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5th January 2026

LIZARD AND INCIDENTAL FAUNA ASSESSMENT FOR AYRBURN SCREEN HUB, ARROWTOWN

Dear Lauren,

Thank you for the opportunity to assist with the lizard and incidental terrestrial fauna assessment for the proposed 'Ayrburn Screen Hub'. Below I set out the methods and results of the recently completed assessment.

1. Overview

Waterfall Park Developments Limited have lodged a substantive fast-track application with EPA named the "Ayrburn Screen Hub". It is a film studio and accommodation units at Ayrburn Farm near Arrowtown. During the processing of the application, Queenstown Lakes District Council have indicated to the panel that a gap exists in the application relating to terrestrial ecology. The panel have, therefore, requested that an assessment of terrestrial ecology values of the proposal site is presented to them by January 14th, 2026.

Although this is not an Environment Court proceeding, I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2023 and that I have complied with it when preparing my assessment. My qualifications as an expert are set out in Appendix 1. The matters addressed in my assessment are within my area of expertise, however where I make statements on issues that are not in my area of expertise, I will state whose assessment I have relied upon. I have



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not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this assessment.

2. Lizard Assessment -Methods

A lizard assessment was carried out over the ca. 24 ha site (Figure 1). using a mix of walk-through survey using visual encounter/manual habitat searching, and a small amount of gee's minnow trapping. The assessment was carried out over December 28th-30th 2025 during fine and sunny weather. Lizards were active each day of the survey.

Gee's minnow trapping was carried out over three areas of dense vegetation that may have provided habitat for tussock skink (*Oligosoma chionochoescens*) (Appendix 2). As per best practice, gee's minnow traps were baited with tinned pear and were deployed in shaded areas adjacent to sunny basking areas, and a moist sponge was added as cover for any skinks captured. To further protect any captured skinks, each trap was also covered with a layer of shade cloth. Gee's minnow traps were checked daily, and sponges were re-moistened during the checks.

In total 90 trap days informed this assessment and approximately 7.5 hours walkthrough surveying under Wildlife Act authority 62386-FAU issued to the author. The survey path is shown in Appendix 3.

3. Lizard Assessment - Results

The nationally and regionally 'Not Threatened' McCann's skinks (*Oligosoma maccanni*; Plate 1) 1 were common over the site but especially so over unmown and uncultivated areas. These areas were extensive over the hilly areas e.g., 'Christines Hill'; but also occurred along fencelines, and around rubbish and firewood sites (Figure 1 and Appendix 4). The hilly areas of 'Christines Hill', as I understand it, will remain predominately undeveloped, and kept as open space exotic pastureland. McCann's skinks were super-abundant along the sides of a disused water race that contoured at mid-height around 'Christines Hill'. McCann's skinks were also sighted over the flat parts of the site where the bulk of development will occur, but at relatively lower densities (Figure 1). No tussock skinks were captured nor sighted, but suitable habitat for this species was present, e.g., riparian habitats that had been disturbed by planting and mechanical release of establishing plants.



McCann's skink is a skink that tolerates the very arid conditions of central Otago that were typified at this site. For this reason, along with the lack of evidence that any other species was present, any lizard fecal sign detected within the survey area was attributed to McCann's skink (Figure 1 and Appendix 4).

Only a single McCann's skink was captured in gee's minnow traps (top site in Appendix 2). No geckos were detected or suspected present and rock outcropping was not suitable for them. Two mice were captured in gee's minnow traps set at the middle site, and multiple cave weta were caught at the southernmost site (see Appendix 2 for location of these sites).



Plate 1: A gravid/pregnant female McCann's skink (Not Threatened) captured along a fenceline of the site, December 29th, 2025.

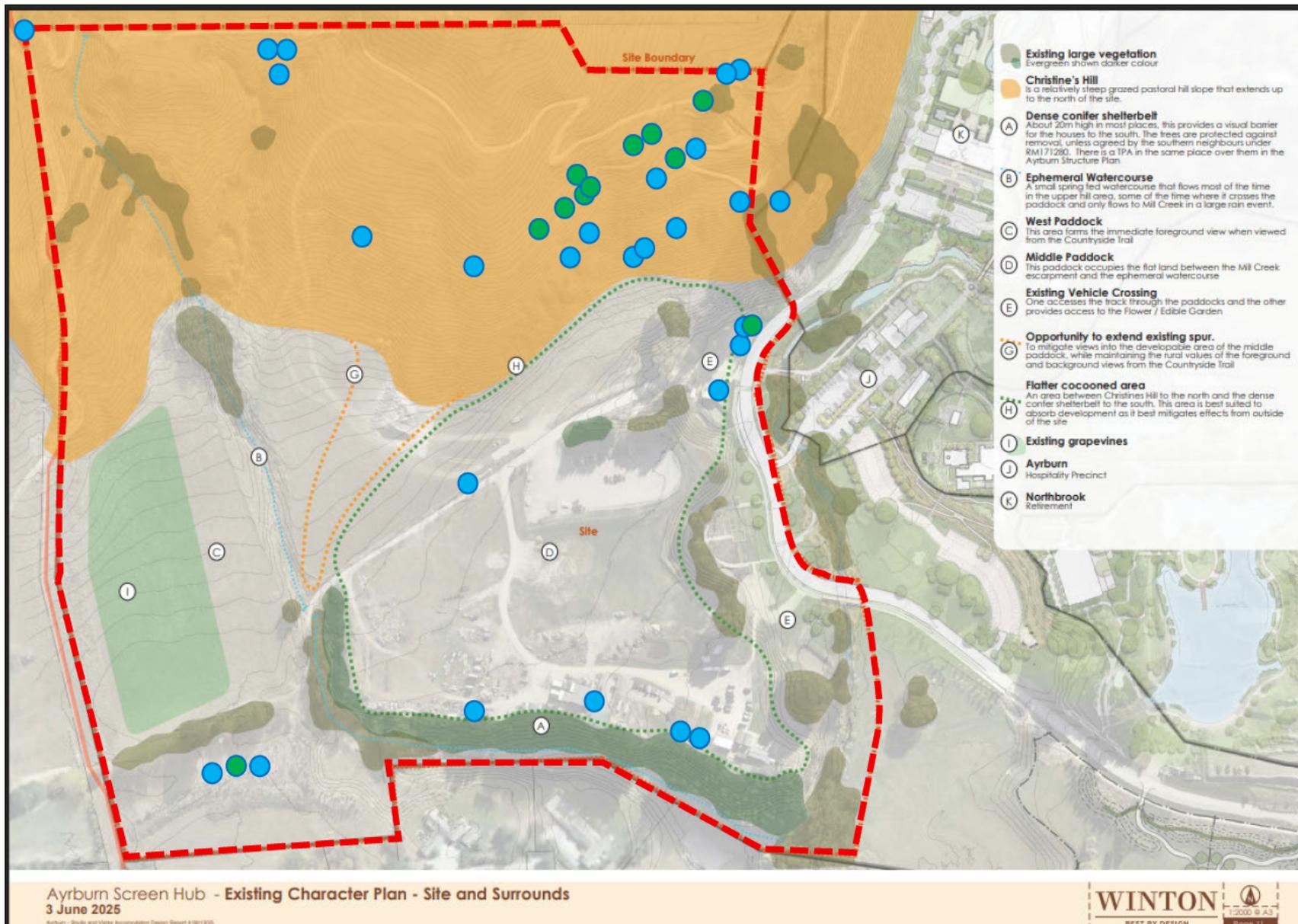


Figure 1: Site plan from Appendix 7 of the Substantive Application with lizard detections overlaid (blue & green dots; indicative only). Blue dots represent a single sighting/fecal detection within a 5-minute survey period and green dots indicate multiple detections. See Appendix 4 for georeferenced lizard/sign detections. The site boundary is shown by the red dotted line.

4. Incidental Observations

A pair of "eastern falcon" (kārearea, *Falco novaeseelandiae*), were sighted roosting, calling, socialising and foraging over the northern areas of the site, on each of the 3-days of the assessment. Eastern falcons are classified as Threatened - Nationally Vulnerable.¹ Falcon, if nesting, tend to mob/attack intruders; I was not mobbed indicating either the pair were either very familiar with people or they were not nesting near the survey path (Appendix 3). Tall trees (crack willow and conifers) favoured by the falcon are identified in Appendix 5.

5. Recommendations

Physical works over areas providing habitat for indigenous skinks requires a wildlife act authority/permit from the Department of Conservation (DOC) and a Lizard Management Plan (LMP) that adheres to best-practice LMP guidelines as prepared by DOC³ ensures that the appropriate information is captured.

The LMP, once completed will detail how actual and potential adverse effects of the proposed development on skink populations will be appropriately avoided, minimised, mitigated and/or compensated for and how the purpose of the Wildlife Act (1953) is achieved, i.e., protection of wildlife. The LMP will include the salvage of all lizards from the site within any areas to be disturbed, and the management of an on-site release site ('Christine's Hill).

The following condition of consent and advice note is recommended:

Prior to commencing works on site, the consent holder shall engage a suitably qualified expert to undertake a detailed lizard survey of any area subject to earthworks. If lizards are discovered and potentially subject to disturbance, the consent holder shall submit a Lizard Management Plan to Council. All works shall be undertaken in accordance with the Lizard Management Plan, which should be available on site so that all persons are aware of its requirements.

Advice Note

¹ Hugh A. Robertson, et al. 2021. *New Zealand Threat Classification Series 36*. Department of Conservation, Wellington. 43 p.



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If lizards are discovered and potentially subject to disturbance, a Wildlife Act Authority from the Department of Conservation will be required.



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Appendix 1: Concise CV of Dr Mandy Tocher.

Curriculum Vitae

Dr Mandy D. Tocher

Owner/Principal Herpetologist

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PROFILE

Dr Mandy Tocher is an experienced Dunedin-based herpetologist with over 30-years' experience working in New Zealand. She possesses a unique set of skills spanning resource management planning, including policy development, whilst having a very strong background in ecology/herpetology. She has a broad range of ecological skills, with experience in botanical assessments, ornithology, aquatic and terrestrial entomology, and bat-surveying.

Mandy is widely considered one of New Zealand's experts in indigenous lizards/frogs, their ecology, translocation, and conservation, and as a testament to her experience is a past member of various national technical advisory groups & recovery groups. Mandy is an author of many scientific and popular articles on native lizards and frogs, book chapters, and recovery plans for nationally threatened species, and has prepared best practice technical advice notes for lizard matters under the RMA (for the Department of Conservation). She is an excellent communicator, has successfully led multiple projects, and has given numerous presentations on New Zealand lizards and frogs at national and international ecological and planning conferences. She has assessed the effects on the environment of extractive industries, dairying, farming intensification, fertiliser works (including air











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emissions), irrigation and associated infrastructure, subdivision, major roading projects, stream diversion/alteration, wind-farming, water reservoirs (damming) and mining developments, throughout New Zealand. Mandy has a proven record in designing pragmatic mitigation packages to address effects on development on lizard populations and has presented influential expert evidence to council hearings and the Environment Court. Mandy has also provided input into restoration projects and has been frequently involved in drafting and implementing resource consent conditions.

QUALIFICATIONS / PROFESSIONAL MEMBERSHIPS

2023	Accredited RMA hearings commissioner
2016	Master of Planning (with Distinction), University of Otago
1996	PhD. Zoology, University of Canterbury
1992	MSc., Zoology (with first class honours), University of Canterbury
1990	BSc., Zoology, University of Canterbury

Member of the Society for Reptile and Amphibian Research in New Zealand, the New Zealand Amphibian Specialist Group for the IUCN, and a past member of the DOC Herpetofauna Advisory Group, the Native Frog Recovery group, the RMLA and the New Zealand Reintroduction Specialist Group. Mandy is currently an Associate Editor for the New Zealand Journal of Zoology.

BACKGROUND

2021-present	Owner/Principal Herpetologist, LizardExpertNZ
2017- 2021	Principal Ecologist/Herpetologist, Ryder Environmental Ltd, Dunedin
2016-2017	Policy Planner, Dunedin City Council, Dunedin



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2011-2016	Senior Ecologist, private Environmental Consultancy, Dunedin
1996-2011	Scientist, Herpetologist, Department of Conservation

BEST PRACTICE PROTOCOLS & CONSERVATION REVIEW REPORTS

Ryder, G., and M. Tocher. October 2020: Review of Values, Freshwater Restoration Programmes and Research Needs Within the Taieri Catchment. Report prepared for the Department of Conservation by Ryder Environmental.

Patrick, B., McClellan, R., Martin, T., Tocher, M., Borkin, K., McKoy, J., & Smith, D. (2014). Guidelines for undertaking rapid biodiversity assessments in terrestrial and marine environments in the Pacific.

Tocher, M.D. 2013: New Zealand guidelines for conservation-related lizard translocations. Contract Report, prepared for Department of Conservation, Wellington. 22 pp.

Tocher, M.D. 2013: Key principles for lizard salvage and transfer in New Zealand. Contract Report, prepared for Department of Conservation, Wellington. 16 pp.

Tocher, M.D. 2015: Lizard & frog habitat disturbance/removal: Technical guidance for RMA, Concession, Access Agreements and Pastoral Lease applications. Contract Report, prepared for Department of Conservation. 38 pp. plus appendices.

Hitchmough, R., Barr, B. P., Lettink, M., Monks, J. M., Reardon, J. T., Tocher, M., ... & Rolfe, J. R. 2013. Conservation status of New Zealand reptiles, 2012. Publishing Team, Department of Conservation.

Hitchmough, R. A., Hoare, J. M., Jamieson, H., Newman, D., Tocher, M. D., Anderson, P. J., ... & Whitaker, A. H. (2010). Conservation status of New Zealand reptiles, 2009. *New Zealand Journal of Zoology*, 37(3), 203-224.



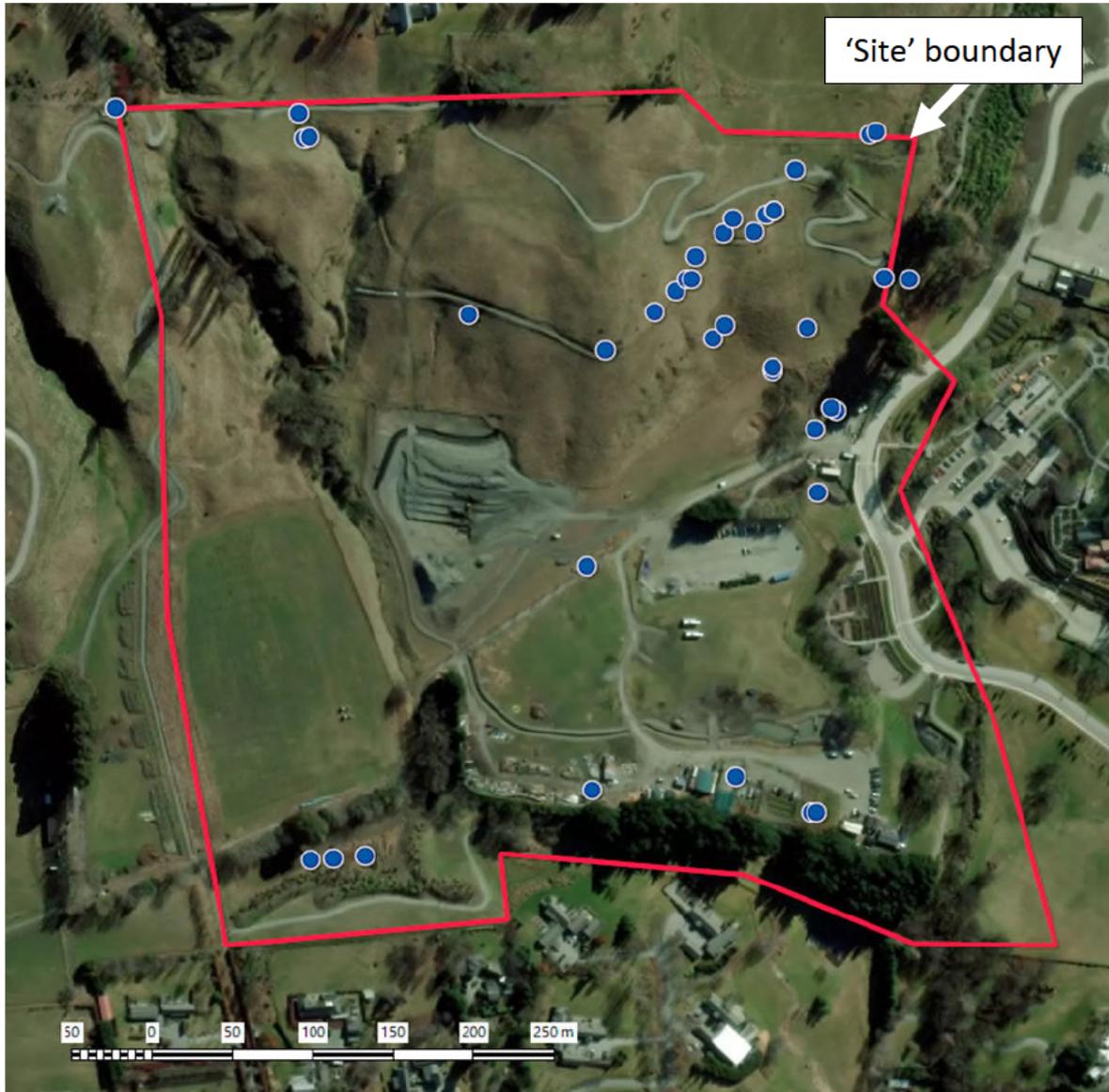
Appendix 2: Areas trapped for lizards during the December 2025 assessment.



Appendix 3: Search path December 28th-30th 2025 recorded from a hand-held Garmin GPS.



Appendix 4: Geo-referenced McCann's skink detections (lizards and/or their sign; blue dots) from the December 28th-30th 2025 recorded from a hand-held Garmin GPS.



Appendix 5: Trees (yellow circles) in the north-eastern corner of the site used for resting by a pair of "eastern falcon" (Kārearea, *Falco novaeseelandiae*), December 2025.

