

TO: Greg Dewe , General Manager  
Fulton Hogan Land Development Ltd

Date: 14 October 2025

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FROM: Annabelle Coates, Senior Ecologist

## **PARKBURN DEVELOPMENT – FAST-TRACK REFERRAL APPROVALS ACT APPLICATION - ECOLOGY**

### **Introduction**

Fulton Hogan Land Development Limited (FHL) is preparing an application for referral under the Fast-track Approvals Act 2024 (FTAA) for a proposed residential development, referred to as Parkburn, and located within the existing Parkburn Quarry at 922 Luggate–Cromwell Road (SH6), Mount Pisa, Cromwell.

As part of the referral application process, pre-lodgement consultation was undertaken with the Department of Conservation (DOC). DOC subsequently provided a summary of information in response to this consultation.

Viridis Limited (Viridis) was engaged by FHL to review DOC's summary of information and provide feedback where relevant. As part of this review, where relevant Viridis also considered additional supporting information included with the referral application, as well as material from an earlier Private Plan Change (PPC) application relating to the site.

This memorandum outlines Viridis' review and provides commentary informed by the available information and desktop assessment.

### **Lizards**

The site does provide lizard habitat and lizards are likely present. The non worked areas of the quarry (i.e., the vegetated areas) have already been identified as lizard habitat as a part of the PPC<sup>1</sup> (Appendix 1) and it is possible some lizards may be present within the worked areas as well, depending on the current levels of extraction across the site (areas that have been left unworked for a period of time may provide relatively undisturbed habitat). As a part of the PPC it was determined that the site did not qualify as a significant natural area or constitute as significant habitat for rare or threatened species<sup>2</sup> (Appendix 2).

Subject to approval of the FTAA referral application, it is expected that a lizard survey will be undertaken as part of the substantive FTAA application to confirm the presence of lizards and identify the habitats they occupy. The survey is expected to include the non-worked areas, as well as areas of gravel adjacent to the vegetated areas, and areas where works have not occurred for some time. A survey would include installing artificial cover objects (ACOs) and/or pitfall traps, as well as manual hand searching. The ACOs and traps would need to be in place for a minimum of six weeks prior to checks being

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<sup>1</sup> LizardExpertNZ, 2023, Lizard Desktop Assessment – Parkburn, Pisa Moorings, Central Otago. Memorandum to Beale Consultants Ltd, 9 December 2023.

<sup>2</sup> Beale Consultants, 2023. Junction Terraces Development Ecological Significance Assessment. Prepared for Fulton Hogan.

undertaken. Surveys need to be undertaken during the warmer months, ideally before the end of March, but they could extend into April providing April was not unseasonably cold.

Regardless of the survey outcome, lizard presence or potential habitat of lizards not expected to pose a significant constraint to the proposed development. Any lizards that may be present could be effectively managed through standard rescue and relocation procedures. If lizards are confirmed on site a Wildlife Act Authority (WAA) will be obtained from DOC and a Lizard Management Plan will be prepared as part of the substantive application. This plan will outline the appropriate capture methods, holding of animals, relocation sites and any additional mitigation measures (e.g. habitat enhancement, pest control). The results of the lizard survey will inform the WAA application.

It is worth noting that obtaining a WAA currently takes between one month and 12 months, depending on the complexity of the project. If the WAA is obtained as part of the FTAA permissions, times will depend on the wider project approvals.

### **Birds**

The site is expected to provide habitat for various birds, mostly common native and exotic species. Banded dotterels (*Pohowera*, *Anarhynchus bicinctus*) have been specifically flagged by DOC as a species potentially present, with previous records confirming their occurrence nearby. It is possible that they nest in the area between the quarry and Lake Dunstan. This area also includes the popular Lake Dunstan Cycle Trail, therefore the habitat is subject to disturbance and is not considered of high value. Banded dotterels may establish nests on exposed gravel surfaces within the quarry where areas have remained undisturbed for some time.

As part of the substantive application, it is expected that a series of surveys is undertaken to determine what birds are utilising the site and its immediate surroundings. The spring-summer nesting period is when birds are most sensitive to disturbance as eggs and chicks are not highly mobile. Ideally a survey would be conducted within this period to determine if nesting, particularly by banded dotterels, is occurring within or adjacent to the site. A second survey during late autumn or winter would also provide useful information in determining what birds use the area during the non-breeding season.

Birds are also not expected to present a significant development constraint. They are highly mobile, except when breeding, and there is significant similar habitat in the immediate and wider vicinity. Breeding dotterels can be managed through consent conditions requiring works to be avoided during certain times of year, vegetation clearance to occur outside the bird breeding season, and pre works surveys if works are required during the breeding season.

### **Fish**

A portion of Park Burn flows through the site and at least one stream crossing is anticipated as part of the development. Although the streams that flow into Lake Dunstan have been significantly altered from their original nature due to the hydroelectric development of the valley, it is likely fish are still present.

As part of the substantive application, it is expected that a fish survey is undertaken to determine what species are present. The survey could be undertaken at the same time as lizard or bird work, but ideally should not be undertaken during winter as fish are less active during colder months. It may also be beneficial to collect one or more representative macroinvertebrate sample from Park Burn as these provide valuable indicators of stream health and will contribute to the assessment of ecological effects.

A sample can be easily collected during any of the site visits, but again, should preferentially be undertaken during warmer months.

Fish survey results are expected to inform elements of the detailed development design as part of the substantive application, including provisions for fish passage through culverts and opportunities for habitat enhancement (e.g., riparian planting).

### Summary

The site at Parkburn, Mount Pisa is expected to support suitable habitat for lizards and to be utilised by a range of native and introduced bird species. Aquatic habitats associated with Parkburn Stream are also likely to support fish and macroinvertebrate communities.

It is expected, as part of the substantive application, that fauna surveys will be undertaken to inform the detailed design of the proposed development and ensure potential ecological effects are appropriately managed.

Potential effects on fauna are considered manageable through standard survey, mitigation, and management practices commonly applied to similar developments in New Zealand.

Lizard impacts can be effectively managed through established capture, rescue, and relocation methods, supported by a WAA and a Lizard Management Plan prepared in consultation with DOC.

Bird-related effects can be addressed through the timing of works, seasonal restrictions, and pre-works nesting surveys where necessary. Targeted surveys will confirm species presence, nesting activity, and habitat use to guide appropriate management measures.

Fish and aquatic habitat values can be managed through further survey and the inclusion of design measures such as maintaining fish passage and enhancing riparian margins.

Overall, no significant ecological constraints to the proposed development are anticipated, provided the recommended surveys and management actions are implemented as part of the substantive FTAA application.

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## **Appendix A**

### **2023 Lizard Desktop Assessment**



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9<sup>th</sup> December 2023

## LIZARD DESKTOP ASSESSMENT – PARKBURN, PISA MOORINGS, CENTRAL OTAGO

Dear Simon,

I have now completed a desktop lizard assessment of the Parkburn proposed development site (Figure 1). In my opinion, McCann's skink could occur over parts of the site where long rank grass provides cover. Below I provide a commentary along with the lizard desktop assessment and provide my overall assessment of requirements under the Wildlife Act 1953 (the Act), for this site.

### 1. Potential Lizards of the Parkburn Site

The DOC Herpetofauna fauna database and records of the author, show four lizard species occur or once occurred in the vicinity of the Parkburn site (Table 1). No lizard records are known from the site itself. By far, the most common lizard species recorded is the McCann's skink, *Oligosoma maccanni*, and this species is common and ubiquitous throughout low altitudes of central Otago, and as a result, DOC has assigned a threat ranking of 'Not Threatened' to reflect a large, stable population nationally<sup>1</sup> (Table 1). At the Parkburn site, McCann's skinks are *highly likely* to persist along fence lines, within amenity plantings and within any unmown, sunny exotic grassland site (Table 1; Figure 2).

Kawarau geckos (*Woodworthia* 'Cromwell') are known from rock outcropping and tors of the Bendigo hills and are present in tailings

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<sup>1</sup> Hitchmough RA, *et al.* 2021. Conservation status of New Zealand reptiles, 2021. New Zealand Threat Classification Series 35. Department of Conservation, Wellington. 15 pp.



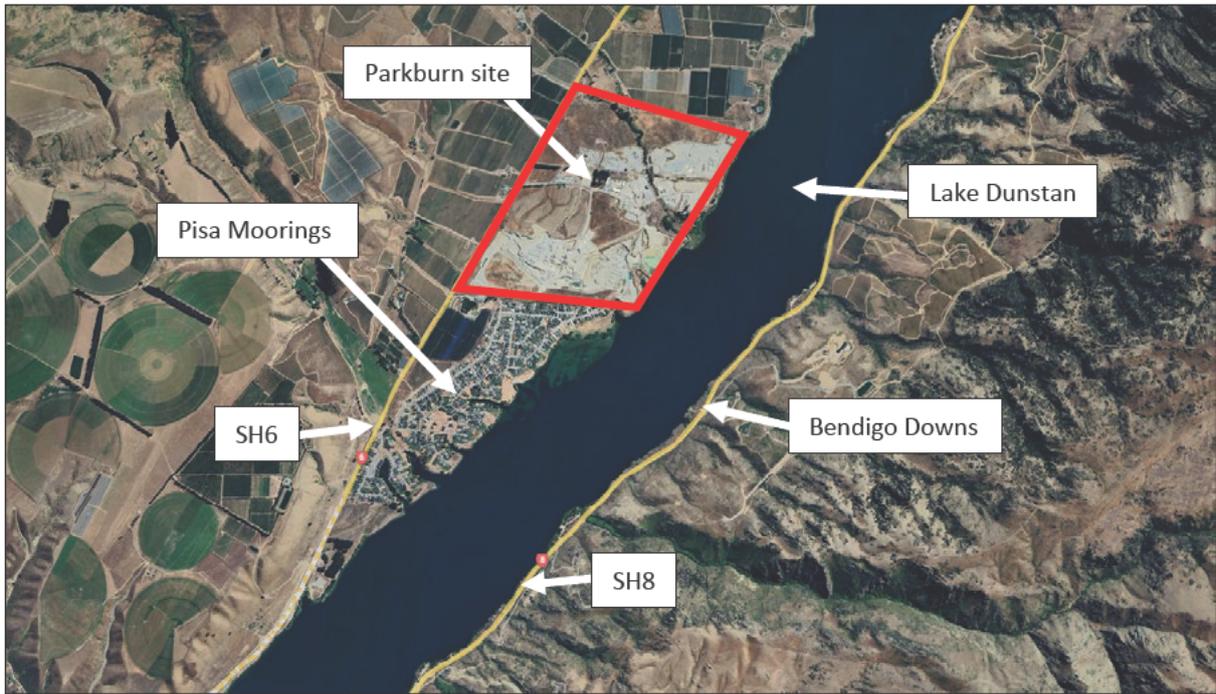


Figure 1: Upper: Site location of the Parkburn site (red polygon, indicative only). Lower: Areas within the Parkburn site subject to this desktop assessment (yellow polygons).

and rocky batters of both sides of the Clutha River. This At Risk – Declining species is almost entirely confined to rocky areas over low altitudes of Central Otago and has a *low likelihood* of being present



over the Parkburn site where no rock is present (Simon Beale, pers. comm. December 2023) (Table 1).



Figure 2: Examples of rank grass at the Parkburn site that may provide habitat for McCann's skink.

Tussock skink *Oligosoma chionocholescens* is also known from the vicinity of the Parkburn site but is highly restricted to dense rank grassland/*Carex* spp. of the riparian margin of the Clutha River. Tussock skink was discovered in the area during lizard surveys for the Wanaka Link of the Dunstan Cycle Trail. Tussock skink is also At



Risk – Declining and has a *very low likelihood* of being present over the Parkburn site where grass is mown, and condition are far too arid for this species (Table 1).

Finally, a historic record (1986) for Lake's skink, *O. aff. chloronoton* 'West Otago' was recorded approximately 1 km northwest of the Parkburn site, on the flanks of Mt Pisa. This large-bodied skink has a life history that makes it more vulnerable to predation pressure than smaller bodied skinks, and consequently, tends to be extinct at low altitude sites of Otago. For this reason, it is my assessment that there is a *very low likelihood* of this species being present over the proposed Trail alignment (Table 1).

*Table 1: Lizard records in the vicinity of the Parkburn site from the DOC Herpetofauna database and from the authors own records. \*Threat classifications as per Hitchmough et al. 2021.*

Scientific Name	Common name	*DOC national threat ranking	Likelihood of being present
<i>Oligosoma maccanni</i>	McCann's skink	Not Threatened	Very high
<i>Woodworthia</i> 'Cromwell'	Kawarau gecko	At Risk- Declining	Low
<i>O. chionocholescens</i> **	Tussock skink	At Risk- Declining	Very Low
<i>O. aff. chloronoton</i> 'West Otago'	Lake's skink	Threatened Nationally	Very Low

## 2. Conclusions

As noted above, McCann's skink is almost certainly present at the site, but this can only be confirmed by on-the-ground survey. McCann's skink is a common species in arid areas of Central Otago and can persist in a variety of non-rocky habitats including rank grassland.

## 3. Wildlife Act (1953) permit

If the 'not threatened' McCann's skink is detected at the site, a Wildlife permit from DOC will be required to develop the site unless all habitats can be avoided. This is because all indigenous lizards are protected under the Act, irrespective of their national threat ranking.



Dr Mandy Tocher, Herpetologist, LizardExpertNZ



## **Appendix B**

### **2023 Ecological Significance Assessment**

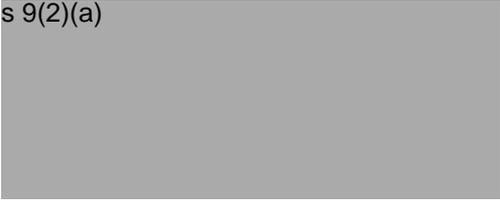
**BEALE  
CONSULTANTS**

**Junction Terraces Development  
Ecological Significance Assessment**

Prepared for Fulton Hogan  
December 2023

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Simon Beale | Senior Ecologist

## Contents

<b>1. Introduction .....</b>	<b>1</b>
<b>2. Methodology .....</b>	<b>2</b>
<b>3. Ecological Context .....</b>	<b>2</b>
<b>4. Survey Results .....</b>	<b>2</b>
4.1. Vegetation .....	2
4.2. Fauna .....	4
<b>5. Ecological Significance Assessment.....</b>	<b>5</b>
<b>6. Recommendations .....</b>	<b>5</b>
<b>7. Conclusions .....</b>	<b>5</b>
<b>References .....</b>	<b>6</b>
<b>Appendix 1 – Desktop Lizard Assessment .....</b>	<b>7</b>

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## 1. Introduction

Fulton Hogan (FH) operate a major quarry development at Parkburn between SH 6 and Lake Dunstan adjacent to Pisa Moorings.

FH propose to develop the site for residential housing and for business/industrial and commercial/retail purposes following cessation of quarrying. The development will include a village centre and amenities such as a landward extension of Lake Dunstan, constructed wetlands and buffer plantings alongside SH 6.

Beale Consultants has been engaged by FH to evaluate whether the four areas of land that are currently unquarried as outlined on Figure 1-1 qualify as a significant natural area.

The unquarried land constitutes the ecology study area and has been numbered for ease of reference.



Figure 1-1: Study Area

The assessment follows the criteria set out in of the National Policy Statement for Indigenous Biodiversity (NPS-IB).

The assessment is supported by a desktop lizard assessment undertaken by Dr Tocher of LizardExpertNZ.

## 2. Methodology

The ecological survey was undertaken over 2 hours on 8 December under sunny but windy conditions. The survey involved a walk over of the study area to assess the plant communities and habitats and to record indigenous and exotic fauna observed.

The names of indigenous and naturalised (exotic) plants follow the nomenclature provided by the NZ Plant Conservation Network. Exotic plant species listed in Section 4 are indicated with an asterisk\*. Plant community names follow the methodology of Atkinson (1985). The current conservation status of fauna taxa cited in this report are as listed by Robertson et al (2021) for birds and de Lange (2017) for plants.

## 3. Ecological Context

The site is in the Pisa Ecological District which is part of the Central Otago Ecological Region (McEwen, 1987).

The site lies in Level IV Land Environments (LENZ)<sup>1</sup> N8.1b and N8.2a which are described in Leathwick et al, 2002 as gently undulating floodplains with soils of variable drainage, of moderate fertility and derived from schist alluvium. These land environments experience very high-water deficits.

The threatened Environment Classification, which combines data from three national databases; LENZ, the Land Cover Database and the national protected areas network shows that indigenous vegetation cover that presently remains in these land environments nationally is 5.2% and 7.5% respectively. These are termed acutely threatened land environments owing to the very small percentage of indigenous vegetation remaining which is attributed to burning, over-sowing, and grazing since European settlement (McGlone et al. 1995).

## 4. Survey Results

### 4.1. Vegetation

The vegetation occupying the study area comprise almost exclusively of exotic grassland and exotic herbfield. This vegetation often occurs as a grassland/herbfield mosaic. The density of the grassland is variable with the more depleted sites supporting a more scattered cover of lower stature grasses and herbs.

Woody vegetation is restricted to a radiata pine (*Pinus radiata*) woodlot in Area 3, a radiata pine (*Pinus radiata*) shelterbelt bordering Area 4, mixed poplar plantings alongside SH6 and amenity plantings in and around the utility area between Areas 1 and 4.

Much of the grassland and herbfield is mown in Areas 1, 2 and 4 (Figure 4-1). Taller unmown swards of grassland exist along the road margins, fencelines and across the perimeter bunds (Figure 4-2).

The grassland plant community is dominated by rip gut brome\* (*Bromus diandrum*), barley grass\* (*Hordeum murinum*), *Vulpia bromoides*\* and plume grass\* (*Dichelachna crinita*) which occur widely across these areas along with the exotic herbs Haresfoot trefoil\* (*Trifolium arvense*), storksbill\* (*Erodium cicutarium*), sheep's sorrel\* (*Rumex acetosella*), yarrow\* (*Achillea millefolium*), narrow leaved plantain\* (*Plantago lanceolata*) and hawksbeard\* (*Crepis capillaris*).

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<sup>1</sup> New Zealand (LENZ) classification groups together land environments throughout the country with similar environmental characteristics such as climate, landform, geology and soils as this influences the distribution of indigenous vegetation and habitat types.

Various other grass and herb species occur in these areas but have a patchier distribution such as ryegrass\* (*Lolium perenne*), cocksfoot\* (*Dactylis glomerata*), Californian thistle\* (*Cirsium arvense*) and Vipers bulgloss\* (*Echium vulgare*).



Figure 4-1: Southward view across Area 1.



Figure 4-2: View along edge of quarry road between Areas 1 and 2.

Indigenous plants are restricted to areas where the exotic grassland and herb growth is less dense, generally on the more depleted sites. In these areas the Not Threatened grass desert poa (*Poa maniototo*) is occasionally encountered and in two specific areas a small number of cushions of the At Risk-Declining *Raoulia australis*. The cushion plants were observed growing on bare ground within

sparse grassland and herbfield. These occur as scattered plants and are in variable condition (Figure 4-3).



Figure 4-3: *Raoulia australis* plant in depleted area of exotic herbfield in Area 1.

#### 4.2. Fauna

During the site inspection the Not Threatened Australasian harrier (*Circus approximans*) and Introduced starling (*Sturnus vulgaris*), skylark (*Alauda arvensis*) and goldfinch (*Carduelis carduelis*) were observed.

The grassland areas may also provide suitable seasonal feeding habitat for Not Threatened Paradise Shelduck (*Tadorna variegata*) and Not Threatened Spur-winged plover (*Vanellus miles*) (Heather and Robertson, 2005).

A desktop assessment undertaken by LizardExpertNZ indicates that the unmown areas of grassland along road margins, fencelines and around amenity plantings is suitable habitat for the Not Threatened McCann's skink (*Oligosoma maccanni*).

Invertebrate fauna were not investigated during this assessment.

## 5. Ecological Significance

The study area is assessed as not qualifying as a significant natural area in accordance with Clauses 1(2) & (3) of Appendix 1 of the NPS-IB. The reasons are:

- McCann's skink is classified as Not Threatened and is widespread across a variety of habitats in the Central Otago Ecological region.
- The At Risk-Declining cushion plant *Raoulia australis* that occurs on the land is a species that is widespread in the Central Otago Ecological region, growing on degraded drought prone low altitude hill slopes with northerly and westerly aspects.

## 6. Recommendations

In accordance with the recommendations of LizardExpertNZ, an on-ground survey shall be conducted to verify the presence of McCann's skink.

If the Not Threatened McCann's skink is detected, a Wildlife permit from DOC will be required for the development as all indigenous lizards are protected under the Act, irrespective of their conservation status.

## 7. Conclusions

The study area is heavily modified by previous agricultural uses and dominated by exotic grassland and exotic herbfield. Much of the area is mown.

Indigenous plant species are very limited in their diversity, distribution and abundance.

Unmown areas of grassland occur along road margins and fencelines that are highly likely to provide habitat for the Not Threatened McCann's skink.

The study area is assessed as not qualifying as a significant natural area in accordance with Clauses 1(2) & (3) of Appendix 1 of the NPS-IB.

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**Appendix 1 – Desktop Lizard Assessment**