional Policy Statement (2020) has as its role "to promote the sustainable management of the natural and physical resources of the West Coast". While the RPS does not contain rules to regulate activities, it is the more up to date and relevant document and it aligns more closely with the provisions of the proposed Te Tai o Poutini Plan (pTTPP). The pTTPP states that until Significant Natural Areas (SNAs) are formally identified for the Buller District by 2027, that the criteria outlined in the RPS be adhered to for this purpose.

The West Coast Regional Council RPS (2020) sets out four criteria for identifying significant areas of terrestrial and freshwater indigenous biological diversity, consistent with the National Policy Statement for Biodiversity, (2019). These are (Table 4):

1) representativeness

2) rarity/distinctiveness,

3) diversity and pattern

4) ecological context.

The Project Area as a whole is assessed and, for additional clarity, the wetland areas are assessed separately in 5.3, consistent with the requirements of the Regional Policy Statement.

Table 4. Determination of significance according to WCRC Regional Policy statement criteria.

Criteria	Explanation	Project Area	Significance rating
Representativeness	*Vegetation or habitat that is representative or typical of the indigenous biodiversity of the Ecological District.*	Scattered indigenous elements only.	**Not Significant**
Rarity/Distinctiveness:	*Habitat that has been reduced to less than 20% of original. Threatened or At Risk vegetation or habitats or habitats for Threatened or At Risk species. Species at their distributional limit.*	The existing vegetation associations has not been reduced to less than 20% and no threatened or At Risk species present, nor habitat for the same.	**Not Significant**
Diversity and Pattern	Measure of the biodiversity, including habitat types, taxa etc	Low biodiversity across Project Area	**Not Significant**
Ecological Context	*A measure of the ecological role played by an area in the health of the wider ecosystems in its environment*	Makes very modest contribution to overall ecosystem functioning through filtering surface water run-off within two wetland areas. No indication of sufficient flow to support aquatic biodiversity.	**Not Significant**

None of the Project Area assessed trigger criteria for significance, though the wetland areas are considered separately under RPS criteria below in 5.3.

5.3 Wetland Significance

The West Coast Regional Policy Statement (appendix 2) contains criteria for identifying significant wetlands. Two areas within the project footprint have been identified as 'natural inland wetlands' and these are both similar in nature, comprising *Isolepis prolifer* rushland grading through to an exotic association dominated by exotic *Juncus bulbosus* occupying adjacent drainage basins, both of which flow northward. Consideration of whether these meet the criteria for significance follows:

Four criteria are measured against (Table 5), with (summarised) qualifiers as shown (see RPS for full description):

Table 5. Assessment of significance for wetlands within the Project Area, against RPS criteria.

Criteria	Explanation	Wetlands within Project Area	Significance
Ecological Context	The role in protecting adjacent ecological values; provides habitat for critical life stages of indigenous fauna; other contribution to ecological networks i.e. connectivity.	While the two wetlands identified play a role in filtering surface runoff and moderating the rate of flow, the waterways that issue from these wetlands are very small and are considered to support very little aquatic biodiversity.	**Not Significant.**
Representativeness	Wetland that contains vegetation types or assemblages that were typical circa 1840. Pakihi wetland that is greater than 40ha *and* is dominated by a mixture of sedges, rushes, mosses.	*Isolepis prolifer* wetland tends to arise and dominate on very modified areas in the district i.e. drainage ditches on farms. These are not considered to have been particularly typical or representative circa 1840.	**Not significant**
Rarity	Nationally Threatened species present *or* At Risk species if these make an important contribution nationally. Is a wetland class that is now less than 30% of its original extent in the Ecological District.	No Threatened or At Risk species present. *Isolepis* swampland probably more prevalent than original extent for reasons mentioned above.	**Not Significant**
Distinctiveness	Presence of special ecological features of importance at the international, national, freshwater bio-geographic unit or ecological district scale	No features present which trigger this criteria.	**Not significant**

The two wetlands within the Project Area fall have more than likely arisen after forest clearance and subsequent alteration of the natural drainage, with some impoundment due to an altered water-table. The wetlands are therefore not only induced ecosystems but fail to trigger significance due to the absence of distinctive features, threatened species or representativeness values. While these wetlands within the gully systems are unlikely to be affected by any aspects of the subdivision proposal, they may play a role in filtering surface run-off and moderating flow i.e. after heavy rainfall events. In addition, they offer potential for habitat enhancement, through supplementary planting, mainly on the wetland fringes and firmer slopes leading down to the wetlands.

The NES-FM (2020) includes the following provisions relating to natural inland wetlands and the following provisions are considered most relevant due to the intention to undertake earthworks on the property as well as proposals to have dispersal fields for the treatment of greywater and wastewater.

54 Non-complying activities

The following activities are non-complying activities if they do not have another status under this subpart:
(a) vegetation clearance within, or within a 10 m setback from, a natural (inland) wetland:

(b) earthworks within, or within a 10 m setback from, a natural (inland) wetland

(c)[4] the taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland if—

> *(i) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and*
>
> *(ii) the taking, use, damming, or diversion will change, or is likely to change, the water level range or hydrological function of the wetland:*
>
> *(d) the discharge of water into water within, or within a 100 m setback from, a natural inland wetland if—*
>
> *(i) there is a hydrological connection between the discharge and the wetland; and*
>
> *(ii) the discharge will enter the wetland; and*
>
> *(iii) the discharge will change, or is likely to change, the water level range or hydrological function of the wetland.*

The Buller District Plan (in 4.4.14.7) includes policy around the protection and enhancement of riparian margins adjacent to rivers, streams, lakes, wetlands and the coast for the purposes of:

(i) Maintenance of the natural character of waterways, natural habitats and water quality including the mitigation of adverse effects of contaminant discharges and other natural and aesthetic and amenity values associated with the adjacent waterway.

The Council makes decisions on resource consent applications which recognise and provide for the protection of natural values associated with riparian margins (4.8.7.6. (2)) and to this end, it is proposed that riparian enhancement be undertaken of both of the wetlands identified within the Project Area. This is outlined in 5.5.1. The detail of such work has yet to be formulated, pending gaining consents for the subdivision.

Preserving the natural character of lakes, rivers and wetlands and their margins while providing for appropriate subdivision and use..are covered by the provisions (NC-01) of the pTTPP. NC-P1 of the plan recognises that the minimisation of adverse effects , from subdivision and use, is important and NC-P4 encourages "the restoration and enhancement of the natural character of the riparian margins of...wetlands." This is consistent with policy within the WCRC Land and Water Plan (3.3.1 (1) d) that prioritises the avoidance, in preference to remedying or mitigating, the significant character of wetlands and lakes and rivers and their margins.

[4] This clause is an amendment of the original 54 C) provisions

5.4 Consideration against the National Policy Statement for Indigenous Biodiversity

The National Policy Statement on Indigenous Biodiversity (NPS-IB) is now operative (as of 4th August 2023) and is an essential part of the country's response to biodiversity decline and this NPS provides direction to councils to protect, maintain, and restore indigenous biodiversity, requiring at least no further reduction nationally.

The NPS-IB uses the same criteria as the Regional Policy Statement when undertaking assessments to determine significance.

While it is important to identify and protect Significant Natural Areas (SNAs), the NPS-IB emphasises that management is required across the terrestrial environment – not just in defined SNAs. Therefore, despite the absence of any areas defined as 'significant' within the Project Area, other management actions may be considered appropriate. Local authorities have statutory functions under the RMA (1991) to maintain biodiversity and this is underpinned by Part 2 principles. The NPS-IB sets out objectives and policies in relation to maintaining indigenous biodiversity and to specify what local authorities must do to achieve those objectives.

Maintaining indigenous biodiversity requires[5] at least *no reduction* in the following:

a) the size of populations of indigenous species:

b) indigenous species occupancy across their natural range:

c) the properties and function of ecosystems and habitats:

d) the full range and extent of ecosystems and habitats:

e) connectivity between and buffering around, ecosystems:

f) the resilience and adaptability of ecosystems.

Section 3.7 of the NPS-IB recognises that that the maintenance of indigenous biodiversity does not preclude subdivision, use and development in appropriate places and forms, within appropriate limits. In this instance, the proposed subdivision is not expected to result in any reduction of biodiversity values. However, enhancement of biodiversity is desirable, not only to achieve a more pleasant living environment for residents but to help increase species richness and the range of ecosystems and functionality of ecosystem services.

To this end, measures are proposed that will seek to not only avoid, and minimise potential adverse effects, but to enhance the ecology and biodiversity within the Project Area and in the near vicinity. It is hoped that these high-level recommendations will inform an ongoing discussion as this subdivision proposal advances.

5.5 Measures to avoid, remedy or mitigate against adverse effects on the ecology:

The proposed subdivision of the Project Area is not anticipated to have any significant adverse effects on the already modified environment, given that there is very little in the way of indigeneity within the property and that there are adequate provisions around the protection of natural inland wetlands, as identified.

[5] This NPS came into effect on the 4th August 2023.

A number of recommendations follow that may be considered as appropriate to the development, to ensure that adverse effects are avoided in general and enhancement options are also recommended. These are bracketed according to the broad taxon:

5.5.1 Vegetation

There was no significant habitat or species identified within the proposed Project Area, and while two natural inland wetland areas were identified, these also are not considered to trigger significance criteria for wetlands as defined by the RPS.

- An enhancement planting plan should be prepared to include areas where restorative planting would be undertaken around the wetland fringes. This would include ecologically appropriate planting of species such as swamp coprosma, kahikatea and harakeke-lowland flax.
- Amenity planting with appropriate indigenous species is encouraged throughout the proposed subdivision. This will assist in achieving survival and establishment and give results that are more in keeping with the local environmental conditions.
- Gorse, blackberry and ragwort control should be continued, with the aim of completing eradication if feasible, prior to major earthworks being undertaken. This will help to avoid the spread of any seed and/or colonisation of areas set aside for reserve or amenity planting in the future.

5.5.2 Birds

It is not anticipated that the proposed subdivision development, as currently conceived, will have a measurable adverse impact on the existing avifauna that are present within the Project Area or any species that take up residence as the conditions on site change and develop. It is desirable that pest control and pet restrictions be applied throughout the subdivision as the Project Area is developed, to encourage greater survival of all avifaunal species.

- Covenant conditions may be attached to individual titles to prevent harm to indigenous lizards and birdlife. Cats would be the species most likely to prey on susceptible species and should be kept inside if possible.
- Consideration, in the future, of conditions around keeping dogs under control. There may be an increasing possibility of great-spotted kiwi ranging across the Project Area from adjacent areas to the south and these would be vulnerable to being predated by dogs. Dogs need to be kept under control at all times.

5.5.3 Native Lizards

- Predator control around and throughout areas of indigenous habitat will benefit lizards and birds. This could be a community programme and assistance in such an undertaking should be pursued.

6 Conclusion

The proposed subdivision is not anticipated to have any adverse ecological effects due to the very modified nature of the Project Area and exiting provisions for the protection of the two wetland areas identified. No SNAs were identified nor are wetland areas considered to trigger significance. The value of these wetlands in filtering surface run-off and moderating

flow is recognised and there are opportunities for enhancing these wetland areas for visual and biodiversity gains.

Targeted weed control has been initiated by the landowner, and continued control of gorse, blackberry and ragwort is encouraged to achieve eradication. This will help to minimise the spread of the weed seed and colonisation over any areas where earthworks might occur as well as on any areas set aside for reserve or restoration.

While there is considered to be little existing lizard habitat within the proposed subdivision, habitat enhancement for lizards is encouraged and cat ownership discouraged. Dogs must be kept under control by their owners, and must not be allowed to roam, due to the presence of great-spotted kiwi in the general area.

It is considered that a sympathetic development, which encourages restoration through planting with indigenous species and enhancement of the wetlands, will yield desirable residential properties within the proposed subdivision. Fostering an appreciation of the natural values in the general area will likely result in ownership initiatives such as pest control and sympathetic planting on new property titles and these will likely yield enhanced biodiversity.

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